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### INVENTIONS PATENTED.

NOTE.—Patents are granted for 18 years. The term of years for which the fee has been paid, is given after the date of the patent.

#### No. 39,264. Motor. (Moteur.)

Willard C. Carpenter, St. Johnsbury, Vermont, U.S.A., 13th July, 1892; 6 years.

*Claim.*—In a device of the character described, the combination with the frame bearing a rotary grinder shaft provided with a pulley, of the shaft *f*, mounted in said frame, the fly wheel mounted loose thereon, and provided with the chambered pulley hub, belted to the grinder pulley, the chambered clutch wheel loose on said shaft, and disposed in said hub chamber, the spring within said clutch wheel, balls working in peripheral cam grooves in the clutch wheel, and engaging the hub chamber walls, a treadle, and a belt wound on the clutch wheel hub and connected with said treadle.

#### No. 39,265. Art of Making Brushes.

(*Art de faire les brosses.*)

John Hepner, Port Elgin, Ontario, Canada, 13th July, 1892; 6 years.

*Claim.*—The method of fastening each knot of the stock of brushes separately into the blocks, by means of a metal fastener, either bevelled or not; passed through a loop of the stock and driven into the solid wood of the block at the bottom of each hole in the block, thus holding the stock of the brush, substantially as described.

#### No. 39,266. Reversible Plow Point.

(*Charrue tourne-soc.*)

George Clarence Westervelt, South Bend, Indiana, U. S. A., 13th July, 1892; 6 years.

*Claim.*—1st. The plow point described, having a wedge shaped toe, and the rearwardly extending tapered integral tang *B*, having the longitudinal offsets *c*, laterally extending flanges *v*, angled shoulders *S*, and pin holes *r* for inserting a pin, all arranged to operate substantially as and for the purpose set forth. 2nd. The combination of the plow point *A*, having a wedge shaped toe, a reversible and rearwardly extending integral tapered tang *B*, having the reversed longitudinal offsets *c*, and having the laterally extending flanges and pin hole groove *r*, and having the angled shoulders *S*, and the share *D*, having a recess in its toe corresponding in form to that of the said tang, and having the reversed offsets *c*<sup>1</sup>, *c*<sup>1</sup>, and the recesses *r*<sup>1</sup>, substantially as and for the purpose set forth. 3rd. The reversible plow point, shown and described, having a wedge shaped toe, and a rearwardly extending tang or shank *B*, having the longitudinal offsets *c*, the offsets on the one side being reversed from those on its opposite side, and having rearwardly extending projections *v*, for fitting corresponding recesses *r*<sup>1</sup> in the plow point, and having the angled shoulders *S*, and pin grooves *r*, substantially as and for the purpose set forth.

#### No. 39,267. Horse Collar. (*Collier de cheval.*)

Herman Clement Etzkorn, Fort Madison, Iowa, U. S. A., 13th July, 1892; 6 years.

*Claim.*—1st. The herein described collar, each of the sections of which consists of the front facing, the rear facing secured at its outer edge to the front facing, and having its inner edge folded upon itself, and overlapping the inner edge of the front facing, the flexible rim consisting of the strip of leather doubled upon itself longitudinally, interposed between the two facings, securing devices passed through the inner and outer facing and rim, the buckles having their frames secured between the upper meeting edges of the front and rear facings of the opposite sections, the pad located under the collar below the buckle frames, the leather section stitched thereto and provided at each side of its centre with a transverse slot forming an intermediate loop, the billet passed through the loop, secured at its centres thereto, and having its ends projecting through the slots and connected with the buckle, the wire frame secured to the lower end of one of the collar sections, and consisting of the opposite terminals laterally bent in alternately opposite directions and combining to form transverse openings, the staple secured to the opposite section and engaging the openings, and the locking strap secured to one of the sections and adapted to be passed through the staple, substantially as specified. 2nd. The herein described collar, comprising the opposite sections, each consisting of a front facing, a rear facing secured at its outer edge to the front facing and having its inner edge brought around and overlapping the inner edge of the front facing, the flexible rim interposed between the two, the stiff spacing strip *b*, and securing devices passed through the inner and outer facing strip and rim, substantially as specified. 3rd. The herein described collar, comprising the opposite sections, each of which consists of a front facing, rear facings secured at their outer edges to those of each of the front facings, and having their inner edges doubled upon themselves and bent around upon the front facings, the longitudinally doubled strips of leather forming the rims, interposed between the overlapped portions of the front and rear facings, the sections of stiff leather interposed between each front facing and its rim, and the staples driven through each of the two front and rear facings, rims and sections of stiff leather and having their points clinched, substantially as specified.

#### No. 39,268. Frame for Stretching Fabrics.

(*Métier pour tendre les tissus.*)

Samuel Hough, Allegheny, Pennsylvania, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a frame for stretching fabrics, a bar composed of two sections, each having the L-shaped head herein described, and being mortised at one end to form a joint, the one section having two rows of pins, one row extending from the head of said section to the mortise, the second row extending from the mortise to the end of said section, the other section having a single row of pins extending its whole length and being provided with a back piece, to which are attached a clamp and a guide, as and for the purposes described. 2nd. A frame for stretching fabrics, having two side bars, each provided with the L-shaped head herein described, and a row of pins, an upper bar having a row of pins, and a lower bar having two sections, each provided at one end with the L-shaped head herein described, and being mortised at their other ends to form a joint, the one section having two rows of pins, the other but one, and having a back piece fitted with a clamp and guide, as and for the purposes described. 3rd. A frame for stretching fabrics, each having a row of pins and a scale on one and a leg on the other, in combination with the L-shaped head herein described, an upper bar having a row of pins, and a lower bar made up of two sections, both

headed and mortised to form a joint, the one having two rows of pins, the other but one, and the means of making and holding said joint, as and for the purposes described. 4th. A frame for stretching fabrics, having two side bars headed, as herein described, an upper bar consisting of two sections, each provided with a row of pins, both dovetailed to form a joint, one of said sections having at its dovetailed end means for making and holding said joint, and a lower bar having two sections, both headed and mortised to form a joint, the one having two rows of pins and the other but one, and the means for making and holding said joint, as and for the purposes described. 5th. In a frame for stretching fabrics, a bar having two sections, dovetailed to make a joint, both of said sections having a row of pins equidistant from one edge, and one of said sections having a back piece fitted with a clamp attached to and extending past its dovetailed end, as and for the purposes described.

**No. 39,269. Closet Bowl. (Bassin de latrine.)**

Levi Stanworth, Toronto, Ontario, Canada, 13th July, 1892; 6 years.

*Claim.*—1st. In a closet bowl or basin, having a central opening as the outlet, the supply pipe connecting with the bowl at a tangent to the periphery, substantially as shown and described. 2nd. In a closet bowl or basin, having a central opening in the bottom as the outlet, the annular ridge commencing in the entrance of the supply pipe and extending to and around the central outlet in the bottom and terminating in a wall connected to the interior of the bowl, substantially as shown and described. 3rd. In a closet bowl or basin, having a central opening in the bottom as the outlet, the tangential groove extending from the central outlet to the entrance of the supply pipe, extending from the periphery of the bowl and tangential thereto, substantially as shown and described. 4th. In a closet bowl or basin, the combination of the annular ridge around the outlet opening and extending into the entrance of the supply pipe, and the channel commencing in the entrance of said supply pipe and terminating at the said central outlet and tangential thereto, substantially as shown and described.

**No. 39,270. Potato Digger. (Arrache-patates.)**

Alfred P. Goodell, White Lake, Michigan, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with the frame, the digger or blade and its support, of the two finger shafts  $F$  and  $F^1$ , with their fingers arranged to vibrate in alternate spaces, and mechanism for vibrating said finger shafts in opposite directions, whereby the fingers of one shaft are caused to rise as the fingers of the other shaft are caused to fall, and *vice versa*, substantially as described. 2nd. The combination of the following elements:—The frame, the digger, draft bars for supporting the same, and means for vertically adjusting the said digger, and in connection therewith two finger bars with alternating teeth, their actuating levers  $f^2$ , the crank shaft  $F^2$  geared with the axle, and connecting bars or rods engaging the cranks on the said crank shaft with the said levers  $f^2$ , respectively, substantially as described. 3rd. The combination, with the shaft  $F$  and its fingers  $f$ , of the shaft  $F^1$ , with its fingers  $f^1$ , the latter constructed to vibrate its fingers between the fingers  $f$ , and arranged as described, to avoid interference of either set of fingers with the other set of fingers of their respective shafts, substantially as described. 4th. The combination, with the shaft  $F$  and its fingers  $f$ , of the shaft  $F^1$  and its fingers  $f^1$ , the latter shaft having depressions between its fingers to avoid interference with the fingers as the latter are vibrated, substantially as described.

**No. 39,271. Dynamo Electric Machine.**

(Machine dynamo-électrique.)

William Hochhausen, Brooklyn, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a dynamo electric machine or motor, a field magnet pole piece, the outer portion of which is hinged to permit it to be opened back when the armature is to be removed. 2nd. In a dynamo electric machine or motor, a field magnet having a projecting or salient grooved pole piece, the outer portion of which is clamped to the inner portion supported by the magnet, and is joined to such inner portion in a plane parallel to the plane of revolution of the armature shaft. 3rd. In a dynamo electric machine or motor, a projecting or salient grooved pole piece bisected on a line parallel to the plane of revolution of the armature to permit the part coming down over the outer side of the armature to be removed, as and for the purpose described. 4th. In a dynamo electric machine or motor, a grooved pole piece, a section  $b$  of which is separated from the main portion, in combination with a hinged support  $B^2$  and suitable clamping bolts  $B^3$ . 5th. In a dynamo electric machine or motor, field magnet coils wound in two or more superimposed sections separated from one another by ventilating spaces, the outer sections being subdivided by spaces  $O^7$ , communicating with the spaces separating the superimposed sections. 6th. In a dynamo electric machine or motor, the combination, with the field magnet coils wound in two or more sections, of separating blocks  $O^2$ , interposed between such sections and separated from one another by air spaces, the outer section being subdivided into sections separated by spaces  $O^7$ , as and for the purpose described. 7th. The combination, with the field magnet coils wound in superimposed sections

separated from one another by ventilating spaces, of magnet spool heads having perforations or openings opposite such spaces and spaces  $O^7$ , between the parts of the outer section, as and for the purpose described. 8th. The combination of the regulating electric motor, an adjustable commutator, the adjustable member of which is geared to the motor, a field magnet switch box mounted between the field magnets of the generator, and the counter shaft between the movable switch contacts and the regulating electric motor. 9th. The combination, with the regulating motor and the adjustable commutator, of the switch mechanism controlling the strength of the field magnet, the generator, and intermediate connecting devices between such switch and motor having adjustable mechanism, whereby the throw of the switch as compared with the throw of the adjustable commutator may be regulated. 10th. The combination, substantially as described, of the regulating electric motor, the commutator yoke carrying the segment geared to such motor, the adjustable switch governing the connections of the field magnet coils for determining the strength of such field magnet, the rock shaft having crank and connections to the movable part of the switch, and a link or pitman  $E^5$ , for connecting such rock shaft with the motor. 11th. The combination, with the adjustable commutator and the actuating electric motor, of the adjustable switching devices governing the circuits of the field magnet, and a connecting rock shaft and pitman between the motor and switch, such pitman having means for adjusting its length and its point of attachment to the crank of the rock shaft for varying the throw. 12th. The combination, substantially as described, with the adjustable commutator, of an electric motor geared thereto and having its armature placed in the field between the polar ends of the two arms extending from the field magnet poles in a plane parallel with the armature shaft, an electric switch controlling the connections of the field magnet coils for varying the strength of such field magnet, and mounted between the legs of the field magnet, a rock shaft parallel with the armature and extending from the outside of the field magnet poles toward the inner side thereof, and connections from such rock shaft to the electric motor and to the movable contacts of the switch, as and for the purpose described. 13th. The combination, substantially as described, of the adjustable commutator, the actuating electric motor having its armature mounted between the polar extensions from the field magnet poles of the machine, a controlling switch having connections to the field magnet coils, an adjustable switch contact for determining the strength of the field magnet, a rock shaft mounted in bearings secured to the pole piece of the machine and links or pitman connecting such rock shaft to the electric motor and the movable contacts of the switch. 14th. The combination, with the sectional field magnet pole, of connecting boxes or slides, the two members of which are mounted respectively on the two sections of the field magnet pole and form a portion of the connections between the external circuit and the machine, as and for the purpose described. 15th. The combination, with the connecting boxes or slides mounted on the field magnet poles, of a shunting switch  $N^6$ , between the contacts or slides, connected respectively to the terminals of the field magnets of the machine. 16th. The combination, with a dynamo electric machine, of regulating appliances therefor, a controller magnet and controller contacts governing an electric motor which actuates the regulating appliances, said contacts and motor being in series with the translating devices or main circuit, and a permanent safety resistance  $R^3$ , forming a safety shunt from the main line circuit around such contact and motor. 17th. The combination, with the controller magnet, controller contacts and the resistances  $R^1$ ,  $R^2$ , placed in the circuits from the connections to the motor armature, of the switch  $x^1$ , placed in a shunt around such contacts and resistances. 18th. The combination, with the controller contacts and the motor armature connected thereto, both placed in the main line circuit, of a permanent branch resistance  $R^2$ , around said contacts and motor, and a shunting switch  $x^1$  for shunting said resistance out of the main line. 19th. In a dynamo electric machine or motor, the combination, with the armature shaft, of journal boxes supported on the field magnet frame and insulating interposed between such boxes and frame. 20th. The combination, with a dynamo machine or motor, of an armature shaft and connected journal boxes longitudinally adjustable in supports formed in the field magnet, as and for the purpose described. 21st. In a dynamo electric machine or motor, the combination, with the two journal boxes mounted in the field magnet, of the connecting piece  $I^3$  parallel with the field magnet core. 22nd. The combination, with the armature shaft, of journal boxes, the lower halves of which are cast in one piece with a connecting piece  $I^3$ , and are properly mounted in the yoke piece of the field magnet, and a strut connecting the pole ends thereof. 23rd. The combination, with the armature shaft, of the two connected journal boxes mounted in the field of force magnet and having oil wells connected by an oil way. 24th. The combination, with the armature shaft and connected journal boxes therefor, supported in the yoke piece for the field magnet, and in a strut connecting the pole ends of said magnet, of the adjusting pull and push screws for adjusting and setting the same in any desired longitudinal position. 25th. The combination, with the armature shaft and connected journal boxes resting at one end in the yoke piece of the field magnet frame, of a flange at the rear end of the machine and adjusting screws tapped in and bearing against the connecting part  $A^2$  of the field magnet frame. 26th. The combination, with the armature shaft and connected journal bearings therefor, of an adjusting screw  $L^2$  bearing against, but in-

sulated from, the field magnet frame. 27th. The combination, with the connected bearings and armature shaft mounted therein, of an adjusting screw tapped in the frame of the machine, but insulated from the bearings. 28th. The combination, with the connected journal bearings and armature shaft, of insulating material for insulating the bearing from the field magnet frame. 29th. The combination, with the connected journal bearings carrying the armature shaft, of adjusting mechanism for adjusting and setting the bearings and shaft in different longitudinal positions, and insulating material, applied as described, to prevent electrical connection between the journal bearings and the parts of the field magnet frame upon which the adjusting mechanism bears.

**No. 39,272. Wrench for Pipes.** (*Clé à tuyaux.*)

George McKercher and Frank J. McEntee, both of Jonesville, Michigan, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. A wrench consisting of the two plates provided with the rigid jaw, the movable jaw pivoted between said plates and having its heel below the pivot thereof, and the spring fastened at one end to said plates on one side thereof, said spring extending around the lower ends of said plates and extending upwardly in rear of the same, the rear part of the spring being bowed outwardly beyond the rear edges of the plates, and the upper end of the spring bearing against the heel of the pivoted jaw, substantially as described. 2nd. A wrench consisting of the two plates provided with the rigid jaw, the pivoted jaw having its heel below the pivot thereof, and provided with the downward extensions on said heel, and the spring having one end secured between the plates and its other end bent around the ends of the plates, and bearing against the heel of said pivoted jaw between the extensions thereof, substantially as described.

**No. 39,273. Device for Dampening Envelopes.**

(*Appareil à mouiller la gomme des enveloppes.*)

Elisha Lee Kingsley and Edward T. Rice, both of Syracuse, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. A device for dampening envelopes, comprising a tank having a main wick and an auxiliary wick, held in separable contact therewith, as set forth. 2nd. A device for dampening envelopes, comprising a tank with a main wick below the plane of the top of the tank, an auxiliary wick held in separable contact with the top of the main wick. 3rd. A device for dampening envelopes, comprising a tank, a main wick therein, an auxiliary wick normally in capillary contact with the main wick, and separable vertically therefrom by the insertion of the envelope. 4th. The combination, with the tank and the main wick therein, of an independent wick holder, secured to a spring arm and an auxiliary wick mounted therein and normally in capillary contact with the main wick, and vertically separable therefrom, as set forth.

**No. 39,274. Water Current Motor.**

(*Moteur à courant hydraulique.*)

Lemuel C. Neal, Lewiston, Idaho, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a current motor, the combination, with suitable floats, of a funnel shaped sluice or waterway connected with said float, a rectangular gate and guard pivoted to the front flared end of said sluice and provided with fenders across the front thereof, an endless chain paddle wheel located within said sluice, and means for raising and lowering said gate and guard over the front end of said sluice, substantially as set forth. 2nd. In a current motor, a sluice or waterway comprising a bottom and converging sides having hollow compartments, a chain paddle wheel mounted upon and within said sluice, a combined water gate and guard pivoted to the front flared end of said sluice, a windlass or shaft journaled upon the top sides of said sluice, and ropes or chains connected to said gate and guard, and adapted to be wound upon said shaft or windlass for raising and lowering the gate, substantially as set forth. 3rd. In a current motor, the combination, with a sluice or waterway and a water wheel located or mounted therein, of a combined gate and guard pivoted to the front end of said sluice, said gate having a bottom or gate proper forming in its normal position a continuation of the bottom of the sluice, parallel sides extending up from said bottom, and a top piece connecting the upper ends of said sides and inclosing the water passage through said gate, series of spaced guards or fenders secured across the front opening of said gate, and means for raising and lowering the same, substantially as set forth. 4th. In a current motor, the combination of a sluice or waterway having slanting ends, a water wheel mounted within said sluice, a rectangular gate having its sides and bottom overlapping and working over the front end of the bottom and sides of said sluice and pivoted to the lower front end of the same, guards or fenders secured across the front of said gate, upwardly extending arms secured to the top of said gate, a winding drum or windlass journaled upon the top of said sluiceway, and ropes or chains connecting said arms with said drum or windlass, substantially as set forth. 5th. In a current motor, the combination, with a sluice or waterway, of opposite shafts journaled at each end of said sluice and carrying opposite sprocket wheels, parallel endless chains working over said sprocket wheels, stationary rods secured at regular intervals

transversely to the opposite endless chains, flat feathering paddles or blades having off-standing brackets projecting from the bottom edges of the same in from the ends and having their outer ends loosely engaging said stationary rods nearly in a line with the bottom edges of said blades, and stop chains or ropes connected to the top swinging edges of said blades and each endless chain, substantially as set forth.

**No. 39,275. Hasp Lock.** (*Serrure à morillon.*)

John Francis Shea, assignee of William Harrison Price, both of Washington, District of Columbia, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with a hasp and staple, of a lock detachably connected to said hasp, whereby said lock will during the unlocking and locking operation remain attached to said hasp, and when desired can be removed and used independently of said hasp without destroying the usefulness of either the hasp or lock. 2nd. The combination, with a hasp and staple, of a lock provided with lips or flanges adapted to engage the outer side edge of said hasp, whereby the lock may be secured to the hasp. 3rd. The combination, with a hasp and staple, of a lock having an outwardly opening depression for the reception of the staple, and a locking bolt located at right angles to said depression, and adapted to secure said staple therein, said lock provided with lips or flanges for securing detachably the lock onto the hasp.

**No. 39,276. Adding Machine.**

(*Machine pour additionner.*)

Arthur E. Shattuck and George E. Bates, both of San Francisco, California, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In an adding machine, movable plates, from the movement of which the indications are taken, said plates being movable in opposite directions, a spring for effecting their movements, controlling mechanisms for limiting the movement of one at different distances and of the other at a given distance, and keys for operating said controlling mechanisms, substantially as herein described. 2nd. In an adding machine, the combination of movable plates, from the movements of which the indications are taken, said plates being movable in opposite directions, a set of separate keys and connections for effecting the movement of one of said plates to different distances, and a single key for effecting the movement of the other plate to a given distance, substantially as herein described. 3rd. In an adding machine, plates movable in opposite directions, the movement of one of said plates being to varied distances and that of the other to a given distance, a series of numbers carried by one of said plates, and a sight carried by the other, substantially as herein described. 4th. In an adding machine, superposed plates movable in opposite directions, the movement of one of said plates being to varied distances and that of the other to a given distance, the under plate carrying a series of numbers and the upper plate a sight aperture over said numbers, substantially as herein described. 5th. In an adding machine, the combination of plates movable in opposite directions, one of said plates carrying a series of numbers and the other an indicating sight, a set of separate keys and connections for effecting the movement of one of said plates to different distances, and a single key for effecting the movement of the other plate to a given distance, substantially as herein described. 6th. In an adding machine, the oppositely movable plates, from the movement of which the indications are taken, the single spring between them for effecting their movements, controlling mechanisms for limiting the movement of one at different distances and of the other at a given distance, and keys for operating said controlling mechanisms, substantially as herein described. 7th. In an adding machine, the combination of the rotatory spring actuated plate C, having teeth upon its rim, the separate keys and key levers, the pivoted spring controlled pawl carrier operated by the key levers, the holding pawl thereof, and the sliding spring controlled catch pawl on said carrier, adapted to be limited at different distances by contact with the key levers, whereby the plate moves to and is caught at different distances, substantially as herein described. 8th. In an adding machine, the combination of the rotatory spring actuated plates C and D, movable in opposite directions and having teeth upon their rims, the pivoted spring controlled pawl carrier having the holding pawl engaging the teeth of plate C, and the sliding spring controlled catch pawl engaging said teeth and limited at different distances, the keys and key levers for operating said pawl carrier and limiting the sliding pawl, the second pivoted spring controlled pawl carrier having a holding pawl and a catch pawl for controlling plate D, and the key and key lever for operating said second pawl carrier, substantially as herein described. 9th. In an adding machine, the combination of the oppositely rotating plates C and D, the former having the series of numbers and the latter a sight aperture, the spiral groove on the face of plate C, and the second sight aperture in plate D, with spring pointer having an edge travelling in the spiral groove of plate C, substantially as herein described. 10th. In an adding machine, the combination of the oppositely rotating plates C and D, the rotating front plate O carrying numbers, a fixed sight indicator for said plate, and a connection whereby the opposite movements of plates C and D are transmitted to rotate plate O in a single direction, substantially as herein described. 11th. In an adding machine, the combination of the oppositely rotating plates C and

D, a set of keys and connections for effecting the movement of plate C to different distances, and a single key for effecting the movement of plate D to a given distance, a front plate O carrying numbers, a fixed sight indicator for said plate, and a connection between plates C and D and plate O, whereby the opposite movements of the former are transmitted to rotate the latter in a single direction, substantially as herein described. 12th. In an adding machine, the combination of the oppositely rotating plates C and D, the spring actuated rotating front plate O carrying numbers, a fixed sight indicator for said plate, and the string wound about plates O and C in opposite directions and connected with plate D by a slip bearing, such as the roller *g*, substantially as herein described.

**No. 39,277 Padlock. (Cadenas.)**

John Francis Shea, assignee of William H. Price, both of Washington, District of Columbia, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a padlock, the combination, with the U-shaped lock case having the inner and outer walls of one of its stems perforated to receive the locking bolt, and the other recessed to serve as a keeper for said bolt, of a straight locking bolt adapted to operate through said perforated stem across and at right angles to an open stable slot formed in the lock case between the stems thereof. 2nd. The combination, with the U-shaped lock case provided with a locking bolt, of one or more sliding catches, one or more springs engaging said catches and bolt, and a guide way in which said catch or catches operate. 3rd. The combination, with the lock case, having an open end slot for the reception of the staple, of a locking bolt, sliding catches, springs engaging said bolt and catches, and a guide way for said catches. 4th. The combination, with the lock case, having an open end staple slot, of a locking bolt, sliding catches, springs engaging said bolt and catches, and a skeleton key barrel for the key. 5th. The combination, with the lock case, having an open end staple slot and a recess for receiving the end of the locking bolt, of a locking bolt, sliding catches, springs engaging said bolt and catches, a guide way for said catches, a pivoted locking lever, and a key barrel for the key.

**No. 39,278. Strainer for Tea. (Couloir pour le thé.)**

Frank John Wills, Winchester, Massachusetts, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. A tea strainer consisting of a hemispherical shell or its equivalent in shape, constructed of any suitable metal, suspended so as to swing freely in a perpendicular plane, passing through the axis of the spout and tea pot to which it is attached in the usual manner; with an annular ring or shoulder about a third of the way down upon which rests a strainer slightly dished, and of an opening in the shell forming a lip below the strainer, also of a hook or projection on the side opposite said orifice and on the side nearest the tea pot when in position for use, this hook being for the purpose of arresting the descent of the strainer into the cups on the side to which it is attached while permitting the other side to drop lower, all substantially as shown and described and for the purposes mentioned. 2nd. In a tea strainer, a projection or hook attached to the shell near the bottom and on the side opposite to the orifice, arranged to depress the lips by coming in contact with the edge of the tea cups while in use, substantially as shown and described.

**No. 39,279 Flushing Device for Sewers.**

(Appareil pour laver les égouts.)

Levi Stamworth, Toronto, Ontario, Canada, 13th July, 1892; 6 years.

*Claim.*—1st. In a flushing device, the tank supported to vibrate on bearings on its ends, and carried by the case of the device, said tank having an extended inclining side so as to displace the centre of gravity of the liquid contained when nearly full and cause it to tilt and discharge, substantially as shown and described. 2nd. In a flushing device, the circular trap arranged in the tightly sealed lid of the device, so as to discharge through a central opening into a tank beneath, substantially as shown and described. 3rd. In a flushing device, the combination, of the tank supported to tilt and discharge as specified, and the circular trap in the lid of the device and discharging into said tank beneath, substantially as shown and described.

**No. 39,280. Cant Block for Saw Mill Carriages.**

(Remard pour chariots de scierie.)

Patrick Charles Roche and Charles Colclough, both of Gertrude, Georgia, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with a saw mill carriage, and a shaft journalled upon the carriage, of movable guides, blocks carrying canting dogs held to slide in the guides, and a link connection between the blocks and the shaft, whereby when the shaft is rocked the canting dogs are raised and lowered, as and for the purpose set forth. 2nd. A canting block for saw mill carriages, consisting of a frame comprising a vertical and a horizontal member, a block held to slide in the vertical member having an essentially hook shaped

canting dog attached, a shaft journalled in the frame, a crank arm attached to the shaft, a link connecting the crank arm and the block carrying the dog, and a means for rocking the shaft, as and for the purpose specified. 3rd. The combination, with a saw mill carriage, its knees, slide ways erected transversely upon the carriage in the space intervening the knees, frames held to travel in the slide ways, and a feed mechanism connecting the knees and the frames, of blocks held to travel vertically in the frames and provided with hook like canting dogs capable of entering the slide ways of the frames, a shaft journalled in the frames and provided with attached crank arms, links connecting the crank arms of the shaft and the blocks carrying the dogs, and means, substantially as described, for rocking the shaft, as and for the purpose specified.

**No. 39,281. Cartridge Case. (Boîte à cartouches.)**

John Dobie, Langholm, Dumfries, Scotland, 13th July, 1892; 6 years.

*Claim.*—The combined cartridge case, consisting of the screw washer or retainer having a collar, and screwing into the base of the cartridge case and retaining the cap in position, the end of the said washer being provided with a square head for screwing or unscrewing same.

**No. 39,282. Envelope Opener.**

(Appareil pour ouvrir les enveloppes.)

William J. Puckett, Denver, Colorado, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. A suitable blank provided with slits or notches 25, 25, cut inward from its edge between one flap and the two adjacent flaps, and extending from the extremities of the folding lines of the intermediate flap to intersect the folding lines of the wing flaps, whereby when the last named flaps are folded corners 30, 30, shall be left projecting beyond the folding lines of said flaps and adapted to form pockets 45, 45, extending beyond the main enclosure when the third or intermediate flap is folded, substantially as described. 2nd. An envelope provided with auxilliary pockets at two adjacent corners, said pockets projecting beyond the main enclosure, in combination with a stout thread, small cord or wire with its body portion lying within the folding crease between the auxilliary pockets, while its extremities extend beyond the main enclosure into said pockets where they are concealed and fastened, substantially as described. 3rd. An envelope provided with an auxilliary corner pocket or shield projecting beyond the main enclosure, in combination with a flexible opener having its body portion lying within the main enclosure, while one of its extremities extends beyond the same into said pocket or shield, substantially as described. 4th. An envelope provided with one or more auxilliary corners projecting beyond the main enclosure, substantially as described.

**No. 39,283. Pipe Coupler. (Joint de tuyau.)**

Joseph James Swithin List, Rockdale, New South Wales, Australia, 13th July, 1892; 6 years.

*Claim.*—1st. An improved pipe coupling of the class set forth, constructed in two halves, each having a plug cock or valve whose plug or stems when in a "shut off" position are adapted to gear one with the other across a meeting face, and upon movement of the respective faces or casings to turn the plug or tap to open communication through each and their attached pipes, substantially as herein described and explained. 2nd. An improved pipe coupling of the class set forth, constructed in two halves, each having wards and keeps to gear into the other, and whose partial revolution will open and close plug taps and valves in each half coupling respectively, and lock and free said coupling, substantially as herein described and explained. 3rd. In an improved pipe coupling of the class set forth, the combination and arrangement with a meeting face, such as A<sup>5</sup>, a casing, such as A, and through passage, such as C, of a hollow conical plug, such as B, having parts, as B<sup>4</sup>, and handle, such as B<sup>5</sup>, and adapted to be partly revolved upon the circular movement of adjacent half couplings, substantially as herein described and explained and as illustrated in the drawing. 4th. In an improved pipe coupling of the class set forth, the combination and arrangement with a plug tap or cock, such as B, its barrel or casing, such as A, and the meeting face, such as A<sup>5</sup>, of extensions, such as B<sup>1</sup>, of plug B adapted to take into recesses, such as B<sup>2</sup>, of a similar plug and with or without stop lugs, such as A<sup>8</sup>, substantially as herein described and explained and as illustrated in the drawings. 5th. The combination and arrangement of mechanical parts altogether forming an improved railway brake pipe coupling, substantially as herein described and explained and as illustrated in the drawings.

**No. 39,284. Nailing Machine for Footware.**

(Machine à clouer pour chaussures.)

Stillman Williams Robinson, Columbus, Ohio, U. S. A., 13th June, 1892; 6 years.

*Claim.*—The combination in a nailing machine, of the following instrumentalities, viz:—a driver bar, a guide therefor and crank shaft to actuate the driver bar; a link to connect the said bar and crank shaft; a pivoted yoke forming bearings for the said crank shaft; the main shaft A<sup>2</sup>, and non circular gears fast to the said shafts, whereby the main shaft driven at a uniform speed actuates

the crank shaft at a varying speed to thus hasten the descent of the driver bar, and enable the driver bar carried by it to strike a nail, the driver bar being actuated positively both in its ascent and descent, substantially as described.

**No. 39,285. Nailing Machine.** (*Machine à clouer.*)

Stillman Williams Robinson, Columbus, and Sern Perley Watt. Cincinnati, Ohio, both in the U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a nailing machine, a cutting box having a notch where the end of the wire rests, combined with an inclined pointing tool to enter said notch, and a carrier to actuate said tool, whereby the inclined tool cuts into one end of the wire, a notch which is slanted with relation to the axis of the wire, leaving a two pronged point, substantially as described. 2nd. The lever C<sup>7</sup>, the feeding gripper g<sup>2</sup>x, the cutting box, and means to support it, combined with the pivoted carrier G<sup>2</sup>, the pointing tool attached thereto, and means to reciprocate the said carrier diagonally with relation to the axis of the wire, substantially as described. 3rd. The cutting box notched at 48, and having a concavity at one side of the wire passage, combined with the carrier G<sup>2</sup>, the pointing tool therein, shaped substantially as shown, to co-operate with the notch 48, and cut a slanting notch in the end of the wire, and a bender moving with the said pointing tool to bend the wire, substantially as described. 4th. The cutting box having the pointing notch 48, the inclined pointing tool, its diagonally movable carrier, the main slide B<sup>6</sup>, and the nose plate D<sup>1</sup>, supported thereby and having a nail passage 19, combined with a pivoted nail carrier interposed between the said cutting box and nose plate, substantially as described. 5th. The nose plate having a nail passage 19, and a nail carrier pivoted thereon, having at its inner side and at the opposite sides of its centre concaved cam surfaces 22 and 23, combined with the cam slide F<sup>2</sup>, to vibrate and lock the said nail carrier accurately in its two extreme positions at the proper time, substantially as described. 6th. The cutting block having the point forming notch 48, and the wire passage, an inclined pointing tool and its reciprocating carrier, and the nose plate having a nail passage, combined with the nail carrier, having concaved cam surfaces 22 and 23, and the cam slide to vibrate the same, to cut off the wire between it and the cutting box, and to lock the said nail carrier in its extreme positions, substantially as described. 7th. The cutting box having the point forming notch 48 and wire passage, the carrier and its connected inclined pointing tool, to form a point for the end of the wire, the nail carrier, the nose plate D<sup>1</sup>, having a nail passage, a wire feeding device, substantially as described, to feed the pointed end of the wire into the nail carrier for a greater or less length, according to the thickness of the stock on the horn, and a cam slide to vibrate the nail carrier to cut off the pointed end of the wire and form a nail of the desired length and place the said nail over the nail passage in the nose plate, substantially as described. 8th. The lever 36, its attached plate g<sup>3</sup>, and the gripper actuating cam rods g<sup>4</sup> and g<sup>13</sup>, jointed thereto, combined with two grippers, the gripping plates, the lever C<sup>7</sup> to actuate them, and the cutting box to operate, substantially as described. 9th. In a nailing machine, a wire feeding device consisting essentially of a sliding pin, as g<sup>2</sup>, a cam rod to actuate it, a block having a wire passage entered by the said pin, and an adjusting screw to adjust the said cam rod, substantially as described. 10th. The main shaft, the frame a, pivoted thereon and having the bearing A<sup>9</sup>, the main slide B<sup>6</sup>, entered by the said bearing, the driver bar guide pivoted on the said main slide, the driver bar, its attached driver and link, combined with the shaft A<sup>8</sup>, having a crank, and means to actuate the said shaft, substantially as described. 11th. The main shaft, the frame a, pivoted thereon and having a bearing A<sup>9</sup>, the crank shaft A<sup>8</sup> in said bearing, the connected driver bar, the driver, a dog attached to the said shaft A<sup>8</sup>, a non-circular gear loose on the said shaft, a pin or projection between the said dog and gear, a non-circular gear fast to the main shaft, and a spring to actuate the driver and through it rotate the shaft A<sup>8</sup> during a part of each rotation, for the purpose set forth. 12th. Theawl bar, the lever to move it, the slotted cam plate B<sup>2</sup>, and the pivoted driver bar guide having a slotted cam A<sup>17</sup> and the driver bar, combined with the pin A<sup>19</sup> to enter the cam slots of both the said bars to move theawl bar and driver bar laterally, as desired, to enable them to move alternately in the same path, substantially as described. 13th. In a nailing machine, the following instrumentalities, viz.,—A nose plate to bear on the stock, the movable slide B<sup>6</sup>, with which the nose is connected, a wire holding gripper carried by and adapted to rise and fall with the said slide and nose plate, a wire feeding gripper, a carrier for the said feeding gripper, means to raise and lower the said carrier with relation to the nose plate, and means to automatically vary the nail length to compensate for upset, substantially as described. 14th. The wire feeding gripper, a carrier for the said gripper, and two pins b<sup>4</sup>, and means to move it, combined with an eccentric b<sup>8</sup> interposed between the said carrier and the said pin, and means to operate the said eccentric, substantially as and for the purpose described. 15th. The vertically movable foot lift, the lever D<sup>6</sup>, the stops 13 and 16, rising and falling with the said foot lift, a spring to raise the foot lift, and a locking device for the said lever, substantially as described. 16th. The vertically movable foot lift, the lever D<sup>6</sup>, the stops 13 and 16, rising and falling with the said foot lift, a spring to raise the foot lift, and a locking device for the said lever, and means to actuate the said locking device, substantially as described, to lock and release the said lever D<sup>6</sup> at the proper times, as and for the purposes set forth.

**No. 39,286. Method of and Apparatus for Carbureting Gas.** (*Méthode et appareil pour la carburation du gaz.*)

Hiram Stevens Maxim, Crayford, Kent, England, 13th July, 1892; 6 years.

*Claim.*—1st. The improved method of carbureting or enriching gas by volatilizing liquid hydro carbon, and introducing the vapour thereof into the gas main or gasometer, in the manner substantially as described. 2nd. The method of carbureting or enriching the gas flowing through a gas main, by drawing a suitable proportion of such gas from the main, carbureting or enriching the same and returning it to the main, substantially in the manner hereinbefore described. 3rd. The combination, with an evaporator or retort for volatilizing liquid hydro carbon, of an injector which is operated by the hydro carbon vapour from the said evaporator or retort, and which draws gas from a gas main, enriches such gas and returns it to the main, substantially as hereinbefore described. 4th. The combination, with the gas main, of an evaporator or retort for volatilizing liquid hydro carbon, a steam or hot water heater connected with the said evaporator or retort, and a pipe provided with a controlling valve for conducting the hydro carbon vapour from the evaporator or retort into the gas main, substantially as and for the purposes above specified. 5th. The combination, with a gas main, if an evaporator or retort for volatilizing liquid hydro carbon, a steam or hot water heater connected with the said evaporator or retort, an injector connected with the said evaporator or retort and operated by the hydro carbon vapour therefrom, and suitable pipes connecting the said injector with the gas main, substantially as and for the purposes above specified.

**No. 39,287. Filler for Blast Furnaces.**

(*Appareil pour charger les fourneaux à fusion.*)

Alexander E. Brown, Cleveland, Ohio, U. S. A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with the top opening, or openings, of a furnace and suitable means or mechanism by which the successive charges of stock are conveyed from the stockroom to the furnace top, of mechanism operating, as specified, to insure the depositing of said charges in succession at several different and predetermined points, and that is actuated in its successive operations in unison with the operations or movements of the said mechanism, by which the charges of stock are carried up to the furnace top, the said combination being substantially such as, and operating in the manner, hereinbefore more fully described. 2nd. In combination with the top opening of the furnace and suitable means for conveying to the vicinity thereof from the stockroom, the successive charges of material to be fed to the furnace, a turn table formed or provided with a suitable aperture for the ingress to the furnace of said charges of stock, and mechanism for rotating said turn table automatically, and in accordance with the action or operation of the mechanism by which the charges of stock are conveyed from the stockroom to the vicinity of the top opening of the furnace, all in substantially the manner and for the purposes hereinbefore set forth. 3rd. In combination with the furnace top and a rotatory device for insuring or enforcing the entrance into the furnace of successive charges of stock at different points, as specified, a circular track arranged at the under side of said rotatory device, and traveling on top of a series of wheels by which it is supported, and axes of which are mounted in fixed bearings, all substantially in the manner and for the purposes hereinbefore set forth.

**No. 39,288. Clutch.** (*Embrayage.*)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with a suitable shaft, and a wheel or part mounted loosely thereon, and adapted to be acted upon by a frictional clutching band, of a clutch band which is movable circumferentially throughout its entire length, means by which said clutch band is positively expanded or distended against the contacting surface of said wheel or part with a combined radial and circumferential movement throughout its entire length, and means by which said clutch band and its attachments are caused to rotate with the said shaft, substantially as and for the purposes set forth. 2nd. The combination, with a suitable shaft, and a wheel or part mounted loosely thereon, and adapted to be acted upon by a frictional clutching band, of a clutch band which is movable circumferentially throughout its entire length, means by which said clutch band is positively expanded or distended against the contacting surface of said wheel or part, with a combined radial and circumferential movement throughout its entire length, and by which said clutch band is also positively contacted with a similar combined movement, and means by which said clutch band and its attachments are caused to rotate with the said shaft, substantially as and for the purposes set forth. 3rd. In a friction clutch mechanism, the combination, with the wheel or part to be clutched to the drive shaft and the part having a circular surface which is concentric to the surface of the said wheel or part to be clutched, and that rotates with the said drive shaft, of a clutch band which is positively expanded and contracted with a combined radial and circumferential movement throughout its entire length, and means operating to thus expand and contract said clutch band respectively against the contacting surface of the

wheel or part to be clutched and against the concentric contacting surface of the said part that rotates with the drive shaft, substantially as and for the purposes set forth. 4th. In a friction clutch mechanism, the combination, with the wheel or part to be clutched to the drive shaft, a frictional clutch band movable circumferentially throughout its entire length, and the parts which are fast on the drive shaft and carry said frictional clutch band, of means operating to move the said clutch band circumferentially and also radially throughout its entire length and operating, when in action, to exert a constant tendency to thus move the clutch band in both a radial and a circumferential direction, all substantially as and for the purposes set forth. 5th. The combination, with the wheel or part to be clutched to the drive shaft and with the parts which rotate with said shaft, of a friction band movably secured to said rotary parts, a sliding collar or device arranged on the drive shaft, and wedge-like devices having their tapering surfaces arranged relatively in an opposite manner and operating to positively oscillate said rotary parts to expand the clutch band and also to contract it, the whole constructed and operating substantially as hereinbefore set forth.

### No. 39,289. Bucket for Conveyors.

(*Sceau pour transport.*)

Alexander E. Brown, Cleveland, Ohio, U. S. A., 13th July, 1892; 6 years.

*Claim.*—1st. In combination with any one of the wheel stands, or wheel carrying devices of a hoisting bucket, a separate and removable journal box operating, when secured to the wheel stand, to afford a proper bearing surface for the journal of the wheel carried by said wheel stand, all substantially in the manner and for the purposes hereinbefore set forth. 2nd. In a dump bucket wheel device, the combination, with a stand or housing for the attachment of the wheel device to the bucket, of removable journal boxes, each one of which is adapted to accommodate one of the laterally projecting journals of the wheels and is entirely closed upon the outer or exposed side, to prevent the ingress of dust to the journal and its bearing surface in the journal box, all substantially as hereinbefore set forth. 3rd. In a dump bucket wheel device, the combination, with the stand or housing for the attachment of the wheel device to the bucket, of removable journal boxes, each one of which is adapted to accommodate one of the laterally projecting journals of the wheel, and is formed with the half bearing *i*, and the lubricant receptacle or oil box *a*<sup>2</sup>, located below the said half bearing, all in substantially the manner and for the purposes hereinbefore set forth.

### No. 39,290. Dump Bucket for Conveyors.

(*Sceau à bascule pour transport.*)

Alexander E. Brown, Cleveland, Ohio, U. S. A., 13th July, 1892; 6 years.

*Claim.*—The combination, with the bucket, its bail, and the locking levers provided with engaging lugs *c*, of the grooved or recessed cam plates *D*, formed with the detaining recesses *i*, and provided with pivoted bars *g*, the whole constructed and operating together in substantially the manner and for the purpose hereinbefore set forth.

### No. 39,291. Clutch. (*Embrayage.*)

Alexander E. Brown, Cleveland, Ohio, U. S. A., 13th July, 1892; 6 years.

*Claim.*—The combination of the following named instrumentalities, arranged and operating together, as hereinbefore described, viz.:—first, a series of friction clutches; second, a single actuating lever or device; and third, suitable devices arranged intermediately of the said friction clutches and the said actuating lever, and acted upon by the said lever, which operate to positively apply and release one or the other of the friction clutches without in the least affecting the condition of the other, whenever the said actuating lever may be moved from its neutral position in either direction and back to its original location.

### No. 39,292. Means for Translating Power.

(*Moyen de transférer la force.*)

Alexander E. Brown, Cleveland, Ohio, U. S. A., 13th July, 1892; 6 years.

*Claim.*—The combination, with a drive shaft adapted to rotate for any necessary purpose in a given direction at a given time, of a series of loose driving drums or wheels adapted to be separately clutched to said shaft, as occasion may require, and any suitable cable or drive belt arranged in engagement with both drums, but actuated always by that one of the drums which may be thrown into engagement with the shaft, whereby I am enabled to effect the transmission of power and motion, through the medium of such drive cable, or belt in either one of two directions, while the said drive shaft rotates in a given direction, all substantially as and for the purposes hereinbefore set forth.

### No. 39,293. Power Transmitting Apparatus.

(*Appareil de transmission de la force.*)

William Main, Brooklyn, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a set of gear wheels, one of said wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, and guide mechanism for restraining the rotary motion of said oscillating wheel when the guide bearing is restrained, substantially as described. 2nd. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a set of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, and a restrainable guide bearing normally moving with said oscillating wheel and connected therewith by guide mechanism having a swinging motion about centres, substantially as described. 3rd. A power transmitting device for connecting a driving shaft and a driven mechanism, consisting of a set of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing moving with said oscillating wheel and connected thereto by guide mechanism having a swinging motion in two directions, and a brake for arresting the movement of said guide bearing, substantially as described. 4th. A power transmitting device for connecting a driving shaft with driven mechanism, consisting of a set of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, restrainable guide bearing moving with said oscillating wheel and connected thereto by guide mechanism having a swinging motion in two directions, and a brake for arresting the movement of said guide bearing, substantially as described. 5th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a set of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a rotary pulley normally rotating with said oscillating wheel and connected therewith by guide mechanism having a swinging motion about centres, and a brake for arresting the rotation of said pulley, substantially as described. 6th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a set of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a rotary pulley normally rotating with said oscillating wheel and connected thereto by guide mechanism having a swinging motion in two directions, and a brake for arresting the rotation of said guide bearing, substantially as described. 7th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a set of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, and a restrainable guide bearing normally moving with said oscillating wheel and connected thereto by guide mechanism joined at one end to the guide bearing by a universal joint, and at the other end to the oscillating wheel by a like joint, substantially as described. 8th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a sun and planet gear, one member of which is in operative connection with the driving shaft and the other with the driven mechanism, a restrainable guide bearing normally moving with the oscillating member of said sun and planet gear, and guide mechanism for restraining the motion of said oscillating gear, when the guide bearings are restrained, substantially as described. 9th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a sun and planet gear, a restrainable guide bearing normally moving with the oscillating member of said gear, and guide mechanism for restraining the motion of said oscillating member when the guide bearing is restrained, said guide mechanism made up of parts having a swinging motion in two directions, substantially as described. 10th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a sun and planet gear, a movable guide bearing connected with the oscillating member of said sun and planet gear by guide mechanism having a swinging motion in two directions, and a brake for arresting the movement of said guide bearing, substantially as described. 11th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a sun and planet gear, a rotary pulley connected with the oscillating member of said gear by guide mechanism having a swinging motion in two directions, and a brake for arresting the rotation of said pulley, substantially as described. 12th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a sun and planet gear, a guide bearing, and swinging connecting guide mechanism joined at one end to the guide bearing by a universal joint and at the other end to the oscillating member of the gear by a like joint, substantially as described. 13th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a sun and planet gear, a rotary pulley mounted on the driving shaft, a sleeve encircling said shaft and connected at one end to the pulley by a universal joint and at the other end to the driving member of the gear by a like joint, and a brake for said pulley, substantially as described. 14th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a sun and planet gear, the driving member of which is mounted within the driven member and is in operative connection with the driving shaft, a restrainable guide bearing normally moving with the driving member of said sun and planet gear, and guide mechanism for restraining the motion of said driving member when the guide bearing is restrained, substantially as described. 15th. A

power transmitting device connecting a driving shaft with a driven mechanism, consisting of a sun and planet gear, the oscillating member of which is mounted within the driven member and is in operative connection with the driving shaft, and a restrainable guide bearing normally moving with said driving member and connected therewith by guide mechanism having a swinging motion about centres, substantially as described. 16th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a set of sun and planet gear, the driving member of which is mounted within the driven member and is in operative connection with the driving shaft, a movable guide bearing connected with the said driving member by guide mechanism having a swinging motion about centres, and a brake for arresting the movement of said guide bearing, substantially as described. 17th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a set of sun and planet gear, the driving member of which is mounted within the driven member and is in operative connection with the driving shaft, a guide bearing and a swinging connecting piece joined at one end to the guide bearing by a universal joint and at the other end to the driving member of the gear by a like joint, substantially as described. 18th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a set of sun and planet gear, the driving member of which is mounted within the driven member, and is in operative connection with the driving shaft, a rotary pulley mounted on the driving shaft, and a sleeve encircling said shaft and connected at one end to the pulley by a universal joint, and at the other end to the driving member of the gear by a like joint, and a brake for said pulley, substantially as described. 19th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a set of sun and planet gear, a rotary pulley mounted upon the driving shaft, a sleeve encircling said driving shaft and having a pair of oppositely disposed lugs at each of its ends, a ring encircling said driving shaft and connected to the driving member of the sun and planet gear, and to the lugs upon the proximate end of the sleeve by trunnion pins, and a similar ring connecting in like manner the opposite end of the sleeve with the pulley, and a brake for said pulley, substantially as described. 20th. In a power transmitting device, the combination of a driving shaft provided with an eccentric fast thereon, a hollow driven shaft provided with a so-called sun wheel, and mounted upon said driving shaft, a planet wheel mounted upon the eccentric and engaging with the sun wheel, a rotary pulley mounted upon the driving shaft, a swinging sleeve connected at one end to the planet wheel by a universal joint, and at the other to the pulley by a like joint, and a brake for said pulley, substantially as described. 21st. In a power transmitting device of the kind described, the combination, with the rotary pulley, of a brake therefor, consisting of pivoted brake blocks disposed at opposite parts of the periphery of said pulley, links to which the brake blocks are attached, a shaft having projecting lugs to which the links are attached, and arms for turning said shaft in one direction or the other, so as to apply or release the brake, substantially as described. 22nd. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a set of gear wheels, one of said wheels having a rotary and also an oscillating motion, a bearing, and a guide mechanism joined on the one side to the bearing by a universal joint, and on the other side to the oscillating wheel by a like joint, whereby the tendency to rotary motion of the oscillating wheel is restrained, substantially as described. 23rd. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a set of sun and planet gear wheels, a bearing, and a guide mechanism joined on the one side to said oscillating member by a universal joint, and on the other side to the said bearing by a like joint, substantially as described. 24th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a set of sun and planet gear wheels, the oscillating wheel of which set is mounted within the other wheel, a bearing, and a guide mechanism joined on the one side to said bearing by a universal joint, and on the other side to the oscillating gear wheel by a like joint, whereby the tendency to rotary motion of the oscillating wheel is restrained, substantially as described. 25th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a set of gear wheels connecting the two, one of said wheels having a rotary and also an oscillating motion, a bearing, a sleeve encircling the driven shaft and having a pair of oppositely disposed lugs at each of its ends, ring encircling the driving shaft and connected to said oscillating wheel by trunnion pins, and to the lugs upon the proximate end of the sleeve by like pins, and a similar ring connecting in like manner the opposite end of the sleeve with the bearing, substantially as described. 26th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a set of gear wheels, one of said wheels having a rotary and also an oscillating motion, a rotary pulley mounted concentrically with the driving shaft normally rotating with said oscillating wheel, and guide mechanism for restraining the rotary motion of said oscillating wheel when the rotation of the pulley is restrained, substantially as described. 27th. A power transmitting device connecting a driving shaft with a driven mechanism, consisting of a set of sun and planet gear, a rotary pulley mounted concentrically with said driving shaft normally rotating with the oscillating wheel of said gear, and guide mechanism for restraining the rotary motion of

said oscillating gear when the rotation of the pulley is restrained, substantially as described. 28th. The method of obtaining uniformity of motion in the driven member of a sun and planet gear, and graduating the speed of transmission from the driving member thereof, which consists in retaining the rotation of the oscillating member, so that said member shall assume successive positions of parallelism with itself, and graduating the restraining force to correspond to the speed of transmission desired, substantially as described. 29th. The method of obtaining uniformity of motion in the driven member of a sun and planet gear, and graduating the speed of transmission from the driving member thereof, which consists in restraining the rotation of the oscillating member of the gear by the application of friction, so that said member shall assume successive positions of parallelism with itself, and graduating the amount of friction so applied to correspond to the speed of transmission desired. 30th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, and a guide for restraining to rotary motion of said oscillating wheel when the guide bearing is restrained, said guide being made up of parts having a swinging motion about centres in a plane perpendicular to the axis of rotation of the oscillating gear wheel, substantially as described. 31st. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, a guide for restraining the rotary motion of said oscillating wheel when the guide bearing is restrained, said guide being made up of parts having a swinging motion in two directions, said motions being in a plane perpendicular to the axis of rotation of the oscillating gear wheel, and a brake for restraining the rotation of said guide bearing, substantially as described. 32nd. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, and a guide for restraining the rotary motion of said oscillating wheel when the guide bearing is restrained, said guide consisting of a block connected on the one side by swinging links to the oscillating wheel and on the other side by like links to the guide bearing, substantially as described. 33rd. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of sun and planet gear wheels, a restrainable guide bearing normally rotating with the driving member of said gear wheels, and a guide for restraining the rotary motion of said driving member when the guide bearing is restrained, said guide being made up of parts having a swinging motion in a plane perpendicular to the axis of rotation of the driving member of the gear, substantially as described. 34th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of sun and planet gear wheels, a restrainable guide bearing normally rotating with the oscillating member of said gear wheels, a guide for restraining the rotary motion of said oscillating member when the guide bearing is restrained, said guide being made up of parts having a double swinging motion in a plane perpendicular to the axis of rotation of the driving member of the gear, and a brake for restraining the movement of said guide bearing, substantially as described. 35th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of sun and planet gear wheels, the oscillating member of said sun and planet gear wheels being mounted within the other member, a restrainable guide bearing normally rotating with said oscillating gear wheel, a guide for restraining the rotary motion of said oscillating gear wheel when the guide bearing is restrained, said guide being made up of parts having a swinging motion in two directions in a plane perpendicular to the axis of rotation of the oscillating gear wheel, substantially as described. 36th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of sun and planet gear wheels, the oscillating member of said sun and planet gear wheels being mounted within the other member, a restrainable guide bearing normally rotating with said oscillating gear wheel, a guide for restraining the rotary motion of said oscillating gear wheel when the guide bearing is restrained, said guide being made up of parts having a swinging motion in one direction and a sliding motion in another direction, said motions being in a plane perpendicular to the axis of rotation of the oscillating gear wheel, substantially as described. 37th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, and a guide for restraining the rotary motion of said oscillating wheel when the guide bearing is restrained, said guide being made up of parts having a swinging motion in one direction and a sliding motion in another direction, said motions being in a plane perpendicular to the axis of rotation of the oscillating gear wheel, substantially as described. 38th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, a guide for restraining the rotary

motion of said oscillating wheel when the guide bearing is restrained, said guide being made up of parts having a swinging motion in one direction and a sliding motion in another direction, said motions being in a plane perpendicular to the axis of rotation of the oscillating gear wheel, and a brake for restraining the rotation of said guide bearing, substantially as described. 39th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, and a guide for restraining the rotary motion of said oscillating wheel when the guide bearing is restrained, said guide being made up of a connecting piece joined to the oscillating wheel by pivoted links and playing along guiding surfaces attached to the guide bearing, substantially as described. 40th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of sun and planet gear wheels, a restrainable guide bearing normally rotating with the oscillating member of said gear wheels, and a guide for restraining the rotary motion of said oscillating member when the guide bearing is restrained, said guide being made up of parts having a swinging motion in one direction and a sliding motion in another direction, said motions being in a plane perpendicular to the axis of rotation of the driving member of the gear, substantially as described. 41st. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of sun and planet gear wheels, a restrainable guide bearing normally rotating with the oscillating member of said gear wheels, a guide for restraining the rotary motion of said oscillating member when the guide bearing is restrained, said guide being made up of parts having a swinging motion in one direction and a sliding motion in another direction, said motions being in a plane perpendicular to the axis of rotation of the driving member of the gear, and a brake for restraining the movement of said guide bearing, substantially as described. 42nd. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, and a guide mechanism for restraining the rotary motion of said wheel when the guide bearing is restrained, said guide mechanism having a swinging motion in one direction and a sliding motion in another direction, said motions being in planes parallel with the axis of rotation of the oscillating gear wheel, substantially as described. 43rd. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, a guide mechanism for restraining the rotary motion of said wheel when the guide bearing is restrained, said guide mechanism having a swinging motion in one direction and a sliding motion in another direction, said motions being in planes parallel with the axis of rotation of the oscillating gear wheel, and a brake for restraining the rotation of said guide bearing, substantially as described. 44th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, and a guide for restraining the rotary motion of said wheel when the guide bearing is restrained, said guide being made up of a connecting piece joined to the guide bearing by trunnion pins and to the oscillating wheel by trunnion pins, substantially as described. 45th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating wheel, and a guide for restraining the rotary motion of said wheel when the guide bearing is restrained, said guide consisting of a connecting piece having a swinging motion in one direction, and a sliding motion in another direction, said motions being in a plane parallel with the axis of rotation of the driving member of the gear, and a brake for restraining the rotation of said guide bearing, substantially as described. 46th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating gear wheel, and a guide mechanism for restraining the rotation of said oscillating

gear wheel when the guide bearing is restrained, said mechanism consisting of two or more crank shafts or pins journaled in the guide bearing, the crank portions of said shafts moving the oscillating gear wheel in its path of oscillation and restraining it to positions of parallelism when the guide bearing is restrained, and gearing connecting said crank shafts and the driving shaft, whereby the rotation of said crank shafts on their own axis is promoted, substantially as described. 49th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating gear wheel, a guide mechanism for restraining the rotation of said oscillating gear wheel, when the guide bearing is restrained, said mechanism consisting of two or more crank shafts or pins, journaled in the guide bearing, the crank portions of said shafts moving with the oscillating gear wheel in its path of oscillation and restraining it to positions of parallelism when the guide bearing is restrained, and a brake for restraining the rotation of said guide bearing, substantially as described. 50th. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating gear wheel, a guide mechanism for restraining the rotation of said oscillating gear wheel when the guide bearing is restrained, said mechanism consisting of two or more crank shafts or pins journaled in the guide bearing, the crank portions of said shafts moving with the oscillating gear wheel in its path of oscillation and restraining it to positions of parallelism when the guide bearing is restrained, gearing connecting said crank shafts and the driving shaft, where the rotation of said crank shafts on their own axis is effected, and a brake for restraining the rotation of said guide bearing, substantially as described. 51st. A power transmitting device for connecting a driving shaft with a driven mechanism, consisting of a series of gear wheels, one of said gear wheels having a rotary and also an oscillating motion, a restrainable guide bearing normally rotating with said oscillating gear wheel, and a guide mechanism for restraining the rotation of said oscillating gear wheel when the guide bearing is restrained, said mechanism consisting of two or more crank shafts or pins journaled in the guide bearing, the crank portions of said shafts moving with the oscillating gear wheel in its path of oscillation and restraining it to positions of parallelism when the guide bearing is restrained, substantially as described.

#### No. 39,294. Band Saw Mill.

(*Science à scies sans fin.*)

The firm of Smith, Myers & Schmier, assignee of Samuel R. Smith, all of Cincinnati, Ohio, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a band saw mill, the combination, with the band wheels and main supporting frame or column, of an integral standard carrying the front bearings of the upper and lower band wheel shafts, said standard being attached to the front side of said main frame or column between said band wheels, substantially as hereinbefore set forth. 2nd. The combination, substantially as specified, of the hollow supporting column C, and the hollow casting D, D<sup>1</sup>, D<sup>2</sup>, centrally secured to said column to furnish rigid support for the front bearings of the upper and lower band wheel shafts. 3rd. A support for the front bearings of the band wheel shafts having the flanged horizontal portion D, to be secured to the supporting frame and the vertical arms D<sup>1</sup>, D<sup>2</sup>, cast in one piece with said central portion, the said part D<sup>1</sup> being bored to receive the adjustable bearing of the upper band wheel shaft. 4th. The combination, of the base plate A, cast in a single piece, the column C, having a flanged base to be secured to said base A, the front support for the band wheel shafts, consisting of the casting D, D<sup>1</sup>, D<sup>2</sup>, and shield D<sup>3</sup>, together forming a supporting frame for band saw mills, substantially as hereinbefore set forth. 5th. In a band saw mill, the combination, of the supporting frame, the vertically adjustable bearings for the upper band wheel shaft, mounted in said frame, the transverse shaft G, mounted on knife edge bearings in said frame and having arms g, g<sup>1</sup>, secured upon said shaft to support the bearings of said upper band wheel shaft, and the weighted lever K, secured upon said shaft between the knife edge bearings to counterpoise the bearings of the upper band wheel shaft and provide a sensitive automatic adjustment for the same, whereby the saw is kept at the proper tension, substantially as hereinbefore set forth. 6th. The combination, substantially as hereinbefore set forth, of the supporting frame, the transverse shaft G, having knife edge bearings g<sup>2</sup>, secured in it, the supporting plates g<sup>1</sup>, resting on brackets in said frame, the arms g, g<sup>1</sup>, having steps at their outer ends, the hardened steel adjustment screws g<sup>2</sup>, passing through said steps, the vertically adjustable bearings for the upper band wheel shaft, resting upon said screws, the lever K, secured upon said shaft and projecting through the frame, the rod k, upon the outer end of said lever K, the cap nut k<sup>1</sup>, upon said rod, and the removable weights k<sup>2</sup>, for the purpose specified. 7th. In a band saw mill, the combination, of a vertically and axially adjustable support for the rear bearing of the upper band wheel shaft, the said bearing eccentrically pivoted upon top of said support, and means, such as shown, to rotate and at the same time either elevate or lower said bearing, substantially as and for the purposes set forth. 8th. The combination, in a band saw mill, of the supporting column C, the tubular

bearing *h*, secured to it, the shaft bearing support *H*, fitted to slide and turn in said bearing, the supporting shaft *H*<sup>1</sup>, united by screw threaded connection with said trunnion, the upper rear bearings *F*<sup>4</sup>, for the band wheel shaft, eccentrically secured upon the top of said shaft bearing support, and means, as shown, to rotate said shaft bearing support for the purpose of adjusting the rear bearing of the band wheel shaft independent of the front bearing, substantially as shown and described. 9th. The combination, substantially as herebefore set forth, of the vertically adjustable supports for the bearings of the upper band wheel shaft, means, such as shown, to simultaneously adjust said supports to elevate or lower said shaft, the rear bearings *F*<sup>4</sup>, pivoted eccentrically upon said rear support, the worm wheel *H*<sup>3</sup>, spined upon the rear support, the worm *H*, meshing with the said worm wheel, and the hand wheel *H*<sup>2</sup>, to actuate said worm, whereby the rear support is rotated within its bearing, for the purpose set forth. 10th. In a band saw mill, the combination of the column *F*, brackets projecting from said column, a rock shaft having knife edge bearings resting upon said brackets, a weighted lever, and two arms *g*, *g*<sup>1</sup>, secured upon said rock shaft, with the band wheel shaft and its boxes, and rods supporting the boxes, said rods resting upon the arms *g*, *g*<sup>1</sup>, substantially as shown and described.

### No. 39,295. Propelling Power.

(Appareil de propulsion.)

James Boomer Hall and Maurice Major Varden, both of Toronto, Ontario, Canada, 13th July, 1892; 6 years.

*Claim.*—1st. As a propelling power the shaft supported in suitable standards and having a propelling wheel secured on its end, a right hand spiral formed on the shaft from the centre to one end and a left hand spiral formed on the shaft from the centre to the opposite end, in combination with a sleeve correspondingly, internally threaded and designed to act on the right hand spiral and a sleeve correspondingly, internally threaded and designed to act on the left hand spiral, and means for holding one sleeve solid, so as to rotate the shaft by means of one spiral, and further means in holding the other sleeve loose, so that it may rotate with the shaft while the other sleeve is being pulled along the shaft in order to rotate it, substantially as and for the purpose specified. 2nd. The shaft *A*, supported in the standards *B*, *C* and *D*, and having the right hand spiral *b*, formed from the centre to the one end of the shaft, and a left hand spiral formed from the centre to the other end of the shaft, and a propelling wheel *Z* secured on one end of the shaft, in combination with the sleeve *N*, located on the right hand spiral portion of the shaft correspondingly, internally threaded to the right hand spiral, supported in the retaining block *G*, and designed to be held solid with the same by the friction clutch *g*, and the sleeve *J*, located on the left hand spiral portion of the shaft correspondingly, internally threaded to the left hand spiral supported in the retaining block *F*, and designed to be held solid with the same by the friction clutch *f*, and means whereby each sleeve may be held alternately in its retaining block so as to rotate the shaft or to revolve loosely with it, as and for the purpose specified. 3rd. The shaft *A*, supported in the standards *B*, *C* and *D*, and having the right hand spiral *b*, formed from the centre to the one end of the shaft, and a left hand spiral formed from the centre to the other end of the shaft, and a propelling wheel *Z* secured on one end of the shaft, in combination with the retaining blocks *F* and *G*, connected together by the bar *H*, and rod *I*, the sleeves *N* and *J*, having bearings in the retaining blocks *F* and *G* respectively, and the friction clutches *f* and *g*, hinged on the rod *I*, at the lower portion of the retaining blocks *F* and *G*, connected at the top by the bell cranks *Q* and *K* respectively, to the rod *M*, upon which is secured the standard *Q*, having jaws *g*, between which is inserted the blocks *V*, secured to the sleeve *S*, on the spindle *T*, which is supported in the bracket *h*, and is slightly adjustable by the handles *H*, *U*, connected to the outer ends by the rod *S*, as and for the purpose specified. 6th. The shaft *A*, supported in the standards *B*, *C* and *D*, and having the right hand spiral *b*, formed from the centre to the one end of the shaft, and a left hand spiral formed from the centre to the other end of the shaft, and a propelling wheel *Z* secured on one end of the shaft, in combination with the retaining blocks *F* and *G*, connected together by the bar *H*, and rod *I*, the sleeves *N* and *J*,

having bearings in the retaining blocks *F* and *G* respectively, and the friction clutches *f* and *g*, hinged on the rod *I*, at the lower portion of the retaining blocks *F* and *G*, and connected at the top portion by the bell cranks *Q* and *K* respectively, to the rod *M*, upon which is secured the standard *Q*, the lever *X*, pivoted at *x*, connected to the standard *Q*, at *y*, and the block *V*, designed to be brought to fit within the narrow upper portion *y*, of the slot *Y*, by turning the handles *U* to the perpendicular, as and for the purpose specified.

### No. 39,296. Reel for Unwinding and Winding Yarn.

(Dévidoir à fil.)

Napoleon Tourangeau and Joseph O. Marceau, both of Montreal, Quebec, Canada, 13th July, 1892; 6 years.

*Claim.*—1st. The combination of the spindle carrier *C*, having a socket spindle *E*, the yarn carrier *C*, having separating guides *G*<sup>3</sup>, and a reel or drum *K*, winding the yarns separately, as set forth. 2nd. The combination of the reel or drum *K*, winding the yarns, having a series of peripheral grooves or channels to divide or separate the several yarns, a yarn carrier having guides *G*<sup>3</sup>, dividing or separating the yarns of successive stitches, a spindle carrier *C*, having a socket spindle *E*, on which to sleeve the knitted goods, and an endless driving belt *I*, connecting the said reel and spindle, whereby the several yarns of a knitted fabric are successively and simultaneously unraveled and wound upon said reel in a divided condition, substantially as set forth.

### No. 39,297. Wrench. (Clé à écrou.)

William F. Custer, Summitville, Indiana, U. S. A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination of a nut wrench, having the portions 2 and 3 arranged at an angle to each other, the portion 3 adapted to extend along a spoke, and the portion 2 arranged to extend at an angle to the same, and the bolt holder comprising the bar 13 adapted to engage the wrench, and the arm 14 adjustably secured to the bar and adapted to engage the head of the bolt, substantially as described. 2nd. The combination of the nut wrench, provided with the recess 16, and the bolt holder comprising the curved bar, having its ends 15 bent at an angle and adapted to engage the recess of the wrench, and the arm 14, provided at one end with an opening to receive the curved bar, and provided at its other end with a projection to engage the head of the bolt, substantially as described.

### No. 39,298. Burner for Lamps. (Bec de lampe.)

Richard Yonkins Barton, New Haven, Connecticut, U. S. A., 13th July, 1892; 6 years.

*Claim.*—1st. In a lamp burner, the combination, with an inner wick tube closed at its lower end, and constructed with a port in its side, of an outer wick tube constructed with a corresponding port, and a draft tube joining the said ports to form a closed passage way between them, and constructed at each end with an annular rib, and a lip or flange, the said ribs respectively abutting against the outer face of the inner wick tube, and the inner face of the outer wick tube, and the said lips or flanges being passed through the ports, and turned down upon the outer face of the outer wick tube, and the inner face of the inner wick tube, substantially as set forth. 2nd. In a lamp burner, the combination, with an inner wick tube having its lower end closed but for a small perforation, of a wick band encircling the said tube, a rack located in the centre of the said tube, and connected at its upper end with the said band, means for raising and lowering the said rack, and a rack tube attached to the lower end of the wick tube to receive the lower end of the rack which projects thereinto through the perforation in the lower end of the wick tube, substantially as set forth. 3rd. In a lamp burner, the combination, with an inner wick tube having its lower end closed, but for a perforation, and constructed with two narrow vertical slots located opposite each other, a rack tube attached to the bottom of the wick tube over the perforation therein, a rack located in the wick tube, and extending at its lower end into the rack tube, a wick band encircling the upper end of the wick tube, and a coupling plate attached to the upper end of the rack and constructed with fingers to pass through the slots in the wick tube and connect with the wick band, substantially as set forth. 4th. In a lamp burner, the combination, with an inner wick tube, of a fixed bridge located in the upper end thereof, a spindle carried by the said bridge and projecting above the upper end of the tube, a perforated conical air distributor located within the wick tube above the said bridge, and having its upper end truncated, and a removable deflector having a sleeve passed over the spindle down through the distributor, and supported upon the bridge, substantially as set forth.

### No. 39,299. Recorder for Payments.

(Registre de paiement.)

Thomas Pink, London, England, 13th July, 1892; 6 years.

*Claim.*—1st. A receipting and recording stamp or apparatus of the kind described, that is to say, so constructed and arranged that the same movement which produces an impression upon an account or bill to be receipted serves to produce a corresponding impression

upon a record ribbon or tape, substantially as described. 2nd. In apparatus for giving printed receipts and keeping a record of the amounts for which receipts have been given, the combination of a series of type discs having upon their peripheries two complete sets of figures, the corresponding figures in the two sets being upon diametrically opposite points of the discs, so that two impressions may be taken from each disc at the same time, substantially as described. 3rd. In apparatus for acknowledging and recording payments, the combination of a series of type discs adapted to be depressed, so as to be brought into contact with the paper upon which a payment is to be acknowledged, the said discs being mounted upon separate shafts, so that they can be operated independently by means of suitable setting discs, and means for carrying a ribbon or tape or paper upon which the amounts of the various payments are to be recorded, and for bringing the said ribbon or tape into contact with the type discs, so that the figures thereon corresponding to the figures of the payment to be acknowledged will be recorded, substantially as described. 4th. Apparatus for acknowledging and recording payments having a series of type discs with corresponding figures on diametrically opposite points, and a frame carrying a ribbon or tape of record paper in such a manner that when a handle connected with the said frame is depressed the record paper will be brought into contact with the type discs, which latter will then be depressed to cause the corresponding type on the diametrically opposite side to be brought into contact with the paper upon which the acknowledgement is to be printed, substantially as described.

**No. 39,300. Electric Heating Apparatus for Railway Trains.** (*Appareil de chauffage électrique pour voitures de chemin de fer.*)

Mark Wesley Dewey, Syracuse, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with an electrically propelled vehicle, working conductors supplied with direct current along the path of said vehicle, conductors on the vehicle in contact with the working conductors and the electric motor for propelling the vehicle, and controlling devices connected with the vehicle conductors, of a shunt circuit of the vehicle conductor around the said motor and its controlling devices, a second electric motor and controlling devices in said shunt circuit, a second shunt circuit around both motors and their controlling devices, a pulsator operated by the second motor and primary coil of an inductual transformer in the second shunt circuit, a secondary circuit of low resistance in circuit with the secondary coil of said transformer, one or more electric heating devices included in the secondary circuit, and means for cutting one or more of said heating devices out of circuit. 2nd. The combination, with an electrically propelled vehicle, the supply conductors on the vehicle and the electric motor for propelling the vehicle, and controlling devices connected with the said supply conductors, of a shunt circuit of the said supply conductors, a second electric motor in said shunt circuit, a pulsator operated by the second motor, and primary coil of a transformer in shunt circuit, a secondary circuit including the secondary coil of said transformer, and one or more suitable electric heating devices in said secondary circuit. 3rd. The combination, with a vehicle, the conductors on the vehicle connected with a source of direct current, and a translating device and means for controlling the same connected in circuit with said conductors, of a shunt circuit around both the said translating and controlling devices, an electric motor in the shunt circuit, a pulsator operated by the motor and primary coil of a transformer in shunt circuit, a secondary circuit, a secondary circuit including the secondary coil of the transformer, and one or more electric heating devices in said secondary circuit. 4th. The combination, with a vehicle, the conductors on the vehicle connected with a source of direct current, and a translating device and means for controlling the same in circuit with said conductors, of a shunt circuit around both the translating and controlling devices, an electric motor and adjustable resistance in the shunt circuit, a second shunt circuit around said motor and adjustable resistance, a pulsator operated by the motor and a primary coil of a transformer in the second shunt circuit, a secondary circuit of low resistance, including the secondary coil of the transformer, and one or more electric heating devices in secondary circuit. 5th. The combination, with a vehicle, the conductors on the vehicle connected with a source of direct current and a translating device, and controlling devices therefor in circuit with said conductors, of a shunt circuit around said devices, an electric motor and a rheostat in the shunt circuit, a second shunt circuit around said motor and rheostat, a pulsator operated by the motor, and a primary coil of a transformer in the second shunt circuit, means for regulating the current flowing through said primary coil, a secondary coil of low resistance, including a secondary coil of the transformer, and one or more electric heating devices in said secondary circuit. 6th. The combination, with an electrically propelled vehicle, working conductors supplied with direct current along the path of said vehicle, conductors on the vehicle in movable contact with the working conductors, and the electric motor for propelling the vehicle and its controlling devices in circuit with the vehicle conductors, of a shunt circuit on said vehicle around the motor and its controlling devices a second electric motor and adjustable resistance in said shunt circuit, a second shunt circuit around both motors and their controlling devices, a pulsator operated by the second motor, a primary coil of a transformer and regulating device in the

second shunt circuit, a secondary circuit, including the secondary coil of said transformer, and one or more electric heating devices on the vehicle in the secondary circuit. 7th. The combination, with a vehicle, working conductors supplied with direct current along the path of said vehicle, the conductors on the vehicle, and a translating device and controlling devices, therefor in circuit with said vehicle conductors, of a shunt circuit around said devices, an electric motor and a rheostat in the shunt circuit, a second shunt circuit around said devices, motor, and rheostat, a pulsator operated by the motor and a primary coil of a transformer in the second shunt circuit, means for regulating the current flowing through said primary coil, a secondary circuit of low resistance, including a secondary coil of the transformer, and one or more electric heating devices in said secondary circuit. 8th. The combination, with a vehicle, and a line working conductor arranged along the path of said vehicle, of a closed electric circuit to be moved with the vehicle, including a conductor of lower resistance than the line conductor, movable contacts connected with the terminals of said low resistance conductor and in contact with the said line working conductor, a portion of the line working conductor between the terminals and supplied with electric current from a suitable source, for the purpose set forth. 9th. The combination, with a vehicle, and a line working conductor arranged along the path of said vehicle, of a closed electric circuit to be moved with the vehicle, including a conductor on the vehicle, terminals of said conductor disposed one in advance of the other and in contact with the line working conductor, and a portion of the line working conductor between the terminals, and supplied with electric current from a suitable source for the purpose set forth. 10th. The combination, with a vehicle, and a continuous line working conductor arranged along the path of said vehicle, of a low resistance conductor on the vehicle supplied with electric current, terminals of said vehicle conductor disposed one in advance of the other in contact with the line working conductor and the portion of the said line conductor between the said terminals, for the purpose set forth. 11th. The combination, of an electrically propelled vehicle, a continuous line working conductor arranged along the path of said vehicle, an electric motor propelling said vehicle, an electric connection between said motor and working conductor, a shunt circuit around the motor on the vehicle, a primary coil of a transformer in said shunt circuit, means to regulate the current flowing through the shunt circuit, a secondary circuit including the secondary coil of the transformer, terminals of the secondary circuit in contact with the line conductor, and a portion of the line working conductor between the said terminals, for the purpose set forth. 12th. The combination, of an electrically propelled vehicle, a continuous line working conductor arranged along the path of said vehicle, an electric motor propelling said vehicle, an electric connection between said motor and working conductor, a shunt circuit around the motor on the vehicle, a pulsator and a primary coil of a transformer in said shunt circuit, means to regulate the current flowing through the shunt circuit, a secondary circuit including the secondary coil of the transformer, terminals of the secondary circuit in contact with the line conductor, and a portion of the line working conductor between the said terminals, for the purpose set forth. 13th. The combination, of an electrically propelled vehicle, a continuous line working conductor arranged along the path of said vehicle, an electric connection between said motor and working conductor, a shunt circuit around the motor on the vehicle, a pulsator and a primary coil of a transformer in said shunt circuit, means to regulate the current flowing through the shunt circuit, an electric motor operating the pulsator, a secondary circuit including the secondary coil of the transformer, terminals of the secondary circuit in contact with the line conductor, and a portion of the line working conductor between the said terminals, for the purpose set forth. 14th. The combination of an electrically propelled vehicle, a continuous line working conductor arranged along the path of said vehicle, an electric motor to propel said vehicle, an electric connection between said motor and working conductor, a shunt circuit around the motor on the vehicle, a pulsator and a primary coil of a transformer in said shunt circuit, means to regulate the current flowing through the shunt circuit, an electric motor operating the pulsator, a secondary circuit including the secondary coil of the transformer and a plurality of heating devices, terminals of the secondary circuit in contact with the line conductor, a portion of the line working conductor between the said terminals forming one of said heating devices, and means for cutting in or out of circuit one of the said heating devices independent of the other heating device in circuit, for the purpose set forth. 15th. In an electric railway, a line working conductor, a travelling vehicle, an electric motor to propel said vehicle, an electrical connection between said vehicle and working conductor, an inductual transformer on the vehicle, a secondary circuit of low resistance, an electric heater to heat said vehicle in the secondary circuit, and means to control the current passing through the transformer independently of the motor. 16th. In an electric railway, a line working conductor, a travelling vehicle, an electric motor to propel said vehicle, an electrical connection between said motor and working conductor, a current transformer on the vehicle in electrical connection with the working conductor, a secondary circuit of lower resistance than the working conductor, an electric heater to heat said vehicle in the secondary circuit, and means to control the current passing to the transformer independently of the motor. 17th. The combination of a vehicle, a line working conductor arranged along

the path of said vehicle, a translating device on the vehicle, an electrical connection between said translating device and working conductor, a current transformer on the vehicle in electric connection with the working conductor, a secondary circuit of lower resistance than the working conductor, an electric heater to heat said vehicle in the secondary circuit, and means to control the currents passing to the translating device and transformer independently of each other.

**No. 39,301. Support for Upholstery Springs.**

(*Support pour ressorts de tapisserie.*)

John Atkinson Staples, Bay View Terrace, Newburg, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with the seat frame, of spring supports formed of wire with horizontal portions of approximately the measurement of the opening of the seat frame, and having bends in the wire to receive the springs, and end portions extending upward and laterally to rest upon the upper surface of the seat frame, and adapted to be bent to fit various sizes of frames, and means for permanently attaching the ends of such spring supports to the upper surfaces of the seat frame, substantially as set forth. 2nd. The combination, with the seat frame, of spring supports formed of wire with corrugated horizontal portions of approximately the measurement of the opening of the seat frame to receive the springs, and end portions extending upward and laterally to rest upon the upper surface of the seat frame, and adapted to be bent to fit various sizes of frames, and means for permanently attaching the ends of such spring supports to the upper surfaces of the seat frame, substantially as set forth. 3rd. The combination, with the seat frame, of spring supports formed of wire with horizontal portions of approximately the measurement of the opening of the seat frame, and having bends in the wire to receive the springs, and end portions extending upwards and laterally to rest upon the upper surface of the seat frame, and adapted to be bent to fit various sizes of frames, and downwardly projecting ends to enter holes in the seat frame, substantially as set forth.

**No. 39,302. Artificial Stone. (*Pierre artificielle.*)**

Edward Gallagher, Lock Haven, Pennsylvania, U.S.A., 13th July, 1892; 6 years.

*Claim.*—The described composition for artificial stone, consisting of cement, sand, plaster of Paris, powdered soap stone and salt, mixed in a dry state in about the proportions set forth, and then rendered plastic by the admixture of lime water, substantially in the proportion and manner hereinbefore set forth.

**No. 39,303. Apparatus for Testing Flour and Dough and for Recording such Test. (*Appareil à faire l'épreuve et à enregistrer pour la farine et la pâte.*)**

James Hogarth, West Mills, Kirkcaldy, Fifeshire, Scotland, 13th July, 1892; 6 years.

*Claim.*—1st. The improved modes of, and means or arrangement and combination, of mixing vessel A, dynamometer D, diagram cylinder F, and differential weighted lever K to K<sup>3</sup>, or equivalent spring E, for mechanically testing and sampling different qualities of flour, and graphically indicating and recording the various characteristics or properties of the different flours or doughs, substantially as herein described and shown. 2nd. In apparatus for testing and recording the characteristic properties of flour and dough, the combination and use, of a diagram cylinder F, and dynamometer D, combined or formed in one, substantially as and for the purposes herein described. 3rd. In apparatus for testing and recording the characteristic properties of flour and dough, the construction and use of various appliances b to b<sup>5</sup>, and I, I<sup>1</sup>, and B<sup>1</sup>, used in combination with the water cylinder or vessel B, for delivering and feeding a uniform quantity of water to the kneading machine during the time of taking the diagrams, substantially as herein described. 4th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination, with a movable or fixed water cylinder or vessel B, of an inverted siphon flexible or rigid tube b, and connecting fittings b<sup>1</sup> to b<sup>5</sup>, substantially as herein described. 5th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination, with the water cylinder or vessel I, of a rotating tap or valve I<sup>1</sup>, formed with recesses i, and of a spring closing valve I<sup>2</sup>, substantially as and operated in the manner and for the purposes herein described. 6th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination, with a rotating water vessel of a segmental cavity or tube I<sup>3</sup>, with wheel arms mounted on a rotating spindle I<sup>4</sup>, and connecting siphon fittings b, b<sup>2</sup>, and rotating chain and pulley I<sup>5</sup>, I<sup>6</sup>, substantially as and for the purposes herein described. 7th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination with the dynamometer D, of a reciprocating piston or plunger B<sup>1</sup>, with cylinder B, filled with mercury, and connecting glass tube b<sup>5</sup>, b<sup>6</sup>, and fitting i<sup>2</sup>, to i<sup>4</sup>, substantially as and for the purposes herein described. 8th. In apparatus for testing and recording the characteristic properties of flour and dough, the use in combination with a dynamometer D, of a diagram cardboard F traversed horizontally at a uniform speed having the pointer or pencil e actuated

from the dynamometer D, traversed differentially in front of it or *vice versa* the diagram board F stationary, and the pencil e traversed horizontally and vertically over it or alternately having the pointer or pencil e stationary, and the diagram board F traversed horizontally and vertically from the dynamometer D, substantially as herein described. 9th. In apparatus for testing and recording the characteristic properties of flour and dough, the arrangement and use in combination with a dynamometer D, of a differential acting weighted quadrant lever K<sup>2</sup>, K<sup>3</sup>, actuated from the dynamometer D, by a chain or cord D<sup>1</sup>, or by toothed gearing K<sup>4</sup>, K<sup>5</sup>, substantially as and in the manner herein described. 10th. In apparatus for testing and recording the characteristic properties of flour and dough, the arrangement and use in combination with a dynamometer D, of accumulative or differential increasing weights or weight levers, consisting of a scroll or cam groove K<sup>6</sup>, and a card D<sup>1</sup>, and weight K<sup>2</sup>, reciprocating in a fluid cylinder or trough K, substantially as and in the manner and for the purposes herein described. 11th. In apparatus for testing and recording the characteristic properties of flour and dough, the arrangement and use in combination with a dynamometer D, of accumulative differential increasing weights consisting of a reciprocating toothed rack with hollow or solid spindle D<sup>2</sup>, and wheel gearing D<sup>3</sup>, and a piston or plunger D<sup>7</sup>, and a cylinder D<sup>8</sup>, containing mercury, substantially as and in the manner and for the purposes herein described. 12th. In apparatus for testing and recording the characteristic properties of flour and dough, the construction of the dynamometer D, with a hollow shaft C, within which is mounted a solid shaft d<sup>x</sup>, with cross arms d<sup>11</sup>, at its inner end carrying the axis of differential bevel or spur pinions d<sup>2</sup>, substantially as and in the manner and for the purposes herein described. 13th. In apparatus for testing and recording the characteristic properties of flour and dough, the arrangement and use of a dynamometer D, with accumulative weight K<sup>3</sup>, K<sup>2</sup>, and indicating dial, and pointer Z, Z<sup>1</sup>, without a graphic diagram cylinder F, substantially as herein described. 14th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination, with the mixed and mixing vessel A, of a differential acting quadrant lever K<sup>2</sup> to K<sup>4</sup>, or equivalent accumulative springs or weights, substantially as and for the purposes herein described. 15th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination and use with the water cylinders B, of rods or wires R for reducing or increasing the area of same, substantially as and for the purposes herein described. 16th. In apparatus for testing and recording the characteristic properties of flour and dough, the use of hydrochloric, acetic, lactic, or equivalent acids, or of alcohol, sodium chloride, or yeast, and solutions of the flour being tested in the kneading machine or water being fed to same for determining the amount of degradation in the gluten, substantially as described.

**No. 39,304. Tool. (*Outil.*)**

John Novris M. Shimer, Philadelphia, Pennsylvania, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. As an improved article of manufacture, a tool comprising a tubular metal handle and the tool proper, also of metal, said tool proper provided with a lug or shank adapted to fit within the tubular handle, and the parts welded together, as described. 2nd. As a new article of manufacture, an excavating tool comprising a tubular metal handle and the tool proper, also of metal, said tool proper provided with a shank having a shoulder, said shank adapted to snugly fit within the tubular handle and its shoulder to abut against the same, and the parts welded together, as described.

**No. 39,305. Spacer for Type Matrices.**

(*Appareil pour espacer les matrices à caractères.*)

Joseph Charles Fowler and Lemon G. Hine, both of Washington, District of Columbia, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. A compressible spacer for type matrices, composed of normally separated parts having elastic nibs or points to form a fluid-tight closure for the mold between adjacent matrices, substantially as described. 2nd. A compressible spacer for type matrices, consisting of substantially similar nibs or points converging to an apex from the members or parts of the spacer and having outer faces which are slightly convex under all degrees of compression, substantially as described. 3rd. A compressible spacer for type matrices, consisting of normally expanded or separated parts provided with flat transverse surfaces and with converging nibs or points projecting from the edges of said parts and having the width of the mold, substantially as described. 4th. A spacer for type and other similar matrices, consisting of members or parts capable of compression and having converging nibs or points which project from the said members or parts and cross the mold, said members or parts being substantially assimilated in form to the matrices with which they are used, to enable them to be handled without special mechanism, substantially as described. 5th. A spacer for type and other similar matrices, consisting of two members having contact at their extremities and separated throughout the intermediate portion, said members being provided with elastic nibs or points converging to an apex and crossing the mold, into which they project, in combination with a series of matrices and a cast box, the parallel walls of which lie close to the edges of said elastic nibs or points and form a fluid-tight closure for the mold between adjacent matrices, sub-

stantially as described. 6th. A spacer for type and other similar matrices, consisting of compressible members or parts having contact at their ends and separated intermediately, said members being provided with nibs or points which cross the mold and project therein, their edges abutting against the opposite walls of the mold, said nibs converging to an apex and diminishing in thickness toward the point of convergence, their exterior faces being slightly convex longitudinally, substantially as described. 7th. In type casing apparatus, the combination, with a series of matrices, of a casting box or mold, and spacers having compressible converging nibs or points crossing the mold to form a fluid-tight closure for the latter between adjacent matrices, substantially as described. 8th. A spacer for type matrices, consisting of two elastic members or parts united wholly or in part at their extremities and separated intermediately, their edges provided with elastic projecting nibs or points and adapted to cross the mold or casting box and converging to an apex, whereby upon compression of the line series the maximum elastic resistance of the spacer will be exerted at or near the edges from which the nibs or points project, substantially as described. 9th. The combination, with a series of type matrices, of spacers composed of members or parts having such resemblance to said matrices as to permit them to be handled without special mechanism, said members or parts being united with their ends and separating intermediately, their outer faces provided with transverse flat surfaces and their edges having nibs or points projecting into the mold or cast box and converging to an apex, in combination with said mold or cast box, the opposite walls of which lie close to the edges of said nibs, substantially as described. 10th. A spacer for type matrices, consisting of two elastic members or points united at their extremities and separating intermediately, said parts being provided with converging nibs or points projecting from their edges and having flat exterior transverse faces and longitudinal extensions thereof, consisting of strips detached from said members or parts at one end and both sides, and having their outer faces substantially in the plane of the transverse faces, substantially as described. 11th. Spacers for type matrices, having elastic nibs or points which project from the matrix and cross the mold or cast box to form a fluid-tight closure for the latter between adjacent matrices, substantially as described. 12th. A compressible spacer for type matrices, provided with an elastic compressible projecting nib or point to form a fluid-tight closure for a mold between adjacent matrices, substantially as described.

#### No. 39,306. Hat Polishing and Cleaning Machine.

(*Machine pour polir et nettoyer les chapeaux.*)

Caesar Simis, Brooklyn, New York, and Harvy W. Treat, Chicago, Illinois, both in the U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. A portable hat polishing and cleaning machine, comprising a motor and an expandible and adjustable hat holder or carrier, connected with and rotated by the shaft of the said motor, whereby any sized hat may be mounted on the holder or carrier and rotated for action by a suitable brushing or polishing surface, substantially as described. 2nd. A hat polishing and cleaning machine, comprising a portable electric motor, the shaft of which is provided with an expandible and adjustable hat holder or carrier, adapted to be expanded or adjusted to engage hats of different sizes and rotate them rapidly for action by a cleaning or polishing medium, substantially as shown and described. 3rd. In a hat cleaning and polishing machine, a rotary expandible hat holder or carrier to fit within the hat and be rotated, and provided with a shaft or stem adapted to connect with a motor or power shaft, substantially as described. 4th. A rotary expandible hat holder for hat polishing and cleaning machines, comprising a plate having radial channels or grooves, arms sliding therein and having curved blocks or heads on their outer ends, a rotary cam disk parallel with the said plate, and engaging said sliding arms with its cam surface to slide the same and expand the holder, a shaft or stem secured to the centre of the said plate and adapted to be connected with a motor or power shaft for rotating the holder, and the stop projections extending outwardly from the back or rear sides of the blocks or heads to engage the hat brim and limit the entrance of the holder into the hat, substantially as described. 5th. The combination, with the plate 10, and its carrying shaft, of the sliding arms having blocks at their outer ends and studs on their exposed faces, and the cam having grooves into which said studs project, and a hand held to operate the cam, formed by pins 22, parallel with the said shaft, substantially as described.

#### No. 39,307. Screw Coupler for Joints.

(*Embrayage de vis pour joints.*)

Cornelius A. Folley, West Hoboken, New Jersey, and William L. Flanagan and De Witt C. Ward, both of New York, all of the U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a coupling or screw joint, the combination, with an internally screw threaded female member having an annular groove in its threaded portion, with a portion of the threaded surface on each side of the groove, of a metal packing cast in said groove and having an internal diameter less than the diameter of the said female member, substantially as described. 2nd. In a coupling or screw joint, the combination, with an internally threaded female member having an annular groove in its threaded portion, of a metallic packing cast in said groove and having an internally threaded

surface of less diameter than the diameter of the threaded surface of the female member, whereby when a pipe is screwed into the said female member the packing will be expanded and made to thoroughly fill the groove and the threads of the said pipe, substantially as described. 3rd. In a coupling or screw joint, the combination, with an internally threaded female member having an annular groove and a threaded opening leading from the outside to the said groove, of a soft metal ring internally screw threaded and fitted in the said groove, the said ring being of less internal diameter than the diameter of the said internally threaded female member, and a screw threaded plug for closing the said opening and compressing the soft metal ring into the groove, substantially as and for the purpose set forth.

#### No. 39,308. Electric Car Heater.

(*Appareil de chauffage électrique pour les chars.*)

The Butterfield-Mitchell Electric Heating Company, Boston, assignee of Willis Mitchell, Malden, both in Massachusetts, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In combination with a tubular electric heater having a spider within it, a stand connected detachably to the said spider, substantially as set forth. 2nd. In combination with an electric heater, a stand for supporting the same provided with a tubular standard and a base having openings, the wire of said heater passing through the said standard and base, substantially as set forth. 3rd. In combination with a base, having openings as described, a tubular standard detachably secured thereto, a spacing sleeve arranged outside of the said standard on the said base, a nut turning on the upper threaded end of said standard, a spider clamped on said standard between the said nut and the said sleeve, and a tubular electric heater surrounding and attached to the said standard, substantially as set forth. 4th. In combination with a stand having a clamping device, an electric heater having an attachment adapted to be clamped thereto, substantially as set forth.

#### No. 39,309. Saddle Support for Bicycles.

(*Support pour selles de bicyclettes.*)

Henry Herbert Chase, assignee of George R. Perry, William H. Perry and Curtis K. George, all of Concord, New Hampshire, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with a saddle bar angular in cross section, and the lower side of which is provided with perforated ears, of a saddle clamp formed from a single piece of material, the lower side of which is provided with an angular recess to fit upon the bar, and the upper portion is provided with an opening for the reception of the saddle, substantially as set forth. 2nd. The combination, with the horizontal portion of a saddle bar, the sides of which are inclined, and one of them provided with perforations, of a recessed saddle clamp, formed from a single piece of material thereon, the walls of the recess being inclined to correspond with the sides of the bar, and a lever pivotally secured to the clamp, one end of which projects laterally therefrom beyond the outline of the saddle, and the other end is provided with a pin for engaging with the holes in the side of the saddle bar, substantially as set forth.

#### No. 39,310. Power Transmitting Apparatus.

(*Appareil de transmission de mouvement.*)

William Main, Brooklyn, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination of a storage battery, an electric motor, a driven mechanism, and a clutch independent of the motor circuit for establishing or breaking connection between the motor shaft and the driven mechanism without interfering with the continuity of the said motor circuit, and consequently without interrupting the uniform discharge of the battery, substantially as set forth. 2nd. The combination of a storage battery, an electric motor and its circuit controlling devices, a speed transmitting mechanism between the motor shaft and the driven mechanism, and a friction brake for controlling said transmitting mechanism, whereby by a greater or less pressure the speed of transmission may be varied without interfering with the motor circuit and without interrupting the discharge of the battery, substantially as set forth. 3rd. The combination of a storage battery, an electric motor, a driven mechanism, and means independent of the motor circuit for establishing or breaking connection between the motor shaft and the driven mechanism without interfering with the continuity of said motor circuit, and consequently without interrupting the discharge of the battery, substantially as set forth. 4th. The combination of a vehicle, a storage battery and an electric motor mounted thereon, and means independent of the motor circuit for establishing or breaking connection between the motor shaft and the driven mechanism without interfering with the continuity of said motor circuit, and consequently without interrupting the discharge of the battery, substantially as set forth. 5th. The combination of a vehicle, a battery, an electric motor, the motor and battery being mounted upon the vehicle, sun and planet gear wheels connecting the motor shaft with the driving axle of the vehicle, and means whereby the oscillating gear wheel of the sun and planet series may be arrested or permitted to revolve freely, substantially as set forth. 6th. The combination of a vehicle, a battery and electric motor mounted thereon, two or

more sets of sun and planet gear wheels between the shaft of the motor and the driving axle of the vehicle, the wheels of each set being differently proportioned to each other, a locking device for each of said sets of gear wheels for bringing it into operative connection with the motor shaft, and means for bringing into operation any one of said locking devices, substantially as described. 7th. The combination of a vehicle, a battery and electric motor mounted thereon, a train of sun and planet gear wheels connecting the motor shaft with the vehicle axle and a friction brake controlling the operative engagement of the sheet with the gear wheels, the transmitted speed increasing relatively to the amount of pressure applied to the brake, substantially as described. 8th. The combination of a vehicle, an electric motor mounted thereon, a train of gear wheels connecting the motor shaft with the vehicle axle, one of said gear wheels having an oscillating and also a rotary motion, a rotary pulley normally rotating with said oscillating gear, and friction brakes for restraining the rotation of said pulley, and thereby bringing the train of gear into operative engagement with the shaft, substantially as described. 9th. The combination with a vehicle, of a motor therefor, a chain for transmitting power from the motor, a traction shaft, a gear wheel mounted so as to turn upon said traction shaft, said springs having a reversible action and forming a springy connection between the gear wheel and the traction shaft in whichever direction the gear wheel tends to revolve, substantially as set forth. 10th. In a vehicle propelling apparatus, the combination, with the traction shaft, of a driving gear wheel mounted thereon, and driven from the vehicle motor, a flange keyed to said traction shaft, and springs connecting the gear wheel with the flange, provided at each end with bearings upon the flange and the gear wheel, whereby the operation of the springs may be reversed on the reversal of the rotation of the gear wheel, substantially as set forth. 11th. In a vehicle propelling apparatus, the combination, with the traction shaft 39, of gear wheel 37, 38, mounted thereon and driven from the vehicle motor, sleeve 40, provided with flanges 41, cap 42, provided with flanges 43 and springs 47, substantially as set forth. 12th. In a vehicle propelling apparatus, the combination, with the traction shaft 39, of a gear wheel 37, 38, mounted thereon and driven from the vehicle motor, flanges 43, 41, recessed as shown and described, and rods 46, substantially as set forth. 13th. The combination, with a vehicle, of a motor therefor, a motor shaft, a traction shaft, two sprocket wheels, one on each shaft, one of said sprocket wheels being mounted so as to turn upon its shaft, a chain connecting said sprocket wheels, a sleeve fixed to the shaft alongside of the freely revolving sprocket wheel, and flexible connections uniting said sleeve and freely revolving sprocket wheel in such manner as to normally tend to hold the hub and wheel in a certain fixed relation to each other and to permit a limited relative motion between them in either direction under tension, substantially as described. 14th. The combination, with a vehicle body, of a motor mounted thereon, two traction shafts, and sprocket chains connecting the motor shaft with the traction shafts, one of the sprocket chain wheels having a springy connection with its shaft, substantially as described. 15th. The combination of a vehicle body with a truck for supporting the same, springs between the vehicle body and the truck, a motor mounted upon the vehicle body, two traction shafts mounted in the truck, and sprocket chains connecting the motor shaft with the traction shafts, one of the sprocket chain wheels having a springy connection with its shaft, substantially as described. 16th. The combination of a vehicle body with a truck for supporting the same, springs between the vehicle body and the truck, a motor mounted upon the vehicle body, two traction shafts mounted in the truck, and sprocket chains connecting the motor shaft with the traction shafts, a sprocket wheel for each of said chains having a springy connection with its shaft, substantially as described. 17th. The combination of a vehicle body with a truck for supporting the same, springs between the vehicle body and the truck, an electric motor mounted upon the vehicle body, two traction shafts mounted in the truck, and sprocket chains connecting the electric motor shaft with the traction shafts, one of the sprocket chain wheels having a springy connection with its shaft, substantially as described. 18th. The combination of a vehicle body with a truck for supporting the same, springs between the vehicle body and the truck, an electric motor mounted upon the vehicle body, two traction shafts mounted in the truck, sprocket chains connecting the electric motor shaft with the traction shafts, and a sprocket wheel for each of said chains having a springy connection with its shaft, substantially as described. 19th. The combination of a vehicle, an electric motor mounted thereon, sun and planet gear wheels connecting the motor shaft with the driving axle of the vehicle, and guides for securing a constant parallel motion of the driving member of the sun and planet gear, substantially as described. 20th. The combination of a vehicle, a motor mounted thereon, sun and planet gear wheels connecting the motor shaft with the driving axle of the vehicle, and a friction brake connected with one of the said gear wheels, whereby the said gear wheel may be thrown into or out of operative engagement, substantially as set forth. 21st. The combination of a vehicle, a motor mounted thereon, a shaft for said motor, provided with an eccentric, a train of sun and planet gear wheels between said shaft and the driving axle of the vehicle, one wheel of said train being loosely mounted upon said eccentric, and a friction brake connected with said wheel, whereby the said wheel may be locked, so as to partially or wholly check its rotation about its own centre, substantially as described. 22nd. The combination

of a vehicle, a motor mounted thereon, a shaft for said motor provided with an eccentric, a train of sun and planet gear wheels connecting said shaft with the driving axle of the vehicle, one wheel of said train being loosely fitted upon said eccentric and adapted to rotate about the same as a centre, a friction pulley mounted to revolve freely, and guides connecting the wheel fitted upon the eccentric and the pulley, whereby they are caused to revolve together, substantially as described. 23rd. The combination of a vehicle, a motor mounted thereon, a shaft for said motor, two or more sets of sun and planet gear wheels between the shaft and the driving axle of the vehicle, the wheels of each set being differently proportioned to each other, and guides for securing parallelism of motion of one member of each of said sets of gear wheels, and means for bringing into operation either of said guides, substantially as described. 24th. The combination of a vehicle, a motor mounted thereon, a shaft for said motor, two or more sets of sun and planet gear wheels between the motor shaft and the driving axle of the vehicle, the wheels of each set being differently proportioned to each other, guides for securing parallelism of the driving member of each of said sets of gear, and means for controlling said guides by which either of said guides may be thrown into operation, each of the other guides being in such position of the controlling mechanism thrown out of operation, substantially as described. 25th. The combination of a vehicle, a motor mounted thereon, a train of gear wheels between the motor shaft and the driving axle of the vehicle, one member of said train being normally rotated by the motor shaft when the train is out of operative engagement therewith, a rotating pulley connected by guides with the normally rotating gear, and friction brakes for arresting said pulley, and thereby bringing the train of gear into operative engagement with the motor shaft, substantially as set forth. 26th. The combination of a vehicle, a motor therefor, a rotating brake device mounted upon the motor shaft, a set of differential gear wheels between the motor shaft and the driving axle of the vehicle, and guides connecting said gear wheels and said rotating device, whereby the operation of the gear wheels may be controlled, substantially as set forth. 27th. The combination of a vehicle, a motor mounted thereon, and a train of sun and planet gear wheels between the motor shaft and the driving axle of the vehicle, the initial wheel of said train maintaining in its movements positions of parallelism with itself when transmitting power, substantially as set forth. 28th. The combination of a vehicle, a motor mounted thereon, a series of sun and planet gear wheels between the shaft of the motor and the driving axle of the vehicle, the initial wheel of said series maintaining positions of parallelism with itself while operative to transmit motion, and guides for partially suspending the operation of said initial wheel, and thereby creating changes of speed in the transmitted motion, substantially as set forth. 29th. The combination of a vehicle, a motor mounted thereon, a train of gear wheels connecting the shaft of the motor with the driving axle of the vehicle, and a friction brake controlling the operative engagement of the shaft with the gear wheels, the transmitted speed increasing relatively to the amount of pressure applied to the brakes, substantially as set forth. 30th. In the propulsion of vehicles and the like by electric motors actuated by batteries, the method of obtaining the maximum effect from the motor without deterioration of the battery, which consists in maintaining the flow of current from the battery and maintaining contiguous revolution of the motor itself during temporary stoppages of the vehicle, whereby the drain upon the battery is continuous and the power of the motor during said stoppages is accumulated in inertia utilizable at the next starting. 31st. In the propulsion of vehicles and the like by electric motors actuated by batteries, the method of changing the speed of the vehicle while causing the least possible deterioration of the battery, which consists in maintaining the flow of the current from the battery and maintaining, as nearly as practicable, a constant rate of revolution for the motor and varying the ratio of transmission between the motor shaft and the driving shaft to correspond to the speed desired, substantially as described. 32nd. In the propulsion of vehicles and the like by electric motors actuated by batteries, the method of obtaining the maximum effect from the motor in starting while causing the least possible deterioration of the battery, which consists in first causing the motor to revolve disconnected from the driving shaft of the vehicle, and then effecting a power transmitting connection between the revolving motor shaft and the driving shaft, substantially as described. 33rd. In the propulsion of vehicles and the like by electric motors actuated by batteries, the method of obtaining the maximum effect from the motor in starting while causing the least possible deterioration of the battery, which consists in first causing the motor to revolve disconnected from the driving shaft of the vehicle, then effecting a power transmitting connection between the revolving motor shaft and the driving shaft, and gradually obtaining the speed of locomotion desired by gradually increasing the ratio of transmission between the motor shaft and the driving shaft, substantially as described.

#### No. 39,311. Fifth Wheel for Wagons.

(Rond d'avant-train de wagon.)

Abner B. Bishop, Medina, Ohio, U.S.A., 13th July, 1892; 6 years.

Claim.—1st. The combination of a wagon axle, a fifth wheel having a grooved upper plate mounted thereon, a reach passing beneath

the axle and connected with the said grooved plate by a hanging bolt or stirrup, and a downward curved piece from the axle bearing upon the reach, substantially as described. 2nd. The combination of a wagon axle, a fifth wheel thereon, a reach passing under the axle, stirrup connection between the reach and fifth wheel, and a spring between the reach and axles, substantially as described. 3rd. The combination of a fifth wheel having a plate vertically bored as a bearing and mounted upon an axle, a king bolt fitted to the said bore and terminating above the axle and provided with a cross grooved plate to fit upon the plate first named, a reach having lateral arms at its forward end passing beneath the axle, a stirrup connecting the said reach and arms with the king bolt, and springs hung at their forward ends upon the said arms, substantially as described, whereby the springs may be hung beneath the axle in connection with the fifth wheel above the axle without the king bolt penetrating the axle.

**No. 39,312. Measuring Apparatus for Bottles.**

(*Appareil pour mesurer les bouteilles.*)

Ewing Buchan, Toronto, Ontario, Canada, 13th July, 1892; 6 years.

*Claim.*—1st. As an improved measuring device, a cylinder fitted on to the neck of a bottle and having a hole in its end opposite the said neck, a ball contained in the said cylinder and designed to close either the mouth of the bottle or the hole in the end of the cylinder, in combination with an adjustable measuring vessel fitted over the cylinder and marked to indicate the various quantities it may contain, substantially as and for the purpose specified. 2nd. A cylinder A fitted on to the neck B of a bottle and hermetically sealed thereon by the elastically compressible ring C, a ball F contained in, and a hole G made through the end of the said cylinder, in combination with the measuring vessel H fitted on to the cylinder A, over the elastically compressible ring I, air vent J formed in the vessel H, and air vent K in the cylinder A, substantially as and for the purpose specified. 3rd. A cylinder A fitted on to the neck B of a bottle, and hermetically sealed thereon by the elastically compressible ring C, a flange D formed in the cylinder A, and holding the elastically compressible ring E, which rests on the top of the neck of Bottle B, a ball F contained in a hole G made through the end of the cylinder, in combination with the measuring vessel H fitted on to the cylinder A, of the elastically compressible ring I, air vent J formed in the vessel H, and air vent K in the cylinder A, substantially as and for the purpose specified. 4th. A cylinder A fitted on to the neck B of a bottle, and hermetically sealed thereon by the elastically compressible ring C, a ball F contained in and a hole G made through the end of the said cylinder, in combination with the measuring vessel H fitted on to the cylinder A, over the elastically compressible ring I, air vent J formed in the vessel H, and air vent K in the cylinder A, and spring valve L to protect the air vent K, substantially as and for the purpose specified.

**No. 39,313. Machine for Rolling Tobacco.**

(*Machine à rouler le tabac.*)

John Edward Ricards, Birmingham, England, 13th July, 1892; 6 years.

*Claim.*—1st. The improvements in machines for rolling tobacco leaf or cut tobaccos into cigars, cigarettes, tobacco plugs and other such articles, consisting of the spindles mounted to work in combination with and eccentrically to the circular table, substantially as and for the purpose herein set forth and shown upon the drawings. 2nd. The improvements in machines for making cigars and other such articles, consisting of the table made movable a limited distance, substantially as and for the purpose herein set forth and shown. 3rd. The improvements in machines for making cigars, cigarettes and other such articles, consisting of the adjustable spindles, substantially as and for the purpose herein set forth and shown. 4th. In machines for making cigars, cigarettes and other such articles, the interchangeable spindles of varied sizes and shapes, and interchangeable tables, substantially as herein set forth. 5th. In machines for making cigars and other such articles, the table and spindles shaped to suit the article rolled, substantially as herein shown and described. 6th. In machines for making cigarettes and other such articles, the mode of and means for placing the paper upon the machine, substantially as herein set forth and shown. 7th. In machines for making cigars and other such articles, the pointer, substantially as and for the purpose herein set forth and shown upon the drawings. 8th. The improvements in machines for making cigars and other such articles, consisting of the revolving disc or discs, substantially as and for the purpose herein set forth and shown. 9th. The improvements in machines for rolling tobacco leaf or cut tobaccos into cigars, cigarettes, tobacco plugs and other such articles, substantially as and for the purpose herein set forth and shown upon the drawings.

**No. 39,314. Cabinet Organ. (Orgue.)**

Melville Clark, Chicago, Illinois, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. An organ having the action divided at a plane between the reeds and the air chamber by which the reeds are vibrated, substantially as set forth. 2nd. An organ having the action divided at a plane between the reeds, and the air chamber by which the reeds are vibrated, and having the case also divided and secured

part to the upper and part to the lower of said divided portions of the action, whereby the case and action may be parted at such division plane to give access to the reeds, substantially as set forth. 3rd. An organ having the action divided at a plane between the reeds and the air chamber by which the reeds are vibrated, and having the case also divided and secured part to the upper and part to the lower of said divided portions of the action, whereby the case and action may be parted at such division plane to give access to the reeds, and having the two parts of said action and case hinged together at one edge, substantially as set forth. 4th. An organ having the action divided at a plane between the reeds and the air chamber by which the reeds are vibrated, and having the reeds mounted with the portion of such divided action which comprises said air chamber, and the manual valves and levers mounted with the portion having the reeds, substantially as set forth. 5th. An organ having the action divided at a horizontal plane through the reed chamber, and having the contacting edges of the divided vertical walls of the air chamber provided with yielding packing to make said junctions air tight, substantially as set forth. 6th. An organ having the action divided at a horizontal plane through the reed chamber, and having the contacting edges of the divided vertical walls of the air chamber provided with yielding packing to make said junctions air tight, said divided portions of the actions being hinged together at one edge and provided with clamping hooks at the opposite edges, whereby the packed junctions of the divided walls of the reed chamber may be forced tightly together, substantially as set forth. 7th. In a blast organ, the reed chamber bounded above by the reed board and below by the top of the storage bellows or compression chamber, and provided with vertical partitions dividing said chamber into compartments corresponding to and enclosing the different sets of reeds, the top of the blast bellows being provided with apertures leading into the said compartments respectively, mutes mounted on the compression chamber, and controlling the apertures into the several compartments respectively, stops which actuate said mutes, and manual valves mounted upon the upper side of the reed board, substantially as set forth. 8th. In a blast organ, the reed chamber bounded above by the reed board and below by the top of the storage bellows or compression chamber, and provided with vertical partitions dividing said chamber into compartments corresponding to and enclosing the different sets of reeds, the top of the blast bellows being provided with apertures leading into the said compartments respectively, mutes mounted on the compression chamber and controlling the apertures into the several compartments respectively, stops which actuate said mutes, and the manual valves mounted upon the upper side of the reed board, said reed chamber being divided horizontally throughout, and the divided parts being separably secured together, whereby the action may be divided between the compression chamber and the reeds, substantially as set forth. 9th. In an organ, a reed board provided with vertically open channels J<sup>1</sup>, having laterally undercut grooves j<sup>1</sup> to receive the edges of the reed blocks, and having the valve openings through the board in a position corresponding vertically to the said channels, substantially as set forth. 10th. In an organ, a reed chamber comprised between the reed board upon one side and the air chamber, the condition of whose air contents produces the vibration of the reeds upon the other side, said reed board having the reed valve openings and having on the side within said reed chamber the channels J<sup>1</sup> open in said chamber toward the air chamber and provided with laterally undercut grooves to receive the edges of the reed blocks, said chamber being partitioned vertically into compartments enclosing, respectively, each the reeds pertaining to one stop, substantially as set forth. 11th. In an organ, a reed chamber bounded at one side by the reed board and at the other side by the apertured wall of the air chamber, the condition of whose air contents produces vibration of the reeds, such reed board being provided on the one side within said reed chamber with channels J<sup>1</sup> open toward the air chamber and arranged in double rows end to end, respectively, and provided with the laterally undercut grooves to receive the edges of the reed blocks, the opposite wall of said reed chamber, to wit, the apertured wall of the air chamber, having ribs which contact the line between the rows of grooves, and which with the material left standing between said rows constitute vertical partitions in the reed chamber, the apertures in said air chamber wall being between such partitions, combined with mutes which control said apertures and stops which actuate the mutes pertaining to the compartments of said reed chamber, respectively, substantially as set forth. 12th. In combination, substantially as set forth, the reed board and the manual frame supported thereby, the keys pivoted to said manual frame, and the manual levers underneath the keys, respectively, and fulcrumed on the reed board, the keys having each a rigid projection extending from its under side downward to its corresponding lever. 13th. In combination with the reed board having valve apertures leading to the reeds, respectively, the rib L projecting upward from the reed board, the valve levers extending transversely across such rib, and the springs having one end inserted loosely through said levers and rigidly into said rib, and the other ends reacting against the levers to force their valve ends down onto the reed board to close the valve openings, substantially as set forth. 14th. In a blast organ, in combination with the blast bellows and an air conduit from the blast bellows into the storage bellows, springs which resist the expansion of the storage bellows, and springs tending to resist the collapse of said bellows, the reaction of the latter springs when the collapse of the bellows com-

mences being less than that of the former springs, but the tension of said springs being approximately equal when the bellows is fully collapsed, substantially as set forth. 15th. In an organ, a bellows having collapsing sides all in one piece, and provided with stiffening parts whose edges determine the lines of folding in the collapse of the bellows, substantially as set forth. 16th. In an organ, in combination with the chamber through which the air reaches the reeds, a mute which controls, access of air to said chamber having a pin which projects rigidly into said chamber through an air aperture which the mute closes, and a rock shaft in said chamber protruding through one end thereof, and having an arm within the chamber which engages the pin, and an arm outside the chamber adapted to be engaged by stop mechanism, substantially as set forth. 17th. In combination with the mute and the spring which closes it, a lever arm located outside the chamber which the mute controls, and connected to the mute in such manner that the closing movement of the mute under the action of its spring operates the lever, and that the lever is adapted to operate the mute in the reverse direction, said lever having a curved end, a stop rod, and a lever actuated thereby having one end engaging said curved end of the lever arm, substantially as and for the purpose set forth.

#### No. 39,315. Holder for Candles. (*Porte-chandelle.*)

Gastav Gurtler, Offenbach on the Main, Great Duchy of Hesse-Darmstadt, German Empire, 13th July, 1892; 6 years.

*Claim.*—An adjustable candle holder, consisting of candle clamps *d*, *d*, pressed against the candle by means of spiral springs *h*, the clamps being guided by means of guides *t*, *i*, attached to the semi-tubes *e*, within parallel slots *f*, in the base plate *b*, the semi-tubes *e*, being attached to the candle clamps *d*, and held in position by means of an overlapping edge *g*, upon one of the projecting parts *c*, substantially as described.

#### No. 39,316. Apparatus for polishing Plate Glass.

(*Appareil pour polir le verre de cristal.*)

William Smith, Sutton, near St. Helens, Lancaster, England, 13th July, 1892; 6 years.

*Claim.*—1st. In an apparatus for grinding, smoothing and polishing plate glass, the combination of an ordinary rotating disc carrying the glass, ordinary grinding and smoothing runners carried on a carriage or gantree, travelling on rails, so that they can be removed from above the disc, with an independent polishing apparatus suspended above the disc and capable of being let down and anchored in position on the disc, substantially as described. 2nd. In combination with a horizontal disc carrying the glass, one or more frames *K*, revolvable on pivot *U*, and having, at various points round the centre, a series of discs or secondary frames *L* carrying the polishing blocks *M*, the groups *L* capable of rotating on their pivots, substantially as described. 3rd. In an apparatus for polishing plate glass, the combination of the revolving disc *A* carrying the glass, pivot *U*, anchoring rods *R*, and fixed pivots *S*, substantially as and for the purposes described. 4th. The combination of a rotary disc *A* carrying a glass, the pivot *U*, a frame *K*, carrying sockets situated round the central pivot *U*, a series of groups or discs *L*, having pivots *N* to fit loosely in the said sockets, and being free to rotate therein, the said group or disc *L* having a ring of blocks *M* carrying felt or other polishing material, and so arranged that portions of the blocks *M* shall, when in work, pass beyond the circumference of the disc *A*, whereby the overhanging corners of the glass can be polished. 5th. In combination with a rotating disc *A* carrying the glass, a frame *K*, having a pivot *U*, and sockets for connecting to the pivots a series of groups or discs *L*, each group carrying subsidiary polishing blocks *M*, all the groups *L* being at equal distances from the central pivot *U*, and all the blocks of each group *M* equally distant from the pivots *N*, whereby the weight of the main frame is equally distributed over the groups or discs *L*, and the entire weight of the main frame and the discs *L* is again equally distributed over the subsidiary blocks. 6th. In combination with the disc *A* carrying the glass, frame *K* rotating on its axis *U*, and groups or discs *L* rotating on pivots *N*, and carrying subsidiary blocks *M*, in such position that the blocks furthest from the pivot *U* are outside the circumference of the disc *A*, an optional locking device *P*, whereby each of the groups or discs *L* may have its rotative motion arrested, whereby if any of the blocks *M* should have their covering of felt, or other polishing material torn or injured, such discs or groups may be locked in such positions as to prevent the torn block passing beyond the circumference of the disc *A*. 7th. In a glass polishing apparatus, the combination of rotating frame *K*, groups or discs *L* connected therewith, but free to rise and fall, and subsidiary blocks *M* fixed to the discs *L*, whereby one or more of the subsidiary blocks *M* may go beyond the surface of the glass to be polished without any tendency to cant or tilt, the centre of gravity of each group being at all times inside the circumference of the disc *A* which carries the glass. 8th. The combination of a rotating frame *K* carrying a polishing device, and pivot *U*, with rods *R*, and stationary pivots *S*, with a hoisting device *T*, whereby the polishing apparatus can be hoisted up out of the way and held there while the grinding and smoothing is in progress, and can be let down and fixed in working position as soon as the grinding and smoothing apparatus is removed. 9th. In combination with a rotary disc *A* carrying the glass, a frame *K* free to rotate, and carrying on pivots *N* a series of

discs *L* of equal size and equally distant from said pivots, and said discs *L* carrying on their lower sides polishing surfaces symmetrically arranged round the pivots *N*, whereby the entire weight of the apparatus is equally distributed over the abrasive surfaces, and the said surfaces are free to revolve with a planetary motion, substantially as described.

#### No. 39,317. Separator for Granular Materials.

(*Séparateur.*)

James Higginbottom, Liverpool, England, 13th July, 1892; 6 years.

*Claim.*—1st. In a sieving, separator or purifying machine of the kind described, the combination with a vibratory sieving surface having, as described, a ribbed portion open to the air current and a plain portion shut off from the air current, of a flat depositing tray located above and in close proximity to the whole sieving surface and having a series of tapered orifices or nozzles narrowing upwards and arranged uniformly upon it above the ribbed portion of the sieving surface, an exhaust device adapted to produce an upward current of air through said ribbed portions and through said orifices or nozzles, and separate receptacles or shutes located directly below the ribbed and plain portions of the sieve, respectively, substantially as and for the purposes described. 2nd. In a sieving, separating or purifying machine of the kind described, a vibratory sieve having its upper surface (or the active portion thereof) divided into a series of separate sieving spaces by a series of transverse ribs resting upon said surface and of a suitable depth and pitch, having regard to the inclination of the sieve, whereby the material at all portions of the sieve surface (or of the active parts thereof) is maintained at a sufficient depth without the necessity of passing a large portion of the good material over the tail of the sieve, substantially as described. 3rd. In a sieving, separating or purifying machine of the kind described, a vibratory sieving surface having one or more of its sieving sections which are open to the uprising air current, succeeded by one or more sieving sections shut off from said air current, whereby the finer portions of the heavier material impurities is separated from the rest of the material and prevented from passing into the tails as heretofore, substantially as described. 4th. In combination with a vibrating sieve, a depositing compartment above the same, and an exhaust apparatus adapted to draw air up through the sieve and into and through the compartment, of a horizontal or nearly horizontal tray, partition or diaphragm arranged as described, a short distance above the sieve surface and perforated or provided with numerous conical or pyramidal orifices narrowing upwards and distributed in a uniform manner throughout its area (or throughout a portion thereof, as described), whereby the exit spaces for the air are narrowed to a desirable minimum, both longitudinally and transversely, and a maximum contraction and slope of passage is secured with a minimum of height and obstruction, substantially as and for the purposes described. 5th. In a sieving, separating or purifying apparatus of the kind described, the use of a series of tapered nozzles, of forms substantially such as herein set forth and for the purposes specified. 6th. The adaptation of one or more diaphragms or trays of nozzles or orifices, substantially as described, for the separation, deposition and collection of dust from dust laden air in stove rooms or other places where a column of dust laden air is in motion. 7th. In an apparatus for the separation, deposition and collection of dust from dust laden air, the combination with a series of short tapered nozzles, such as *G*, either with or without hoods, of a series of diaphragms, vanes or baffle boards, such as *M*, so arranged with respect to said nozzles as to guide and distribute the dust laden air in its passage through the apparatus and facilitate the deposition of the dust therein, substantially as described.

#### No. 39,318. Separator. (*Séparateur.*)

James Higginbottom, Liverpool, England, 13th July, 1892; 6 years.

*Claim.*—In a centrifugal separating or dressing machine of the kind described, a deflecting plate or plates *E*, placed at a suitable distance in advance of and moving with the beater or beaters *B*, and so arranged with respect to the same and to the outer perforated casing *A* of the machine, that part of the material which is located in proximity to the said casing is caught up by the advancing deflecting plate, is led inwards along its inner face, is discharged therefrom on to the face of the adjacent beater, and is thrown outwards by the direct impact of the latter against the casing, substantially as and for the purpose described.

#### No. 39,319. Gas or Electric Water Heater.

(*Appareil à chauffer l'eau au gaz ou à l'électricité.*)

Christopher Clift, Montreal, Quebec, Canada, 13th July, 1892; 6 years.

*Claim.*—1st. A heating apparatus composed of two or more integral sections with separate inlet and outlet and heating devices, all as herein set forth. 2nd. A heating section composed of three or more conduits of corrugated thin metal connected by bends, and provided with flow and return pipes, draw off cock and means for heating same by direct heat, all as herein set forth. 3rd. A heating apparatus composed of two or more integral sections, made up conduits inclined to each other with separate inlet and outlet pipes, en-

closed within a casing, and a series of gas jets to each section, the pipes to same passing through the jacket and being furnished with taps and Bunsen burners between the supply pipe and casing. 4th. A heating apparatus composed of two or more integral sections, with separate flow and return pipes and heating devices, all contained within a casing or jacket with a movable side, and means outside such jacket for connecting said pipes with a system of distributing pipes, and disconnecting same therefrom, all as and for the purposes set forth. 5th. A heating apparatus composed of two or more integral sections with separate flow and return pipes, contained in a casing with movable door, and a series of heating devices to each section secured alternately in the casing and door of the same, all as and for the purpose set forth.

**No. 39,320. Manufacture of Insulated Wire for Electrical Purposes.** (*Fabrication de fils isolés pour objets électriques.*)

Herman Henry Brown, Montreal, Quebec, Canada, 13th July, 1892; 6 years.

*Claim.*—1st. In the insulation of wire for electrical purposes, the combination, of an inner waterproofing coat of plastic substance, two superimposed braid coverings, each saturated when in place with a solution of silicate of soda, and an outer coating of paint, all as herein set forth. 2nd. A waterproof coating for electrical wires, composed of asphalt, ozokerite, Canoba wax, gomme de mer and rubber, substantially in the proportions and for the purposes set forth.

**No. 39,321. Wash Board.** (*Planche à savonner.*)

Charles Edwin Williams, Utica, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The combination, with a wash board and its movable rubber, of connecting mechanism, consisting of the swinging arms C, the bent rod D, and links E, E' and F, substantially as described. 2nd. The combination, in mechanism for connecting a wash board and its rubber, of the bent rod D, the swinging arm C, composed of a single piece, and also bent downwardly in its centre, links E, E' and F, and a supplemental rod F', substantially as and for the purpose set forth. 3rd. The combination, in a wash board, of the sides A, containing grooves, the soap box G, mounted in said grooves, and a projection or stay attached to said soap box, whereby the wash board may be held in position in the tub, substantially as set forth. 4th. The combination, in a wash board, of the side pieces A, provided with grooves in their lower portions, and with a suitable connecting cross bar at their upper portions, the rubbing portion and the rod D having bent ends imbedded in grooves, whereby said rod serves as a cross piece to yieldingly secure the side pieces together at the lower end of the rubbing portion. 5th. The combination, in a wash board, of side pieces supporting a rubbing surface, a rubber having a corrugated face adapted to move in a substantially parallel plane over said rubbing surface, said rubber being connected to said board by means of swinging arms which extend below said board, and are there connected to said frame by means of swinging links, and supporting and governing rods for said links, substantially as shown and described.

**No. 39,322. Method of and Machine for Manufacturing Garment Stays.** (*Méthode et machine pour la fabrication des renforts de vêtements.*)

Frederick Crompton, Toronto, Ontario, Canada, 13th July, 1892; 6 years.

*Claim.*—1st. In combination, the lower chest B, the yielding pad F thereon, upon which the sheets to be finished are placed, and the upper adjustable steam chest with means for applying pressure thereto, substantially as described. 2nd. In combination, with the upper and lower steam chests of a press, the removable pad F, having a yielding upper surface and a plurality of holes to allow for the escape of moisture, and the plate I, carried by the upper chest, substantially as and for the purpose specified.

**No. 39,323. Corset.** (*Corset.*)

Nancy E. Miles, Indianapolis, Indiana, U.S.A., 13th July, 1892; 6 years.

*Claim.*—The corset comprising the back and sides section, having its edges extending to the front of the body in a vertical line with the bust portions, and two front sections detachably connected with each other and meeting said back and sides section in said vertical line with the bust portions, non-elastic lacings connecting the meeting edges of said front and back and sides section from a point immediately below the bust to the lower edge of the corset, and elastic lacings connecting the bust portions from said point to the upper edge of the corset, substantially as specified.

**No. 39,324. Method of Electrical Refrigeration.**

(*Méthode de réfrigération électrique.*)

Mark Wesley Dewey, Syracuse, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled and one or more parts adapted to be heated by the current therein, locating the cooled part or parts within or in contact with a receptacle to cool the interior thereof, and diffusing or con-

ducting the heat from the heated part or parts of the circuit. 2nd. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled and one or more parts adapted to be heated by the current therein, locating the cooled part or parts within or in contact with a receptacle to cool the interior, insulating said receptacle from the influence of heat on the exterior, and diffusing or conducting the heat from the heated part or parts of the circuit. 3rd. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current therein, locating said part or parts within or in contact with a receptacle containing an uncongealable medium, insulating said receptacle from the influence of heat on the exterior thereof, and exposing the substance to be cooled to the cooling influence of said medium. 4th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current therein, locating said part or parts within or in contact with a refrigerator or ice chamber, and exposing the substance to be cooled within the said refrigerator. 5th. The method of cooling or freezing a substance contained in a receptacle, consisting in removing the heat from the interior of said receptacle by or through the convection of heat produced by an electric current or currents. 6th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current therein, locating said part or parts within or in contact with a receptacle containing an uncongealable medium, electrically insulating the receptacle and medium from the circuit, insulating said receptacle from the influence of heat on the exterior thereof, and exposing the substance to be cooled to the cooling influence of said medium. 7th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current therein, locating said part or parts within or in contact with a receptacle, electrically insulating the receptacle from the circuit, insulating the said receptacle from the influence of heat on the exterior thereof, and exposing the substance to be cooled within said receptacle. 8th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled and one or more parts adapted to be heated by the current therein, locating the cooled part or parts within or in contact with a receptacle, electrically insulating the same from the circuit, insulating the receptacle from the influence of heat on the exterior thereof, diffusing or conducting the heat from the heated part or parts of the circuit, and exposing the substance to be cooled within said receptacle. 9th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled and one or more parts adapted to be heated by the current therein, locating the cooled part or parts within or in contact with a receptacle, insulating the receptacle from the influence of heat on the exterior thereof, locating the heated part or parts of the circuit within or in contact with a conduit, passing a current of water or air through the conduit to dissipate the heat of said part or parts of the circuit, and exposing the substance to be cooled to the cooling effect of the said receptacle. 10th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled and one or more parts adapted to be heated by the current therein, locating the cooled part or parts within or in contact with a receptacle, insulating the receptacle from the influence of heat on the exterior thereof, diffusing or conducting the heat from the heated part or parts of the circuit, and exposing water to be frozen in a vessel within said receptacle containing an uncongealable medium. 11th. The method of electric cooling or freezing, consisting in establishing an electric circuit, including a thermo-pile, locating the alternate junctions adapted to be cooled by the current within or in contact with a receptacle to be cooled, and dissipating or conducting the heat from the heated junctions. 12th. The method of electric cooling or freezing, consisting in establishing an electric circuit, including a thermo-pile, locating the alternate junctions adapted to be cooled by the current within or in contact with a receptacle to be cooled, insulating said receptacle from the influence of heat on the exterior thereof, and dissipating or conducting the heat from the heated junctions. 13th. In a system of electric cooling or freezing, consisting in connecting two or more thermo-piles or conductors having parts adapted to be cooled by a current flowing therein in multiple arc relations with leads from a suitable source of electricity, and regulating the current flowing through the thermo-piles or conductors independently of each other. 14th. In a system of electric cooling or freezing, consisting in connecting two or more thermo-piles or conductors having parts adapted to be cooled by a current flowing therein in multiple arc relation with leads from a suitable source of electricity, locating the cooled parts of each of said thermo-piles or conductors within or in contact with a suitable receptacle to be cooled, and regulating the current flowing through the said thermo-piles or conductors by any suitable and well known method.

**No. 39,325. Electric Railway.**

(*Chemin de fer électrique.*)

Mark Wesley Dewey, Syracuse, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In an electric railway, a permanently continuous line working conductor, a vehicle, an electro-motor to propel said

vehicle, electrical connections between said motor and working conductor, and suitable means to create electrical resistance or counter electro-motive force in said conductor between the connections. 2nd. In an electric railway, a permanently continuous line working conductor, a vehicle, an electric motor to propel said vehicle, electrical connections between said motor and working conductor, a portion of the line working conductor between the connections, and suitable means to create electrical resistance or counter electro-motive force in said conductor between the connections. 3rd. In an electric railway, a permanently continuous line working conductor, a vehicle, an electric motor to propel said vehicle, two electrical connections carried by the vehicle and making contact with the working conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said conductor between the connections, and consisting of a sheath of paramagnetic material partially or entirely surrounding the line working conductor. 5th. In an electric railway, a permanently continuous line working conductor, a vehicle, an electric motor to propel said vehicle, two electrical connections carried by the vehicle and making contact with the working conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said conductor between the connections, and consisting of a sheath of paramagnetic material partially or entirely surrounding the line working conductor. 6th. In an electric railway, a source of irregular or alternating currents, a permanently continuous line working conductor connected to the source, a vehicle, an electric motor to propel said vehicle, electrical connections carried by the vehicle and making contact with the line conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said line conductor between the connections. 7th. In an electric railway, a slotted conduit, a permanently continuous line working conductor in said conduit, a vehicle, an electric motor to propel said vehicle, two electrical connections carried by the vehicle and making contact with the working conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said conductor between the connections. 8th. In an electric railway, a source of irregular or alternating currents, a permanently continuous line working conductor connected to the source, a vehicle, an alternating current electric motor to propel said vehicle, electrical connections carried by the vehicle and making contact with the line conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said line conductor between the connections. 9th. In a current collector for a vehicle, the combination, of two electrical connections carried by the vehicle and making contact with a line conductor along the path of the vehicle and disposed one in advance of the other, and a suitable counter electro-motive force device carried by said vehicle and located between the electrical connections. 10th. The combination, in an electric railway, of two tracks leading from the generating station, a permanently continuous line working conductor extending from the generating station along one of said tracks and returning to said station along the other track, a vehicle, an electric propelling motor on the vehicle, electrical connections between the motor and line conductor, and means to create resistance or counter electro-motive force in said line conductor between said connections. 11th. The combination, in an electric railway, of two parallel tracks leading from the generating station, a permanently continuous line working conductor extending from the generating station along one of said tracks and returning to said station along the other track, a vehicle, an electric propelling motor on the vehicle, electrical connections between the motor and line conductor, and means to create resistance or counter electro-motive force in said line conductor between said connections. 12th. The combination, in an electric railway, of two tracks leading from the generating station, a slotted conduit for each track, a permanently continuous line working conductor extending from the generating station along one of said tracks and returning to said station along the other track and in said conduit, a vehicle, an electric propelling motor on the vehicle, electrical connections between the motor and line conductor, and means to create resistance or counter electro-motive force in said line conductor between said connections. 13th. In an electric railway, a permanently continuous line working conductor, supports for said conductor, a vehicle, an electric motor to propel said vehicle, two electrical connections carried by the vehicle and making contact with the working conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resist-

ance or counter electro-motive force in said conductor between the connections, and consisting of a sheath of paramagnetic material partially or entirely surrounding the line working conductor, and a coil of insulated wire wound upon said sheath. 15th. In an electric railway, a permanently continuous line working conductor, a vehicle, an electric motor to propel said vehicle, two electrical connections carried by the vehicle and making contact with the working conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said conductor between the connections, and consisting of a sheath of paramagnetic material partially or entirely surrounding the line working conductor, and a coil of insulated wire wound upon said sheath and connected with a source of electricity. 16th. In an electric railway, a source of irregular or alternating currents, a permanently continuous line working conductor connected to the source, a vehicle, an electric motor to propel said vehicle, electrical connections carried by the vehicle and making contact with the line conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said line conductor between the connections, and consisting of a sheath of paramagnetic material partially or entirely surrounding the line working conductor, and a coil of insulated wire wound upon said sheath and connected with a source of irregular or alternating currents derived from or induced by the source connected to the line conductor. 17th. In an electric railway, a permanently continuous line working conductor, supports for said conductor, a vehicle, an electric motor to propel said vehicle, an electric motor to propel said vehicle, two electrical connections carried by the vehicle and making contact with the working conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said conductor between the connections, and consisting of a sheath of paramagnetic material entirely surrounding the line working conductor, a longitudinal slot through the sheath to permit said supports to pass through, and an iron brush or brushes fixed to or in the side or sides of the slot and extending transversely across the same to maintain the slot closed. 18th. In an electric railway, a permanently continuous line working conductor, insulated supports of paramagnetic material for said conductor, a vehicle, an electric motor to propel said vehicle, two electrical connections carried by the vehicle and making contact with the working conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said conductor between the connections, and consisting of a sheath of paramagnetic material entirely surrounding the line working conductor, a longitudinal slot through the sheath to permit said supports to pass through, and an iron brush or brushes fixed to or in the side or sides of the slot and extending transversely across the same to maintain the slot closed. 19th. In an electrical railway, a permanently continuous line working conductor, a vehicle, an electric motor to propel said vehicle, two electrical connections carried by the vehicle and making contact with the working conductor to supply electricity to the motor, and means carried by the vehicle to create electrical resistance or counter electro-motive force in said conductor between the connections, and means to regulate the current flowing through the shunt circuit. 20th. In an electric railway, a line working conductor, a vehicle, an electric motor to propel said vehicle, electrical connections between said motor and working conductor, and suitable means to create counter electro-motive force or a tendency thereto in the line conductor between the connections.

#### No. 39,326. Electric Heating Apparatus.

(Appareil de chauffage électrique.)

Mark Wesley Dewey, Syracuse, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of perforated flat sheets of metal, connected together in series, substantially as described. 2nd. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of perforated flat sheets of metal, connected together in series, substantially as described. 3rd. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of perforated flat sheets of metal, substantially as described. 4th. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of perforated parallel flat sheets of metal arranged side by side and connected together in series, substantially as described. 5th. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of parallel flat sheets of metal arranged side by side, with air spaces between, and connected together in series by posts of metal, substantially as described. 6th. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of parallel flat sheets of metal arranged side by side, with air spaces between, and connected together in series by posts of metal, and non-conducting pieces to stay and support the posts, substantially as described. 7th. In an electric heater, the combination, with the supply conductors, of a radiating device

connected thereto, consisting of a plurality of parallel flat sheets of metal arranged side by side, with air spaces between, and connected together in series by posts of metal, non-conducting pieces to stay and support the posts, and a suitable frame or case inclosing the device, substantially as described. 8th. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of parallel flat sheets of metal arranged side by side, with air spaces between, and connected together in series by posts of metal, non-conducting pieces to stay and support the posts, a suitable frame or case inclosing the device, and one end of the radiating device arranged to have free movement longitudinally within the case to allow for expansion and contraction due to heating by the passage there through of the electric current and cooling upon the cessation of the current, substantially as set forth. 9th. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of parallel flat sheets of metal arranged side by side, with air spaces between, and connected together in series by posts of metal, non-conducting pieces to stay and support the posts, a suitable frame or case inclosing the device, one end of the radiating device arranged to have free movement longitudinally within the case to allow for expansion and contraction due to heating by the passage therethrough of the electric current and cooling upon the cessation of the current, and a circuit maker and breaker adapted to be operated by said movement. 10th. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of parallel flat sheets of metal arranged side by side, with air spaces between, and connected together in series by posts of metal, non-conducting pieces to stay and support the posts, a suitable frame or case inclosing the device, one end of the radiating device arranged to have free movement longitudinally within the case to allow for expansion and contraction due to heating by the passage therethrough of the electric current and cooling upon the cessation of the current, and an adjustable circuit maker and breaker adapted to be operated by said movement. 11th. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of parallel flat sheets of metal arranged side by side, with air spaces between, a suitable frame or case inclosing the device, one end of the radiating device arranged to have free movement longitudinally within the case to allow for expansion and contraction due to heating by the passage therethrough of the electric current and cooling upon the cessation of the current, and a circuit maker and breaker adapted to be operated by said movement. 12th. In an electric heater, the combination, with the supply conductors, of a radiating device connected thereto, consisting of a plurality of parallel flat sheets of metal arranged side by side, with air spaces between, a suitable frame or case inclosing the device, one end of the radiating device arranged to have free movement longitudinally within the case to allow for expansion and contraction due to heating by the passage therethrough of the electric current and cooling upon the cessation of the current, and a circuit maker and breaker adapted to be operated by said movement.

**No. 39,327. Electric Refrigerating Apparatus for Railway Cars.** (*Appareil de réfrigération électrique pour chars.*)

Mark Wesley Dewey, Syracuse, New York, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a system of cooling cars by electricity, the combination of a moving car, a dynamo electric machine carried on the car and having its armature mechanically connected to the axle or wheel of the vehicle and to be driven by the latter, conductors connected to the dynamo, an electric conductor having one or more parts adapted to be cooled by a current, and a secondary battery in parallel circuit with the dynamo, and suitable current controlling devices. 2nd. In a system of cooling cars by electricity, the combination of a moving car, a generator of electricity arranged to be driven by the movement of said car, an electric conductor having one or more parts adapted to be cooled by a current, and a secondary battery in parallel circuit with the generator, and suitable current controlling devices. 3rd. In a system of cooling vehicles by electricity, the combination of a moving vehicle, a generator of electricity on the vehicle and arranged to be driven when the vehicle is in motion, an electric conductor having one or more parts adapted to be cooled by a current and in circuit with the generator, and suitable current controlling devices. 4th. In a system of cooling cars by electricity, the combination of a plurality of cars coupled together, an electric supply conductor on one of said cars, and cooling or freezing apparatus carried on two or more of said cars and connected to the supply conductor. 5th. The combination of a moving vehicle, a generator of electricity driven by the vehicle, and an electric cooling or freezing apparatus to cool said vehicle and in circuit with the generator. 6th. The combination of a vehicle, a suitable source of electricity, and an electric cooling apparatus on the vehicle in circuit with the source. 7th. The combination of a vehicle, a source of electricity, an electric cooling apparatus to cool said vehicle, a secondary battery to accumulate a portion of the current from the source, and electric circuits including said cooling apparatus and battery in multiple arc connection. 8th. The combination of a vehicle, a source of electricity, an electric cooling apparatus to cool said vehicle, and a secondary battery to accumulate a portion of the electric energy from the source, and in electrical

connection with the latter. 9th. The combination of a vehicle, a suitable source of electricity, an electric cooling apparatus on the vehicle in circuit with the source, and suitable controlling or regulating devices. 10th. The combination of a vehicle, a suitable source of electricity, an electric conductor on the vehicle and having parts adapted to be cooled by a current and connected to the source, a reservoir containing a medium and arranged to be cooled by the said parts, and a pipe extending from the reservoir through the interior of the car and back to said reservoir. 11th. The combination of a vehicle, a suitable source of electricity, an electric conductor on the vehicle and having parts adapted to be cooled by a current and connected to the source, a reservoir containing a medium and arranged to be cooled by the said parts, and a pipe extending from the reservoir through the interior of the car and back to said reservoir, and means for circulating the medium through the pipe. 12th. The combination of a vehicle, a suitable source of electricity, an electric conductor on the vehicle and having parts adapted to be cooled by a current and connected to the source, a reservoir containing an uncoagulable medium and arranged to be cooled by the said parts, and a pipe extending from the reservoir through the interior of the car and back to said reservoir, and means for circulating the medium through the pipe. 13th. The combination of a vehicle, a suitable source of electricity, an electric conductor on the vehicle and having parts adapted to be cooled by a current and connected to the source, a reservoir containing a medium and arranged to be cooled by the said parts, and a pipe extending from the reservoir through the interior of the car and back to said reservoir, and a pump and motor for forcing the medium through the pipe. 14th. In a system of cooling cars by electricity, the combination of a plurality of moving cars coupled together, a generator of electricity driven by one of the cars, and cooling or freezing apparatus on two or more of said cars and in circuit with the generator. 15th. The combination of a vehicle, a suitable source of electricity, an electric conductor on the vehicle and having parts adapted to be cooled by a current and connected to the source, a reservoir containing a medium and arranged to be cooled by the said parts, and a pipe extending from the reservoir through the interior of the car and back to said reservoir, and a pump and motor for forcing the medium through the pipe and suitable controlling or regulating devices. 16th. The combination of a vehicle, a suitable source of electricity, an electric conductor on the vehicle and having parts adapted to be cooled and other parts adapted to be heated by a current and connected to the source, an apartment on the vehicle to be cooled by the cooled parts of the conductor, and a ventilated apartment on the vehicles containing the heated parts of the conductor. 17th. The combination of a vehicle, a generator of electricity on the vehicle, and driven by the movement of the vehicle, an electric conductor on the vehicle and having parts adapted to be cooled and other parts adapted to be heated by a current from the generator, an apartment on the vehicle to be cooled by the cooled parts of the conductor, and a ventilated apartment on the vehicle containing the heated parts of the conductor. 18th. The combination of a vehicle, a suitable source of electricity, an electric cooling apparatus on the vehicle in circuit with the source, and suitable automatic controlling or regulating devices. 19th. In a system of cooling cars by electricity, the combination of a plurality of cars coupled together, an electric supply conductor on one of said cars, an electric conductor having one or more parts adapted to be cooled by a current and connected to the supply conductor, a reservoir containing a medium and arranged to be cooled by the said parts, pipes extending from the car containing the reservoir to one or more of the other cars, and means for circulating the medium. 20th. In a system of cooling cars by electricity, the combination of a plurality of cars coupled together, an electric supply conductor on one of said cars, an electric conductor having one or more parts adapted to be cooled by a current and connected to the supply conductor, a reservoir containing a medium and arranged to be cooled by the said parts, and pipes extending from the car containing the reservoir to one or more of the other cars coupled thereto.

**No. 39,328. Wire Weaving Fence Machine.**

(*Machine à tisser les clôtures en fil de fer.*)

Haggart S. Cochrane, Cleveland, Ohio, and Grace Cochrane, St. Thomas, Ontario, Canada, assignees of Edward S. Morgan, Richmond, Indiana, U.S.A., 13th July, 1892; 6 years.

*Claim.*—1st. In a wire weaving fence machine, the combination, of a series of shifting pins or levers fastened to a movable bar having an upright and downward movement, substantially as shown. 2nd. In a wire weaving fence machine, having a series of double concave plates, in combination, with shifting pins or levers fastened to a movable bar, with an upright and downward movement, substantially as and for the purpose specified. 3rd. In a wire weaving fence machine, a series of plates for holding the spools and twisting the wire, in combination, with double convex plates into which loosely fit shifting pins or levers with double concave plates, the said pins or levers being fastened to a movable bar with upright and downward movement, substantially as described and shown. 4th. The combination, of a series of shifting pins or levers, which act on double convex plates giving them an upward and downward movement, substantially as shown. 5th. The combination, of spool plates connected to double convex plates between which fit a series of main revolving disks with parallel slots or grooves running from near their

centre to circumference, all being made to revolve by a train of wheels, substantially as and for the purpose set forth. 6th. The combination, of a series of short arms connecting the spool plates with double convex plates, the said arms being made to loosely fit two slots in each of the main revolving disks to which a rotary motion is imparted for twisting the wires in the construction of the fence, substantially as described. 7th. The combination, of a concave slot made in a small collar attached to the main revolving disk into which operates a self adjusting lock, substantially as set forth. 8th. The combination, of a self adjusting lock having at one end a convex head to fit concave slot in collar of main revolving disk, the other end of lock or pin having also a convex head, substantially as set forth and described. 9th. The combination, of a self adjusting lock, having on each end a convex head, one end being made to fit concave slot in collar of main revolving disk and the other end to fit alternately V-shaped grooves in shifting bar, substantially as and for the purposes set forth. 10th. The combination, of a small cap or box fastened to the frame of machine carrying the self adjusting lock with double convex heads made to fit alternately a small concave slot in collar of main revolving disk and V-shaped grooves in shifting bar, substantially as and for the purposes described. 11th. The combination, of a shifting bar with V-shaped grooves made to receive the one end of self adjusting lock having a sliding movement through a cap or box attached to frame of machine, as set forth. 12th. In a wire weaving fence machine, the combination, of a collar on main revolving disk with concave slot into which fits a self adjusting lock or pin of suitable length, the mechanism operating said lock or pin being so constructed that when the grooves in main revolving disk are perpendicular in line with each other then the concave slot in small disk collar and V-shaped notch in shifting bar are exactly opposite each other for successfully operating the self adjusting lock, the object of which is to hold the shifting bar secure while the machine is in operation, and to hold the bar immovable only when in the proper position to shift the machine, substantially as described for the purposes set forth.

**No. 39,329. Lightning Arrester. (Paratonnerre)**

Frank Mansfield, Boston, Massachusetts, and Charles William Wason, Cleveland, Ohio, both in the U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. A lightning arrester comprising a ground connection having a series of branches, each branch having a so-called safety strip connected therewith, and intervening space incapable of permitting the passage of a normal current, substantially as indicated, of a gravity lever electrically connected with the electric wire system, such gravity lever being adapted to rest successively on the different safety strips, each safety strip in turn serving as a stop to limit the descent of the gravity lever, substantially as set forth. 2nd. The combination, with a series of ground connections, each provided with a safety strip included in a normally open circuit, substantially as indicated, of a gravity lever electrically connected with the electric wire system, such gravity lever being adapted to successively engage and rest on the different safety strips, substantially as set forth. 3rd. The combination, with a series of ground connections, each provided with a strip of fusible metal, each strip being fastened at the one end or removable binding post, said ground connections being included in normally open circuits, of a gravity lever connected with the overhead wire system, said gravity lever being adapted to successively rest on the fusible strips, substantially as set forth. 4th. The combination, with a series of ground connections, each provided with a safety strip and included in a normally open circuit, of a gravity lever adapted to rest successively on the different safety strips, and a switch adapted to cut out from the wire system the said gravity lever and fusible strips, substantially as set forth.

**No. 39,330. Burner for Oil Stoves.**

(Foyer pour poêles à huile.)

Elias Manchester Wright, Buffalo, New York, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. A combined steam and flame spreader for oil lamps, consisting of two shells secured together so as to leave an open space between them, the peripheral edge of the upper shell projecting beyond the edge of the lower shell, a series of openings around the periphery of the lower shell and a tubular portion projecting down therefrom to connect with the water wick tube, for the purposes described. 2nd. The combination, with the water tank, of a water wick tube secured centrally within it at the top and bottom, a hollow steam and flame spreader having openings at the periphery of the lower shell and a means for connecting it to the water wick tube, an oil wick inclosed within a wick tube surrounding the water vessel and connected with an oil reservoir for supplying it with oil, a collar having inclined deflecting sides and an upward projecting rim surrounding its central opening for directing the flame toward the spreader, whereby the steam rising from the water wick will be conducted from the water wick to the steam and flame spreader and superheated, and from thence into the flame, substantially as described. 3rd. In an oil lamp provided with an annular oil tank, and oil wick tube located centrally within the oil tank central opening so as to leave air spaces between the oil wick tube and the oil reservoir, the combination of a circular tray secured centrally to the bottom of the water tank, for the purposes described. 4th. In an oil lamp, a water tank located centrally within the oil wick tube, in

combination with a water wick tube located centrally within the water tank, and a hollow flame and steam spreader connected with the water wick tube and provided with a copper rod extending down through the water wick for conducting the heat downward into the water wick, substantially as described. 5th. In an oil lamp, the combination therewith of a feed pipe extending down outside of the lamp case and then horizontally under the oil tank to the water tank, and a hinged cover at the top, for the purposes described. 6th. In an oil lamp, the combination, with the top of the lamp, of a hinged collar having an opening which permits it to be turned up without interfering with the flame spreader, thereby exposing the several parts below so they can be easily got at for renewing the wick, cleaning or other purposes, substantially as described. 7th. A hollow steam spreader having a series of small openings around its under periphery, a series of lugs by which it is supported on the top of the water tank, and a downward projecting pipe for connecting it with the water wick tube, substantially as described.

**No. 39,331. Sash Balance. (Contre-poids de croisée.)**

Joseph Thomas, Chandley Cove, Amherst, Nova Scotia, Canada, 14th July, 1892; 6 years.

*Claim.*—1st. In a sash balance, the combination, with a cord C, of a pulley P, secured in the top corner of the sash frame, a pulley P', secured to the lintel near the centre, the bracket E, secured to the top rail of the top sash near the centre and adapted to hold the end of a cord in the centre line of said sash, the fixture F, secured to the top rail under the pulley P, and adapted to hold the other end of said cord removably, and a cord C, running over the pulleys P and P', and having its ends secured to the fixtures E and F, substantially as set forth. 2nd. In a sash balance, the bracket E, consisting of a plate having a cupped countersink e, with eye and a notch, or slot e', in the side edge and provided with a foot E', at a right angle to said plate, substantially as set forth. 3rd. In a sash balance, a fixture F, consisting of a box open at the bottom and rear and having one side extended to form a lug f, and the opposite side provided with a foot f', at a right angle, and having a slot f'', in the top, substantially as set forth.

**No. 39,332. Apparatus for Applying Electricity to the Human Body. (Appareil pour appliquer l'électricité au corps humain.)**

Robert S. Mears, Newton, Kansas, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. The combination, with the pile and its inclosing cell, a space being left between the front of the cell and the pile, of a binding post at the top of the cell and a flexible wire situated in the said space and provided with a metallic plate whereby the lower part of the pile is connected with the said binding post, substantially as set forth. 2nd. The combination, with the removable pile, of the cell inclosing the pile, the cell cover at the front of the cell, a space being left between the said cover and the pile, a binding post at the top of the cell, a flexible wire secured to the said binding post, and a wedge shaped plate secured to the said wire and adapted to be inserted at any part of the pile when the cell cover is removed, to vary the strength of the current, substantially as set forth. 3rd. The combination, with the removable pile, of the cell inclosing the pile, a binding post secured to the top of the cell, and a metallic spring adapted to connect the said binding post with the top of the pile and to hold the elements of the pile in position in the cell. 4th. The combination, with the inclosing cell provided with a cover at its front part, and the pile, a space being left between the said pile and cover, of a binding post at the top of the cell, a flexible wire provided with a contact plate and arranged in the said space, and adapted to connect the lower part of the pile with the said binding post, a second binding post at the top of the cell, and a spring adapted to connect the said second binding post with the top of the pile, and to retain the elements of the pile in position in the cell, substantially as set forth. 5th. The combination, with the cell and the pile inclosed therein, of the binding posts secured to the cell and connected to the opposite ends of the pile and provided with cylindrical portions projecting from the cell, and the conductors provided with tubes adapted to fit over the said cylindrical portions, substantially as and for the purpose set forth. 6th. The combination, with an electrode formed of a metallic disc provided with a loop, the back of the said disc and the loop being coated with insulating material, of a case for the electrode, consisting of a front plate of absorbent material, and a back plate of India rubber, provided with a slit through which the said loop may project, the said plates being secured together at their edges, substantially as set forth.

**No. 39,333. Blank for Book Cover Protectors.**

(Blanc-protecteur pour couvertures de livres.)

William Beverly Harison, New York, in the State of New York, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. A blank for book cover protectors, consisting of a sheet of paper, parchment or similar material, which is provided with gummed surfaces at any two opposite edges, on one side of the paper, and with gummed surfaces at the corners on the opposite side of the paper. 2nd. A blank for book cover protectors, consisting of

a sheet of paper or similar material, strengthened throughout by parchment, cloth or similar stronger material, and turned over edges provided at the ends of the said sheet, which is gummed at the top and bottom on one side of the sheet and at the corners on the opposite-side. 3rd. A blank for book cover protectors, consisting of a sheet of paper or similar material, substantially of rectangular form, provided with gum upon one side of the sheet, near two opposite edges, and at the corners on the opposite side of the sheet, and with rulings parallel to one another on that side of the paper on which is the first named gum.

**No. 39,334. Spring Bed. (*Sommier élastique.*)**

Arthur Henry Viel, Fenton, Michigan, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. In a mattress, the combination, with a frame, of a fabric secured thereto consisting of a series of horizontal members arranged in line, and yielding connections between the members having horizontal curves between their connecting points, substantially as described. 2nd. In a mattress, the combination, with a frame, of a fabric secured thereto comprising a series of longitudinal and crimped sections transversely arranged, and a series of horizontal laterally curved and yielding connecting links hooked into the spaces of said crimped sections, substantially as described. 3rd. In a mattress, the combination, with a frame, of a fabric secured therein and comprising a transverse horizontal section B, formed of a continuous wire, bent as shown and described, and the yielding connecting transverse sections C, consisting of single pieces of wire with a lateral horizontal bend extending from end to end, and hooks D formed at the ends thereof, the parts arranged and connected substantially as and for the purpose described.

**No. 39,335. Traction Apparatus. (*Appareil de traction.*)**

Roger William Wallace, London, England, 14th July, 1892; 6 years.

*Claim.*—1st. A cable railway or tramway in which endless cables are arranged in succession, in combination, with tripping devices for automatically disconnecting the vehicles from one or other of the said cables and connecting them with the next succeeding cable, for the purposes specified. 2nd. A cable railway or tramway consisting of cables arranged in sections, and electric motors for driving the said cables, substantially as described. 3rd. In a cable railway or tramway, the combination, of endless cables arranged in succession, electric motors for driving the said cables, and tripping devices whereby the disconnection of the vehicles from one or other of the said cables and their connection with the next succeeding cable are automatically effected, substantially as and for the purposes set forth. 4th. In a cable railway or tramway, the combination, with an endless cable and an electric motor for driving the same, of an auxiliary or supplementary electric motor, and automatically operated switches, whereby such auxiliary or supplementary electric motor, is switched into and out of circuit as required, substantially as and for the purposes set forth. 5th. In a cable railway or tramway, the combination, with an endless cable, and an electric motor for driving the same, of another electric motor and an automatically operated switch, whereby, in the event of the first motor becoming inoperative, the second motor is switched into the circuit so that it will work the said cable, substantially as described. 6th. In a cable railway or tramway, the combination, with an endless cable, and an electric motor for driving the same, of another electric motor and automatically operated switches, whereby the second motor is started either when the first motor becomes inoperative or when the load on the first motor exceeds a predetermined limit, substantially as described. 7th. In combination, with a cable railway or tramway, comprising a series of endless cables, and provided with tripping devices, substantially as described, a gripper comprising a movable jaw provided with inclined surfaces through the medium of which it is operated automatically by the said tripping devices, and a lever connected with the said jaw for operating it by hand, substantially as described. 8th. In a cable railway or tramway, the combination, with an endless cable, a shaft for driving the same, and an electric motor geared with the said shaft, of another electric motor and an electrically operated clutch which, when the first motor becomes inoperative or the load on this motor exceeds a predetermined limit, automatically puts the second motor in gear with the said driving shaft, substantially as described. 9th. In a cable railway or tramway, the combination, with an endless cable, of a driving shaft therefor, electric motors, each capable of driving such cable and its load independently of the other motor, and clutches which, when one of the said motors becomes inoperative, will put the same out of gear with the driving shaft, and put the other motor into gear therewith, substantially as and for the purposes set forth. 10th. In a cable railway or tramway, the combination, of endless cables, supporting, guiding and driving pulleys therefor mounted upon shafts working in ball bearings, and electric motors geared with the driving pulleys, substantially as and for the purposes set forth.

**No. 39,336. Steam Engine. (*Machine à vapeur.*)**

John Alexander Groshon, New York, State of New York, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. The main rocking lever connected at one end by a link with the piston rod of the engine, and at the other end by a rod with the auxiliary rocking lever, combined with the rod extending

from said auxiliary lever to a source of pressure, to resist the movement of the main piston rod during the first portion of its stroke and assist said rod during the latter portion of its stroke, substantially as and for the purposes set forth. 2nd. The main rocking lever connected at one end by a link with the piston rod of the engine, and the auxiliary rocking lever connected by a rod with the other end of said main rocking lever, combined with the rod extending from said auxiliary lever, the piston connected with said rod and the cylinder receiving said piston and being in communication with a source of pressure, substantially as and for the purposes set forth. 3rd. The atmospheric accumulator containing differential pistons and having the pipe leading thereto from the condenser, combined with the system of levers under the pressure of said accumulator for opposing the movement of the piston rod of the engine during the first portion of its stroke and assisting the same during the latter portion of its stroke, substantially as set forth. 4th. In a direct acting steam engine, one or more plungers in the main water cylinder and lever mechanism connecting the same with the main piston rod or rods, whereby the pressure of the water in said cylinder is caused to act in opposition to said rod or rods during the first portion of the stroke and in conjunction therewith during the latter part of the stroke, substantially as set forth. 5th. The main water cylinder having the plunger and partition, combined with an auxiliary plunger or plungers, whose ends are exposed to the pressure of the water at opposite sides of said partition, and lever mechanism connecting the auxiliary plunger or plungers with the main piston rod, whereby the pressure of the water may be caused to oppose the main piston rod during the first portion of its stroke and to assist the same during the latter portion of its stroke, substantially as set forth. 6th. The water cylinder, with its main and auxiliary plungers, combined with lever  $d^1$ , the link connecting the same with the main piston rod, the connecting rod  $m^1$ , and intermediate mechanism between the end of said rod and the rod of the auxiliary plunger, whereby the pressure of the latter is transmitted to said rod  $m^1$ , substantially as and for the purposes set forth. 7th. The water cylinder, with its main and auxiliary plungers, combined with lever  $d^1$ , the link connecting the same with the main piston rod, the connecting rod  $m^1$ , connected at its upper end with the upper end of the lever  $d^1$ , the shaft  $a^1$ , the crank wheel  $c^1$  thereon and securing the lower end of the rod  $m^1$ , the frame  $x$  on the shaft  $a^1$ , the rods  $t$  extending upward from the opposite sides of said frame, and the lever  $k$  connected with the upper ends of said rods  $t$ , and by a link with the slide of the auxiliary plunger rod, substantially as set forth.

**No. 39,337. Brick Machine. (*Machine à brique.*)**

Frederick Lindley Hunt Sims, Toronto, Ontario, Canada, 14th July, 1892; 6 years.

*Claim.*—1st. In combination, a stationary shaft, the section H, with spaces between forming a series of molds, the covers for said molds, the plungers, and the catches extending through said spaces, and the central cams for operating the plungers and the catches respectively, substantially as described. 2nd. In a brick machine, the molds A, each mold of which is provided with a hinged door N, which is held rigidly in position by the locking lever O, provided with the catch  $o$ , and plunger M, having rollers  $f$ , in combination with the stationary cam L, designed to operate the plunger M, substantially as and for the purpose specified. 3rd. In combination, the molds having covers with means for automatically holding and releasing them, the plungers operating against the resistance of said covers, and a cam for operating the plungers, having a depression  $b^1$ , acting upon the plungers after the brick is pressed and in unison with the cover leasing means, substantially as described. 4th. In combination, the molds having covers with automatic holding and releasing means therefor, the plungers operating against the resistance of said covers, and a cam for operating the plungers, having a rise to press the bricks, a depression to permit the covers to fly back without undue pressure, and a further rise to discharge the bricks, substantially as described. 5th. In a brick machine, the molds  $A^1$ , each mold of which is provided with a hinged door N, in combination with the locking lever O, provided at one end with the catch  $o$ , and at the other with a friction roller  $p$ , designed to run in the groove  $o^1$ , in the stationary wave cam P, substantially as and for the purpose specified. 6th. In a brick machine, the locking lever O, provided at one end with the catch  $o$ , and at the other end with a friction roller  $p$ , which is operated by the waves  $r$ , in the groove  $o^1$ , of the wave cam P, substantially as and for purpose specified. 7th. In a brick machine, a door N, provided with plate  $i$ , having a groove  $i^1$ , and the plate  $j$ , having a groove  $k$ , and holes  $l$ , substantially as and for the purpose specified. 8th. In a brick machine, the molds, the covers N, the plates S secured within the molds to the side thereof, the core rods secured to the said plates, the plungers M, operating over the core rods, and the plates  $j$  secured to the cover and having recesses  $s^1$ , substantially as described. 9th. In a brick machine, the core rods R, secured to the plate S, in combination with set screws designed to hold the plate S rigidly in the space K, between the sections H, and legs of the plunger M, substantially as and for the purpose specified. 10th. In a brick machine, an octagonal frame formed of the section H, each of which is bolted at both sides to the large gear wheels B, in combination with the lugs J, on the gear wheels B, substantially as and for the purpose specified. 11th. In a brick machine, the molds  $A^1$ , secured in the space

K, between the sections H, of the octagonal frame and supported on the gear wheels B, in combination with a suitable system of gearing, substantially as and for the purpose specified. 12th. In a brick machine, the molds A<sup>1</sup>, rotating around the shaft C, in combination with the feed spout U, supported on the cross piece Z, secured on the supplemental frame, substantially as and for the purpose specified. 13th. In a brick machine, the molds A<sup>1</sup>, rotating around the shaft C, in combination with the feed spout U, having secured to its top the hopper V, and to its bottom the swinging funnel W, substantially as and for the purpose specified. 14th. In a brick machine, the molds A<sup>1</sup>, rotating around the shaft C, in combination with the feed spout U, provided with the gates X and Y, having holes 6 and 7 in top and bottom gates respectively, and operated, substantially as and for the purpose specified. 15th. In a brick machine, the feed spout U, hopper V, and swinging funnel W, in combination with the gates X and Y, having holes 6 and 7, and connected together by the cross piece 2, the said gates being operated by the lever 8, the long arm of which is connected to the cross piece 2, while the short end has a friction roller 11, secured to it and revolving in a groove in the revolving wave cam 13, substantially as and for the purpose specified. 16th. In a brick machine, the feed spout U, provided with the gates X and Y, which run in the grooves 3 and 4, which extend through the feed spout U, to the outer ends of the extension arms *n* and *z*, substantially as and for the purpose specified. 17th. In brick machine, the swinging funnel W, provided with a triangular prism shaped piece *x*, with bevelled ends *x*<sup>1</sup>, extending from the apex of the prism, substantially as and for the purpose specified. 18th. In a brick machine, the spout U, provided with gates X and Y, in combination with side plate 20, substantially as and for the purpose specified. 19th. In a brick machine, the feed spout U provided at one side with the plate 20, in combination with the rod 22, connected at the inner end to the plate 20, and at the outer end to the arm 23, secured on the spindle 24, which has the arm 25, connected to it at its outer end, the said arm 25, being operated by a screw spindle 26, substantially as and for the purpose specified. 20th. In combination, the molds, the covers N, the curved rod T, extending over the molds, and the embracing fingers *u*, curved to engage the rod, substantially as described. 21st. In a brick machine, the curved rod T, having the top end *v*, extending inwardly and downwardly to a point in proximity to the door N, and the bottom end *b*<sup>1</sup>, extending upwardly and outwardly from the door N, substantially as and for the purpose specified. 22nd. In a brick machine, the swinging funnel W, hinged at *w*, in combination, with the bracket 36, secured to each of the sections H, and having its inner side flush with the sides of the mold, substantially as and for the purpose specified. 23rd. In a brick machine, the bracket 36, having the fingers 37, in combination, with the delivery arms 29, secured to the pick-off shaft 19, and having fingers 31, substantially as and for the purpose specified. 24th. In a brick machine, the mold A<sup>1</sup>, having a plunger M, operated from the cam L, in combination, with the delivery arms 29, secured to the pick-off shaft 19, substantially as and for the purpose specified. 25th. In a brick machine, the mold A<sup>1</sup>, having a plunger M, operated from a cam L, and a bracket 36, provided with the fingers 37, in combination, with the delivery arms 29, having fingers 31, and supplemental fingers 32, substantially as and for the purpose specified. 26th. In a brick machine, the mold A<sup>1</sup>, having a plunger M, operated from the cam L, and a bracket 36, provided with the fingers 37, in combination, with the delivery arms 29, having the fingers 31, and supplemental fingers 32, and the inclined plane 34, made in three sections, as described and for the purpose specified. 27th. In a brick machine, the mold A<sup>1</sup>, having a plunger M, operated from a cam L, and a bracket 36, provided with fingers 37, in combination, with the delivery arms 29, having the fingers 31, and supplemental fingers 32, the inclined plane 34, and the endless belt 35, substantially as and for the purpose specified. 28th. In a brick machine, the delivery arms 29, provided with the fingers 31, and supplemental fingers 32, in combination, with the inclined plane 34, made in three sections, substantially as and for the purpose specified. 29th. In combination, the molds, the carriers for the same, consisting of the gears B, B, the delivery arms 29, and the shaft 19, and the operating means, consisting of the gear meshing with one of the gears B, substantially as described.

### No. 39,338. Trawl Roller.

(*Roulette pour voies-aériennes.*)

John B. J. d'Entremont, East Pubnico, Nova Scotia, Canada, 14th July, 1892; 6 years.

*Claim.*—A trawl roller B, having a ratchet wheel H, and a pawl G, attached to the frame C, in which said roller is journaled, as and for the purpose set forth.

### No. 39,339. Roll Holding Photographic Apparatus.

(*Porte-rouleau pour appareil photographique.*)

David H. Houston, Hunter, North Dakota, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. In a roll holding photographic apparatus, the combination of the guide rollers H at the back of the holder, the spool and reel in front of the guide rollers, and the bearing rollers X in contact with the spool and reel, which rollers are held to their work

by a spring Y, and the light excluding divisions F, substantially as herein shown and described. 2nd. In a roll holding photographic apparatus, the combination of the sensitized paper or film A, passing along the back interior side of the holder, the light excluding divisions E extending between the film and the front interior side of the holder, the slide O at the front end of the holder, and the sliding front D on the front side of the holder, substantially as described. 3rd. In a roll holding photographic apparatus, the combination of the telescoping front section C, the packing W, and the light excluding slide O, substantially as described. 4th. In a roll holding photographic apparatus, the combination, with the outer case A, of the indicators, the door S, the back slide or door K, and the level G, substantially as and for the purpose described. 5th. The combination, in a roll holding photographic apparatus, of the centre sights V<sup>1</sup>, and the marginal sights V<sup>111</sup>, for the purpose specified. 6th. In a roll holding photographic apparatus, the combination of the centre sights V<sup>1</sup>, the marginal sights V<sup>111</sup>, and the degree scale S<sup>1</sup>, for the purpose specified. 7th. In combination with an instrument for exposing photographic sensitive surfaces, the marginal sliding sights V<sup>111</sup>, for the purpose specified. 8th. In combination with an instrument for exposing sensitive photographic surfaces to the active action of the light, the marginal sliding sights V<sup>111</sup> on either side of the lens tube, the centre sights arranged in line with said tube, and the level G between said centre sights, for the purpose set forth. 9th. In combination with an instrument for exposing sensitive photographic surfaces to the actinic action of light, the sight plate R carrying the scales S<sup>1</sup>, marginal sights V<sup>111</sup> arranged to slide in slots in said plate, and the centre sights V<sup>1</sup>, for the purpose specified. 10th. The combination, with a roll holding photographic apparatus, of an indicating and counting device consisting of the pinion X<sup>1</sup> adapted to be rotated by one of the guide roller shafts, the spur wheel W<sup>11</sup> meshing with said pinion, the arm N<sup>111</sup> on the spur wheel projecting beyond the periphery of the same and adapted to engage with the counting wheel Y<sup>1</sup> and move the same at each revolution of the spur wheel, and the spring arm Z<sup>1</sup>, substantially as described. 11th. In combination, with a roll holder for exposing photographic film, the indicating and counting device, consisting of the pinion X<sup>1</sup>, the spur wheel W, the arm N<sup>111</sup>, the counting wheel Y<sup>1</sup>, the spring pawl Z<sup>1</sup>, and the counters L<sup>111</sup>, all of which are arranged to operate on the plate P<sup>111</sup>, on the holding case, substantially as and for the purpose set forth. 12th. The combination, with a roll holder for exposing photographic film, of the lens tube arranged to slide or telescope into the interior of the roll holder, substantially as described. 13th. A roll holder spool made of two longitudinal strips, the larger strip V having the slot or groove V<sup>3</sup>, the rectangular shaft opening 8, and the smaller strips V<sup>2</sup>, substantially as herein shown and described. 14th. As a new article of manufacture, a roll holder spool T, constructed of two longitudinal sections, the larger section or strip V having a rectangular opening extending from end to end thereof, and the inclined slot or groove V<sup>3</sup>, said spool being adapted to receive a roll of sensitized film, and a covering for the film, substantially as and for the purpose set forth. 15th. In a roll holder apparatus, the combination of the holding case, the telescopic lens tube fitted therein, and the diaphragm holding cap in said tube, substantially as described. 16th. In a roll holding photographic apparatus, a lens tube arranged to slide or telescope in the holding case, and provided with the flanges F<sup>11</sup> and F<sup>1</sup>, on its opposite edges adapted to engage with the front of the case, substantially as described. 17th. In a roll holder, the combination of the guide roller H, H<sup>1</sup>, the perforators L, the band of sensitized film A<sup>1</sup>, the glass plate J, the slide or door K, and the aperture N, substantially as and for the purpose set forth. 18th. In a roll holder, the aperture in the back of the holding case, the glass plate J in front of said opening, and the slide or door K behind the plate, substantially as and for the purpose set forth. 19th. In a roll holder, the combination of the sensitized film A<sup>1</sup>, passing along the back side of the holder on the inside thereof, the light excluding divisions E extending between the film and the front interior side of the holder, the slide O at the front of the holder, and the movable front arranged exteriorly of the holder, substantially as and for the purpose set forth. 20th. In a roll holder, the combination of the sensitized film A<sup>1</sup>, extending along the back side in the interior of the holder, the light excluding divisions E extending between the film and the front interior side of the holder, and the light excluding slide O, at the front of the holder, substantially as and for the purpose set forth. 21st. In a roll holding apparatus, the combination of a holding case, a sliding or telescopic lens tube, and a diaphragm holding cap, substantially as shown and described. 22nd. In combination with a roll holder for exposing photographic films, the indicating and counting device composed of the pinion X, the spur wheel W<sup>1</sup>, the arm N<sup>111</sup>, the counting wheel Y<sup>1</sup>, and the counters J<sup>111</sup>, all constructed and arranged on the plate P<sup>111</sup>, substantially as and for the purpose described. 23rd. In a roll holder, the combination of the aperture N, at the back of the holder, the light excluding slide or door K, and the glass plate J, substantially as shown and described. 24th. In a roll holder, the combination of the aperture N, at the back of the holder, the light excluding slide or door K, the glass plate J, and the sensitized film arranged to pass over the inner face of said plate, substantially as described. 25th. In a roll holder, the combination of the aperture N, at the back of the holder, the light excluding slide or door K, the glass plate J, the sensitized film A, and the film holder F, substantially as described. 26th. In

a roll holder, the combination, of the aperture N, at the back of the holder, the light excluding slide or door K, the glass plate J, the film A<sup>1</sup>, and the light excluding divisions E, substantially as described. 27th. In a roll holder, the combination, of the aperture N, at the back of the holder, the light excluding slide or door K, the picture film A<sup>1</sup>, and the film edge holder F, substantially as described. 28th. In a roll holder, the combination, of the aperture N, at the back of the holder, the light excluding slide or door K, the picture film A<sup>1</sup>, the film edge holder F, and the light excluding divisions E, substantially as described. 29th. In a roll holder, the combination, of the film A<sup>1</sup>, in the interior of the holder at the back thereof, the film edge holder F, and a lense mounted in the front of the holder, substantially as described. 30th. In a roll holder, the combination, of the film A<sup>1</sup>, at the back of the holder inside thereof, the film edge holder F, and the light excluding slide O, substantially as described. 31st. In a roll holder, the combination, of the film A<sup>1</sup>, at the back of the holder inside thereof, the film edge holder F, the light excluding slide O, and a lense movably secured in the front of the holder, substantially as described. 32nd. In a roll holder, the combination, of the aperture N, at the back of the holder, the light excluding slide or door K, the glass plate J, the film A<sup>1</sup>, in contact with the glass plate, the film edge holder F, the light excluding divisions E, and the light excluding front slide O, substantially as described. 33rd. In a roll holder, the combination, of the aperture N, at the back of the holder, the light excluding slide or door K, the glass plate J, the film A<sup>1</sup>, in contact with said plate, the film edge holder F, and the light excluding divisions E, substantially as described. 34th. In a roll holder, the combination, of the lense tube C<sup>1</sup>, the movable front section of the frame and the light excluding slide and divisions O, E, substantially as described. 35th. In a roll holder, the combination of the guide rollers at the back of the holder, the spool and reel in front of the guide rollers, the light excluding divisions E, the movable front section of the frame and the telescoping lense tube, substantially as described. 36th. In a roll holder, the combination, of a sensitive film, at the back side in the interior of the holder, the light excluding divisions E, extending between the sensitive film and the front interior side of the holder, the light excluding slide O, and a lense secured in the front of the holder, substantially as described. 37th. In a roll holder, the combination, of a sliding lense tube C<sup>1</sup>, a light excluding slide O, and a sensitive film at the inside of the back of the holder, substantially as described. 38th. In combination, with an instrument for exposing sensitive surfaces to the actinic action of light, the marginal sights V<sup>1</sup>, and the degree scales S<sup>11</sup>, as and for the purpose specified. 39th. In a roll holder, the combination, of the guide rollers at the back interior side of the holder, the spool and reel rollers in front of the guide rollers, the light excluding divisions E, arranged within the holder and extending across the same from the front interior side to the sensitive film, and a lense secured on the front of the holder, for the purpose specified. 40th. In a roll holder, the combination, of the guide rollers at the back of the holder on the interior thereof, the spool and reel rollers in front of the guide rollers, the light excluding divisions E, arranged within the holder and extending across the same, and the light excluding slide O, substantially as described. 41st. In a roll holder, the combination, of a sensitized film placed at the back interior side of the holder, the light excluding divisions E, extending from the sensitized film to the front interior side of the holder, a supply spool for the film placed behind one of the divisions, and a reel spool placed behind the other division to receive the film, and a lense mounted on the front of the holder, and adapted to throw an image on the film, for the purpose specified. 42nd. In a roll holder, the combination, of a sensitized film placed at the back of the holder inside thereof, the light excluding divisions E, extending from the film to the front interior side of the holder, a supply spool for sensitized film placed behind one division, and a reel behind the other, a lense mounted in the front of the holder, and a shutter to open and close the aperture of the lense, for the purpose specified. 43rd. In a roll holder, the combination, of a case, a frame carrying the operating mechanism and arranged to slide within the case, the front of said frame being joined to the by rabbet joints, and the fastening devices to form the front of said case, substantially as described. 44th. In a roll holder, the combination, of a case, a frame carrying the operating mechanism arranged to slide within the case and having its front forming the front of the case, and the movable section in said front adapted to telescope within the holder, substantially as described. 45th. In a roll holder, the combination of a case, a frame carrying the operating mechanism arranged to slide within the case, the movable section in the front of the frame adapted to telescope within the holder, the flanges on the front and back edges of the movable section adapted to engage with the front of the holder, the packing in the edges, and the movable lense tube, substantially as described. 46th. In a roll holder, the combination of a case, a frame arranged to slide within the case, a telescopic section in the front of the case, and a lense tube fitted in said section and adapted to slide within the case, substantially as described. 47th. In a roll holder, the combination of a case, a frame arranged to slide within the case, a movable section fitted in the front of said case or frame, and the lense tube arranged to slide in said movable section, substantially as described. 48th. In a roll holder, the combination of a case, a frame arranged to slide within the case, a movable section in the front of the case or frame, the lense tube arranged to telescope within the holder, and the

shutter cap carrying the diaphragms, substantially as described. 49th. In a roll holder, the combination of a case, a frame arranged to slide within the case, a movable section on the front of the case or frame, the lense tube adapted to telescope within the holder, the shutter cap on said lense tube carrying the diaphragms, and the light excluding slide arranged in rear of the lense tube, substantially as described. 50th. In a roll holder, the combination of a case, a frame arranged to slide within the case, a movable section in the front of said case or frame, the lense tube arranged to slide within said movable section, the transverse light excluding slide in rear of the lense tube, and the diverging light excluding divisions within the case or frame, substantially as described. 51st. In a roll holder, the combination of a case, a frame carrying the operating mechanism and adapted to slide within the case, the supply and reel spools arranged in the front portion of the frame, and the diverging light excluding divisions secured to the frame, for the purpose specified. 52nd. In a roll holder, the combination of a case, a frame carrying the operating mechanism and adapted to slide within the case, the telescopic section in the front of said frame, the light excluding divisions within the case and arranged on either side of the telescopic section, and the supply and reel spools situated in the front of the frame between the partition and the adjacent end of the case, respectively, substantially as described. 53rd. In a roll holder, the combination of a case, a frame carrying the operating mechanism and adapted to slide within the case, the diverging light excluding divisions at either end of the frame, the supply and reel spools arranged on opposite sides of said partitions in the front portion of the frame, and the measuring and guide rollers situated in rear of the supply and reel spools, for the purpose specified. 54th. In a roll holder, the combination, of a case, a frame arranged to slide within the case, the light excluding devices secured within the case to the front thereof, and extending close to the back, and film guides between the rear edges of said partitions, for the purpose specified. 55th. In a roll holder, the combination, of a case, a frame arranged to slide within the case, the light excluding divisions secured within the frame near either end thereof, the supply and reel spools situated between the divisions in the front portion of the frame, and the friction rollers arranged to bear on said spools, for the purpose specified. 56th. In a roll holder, the combination, of a case, a frame arranged to slide within the case, the light excluding divisions secured within the frame, the supply and reel spools situated in the front portion of the frame between the divisions and the ends of the case, and the spring arms secured to said divisions and carrying the friction rollers arranged to bear in said spools, substantially as described. 57th. In a roll holder, the combination, of a case, a frame arranged to slide within the case, the supply and reel spools secured on shafts journaled in bearings in the front portion of the frame at either end thereof, the ratchet wheels secured on said shafts on the top of the frame at either end thereof, and the spring arms adapted to engage with said wheels, substantially as described. 58th. In a roll holder, the combination, of a case, a frame arranged to slide within the case, the shafts carrying the supply and reel spools journaled in bearings in the front portion of the frame, the ratchet wheels secured in said shafts on top of the frame, the spring arms secured between said wheels and having projections at its ends adapted to engage with the ratchet wheels, substantially as described. 59th. In a roll holder, the combination, of a case, a frame arranged to slide within the case and having its front projecting to form the front of the case, the lense tube arranged in the centre of the frame, the centre sights on the front B, and rear of the case, in line with the lenses, the marginal sights arranged in said front B, on either side of the lense tube, and the spirit level situated on the case between the marginal and centre sights, substantially as described. 60th. In a roll holder, the combination, of a case, a frame arranged to slide within the case, the measuring roller situated in the rear of said frame and carrying the perforators, the pinion X, on the top of the frame arranged to mesh with a spur wheel, an indicator carried by said spur wheel and adapted to engage the ratchets of a counting wheel, and the spring arm bearing on said wheel, substantially as described. 61st. In a roll holder, a spool composed of two longitudinal sections suitably secured together, the larger section having the rectangular shaft opening extending from end to end thereof, and the slanting longitudinal slot or groove, substantially as described. 62nd. In a holder, a lense tube arranged to slide within the holder, and a shutter cap on the front end of the tube carrying diaphragms, substantially as described. 63. In a roll holder, the combination of lense tube, adapted to slide into the holder, a shutter cap carrying the diaphragms removably secured in said tube, and the double shutter pivotally secured at its centre on one side of the lense tube, substantially as described. 64th. In a roll holder, the combination of a lense tube, a shutter cap carrying the diaphragms, a double shutter pivotally secured at its centre on one side of the lense tube, the oppositely arranged shoulders on the shutter and the pawl and lever arranged to engage with the said shoulders, substantially as described. 65th. In a roll holder, the combination of a lense tube, a shutter cap carrying the diaphragms removably secured in said tube, a double shutter pivotally secured at its centre on one side of the lense tube, the oppositely arranged shoulders on said shutter, the spring actuated pawl, and the lever adapted to engage with said shoulders, the piston connected to one end of said lever and situated in a pneumatic tube, and the arm C<sup>11</sup> in the other end of said lever, substantially as described. 66th. In a roll holder, a movable front

arranged on the front of said holder, and a telescopic lense tube adapted to slide in said holder, substantially as described. 67th. In a roll holder, the combination with the case, and a sensitized film, of a lense tube carrying two or more diaphragms adapted to vary the intensity of light on the sensitized film, substantially as described. 68th. In a roll holder, the combination with the case and a sensitized film therein, of a sliding lense tube C', carrying a plurality of two or more diaphragms, each capable of adjustment independently of the other diaphragms, and constructed to vary the intensity of the actinic rays of light, substantially as described. 69th. In combination with a case and a sensitized film therein, of a lense tube connected to the case to be projected therefrom or retracted within the same, and a plurality of perforated adjustable diaphragms capable of independent adjustment and adapted to vary the intensity of light acting on the film, substantially as described. 70th. In a combination with a case and a sensitized film, of an adjustable lense tube carrying a plurality of diaphragms, and a shutter operated independently of the adjustment of the diaphragms, substantially as described. 71st. In a roller holder apparatus, the combination of a case having the movable front, the sensitized film arranged interiorly within the case at the back thereof, the light excluding divisions, and the spools or reels arranged within the case and on opposite sides of the light excluding divisions, substantially as described. 72nd. In a roll holding apparatus, the combination of a case, the spaced light excluding divisions, the lense tube arranged in line with the space between said divisions, the sensitized film located within the case in rear of the light excluding divisions, and the spools or reels for said film situated on opposite sides of the light excluding divisions, for the purpose specified. 73rd. In a roll holding apparatus, the combination of a case having light excluding divisions, and the sensitized film supported in rear of said divisions by reels or spools, an adjustable lense tube, and means for indicating the extent of projection or extension of said lense tube from the film, for the purpose specified. 74th. In a roll holder, the combination of a sensitized film in the interior of the holder at the back thereof, a film edge holder F, and a lense mounted and arranged to throw an image on the sensitized film, for the purpose specified. 75th. In a roll holder, the combination of a sensitized film in the interior of the holder at the back thereof, an aperture N at the back of the holder, and a light excluding slide or door K. 76th. In a roll holder, the combination with a case, of a front section mounted thereon and carrying the lense tube, substantially as described. 77th. In a roll holder, the combination with a case, of a front section mounted thereon, and a lense tube arranged to slide within said section, for the purpose specified.

**No. 39,340. Cash Recorder. (Régistre à monnaie.)**

William Henry Thompson, East Stroudsburg, Pennsylvania, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. In a cash recorder, the paper, the tablet, the pawl and ratchet, a lever F, carrying the said pawl at its upper end and having a downward extension f, the drawer having a projection bearing on the front edge of said extension when the drawer is closed, and a spring engaging the lever and operating to move it when the drawer projection is removed upon the opening of the drawer, substantially as described. 2nd. In a cash register, the combination of the winding mechanism, the frame M cast in one piece having a top plate and an inclined front plate, and the bearings for the paper rolls, and the spring tension bar extending across the inclined plate of the frame and bearing on the paper, substantially as described. 3rd. In combination, the locking bolt, the pivoted plate connected with the bolt, the push button for operating the plate, the series of slides carrying stops, one or more of which are adjusted to engage the plate directly, and the finger pieces projecting through the casing for moving the slides to withdraw the stop from the path of the plate, substantially as described. 4th. In combination, the locking bolt, the pivoted plate connected with the bolt, the push button for operating the plate, the series of slides carrying stops to control the movement of the plate, the finger pieces projecting from the slides through the casing, the said slides and push button being arranged to move horizontally towards each other under the ordinary closing action of the finger and thumb, and the springs for returning each slide to normal position, substantially as described. 5th. In combination with a locking bolt, a movable plate for retracting the same, the series of slides having adjustable pins, said pins preventing the movement of the said plate in one position, and allowing movement thereof in another position, substantially as described. 6th. In combination with a locking bolt, a movable plate for retracting the bolt, a series of slides under spring tension, said slides having bearings in the upturned edges of a metallic plate, an opening through the casing covered by said metallic plate, and finger pieces in the recess thus formed connected with the slide, and pins carried by the slides for preventing or permitting the movement of the plate C, substantially as described. 7th. In combination with a spring locking bolt, a plate for retracting the same, an angular extension on said plate in line with the push button, said plate being pivoted, a series of slides, each having pins adapted to register with an elongated slot in a movable plate, said slides being under spring tension, and finger pieces for moving said slides, substantially as described.

**No. 39,341. Jar. (Jarre.)**

Lyman Hatfield, Cleveland, Ohio, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. The jar herein described, the same being substantially the same diameter its entire length and provided with a cover having a convex bottom dipping into the jar to exclude the air therefrom, said convex bottom ending about the inner edge of the jar, substantially as described. 2nd. The jar herein described, having a cover with a convex bottom and a ground joint, and a bail pivoted on the jar and engaging a projection at the centre of the cover, substantially as described.

**No. 39,342. Steam Generator. (Générateur à vapeur.)**

William Burling, Oxford, Pennsylvania, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. The body of the boiler, composed of a number of sections, each complete in itself, and having fue spaces in the ends extending to the outside of the section some distance above the bottom of the same, each section being expanded laterally in those portions in which the fue spaces are formed, so as to maintain substantially equal volume of water throughout the section, substantially as specified. 2nd. The combination, of the body of the boiler, composed of a number of sections, each complete in itself, with fue spaces extending from the top of each section to the outer side of the same some distance above the bottom, substantially as specified. 3rd. The combination, of the dome of the boiler, with the magazine independent of the body, and composed of a number of segmental water chambered sections communicating at their upper ends with the interior of the dome, substantially as specified. 4th. The combination, of the body of the boiler, the dome, and the magazine, each composed of sections complete in itself, and said body sections having fue spaces, with connections between said body sections and magazine sections and the dome sections, substantially as specified. 5th. The combination, of the dome, the magazine sections having transverse bars, suspension bolts engaging with said bars and passing through the dome, and nozzles through which the magazine sections communicate with the dome, substantially as specified. 6th. The combination, of the body sections, having side delivery fue spaces, the dome, the outer casing, and the check ring interposed between the body sections, and the dome outside of the fue spaces, substantially as specified.

**No. 39,343. Combined Cooking Stove and House Heater. (Poêle de cuisine et de chauffage combinés.)**

Thomas Brooks, Peterborough, Ontario, Canada, 14th July, 1892; 6 years.

*Claim.*—As a combined cooking stove and house heater, a cooking stove having a water space formed on one or more sides of its fire pot and connected to a water space formed in the top plate of the stove, which space is connected to a water reservoir formed around the smoke pipe, in combination with a pipe leading from the water reservoir to the radiator, and a pipe leading from the radiator to the lowest water space, substantially as and for the purpose specified.

**No. 39,344. Water Filter. (Filtreur à eau.)**

Tom McKay, Carlisle, Cumberland, England, 14th July, 1892; 6 years.

*Claim.*—1st. The improved water filter consisting of an outer vessel or case containing a bowl of porous stone, and a perforated partition beneath the bowl supporting carbon or spongy iron or like purifying matter, the whole so arranged that the water percolates through the bowl and drips freely from the rounded bottom thereof on to the carbon, spongy iron, or like material through which it filters into the receiving compartment below. 2nd. The improved water filter, substantially as described, consisting of the outer vessel or case g, the porous bowl a, the perforated partition f, the carbon or spongy iron or like purifying matter e, supported on the perforated partition at a distance beneath the bowl a, and the receptacle for filtered water b.

**No. 39,345. Dynamo Electric Machine.**

(Machine dynamo-électrique.)

The Westinghouse Electric Company, Pittsburg, Pennsylvania, assignee of William Stanley, jun., Great Barrington, Massachusetts, both of the U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. The method of generating and maintaining in an electric circuit of varying resistance current of constant or approximately constant quantity, which consists in maintaining a constant or approximately constant magnetic potential on the part of the field magnet, causing the maximum current flowing in the armature to develop an approximately equal opposing magnetic potential and varying the number of resultant lines of magnetic force allowed to flow through the armature coils directly with the variations in the resistance of the circuit, thereby producing such variation in the electro-motive force of the current generated as to maintain its quantity constant or approximately constant. 2nd. The hereinbefore described method of generating and maintaining constant or approximately constant currents in an electric circuit of varying

resistance, which consists in developing a field of force of constant or approximately constant magnetic potential, rotating an armature in such field, and by currents generated in the armature, developing an opposing magnetic potential in the armature in the value approximately the same as that of the field, and thus permitting only a comparatively small number of lines of force to be effective upon the armature coils, and by slight variations in the current delivered varying such effective lines of force directly as the load upon the generator varies, thereby causing the electro-motive force of the current delivered to be increased proportionately with increments of load. 3rd. The method of governing the current developed in an electric generator, which consist in opposing the passage of the lines of magnetic force through the coils of the armature by an approximately equal magnetic potential of the latter, varying such opposing magnetic potential inversely as the work being done varies, and thereby varying the number of lines of force inducing electro-motive force in the coils. 4th. The hereinbefore described method of generating and controlling a current, which consists in developing a current in the armature coils of a generator, establishing thereby an armature magnetic potential approximately equal and opposed to field lines of force through the armature coils, and thereby permitting a number of lines of force to thread the armature coils dependent upon the armature polarization. 5th. The hereinbefore described method of generating constant currents in a circuit of variable resistance which consists in generating an alternating current by the rotation of armature coils within a field of force of constant value generating by the maximum armature current an approximately equal opposing magnetic potential in the armature core, opposing the passage of lines of force through the armature coils, by such opposing magnetic potential, and varying the time of appearance of the maximum and minimum magnetic potential of the armature with reference to the passage of the armature poles across the field magnet poles by variations in the resistance of the armature circuit, thereby permitting more lines of force to traverse the armature coils as the resistance of the armature circuit increases, and diminishing such lines of force as the resistance of the armature circuit decreases. 6th. The hereinbefore described method of generating an approximately constant current, which consists in generating a current by the revolution of an armature in a field of magnetic potential, developing in the armature by the current generated counter-magnetic potential of rising and falling value and approximately equal to the field magnet potential, and changing the value and time of development of maximum and counter-potential by changes in the resistance of the circuit traversed by the current. 7th. The hereinbefore described method of controlling a generated electric current, which consists in opposing the magnetic potential of the field magnet by alternating counter-magnetic potential of the armature, which is approximately equal to the field magnet potential when the armature is short circuited, and varying the effect of such counter-magnetic potential by varying the positions of its phases with reference to the field magnet poles by variations in the resistance of the external circuit. 8th. The hereinbefore described method of controlling a generated electric current, which consists in opposing the magnetic potential of the field magnet by an alternating counter-magnetic potential of the armature in effective value approximately equal to the field magnet potential and varying the opposing effect of such counter-magnetic potential by varying the position of its phases with reference to the field magnet poles by variations in the current flowing. 9th. As a sub-method in the method of controlling a generated electric current, the production of two magnetic potentials, the one having a tendency to maintain itself approximately constant and the other alternating in character, causing the poles formed by the latter to alternately approach toward and recede from points of highest and lowest inductive influence with reference to the other magnetic potentials, approximately equal in effective value, and causing the time of development of maximum values of said alternating magnetic potential with reference to the times of approaching toward and receding from said points of highest and lowest positions of inductive influence to vary with slight changes in current.

**No. 39,346. Car Coupler. (Attelage de chars.)**

Michael Flanagan and William Doyle, both of Milwaukee, Wisconsin, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. A draw head, having an open top, and suitable means for detachably connecting the same with another opposed thereto, substantially as set forth. 2nd. A car coupling, comprising a pair of opposing draw heads interiorly provided with longitudinal seats, and a link bar that engages the seats and has knobs on its ends in opposition to the inner ends of said seats, substantially as set forth. 3rd. A car coupling, comprising a pair of opposing draw heads, provided with longitudinal seats, and depressions in opposition to the inner ends of the seats, and a link bar that engages said seats and has pointed knobs on its ends in opposition to said inner ends of the aforesaid seats, substantially as set forth. 4th. A car coupling, comprising a pair of opposing heads provided with longitudinal seats having concave inner ends, and a link bar that engages the seats and has convex knobs on its ends in opposition to said inner ends of the seats, substantially as set forth. 5th. A car coupling, comprising a pair of opposing draw heads, provided with longitudinal seats, a link bar having knob shaped ends that engage the seats, a ring loose on the central portion of the link bar, and

suitable means for connecting this ring and a lifting chain, substantially as set forth. 6th. A car coupler, comprising a pair of opposing draw heads, open at the top and provided with longitudinal seats and drainage openings in rear of the same, and a link bar that engages the seats and has knobs on its ends in opposition to the inner ends of said seats, substantially as set forth.

**No. 39,347. Apparatus for Making Metal Tubes, Wire, or the like, by Electro-Deposition. (Appareil pour faire des tubes métalliques, fil de fer ou autres, par l'électro-déposition.)**

Richard David Sanders, Eastbourne, England, 14th July, 1892; 6 years.

*Claim.*—1st. In an apparatus for the manufacture of metal tubes, wire, or the like, by electro-deposition, the combination, of a mandrel composed of a number of disks fastened together and mounted upon spindles journaled in suitable bearings with a covering of asphalt and a coating of wax, substantially as described. 2nd. In an apparatus for the manufacture of metal tubes, wire, or the like, a mandrel comprising a series of disks fastened together, in combination, with a covering of asphalt and a coating of wax, a burnishing tool to finish the surface of the mandrel substantially as described. 3rd. In an apparatus for the manufacture of metal tubes, or the like, by electro-deposition, a mandrel consisting of a series of disks fastened together and mounted upon a spindle journaled in suitable bearings, in combination, with a covering of asphalt for the said disks, and a coating of wax for the said asphalt, a burnishing tool to finish the surface of the mandrel, a metallic hoop encircling one end of the mandrel, a depositing tank into which the mandrel is placed, and the electric conductors and generators, substantially as described. 4th. In an apparatus for the manufacture of metal tubes, wire or the like by electro-deposition, a mandrel having a prepared surface composed of asphalt coated with a thin film of wax, and mounted upon spindles journaled in suitable bearings, in combination with a burnishing tool to finish the surface of the deposited metal during the revolution of the mandrel, a depositing tank in which the mandrel is placed, a metallic band encircling one end of the mandrel, an electric generator and an electric conductor between the electric generator and the mandrel, substantially as described. 5th. In an apparatus for the manufacture of metal tubes, wire or the like by electro-deposition, a mandrel consisting of a series of disks fastened together and mounted upon a spindle journaled in suitable bearings, and having a covering of asphalt coated with a thin film of wax, in combination with a traversing tool to finish the surface of the mandrel and the deposited metal during the revolution of the mandrel, a series of spirally constructed grooves in the surface of the said mandrel in which is deposited the metal, a depositing tank in which is placed the metallic solution, metallic band encircling the said mandrel, an electric generator and an electric conductor between the said generator and the said mandrel, substantially as described. 6th. In an apparatus for the manufacture of metal tubes, wire or the like by electro-deposition, the combination of a mandrel comprising a series of disks fastened together, spindles supporting said mandrel, bearings in which the said mandrels are mounted, a covering of asphalt for the said disks, a thin film of wax covering the said asphalt, a metallic band encircling one end of the mandrel, an electric generator, an electric conductor between the said generator and the said metallic band, means for communicating motion to the said mandrel, a depositing tank in which is placed the said mandrel, a burnishing tool, a wheel by means of which the burnishing tool is caused to traverse the mandrel, a carriage to hold in position the said wheel, a guide rod extending across the depositing tank and upon which the said carriage slides, and means for regulating the pressure of the burnishing tool upon the surface to be operated upon, substantially as described. 7th. In an apparatus for the manufacture of metal tubes, wire or the like by electro-deposition, the combination of a mandrel, comprising a series of disks fastened together, spindles supporting said mandrel, bearings in which the said mandrels are mounted, a covering of asphalt for the said disks, a thin film of wax covering the said asphalt, a metallic band encircling one end of the mandrel, an electric generator, an electric conductor between the said generator and the said metallic band, means for communicating motion to the said mandrel, a depositing tank in which is placed the said mandrel, a burnishing tool, a wheel by means of which a burnishing tool is caused to traverse the mandrel, a carriage to hold in position the said wheel, a guide rod extending across the depositing tank and upon which the said carriage slides and means for regulating the pressure of the burnishing tool upon the surface to be operated upon, a pivot upon which the traversing wheel turns, a lever secured to the head of the pivot and carrying a bar provided with two pins so arranged that the movement of a second lever pivoted upon the carriage by impinging against a stop suitably located causes the reversal of the movement of the first mentioned lever and of the traversing wheel, substantially as described. 8th. In an apparatus for the manufacture of metal tubes, wire or like by electro-deposition, the combination of a mandrel, comprising a series of disks fastened together, spindles supporting said mandrels, bearings in which the said mandrels are mounted, a covering of asphalt for the said disks, a thin film of wax covering the said asphalt, a metallic band encircling one end of the mandrel, an electric generator, an electric conductor between the said generator and the said metallic

band means for communicating motion to the said mandrel, a depositing tank in which is placed the said mandrel, a burnished tool, a wheel by means of which the burnishing tool is caused to traverse the mandrel, a carriage to hold in position the said wheel, a guide rod extending across the depositing tank and upon which the said carriage slides and means for regulating the pressure of the burnishing tool upon the surface to be operated, upon a pivot upon which the traversing wheel turns, a lever secured to the head of the pivot and carrying a bar provided with two pins so arranged that the movement of a second lever pivoted upon the carriage by impinging against a stop suitably located causes the reversal of the movement of the first mentioned lever and of the traversing wheel, two inclined planes so arranged that when the second lever is pushed by one inclined of the block it will by its own weight slide down the other incline and strike against a stop located in its path, substantially as described.

**No. 39,348. Tricycle. (Triciclé.)**

Waldo V. Snyder, Canton, Ohio, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. The combination, of the body A, provided with the pivoted levers  $e$  and  $e^1$ , the shaft B, provided with the sprocket wheel C, the drive chain D, the sprocket wheel D<sup>1</sup>, the bell crank I, the pitman H, and the guide bar K, substantially as and for the purpose set forth. 2nd. The combination, of the body A, provided with the pivoted head M, the connecting bar  $e$ , provided with the cross bar  $h$ , the connecting rods  $h^1$ , and the guide bar K, provided with the cross bar  $k$ , substantially as and for the purpose set forth. 3rd. The combination, of the body A, provided with the pivoted levers  $e$  and  $e^1$ , the leg bars O, provided with the adjustable brackets P, and the foot plates P<sup>1</sup>, substantially as and for the purpose set forth. 4th. The combination, of the body A, provided with the leg bars O, and the pivoted head M, the guide bar K, and means for operating the head, substantially as and for the purpose set forth. 5th. The combination, of the body A, having pivoted thereto the tail N, and means for communicating movement to said tail, substantially as and for the purpose set forth.

**No. 39,349. Cash Register. (Compte-monnaie.)**

Henry A. Bierley, Lexington, Kentucky, U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. In a cash register, the combination, with the registering wheels, of the pivoted key levers having spring pawls at their inner ends, the key bars, the downwardly depending arms formed with said levers, the bars pivoted to the key bars, provided with cams, the transverse plate having a rectangular aperture and an intersecting slot, the levers with which said plate and arms are adapted to engage, and the rods carrying the display plates, substantially as described. 2nd. In a cash register, the combination, with the casing provided with cash openings, and the shutters secured to pivoted transverse shafts provided with cranks, of the vertical bar connected with said cranks, the lever pivoted to said bar and fulcrumed to a transverse shaft, and the short vertical arm engaging with a notch in the sliding plate, actuated by the indicating keys, substantially as described.

**No. 39,350. Lever for Railway Switches.**

(*Lever pour aiguilles de chemin de fer.*)

Henry Mohle, Steven's Point, Wisconsin, and Frank P. Newell, Oregon, both in the U.S.A., 14th July, 1892; 6 years.

*Claim.*—1st. The combination, with the switch stand, its mast, the locking plate having notches, and catches located upon the under side of the same opposite the notches, of a mast arm located above the plate, a lever pivoted to the end of the arm and provided with a lock case and an opening above the same, the latter adapted to receive the catches, and a spring pressed bolt mounted in the lock case and normally projected into the path of the catches, substantially as specified. 2nd. The combination, with a switch stand, a notched locking plate provided upon its under side and opposite its notches with hooks smaller than the notches, the switch mast, and the bifurcated arm extending from the mast, of the lever located between the bifurcations and pivoted thereto, said lever being provided with the lock case or chamber II, reduced at its upper end to form an opening and having opposite ways, the bolt mounted for sliding in the ways and having the recess 15, and the coiled springs interposed between the bottom of the recess and bolt and serving to yieldingly support the latter in the opening, the side wall of the case being provided with a key hole adapted to receive a key and located at one side of the bolt, substantially as specified.

**No. 39,351. Glove. (Gant.)**

Simon Frankenhach, Berlin, Prussia, German Empire, 15th July, 1892; 6 years.

*Claim.*—1st. The manufacture of gloves in the manner hereinbefore described, using a glove blank, as shown, and thumb finger and gusset pieces, such as shown, whereby six of the seams and four of the joining pieces ordinarily used in the manufacture of gloves are dispensed with, and the thumb hole corresponds to the surface and natural form of the hand, as set forth. 2nd. For the manufacture of gloves, as set forth, a glove blank of the form shown, comprising a piece of material with a single strip to form the fore finger, and

either a single strip or two separate strips to form the little finger, and also with two separate strips, one to form part of the second finger and the other to form part of the third finger, the form of the blank with its said strips being such that when it is folded over in the manner set forth the separately cut out thumb and finger strips shown can be secured thereto so as to complete, in conjunction with a wedge piece  $h$  and two gusset pieces  $i$ , the formation of the second and third fingers, substantially as herein described for the purpose specified.

**No. 39,352. Conductor for Electricity.**

(*Conducteur électrique.*)

Philip Henry Holmes, Gardiner, Maine, U.S.A., 15th July, 1892; 18 years.

*Claim.*—An electric conducting composition made of compressed plumbago united by a drying oil as a binder, and solidified and hardened, substantially as specified.

**No. 39,353. Die for Forming the Threads of Screws.**

(*Fi ère pour former les filets des vis.*)

Nettlefolds Limited, assignee of John Sheldon, both of Birmingham, England, 15th July, 1892; 6 years.

*Claim.*—Making the said dies with inclined parallel unsymmetrical ribs shaped substantially in the manner described, and illustrated in the accompanying drawings, whereby the blank operated upon by the said dies has first formed in it a groove or depression of (or of about) the depth of the trough between the convolutions of the thread of the finished screw, which groove or depression by the progressive action of the die is gradually widened, mainly on one side, and the displaced metal gathered up, mainly on one side, formed into the finished screw thread.

**No. 39,354. Calk for Horse Shoes.**

(*Crampon de fer à cheval.*)

Joseph C. Higgins, Thomas Lea and A. Van Nest Baldwin, all of New Brunswick, New Jersey, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. A horse-shoe calk provided with an expansible shank and an expanding pin extending longitudinally through the calk from the contact end thereof, to expand said shank when forced in, combined to operate substantially as described. 2nd. An expansible horse-shoe calk provided with an expanding pin having straight smooth sides, and extending centrally and longitudinally through the calk from the contact end thereof, substantially as described. 3rd. An expansible horse-shoe calk provided with an expanding pin extending centrally and longitudinally through the calk, substantially as described. 4th. The calk having an expansible shank, and a longitudinal passage from the contact end through the shank, and the expanding pin located in the said passage, and arranged to operate as set forth. 5th. The calk having an expansible shank, and a longitudinal enclosed passage open at the ends, and the expanding pin within such passage and arranged to operate as set forth. 6th. The expansible rounded calk having the central longitudinal passage opening through its contact point, and the expanding pin removably located in said passage so as to be driven in by blows on the contact end of the calk, combined and arranged to operate as set forth. 7th. The calk having its shank split and expansible, the longitudinal passage through the calk, and the expanding pin in such passage, combined and arranged to operate as set forth. 8th. The calk formed in one piece, and having the longitudinal passage and the shank formed expansible by longitudinal splits, combined to operate as set forth. 9th. The calk in one piece, with its shank split longitudinally to form it expansible, the passage extending longitudinally through the calk and contracted within the shank, and the expanding pin, combined to operate as set forth.

**No. 39,355. Temperature Regulator.**

(*Régulateur de la température.*)

The Consolidated Car Heating Co., Wheeling, West Virginia, assignee of James Finney McElroy, Albany, New York, both in the U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. In a temperature regulator, the combination of a frame, a thermostat, actuating a lever, a rack on said lever, a connecting shaft and a pinion on said shaft with which the rack engages, substantially as described. 2nd. In a temperature regulator, the combination of a frame, a thermostat, a valve actuated by said thermostat, a lateral rack bar on said lever, a pinion with which said rack bar engages, a shaft rotated by said pinion and a valve stem rotated by said shaft, substantially as described. 3rd. In a temperature regulator, the combination, with the thermostat acting to rotate a shaft, a valve having a rapidly retreating thread, and a coupling having a sliding engagement with the shaft or stem, substantially as described. 4th. In a temperature regulator, the combination of the frame, the thermic cell, the actuating lever B, the stem E, neck F, entering aperture  $a$ , and locking slot  $b$ , substantially as described.

**No. 39,356. Partition. (Partition.)**

Helen Adele Wells, assignee of Arthur James Wells, both of Syracuse, New York, U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. The combination, with a supporting wall A, of a support having an attaching arm secured to the wall A, and having an engaging arm projecting outwardly from said wall, and a partition D, removably supported by the engaging arm of the support, substantially as and for the purpose set forth. 2nd. The herein described support, the same being composed of a pair of corresponding projecting arms  $c^1$ ,  $c^1$ , for supporting articles interposed between the same, and a rearwardly extending projection or attaching arm  $c$ , formed integral with the body of the support, and extending outwardly therefrom and adapted to be secured to a suitable support, substantially as and for the purpose specified. 3rd. The combination, with a supporting wall A, of a support C, having its edges turned outwards for forming engaging arms  $c^1$ ,  $c^1$ , a pair of rearwardly extending attaching arms  $c$ ,  $c$ , formed integral with said support, and a partition D, supported between said engaging arms, substantially as and for the purpose set forth. 4th. The combination, with a supporting wall A, of a support B, having an attaching arm  $b$ , secured to the wall, an engaging arm  $b^1$ , projecting outwardly from the wall, and a partition D, formed with a groove  $d$ , for receiving the engaging arm of the support, substantially as and for the purpose specified.

**No. 39,357. Baking Plate. (Panneton.)**

The Firm of Keen & Hagerty, assignees of Charles Lewis Wagandt, all of Baltimore, Maryland, U. S. A., 15th July, 1892; 6 years.

*Claim.*—A baking plate for pies, cakes, etc., consisting of sheet metal having formed therein at equal distances apart depressions or recesses which extend in radial directions over the plate, and produce upon the exterior of the bottom slightly projecting supporting ribs, as and for the purposes set forth.

**No. 39,358. Hot Air Furnace. (Calorifère à air.)**

Kelsey Furnace Company, assignee of William Wallace Kelsey, all of Cortland, New York, U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. The combination, with the hot air dome D, and air flues terminating in said dome, of a hood placed over the upper end or ends of one or more of said air flues to receive the air therefrom, and provided with two ports, one of which communicates with the interior of the dome, a hot air pipe extending from the other port of the hood to the apartment to be heated, and a damper in the hood adapted to close either of the ports thereof and simultaneously open the other of said ports, as set forth. 2nd. The combination, with the combustion chamber C, jacket J, forming the cold air chamber B, and dome D, the air flues  $f$ ,  $f$ , extending from said cold air chamber through the combustion chamber and terminating in the dome, the hood  $h$ , placed over the upper end or ends of one or more of said air flues, and provided with the ports  $i$ ,  $i^1$ , the hot air pipe P, extending from the port  $i^1$ , and the damper  $d$ , arranged in the hood and movable from one port to the other thereof, as set forth and shown. 3rd. In combination, with the dome D, and air flues  $f$ , terminating in said dome, the hood  $h$ , provided with ports  $i$ ,  $i^1$ , the hot air pipe P, extended from the port  $i^1$ , the damper  $d$  suspended from the top of the interior of the hood and movable from port to port, the weight  $t$  attached to the damper to automatically close the port  $i$ , and the wire or chain  $c$ , connected to the damper and extended through the pipe P, substantially as and for the purpose set forth. 4th. The combination of the combustion chamber C, having the sand bed  $b$ , formed by the vertical wall of said combustion chamber extending above the crown sheet thereof, and the air flues  $f$ ,  $f$ , extending through said crown sheet and terminated above the same, the jacket J, formed with the dome D, the hood  $h$ , placed over the protruding end or ends of one or more of the aforesaid flues and seated in the aforesaid sand bed and provided with ports  $i$ ,  $i^1$ , the damper  $d$  arranged in the hood movably from port to port, and the pipe P extended from one of said ports, substantially as described and shown. 5th. The combustion chamber C, composed of the bottom plate  $a$ , provided with the flanges  $a^1$ ,  $a^1$ , and apertures, the shell  $c$ , and flues  $f$ ,  $f$ , seated on said bottom plate, said flues being formed with the shoulders  $f^1$ , the crown sheet  $g$  resting on said shoulders, and the rods I extending through the aforesaid flues and tying thereto the aforesaid bottom plate and crown sheet, substantially as described and shown.

**No. 39,359. Wax Thread Sewing Machine.**

(Machine à coudre avec du fil ciré.)

Wardell Sewing Machine Company, New York, State of New York, assignees of Edwin J. Pierce, Jr., Woonsocket, Rhode Island, both in the U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. The combination, with the work plate, needle and awl, of a sewing machine, of an independent feeder, substantially as set forth. 2nd. The combination, with the work plate, needle and awl, of a feeder provided with a spur for making preliminary juncture in the fabric, substantially as set forth. 3rd. The combination, with the work plate, needle and awl, and feeder, of operating appli-

ances constructed to lift the feeder prior to feeding the fabric, substantially as set forth. 4th. The combination of the work plate, needle and awl, of a sewing machine, of a feeder provided with a spur, and appliances for shifting the positions of the feeder, awl and needle, to bring the spur of the feeder, and then the awl, and then the needle, in succession above the perforation in the work plate, substantially as set forth. 5th. The combination of the presser foot, needle, awl and feeder and work plate, of a sewing machine, of appliances for lifting the feeder and presser foot after the feeder has penetrated the fabric, and for depressing the presser foot, after the feeder has carried the fabric the required extent, substantially as set forth. 6th. The combination, with the work plate, needle and awl, of a sewing machine, of a frame or yoke carrying the upper thread carrier, presser foot, looper and feeder, substantially as set forth. 7th. The combination, with the work plate and needle of a sewing machine, of a yoke or frame carrying the presser foot, feeder, and appliances for operating the upper thread, substantially as set forth. 8th. A sewing machine provided with a vertically movable frame carrying the presser foot, the feeder, upper thread carrier and loop holder, substantially as described. 9th. A sewing machine provided with a vertically movable frame or yoke provided with bearings for the shaft of the upper thread carrier, loop holder and feeder, substantially as set forth. 10th. The combination, with the work plate, of a sewing machine, of a shaft 80 extending above said plate, and carrying a feeder, a spring for moving the feeder in one direction, and a cam for moving it in the opposite direction, substantially as set forth. 11th. The combination, with the work plate, of a bearing above the work plate supporting a rocking arm provided with a spur constituting the feeder, a spring for moving the feeder in one direction and a wedge for moving it in the opposite direction, substantially as described. 12th. The combination of the yoke or frame arm 50, carrying a spur, and means for rocking the arm and moving it laterally, of an adjustable stop for limiting the lateral movement of the arm, substantially as set forth. 13th. The combination, with the work plate of a sewing machine, of a vertical needle bar, a vertical and bar, and a vertical carrier for said bars supported to oscillate in the head of the machine to bring the needle and awl successively over the work plate, substantially as set forth. 14th. The combination, with the work plate, needle and awl bars, and carrier Q, of needle and awl operating levers, each provided with a projection engaging a transverse bearing upon one of the bars, and means for oscillating the carrier, substantially as set forth. 15th. The combination, with the carrier for the presser foot, of a cylinder having an inclined slot receiving a pin extending from a part of said carrier, and a reciprocating lever provided with a contact piece 61, arranged to make contact with a bearing upon said cylinder, substantially as set forth. 16th. The combination of the presser foot, movable support therefor, provided with a pin 86, cylinder R, having an inclined bearing for said pin, and flange or bearing 59, and a reciprocating arm carrying a contact piece 61, for engaging said flange, substantially as and for the purpose set forth. 17th. The combination, with the cylinder R, and means for imparting the uniform vertical reciprocation thereto, of a presser foot and carrier therefor provided with a pin extending into an inclined slot in the cylinder, substantially as set forth. 18th. The combination, of the presser foot carrier having a pin 86, cylinder R, having an inclined slot and serrated flange, and lever 32, provided with a contact piece having a serrated edge, substantially as set forth. 19th. The combination, with the work plate and lower thread carrier, of a supporting frame or horn A, lever connected with the thread carrier, and a slide 107, for operating said lever, substantially as set forth. 20th. The combination of the thread carrier, operating lever 67, slide 107, lever 91, and connecting rod 101, extending to an operating cam upon the cam shaft, substantially as set forth. 21st. The combination, with the thread deflector, operating lever 60, and connections between the same and the deflector, lever 90 and rod 102, extending from said lever to an operating cam shaft, substantially as set forth. 22nd. The combination of the thread take up disk I, the presser foot, and a yoke or frame carrying the same, devices for oscillating said disk, and shifting bearing connected with the disk operating devices and with the said frame, substantially as set forth. 23rd. The combination of the frame carrying the presser foot, oscillating take up disk, slotted levers 125 and 195 and 126, shifting bearing 128 carried by the lever 126, bearing 119 connecting the levers 195 and 126, and connections between the lever 195 and the presser foot carrying frame, and between the lever 125 and the disk, substantially as set forth. 24th. The combination of the take up disk I, slotted lever 125, connected with the disk, a rod 126 carrying a pin or bearing 128, a lever 195 connected with the presser foot carrier, and a bearing 119, between the lever 195, and the rod 126, substantially as set forth. 25th. The combination, with the presser foot carrier frame, take up disk, lever 125 connected with said take up disk, rod 126, pivoted at one end and having an adjustable curved bearing upon the lever 125, and connections between the presser frame and said bearing, substantially as set forth. 26th. The combination of the lever 125, having a curved slot, the rod 126 having a bearing in said slot, and connecting with the frame carrying the presser foot by connections arranged to permit the raising and lowering of the presser foot when the slot is concentric with the pivot of the rod 126, substantially as set forth. 27th. The combination, with the frame carrying the presser foot, of a cam 200 for elevating said frame, substantially as set forth. 28th. The combination, with the take up

disk and its guide rolls, of an adjustable support for the latter and means for varying the position of said support, substantially as set forth. 29th. The combination of the take up disk, guide rolls, plate carrying said guide rolls, and adjusting screw, substantially as and for the purpose set forth.

**No. 39,360. Pill Machine.** (*Machine à faire des pilules.*)

Joseph Rudolph Witzel, Philadelphia, Pennsylvania, U.S.A., 15th July, 1892, 6 years.

*Claim.*—1st. A pill machine having a frame with a stationary hopper therein, a stationary holder, a mold in said holder having a longitudinal passage, and an opening leading from the top of said mold into said longitudinal passage, said opening being a feed throat for the material from the hopper, dies working in opposite ends of said longitudinal passage, and mechanism, substantially as described, for reciprocating said dies substantially as described, said parts being combined as stated. 2nd. A pill machine having a frame, a holder, a mold in said holder, a stationary hopper, and dies movable longitudinally in said mold, said mold having a throat communicating with said hopper, the latter being above said throat, said parts being combined substantially as described. 3rd. A pill machine having a holder, a stationary mold in said holder provided with a longitudinal passage way, and an opening leading from the top of the mold into said longitudinal passage, dies adapted to work in and out of said passage way, blocks in which said dies are adjustably held, depending studs connected with said blocks, and rotary drums having cam grooves on their peripheries in which said studs project, said parts being combined substantially as described. 4th. A frame, a mold, sliding blocks movable in ways on said frame and provided with depending studs, dies connected with said block and movable in said mold, and a rotary shaft with grooved cams, in which the studs of the said blocks depend, said parts being combined substantially as described. 5th. A frame, a holder having a throat, a mold in said holder having a recess with an opening communicating with said throat, said opening being of converged or narrowed width at one end thereof, and dies movable in said recess, said parts being combined substantially as described. 6th. A pill machine having a frame, a holder, a stationary mold, dies movable longitudinally in opposite ends of said mold, a feed throat in said mold at an angle to the line of movement of the dies, blocks to which said dies are adjustably connected, and mechanism for imparting reciprocating motion, as described, to said blocks, said parts being combined substantially as described. 7th. A frame, a holder secured thereon, a mold secured to said holder, sliding blocks movable in ways on said frame and having depending studs, dies secured to said blocks and movable in said molds, a rotary shaft with grooved cams in which the said studs project, and means for preserving the proper distance apart of said dies during their movements, said parts being combined substantially as described. 8th. A frame, sliding blocks therein having depending studs, a rod passing loosely through one stud and having a threaded end inserted in a threaded opening in the other stud, a spring on said rod between said studs, a sleeve encircling said rod on the opposite side of one of the studs from the said spring, a pin in the rod bearing against the end of the sleeve, and a rotary shaft with drums having cam grooves therein in which said studs project, said parts being combined substantially as described. 9th. In a pill machine, a stationary holder, a mold therein having an opening in its upper side for the reception of the material, dies working longitudinally in opposite ends of said mold and at an angle to the line of feed from the hopper, and a wiper adapted to move across the discharge end of the mold, said parts being combined substantially as described. 10th. In a pill machine, a frame, a mold therein, movable blocks having depending pins, dies adjustable in said blocks and adapted to work in said mold, a driving shaft, a second shaft meshing with said driving shaft, and having grooved cams in which said pins are inserted, a stationary hopper, a mixer therein, and mechanism for operating said mixer independent of said dies, said parts being combined substantially as described. 11th. In a pill machine, a die having on its under side a projection or shoulder with a beveled edge, substantially as and for the purpose set forth. 12th. A pill machine having a stationary mold with a longitudinal passage and a feed opening in its top wall leading into said passage, dies movable in said passage, and mechanism consisting of blocks, studs and cams, substantially as described, for operating said dies, so as to remove the material in the mold from below the said feed opening, compressing the same, removing one of the dies from the mold and disengaging the other from the pill thus formed, and then discharging the pill from the mold, said parts being combined substantially as described. 13th. In a pill machine, a stationary hopper having a mixer with a vertical shaft therein, a rotatable shaft carrying a pinion, a shaft with pinion and disc thereon, said disc having a groove in one of its sides, a frame with projecting arm, a lever pivoted to said arm and having at one end a pivotal arm connected with a crank arm on the vertical shaft of the mixer, and a pin on said lever working in said groove on the disc, said parts being combined substantially as described.

**No. 39,361. Pump.** (*Pompe.*)

Hiram Field, Smithville, Ontario, Canada, 15th July, 1892: 6 years.

*Claim.*—1st. In a pump, the combination, with the upper and lower barrels, the latter of which is of greater area in cross section,

of the piston tube having its ends of different diameters, and means for actuating the latter, substantially as set forth. 2nd. In a pump, the combination, of the upper and lower barrels having a space between them, and of different areas as described, brackets connecting said barrels, a piston tube situated in said space and having ends of different diameters entering said barrels, and an actuating rod connected with the middle portion of the piston tube, substantially as set forth. 3rd. The combination of the lower pump barrel, the upper barrel of less diameter and situated at a distance therefrom, brackets connecting said barrels, the double tubular piston and actuating means therefor, and a delivery spout or pipe situated below the top of the upper barrel, the upper portion of this barrel being entirely closed and forming an air chamber, substantially as set forth. 4th. The combination, with the pump barrels, and the piston tube having a shoulder 16, and pivot pins 17, of the yoke 19, having hooks engaged between said pins and shoulder, and the pump rod connected with said yoke, substantially as set forth. 5th. The combination, with the upper and lower pump barrels having a space between them, and the connecting brackets 9, of the piston tube, the packing boxes 22, 23 on the ends of said barrel, and bolts connecting said boxes with the brackets, substantially as set forth. 6th. The combination, with the upper and lower barrels and the piston tube, of the valve seat 31 consisting of a tubular sleeve of wood carrying on its inner end the valve 29, and driven into the piston tube, substantially as set forth. 7th. The combination, with the barrel, of the valve 32, and the valve seat 34 consisting of a wooden plate, substantially as set forth. 8th. The combination, with the barrel 5 having the ears 6, of the base 1, provided with the recess 2, and the suction aperture 3, the valve 32, having the wooden seat 34 situated in said recess, and the clamping bolts 7 uniting the valve seat, the barrel and the base, substantially as set forth.

**No. 39,362. Plate Printing Press.**

(*Presse à imprimer les plaques.*)

Samuel Phillips Steen, jr., Philadelphia, Pennsylvania, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. A printing press having a frame, a table movable on said frame and carrying an ink well and die thereon, and a brush above said table in the path of said well and die, said parts being combined, substantially as described. 2nd. A frame, a movable table with ink well thereon, a rising and falling brush in the path of said well, a wiper and a die, said parts being combined, substantially as described. 3rd. A frame, a driving shaft, a plunger, a toggle lever connected with said plunger and said frame, an eccentric on said shaft, a yoke embracing said eccentric and having an arm connected with said toggle lever, a rising and falling brush, a hinged arm carrying said brush, and a lower die, said parts being combined, substantially as described. 4th. In a printing press, a brush, a plunger having a rising and falling arm connected with said plunger and brush, a reciprocating table carrying a die, and an ink well, a wiper in the path of the die, and mechanism for adjusting the wiper said parts being combined, substantially as described. 5th. In a printing press, a movable table, pivoted arms carrying rollers bearing against the underside of said table, and stops for said arms, said parts being combined, substantially as described. 6th. A printing press having a sliding table with ink or colour well thereon, a die on the table, mechanism for sliding said table, a rising and falling brush above said table and in the path of said wheel, a plunger, and operating mechanism for said plunger, said parts being combined, substantially as described. 7th. In a printing press, a frame, a reciprocating table movable thereon and adapted to carry a die and an ink well, a rising and falling brush in the path of said die and well, a bracket secured to said frame, shafts journaled in said brackets, drums on said shafts, a bar secured to the bed of said frame above said table, a strip of suitable material secured at one end to one of said drums, and passing around said bar and secured at its other end to the other drum, so as to wind and unwind on and from said drums, a rack on the said table, a shaft having a suitable bearing and having a wheel and a pulley thereon, and a band connecting said pulley with a wheel on one of the shafts of said drums, said parts being combined, substantially as described.

**No. 39,363. Engine.** (*Machine à vapeur.*)

Edward Field, Chandos Chambers, 22 Buckingham Street, Adelphi, London County, England, 15th July, 1892; 6 years.

*Claim.*—1st. In an engine to be worked by hot gases such as air or products of combustion with steam, the combination, with a cylinder, or with each cylinder, if more than one be used, of two mixing chambers each adapted to be placed in connection with one end only of said cylinder, distributing valves for controlling the passage of hot gasses from said mixing chambers to the respective ends of said cylinder, and separate exhaust valves for controlling the exhaust from the respective ends of said cylinder. 2nd. In an engine to be worked by hot gases, such as air or products of combustion with steam, the combination, with a cylinder, or with each cylinder, if more than one be used, of two mixing chambers each adapted to be placed in connection with one end only of said cylinder, distributing valves each arranged between one end of one of said mixing chambers and the corresponding end of said cylinder, and exhaust valves arranged at or near the ends or said cylinder, and means for operating said distributing and exhaust valves in such

a manner, that during part of each stroke the distributing valve and exhaust valve at each end of said cylinder are simultaneously open to exhaust, substantially as described for the purpose described.

3rd. In an engine to be worked with hot gases, such as air or products of combustion, with addition of steam, the combination, with the working cylinder, of mixing chambers each arranged to be placed in communication with one end only of said cylinder, rotary distributing valves adapted to place said mixing chambers in communication alternately with the respective ends of said cylinder, and rotary exhaust valves for the ends of said cylinder, said exhaust valves being connected and operated independently of said distributing valves, substantially as herein described for the purpose specified.

4th. In an engine to be worked with hot gases, such as air or products of combustion with addition of steam, the combination, with the working cylinder, of two mixing chambers 2 and 3, rotary distributing valves 8 and 9, each controlling a short passage between one end of each of said mixing chambers and one end of said cylinder, and provided with an external lever arm, a rod 41 connecting said lever arms, a lever 40 for operating said rod, means for operating said lever, rotary exhaust valves 8<sup>a</sup>, 9<sup>a</sup>, for controlling the exhaust from each end of said cylinder independently of said distributing valves, and each provided with an external lever arm, a rod 44 connecting said last mentioned lever arms, and means for operating said rod 44, substantially as herein described.

5th. In an engine to be worked with hot gases, such as air or products of combustion with addition of steam, the combination, with the working cylinder, of two mixing chambers arranged to be placed in communication with one end only of said cylinder, and provided with inlet and outlet openings for hot gases, valves for controlling said openings, springs for normally holding said valves closed, trip levers for opening said valves alternately against the action of said springs, bent levers pivoted each to the stem of one of said valves and against which the corresponding trip lever acts, stops for disengaging said bent levers from said trip levers, and means for operating said trip levers, a steam chamber with passages for placing the same in communication with each of said mixing chambers, steam valves for controlling said passages, springs for normally holding said valves closed, a trip lever for opening said steam valves alternately against the action of their springs, bent levers pivoted each to one of the steam valve rods and against which said trip lever acts, tappet arms for disengaging these bent levers from said trip lever, a governor for controlling the position of said tappet arms, and means for operating each of said trip levers substantially as herein described for the purpose specified.

**No. 39,364. Hydraulic Motor. (Moteur hydraulique.)**

William H. Robinett, Kansas City, Missouri, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. In hydraulic motors, a water carriage having side supporting floats and intermediate sluice, transverse gear supporting beams at both ends of said carriage, having individual gear supports at an angle to said beams above said sluice, transverse main driving shafts journaled upon said floats upon the opposing sides of said beams, having gear thereon, parallel traversing rods in a line of direction of said sluice, having cranks at both ends, and gear connected with said cranks, mounted on said gear supports and meshing with said driving shafts, substantially as and for the purpose described.

2nd. In hydraulic motors, a carriage having floats on both sides, and an intermediate sluice having channels and channel partitions in the line of direction of said sluice, transverse gear supporting frames at both ends of said carriage, transverse main driving shafts journaled upon said floats on the opposing sides of said gear supporting frames, parallel traversing rods in the line of direction of said sluice, having water actuated paddles, meshing gear on said driving shafts, and said channel partitions and cranks on both ends of said traversing rods connected with the gear on said channel partitions, substantially as and for the purpose described.

3rd. In hydraulic motors, a water carriage having side floats and an intermediate sluice, a hinged bottom to said sluice, transverse gear supporting frames at both ends of said floats, and main driving shafts on the opposing sides of said frames, suitable water actuated paddles in said sluice having paddle supporting shafts in gear with said main driving shafts, separate power distributing shafts in one of said gear supporting frames, having gear connected with the main driving shafts, winding ropes connected with one of said power distributing shafts at one end, and also connected with the hinged bottom at the other, and shafting gear on said separate power distributing shafts connected with each other for the purpose described.

**No. 39,365. Brake. (Frein.)**

Jesse Jennett Cassidey, Toronto, Ontario, Canada, 15th July, 1892; 6 years.

*Claim.*—1st. In a car brake, an angular frame attached to or forming part of the brake shoe, as and for the purpose specified.

2nd. In a car brake, and in combination, with the brake shoe, the angular frame C, attached to the brake shoe by the bolts *b*, *b*<sup>1</sup>, and having the bottom inner flange *c*<sup>1</sup>, as and for the purpose specified.

3rd. In combination, with the brake shoe, the angular frame C, attached to the brake shoe by the bolts *b*, *b*<sup>1</sup>, and having the bottom inner flange *c*<sup>1</sup>, and the bottom corrugations *c*, as and for the purpose specified.

4th. In combination, with the brake shoe, the angular

frame C, attached to the brake shoe by the bolts *b*, *b*<sup>1</sup>, and having its bottom surface corrugated, as shown and for the purpose specified.

5th. In combination, with the brake shoe, the angular frame C, attached to the brake shoe by the bolts *b*, *b*<sup>1</sup>, and having its upper end abutting the lug *d*, as and for the purpose specified.

6th. In combination, with the brake shoe, the angular frame C, attached to the brake shoe by the bolts *b*, *b*<sup>1</sup>, and having a rod *G*, connected to each brake shoe and a bracing rod *G*, extending from the outer end of the angular frame to a point on the rod, as and for the purpose specified.

7th. The brake shoe B, having an angular frame C, attached thereto, in combination, with the L-shaped pin D, chain E, passing over the pulley H, rod I, chain J, passing over the pulley J<sup>1</sup>, and having a ring *j*, at its upper end and the lever K, having a hooked end *k*<sup>1</sup>, and normally held so as to support the brake shoe by the spring jaws L, as and for the purpose specified.

**No. 39,366. Drag for Sleighs. (Frein de traineau.)**

Harman Bunker and James Herbert McKeggie, both of Barrie, Ontario, Canada, 15th July, 1892; 6 years.

*Claim.*—1st. An improved drag for sleighs, a plate pivoted on the runner and pointed so that it may be set to enter the ground, substantially as and for the purpose specified.

2nd. A plate A, pivoted on the runner B, heels *a*, formed on the plate, and a pin D, fixed to the plate and extending across the runner B, substantially as and for the purpose specified.

**No. 39,367. Anti-Rattler for Thill Coupling.**

(Compensateur pour armons de limonières.)

Harman Bunker and James Herbert McKeggie, both of Barrie, Ontario, Canada, 15th July, 1892; 6 years.

*Claim.*—1st. The combination, with a thill coupling, of a wedge located behind the thill iron and provided with means by which a wedge may be adjusted for the purpose of taking up lost motion in the thill iron, substantially as and for the purpose specified.

2nd. The combination, with a thill iron, of a wedge A, provided with a shank B, or bolts J, and leather or rubber strip C, substantially as and for the purpose specified.

3rd. A wedge A, provided with a shank B, having a nut G, a rubber strip C, a metal strip D, and spring H, substantially as and for the purpose specified.

**No. 39,368. Machine for Making Paper Boxes.**

(Machine à faire des boîtes en papier.)

Frank P. Birley, in trust, assignee of James William Hutt, Arthur James Phillips and William R. Draper, all of Toronto, Ontario, Canada, 15th July, 1892; 6 years.

*Claim.*—1st. The combination, in a box machine, of a blank feeder, a box former, a bail former, and mechanism for inserting a bail, substantially as described.

2nd. The combination, in a box machine, of a blank feeder, a printer, a box former, a bail former, and mechanism for inserting a bail in a box made by the former, all mounted in the same frame, whereby the blank is fed from the pile of blanks, printed, formed into a box, and provided with a bail, at one passage through the machine, substantially as and for the purpose specified.

3rd. A hollow shaft connected to an air pump and deriving a rocking movement from the driving mechanism of the machine, in combination with a solid head and a hollow finger connected to said head and to the hollow shaft, the driving mechanism being so timed as to bring the hollow finger and solid head in contact with the top of a pile of blanks the moment that the pump is about to exhaust the air from the hollow finger, substantially as and for the purpose specified.

4th. In an air pump connected to a hollow shaft, and a hollow finger working as described, the combination of a plunger operated by a cam and spring, the cam being arranged to move the plunger to force the air in, while the spring is designed to impart quick motion to the plunger to exhaust the air from the connections of the pump, substantially as and for the purpose specified.

5th. A table designed to support the pile of blanks and movably supported in a frame, a rack formed on the back of the table designed to engage with a pinion fixed to a spindle suitably journaled in the frame, a disk fixed to the said spindle, a cog ring journaled on the disk, a pawl pivoted on an arm pivoted on the spindle, and on a vertically movably bar in combination with an arm fixed to the rock shaft on which the hollow finger is attached, and the end of the vertically moving bar designed to engage with the hook end adjustably connected to the arm, substantially as and for the purpose specified.

6th. A reciprocating blank carrier provided with adjustable hooks S, in combination with the rocking fingers T, arranged and operating, substantially as and for the purpose specified.

7th. The fingers T, connected to the rock shaft U, which is operated by a rod V, deriving motion from a cam W, in combination with gravity stops Y, pivoted in the guide M, substantially as and for the purpose specified.

8th. An impression block held rigidly to the frame of the machine immediately above the reciprocating carrier, in combination with a platen, located below the carrier and deriving vertical reciprocating motion by the action of a spring and revolving cam, substantially as and for the purpose specified.

9th. A longitudinally adjustable rod hinged to the platen and deriving vertical reciprocating motion by the action of a spring and revolving cam, substantially as and for the purpose specified.

10th. The shaft X, geared to the vertical shaft *f*, which derives its motion from the main

shaft A, a shaft *b* geared to the shaft X, and to the shaft *i*, in combination with inking rollers J, geared to and deriving motion from the shaft *i*, cam disk 60, fixed to the shaft *i*, and operating the roller 58, substantially as and for the purpose specified. 11th. A pair of inking rollers J, situated one on each side of the type platen, in combination with the distributing rollers *g*, operated by suitable mechanism from one roller *j* to the other, supplying ink to the type once after each impression, substantially as and for the purpose specified. 12th. The roller 58, journaled at each end on a crank arm 78, the crank arm 79 fixed to the shaft of the crank arm 78, and having a projection friction roller 80, in combination with the revolving cam 60 and spring 61, substantially as and for the purpose specified. 13th. A ratchet wheel 64, fixed to the spindle 81 of the roller 57, a pawl 63 pivoted on the slide 62, and engaging with the ratchet wheel 64, in combination with the cam disk 60 and spring 65, arranged substantially as and for the purpose specified. 14th. The combination with the slide 62, of an adjustable stop 66, arranged substantially as and for the purpose specified. 15th. The pivoted lever *n*, having pins at each end to engage with a grooved roller 85, fixed to the spindle of each distributing roller, in combination, with a crank *o*, fixed to the pivot of the lever *n*, and engaging with the cam *p*, fixed to and revolving with the shaft *i*, substantially as and for the purpose specified. 16th. The combination, with impression plate Z, of an upwardly curved guard 89, arranged substantially as and for the purpose specified. 17th. The combination, with the plunger *x*, of a carrier having two or more downwardly bent plates 10, arranged to support and steady the blank as it is being formed into shape, substantially as and for the purpose specified. 18th. The combination, with the plunger *x*, of four plates 10, arranged to support and steady the blank as it is being formed into shape, guide bars 67, which guide the blank, being curved outwardly at the point opposite to the said plates 10, substantially as and for the purpose specified. 19th. The fingers 10<sup>a</sup>, projecting from the frame of the carrier, substantially as and for the purpose specified. 20th. The plunger *x*, arranged to force the blank through the space formed by the plates 10, in combination, with the folding cams *v*, geared together at right angles to one another and arranged to operate so that they will act against and fold the blank into proper shape as the plunger *x*, forces the blank between them, substantially as and for the purpose specified. 21st. The combination, with the plunger *x*, of the rollers 4, placed below the folding cams *v*, and each roller provided with two cam shaped flanges 5, the proper distance apart to correspond with the size of the plunger *x*, substantially as and for the purpose specified. 22nd. The rollers 4, placed below the folding cams *v*, and each roller provided with two spiral flanges 5, the proper distance apart to correspond with the size of the plunger *x*, in combination, with the finger 76, extending towards the plunger *x*, in such a manner as to temporarily hold back one flap of the box while the other flap is being passed below it, substantially as and for the purpose specified. 23rd. The plunger *x*, having form creasing plates adjustably connected to its top, substantially as and for the purpose specified. 24th. The stationary plate 12, receiving the wire 11, the wings 13, each having a groove in its face and pivoted to said stationary plate 12, the cross head 15, the rods 14, connecting the cross head to the wings, in combination, with the rod 16, the cross head 15, the rocking shaft 17, the main shaft A, the cam 25, and rod 18, all operating substantially as and for the purpose specified. 25th. The pivoted wings 13, each having a groove in its face, the sliding rods 14, the stationary plate 12, in combination, with rod 16, the rods 14, the rock shaft 17, the cam 19, and the rod 18, all constructed and operating, substantially as and for the purpose specified. 26th. The pivoted wings 13, the spring plate 27, having lug 26 formed on it and projecting in the path of said pivoted wing 13, and the wedge shaped lifter 28, in combination with the sliding bars 14, all constructed and operating substantially as and for the purpose specified. 27th. A curved recess formed in a plate projecting through a slot made in the plunger *x*, and held there by a spring pressure, in combination with means for forcing the end of the bail wire against the said spring actuated plate, substantially as and for the purpose specified. 28th. The downwardly projecting guide rods 71, the grooved plate 12, attached to said guide rods, the spring finger 32, in combination with the spout 34, and operating mechanism arranged to cause said spring finger to draw the completed box or pail clear of the bailer and nest it into the preceding boxes or pails in the discharge spout, substantially as and for the purpose specified. 29th. A grooved plate 12, and grooved wings 13, to receive the wires 11, a movable plate 29, and spring 31, in combination with the bell cranks 30, the reciprocating rods 14, the main shaft and intermediate connections between said shafts and rods 14, substantially as and for the purpose specified. 30th. The spring fingers 32, the cross head 39, supporting the same, and the pivoted rod 38, connected to the cross head, in combination with the cam 35, the bell crank wiper 36, the vertical rod 37, and the pivoted rod 38 operated by said cam, bell crank wiper and vertical rod, all constructed and operating, substantially as and for the purpose specified. 31st. As a means of operating the feed rollers, and in combination therewith, the spindle 43, having an arm 50, the toothed segment 40, the pinion 42, meshing therewith having the movable pawl 49 connected thereto and loosely journaled on the spindle 43, the horizontal rod 45, the post 44, connecting said segment to said horizontal rod, in combination with the cam 46, and the revolving shaft X, substantially as and for the purpose specified. 32nd.

The spindle 43, the pinion 42, loosely journaled on the spindle, the feed roller 47, connected to the spindle, the feed roller 48 geared to roller 47 between which rollers the wire 11 passes, in combination with the spring plate 51, the spring pawl 49 pivoted on a projection connected to the pinion 42, the arm 50 on the spindle 43, arranged to engage with the pawl 49, when the spring plate 51 is raised clear of the pawl 49, substantially as and for the purpose specified. 33rd. In combination with the spindle 43, having arm 50, and the pinion 42 carrying the pawl 49, and as a means of disconnecting said pawl from arm 50, a rod 53, a spring plate 51, connected to the bottom of the rod 53, the bell crank 54, having one end connected to the top of said rod, a rod 55, having one end connected to the other arm of said crank, and pivoted finger 56, connected to said rod 55, substantially as and for the purpose specified. 34th. In combination with the spindle 43, having arm 50, and the pinion 42 carrying pawl 49, and as a means of disconnecting said pawl from arm 50, a rod 53, a spring plate 51, connected to the bottom of rod 53, the bell crank 54, having one end connected to the top of said rod, a rod 55, having one end connected to the other arm of said crank, and a crank formed on the pivoted finger 56, connected to said rod 55, in combination with a blank carrier L, substantially as and for the purpose specified. 35th. In a machine for making paper vessels, the combination, with means for holding a paper vessel, of bail forming and applying devices co-operating with said holding means, substantially as and for the purpose specified. 36th. In a machine for making paper vessels, the combination, with folding rolls, of the bail forming and applying devices co-operating with said folding rolls, substantially as and for the purpose specified. 37th. In a machine for making paper vessels, the combination, with the folding rolls, of wire feeding devices, the cutter and the bail forming and applying devices co-operating with said folding rolls, substantially as and for the purpose specified.

### No. 39,369. Receptacle for Coins.

(*Recepteur de monnaie.*)

The General Patents Company, Piccadilly, Middlesex, assignee of Robert Hodges Bishop, Islington, and William Down, Highgate, all in England, 15th July, 1892; 6 years.

*Claim.*—1st. A receptacle for coins provided with a recessed coin receiving slide or pusher plate, arranged to be worked from the outside of the receptacle, the full movement of which, to push the coin into the receptacle and to operate registering or counting mechanism, can take place only when a coin is in the recess, as set forth. 2nd. In a receptacle for coins, the combination, with the lid of the receptacle, of a recessed coin receiving slide or pusher plate carried by a plate and adapted to be operated only when a coin is in the recess, a toothed dial, and a notched disc, and means for operating the same, and a catch attached to the body of the receptacle, all substantially as shown and described. 3rd. In a receptacle for coins, a recessed coin receiving slide or pusher plate, in combination with a tumbler or catch adapted to be operated only by a coin in the slide, as and for the purpose set forth. 4th. In a receptacle for coins, the combination of a counting mechanism actuated by a coin receiving slide or pusher plate with a notched locking disc and a spring catch, as set forth. 5th. In a receptacle for coins, the combination, with a coin receiving slide or pusher plate, of means to throw the coin out of the slide to prevent the fraudulent operation of the unlocking mechanism, substantially as shown and described. 6th. A receptacle for coins constructed, arranged and operating substantially as herein shown and described.

### No. 39,370. Tire Set. (*Diable de forge.*)

James W. Cuthbertson, Bothwell, and James D. Anderson and Alem J. Green, both of Essex, all in Ontario, 15th July, 1892; 6 years.

*Claim.*—The combination of the shields C, formed with sockets S, the nuts D, and the screws F, G, formed with the mid-head E, substantially as shown and described, and for the purpose specified.

### No. 39,371. Brake. (*Frein.*)

Charles Goodwin Emery, New York City, assignee of Edward G. Shortt, Carthage, both in New York State, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. The combination, with a brake cylinder, of a movable diaphragm or partition dividing the cylinder into a working chamber and a closed air reservoir, a valve which admits air from the working chamber into the air reservoir and prevents such air returning from the reservoir into the chamber, a stuffing box at the outer end of the air reservoir, a brake operating rod extending through the closed air reservoir and connected with the diaphragm or partition for the purpose of actuating the brakes, and a spring which acts on the diaphragm or partition to force it and the rod in a direction to release the brakes for additionally compressing the air in the reservoir, substantially as described. 2nd. The combination, with a compressed air reservoir, a brake chamber, a diaphragm or partition, a brake operating rod connected with the diaphragm or partition, and a pipe for releasing and restoring fluid pressure in the brake chamber, of a by-pass for placing the reservoir in communication with the brake chamber to transfer air from the reservoir to the brake chamber for releasing the brakes and rendering the parts susceptible of applying the brakes while the car is disconnected from

the main air reservoir of a train or locomotive, substantially as described. 3rd. The combination, with a cylinder, a diaphragm or partition dividing the cylinder into a compressed air reservoir and a brake chamber, a brake operating rod connected with the diaphragm or partition, and a train pipe for supplying the compressed air to the brake chamber, of the valved by-pass for placing the reservoir in communication with the brake chamber to transfer air from the reservoir to the brake chamber for releasing the brakes and rendering the parts susceptible of subsequently applying the brakes while the car is disconnected from the main air reservoir of a train or locomotive, substantially as described. 4th. The combination, with a cylinder, a diaphragm or partition dividing the cylinder into a compressed air reservoir and a brake chamber, and having means for admitting air to the reservoir to charge the same, a section of train pipe for supplying compressed air to the brake chamber, and a brake operating rod connected with the diaphragm or partition, of a valved by-pass for placing the air reservoir in communication with the brake chamber to transfer air from the reservoir to the brake chamber for releasing the brakes and rendering the parts susceptible of subsequently applying the brakes while the car is disconnected from the main air reservoir of a train or locomotive, substantially as described. 5th. The combination, with a cylinder, a diaphragm or partition dividing the cylinder into a compressed air reservoir and a brake chamber, and having means for admitting air to the reservoir for charging the same, and a section of a train pipe for supplying the compressed air to the brake chamber, of a by-pass pipe or tube having a part extending into the car in proximity to the conductor's valve and provided with a cock or valve for placing the reservoir in communication with the brake chamber to transfer air from the reservoir to the brake chamber for releasing the brakes and rendering the parts susceptible of subsequently applying the brakes while the car is disconnected from the main air reservoir of a train or locomotive, substantially as described.

**No. 39,372. Pump for Compressing Air and Gas.**

(*Pompe à compression pour l'air et le gaz.*)

Charles Goodwin Emery, New York City, assignee of Edward G. Shortt, Carthage, both in the State of New York, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. In an air and gas compression pump, the combination, with a steam cylinder and pump cylinder, having their axes in the same straight line, of a piston rod connected at one end to the piston in the steam cylinder, an enlarged rod or head of less diameter than the interior of the pump cylinder and packed through the end thereof, said rod having in its lower end a central bore, an annular piston head into the opening in which the end of the enlarged rod or head, enters, a puppet valve having its stem lying in the central opening in the enlarged rod, and seating upon a ring in the annular piston head, a valve chamber being formed between said ring and the end of the enlarged rod, having communication by channels or slots in the latter with a compression chamber enclosed by the end of the annular piston head, the exterior face of the enlarged rod, the inner face of the cylinder and the end of the same, a second puppet valve lying in a valve chamber formed in a lateral enlargement on the compression end of the cylinder, said valve chamber being connected with the compression chamber by a channel through the wall of the cylinder, and a valve disk mounted on a central stem within the inlet end of the cylinder, and seating over openings formed in a valve seat which is tapped into the end of the cylinder, substantially as described. 2nd. In an air and gas compression pump, the combination, with a pump cylinder having a lateral enlargement upon its compression end, of an enlarged head or rod packed through the end of the cylinder, its end entering and engaging an annular piston head fitting said cylinder, forming a compression chamber between the end of the annular piston head, the enlarged rod and the inner face of the cylinder, a puppet valve arranged in a chamber below the end of the enlarged rod, its stem entering a central bore therein, and its seat being formed by a ring screwed into the annular piston head, a second puppet valve arranged in a valve chamber in the lateral enlargement, communicating by a channel with the compression chamber, and with a pipe carrying the compressed gas, and a valve disk having nearly the diameter of the piston head, mounted on a central stem which is tapped into a valve seat screwed into the inlet end of the cylinder, and provided with a screen arranged to cover inlet openings formed in the valve seat, substantially as described.

**No. 39,373. Exhaust Valve for Brakes.**

(*Soupape d'évacuation pour freins.*)

Charles Goodwin Emery, New York City, assignee of Edward G. Shortt, Carthage, both in the State of New York, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. The combination, with a brake cylinder, a movable diaphragm or partition, a train pipe and a suitable engineer's valve, of a relief or exhaust valve case connected with the train pipe and the brake cylinder and having a port for communicating with the external air and an air chamber adapted to communicate with the brake cylinder, a slide valve having a port and controlling the external air port, a device having a reduced channel for conducting the air from the brake cylinder through the port in the slide valve, and means whereby the slide valve is moved by the pressure of the

air in the said air chamber to place the valve port in communication with the external air port when the pressure in the train pipe is released for sudden application of the brakes in case of an emergency, substantially as described. 2nd. The combination, with a brake cylinder, a piston and a train pipe, of the relief or exhaust valve case connected with the train pipe and the brake cylinder, and having a port for communicating with the external atmosphere and a movable diaphragm or partition forming an air chamber adapted to communicate with the brake cylinder, a slide valve having a transverse port and a stem connected with the diaphragm or partition, a spring acting to move the valve stem and diaphragm or partition in one direction, and a valve having a reduced channel for conducting the air from the brake cylinder through the transverse port in the slide valve, substantially as described. 3rd. The combination, with a brake cylinder, a movable diaphragm or partition therein, a brake actuating rod and a train pipe, of an automatically operating valve comprising two distinct ports of different capacity, the smaller one serving for the slow release of the air pressure from the brake cylinder to gradually apply the brakes, and the larger one serving for the rapid release of such air pressure, to suddenly apply the brakes, substantially as described. 4th. The combination, with a brake cylinder and a train pipe, of a relief valve casing having an outlet to the external atmosphere, and a diaphragm or partition to provide an air chamber, a valve having a stem connected to the diaphragm or partition, a transverse port for the passage of the fluid, and means for the flow of air to the air chamber, and a yielding valve having a reduced channel and controlling the port through the valve, substantially as described. 5th. The combination, with a brake cylinder and train pipe, of a relief valve casing having an outlet to the external atmosphere, and a diaphragm or partition to provide an air chamber, a slide valve having ports, a valve stem having a longitudinal channel and a spring yielding valve plug having a reduced channel and seating against one side of the slide valve, substantially as described.

**No. 39,374. Valve for Brakes.** (*Soupape de frein.*)

Charles Goodwin Emery, New York City, assignee of Edward G. Shortt, Carthage, both in the State of New York, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. The combination, with a valve casing having passages for connecting the main reservoir and train pipe of a brake system, of a pair of valve plugs provided with ports, and one turning within the other and connected together so that the inner plug can turn independently of the outer plug to a limited extent for the gradual application of the brakes, and then both plugs turn simultaneously for the sudden application of the brakes, substantially as described. 2nd. The combination, with a valve casing having passages to connect with the main reservoir and train pipe of a brake system, of a pair of rotating valve plugs, one turning within the other, means for turning the interior valve plug independently of the exterior valve plug, and subsequently turning both in unison, and two springs of different power acting respectively upon the interior and exterior valve plugs, substantially as described. 3rd. The combination, with a valve casing having passages to communicate with the main reservoir and train pipe of a brake system, and provided with two fluid outlets of different capacity, of the rotating plug 9, having opposite transverse channels 12, quick release cavity 14, and slow release port 15, the interior valve plug having the transverse channel 13, and slow release port 16, and notch 17, and means for turning the interior valve plug independently of the exterior valve plug, and subsequently turning both in unison, substantially as described. 4th. The combination, with a valve casing having passages to communicate with the reservoir and train pipe of a brake system, of a pair of conical valve plugs provided with ports, and one turning within the other, the outer valve plug having at one end segmental recesses, and the inner valve plug having a transverse groove, and the handle or lever having an attached disk or plate provided with a rib engaging the groove and working in the segmental recesses, substantially as described.

**No. 39,375. Threshing Machine.** (*Machine à battre.*)

John Abell, Toronto, Ontario, Canada, 15th July, 1892; 6 years.

*Claim.*—1st. A horizontal grate fixed to the grain deck in proximity to the concave, and extending to a point near the bottom of the upwardly curved stationary grate, substantially as and for the purpose specified. 2nd. A horizontal grate fixed to the grain deck in proximity to the concave and extending to a point near the bottom of the upwardly curved stationary grate, in combination with fingers fixed to one of the grates, and extending over the opening between the two, substantially as and for the purpose specified.

**No. 39,376. Lamp.** (*Lampe.*)

Joseph Knapper, Andrew L. Nelson and Isaac Taylor, all of Dunbar, Pennsylvania, U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. In a lamp, the combination of an upper inlet chamber having an opening in the top thereof, tubes leading downward from and connected to the bottom of said chamber, a closed cylindrical base comprising a top, to which said tubes are connected and open therethrough, a disk screwed into said base and having a central opening, a flange rising from said disk around its opening and itself having openings, a gauze strip outside of said flange over

the openings therein, an oil cup screwed into said base and having a burner, an upright tube on said oil cup around the said burner thereof, and having openings near its lower end adapted to register with those in the flange, a globe fitted over said burner in an air tight manner, a cone above said globe, and a gauze covering over said cone, substantially as described. 2nd. In a lamp, the combination, with an inlet chamber having an opening in its top, tubes leading downwardly from said chamber, a base into which said tubes open, and an oil cup supported by said base and carrying a burner, of a globe mounted on said base, a collar at the upper end of said globe, ears thereon embracing said tubes, a cone rising from said collar and having an upward extension opening beneath said inlet chamber, and a gauze cylinder surrounding said cone and extension, substantially as described. 3rd. In a lamp, the combination, with an oil cup and burner, a base embracing the same and having an annular opening, a gauze strip between said opening and burner, and tubes extending upwardly from said opening, of a globe and chimney surrounding the burner, an inlet chamber above the chimney and with which said tube communicates, a gauze disk across the chamber, the latter having an opening in its upper end, and a bail or handle secured to the side walls of the chamber, substantially as described. 4th. In a lamp, the combination of a closed cylindrical base having internal screw threads, a disk screwed therein and having a central opening, a flange rising from said disk around its opening and itself having openings, an oil cup screwed in said base, a burner at the centre of the top thereof, an upright tube on said cup around the burner having holes adapted to register with those in the flange, a globe over said burner, an upper extension over said globe, an upper inlet air chamber, and tubes connecting said air inlet chamber with the base, substantially as described. 5th. In a lamp, the combination, with a base having internal screw threads, a disk therein having a central opening, and a flange rising from said disk around its opening and itself having openings, of an oil cup screwed into the base, a lock between said cup and base, a burner at the centre of the top of the cup, and an upright tube on said cup around the burner having holes adapted to register with those in the flange, substantially as hereinbefore set forth. 6th. In a lamp, the combination of a base with a burner and a globe around said burner, a cone mounted over and extending upward from said globe, and a gauze covering surrounding said cone and having the upper part thereof of double thickness, substantially as described.

**No. 39,377. Bed Protector.** (*Protecteur pour lits.*)

Jennie Payne Duval, Richmond, Missouri, U.S.A., 15th July, 1892; 6 years.

*Claim.*—A bed protector comprising a body portion or shield having an outwardly curved upper margin and outwardly extending upper side margins, a lower narrower extension formed in one piece with the body portion of the protector, and united thereto marginally by oppositely disposed concave margins common both to the body portion and the extension, an outwardly curved lower margin for the extension, a segmental cushion secured to the under side of the body portion contiguous to its upper margin, a reinforce secured to the middle of the shield, opposite pairs of flexible strips attached to the points of union of the upper and upper side margins, also to the points of union of the outwardly extending margins with the concave margins, and furthermore, to the points of union of the lower margin with the concave margins, an opening formed through the middle of the extension, a rigid ring inserted into said opening, a flexible tube connected to said opening, a ring or band secured to the free end of the tube, and a rigid cap removably connected to said ring or band, all substantially as set forth.

**No. 39,378. File or Binder.**

(*Serre-papier ou machine à relier.*)

Aloysius G. Blincoe, Loretto, Kentucky, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. A binder for books, bills and the like, comprising boards hinged together, and provided each with prongs disposed toward opposing boards for engaging the leaves, bills or the like, substantially as described. 2nd. A binder for books, bills and the like, comprising boards hinged together at one edge, and provided with prongs or spindles, curved toward opposing ends in the arc of a circle of which the hinge joint is the centre, substantially as described. 3rd. A binder for books, files and the like, comprising boards or covers, hinges uniting the same at one edge, and rigidly secured, inwardly projecting prongs or spindles carried thereby, substantially as described.

**No. 39,379. Machine for Sewing Carpets.**

(*Machine à coudre les tapis.*)

Franklin Ames, Chicago, Illinois, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. In an apparatus for sewing carpets, a table on which the carpet is stretched, in combination, with a track extending along one side of the table, a carriage mounted on said track, a sewing machine mounted on the carriage, and a motor for operating the sewing machine also mounted on the carriage, substantially as described. 2nd. In an apparatus for sewing carpets, a level table on which the carpet is laid and to which it is fastened, in combina-

tion, with a level track extending along one side of the table, a wheeled carriage mounted on said track, a sewing machine mounted on said carriage and arranged to operate upon the edges of the carpet projecting over the front of the table, and a motor also mounted on the carriage for driving the sewing machine and under the control of an attendant riding on the carriage, whereby the sewing machine is operated by said motor and the carriage moved forward by the feed devices of said machine, substantially as and for the purpose specified. 3rd. In an apparatus for sewing carpets, a movable and vertically adjustable base frame B<sup>1</sup>, in combination, with a table A, mounted on said frame, a track B, also mounted on the same base frame at one side of the table, and in a plane substantially parallel to the surface of the latter, a carriage C, arranged to run on said track, a sewing machine D, mounted on the carriage, and a motor for driving the machine also mounted on the carriage, whereby the table and track may be adjusted together to a level position, substantially as and for the purpose specified. 4th. The table A, on which the carpet is laid and secured, in combination, with the track B, the carriage C, the sewing machine D, mounted on the carriage, an electric motor E, also mounted on the carriage, a rheostat, the switch H, and the treadle lever H<sup>1</sup>, substantially as and for the purpose specified. 5th. In an apparatus for sewing carpets, the table A, in combination, with the clamps I and K, secured to the table and adjustable thereon, whereby the carpet is fastened to the latter, and the sewing machine D, mounted on a carriage movable back and forth at one side of the table, substantially as and for the purpose specified. 6th. The table A, on which the carpet is laid for sewing, provided with a channel a, running lengthwise thereof, the clamp I, applied to said channel in the table and adapted to be secured therein at any point desired, and the clamp K, also applied to the said channel in the table and movable therein, the windlass L, mounted on the clamp K, and the rope l, applied to the windlass and adapted to be secured at the other end to the table, whereby the carpet may be secured to and stretched upon the table in position for sewing, substantially as and for the purpose described. 7th. The table A, having a channel a, running its entire length, in combination, with the carpet clamp I, provided with bottom bar i fitting into said channel, the cross bar i<sup>1</sup>, the hinged bar i<sup>2</sup>, clamping bar i<sup>3</sup>, and toothed strip i<sup>4</sup>, attached to the bar i, substantially as described. 8th. The table A on which the carpet is stretched for sewing, in combination with pins N, which fasten the edges of the carpets together, the cords O, attached to said pins and provided with buttons o, the sewing machine carriage C, and the hook P on said carriage arranged to engage with the cords O, and remove the pins as the carriage progresses, substantially as and for the purposes specified. 9th. The table A on which the carpet is stretched for sewing, in combination with the carriage C, the sewing machine D mounted on said carriage, the pins N, which fasten the edges of the carpet together, cords P attached to said pins running freely over pulleys and weighted at their free ends, and the hook P mounted on the carriage and arranged to engage with the cords P as the carriage moves forward, substantially as and for the purpose specified. 10th. In an apparatus for sewing carpets, a table on which the carpet is stretched, in combination with a track extending along one side of the table, a carriage mounted on said track, a sewing machine mounted on the carriage, a motor for operating the sewing machine, also mounted on the carriage, and mechanism for starting the motor and fixing it at a certain rate of speed, substantially as and for the purpose specified. 11th. The table A on which the carpet is laid, in combination with the track B, the carriage C, the sewing machine D mounted on the carriage, an electric motor E also mounted on the carriage, a rheostat, a switch H, a treadle lever H<sup>1</sup>, and a standard H<sup>2</sup> connected with treadle and provided with a stop whereby the standard may be set at any point desired for the depression of the treadle, substantially as and for the purpose specified. 12th. The track B arranged at the side of the table, in combination with the carriage C, a sewing machine D mounted on the carriage, an electric motor E also mounted on the carriage, the air brake e<sup>2</sup>, the brake lever e<sup>3</sup>, and the treadle, substantially as and for the purpose specified. 13th. The table A on which the carpet is laid and secured, in combination with the carriage C, a sewing machine D mounted on the carriage, a gauge C<sup>1</sup>, also on the carriage, and the tooth adjusting wheels X, substantially as and for the purpose specified. 14th. The table A on which the carpet is laid and secured, in combination with the carriage C carrying the sewing machine, the gauge C<sup>1</sup> on the carriage, the toothed wheels X mounted loosely, mounted on shafts x, the springs u, and the gauge stop y, adjustably attached to the shafts w, substantially as and for the purpose specified.

**No. 39,380. Car Coupler.** (*Attelage de chars.*)

John Girey, Kingston, Ontario, Canada, 15th July, 1892; 6 years.

*Claim.*—1st. In a car coupling, the combination, with a draw bar having a mouth of the ordinary construction, of a plate sliding in a chamber on the top of the drawhead, having an aperture registering or not registering with the pin holes according to its position, and a frame for guiding the pin, substantially as set forth. 2nd. In a car coupling, the combination, with the draw bar A, and mouth a, of the chamber B, sliding plate F, having aperture f, the spring G secured to said plate, the guiding frame D, E, and pin H, and guide rod h, substantially as set forth.

**No. 39,381. Bale Tie. (Cercle de ballot.)**

John Y. Rankin, Atlanta, Georgia, U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. A bale tie having a single band provided in its edges with two series of notches which are arranged diametrically opposite to each other, substantially as shown and described. 2nd. A bale tie consisting of a band having its edges provided with two series of notches or serrations at diametrically opposite points, fastening wires fitted around the lapped ends of the band and in the aligned notches therein, substantially as described.

**No. 39,382. Fish Hook. (Hameçon.)**

Charles A. Haviland, Brooklyn, New York, U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. A compound fish hook formed of a single piece of wire bent upon itself, and forming parallel contiguous members of the shank, shoulders therein which diverge the shanks slightly near the main bends of the hook, and barbed terminals which are radially arranged with relation to each other and the shank. 2nd. A compound fish hook formed on a single piece of wire, bent upon itself and forming parallel contiguous members of the shank, bends thereof which diverge the members of the shank slightly near the main hook bends, said main hook bends both formed in the same direction from the shank, and divergent from each other and having the usual barbs.

**No. 39,383. Game. (Jeu.)**

James Prendergast, Le Roy, New York, U.S.A., 15th July, 1892; 6 years.

*Claim.*—The combination, in a game apparatus, of an annular base, a central supporting plate secured to the base, a horizontally disposed disc pivotally mounted on said supporting plate, a series of pockets on the upper face of the disc, created by radially disposed ribs terminating centrally at a protuberance or raised portion and outwardly at a perpendicular circumferential flange or rim, a series of dice spots or other distinguishing marks of varied valuation placed at stated intervals upon the upper face of the flange's horizontal ledge, and a chambered cover resting upon the base portion and circumferentially inclosing the configurated disc and provided with a neck portion terminating upwardly in a semi-circular bowl or receiver portion, said bowl interior communicating with the chamber of the cover and underlying rotating disc by a vertical duct or passage extending through the neck portion of the cover, and whereby spherical bodies may be precipitated upon the rotating disc, substantially as shown and described, and for the purposes set forth.

**No. 39,384. Thill Coupler. (Arçon de limonière.)**

George L. Blackman and Fred. S. Blackman, both of Whitesville, New York, U.S.A., 15th July, 1892; 6 years.

*Claim.*—1st. In a thill coupling, the combination of a box having a level upper surface, from and below which is cut in the body of the box a transverse cylindrical opening, which is provided with a central spherical depression, the upper surface of the box being further provided with lugs having a cut-away portion, a thill iron stirrup-shaped at its rear extremity and having its cross piece of ball shape adapted to fit within the depression in the box, and a cap portion consisting of a bell-shaped body provided with a rim recessed to fit within the cut-away portions of the lugs upon the upper surfaces of the box, and a cushion portion having its lower end concaved to fit over the ball and provided with an intermediate rubber, all substantially as and for the purpose set forth. 2nd. In a thill coupling, the combination, with a box having the lugs  $b^3$ , cut away on the side, of the anti-rattler  $D^1$ , and the cap or cover  $D$ , the said cap or cover having a rim  $d$ , recessed at  $d^1$ , and sloping or cam-shaped from one side of one recess to the opposite side of the other recess, where a stop  $d^2$  is provided, substantially as and for the purpose set forth. 3rd. In a thill coupling, the combination, with a box  $B$ , having the lugs  $b^3$  opposite each other, of a thill iron, an anti-rattler  $D^1$ , consisting of an upper plate, a lower plate concaved, and an intervening piece of rubber between them, and a cover or cap portion  $D$ , having an annular rim arranged to engage the oppositely disposed lugs  $b^3$ , and provided with a screw threaded opening  $d^3$ , and a thumbscrew  $d^4$ , substantially as and for the purpose set forth.

**No. 39,385. Valve for Steam Engines.**

(*Soupape pour machines à vapeur.*)

Gideon V. Putman and Layton Cayten, both of Gloversville, New York, U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. In combination, with the main valve steam chest of an engine, a cut off valve chest receiving the live steam and provided with steam ports communicating with said steam chest, throttling slides seated movably toward and from each other within the cut off valve chest and provided with steam ports and bridges at their adjacent ends, rods extending from the throttling slides, a centrally pivoted lever connected at opposite ends to said rods to regulate the throttling, and a cut off valve placed movably over the ports of the throttling slides, and actuated by the motion of the engine, as set forth. 2nd. In combination, with the main valve steam chest of an

engine, a cut off valve chest of cylindrical form receiving the live steam and having in its sides steam ports communicating with the main steam chest, two cylindrical throttling slides in said cut off valve chest and of the same or nearly the same diameter and provided each with a steam port in its side and with a bridge at its inner end, two rods extending respectively from the two throttling slides through one and the same end of the cut off valve chest, a centrally pivoted lever connected at opposite ends to the said rods to move the slides simultaneously in opposite directions, a governor actuating said lever, a cylindrical slide valve located in the throttling slides and provided in its side with a port of about the same width as the bridge between the ports of the cut off valve chest, a rod extending from said valve through the end of said chest, and receiving reciprocating motion from the engine, as set forth. 3rd. The combination of the cut off valve chest  $A$ , of cylindrical form and provided with the ports  $a$ ,  $a$ , and circumferential grooves  $r$ ,  $r$ , the cylindrical throttling slides  $b$ ,  $b$ , having perforated heads, and the valve  $f$ , having perforated diaphragms  $s$ ,  $s$ , substantially as described and shown. 4th. In combination, with the governor and the throttling slides, having separate stems extending through one and the same end of the valve chest, the lever  $l$ , and quadrant  $h$ , attached to one and the same shaft, and said lever connected at opposite ends to the aforesaid stems, the arm  $j$ , pivoted to the axis of the quadrant, and having its free end connected to the governor spindle, and the screw  $n$ , for adjusting the arm in its position, as set forth.

**No. 39,386. Locomotive Drive Brake.**

(*Frein de locomotive.*)

Charles G. Emery, New York City, assignee of Joseph Elie Normand, Watertown, both in New York State, U. S. A., 15th July, 1892; 6 years.

*Claim.*—1st. In a locomotive drive brake, the combination, with a brake operating lever, and pendulous hangers carrying pivoted brake shoes, of an equalizing lever comprising two crank arms, one of which is connected to a hanger, a connection between the other crank arm and the other hanger, and adjusting devices connecting the brake operating lever with the equalizing lever, substantially as described. 2nd. The combination in a locomotive driver brake, of a pendulous hanger, having a stud or shaft projecting laterally from one side, a gravity brake shoe pivoted to the hanger, a spring carrying block pivoted on the lateral stud or shaft, a spring sustained by the block and acting on the lower portion of the brake shoe, and an adjusting set screw carried by the block, and bearing against the shoe back in proximity to the pivot thereof, substantially as described.

**No. 39,387. Mining Machine. (Machine à miner.)**

Samuel S. Brown, Pittsburg, assignee of Adam Keil, McKeesport, and Anton R. Westerdahl, Pittsburg, all of Pennsylvania, U.S.A., 15th July, 1892; 18 years.

*Claim.*—1st. In a mining machine, the combination of a main frame supported above the floor at the rear and forward ends, the forward end being supported on a central shoe, having guide-ways therein, and a sliding frame having a carriage supported on the main frame, and provided with a sprocket wheel depending below the main frame, the sliding frame having forwardly extending bars moving in the guides of said shoe, and supporting a cross frame below the main frame, and a cutter chain driven by the sprocket and passing around the cross frame, substantially as and for the purposes set forth. 2nd. In a mining machine, the combination of a main frame, a sliding frame moving therein, and having a vertical sprocket shaft mounted therein, and a motor mounted on the sliding frame, and having a vertical armature shaft in line with said vertical sprocket shaft, and engaging directly therewith, substantially as and for the purposes set forth. 3rd. In a mining machine, the combination of a main frame having its side portions formed of angle beams forming tracks, and having guide ways at its forward end, and a sliding frame having a carriage provided with flanged wheels travelling on the horizontal flanges of said angle beams, and having their flanges travelling along the inner faces thereof, and provided with bars supported at their rear ends by the carriage, and extending forward from the carriage and moving in the guide-ways at the forward end of the stationary frame, and supporting the cutting mechanism at the forward end, substantially as and for the purposes set forth. 4th. In a mining machine, the combination of the main frame, having its side portions formed of angle beams, and the depending cross frame  $E$ , having arms resting upon and secured to the horizontal flanges of the angle beams, and vertical bars secured to vertical portions of said cross beams, substantially as and for the purposes set forth. 5th. In a mining machine, the combination of the main frame, having its side portions formed of angle beams, and the depending cross frame  $E$  having arms resting upon and secured to the horizontal flanges of the angle beams, and vertical bars secured to the vertical portion of said cross beams, and the shoe  $c$  depending from said cross frame  $E$ , and having guide-ways formed therein for the longitudinally extending bars of the sliding frame, substantially as and for the purposes set forth. 6th. In a mining machine, the combination, with the main frame having a screw bar therein, of a sliding frame having a nut engaging with the screw bar, a vertical shaft mounted in said sliding frame, the hori-

zontal shaft *l* connected by beveled gearing with the vertical shaft, the horizontal shaft *r* at one side of said shaft *l*, and the pinions and gear wheels *p*, *p*<sup>1</sup>, *s*, *s*<sup>1</sup>, substantially as and for the purposes set forth. 7th. In a mining machine, the combination of an electric motor having a vertical armature shaft, a shaft mounted in a suitable bearing directly below said armature shaft, said shaft having angular pin and socket connections at their adjoining ends, and connections from said lower shaft to the cutting mechanism of the machine, substantially as and for the purposes set forth. 8th. In a mining machine, the combination of a bed frame having a screw bar mounted thereon, a sliding frame carrying a nut engaged with the screw bar, a vertical sprocket shaft mounted in said frame and having a beveled gear, a shaft carrying a bevel pinion meshing with the beveled gear on the sprocket wheel shaft, and carrying a pinion meshing with a pinion encircling the screw bar and adapted to encircling the screw bar and adapted to be engaged therewith to turn the same, substantially as and for the purposes set forth.

**No. 39,388. Plug for Timber Blasting Purposes.**

(*Brocque pour miner.*)

Martin Luther Finley, Smith Centre, Kansas, U.S.A., 16th July, 1892; 6 years.

*Claim.*—1st. As an improved article of manufacture, a blasting plug provided throughout its entire length with a central opening of sufficient size to permit the passage of a blasting fuse, the body portion of the plug being externally screw threaded, and its outer end enlarged and rectangular in cross section, with an annular groove formed adjacent to the end, and a chain having one of its ends secured within the groove and its free end adapted to be secured to some fixed object, substantially as described and for the purpose specified. 2nd. The blasting plug herein described, of a single piece having an externally threaded body, a polygonal outer end or head, and an enlarged annular portion between said head and the screw threads, with an annular groove in said enlarged portion and having an opening extending through the plug from end to end and through the head for the reception of a fuse, substantially as shown and described.

**No. 39,389. Clamp for Wooden Joints.**

(*Couplet pour joints en bois.*)

Thomas Doddrell, Slough, Buckinghamshire, England, 16th July, 1892; 6 years.

*Claim.*—The combination, of the screw bolt, with the washer and iron plate fitted to the reduced point, and the steel pin passed through the hole in the other end, the winged nut with the perforated iron strips thereon, and the block with the steel pin wedged through it for drawing together wooden joints, substantially as herein described and according to the accompanying drawings.

**No. 39,390. Road Cart. (*Désobligeante.*)**

David A. Maxwell, Watford, Ontario, Canada, 16th July, 1892; 6 years.

*Claim.*—1st. The double crank shaft *G*, the bearings *H*, *I*, and the cross bar *J*, and body *B*, to which they are secured, in combination, with the spring irons *E*, and shafts to which they are secured, the clevises *N*, and extended cross springs *D*, substantially as shown and described and for the purpose specified. 2nd. In combination, with the above, the strap *L*, extending from the cross bar *J*, to the body *B*, of the vehicle, substantially as shown and described and for the purpose specified.

**No. 39,391. Artificial Denture. (*Dentelure artificielle.*)**

John Job Stedman, La Porte, Indiana, U.S.A., 16th July, 1892; 6 years.

*Claim.*—1st. An artificial denture, having the last molars omitted therefrom, and having incased spring mechanism located between its plates in the position of the last molars, substantially as described. 2nd. An artificial denture, having spring mechanism located between its upper and lower plates, said spring mechanism comprising a casing, a plunger within said casing, and bearing blocks fixed to one of the plates to receive the thrust of the plungers, substantially as described. 3rd. An artificial denture, having spring mechanism located between its upper and lower plates, said spring mechanism comprising a casing, a plunger within said casing and detachably connected thereto, and a spring within said casing for forcing outwardly said plunger, substantially as described. 4th. An artificial denture, having spring mechanism located between its upper and lower plates, said spring mechanism comprising a casing *D*, provided at its upper end with a perforated detachable cap, a plunger working within said cap, and an incased spring within said plunger, substantially as described. 5th. An artificial denture, having spring mechanism located between its upper and lower plates, said spring mechanism comprising a casing *D*, screw threaded at its upper end, and provided with a perforated screw threaded cap *d*, a hollow plunger *E* passing through said cap, and provided with a flange or stop *e*, and a coiled spring *F*, within said plunger, and a spring rod *G*, within said coiled spring, substantially as described. 6th. An artificial denture, having spring mechanism located between its upper and lower plates, the upper one of said dentures being provided with a straight faced bearing plate *H*, and the opposite den-

ture being provided with a casing *D*, having a perforated detachable cap *d*, a plunger *E* passing through said cap, and provided with a flange or stop *e*, and a coiled spring within said casing, substantially as described.

**No. 39,392. Combined Steam and Air Injector.**

(*Injecteur à vapeur et air combinés.*)

Salyer Reed Earle, Belleville, Ontario, Canada, 16th July, 1892; 6 years.

*Claim.*—1st. The combination, with the tapering shell or tubular body of the injector having air inlets *E*, in the circumference of the larger end, of the steam chest *H*, within said end, said steam chest having a circumferential plate or flange *J*, bolted to said shell, whereby said steam chest closes the larger end of the injector, said steam chest having a series of tubes *P*, surrounded collectively by said air inlets *E*, and a steam pipe *K*, passing through the circumference of the shell of the injector into the steam chest, whereby the exposed end of said steam chest is kept intact or without penetration, for the distribution of steam into the tubes, and the tubes discharge into the body of the injector, and induce a current of air through the inlets *E*, as and for the purpose set forth. 2nd. The combination of the tapering shell or tubular body of the injector, having a straight neck *B*, and flaring mouth *C*, said body having air inlets *E*, in the circumference at the larger end, the steam chest *H*, within the larger end of the injector, and closing said end, and having tubes *P*, extending past said inlets *E*, to discharge steam into the injector towards the neck *B*, a feed pipe *K*, passing through the circumference of the shell, and a pipe *M*, from said steam chest, to discharge water of condensation, as set forth.

**No. 39,393. Moulding Machine. (*Machine à mouler.*)**

Napoleon Lewis, Montreal, and Honoré Gosselin, Drummondville, both in Quebec, Canada, 18th July, 1892; 6 years.

*Claim.*—1st. In a moulding machine, the combination of the table *F*, radial arms *e*, connecting piece *f*<sup>1</sup>, piece *d*<sup>1</sup>, shaft *E*, counter weight *d*<sup>2</sup>, piece *D*, notched sector *H*, lever *G* provided with the stopper *g*, piece *C* provided with lug *e*<sup>1</sup> and counter weight *e*<sup>2</sup>, screw *I*, pawl *i*<sup>2</sup>, bevel gears *i*<sup>2</sup> and *J*, shaft *J*, levers *j*<sup>3</sup>, ratchet *K*, levers *k* and *k*<sup>1</sup>, pressing surface *P*, composed of small sections *p*, having stem *p*<sup>1</sup>, and spring *Q*, sleeve *p*<sup>2</sup> and nut *p*<sup>4</sup>, and spring holder *M*, with the base *A*, guides *B* and post or column *a*<sup>3</sup>, all substantially as described and for the purposes set forth. 2nd. In a moulding machine, the combination of the holders *S*, spindles *s*, pieces *W* and *X*<sup>1</sup>, racks *x*<sup>1</sup>, pinion *x*<sup>2</sup>, toothed sector *O*<sup>1</sup>, toothed piece *o*<sup>2</sup>, lever *o*<sup>3</sup>, ratchets *o*<sup>4</sup>, and piece *o*<sup>5</sup>, with the base *A*, standards *a*, frame *a*<sup>2</sup>, and guides *a*<sup>6</sup> and *x*<sup>1</sup>, substantially as described and for the purposes set forth.

**No. 39,394. Washer for Nut Locks.**

(*Rondelle pour arrête-écrous.*)

The Eclipse Patent Nut Lock Washer Company, assignee of Frederick William Schroeder, all of Newton, near Sydney, New South Wales, Australia, 18th July, 1892; 6 years.

*Claim.*—An improved nut lock washer (adapted to be fixed against turning), having the bolt hole, and surrounding such bolt hole on three sides, an orifice, or cuts, or slits, so that the outer part will form a grip for the nut or the head of a screw bolt, substantially as herein described and explained.

**No. 39,395. Car Truck. (*Chassis de chars.*)**

Vertot D. Beach, Dowagiac, Michigan, U.S.A., 18th July, 1892; 6 years.

*Claim.*—1st. The combination, with the railroad car body and triangular frame secured thereto, of a ring truck frame hung from a hanger supported at the top by a double trunion or a universal joint at the apexes of the sides of the ring frame, and at the bottom pivotally connected to sway bars journaled at the lower apexes of the triangular frame, as and for the purposes specified. 2nd. The combination, with the railroad car body and triangular frame secured thereto, of a ring truck frame hung from a hanger supported at the top by a double trunion or a universal joint at the apexes of the sides of the ring frame, and at the bottom pivotally connected to sway bars journaled at the lower apexes of the triangular frame, and the coop designed to regulate the swing of the hanger, as and for the purpose specified. 3rd. The combination, with the triangular frame *G*, secured to the cross bars *H*, attached to or forming part of the body of the car, the sway bar *F*, journaled at *f*<sup>1</sup>, in the apexes of each pair of triangular trusses *G*, and the hangers *E*, supported at the top at *d* and *d*<sup>1</sup>, on the trunion *D*, in the openings *C*, and pivotally connected at the bottom at *f*, to the sway bars *F*, of the coop *B*, having the edges of its sides *g* concentric to the pin *d*, as and for the purpose specified. 4th. The combination, with the triangular frame *G*, secured to the cross bars *H*, attached to or forming part of the body of the car, the sway bar *F*, journaled at *f*, in the apexes of each pair of triangular trusses *G*, the hangers *E*, supported at the top at *d* and *d*<sup>1</sup>, on the trunion *D*, in the openings *C*, and pivotally connected at the bottom at *f*, to the sway bars *F*, of the coop *B*, having the edges of its sides *g* concentric to the pin *d*, and the top of the sway bars concaved, as specified. 5th. The

combination, with the body of the car secured to the triangular frame which is hung upon the ring frame as described, of the bearing boxes I, provided with shelves *i*, the rods J, extending downwardly from the frame A, on each side of the bearing boxes into and through the holes *j*, in the shelves *i*, and the springs K, located between the shelves and the bottom of the frame, as and for the purpose specified. 6th. The combination, with the body of the car secured to the triangular frame which is hung upon the ring frame as described, of the bearing boxes I, provided with shelves *i*, the rods J, extending downwardly from the frame A, on each side of the bearing boxes into and through the holes *j*, in the shelves *i*, the springs K, located between the shelves and the bottom of the frame, and the rods L extending up through the ring frame and connecting the bearing boxes to the same by the nuts *l*, as and for the purpose specified. 7th. A car truck frame cast in a mould out of homogeneous steel, or other strong metal, or combination of metals, so as to have the truck frame with all of its permanent connections in one piece to save riveting, bolting or welding, as set forth.

**No. 39,396. Car Coupler.** (*Attelage de chars.*)

Russell M. Woodward, Norton, Vermont, U.S.A., 18th July, 1892; 6 years.

*Claim.*—1st. In a car coupler, a draw bar, pin and link, combined with a heavy bush which encircles the pin and is fitted loosely into the upper part of the draw bar, and which serves by its weight (combined with the weight of the pin), to hold the link in a horizontal position by pressing it down upon a horizontal portion of the throat of the draw bar, substantially as described and for the purpose set forth. 2nd. In a car coupler, a draw bar, pin and link, combined with a bush which encircles the pin and is fitted loosely into the upper part of the draw bar, and with a latch carried by the bush and arranged to swing under the end of the pin when it is raised, and to be tripped by the link as it enters the throat of the draw bar, substantially as described and for the purpose set forth.

**No. 39,397. Mode of Drying Fish.**

(*Mode de sécher le poisson.*)

Cathcart Thomson, Halifax, Nova Scotia, Canada, 19th July, 1892; 6 years.

*Claim.*—1st. The improvement in the method of extracting moisture from fish by embedding them in a good absorbent substance of such a nature that it can be pressed into the interstices of the fish and yet form a level surface to receive the next layer of fish, and that their shape and form will be preserved when pressure is brought to bear thereon. 2nd. The placing of fish between sheets of cotton cloth or other suitable material, and embedding them in a mixture of dry sawdust and moss or other suitable absorbent, in the manner and for the purpose described in the specification. 3rd. The placing of fish between sheets of cotton cloth or other suitable material, piled between layers of dry sawdust and moss or other suitable absorbent contained in frames placed over each other, and pressure applied to embed and extract the moisture from the fish, as substantially described in the specification.

**No. 39,398. Machine for Grinding Bones.**

(*Machine à broyer les os.*)

Henry Ansel Hannum, Cazenovia, New York, U.S.A., 19th July, 1892; 6 years.

*Claim.*—1st. A comminuting machine comprising a revoluble hopper having a stationary bottom, a revoluble annular cutter-head disposed with its axis at right angles to that of the hopper, and with the top of its periphery protruding through the bottom of the hopper, and cutters standing transversely in the periphery of the cutter-head as set forth. 2nd. A comminuting machine consisting of a revoluble hopper, having a stationary bottom, a revoluble annular cutter-head disposed with its axis at right angles to that of the hopper, and with the top of its periphery protruding through the bottom of the hopper, cutters standing transversely in the periphery of the cutter head, and a follower in the hopper arranged to press upon the top of the substance to be comminuted, as set forth. 3rd. In a comminuting machine, the combination, with the stationary frame, of a convex hopper bottom fixed to said frame and provided with a radial slot extending from one side part way across said bottom, a revoluble shaft beneath said bottom at right angles thereto, and at one side of the axis of the hopper, an annular cutter-head fixed to said shaft and protruding through the aforesaid slot, cutters standing transversely in the periphery of the cutter-head, and a hopper rising from said convex bottom, as set forth. 4th. In combination with the hopper and its bottom, the revoluble annular cutter-head disposed with its axis horizontally and protruding with its periphery through said bottom, and cutters standing diagonally across the periphery of the cutter-head, as set forth. 5th. In combination with the hopper and its bottom, the revoluble annular cutter-head disposed with its axis horizontally and having its peripheral face bevelled to one side and protruding through the aforesaid bottom, and cutters standing diagonally across said peripheral face of the cutter-head, substantially as described and shown. 6th. The

combination of a stationary hopper bottom formed convex on top and provided with a slot extending from one side part way across, the hopper mounted revolubly on said bottom, an annular revoluble cutter-head disposed with its axis horizontally and at one side of the hopper, and having its peripheral face bevelled to one side and protruding through the slot of the hopper bottom, and cutters standing diagonally across the said face of the cutter head, substantially as described and shown. 7th. The annular cutter-head H, having its peripheral face bevelled to one side and provided with slots *a*, *a*, widened toward the high side of the face, and the cutters *c*, *c*, standing along one side of the slots, substantially as described and shown. 8th. The annular cutter-head H having its peripheral face bevelled to one side and provided with slots *a*, *a*, diagonally across said face and widened toward the high side thereof, clearing notches *a*<sup>1</sup>, *a*<sup>1</sup>, in said side of the face, and cutters *c*, *c*, standing along one side of the slots, substantially as described and shown. 9th. The annular cutter H, having its peripheral face bevelled to one side and provided with slots *a*, *a*, diagonally across said face and widened toward the high side thereof, clearing notches *a*<sup>1</sup>, *a*<sup>1</sup>, in said side of the face, and cutters *c*, *c*, standing along one side of the slots, in combination with the stationary hopper bottom B, formed convex on top and provided with the slot *b* extending from one side part way across the said bottom, and the hopper B<sup>1</sup> mounted revolubly on the bottom B<sup>1</sup>, substantially as described and shown. 10th. In combination with the hopper, cutters in the bottom of said hopper, follower and screw operating said follower, a yoke over the hopper, and a nut on said yoke receiving through it the aforesaid screw, and divided to facilitate the attachment and detachment of said screw, as set forth. 11th. In combination with the supporting frame and hopper bottom B fixed thereto, and the cutter-head H protruding through said bottom, the hopper B<sup>1</sup> mounted revolubly on said bottom, the follower C connected to the hopper by vertical tongue and groove, standards T, T, the yoke Y, provided with the nut *d*, and the feed screw D, working in said nut and rigidly secured to the follower, substantially as described and shown. 12th. In combination with the supporting frame, hopper and follower, the standards T, T, the yoke Y pivotally connected at one end to one of the standard, and having its opposite end formed with a notch adapted to receive the upper end of the other standard, nuts on the standard over the yoke, a fixed half nut in the centre of the yoke, a half nut hinged to said portion of the yoke, and detachably locked thereon, and the feed screw D fixed to the follower and working in the said nut, substantially as described and shown. 13th. The combination of the supporting frame A, having affixed to it the convex hopper bottom B, the shaft *e* extending across the underside of the said bottom, the cutter-head H fixed to the said shaft and protruding through the bottom, the hopper B<sup>1</sup>, mounted revolubly on the bottom B, the annular rack *f* fixed to the exterior of the hopper, the lever *g* pivoted to the frame, the crank *h* secured to the shaft *e*, the pitman *i* connecting said crank to the lower end of the lever *g*, and the pawls *l* and *l*<sup>1</sup> connected to the said lever at opposite sides of the fulcrum, and engaging the aforesaid rack, all combined to operate, substantially as set forth.

**No. 39,399. Cartridge for Explosives.**

(*Cartouche pour explosifs.*)

John Cape Butterfield and Telford Clarence Batchelor, both of London, England, 20th July, 1892; 6 years.

*Claim.*—1st. The manufacture of cartridges having metallic air tight and damp proof cases, substantially as described. 2nd. The method of charging high explosives in suitable metallic cases so as to form damp proof cartridges, substantially as described. 3rd. The use of metallic cases for mining cartridges, substantially as described.

**No. 39,400. Metal Post.** (*Poteau métallique.*)

John Holmes Huntress, Janesville, Wisconsin, U.S.A., 20th July, 1892; 6 years.

*Claim.*—1st. In a post, the combination, with a series of corner pieces, of sides secured thereto, composed of wire, substantially as set forth. 2nd. The combination, with a series of corner pieces, of sides secured to and connecting said corner pieces, said sides being each made of a single piece of wire, substantially as set forth. 3rd. The combination, with a series of corner pieces, of sides secured to and connecting said corner pieces, each side being made of wire, and braces secured to said sides, substantially as set forth. 4th. The combination, with a series of corner pieces, and rivets or bolts projecting through said corner pieces, of sides composed of wire, connecting said corner pieces, said wire being bent to produce loops to encircle said rivets, and wire braces lopped around the wire constituting the sides in proximity to the loops in the wire composing the sides of the post, substantially as set forth. 5th. The combination, with a series of corner pieces, of wire sides secured to and connecting said corner pieces, said wire being bent to produce steps, substantially as set forth. 6th. The combination, with a series of corner pieces, arms or projections at their lower ends, whereby to secure them to the ground, and arms or projections at the upper ends of said corner pieces for the reception of a cross bar or arm, of sides connecting said corner pieces, said sides being composed of wire, substantially as set forth.

**No. 39,401. Valve for Pumps.** (*Souape de pompe.*)

The Canadian Rand Drill Company, assignee of Frederick Arthur Halsey, all of Sherbrooke, Quebec, Canada, 20th July, 1892; 6 years.

*Claim.*—1st. In a pump of the class described, the combination, with a valve for inlet to or discharge from the pump cylinder, and which valve has reciprocatory movement in a guide or box, and is adapted to be opened by pressure from within or without the cylinder, of a frictional pressure bearing, supplemental to the guide or box in which the valve has play, and adapted to act upon the peripheral surface of the valve, as described and for the purpose specified. 2nd. In a pump of the class described, provided with a positively operated valve closing mechanism to proximately close the valves to their seats and thereafter to leave said valves free to be opened by the pressure within or without the cylinder, the combination, with said valves and the guides or boxes in which they have reciprocatory movement, of a frictional pressure bearing adapted to act upon the peripheral surface of the valves respectively, substantially as and for the purpose set forth. 3rd. In a pump of the class described, the combination, with a valve for inlet to or discharge from the pump cylinder, and which valve has reciprocatory movement in a guide or box, and is adapted to be opened by pressure from within or without the cylinder, of an adjustable frictional pressure bearing, supplemental to the guide or box in which the valve has play, and adapted to act upon the peripheral surface of the valve, substantially as and for the purpose set forth. 4th. In a pump of the class described, in which the cylinder valves are adapted to be opened by pressure from within or without the cylinder, and have reciprocatory movement in the cylinder heads with fixed stems thereon having play in corresponding boxes, the combination, with the valves and their stems, respectively, of frictional pressure blocks seated in slots in the walls of the stem boxes, respectively, with their inner ends bearing and acting upon the peripheral surfaces of the said valve stems, and adjustable springs impinging upon the outer ends of said blocks, substantially as and for the purpose set forth.

**No. 39,402. Alloy of Aluminium.**

(*Alliage d'aluminium.*)

John Williams Langley, Edgewoodville, Pennsylvania, U.S.A., 20th July, 1892; 6 years.

*Claim.*—1st. In the art of alloying aluminium with more electro negative metals, whose oxides or salts are difficult of reduction, the method herein described, which consists in incorporating such oxide or salt with a molten fluoride bath, and then adding aluminium thereto, substantially as described. 2nd. In the art of alloying aluminium with more electro negative metals, whose oxides or salts are difficult of reduction, the method herein described, which consists in treating such oxide or salt with molten aluminium in a molten fluoride bath contained in a non-silicious vessel, whereby the metallic base of the oxide is reduced and alloyed, substantially as described. 3rd. As a new article of manufacture, an alloy of titanium aluminium containing less than ten per cent of titanium, substantially as described.

**No. 39,403. Transom Operator.**

(*Machine pour ouvrir et fermer les chassis.*)

George William Hamilton, Boston, Massachusetts, U.S.A., 20th July, 1892; 6 years.

*Claim.*—1st. In a transom and sash operator and fastener, a push bar hinged at one end in such a manner as to allow the bar to partially turn on edge, the free end of the bar passing through a locking plate having a slot which forms a guide in which the push bar slides when partially turned, the bar having a series of openings which are thrust into engagement with a stop on the locking plate when the sliding of the bar brings one of the openings in line with the stop, substantially as described. 2nd. In a transom and sash operator and fastener, a push bar hinged at one end in such a manner as to allow the bar to partially turn on edge against spring pressure, the free end of the bar passing through a locking plate having a slot which forms a guide in which the push bar slides when partially turned against the pressure of the spring, the bar having a series of openings which are forced by the spring into engagement with a stop on the locking plate when the sliding of the bar brings one of the openings in line with the stop and the bar is allowed to yield to the spring pressure, substantially as described.

**No. 39,404. Hose Coupler.** (*Joint de bo. au.*)

The Consolidated Car Heating Co., assignee of James Finney McElroy, all of Albany, New York, U. S. A., 20th July, 1892, 6 years.

*Claim.*—1st. The combination, with the train pipe of railway cars, of a connection for the ends thereof upon adjoining cars, comprising an angled offset upon the end of the train pipe, a double bent flexible connecting pipe secured thereto, a semi-coupler at the free end thereof, an oppositely extending angled offset upon the end of the adjoining train pipe and a semi-coupler at the end thereof, substantially as described. 2nd. The combination, with the train pipe of railway cars, of a connection for the ends thereof upon adjoining cars comprising an angled offset upon the end of one train pipe, a double bent flexible connecting pipe secured thereto, a semi-coupler

secured at the outer end thereof and consisting of a coupling head, having a rotary ring with a double cam upon its periphery, an oppositely extending angled offset upon the end of the adjacent train pipe, a stationary coupler upon said offset, having socketted jaws with which said cams are adapted to engage, substantially as described. 3rd. The combination, with the train pipes of adjacent cars, arranged in line of an angled horizontal offset upon the ends of the train pipes extending in opposite directions, of a semi-coupler upon one offset and a flexible hose having a semi-coupler at its free end, secured to the other offset, said hose having sufficient slack to take up the motion between the cars, substantially as described. 4th. The combination, with the train pipes of adjacent cars arranged in line, of angled horizontal offsets upon the ends of the train pipes, extending in opposite directions, a semi-coupler upon one offset, and a flexible hose having a semi-coupler at its free end secured to the other offset, said hose having its slack arranged in an S-shape between the train pipes, substantially as described.

**No. 39,405. Regulator for Temperature.**

(*Régulateur de la température.*)

The Consolidated Car Heating Co., assignee of James Finney McElroy, all of Albany, New York, U.S.A., 20th July, 1892; 6 years.

*Claim.*—1st. In a temperature regulator, the combination, with the frame and the actuating mechanism, of a thermostat adjustably secured in relation to the actuating mechanism, substantially as described. 2nd. In a temperature regulator, the combination, with the frame, the actuating mechanism of a thermostat, consisting of a cell containing an expansible medium, and means for adjusting said cell to and from the actuating mechanism, substantially as described. 3rd. In a temperature regulator, the combination, with the frame, a thermostat consisting of a cell containing an expansible medium, a central screw threaded shank secured to said cell, a lever for rotating said cell and adjusting it to or from the actuating medium, substantially as described. 4th. In a temperature regulator, the combination, with the frame actuating lever, a thermostat and a valve adapted to be moved by said thermostat, of a rigid connecting frame between said frame and valve casing, embracing an elbow or bend, and bell crank lever in said elbow, substantially as described. 5th. The combination, with a temperature regulator, and a tubular frame connecting the frame of the regulator with the valve casing, of an elbow O, having a pin cast integral therewith, a bell crank lever having the socket adapted to fit upon said pin and bearing at the end to connect with the actuating rods, substantially as described. 6th. In a device of the kind described, the combination of the tubular frame, of the elbow O, having the pin cast O, cast integral therewith, the bell crank lever R, and the face plate S, the parts being arranged to operate, substantially as and for the purpose described.

**No. 39,406. Car Heating Apparatus.**

(*Appareil de chauffage des chars.*)

The Consolidated Car Heating Co., assignee of James Finney McElroy, all of Albany, New York, U. S. A., 20th July, 1892; 6 years.

*Claim.*—1st. In a hot water heating apparatus adapted to be heated by the injection of steam therein, the combination, with the circulating pipes, expansion drum and overflow pipe, of a steam supply pipe entering said system, an air inlet in supply pipe and a check valve in said inlet closed by the pressure within said pipes, substantially as described. 2nd. In a hot water heating apparatus adapted to be heated by the injection of steam therein, the combination, with the circulating pipes expansion drum and overflow pipe, of a steam supply pipe entering said system, a connection between said steam and overflow pipes, and a check valve in connection, substantially as described. 3rd. In a hot water heating apparatus, the combination of a system of circulating pipes, an expansion drum and an overflow pipe, a steam supply pipe entering said system and discharging therein a portion of said steam supply extending above the water level in said drum, and a connection between said extension and the overflow pipe, substantially as described.

**No. 39,407. Car Heating Apparatus.**

(*Appareil de chauffage des chars.*)

The Consolidated Car Heating Company, Wheeling, West Virginia, assignee of James Finney McElroy, Albany, New York, U.S.A., 20th July, 1892; 6 years.

*Claim.*—1st. In a car heating apparatus, the combination, with the piping, of a heater secured beneath the car floor, a plate in the floor, and pipes connecting the heater and plate, such pipes forming the means of support for the heater and forming a part of the circulating system, substantially as described. 2nd. In a car heating apparatus, the combination, with a system horizontal piping at the side of the car, of lateral connections from said piping forming outgoing and return pipes, and an overflow pipe, of a heater beneath the car, pipes suspending said heater from a plate in the car floor, connections from said pipes to the lateral connections, and a steam supply pipe entering the heater, substantially as described. 3rd. In a car heating system, the combination, with a system of horizontal piping at the side of a car, lateral connections from said piping forming outgoing and re-

turn pipes, an overflow pipe, a heater beneath the car, pipes suspending said heater from a plate in the car floor, connections from said pipes to the lateral connections, an exit pipe suspended from said plate, and a connection from the overflow pipe to the exit pipe, substantially as described. 4th. The combination, with a system of water circulating pipes within the car, having an overflow pipe, of a plate secured in the car floor, vertical pipes secured to said plate, connections between said pipes and the circulating pipes, a heater suspended by the pipes from said plate, a steam supply pipe and an exit pipe, suspended from said plate, and connections from the steam supply pipe to the heater, and from the overflow pipe to the exit pipe, substantially as described. 5th. The combination of an apertured plate secured in the car floor, depending circulating pipes secured thereto, and a heater suspended on said pipes, substantially as described. 6th. The combination of an apertured plate secured in the car floor, depending pipe sections secured to said plate and extending therethrough, a heater suspended on said pipes and connections from said extensions to the circulating system, substantially as described.

**No. 39,408. Hot Water Heating Apparatus for Railway Cars.** (*Appareil de chauffage à l'eau pour chars de chemin de fer.*)

The Consolidated Car Heating Co., Wheeling, West Virginia, U.S.A., assignee of James Finney McElroy, Albany, New York, U.S.A., 20th June, 1892; 6 years.

*Claim.*—1st. In a hot water heating apparatus for railway cars, the combination of a main heater at the lowest point of the system, a series of circuits connecting therewith, and a secondary heater in one of said circuits, substantially as described. 2nd. In a hot water heating apparatus for railway cars, the combination of a main heater at the lowest point of the system, a series of circuits connecting therewith, having the inlet and outlet pipes at bottom and top, respectively, and at opposite ends, and a secondary heater in one of said circuits, the outgoing pipe from the secondary heater forming a return pipe to the main heater, substantially as described. 3rd. In a hot water heating apparatus for railway cars, a heater comprising the casing A, heads B, B', the steam pipes b, d, and the yielding section h, substantially as described. 4th. In a hot water heating apparatus for railway cars, the combination, with a main heater, of a series of circuits communicating therewith at points beyond the radiating portion thereof, and a secondary heater in one of said circuits. 5th. In a hot water heating apparatus for railway cars, the combination, with the main heater, of a series of circuits connected therewith, one of the circuits being of larger diameter than the others, and a secondary heater in the larger circuit, substantially as described. 6th. In a hot water heating apparatus for railway cars, the combination, with a main supply pipe, of a steam heater beneath the car with which said steam pipe connects, of a series of pipe circuits connected therewith and extending into the car, substantially as described. 7th. In a hot water heating apparatus for railway cars, the combination, with a main supply pipe, a steam heater secured beneath the car and with which said steam pipe connects, of a series of water circulating pipes, extending from at or near the top of said heater into the car and return pipes from said heater connected at the bottom thereof, substantially as described. 8th. In a hot water heating apparatus for railway cars, the combination, with the main steam supply pipe, of a steam heater beneath the car with which said pipe connects, of a series of pipe circuits extending from at or near the top of said heater at one end into the car, and return pipes from said circuits connected with the heater at or near the lowest point of the opposite end, substantially as described.

**No. 39,409. Regulator for Temperature.**

(*Régulateur de la température.*)

The Consolidated Car Heating Co., Wheeling, West Virginia, assignee of James Finney McElroy, Albany, New York, U.S.A., 20th June, 1892; 6 years.

*Claim.*—1st. In a temperature regulator, the combination, with the frame, a thermostat, two levers between which said thermostat is secured, and connections from said levers to the device to be operated, substantially as described. 2nd. In a temperature regulator, the combination, with the frame, a thermostat, two levers between which said thermostat is secured, a connecting rod and connections between said levers and the rod, substantially as described. 3rd. In a temperature regulator, the combination, with the frame, a thermostat, two levers between which said thermostat is secured, a connecting rod and toggle connection between said rod and levers, substantially as described. 4th. In a temperature regulator, the combination, with the frame, a thermostat, two actuating levers on opposite sides of the thermostat, a connecting rod, a head on the rod, and toggle levers connecting the head and actuating levers, substantially as described. 5th. In a temperature regulator, the combination, with the frame, two levers pivoted thereto, a thermostat secured between said levers, and right and left hand screw threaded stems on said thermostat engaging with said levers, substantially as described. 6th. In a temperature regulator, the combination, with the frame, the thermostat having side projections, and the levers on opposite sides of the thermostat composed of two parts clamped upon

said side projections, substantially as described. 7th. In a temperature regulator, the combination, with the frame, the thermostat having screw threaded stems on opposite sides, the blocks with which said stems engage, the levers on opposite sides of said thermostat, to which said blocks are pivoted, substantially as described.

**No. 39,410. Regulator for Temperature.**

(*Régulateur de la température.*)

The consolidated Car Heating Company, Wheeling, West Virginia, assignee of James Finney McElroy, Albany, New York, U.S.A., 20th July, 1892; 6 years.

*Claim.*—1st. In a temperature regulator, the combination of the frame secured to the wall, the horizontally arranged thermic cell suspended therefrom, a rod extending beside the wall, a valve actuated by said rod, and a bracket connecting said rod with the centre of the thermostat, substantially as described. 2nd. In a temperature regulator, the combination of the frame secured to the wall, the horizontally arranged thermic cell suspended therefrom, a rod extending beside the wall, a valve actuated by said rod, a bracket with which the upper end is adjustably connected, and a connection between the centre of the cell and said bracket, substantially as described. 3rd. In a temperature regulator, the combination of the frame, the thermic cell, a bracket connected to said cell, a connecting rod extending to the valve to be operated, and a screw threaded engagement between the rod and bracket, whereby the rod may be lengthened or shortened by turning it within the bracket, substantially as described. 4th. In a temperature regulator, the combination of a frame, the thermostat and the connecting rod, of a stem on the thermostat having segmental screw threaded portions, a socket in the frame, having corresponding segmental screw threaded portions, with intermediate slots, substantially as described. 5th. In a temperature regulator, the combination, with the frame, the bracket B, thermic cell E, the bracket M, having the downward extending arm N, the rod D, adjustably secured to said bracket, substantially as described. 6th. In a temperature regulator, the combination, with the thermic cell, the bracket M, the rod D, having a screw threaded engagement with said bracket, and means for turning said rod to adjust it vertically, substantially as described.

**No. 39,411. Coupler for Electric Wires.**

(*Joints pour fils électriques.*)

The Consolidated Car Heating Company, Wheeling, West Virginia, assignee of James Finney McElroy, Albany, New York, U.S.A., 20th July, 1892; 6 years.

*Claim.*—1st. In a coupler for electric wires, the combination of two heads of insulating material, multiple metallic tongues forwardly extending therefrom, one or more of said tongues being loosely connected with the head, and of springs to engage with said tongues within the heads, substantially as and for the purpose described. 2nd. In a coupler for electric wires, the combination of two intermembering heads of insulating material, of metallic tongues forwardly extending therefrom, having inner contacting faces and notches or grooves on their outer faces, contact springs within the heads arranged opposite the tongues separated therefrom, and provided with inwardly extending bends engaging in grooves in the tongues, and clamping the tongues together, substantially as described. 3rd. In a coupler for electric wires, the combination of two intermembering heads of insulating material, each head comprising a multiple of forwardly extending metallic tongues secured in notches at the forward end of said head, with inner contact faces in the central line of the coupler, and having notches or grooves formed on their outer faces, contact springs secured at one side of the head and overhanging the notches in the coupler head, normally separated from said tongues and having inwardly extending bends corresponding to the notches in the tongues, substantially as described. 4th. In an electric coupler, the combination of a coupling head of insulating material having an upper flat face, of contact springs secured to the rear end of this face, and extending to near the forward end of the head, an interiorly grooved cap secured upon the head and enclosing the springs and the forwardly extending metallic tongues arranged as and for the purpose described.

**No. 39,412. Apparatus for Heating Cars.**

(*Appareil de chauffage pour les chars.*)

The Consolidated Car Heating Company, Wheeling, West Virginia, assignee of George Westinghouse, Pittsburg, Pennsylvania, U.S.A., 20th July, 1892; 6 years.

*Claim.*—1st. In a car heating apparatus, the combination, with the main supply pipe and a main return pipe, of radiators communicating with the pipes, and a communicating valve between the pipes, consisting of a casing constructed with a series of communicating compartments and automatically operating valves between the same, arranged to be opened and closed, respectively, on the admission of steam, whereby either main may be used for return or supply, substantially as described. 2nd. The combination, with the two train pipes and radiator pipes connected therewith, of a valve located between the train pipes, constructed with a series of chambers into which the supply and return pipes lead, respectively, and steam operated valves between the valve chamber, controlling

the flow of the steam from the supply pipe to the radiators and water of condensation from the radiator to the train pipe, substantially as described. 3rd. The combination, with the two train pipes and radiator pipes communicating therewith, of supply and return pipes, a valve arranged so that the steam opens the communicating valves between certain chambers and closes the communication between the other chambers connected with the train pipes, consisting of a casing having partitions forming inlet and outlet supply and return chambers, and automatic valves between the chambers, whereby either main may be used to supply or return, substantially as described. 4th. A valve consisting of a casing divided interiorly into a series of communicating chambers, pipes leading into the same, and valves arranged to be actuated by the steam pressure between the chambers, substantially as described. 5th. In a car heating apparatus, the combination of a radiator, two lines of conducting pipe extending from places or points convenient for the supply of steam and for the exhaustion of water of condensation, respectively, a valve mechanism having suitable connections to said lines of pipe and to the radiator, the valve or valve of such mechanism being adapted to be shifted by steam pressure introduced through either of said lines of pipe, and a system of ports adapted in either position of the valve or valves to afford a passage way from the then steam supply pipe to the radiator, and another passage way from the radiator to the opposite pipe, substantially as set forth. 6th. In a car heating apparatus, the combination of a radiator, two lines of conducting pipe adapted to be coupled up at either end of the car with suitable connections by one line of pipe to a steam generator, and by the other line of pipe to an ejector condenser, a valve mechanism having suitable connections to said lines of pipe and to the radiator, the valve or valves of such mechanism being adapted to be shifted in position by steam pressure through either of said two lines of pipe, and a system of ports adapted in either position of the valve or valves to afford a passage way from the steam supply pipe to the radiator, and another passage from the radiator to the opposite pipe, substantially as set forth. 7th. In an apparatus for heating cars, the combination of two lines of fluid conducting pipe, a valve chamber connected at its ends to said line of pipe and provided with an outlet and an inlet port, a valve reversible by fluid pressure in one of the lines of pipe and provided with separate compartments, ports leading to said compartments and arranged in certain positions of the valve to register with the inlet port, and tubes connecting said compartments with the valve chamber at opposite ends of the valve, substantially as set forth. 8th. In an apparatus for heating cars, the combination of two lines of fluid conducting pipe, a valve chamber connected to said lines and to a trap, heat radiating devices connected to the chamber and to the trap, and a reversible valve operated by fluid pressure in one of said conducting pipes and controlling the flow of fluid from one of the conducting pipes to the radiating devices and from the trap to the other conducting pipe, substantially as set forth. 9th. In a car heating apparatus, the combination of a radiator, two lines of pipe extending from places or points convenient for the supply of steam and exhaustion of water of condensation, respectively, a trap connected to the radiator for receiving the water of condensation, a valve mechanism having suitable connections to the trap and to the said lines of pipe, the valve or valves of such mechanism being adapted to be shifted in position by steam pressure introduced through either of said lines of pipe, and a system of ports adapted in either position of the valve or valves to afford a passage way from the then steam supply pipe to the radiator and another passage way from the steam trap to the opposite pipe, substantially as set forth. 10th. In an apparatus for heating cars, the combination of two lines of fluid conducting pipe, one of said lines being connected with the boiler of the engine, heat radiating devices located in the cars, a reversible valve mechanism connected to the lines of pipe and to the heat radiating devices, a trap connected to the heat radiating devices and to the valve mechanism, and an ejector condenser located on the engine and connected to the other line of conducting pipe and constructed to draw the steam from said line of pipe and to the traps connected therewith, and condensing the same to discharge it into the tank of the engine, substantially as set forth.

#### No. 39,413. Dumping Car. (*Chur-tombereau.*)

Malachi O'Connor, Oswego, New York, U.S.A., 21st July, 1892; 6 years.

*Claim.*—1st. The combination, with a tilting or dumping car body having suitable gate mechanism, of a truck pivotally connected along its median line to the longitudinal centre of the car body, and composed of metallic skeleton side frames extended at each end beyond the truck wheels, and having such extensions provided with standards or posts by which the car body is supported in its normal horizontal position, substantially as described. 2nd. The combination, with a tilting or dumping car body, of a truck pivotally connected along its median line to the longitudinal centre of the car body, and composed of metallic skeleton side frames extending at each end beyond the truck wheels, and having such extensions provided with standards or posts, by which the car body is supported in its normal horizontal position, and gate mechanism composed of swinging arms pivoted to the standards or posts, levers pivoted at one end to the arms and to the car body, and a gate attached to the opposite end of the levers, substantially as described.

#### No. 39,414. Compound Engine. (*Machine compound.*)

Clifford H. Batchellor, Providence, Rhode Island, U.S.A., 22nd July, 1892; 6 years.

*Claim.*—1st. In a compound engine, the combination, with the high and low pressure cylinders, and a receiver connecting the two, of a valve for opening or closing said receiver to the atmosphere, a valve for opening or closing the communication between said receiver and the low pressure cylinder, and a valve for opening or closing said low pressure cylinder to live steam, all of said valves being automatically operated by steam pressure, substantially as described. 2nd. In a compound engine, the combination, with the high and low pressure cylinders, and a receiver connecting the two, of a valve for opening or closing said receiver to the atmosphere, a valve for opening or closing the communication between said receiver and the low pressure cylinder, a valve for opening or closing said low pressure cylinder to live steam, all of said valves being automatically operated by steam pressure, and a controlling valve to control the admission or exclusion of steam to operate said automatically operated valves, substantially as described. 3rd. In a compound engine, the combination, with the high and low pressure cylinders and a receiver connecting the two, of a chamber communicating with said receiver, differential piston valves working in said chamber, a pipe communicating with said chamber, and a controlling valve for connecting said pipe either with a steam supply or with the atmosphere, whereby by the manipulation of said controlling valve said piston valves will be automatically moved by steam pressure to open or close said receiver to the atmosphere, as may be desired, substantially as described. 4th. In a compound engine, the combination, with the high and low pressure cylinders and a receiver connecting the two, of a chamber communicating with the steam passage leading to the low pressure cylinder, differential piston valves working in said chamber, a pipe connecting said chamber with the boiler, a second pipe communicating with the said chamber, and a controlling valve for connecting said last named pipe either with a steam supply or with the atmosphere, whereby by the manipulation of said controlling valve said piston valves will be automatically moved by steam pressure to open said low pressure cylinder either to live steam from the boiler or to exhaust steam from the receiver, as may be desired, substantially as described. 5th. The combination, with the high and low pressure cylinders and a receiver connecting the two, of a chamber communicating with the steam passage leading to the low pressure cylinder, piston valves working in said chamber, a pipe connecting said chamber with the boiler, a second pipe communicating with said chamber, a controlling valve for connecting said last named pipe either with a steam supply or with the atmosphere, and a reducing valve located between said chamber and the low pressure cylinder, whereby by the manipulation of said controlling valve said piston valves will be automatically moved to open said low pressure cylinder either to live steam from the boiler or to exhaust steam from the receiver, and when opened to live steam from the boiler the pressure of said live steam will be reduced by said reducing valve, substantially as described. 6th. The combination, with the high and low pressure cylinders and a receiver connecting the two, of a chamber communicating with the steam passage leading to the low pressure cylinder, differential piston valves working in said chamber, a pipe connecting said chamber with the boiler, a second pipe communicating with said chamber, a controlling valve for connecting said last named pipe either with a steam supply or with the atmosphere, and a proportional reducing valve located between said chamber and the steam passage leading to the low pressure cylinder, whereby by the manipulation of said controlling valve said piston valves will be automatically moved to open said low pressure cylinder either to live steam from the boiler or to exhaust steam from the receiver, and when open to live steam from the boiler the pressure of said live steam will be reduced by said reducing valve proportionately to the difference in areas between the pistons of the high and low pressure cylinders, substantially as described. 7th. The combination, with the high and low pressure cylinders and a receiver connecting the two, of valves adapted to be automatically operated for opening the low pressure cylinder either to live steam from the boiler or to exhaust steam from the receiver valves adapted to be automatically operated for opening or closing said receiver to the atmosphere, and a hand operated controlling valve having suitable connections with a steam supply and with the atmosphere, whereby with said controlling valve in one position the engine will be automatically thrown from the simple to the compound system upon the attainment of a predetermined pressure in the receiver, and with said controlling valve in another position the engine will continue to run upon the simple system as long as desired, substantially as described. 8th. The combination, with the high and low pressure cylinders and a receiver connecting the two, of the two chambers A<sup>1</sup> and C<sup>1</sup>, the four-way controlling valve H, the pipes K and M connecting said controlling valve with the atmosphere and with a steam supply, respectively, and the pipes L and N connecting said controlling valve with the chambers A<sup>1</sup> and C<sup>1</sup>, respectively, substantially as described. 9th. The combination, with the high and low pressure cylinders and a receiver connecting the two, of the chamber C<sup>1</sup> communicating with said receiver and with the atmosphere, the differential piston valves F and F<sup>1</sup> secured to a common valve stem, the connecting pipe N for admitting steam

to the said chamber C<sup>1</sup> in front of the piston F<sup>1</sup>, or for opening the same to the atmosphere, and the controlling valve H for controlling the admission of steam to the pipe N or opening the same to the atmosphere, substantially as described. 10th. The combination, with the high and low pressure cylinders and the receiver connecting the two, of the chamber A<sup>1</sup> having an opening or port *e* leading to the low pressure cylinder, the differential piston valves *a* and *b* secured to a common valve stem, the pipe J connecting said chamber A<sup>1</sup> with the boiler, the pipe L for admitting steam to the said chamber A<sup>1</sup> in front of the piston *a*, or for opening the same to the atmosphere, and the controlling valve H for controlling the admission of steam to the pipe L or opening the same to the atmosphere, substantially as described. 11th. The combination, with the high and low pressure cylinders, of the receiver B<sup>1</sup>, the chamber A<sup>1</sup> secured to the said receiver, and having openings or ports *e* and *h* for the passage of steam, the pipe L communicating with said chamber A<sup>1</sup>, the steam passage E leading to the low pressure cylinder, the differential valves *b* and *c*, secured to a common valve stem, for opening and closing the ports *e* and *h*, respectively, and the reducing valve D, in communication with the port *e*, for reducing the pressure of the live steam before its admission to the low pressure cylinder, substantially as described.

**No. 39,415. Two Wheeled Vehicle.**

(*Voiture à deux roues.*)

Derry Snyder, Elkland, Pennsylvania, U.S.A., 22nd July, 1892; 6 years.

*Claim.*—1st. In a vehicle, the combination, with shafts and braces, of seat bars loosely secured at their front ends to the shafts, loops embracing said bars, and springs secured to the bars and loops and yieldingly supporting the seat bars, substantially as set forth. 2nd. In a vehicle, the combination, with shafts and braces, of seat bars pivoted at their front ends to the shafts, loops supported in bearings above the seat bars, and embracing said bars, and springs secured to the seat bars behind the loops and extending forward and connected to the loops, substantially as set forth. 3rd. In a vehicle, the combination, with shafts, braces, seat bars and seat, of hooks secured to the shafts, loops depending from the hooks and embracing the seat bars, springs secured to the seat bars and supported at their opposite ends on the loops, and a removable foot rest supported on the brace and seat bars, substantially as set forth. 4th. In a vehicle, the combination, with shafts, braces, seat bars and seat, of hooks depending from the shafts, loops depending from the hooks, removable pins adapted to be passed through the loops beneath the seat bars, springs connecting the bars and loops, and removable foot rest, substantially as set forth. 5th. In a vehicle, the combination, with shafts, braces, seat bars and seat, of loops for retaining the seat bars in position, springs connecting the seat bars and loops, and removable pins for taking the weight of the seat and the rider off the springs, substantially as set forth, and stirrups removably secured to the seat bars, substantially as set forth. 6th. In a two wheeled vehicle, the combination, with wheels, axle shafts, half circle braces, seat bars connected to the shafts, and a seat held on the bars, of hooks secured to the lower side of the shaft and extending over one of the braces, loops supported in the hooks, removable pins adapted to enter the loops beneath the bars, springs connecting the bars and loops, removable stirrups, and foot rest, substantially as set forth.

**No. 39,416. Mowing Machine. (Foucheuse.)**

Jacob Phillips, Westfield, Pennsylvania, U.S.A., 22nd July, 1892; 6 years.

*Claim.*—1st. The combination, with a frame, a main wheel having a cam edge reciprocating knife bars, of a yoke pivoted to the frame and carrying wheels which bear against said cam edge, and levers pivoted to the frame, the said levers being connected directly to the opposite ends of the yoke and to the cutters, substantially as set forth. 2nd. The combination, with a main cam wheel, frame and a finger bar secured to the front end of the frame, of a pair of knife bars mounted on the finger bar, a vibrating yoke pivoted on the frame, taper wheels on its ends, adapted to engage the cam edge of the main wheel, and levers fulcrumed on the frame and connected directly with the knife bars and yoke, substantially as set forth. 3rd. The combination, with a main cam wheel, a frame, a finger bar secured to the forward end of the frame, and shoes or wheels on which the finger bar is supported at its ends, of a pair of knife bars on the finger bar, a movable yoke pivoted on the frame, taper wheels on its ends adapted to engage the cam edge of the main wheel, and levers fulcrumed on the frame and connected directly with the knife bars and yoke, substantially as set forth. 4th. The combination, with a ground wheel having a cam edge, an axle, a frame mounted on the axle, a cutter secured to the forward end of the frame, a vibrating yoke actuated by the cam edge of the ground wheel, and levers connected with the yoke and attached to the cutters, of a handle mounted on the axle, the said handle and frame being loosely connected so as to enable them to move independently of each other, substantially as set forth.

**No. 39,417. Type Writing Machine. (Clavigraphie.)**

Wellington Parker Kidder, Boston, Massachusetts, U.S.A., 22nd July, 1892; 6 years.

*Claim.*—1st. In a type writing machine, the combination, of side guides E and E<sup>1</sup>, and links *a*<sup>1</sup>, with levers *a*<sup>2</sup> and *a*<sup>3</sup>, and rocker

shafts *a*<sup>0</sup>, the links connecting the levers with the guides, and the levers being mounted on the rocker shafts to actuate the guides, substantially as set forth. 2nd. In a type writing machine, a vertical shift paper carriage *d*, friction roller *d*<sup>0</sup>, and a guide or path *d*<sup>2</sup>, formed in carriage *d*, substantially as set forth. 3rd. In a type writing machine, the combination, of carriage *d*, friction roll *d*<sup>0</sup>, rocker shaft *d*<sup>3</sup>, roll *d*<sup>0</sup>, being supported on rocker shaft *d*<sup>3</sup>, and the key operating the rocker shaft to raise and lower roll *d*<sup>0</sup>, to raise and lower carriage *d*, substantially as set forth. 4th. In a type writing machine, the combination of paper carriage feeding mechanism with a sliding type bar having an inclined surface, and a rocker shaft having an arm engaged by said incline to actuate the carriage feeding mechanism, substantially as set forth. 5th. In a type writer, the combination of a pair of rocker shafts with a series of type bars movable endwise, a pair of movable side guides for the type bars, and mechanism for connecting the side guides with the rocker shafts, and mechanism for actuating the rocker shafts, all combined, substantially as described, to deflect the type bars to the impressive point, substantially as and for the purpose set forth. 6th. In a type writer, the combination of a series of keys and a series of endwise movable type bars, which are arranged radially in respect of the printing point with a pair of rocker shafts, each supporting a side guide, and mechanism for actuating the rocker shafts, the side guides directing the type bars to the printing point, all arranged and operating, substantially as and for the purpose set forth. 7th. In a type writer, the combination of carriage *d*, supporting the platen *d*<sup>1</sup>, with carriage D<sup>1</sup>, pinions *d*<sup>4</sup>, shaft *d*<sup>3</sup>, racks D<sup>3</sup>, and mechanism for reciprocating carriage *d* in a path at an angle to its endwise movement, the pinions and racks meshing to keep the carriage *d* parallel to carriage D<sup>1</sup>, all substantially as and for the purpose set forth. 8th. In a type writer, the combination of carriage *d*, carrying platen *d*<sup>1</sup>, with carriage D<sup>1</sup>, substantially such as described, (that is, roll *d*<sup>0</sup> on rocker shaft *d*<sup>3</sup> and spring *d*<sup>18</sup>) for moving carriage *d* away from carriage D<sup>1</sup>, all substantially as and for the purpose set forth. 9th. In a type writer, a key lever B, a T-shaped rocker arm B<sup>1</sup>, a type bar D, in combination with spacing mechanism, the rocker arm B<sup>1</sup>, being actuated by the key lever, and in turn actuating the type bar and spacing mechanism, all substantially as described. 10th. In a type writer, the combination of an endwise moving paper carriage section *g*<sup>1</sup>, formed with vertical ways *g*<sup>3</sup>, a vertically reciprocating section *g*<sup>1</sup>, supporting the platen *g* mounted in ways *g*<sup>3</sup>, and formed with a cam groove *g*<sup>2</sup>, running endwise of it, a cam roll *g*<sup>8</sup> running in said groove and mounted on a rocking lever *g*<sup>10</sup>, rocker shaft *g*<sup>11</sup>, supporting rocker lever *g*<sup>10</sup>, double lever *g*<sup>12</sup>, on rocker shaft *g*<sup>11</sup>, rocker arms *g*<sup>17</sup>, *g*<sup>18</sup>, on rocker shaft *g*<sup>14</sup>, each engaging the rocker lever *g*<sup>12</sup>, and shifting keys G<sup>1</sup>, G<sup>2</sup>, all substantially as described. 11th. In a type writer, the combination of a series of key levers, a series of type bars, a series of levers connecting the key levers and type bars, a rocker arm common to all the connecting levers and a spring, all substantially as and for the purpose set forth. 12th. In a type writer, the combination of a key lever B, rocker lever B<sup>1</sup>, endwise sliding type bar D, and horizontal guide plate *a*<sup>1</sup>, the rocker lever B<sup>1</sup>, being intermediate the type bar D and key lever B, and being directly connected to the type bar, substantially as shown and described. 13th. In a type writer, the combination of a series of key levers B, a series of endwise moving type bars D, a series of intermediate rocking levers B<sup>1</sup>, and a swinging bar *h*, connected with a rocker shaft *h*<sup>1</sup>, being common to all the rocker levers B<sup>1</sup>, all substantially as and for the purpose set forth. 14th. In a type writer, the combination of a key lever B, with a type bar D, having an edge slot *d*, and a rocking lever B<sup>1</sup>, having its end *b*<sup>1</sup>, at an angle and in the slot *d*, in the type bar, all substantially as described. 15th. In a type writer, the combination of a platen, an endwise moving type bar, means for actuating said type bar, and two pairs of stationary deflecting guides secured to said guide plates mounted in close proximity to the platen, one pair of the stationary guides receiving and guiding the upper end of the type block, and the other pair of guides receiving and guiding the lower end of the type block, all substantially as shown. 16th. In a type writer, the combination of a platen, and endwise sliding type bar, provided with a type block, a supporting plate for the type bar, means for actuating the type bar and two pairs of stationary guides, secured to the said plate, the type block being provided with end extensions each of which is received between a pair of the stationary guides, substantially as and for the purpose set forth.

**No. 39,418. Coin-freed Dynamometer.**

(*Dynamometre à introduction de monnaie.*)

Charles Arthur Barrett and Alfred Barrett, both of London, England, 23rd July, 1892; 6 years.

*Claim.*—1st. In an automatic or coin freed dynamometer or muscular power testing machine, the combination, with a coin receiver, of a sliding bar *c*, a fixed bracket, and reacting springs *d*, the said bar being provided with the aperture *i*, as and for the purposes set forth. 2nd. An automatic or coin-freed dynamometer or muscular power testing machine, so constructed and arranged that, on the power exerted exceeding a given point, the coin inserted for freeing the mechanism will be returned to the operator, substantially as described. 3rd. In an automatic or coin-freed dynamometer or muscular power strength testing machine a hand operated reacting

slide bar, serving when pulled to a given distance to return the deposited coin to the outside of the machine and, when pulled a lesser distance and released, to carry back the coin and deposit it inside the machine. 4th. The combination, with the coin receiving passage provided with a bolt, of a slide bar having apertures  $i$  and  $i^2$ , the bracket  $j$ , having the slides  $j$ ,  $j^1$ , and the coin delivering shoot  $j^2$ , the combination being and operating, substantially as set forth. 5th. The combination, with the sliding bar  $c$ , and fixed bar  $b$ , in a coin-free grip tester, of a loose hinged plate  $p$ , serving when depressed, to arrest further movement of the said bar.

**No. 39,419. Coin-free Dynamometer.**

(*Dynamomètre à introduction de monnaie.*)

Charles Arthur Barrett and Alfred Barrett, both of London, England, 23rd July, 1892; 6 years.

*Claim.*—In a coin-free dynamometer adapted for testing the power of a hand grip, the combination, with the handle  $b$ , bracket  $j$  and coin receiving shoot  $j^2$ , of the spring extensions  $q^1$  on the handle brackets  $q$ , the bar  $x$ , carrying the projection  $s^1$  and the weighted flap  $t^1$  hinged to the shoot  $j^2$ , operating in the manner and for the purpose set forth.

**No. 39,420. Extension Table. (Table à rallonge.)**

Clarence M. Herr and George W. Montgomery, both of Chicago, Illinois, U.S.A., 23rd July, 1892; 6 years.

*Claim.*—1st. In an extension table, legs  $C$ , firmly connected together by outside frame pieces  $A$ ,  $A$ , longitudinal with the table, longitudinal pieces  $A^1$ ,  $A^1$ , attached to the inside of frame pieces  $A$ ,  $A$ , longitudinal therewith, as shown, grooves  $D$ ,  $D^1$ , between  $A$ ,  $A$ , and  $A^1$ ,  $A^1$ , the described slide frames  $E$ ,  $E^1$ , sides  $h$ ,  $h^1$ , of slide frame  $E$ , fitted to slide longitudinally along the inside faces of pieces  $A^1$ ,  $A^1$ , sides  $h^{11}$ ,  $h^{11}$ , of slide frame  $E$ , fitted to slide longitudinally in grooves  $D$ ,  $D^1$ , between  $A$ ,  $A$ , and  $A^1$ ,  $A^1$ , and the boards  $F$ ,  $F^1$ , provided with stops  $i$ ,  $i^1$ , to operate the boxes outwardly in opposite directions and longitudinally with pieces  $A^1$ ,  $A^1$ , substantially as shown and described. 2nd. In an extension table having the described frame and slides, boxes sliding longitudinally within said frame, as described, leaves hinges at their centre of length to fold down into said boxes on cranked hinges  $n^1$ , said hinges firmly attached to said leaves near their centre of length and said hinges journaled in said boxes, as described, and capable of a longitudinal sliding motion on their journals in said boxes, and the described support  $n^1$ , attached to said folding leaves at the under side of said leaves near their centre of length, said support capable of resting upon the top of the lower boxes by virtue of the sliding motion of the journals of said crank hinges when the table is closed, in the manner and for the purpose hereinbefore stated.

**No. 39,421. Match Box. (Boîte à allumettes.)**

Gerald M. Dunne, Hastings, New York, and Edwin C. C. Sinclair and Harry B. Gordon, both of Toronto, Ontario, Canada, 23rd July, 1892; 6 years.

*Claim.*—1st. A match box consisting of a receptacle and a cover, a longitudinal slot in said cover, and an opening arranged at an angle to and entering said slot, said walls of said receptacle inclined to the exterior edge of said longitudinal slot, the exterior edge of said slot and said inclined wall forming a continuous line, substantially as described. 2nd. A match box consisting of an outer casing, a receptacle within said casing, said receptacle divided into two or more divisions, the side walls of each of said divisions inclined from the bottom to the top, a cover for said receptacle, a casing having one or more longitudinal slots for each of said divisions, the exterior edge of each of said longitudinal slots, and the inclined walls of each of said divisions forming a continuous line, an opening arranged at an angle to and entering each of said longitudinal slots, and means for fastening said cover to said outer casing, substantially as described.

**No. 39,422. Clothes Drier. (Séchoir à linge.)**

Allen G. Ingalls, William A. Allan, James H. E. Secretan and Sanford H. Fleming, all of Ottawa, Ontario, Canada, 23rd July, 1892; 6 years.

*Claim.*—1st. The herein described elevating clothes drier, consisting of a frame, supporting bars secured thereto by wire loops clenched or twisted upon the relatively adjacent parts of the frame, the corners of said frame being held together by means of a wire loop, twisted or clenched into the adjacent sides subtending the corner, suspending ropes, pulleys and a tackle for hoisting and lowering the frame, all substantially as set forth. 2nd. In an elevating clothes drier, the combination, with the end and side bars  $b$ ,  $C$ , of the looped fastening  $E$ , engaging the ring  $F$ , to which the suspending ropes are attached, and the middle bars  $B$  secured to the end bars by the wire fastenings  $m$ , as set forth. 3rd. In an elevating clothes drier, the combination, with the frame  $A$ , having the bars  $B$ , of the hooks  $D$ , to form a hinge with any suitable bearings secured to the wall, the opposite side of said frame being suspended from the ceiling, substantially as set forth. 4th. In an elevating clothes drier, the combination, with the drier frame  $A$ , having the bars  $B$ , and rings  $F$ , of the suspending ropes  $k$ , secured to the rings by means of the loop fastening  $l$ , said ropes reeved through the pulleys  $G$ , having the

loop  $P$ , of a continuous piece of metal to form the pivot and the loop, all substantially as set forth. 5th. In an elevating clothes drier having bars, a frame and suspending ropes secured thereto, said ropes passing over pulley sheaves secured to the ceiling, the combination of the pull-off rope  $S$ , engaging with the loop  $k$ , of the pulley  $G^{11}$ , to form with a tackle rope a suitable tackle to hoist and lower said drier frame, all substantially as set forth. 6th. The herein set forth pulley holder made up of the screw  $N$ , and wire  $O$ , to penetrate the plaster and enter the floor above, and thence to suspend below the plaster any suitable pulley to hang an elevating clothes drier, substantially as set forth.

**No. 39,423. Chain Belt. (Chaîne sans fin.)**

James Bennett Ivey and Clifford L. Vegal, both of Macon, Georgia, U. S. A., 23rd July, 1892; 6 years.

*Claim.*—1st. The combination, with chain links hinged together at one point, said links having each one or more depending flanges, of couplings extending from one of these depending flanges to a flange on an adjacent link, substantially as set forth. 2nd. In braced drive chains, and in braced conveyor chains, the link provided with one or two depending side flanges, each of these flanges containing an aperture and an oblique slot, and a brace coupling device pivoted in the aperture of one flange of the link, and adapted to slide in the oblique slot of the flange of the next adjacent link, substantially as described. 3rd. In braced drive chains and braced conveyor chains, a brace coupling device adjustable in length, and attached to each of the two consecutive links, one end of said coupling being pivoted in an aperture in the depending side flange of one link, while the other end of the coupling slides in an oblique slot in the depending side flange of the other link, substantially as described.

**No. 39,424. Fire Escape. (Sauveteur d'incendie.)**

George Cuyler Foose, Warsaw, New York, U. S. A., 25th July, 1892; 6 years.

*Claim.*—In a permanent fire escape, the combination, with the regular corner wall, or walls  $A$  of a building, of an inside wall, or walls  $B$ , built in connection therewith, making a vertical hollow shaft  $C$ , from roof to bottom, provided with a roof house entrance  $E$ , and having a fire proof stairway  $D$  therein, ending in one or more covered passages  $G$ , for street exits, and supplied with a vertical water pipe  $H$ , ending at the top in a perforated pipe  $H^1$ , adapted to the shape of the walls of the shaft, all substantially as and for the purpose specified.

**No. 39,425. Reel. (Dévidoir.)**

Alexander Dobson, Beaverton, Ontario, Canada, 25th July, 1892; 6 years.

*Claim.*—1st. Two or more distributors placed within a reel, and made to revolve in the same direction as, but at a far greater speed than the reel, substantially as and for the purpose specified. 2nd. Two or more distributors placed within a reel, one on the up going side of the said reel, and another substantially opposite to it, the said distributors revolving in the same direction as, but at a far greater speed than the said reel, substantially as and for the purpose specified. 3rd. Two or more distributors placed within a reel, one on the up going side of the said reel and another substantially opposite to it, in combination with a stationary partition located near the periphery of the reel between the two revolving distributors, substantially as and for the purpose specified. 4th. A distributor, consisting of a series of slats fixed to and arranged around a shaft, each slat set at such an angle that its face shall be opposite to the circumference of the reel within which it is placed, substantially as and for the purpose specified.

**No. 39,426. Crate for Eggs. (Boîte à œufs.)**

Charles Carroll Tilghman, Baltimore, Maryland, U.S.A., 25th July, 1892; 6 years.

*Claim.*—1st. A tray for egg crates, consisting of a body part and a cell frame, the latter carrying a series of open ended cells and adapted to fit within the tray and being pivotally connected thereto by links pivoted at one end to the sides of the cell frame near the centre, and at their opposite end to the sides of the tray body near its rear edge, whereby the cell frame may be lifted bodily out of the tray and folded back into a vertical position, leaving the eggs in the tray and free to be removed, substantially as described. 2nd. A tray for egg crates, consisting of a body part having an imperfect bottom and a cell frame, the latter carrying a series of open ended cells and adapted to fit within the tray and being pivotally connected thereto by links pivoted at one end to the sides of the frame near its centre, and at the opposite end to the sides of the tray body near its rear edge, whereby the tray may be filled through the open topped cells and the cell frame may be raised bodily, leaving the eggs loose in the tray and free to be removed, substantially as described. 3rd. In a tray for egg crates, the combination of the body part  $b$ , the wires  $f$  stretched thereacross, the removable imperforate yielding bottom  $b^1$ , supported by said wires, the frame  $c$  carrying the open bottomed cells  $g^1$ , and the links  $h$  pivoted to the sides of the cell frame near the centre and to the tray sides near their rear corners, substantially as described. 4th. In an egg crate, the combination of the box  $A$ , the lid  $B$ , and the supporting strips  $c$ , with

the trays C, the wires *f* stretched thereacross, the imperforate removable yielding bottoms resting thereon, and the cell frames filling the trays and fitting therein and pivoted to the sides thereof by the links *h*, pivotally connected at their forward ends to the outer sides of the cell frames near the centre, and at their rear ends to the inner sides of the tray body near their rear corners, substantially as described.

**No. 39,427. Depurator. (Appareil dépuratoire.)**

John Noxon, Farmland, Indiana, U.S.A., 25th July, 1892; 6 years.

*Claim.*—1st. In a medicated vapour apparatus, the combination of the closed chamber, the vessel mounted in the top of said chamber and provided with an absorbent filling, the steam supply pipe connected with said vessel, the distributing pipes extending from said vessel beneath the top and along the sides of said chamber, and the drip pipe arranged to receive the ends of said distributing pipes, all arranged to co-operate substantially as set forth. 2nd. In a medicated vapour apparatus, the combination of the closed chamber, the boiler, the steam pipe connecting said chamber and boiler, the pair of reservoirs arranged adjacent to said boiler, suitable pipes connecting the lower ends of the reservoirs with the interior of the boiler, pipes connecting the upper ends of the reservoirs with said steam pipe, and suitable stop valves arranged in said pipes between the reservoirs and the boiler, and between the reservoirs and the steam pipe, all arranged to co-operate substantially as and for the purpose set forth. 3rd. In a medicated vapour apparatus, the combination with the closed chamber, the air pump connected therewith, the vessel mounted in the top of the chamber, provided with an absorbent filling, and connected with the interior of the chamber by a series of distributing pipes, the steam pipe connecting the boiler and said vessel, the boiler, and the medicine reservoirs connected with said boiler, all arranged to co-operate substantially as and for the purpose set forth.

**No. 39,428. Stopper for Bottles, Jars, Etc.**

(*Bouchon de bouteilles, jarres, etc.*)

William Priessnitz Bonwick, Paddington, London, England, 25th July, 1892; 6 years.

*Claim.*—1st. A stopper or closure for a bottle, jar or the like, comprising a central stem provided with teeth or projections 2, of approximately ratchet or wedge shape in side view arranged lengthwise of said stem with their thickest portions uppermost, and a facing consisting of a ring or tube of suitable elastic or yielding material such as cork surrounding said stem, and in which said teeth or projections are embedded, substantially as herein described and shown for the purpose specified. 2nd. In a stopper or closure for a bottle, jar or the like, a stem or support 1, having a number of teeth or projections 2, of approximately ratchet or wedge shape in side view, arranged longitudinally of said stem or support with their thickest portions uppermost, and of approximately rectangular form in cross section, substantially as herein described for the purpose specified.

**No. 39,429. Steam Muffler.**

(*Appareil pour assourdir la vapeur.*)

Edwin Shipley Hildebrandt, Baltimore, Maryland, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In combination, with a safety or similar steam discharging valve, a closed expansion chamber enclosing the same, a discharge pipe leading from said chamber, and baffle plates or their equivalents located in the chamber between the valve and said discharge pipe. 2nd. In combination, with a steam discharge valve, an expansion chamber enclosing the same, a baffle in said chamber and a condenser connected with said chamber, whereby the steam is first expanded and reduced in velocity and thereafter introduced into the condenser. 3rd. In combination, with a steam discharging valve, a chamber enclosing the same, a baffle in said chamber, a condensing chamber connected with the expansion chamber and having a body of condensing water in its base, and a perforated plate located in the condensing chamber to divide the body of steam before it reaches the water. 4th. In combination, with a steam discharging valve, an expansion chamber enclosing the same, a baffle plate located in said chamber, a pipe leading from said chamber, a condensing chamber into which said pipe delivers and in which there is a body of water, a perforated plate located between the steam inlet and the water, and a pipe leading from a point between the water level and said plate to the smoke stack.

**No. 39,430. Electric Semaphores. (Sémaphore électrique.)**

Frederick Stitzel and Charles Weinedel, both of Louisville, Kentucky, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning the same in reverse directions, a lever L, a pivoted detent P, and an oscillating arm N<sup>1</sup>, carried by an oscillatory shaft M<sup>2</sup>, substantially as set forth. 2nd. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning the same in reverse directions, a lever L, a pivoted detent P, and devices engaged by said detent, whereby the detent is moved into and out of the path of said lever, substantially as set forth. 3rd.

In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning the signal in opposite directions, a pivoted lever L, an oscillatory shaft M<sup>2</sup>, a pivoted detent P carried by the shaft, and devices for moving said detent into and out of the path of the lever, substantially as set forth. 4th. In a railroad signal, the combination, with a head A, of a signaling device mounted therein, mechanism for turning the signal in opposite directions, a pivoted lever L, an oscillatory shaft M<sup>2</sup>, an armature M<sup>3</sup> carried thereby, an electro magnet M, a pivoted detent carried by the shaft, and devices for moving said detent into and out of the path of the lever, substantially as set forth. 5th. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for moving the same in reverse directions, a pivoted lever L, an oscillatory shaft M<sup>2</sup>, an armature M<sup>3</sup> carried thereby, an electro magnet M, a pivoted detent P carried by the shaft, and an arm N<sup>1</sup> carried by said shaft, substantially as set forth. 6th. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning the same in reverse directions, a pivoted lever L, an oscillatory shaft M<sup>2</sup> having a recess N in the path of the free end of said lever, a pivoted detent P, carried by the shaft, devices for moving said detent into and out of the path of said recess, and an electro magnet, substantially as set forth. 7th. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning the same in reverse directions, a pivoted lever L, an oscillatory shaft M<sup>2</sup>, having a recess N in the path of the free end of said lever, a pivoted detent P carried by the shaft, devices for moving the detent into and out of line with said recess, an arm N<sup>1</sup> secured to the shaft having a shoulder in line with the recess N, and an electro magnet N, substantially as set forth. 8th. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning the same in reverse directions, a pivoted lever L, a pivoted detent P in the path of said lever, and an arm on said detent and a recessed arm Q, with which the arm on the detent P engages, substantially as set forth. 9th. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning said signal device in reverse directions, a pivoted lever L, an oscillatory shaft M<sup>2</sup>, carrying an armature M<sup>3</sup>, a magnet M, a detent P pivoted on said shaft, an arm on said detent, and an arm Q secured to an upright, and having a recessed end in which the arm on the detent P is adapted to oscillate, substantially as set forth. 10th. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning said signal in reverse directions, a pivoted detent L, an oscillatory shaft M<sup>2</sup>, carrying an armature M<sup>3</sup>, a magnet M, a detent P pivoted on said shaft, and an arm P<sup>1</sup> on said detent, an arm Q<sup>1</sup> secured to an upright, and having a recessed end in which the arm on the detent is adapted to oscillate, and a flange a on the detent, substantially as set forth. 11th. In a semaphore, the combination, with a head A, of a signaling device mounted therein, mechanism for turning said signaling device in reverse directions, a pivoted lever L, a roller *k* in rear of the pivot to be engaged by the operating mechanism, an oscillatory shaft M for controlling the operation of the oscillatory shaft, substantially as set forth. 12th. In a semaphore, the combination, with a head A, of two shafts D, F<sup>1</sup> mounted therein, a visual signal blade E, and a weighted arm I, secured to one of said shafts, a pivoted latch I<sup>3</sup>, carried by said weighted arm I, a weighted sprocket chain I<sup>2</sup>, passing over the other shaft to drive it, a wheel H on the latter shaft having projections *c*<sup>1</sup>, to engage the pivoted latch, a pivoted curved plate I<sup>4</sup>, adapted to bear against said latch, a pivoted lever L, a link I<sup>1</sup>, connecting the lever and curved plate, and a pivoted detent P, with which the lever engages, substantially as set forth. 13th. In a semaphore, the combination, with a head A, of two shafts D, F<sup>1</sup> mounted therein, a visual signal blade E, and a weighted arm I secured to one of said shafts, a lug *g*<sup>2</sup> on said arm, a stop *g*<sup>3</sup> on the head, with which said lug *g*<sup>2</sup> engages, a pivoted latch I<sup>3</sup> carried by said weighted arm, a weighted sprocket chain I<sup>2</sup> passing over the other shaft to drive it, a wheel H also on the latter shaft, having projections *c*<sup>1</sup> to engage the pivoted latch, and devices for releasing said arm from said wheel, substantially as set forth. 14th. In a semaphore, the combination, with a head A, of two shafts D, F<sup>1</sup> mounted therein, a visual signal blade E, and a weighted arm I secured to one end of said shafts, a lug *g*<sup>2</sup> on said arm, a stop *g*<sup>3</sup> on the head, with which said lug *g*<sup>2</sup> engages, a pivoted latch I<sup>3</sup> carried by said weighted arm, a weighted sprocket chain I<sup>2</sup> passing over the other shaft to drive it, a wheel H also on the latter shaft, having projections *c* to engage the pivoted latch, a pivoted plate I<sup>4</sup> adapted to bear against said latch, a pivoted lever L, a link connecting said lever and pivoted plate, and a pivoted detent P, with which said lever engages, substantially as set forth. 15th. The combination, with a railroad signal frame A, of a signal blade and a wheel mounted in said frame, teeth projecting from the periphery of the wheel at equidistant points, mechanism for rotating said wheel, to set the signal blade in one position, electrically operated devices and an auxiliary weight, substantially as set forth. 16th. In a semaphore, the combination, with a head, of two shafts mounted therein in the same horizontal plane, a visual signal blade and a weighted arm secured to one of said shafts, a drive chain passing over the other shaft, a wheel also on the latter shaft to engage the weighted arm and devices for releasing the weighted arm from said wheel, substantially as set forth. 17th. In a semaphore, the combination, with a head,

of two shafts mounted therein, a visual signal blade and a weighted arm secured to one of said shafts, a pivoted latch carried by said weighted arm, a weighted sprocket chain passing over the other shaft to drive it, a wheel also on the latter shaft having projections to engage the pivoted latch, and devices for releasing the weighted arm from said wheel, substantially as set forth. 18th. In a semaphore, the combination, with a head, of two shafts mounted therein, a visual signal blade and a weighted arm secured to one of said shafts, a pivoted latch carried by said weighted arm, a roller carried by said latch, a weighted sprocket chain passing over the shaft, a wheel also mounted on the latter shaft and having projections to engage the pivoted latch, a curved guide plate pivoted in the head to maintain the latch in engagement with the wheel, and devices for moving said guide plate to disengage the latch from the wheel, substantially as set forth. 19th. In a semaphore, the combination, with a head, of two shafts mounted therein, a visual signal blade and an arm secured to one of said shafts, a grooved quadrant on one end of said arm, a weighted chain secured thereto, a pivoted latch on the other end of the arm, a weighted chain passing over the other shaft to drive it, a wheel mounted on the latter shaft and having projections to engage the pivoted latch, and devices for disengaging said latch from the wheel, substantially as set forth. 20th. In a semaphore, the combination, with a head, of two shafts mounted therein, a visual signal blade and an arm secured to one of said shafts, a weight suspended from one end of said arm, a pivoted latch at the other end thereof, a chain passing over the other shaft to drive it, a wheel also mounted on the latter shaft and having projections thereon to engage the pivoted latch, mechanism for tripping the pivoted latch to release the arm, and an electro-magnet, substantially as set forth. 21st. In a semaphore, the combination, with a head, of two shafts mounted therein, the end of one shaft rotating in the hollow end of the other, a signal blade and a weighted arm secured to one end of said shafts, a latch pivoted on one end of said arm, a weighted chain passing over the other shaft to drive it, a wheel also mounted on said shaft and having projections to engage the pivoted latch, and devices for tripping the latch, substantially as set forth. 22nd. In a semaphore, the combination, with a head, of two shafts mounted therein, a signal blade and an arm mounted on one of said shafts, a quadrant on one end of said arm, a weight suspended from said quadrant and made in two parts, a pivoted latch at the other end of said arm, a chain passing over the other shaft to drive it, and a wheel on said shaft having projections to engage the pivoted latch and tripping mechanism for said latch, substantially as set forth. 23rd. In a semaphore, the combination, with a head, of two shafts mounted therein, a signal blade and a weighted arm secured to one of said shafts, a pivoted latch carried at one end of said arm, a sprocket wheel and ratchet wheel secured to the other shaft, a weighted chain passing over the sprocket wheel to drive the shaft, a wheel having projections on its periphery and lugs on its face for engaging the pivoted latch, said wheel being loosely mounted on the latter named shaft, a spring sustained dog on said wheel, and tripping mechanism for releasing the pivoted latch from the wheel having projections, substantially as set forth. 24th. In a semaphore, the combination, with a yoke, a shaft mounted at one end in said yoke, and at the other end in a semaphore head, and a signal blade carried by said shaft, of elastic material secured to the yoke and adapted to receive and cushion the signal blade when it is turned to assume either a vertical or a horizontal position, substantially as set forth. 25th. In a railroad signal, the combination with a head having openings for the emanation of light, of a shaft mounted therein, a signal blade and a weighted arm carried by said shaft, and holders for transparent material pivoted in the head in proximity to the openings therein, and having pivoted connection with the weighted arm, substantially as set forth. 26th. In a semaphore, the combination, with a head, of two shafts mounted therein, a visual signal blade and a weighted arm secured to one of said shafts, a pivoted latch at one end of said weighted arm, a wheel having projections mounted on the other shafts, means for propelling said shaft and the wheel, tripping mechanism for the pivoted latch, an arm mounted to vibrate in a bracket and carrying a roller with which the projections on the periphery of the wheel engage and an electro-magnet for releasing said arm and holding the tripping mechanism, substantially as set forth. 27th. In a semaphore, the combination, with a head, of two shafts mounted therein, a visual signal blade and a weighted arm on one of said shafts, a pivoted latch on the other shaft, means for driving said shaft and wheel, tripping mechanism for the latch, a vibrating arm to hold the wheel from rotation, a shaft with which said arm engages, an armature on said shaft, and a magnet for oscillating the shaft, substantially as set forth. 28th. In a semaphore, the combination, with a head, of two shafts mounted therein, a visual signal blade and a weighted arm secured to one of said shafts, a pivoted latch on one end of said arm, a wheel having projections on the other shaft, means for rotating said shaft and wheel, a pivoted curved plate bearing upon the pivoted latch, an arm mounted in a bracket, a link connecting the curved plate and the latter named arm, a shaft carrying an armature, an electro-magnet, and an arm on said shaft for holding the tripping mechanism, substantially as set forth. 29th. In a semaphore, the combination, with a head, of two shafts mounted therein, a visual signal blade and a weighted arm secured to one of said shafts, a pivoted latch on said arm, a wheel having projections mounted on the other shaft, a pivoted curved plate bearing

upon the pivoted latch, an arm mounted in a bracket, a lug thereon against which the weighted arm abuts, a link connecting the curved plate and latter named arm, a shaft carrying an arm to normally hold this arm, an armature and a weight on the latter named shaft and a magnet for actuating said armature, substantially as set forth. 30th. The combination, with the tracks of a railroad block, of a semaphore carrying signaling devices and an electro-magnet, said tracks and magnet being in a normally closed circuit, actuating mechanism for the signaling device, a weight for propelling said actuating mechanism, and a circuit breaker connected with the main circuit with which said weight engages when run down, substantially as set forth. 31st. The combination, with the tracks of a railroad block, of a semaphore carrying signaling devices and an electro-magnet, said tracks and magnet being in a normally closed circuit, actuating mechanism for the signaling device, a weighted chain for propelling said actuating mechanism, and a circuit breaker connected with the main circuit with which a stop or projection on said chain engages, substantially as set forth.

**No. 39,431. Machine for Embossing and Ornamenting.** (*Machine à bosseler et orner.*)

(George Staber and Hartwell Abbey, both of Brooklyn, New York, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a machine for embossing wood and other material, the combination, with an embossing or design roller, and a pressure roller, of a vertically movable frame supporting said pressure roll, a threaded rod bearing in the main frame, and arranged directly beneath said movable frame, a coiled pressure spring fitted on said rod, and a hand wheel also fitted on the rod, whereby said frame and pressure roll may be moved vertically and sustained yieldingly, substantially as specified. 2nd. In a machine for embossing or ornamenting wood and other materials, the combination, with an embossing or design roller, and a pressure roll carried by an adjustable frame, of a threaded lifting rod arranged centrally to the adjustable frame, a coiled pressure spring fitted on said rod, and the independent hand wheels both fitted on the lifting rod, one wheel being in direct contact with the adjustable frame to positively move the same, and the other wheel bearing against the pressure spring for the purpose of varying the tension thereof, substantially as described. 3rd. In a machine for embossing or ornamenting wood and other materials, the combination, with an embossing roll, of a pressure roll, the adjustable frame in which said pressure roll is journaled, provided with a central aperture, the vertically movable threaded rod fitted in the aperture of said frame, the coiled spring fitted on the rod, and the independent hand wheels both fitted on the rod, and one arranged in contact with the adjustable frame and the other engaging the spring, substantially as described.

**No. 39,432. Electrically Operated Stringed Musical Instrument.** (*Instrument de musique à cordes actionné par l'électricité.*)

Willard Herbert Gilman, Boston, Massachusetts, U. S. A., 26th July, 1892; 6 years.

*Claim.*—1st. A stringed musical instrument, comprising in its construction movable fingers arranged over the strings at the frets, which fingers are adapted to be depressed upon the strings to close the frets, as described. 2nd. A stringed musical instrument, comprising in its construction movable fingers arranged over the strings at the frets, which fingers are embraced within an electric circuit, whereby by the closing and breaking of the circuit the fingers may be depressed upon the strings, and be freed therefrom, as described. 3rd. A stringed musical instrument, comprising in its construction a star wheel arranged in juxtaposition to the strings, an electric magnet and its armature, and actuating mechanism intermediate of the armature and star wheel for moving the latter, as described. 4th. A stringed musical instrument, comprising in its construction movable fingers arranged over the strings at the frets, for closing the strings at the frets, and movable star wheels arranged over the strings at the head of the instrument, for picking the strings, as described. 5th. The combination, with a musical instrument and its strings, of an electro-magnet, its armature, and a string depressing finger connected with the armature and arranged over the string, as described. 6th. The combination, with a musical instrument and its strings, of a star wheel arranged in proximity to a string so as to pick the same, a ratchet wheel connected with the star wheel, an electro-magnet and its armature, and a dog or pawl connected with the armature and adapted to engage and actuate the ratchet wheel, as set forth. 7th. The combination, with the fingers *p*, and the pivoted fingers *n*, both within an electric circuit, and means, as rolls, for passing a perforated sheet between the free ends of the fingers, as described. 8th. A banjo provided with movable fingers for depressing the strings at the frets, and means, as a movable star wheel, for picking the strings at the head, as described.

**No. 39,433. Heating Apparatus.** (*Appareil de chauffage.*)

Ellis Freeman Edgar, Woodbridge, New Jersey, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a heating apparatus, the combination, of a fuel space entirely surrounded by walls, one of which completely encloses said fuel space on the side toward the draft exit, and is located

close to the fuel and but a short distance from another wall or grate, whereby but a thin body of fuel can be accommodated within the fuel space, draft apertures leading through the walls to and from the fuel space and an opening for the introduction of fuel, substantially as set forth. 2nd. In a heating apparatus, the combination, of a fuel space with enclosing walls placed as described, whereby but a thin body of fuel can be accommodated within said space, draft passages through said walls leading to the fuel space and from it to the smoke pipe, a fuel reservoir opening into said space, a jacket surrounding said reservoir, and flues leading to and from said jacket, substantially as set forth. 3rd. In a heating apparatus, the combination, of a fuel space with enclosing walls placed as described, whereby but a thin body of fuel can be accommodated within said space, one of said walls being formed of a series of parts placed one upon the other, and having depending lips upon the inner surface, draft passages through said walls leading to the fuel space and from it to the smoke pipe, and an opening for the introduction of fuel, substantially as set forth. 4th. In a heating apparatus, the combination, of a fuel space entirely surrounded by walls, one of which completely encloses said fuel space on the side toward the draft exit, is provided with air channels leading into it, passages leading from said channels to that surface of said wall outside of the fuel space, is located close to the fuel and but a short distance from another wall or grate, whereby but a thin body of fuel can be accommodated within the fuel space, draft apertures leading through the walls to and from the fuel space, and an opening for the introduction of fuel, substantially as set forth. 5th. In a heating apparatus, the combination, of a fuel space entirely surrounded by walls, one of which completely encloses said fuel space on the side toward the draft exit, is provided with air channels leading into it but not into the fuel space, passages leading from said channels to that surface of said wall outside of the fuel space, is located close to the fuel and but a short distance from another wall or grate, whereby but a thin body of fuel can be accommodated within the fuel space, draft apertures leading through the walls to and from the fuel space, and a fuel opening, substantially as set forth. 6th. In a heating apparatus, the combination, of a fuel space entirely surrounded by walls, one of which completely encloses said fuel space on the side toward the draft exit, is formed of a series of parts placed one upon the other as described, is provided with air channels leading into it, passages leading from said channels to that surface of said wall outside of the fuel space, is located close to the fuel and but a short distance from another wall or grate, whereby but a thin body of fuel can be accommodated within the fuel space, draft apertures leading through the wall to and from the fuel space and a fuel opening, substantially as set forth.

**No. 39,434. Puzzle.** (*Jeu de patience.*)

Ernest Henry Eden Eddis, Orillia, Ontario, Canada, 26th July, 1892; 6 years.

*Claim.*—A puzzle, consisting of a board containing two grooves placed opposite to each other and adapted to contain the same number of blocks, the said grooves being connected together by a cross groove having a smaller groove extending from it and capable of holding a single block, substantially as and for the purpose specified.

**No. 39,435. Conveying Apparatus.**

(*Appareil de transport.*)

Joseph Chapinan Martin, Florence, Massachusetts, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. The combination, of the main track, a propelling cord moved parallel thereto, an auxiliary or delivering track inclined to the line of the main track, the carrier supported and guided on the main track, and provided with flanges distinct and separate from those of its parts which engage the main track, and which are adapted to engage said auxiliary track and to support and guide it thereon, a cord engaging clutch attached to the carrier, and a clutch tripper arranged and operating to release the clutch from the cord after the carrier has left the main track and has travelled a predetermined distance on the auxiliary track, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, of the carrier with a main track composed of two opposite rails, each having upper and under guide surfaces that engage corresponding guide surfaces on the carrier above and below, portions of one of said rail guide surfaces being removed at stations or points on the track where the carrier is to be applied thereto, and removed therefrom to permit the carrier to be lowered onto and raised up from said track, the remaining portions of said rail guide surfaces at such points serving to support and guide the carrier, substantially as described. 3rd. The combination, of the carrier, a main track composed of two opposite rails, each having upper and under guide surfaces on the carrier above and below, portions of one of said rail guide surfaces being removed at the station or point on the track where the carrier is to be removed therefrom, and an auxiliary or delivering track at said station, inclined to the line of the main track, composed of two opposite rails adapted to engage lateral longitudinal flanges on the said carrier distinct from those parts of the carrier which engage the main track, substantially as and for the purposes hereinbefore set forth. 4th. The combination, of a track and propelling cord moved parallel thereto, with carriers movable on said track, provided with a cord engaging clutch composed

of a cord receiving member, consisting of an arm attached to the carrier, and a movable member consisting of a finger supported on an arm connected with the rock shaft, and a cam on said rock shaft and spring co-operating therewith to retain the said clutch in its open and closed positions, substantially as described. 5th. The combination of the main track and the propelling cord moved substantially parallel therewith, with the carrier moving on the said track, provided with a cord engaging clutch having a cord receiving member consisting of an arm attached to the body of the carrier, and provided at its extremity with a laterally projecting finger, and a member movable towards and from said cord receiving member in an arc, substantially tangential to the line of movement of said cord, substantially as set forth. 6th. The combination, of the main track and propelling cord moving substantially parallel therewith, with a carrier movable on said track, provided with a cord engaging clutch having a cord receiving member, consisting of an arm attached to the body of the carrier, and provided near its extremity with an inclined cord engaging recess, and a member movable towards and from said cord receiving member in an arc, substantially tangential to the movement of said cord, substantially as set forth.

**No. 39,436. Pulverizer and Conveyor for Clay.**

(*Brise motte et transport à glaise.*)

James Evans, Philadelphia, Pennsylvania, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. A device for disintegrating and conveying clay to the machine, an endless belt or carrier, and a spiked drum located over said carrier to disintegrate the clay on said carrier as it passes to the machine. 2nd. A device for disintegrating and conveying clay from the pit to the machine, a horizontal travelling belt or carrier, a disintegrating device located over and adapted to pulverize the clay on said carrier, and an inclined carrier for conveying the clay upward into the machine, as set forth.

**No. 39,437. Washing Machine.** (*Machine à blanchir.*)

John Harvey Carriger, Knoxville, Tennessee, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. The combination, with the tub and the upright frame, of the cage sliding in ways of the tub, and the pitman provided with a hook intermediate its ends and with suitable means at its upper ends for connecting it to a crank shaft, whereby the pitman may be connected to either a crank shaft or to a lever for actuating the cage, substantially as described. 2nd. In a washing machine, and in combination, with a main receptacle or tub, a case provided with removable grated partitions dividing said cage into horizontal compartments, removable slotted bars adapted to engage opposite bars of the cage and mortised to receive suitable tenons, the partitions, and a locking device to hold the removable partitions in place, substantially as described. 3rd. The combination, of the tub, the grated cage having adjustable and removable grated partitions, the pitman provided with a stud or hook, and the lever engaging said hook, substantially as described.

**No. 39,438. Filter.** (*Filtre.*)

Henry Roeske, Philadelphia, Pennsylvania, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. A filter having a primary filtering chamber provided with partitions forming compartments, valves at or near the lower portions of said partitions, a secondary chamber in communication with the primary chamber, valves between said chambers, and discharge pipes connected with the secondary chamber, substantially as described. 2nd. A filter having an outer and an inner chamber, each divided into compartments, valves affording communication between said compartments, a stand pipe with pipes leading from each of said inner compartments, and a supply pipe with branch pipes leading into each of said outer compartments, said parts being combined, substantially as described. 3rd. A filter having primary and secondary chambers, a supply pipe, a distributing pipe, a branch pipe connected with said distributing pipe and primary chamber, two valves connected with the branch pipe, and a discharge pipe with a valve connected with the secondary chamber, the parts named being combined, substantially as described. 4th. In a filter having a chamber with filtering material therein, a flue having a peaked closed roof and perforated bottom located in said filtering material, and connecting with a plug on the outer wall of the outer chamber, said parts being combined, substantially as described. 5th. A filter having a partitioned chamber and a flue or canal within the filter bed thereof, said flue being closed at top, perforated at bottom, and open at its ends, one end communicating with the atmosphere, through an opening in the outer wall of the chamber, and the other end communicating with a partition of the chamber, the opening in said wall being provided with a closing cap or plug, the parts enumerated being combined, substantially as described. 6th. A filter having primary and secondary chambers, with means of communication between the same, a supply pipe, a distributing pipe, with a branch pipe connected with the primary chamber, two valves on the branch pipe, partitions in the primary chamber forming compartments with valves between the same, a discharge pipe connected with the secondary chamber, and flues or canals within the filter bed of the primary chamber communicating with said chamber, the partition thereof, and the atmosphere, the several parts being

combined, substantially as described. 7th. The distributing pipe E, in combination with the branch pipe 5 attached thereto, having a conveying pipe 6 leading into the filtering chamber, said branch pipe having valves 7, 8 of different capacities, and said conveying pipe, and the outlet end d of the branch pipe being of greater diameters than the inlet ends c, of said branch pipe, substantially as described. 8th. A filter having a filtering chamber with partitions therein, the latter having ports affording communication between adjacent compartments, and channels leading from said ports to the atmosphere outside of said chamber, said parts combined, substantially as and for the purpose set forth.

**No. 39,439. Furnace for Steam Boilers.**

(*Foyer pour chaudières à vapeur.*)

Michael Edward Herbert, Saint Joseph, Missouri, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. The combination, with a steam boiler having water legs upon each side, of an outer casing having fuel magazine at its front ends communicating with the fire box under the water legs and feed devices located at the bottoms of the fuel magazines to feed the fuel to the grate while the gaseous products are separately carried off and consumed, as described. 2nd. The combination, with a steam boiler having a central fire box and water legs on each side, of fuel magazines arranged upon the outer side of each water leg and opening at the bottom into the fire box, and feed rollers arranged at the bottom of the fuel magazines, substantially as and for the purposes described. 3rd. The combination, with a steam boiler having water legs upon each side with tubes X, of an outer casing having fuel magazines at the front ends, feed rollers S, located at the bottom of the fuel magazines and geared together to feed into the fire box, and a top plate N, with charging doors O, substantially as and for the purpose described.

**No. 39,440. Furnace.** (*Appareil de chauffage.*)

Ellis Freeman Edgar, Woodbridge, New Jersey, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a heating apparatus, a wall interposed in the line of draft between the fire bed and the draft exit, and substantially completing the enclosure of the space to be heated, with one or more apertures therethrough, substantially as set forth. 2nd. In a heating apparatus, a wall interposed in the line of draft between the fire bed and the draft exit, and substantially completing the enclosure of the space to be heated, with one or more apertures therethrough located at the edge of said wall, substantially as set forth. 3rd. In a heating apparatus, a wall interposed in the line of draft between the fire bed and the draft exit, and substantially completing the enclosure of the space to be heated, with one or more apertures therethrough, substantially as set forth, and a second wall beyond the first with an aperture or apertures about equal in aggregate area to the area of the draft exit, but out of line with the aperture in the first wall, substantially as set forth.

**No. 39,441. Typewriter.** (*Clavigraphie.*)

Seward A. Dean, Minneapolis, Minnesota, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a typewriter, a supporting frame or base, a transversely movable carriage mounted thereon, and an automatically adjustable two-part book support arranged upon said carriage. 2nd. In a typewriter, the combination of a suitable base or support, a transversely movable carriage mounted thereon, an automatically adjustable two-part book support mounted upon said carriage, a stationary writing mechanism arranged above said book support and means for moving said carriage to produce letter and word spacing. 3rd. In a typewriter, the combination of a suitable base, a transversely movable carriage mounted thereon, an automatically adjustable two-part book support mounted upon said carriage, a stationary writing mechanism arranged above said book support, and means for moving said carriage laterally to provide letter and word spacing. 4th. In a typewriter, the combination, with a suitable base or support, a transversely movable carriage mounted upon said support, an automatically adjustable two-part book support upon said carriage for holding the book or material to be written upon, writing mechanism arranged above said carriage, and means for moving said carriage laterally to provide letter and word spacing. 5th. In a typewriter, the combination, with a suitable two-part book support, of a writing mechanism arranged above said book support, and means for adjusting and holding said writing mechanism, so as to bring it in position for writing upon either part of said book support. 6th. In a typewriter, the combination, with a supporting base or frame, a laterally movable carriage mounted thereon, an automatically adjustable two-part book support arranged above said carriage, and writing mechanism arranged above said book support, and capable of being adjusted, so as to bring it over either part of said book support. 7th. In a typewriter, the combination, with a book support, of a writing mechanism arranged above said book support, and means for adjusting said writing mechanism, so as to bring it over either part of said book support. 8th. In a typewriter, the combination, with a suitable frame or base, a laterally movable carriage mounted thereon, a book support provided upon said carriage, means for moving said carriage laterally, and writing mechanism ar-

anged above said book support, and arranged to print upon a book or other material arranged upon said book support, and means for moving said book or material longitudinally upon said book support. 9th. In a typewriter, the combination, with a writing mechanism of a book support arranged beneath said writing mechanism, means for moving said book support laterally, and means for feeding or moving a book or material arranged upon said book support longitudinally. 10th. In a typewriter, the combination, with a suitable base, of a laterally movable carriage arranged thereon, an automatically adjustable two-part book support arranged upon said carriage, and writing mechanism arranged above said book support, means for moving said carriage laterally as the writing mechanism is operated for producing letter and word spacing, and means for moving the book or material upon said book support longitudinally for producing line spacing. 11th. In a typewriter, the combination, with the supporting carriage, of the book support 13, provided with suitable supporting rolls and with an operating roll, and means for turning said operating roll for moving the material upon said book, supported longitudinally for producing line spacing. 12th. In a typewriter, the combination, with the book support 13, the pivoted brackets 19, connected therewith, suitable springs connected with said brackets, and means for adjusting said springs. 13th. In a typewriter, the book support 13, provided with the supporting rolls 15, the operating roll 35, and means for driving said operating roll. 14th. In a typewriter, the combination, with the book support 13, provided with the supporting rolls 15, and guide rolls 17, substantially as described. 15th. In a typewriter, the combination, with the book support, of the operating roll 35, the operating lever 45, and means connecting said lever with said roll for driving the same, substantially as described. 16th. In a typewriter, the combination, with the book support and operating roll 35, of the operating lever 43, and means connecting said lever with said roll, and means for limiting the movement of said lever. 17th. In a typewriter, the combination, with the line spacing lever 43, provided with a series of dogs 51, and the handle 45, of the stationary plate 47, the eccentric 55, the lever 59, provided with the pointer 61, and the graduated scale 57, substantially as described. 18th. In a typewriter, the combination, with the laterally movable carriage 3, of the book support thereon, the line spacing lever 43, provided with a series of dogs 51, a stationary plate 47, a shaft 53, provided with the eccentric 55, the handle 59, pointer 61, and graduated scale 57, substantially as described. 19th. The combination, with the book support 13, of the brackets 19, pivoted thereto, the springs 25, connected to said brackets and to shafts 21, the ratchets 27, and pawls 29, for adjusting the tension of said springs, substantially as described. 20th. In a typewriter, the combination, with a suitable two-part support arranged to hold a book or paper in a flat or level position with its upper surface in position to be written upon, of a writing mechanism arranged above said support, means for holding said writing mechanism in a horizontal position for moving said writing mechanism laterally to bring it over either part of said support, and means for turning said writing mechanism into a substantially vertical position. 21st. In a typewriter, the combination, with a two part book support, of a writing mechanism arranged above said book support, means for holding said writing mechanism in position to write upon the book or paper held upon said book support, means for adjusting said writing mechanism laterally to bring it over either part of said book support, and means for turning said writing mechanism into an upright position, substantially as described. 22nd. In a typewriter, the combination, with a suitable base, a two-part book support arranged thereon, standards upon said base, a cross bar supported thereon, and a laterally movable writing mechanism supported upon said cross bar above said book support. 23rd. The combination, with the two-part book support, the cross bar 6, and means for supporting said cross bars, of the writing mechanism supported upon said cross bar above said book support, and capable of being laterally adjusted thereon. 24th. The combination, with the two-part book support, the cross bar 6, and means for supporting the same, and writing mechanism provided with a frame 24 supported upon said cross bar, and arranged to be turned into an upright position and to be laterally adjusted thereon. 25th. In a typewriter, the combination, with the two part book support, and the cross bar 6, and means for supporting said cross bar, of the writing mechanism provided with the frame 24, means for supporting said frame in a horizontal position upon said cross bar, means for adjusting said frame laterally upon said cross bar, and means for turning said frame into an upright position. 26th. In a typewriter, the combination, with the two part book support, the cross bar 6, and means for supporting said cross bar, of the laterally adjustable frame 24 mounted thereon, above said book support, and the writing mechanism supported upon said frame. 27th. In a typewriter, the combination, with a suitable base, a laterally adjustable carriage mounted thereon, a two part book support mounted upon said carriage, a cross bar 6 extending above said book support, and arranged in suitable standards on said base, and a writing mechanism supported upon said cross bar, and capable of being laterally adjusted thereon, so as to bring it over either part of said book support. 28th. In a typewriter, the combination, with the type bars and the operating levers 96, provided with the studs 110 of the key bars 92, the connecting rods 102 provided with the notches or recesses 104, and the adjustable frame 108, substantially as described. 29th. In a typewriter, the combination, with the type bars and the operating levers 96, of the

key bars 92, the connecting rods 102, and means for disengaging said rods from said levers 96, substantially as described. 30th. In a typewriter, the combination, with the type bars, of the operating levers 96, the key bars 92, the adjustable frame 108, the connecting rods extending from said key bars to said operating levers, the levers 122 provided with the keys 124, connected to said arm 108, substantially as described. 31st. The combination, with the laterally movable carriage, provided with the rack bar 93, of the stationary writing mechanism, the escapement upon said writing mechanism, and means for operating the same, and means for moving said writing mechanism and escapement laterally over said carriage. 32nd. The combination, with the laterally movable carriage, and an automatically adjustable book support arranged thereon, of a rack bar secured upon said carriage, a writing mechanism arranged above said carriage and book support, a spring for moving said carriage, and an escapement upon said writing mechanism for releasing said carriage, substantially as described. 33rd. The combination, with the rack bar 93, of the pivoted lever 68, provided with the dogs 72, springs 74 connecting said dogs, a spring 70 for depressing one end of said lever, and means for depressing the opposite end of said lever, substantially as described. 34th. The combination, with the rack bar 93, of the pivoted escapement lever 68, provided with the dog 72, and the connecting spring 74. 35th. The combination, with the carriage provided with the rack bar 93, of the cross bar 6, the collar 62 supported thereon, the escapement lever arranged upon said collar, and provided with dogs adapted to engage said rack bar. 36th. The combination, with the carriage provided with the rack bar 95, the cross bar 6, the frame 24 supported upon said cross bar, the collar 62 provided with the escapement, and means for turning said collar upon said bar, and, thereby, releasing said escapement from said rack bar. 37th. The combination, with the carriage provided with the rack bar 93, of the cross bar 6, the frame 24 arranged thereon, and provided with the writing mechanism and movable collar 62, the escapement pivoted upon said collar, the pivoted bar 84 adapted to engage said collar, and the operating rod 92 engaging said bar. 38th. The combination, with the two-part book support, the cross bar of the laterally adjustable sleeve mounted thereon, the frame mounted upon said cross bar and turning thereon, and the writing mechanism supported upon said frame above said book support. 39th. The combination in a typewriter, with the ribbon and its supports, of the ribbon guide, and means for moving said guide so as to expose the line beneath said guide. 40th. The combination, in a typewriter, with the ribbon, of the ribbon guide 138, the frame 142 connected therewith, springs 146 connected with said frame, and the adjusting screw 148. 41st. The combination of the automatically adjustable and the movable book support, with a stationary roller adapted to hold a book upon said support flat open, suitable tracks upon which said support is adapted to move, means for moving said support forward upon said tracks step by step, and a suitable typewriter movably supported above said support, and adapted to print characters upon the book held beneath said roller and upon the support, substantially as described. 42nd. The combination, with an automatically adjustable spring supported two part book support, and means for holding a book thereon, of a type writer arranged above said support, and adapted to print characters on a book arranged upon said support. 43rd. The combination, with a book support consisting of independent spring supported plates, and a transverse roller above said support, against which a book is adapted to be pressed by said book support, of a typewriter arranged above said support, adapted to print characters on a book or paper arranged thereon, and means for moving said typewriter from above said support.

**No. 39,442. Account Book. (*Livre de comptes.*)**

Robert R. Barton, Catlettsburg, Kentucky, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. The herein described improved account book, comprising a chart or sheet of the character stated, having a series of parallel columns with appropriate headings thereover under which the transactions of the day's business are recorded, and a column or columns for a recapitulated statement of the business transacted for the entire month, substantially as set forth. 2nd. The herein described improved account book, comprising the two charts or sheets having each a series of parallel columns with appropriate headings thereover under which the transactions of each day's business are recorded, one of said sheets showing the debit side of the business, and the other the credit or expense side thereof, and a column or series thereof on each of said charts or sheets for recapitulated statements of the business under each heading of both charts or sheets transacted during the entire month, and a separate column for accounts and bills payable and receivable, substantially as set forth. 3rd. The herein described improved account book, comprising the charts or sheets having parallel columns with appropriate headings thereover, under which the total transactions for each month in the year are recorded, series of columns for recapitulation of the transactions under each heading, and a final set of columns for entry of a summary of the business at the end of the year, substantially as set forth. 4th. The herein described account book, comprising a sheet A, having a series of parallel columns with headings thereover, such as "dates," "cash sales," "time sales," "interest and discount," "time purchases," "received from time sales," "borrowed capital,"

"increased capital," "cash balance," "remarks," and "loss account" the sheet B, having a series of parallel columns with headings thereover, such as "date," "paid on time purchases," "cash purchases," "cash withdrawn for personal use," "paid on borrowed capital," "interest and discount," "advertising, stationery and postage," "expressage and telegraphing," "wages," "light and fuel," "freight, wharfage and drayage," "travelling expenses," "taxes, insurance and rents," two set of columns on said sheets for recapitulation of the entries under the above headings, and a column for "accounts and bills payable and receivable," and the sheets F, F<sup>1</sup>, with headings corresponding to sheets A, B, and recapitulating columns corresponding to the recapitulating columns of said sheets, A, B, and two additional sections divided off into columns for entry of a summary of the business at the end of the year, substantially as set forth.

**No. 39,443. Handle for Tools. (*Manche d'outils.*)**

John William Payler, Detroit, Michigan, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. A handle or carrier for files and other tools or articles, consisting of a tubular socket *b* having a flattened bottom, a handle shank A, *f*, *e*, projecting from the socket and extending over and approximately parallel with the socket, a plug or filling of any suitable substance *c*, within the socket *b*, having a longitudinal groove or recess in its lower, flattened side, between and within which and the bottom of the orifice in socket *b*, the tang or shank *d*, of the file, tool or article C, as ordinarily formed and constructed, may be driven, all substantially as shown and described. 2nd. A handle or carrier for files and other tools or articles, consisting of a tubular socket *b*, having a flattened bottom, a shank A, *f*, *e*, projecting from the socket, and having a suitably formed handle part, a plug or filling of any suitable substance *c*, within the socket *b*, having a groove or recess therein, within and between which and the base of the socket *b*, the tang or shank *d* of the file, tool or article C may be driven, all substantially as shown and described. 3rd. A handle or carrier for files and other tools or articles, consisting of a tubular socket *b*, having a flattened bottom, a plug or filling of any suitable substance *c*, within the socket *b*, having a groove or recess in its lower, flattened side, within and between which and the bottom of the orifice in the socket *b*, the tang or shank *d* of the file, tool or article C, as ordinarily formed and constructed, may be driven, a handle bar *a* slidable through a suitable recess in the socket *b*, which may be securely fixed at any part of the said bar by means of a screw or otherwise, a second socket or stop *b*<sup>1</sup> affixed to the said bar, against which the forward end of file, tool or article C may abut, all essentially as shown and described.

**No. 39,444. Fastener for Boots and Shoes.**

(*Attache pour chaussures.*)

Jacob Hiram Markle, Toronto, Ontario, Canada, 26th July, 1892; 6 years.

*Claim.*—1st. A fastener for boot and shoe laces comprised of the plate A, and tongues *a*, secured on the upper of the shoe in proximity to the opening, as and for the purpose specified. 2nd. A fastener for boot and shoe laces comprised of the plate A, and cleats *b*, connecting the plate to the upper of the shoe, as and for the purpose specified. 3rd. The plate A, tongues *a*, and groove *c*, between the tongues, as and for the purpose specified. 4th. The plate A, tongues *a*, groove *c*, and cleat *b*, extending through holes in the plate into the upper where it is bent and fastened, as and for the purpose specified.

**No. 39,445. Electric Semaphores.**

(*Sémaphore électrique.*)

Frederick Stitzel, Louisville, Kentucky, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a semaphore, the combination, with a head A, having openings H in the opposing walls for the emanation of light, and a lamp in said head, of a revoluble shaft D mounted in the head, a visual signal blade E, carried by the shaft and vibrating hangers I<sup>1</sup>, carrying coloured transparent material, a motor and devices for controlling the operation of the motor, substantially as set forth. 2nd. In a semaphore, the combination, with a head A, of a revoluble shaft D mounted therein, a signal blade E fixed to said shaft, a motor, disks G, G<sup>1</sup>, carrying stops *c*, *c*<sup>1</sup>, secured to the shaft, a pivoted lever M, M<sup>1</sup>, in proximity to each disk and in line with the stops thereon, and an electro-magnetic device for controlling the operation of said levers, substantially as set forth. 3rd. In a semaphore, the combination, with a head A, of a revoluble shaft D mounted therein, a signal blade E fixed on said shaft, a motor for rotating said shaft, disks G, G<sup>1</sup>, fixed to the shafts, stops *c*, *c*<sup>1</sup>, projecting from the peripheries of the disks at diametrically opposite points, the stops of one disk projecting in a direction at right angles to those of the disk, pivoted levers M, M<sup>1</sup> in the path of said stops, and electro-magnetic devices for controlling the operation of the levers, substantially as set forth. 4th. In a semaphore, the combination, with a head A, of a revoluble shaft D mounted therein, a signal blade E fixed to said shaft, a motor for revolving the shaft, two disks G, G<sup>1</sup>, on the shaft, stops *c*, *c*<sup>1</sup>, projecting from the disks, the stops on one disk projecting at

right angles to the stops on the other disk, a pivoted lever in the path of the stops of each disk, and devices for releasing the levers to release the disks alternately, substantially as set forth. 5th. In a semaphore, the combination, with a head A, of a shaft D mounted therein, and carrying a signal blade E, a motor for rotating said shaft, disks G, G<sup>1</sup>, fixed on the shaft and provided with stops c, c<sup>1</sup>, a pivoted lever M, M<sup>1</sup> for each disk, a roller d<sup>1</sup> in each lever with which said stops engage, and means for releasing the levers to release the disks alternately, substantially as set forth. 6th. In a semaphore, the combination, with a head, of a revolvable shaft D mounted therein, a signal blade E carried thereby, a drum F secured on the shaft, a weighted cord F<sup>1</sup> attached to said drum, two disks G, G<sup>1</sup> secured upon the shaft, stops c, c<sup>1</sup> projecting from the disks, a lever M, M<sup>1</sup> in the path of the stops of each disk, and devices for controlling the operation of said levers, substantially as set forth. 7th. In a semaphore, the combination, with a head A, of a revolvable shaft D mounted therein, a motor for rotating said shaft, disks G, G<sup>1</sup> carried by the shaft, stops c, c<sup>1</sup> projecting from the disks, pivoted levers M, M<sup>1</sup>, with which said stops engage, an electric magnet N<sup>2</sup>, and an armature N<sup>3</sup>, therefor, carried by a shaft, said shaft being so arranged relatively to the pivoted levers that said levers shall be released alternately as the shaft oscillates, substantially as set forth. 8th. In a semaphore, the combination, with a head A, of a revolvable shaft D mounted therein, a motor for revolving said shaft, disks G, G<sup>1</sup> carried by the shaft, stops c, c<sup>1</sup> projecting from the disks, pivoted levers M, M<sup>1</sup> with which said stops engage, an electro magnet N<sup>2</sup>, and an armature N<sup>3</sup>, therefor, carried by an oscillatory shaft N<sup>5</sup>, said shaft being provided with a notch c to receive the end of one pivoted lever, and an arm g<sup>2</sup> on said shaft to engage the other pivoted lever, substantially as set forth. 9th. In a semaphore, the combination, and a head A, having openings H, of a revolvable shaft D mounted therein, devices for periodically rotating shaft, vibratory hangers I<sup>1</sup> pivoted in the heads, and carrying plates of coloured transparent material I<sup>2</sup>, an arm J pivoted to said hangers, and an arm K on the shaft to engage the arm J of the hangers, to hold the hangers out of line of the openings H, in the head A, substantially as set forth. 10th. In a semaphore, the combination, with a head A, having openings H, of a revolvable shaft D mounted therein, devices for periodically rotating said shaft, a pivoted hanger I<sup>1</sup>, carrying a plate of coloured material I<sup>2</sup>, an arm J pivoted to said hanger, an arm K, on the shaft to engage the arm on the hanger, a cam J<sup>1</sup> on the latter arm, and a pin J<sup>2</sup> in the head, substantially as set forth. 11th. In a semaphore, the combination, with a head A, having light emanating openings H, of a shaft journaled therein, a signal blade E, carried by the shaft D, two disks G, G<sup>1</sup>, also carried by the shaft D, stops c, c<sup>1</sup>, on the peripheries of said disks, a pivoted lever M, M<sup>1</sup>, in proximity to each disk, and in line with the stops thereof, devices for releasing the levers alternately, a pivoted hanger I<sup>1</sup>, carrying plates of coloured transparent material I<sup>2</sup>, an arm K projecting from the shaft, and an arm J pivoted at one end to the hanger, and adapted to engage the arm on the shaft at the other end, substantially as set forth.

**No. 39,446. Fastener for Sashes.** (*Arrête-croisée.*)

Lewis Cortland Walker, Indianapolis, Indiana, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. The combination, with the upper and the lower sashes of a window, of a lock having a spring mounted bolt, a key adapted to operate the same, a slot in the upper part of the casing of the lock through which the key passes, having an enlargement at its rear end, said key also having an enlarged neck which is adapted to be turned when put into said enlarged portion of the slot, and the bolt thus held back out of operative position when desired, substantially as set forth. 2nd. A sash lock for the meeting rails of window sashes, comprising a casing, a bolt mounted therein, a spring which normally holds said bolt forward into operative position, and a stud or key passing through a slot in said casing and entering said bolt, whereby the same may be pulled back and the spring compressed, substantially as and for the purposes set forth. 3rd. A sash lock for the meeting rails of window sashes, comprising a casing, a bolt mounted therein, a spring which normally holds said bolt forward into operative position, and a stud or key passing through a slot in said casing and entering said bolt, said slot having an enlarged portion, and said key having a correspondingly enlarged portion or neck, substantially as and for the purposes set forth. 4th. The combination, with the upper and lower sashes of the window, of a lock secured to the lower sash, composed of the casing A, and the bolt A<sup>1</sup>, and the spring A<sup>2</sup>, which surrounds and pushes said bolt forward, a key A<sup>3</sup>, and a catch plate B, secured to the upper sash and having a series of holes or sockets, said several parts being arranged and operating, substantially as set forth. 5th. A sash fastener, comprising a lock having a tapering bolt seated therein, a removable key, an opening in the upper part of the lock to allow the insertion of the key, such opening having an enlargement at one end for the engagement of the enlarged neck portion of the key, whereby the bolt is retained within its casing, said lock being secured to the top of the meeting rail of the lower sash, in combination, with a catch plate secured to the side rail of the upper sash, and provided with a series of holes or sockets, substantially as shown and described. 6th. The combination, of the upper sash of a window, a plate having a longitudinal groove and a series of holes

or sockets secured thereon, the lower sash having a lock composed of a casing, a spring mounted bolt, the spring whereof normally holds the bolt forward into engagement with one of said holes or sockets, and a key passing through the casing and entering a hole in said bolt, whereby the bolt may be withdrawn and the sashes left free to operate, substantially as set forth.

**No. 39,447. Machine for Sizing and Cleaning Coal.**

(*Machine à classer et nettoyer le charbon.*)

Septimus Thomas, Scranton, Pennsylvania, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. The combination, with the frame, the series of inclined reciprocating screens supported therein, and the series of intergear shafts for reciprocating said screens, of the vertically adjustable pieces connected with said screens by pivots, and slotted to permit the play of said pivots in the individual adjustment of said screens, substantially as specified. 2nd. The combination, with the frame, the series of inclined reciprocating vibrating screens supported therein, and the intergear shafts arranged to operate said screens, of the vertically adjustable piece B, connected to said screen by pivots, and slotted to permit the play of said pivots in the individual adjustment of the screens, the lever for effecting the vertical adjustment of said piece B<sup>1</sup>, and the eccentrics for effecting the individual adjustment of the screens, substantially as specified.

**No. 39,448. Truck for Baggage.**

(*Chariot de bagage.*)

William Millage Gordon, Saint John, New Brunswick, Canada, 26th July, 1892; 6 years.

*Claim.*—1st. The combination, in a baggage truck, of the movable platform F, F, with the upright threaded bars F, E, the nut plates G, G, the bevelled cog wheels B, B, B, B, the bar H, H, and the cog wheels A, A, A, A, with the handles or cranks K, K, all substantially as and for the purposes hereinbefore set forth. 2nd. In a baggage truck, the movable platform or baggage rest F, F, substantially as represented and described. 3rd. In a baggage truck, in combination with the ordinary or other baggage truck frame, the two castors C, C, all substantially as set forth.

**No. 39,449. Stand for Poison Bottles.**

(*Porte-bouteille de poison.*)

George Lester Rands, 26 Trinity Street, Borough, Surrey, England, 26th July, 1892; 6 years.

*Claim.*—1st. A stand for bottles containing poison consisting of suitable base, sides and top and having stops fixed thereon in any desired position, in combination with a cradle for the insertion of the bottle, the said cradle being suspended or hung upon trunnions mounted in the side framing, the whole being constructed and operating, substantially as described, and illustrated in the accompanying drawings. 2nd. A stand for bottles containing poison consisting of base, sides, top and stops upon the said framing, the said base having a portion recessed or cut out, in combination with a cradle for the insertion of the bottle, the said cradle having trunnions by means of which it may be suspended in key hole shaped apertures in the side framing, the whole being constructed and operating, substantially as described, and illustrated in the accompanying drawings. 3rd. The combination, with a stand for bottles containing poison consisting of base, sides and top and the fixed stops thereon, of a hinged stop adapted to allow the swinging in of the bottle, but arranged so as to prevent the removal of the bottle without first displacing the stop, substantially as described and illustrated. 4th. The combination, with a stand for bottles containing poison consisting of base, sides and top, and pins in the base or side frame, so arranged to prevent the removal of the bottle without withdrawing one of the said pins, substantially as described.

**No. 39,450. Chemical Engine, Waggon and Hose Reel.** (*Machine chimique, wagon et dévidoir à boyau.*)

William Morrison, Toronto, assignee of Alexander William Aitchison, Hamilton, both in Ontario, Canada, 26th July, 1892; 6 years.

*Claim.*—A chemical engine suspended from the bottom of a waggon in which a hose reel is placed, in combination with a pipe arranged to connect the chemical engine to the hollow shaft of the reel to which the chemical engine hose is attached, substantially as and for the purpose specified.

**No. 39,451. Whiffletree.** (*Palonnier.*)

The Irion Adjustable Whiffletree Co., assignee of John H. Irion, all of Pawnee City, Nebraska, U. S. A., 26th July, 1892; 6 years.

*Claim.*—A single tree, consisting of two sections each pivoted intermediate its ends to a double tree or support, and a rigid link having each of its ends pivoted to one of the said sections, the pivots of the link being normally at one side of the intermediate pivots of the sections, and not in the same straight line with either, but

adapted to be moved by a suitable movement of the sections into the same straight line with the intermediate pivot of either section, whereby said pivots, link and section limit the forward movement of the other section about its intermediate pivot, substantially as set forth.

**No. 39,452. Automatic Brake. (Frein Automatique.)**

Giles Bowler, Layton, and Charles Crane and William Harvey Remington, both of Salt Lake City, all in Utah, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a brake for vehicles, the combination, with a brake beam capable of lateral movement, springs normally maintaining the brake shoes of the beam in engagement with the wheels of the vehicle, and cross levers pivoted at one side of their centres to the brake beam, of a sliding draft tree, chains secured to rigid supports and to the shorter ends of the cross levers, and a chain attached at its extremities to the longer ends of the cross levers, and a pulley around which the chain passes, which pulley is connected with the draft bar, substantially as shown and described. 2nd. In a brake for vehicles, the combination, with the rear axle, the reach, a brake beam having lateral movement upon the reach, and springs and turn buckles connecting the rear axle with the brake beam, of cross lever: fulcrumed at one side of their centres upon the brake beam, chains connecting the shorter ends of the levers with the reach, a chain the extremities of which are secured to the longer ends of the levers, a sliding draft tree, and a connection between the draft tree and the single chain, as and for the purpose set forth. 3rd. In a brake for vehicles, the combination, with a sliding draft tree, a brake beam, and a connection between the draft tree and the brake beam, of a yoke, under which the draft tree passes, provided with a slot over the draft tree and compartments at one side of it, a dog pivoted upon the draft tree and extending upward through the yoke, the said dog being adapted to enter one of the compartments of the yoke, and a means, substantially as described, for manipulating the dog, as and for the purpose set forth.

**No. 39,453. Pocket Lamp. (Lampe de poche.)**

The Lester Manufacturing Company, assignees of Jacob Harry Fawkes, all of New York, State of New York, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. The combination, with a tube provided with a scratcher or igniter at its upper or burning end, of a carrier mounted on the tube, movable on its upper end across said scratcher or igniter, and adapted to carry suitable ignition devices, substantially as described. 2nd. A pocket lamp, comprising two nearly parallel members, one adapted to carry lighting caps, and the other having its upper end bent over the cap carrying member, and having a wick secured therein, a cap adapted to close the tops of the members, and a scratcher or igniter projecting from said bent end for igniting a lighting cap and the wick by the movement of the members in relation to each other, substantially as described. 3rd. A pocket lamp, comprising two nearly parallel members held to move in relation to each other, one member being adapted to carry lighting caps and the other to carry an oil wick, and having its upper end bent over the cap carrying member and constituting an igniter, a slotted clasp and pin connecting the upper ends of the members and limiting their movements, a cap to cover the tops of the members, and a clasp to hold their lower ends together, substantially as described. 4th. A pocket lamp, comprising an open ended member adapted to carry lighting caps, means for moving the caps therein, an oil holding member or reservoir arranged nearly parallel with the cap holding member, said oil holding member having a wick therein and having its upper end arranged to overlap the cap holding member, means for limiting the movements of the members in relation to each other, a bent scratcher or igniter secured to the oil holding member and adapted to extend across the cap holding member, and a cap to cover up the ends of the members, substantially as described. 5th. The combination, of the two tubes, the transverse pin arranged between the tubes, the slotted clasp held to embrace one tube and to slide on the pin, and a removable cover having depending slotted arms also held to the pin, substantially as described.

**No. 39,454. Lock. (Serrure.)**

Leopold E. Schneider, Richard Barrett and Augustus Wierich, all of Galena, Illinois, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. The combination, in a permutation lock, of a casing, a locking bolt therein, a spindle D, journaled in the casing and provided with a knob, a sleeve *c*, journaled on the spindle and carrying rigidly a toothed tumbler disk, one or more toothed tumbler disks journaled loosely thereon, all the disks being provided with shifting pins on their adjacent faces and radial slots, clicking springs engaging the teeth on the disks, an arm engaging the sliding locking bolt and adapted to enter the radial slots in the disks, and means for operating this arm to withdraw the bolt, as and for the purposes described. 2nd. In a permutation door lock, the combination of a casing, a sliding bolt therein, a longitudinally movable spindle journaled in the casing and having an angular formation at a suitable point in its length, a sleeve journaled on the spindle and carrying a series of tumblers, a sleeve surrounding the spindle and journaled axially in line with the tumbler carrying sleeve, the two sleeves having the openings in their adjacent ends formed angularly to

receive the angular formation on the spindle, and means connecting the latter sleeve to the sliding bolt, as and for the purposes described. 3rd. In a permutation door lock, the combination of a casing, a sliding bolt therein, a longitudinally movable spindle journaled in the casing and having an angular formation at a suitable point in its length, a sleeve journaled on the spindle and carrying a series of tumblers, a sleeve surrounding the spindle and journaled axially in line with the tumbler carrying sleeve, the two sleeves having the openings in their adjacent ends formed angularly to receive the angular formation on the spindle, the latter sleeve being provided with oppositely projecting arms, a sliding U-shaped part K, having its arms in engagement with said oppositely projecting arms, and provided with an arm *i*<sup>2</sup> engaging a slot in the bolt, substantially as described. 4th. In a permutation lock, the combination of a casing, a slotted sliding bolt B therein, a longitudinally movable spindle having one end journaled in the casing and its outer end provided with a knob, a sleeve on the spindle carrying radially slotted tumbler disks, an independent sleeve embracing the end of the spindle and adapted to be rotated thereby, a sliding part adapted to be moved by the rotation of this sleeve, this sliding part being provided with an arm engaging the bolt and adapted to enter the radial slots in the disks, and an independent spindle C, having one of its ends journaled in the casing and provided with a part engaging the sliding bolt and its other or outer end carrying an operating knob, substantially as described. 5th. In a permutation lock, the combination, of a casing, a sliding bolt and means for operating the same, a spindle journaled in the casing and carrying a series of radially slotted disks, the inner disk being provided with a pin *h*<sup>1</sup>, a rock shaft O, journaled in the casing and provided with a trip arm adapted to engage said pin *h*<sup>1</sup>, and a bell hammer and a gong or bell attached to the lock, substantially as described. 6th. In a permutation lock, the combination, of a casing, a sliding bolt and means for operating it, a spindle journaled in the casing and carrying a series of tumbler disks, one of said disks being provided with projection *h*<sup>1</sup>, a longitudinally movable rock shaft O, journaled in the casing and actuated by a spring, said rock shaft being provided at one end with a beveled arm adapted to be engaged by the pin *h*, and at its other end with a bell hammer and a bell or gong, substantially as described. 7th. In a permutation lock, the combination, of a casing, a sliding bolt therein, a longitudinally movable spindle having one of its ends journaled therein, and provided with a flange, permutation devices on the spindle, a bolt shifting device adapted to be operated by the spindle, an adjustable plate on the casing, this plate being slotted to engage the flange on the spindle and thereby lock the spindle in engagement with the bolt shifting devices, substantially as described. 8th. The combination, of a casing, an independent outside spindle D, having its inner end journaled therein, and carrying a series of slotted tumbler disks, means for operating and controlling these disks, a sliding locking bolt B, provided with slots *b*<sup>2</sup>, *b*<sup>3</sup>, on opposite sides of the spindle, an arm *i*<sup>2</sup>, loosely engaging the slot *b*<sup>3</sup>, means on the spindle for operating this arm in withdrawing the bolt B, an independent inside spindle C, having its outer end journaled in the casing alongside the spindle D, said inner end being provided with an arm *c*, working in and engaging the slot *b*<sup>2</sup>, in the bolt B, whereby the latter may be withdrawn independently of the permutation devices, and a sliding dead-lock bolt T, in the casing, this bolt being provided with an arm T<sup>1</sup>, engaging the sliding bolt B, substantially as and for the purposes specified. 9th. In a permutation lock, in combination, a locking bolt, permutation devices, a bolt shifting device, a spindle for operating the latter and the permutation devices, and an independent device to hold said spindle out of engagement with the permutation devices and lock it in engagement with the bolt shifting device, and means for holding said devices in its locked position, substantially as described. 10th. In a permutation lock, in combination, a suitable bolt, permutation devices, a bolt shifting device, a longitudinally movable spindle for operating both these, and an independent sliding plate for engaging the spindle to lock it in engagement with the bolt shifting device. 11th. In a lock, in combination, a locking bolt, a series of radially slotted rotary tumblers, the spindle for operating them, the armed sleeve journaled axially in line with the spindle, the movable piece engaging the sleeve arms, the arm extending from said piece to co-operate with the slots of the tumblers, and having a loose connection with the locking bolt, and the second spindle engaging the latter, substantially as described.

**No. 39,455. Thill Coupler. (Arçon de limonière.)**

Austin Fultz, Winona, Ohio, and Albert W. Bancr, Beaver Falls, Pennsylvania, both in the U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a thill coupling, the combination of the parallel, hollow ears, and the eccentrics mounted in said ears and provided with peripheral notches to receive the thill pin, substantially as specified. 2nd. In a thill coupling, the combination of the recessed ears, and the intermediate tongue, and the eccentric, mounted in the recessed ears and provided with peripheral notches to receive the thill pin, said notches being adapted to register with the tongue, substantially as specified. 3rd. In a thill coupling, the combination of the recessed ears, the intermediate tongue, the eccentrics mounted in the recessed ears and provided with peripheral notches to receive the thill pin, and also provided with lateral stops to engage the tongue, substantially as specified. 4th. In a thill coupling, the

combination of the recessed ears, having drop slots or openings communicating with the recesses, the intermediate tongue, the eccentrics provided with peripheral notches to register with the drop slots or openings, and adapted to receive the thill pin, and the inwardly extending stops, upon the eccentrics, to engage the tongue, substantially as specified. 5th. In a thill coupling, the combination, with the clip iron, of the parallel ears, each having an inner side circular opening or depression 3, provided with an opening through the top, a forwardly projecting tongue 4 between the ears, the disks or eccentrics adapted to fit the side openings, having notches and stops 7, and a thill iron provided with a pin 9, projecting from each side of the same, substantially as specified. 6th. In a thill coupling, the combination, with the clip, of two formally projecting ears, each having an inner side circular opening provided with an opening through the top, a forwardly projecting tongue between the ears, the disks or eccentrics adapted to fit the circular side openings, each having a peripheral notch and a projecting stop, a thill iron having a bolt or pin projecting from its opposite sides, and an anti rattling spring located between the end of the thill iron and the tongue, substantially as specified.

**No. 39,456. Combined Milk Pail and Strainer.**

(*Seau à lait et couloir combinés.*)

Frank Ansley and George W. Ansley, both of Medical Lake, Washington, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. A removable tray for a milk pail, having one portion substantially flat and its other portion concaved, with a substantially vertical part connecting said portions, a strainer in said vertical part, an angular plate pivoted to the under side of the straight horizontal portion and adapted to close with its vertical portion against the strainer, and a strainer over the concaved portions, substantially as and for the purpose described. 2nd. The herein described improvement in a combined milk pail and strainer, the same consisting of a pail, a tray fitted within the top of the pail, said tray having a semi-circular horizontal portion B<sup>1</sup>, and concave portion B<sup>2</sup>, vertical wall B<sup>3</sup>, provided with a gauge covered opening B<sup>4</sup>, a pivoted angular plate attached to the bottom of the tray, and adapted, when the pail is tilted, to close the passage to the opening B<sup>4</sup>, an outlet tube communicating with the pail below the tray, and a handle adapted for use in tilting the pail, all substantially as shown and described and for the purpose specified. 3rd. The combination, with the pail having lateral pins C<sup>2</sup>, of a tray having its bottom with one horizontal and the other half concave, with a vertical connecting portion having a gauze opening, the outer edge having lateral projection *a*, a strainer above the concave portion, and an angular plate hinged to the horizontal portion, with its vertical portion bearing on the vertical portion of the bottom of the tray, substantially as described.

**No. 39,457. Packing for Rods, Valves, etc.**

(*Garniture de piston, soupape, etc.*)

Francis Patrick Martin, Easton, and John Thomas Martin, Scranton, both in Pennsylvania, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a rod packing, one or more ring chambers, each consisting of two wear plates enclosing the packing ring, and moving with the play of the rod, and two separating rings, or plates, one behind each wear plate, said rings or plates fitting the interior of the stuffing box, and having central openings of a suitable diameter, substantially as described. 2nd. In a rod packing, the combination, with a stuffing box, of a washer resting against the cylinder head, a wear plate resting against the same, a cleft packing ring resting against the wear plate, and enclosed on the other side by a similar wear plate, a separator, plate or ring, having wings or circular flanges projecting from its opposite faces at or near its edge which meets the wall of the stuffing box, said wings or flanges meeting the washer on one side, and a similar separating plate on the other, the latter having wings or a flange upon its outer face only, and a washer meeting the edge of said wings or flange, wear plates being placed against the washer and the plate or ring to enclose a cleft packing ring, substantially as described. 3rd. In a rod packing, a series of ring chambers, composed of separating plates or rings meeting the wall of the stuffing box and having passages for steam, each plate or ring having on opposite faces circular flanges, solid rings engaging said flanges and gauging the width of the chamber, and a series of cleft packing rings arranged in said chamber, and enclosed by wear plates mounted on and moving with the cylinder, substantially as described. 4th. In a rod packing, the combination, with a series of ring chambers, separated by rings or plates, and containing cleft packing rings, of washers at each end of the series, a gland of slightly less diameter than the stuffing box, and having a slight or gradual taper, and an outwardly tapered ring movable upon the gland and adjusted by bolts, substantially as described. 5th. In a rod packing, a ring or circular plate, having a central opening for the rod and provided upon its opposite surfaces with wings or circular flanges adapted to engage solid rings which gauge the width of the ring chamber, substantially as described. 6th. In a rod packing, the combination, with the stuffing box and piston, of a steam cylinder, of an exterior box containing the steam housing and its contained packing, said exterior box having a soft metal cushion which slightly enters the mouth of the stuffing box and forms a tight joint, substantially as described. 7th. In a rod packing, the combination,

with the stuffing box and piston rod of a steam cylinder, of an exterior box having a tapered cylindrical face, and provided with a soft metal cushion set in said face and adapted to partly enter the mouth of the stuffing box, substantially as described.

**No. 39,458. Stove Pipe. (Tuyau de poêle.)**

John Foster Ross, Toronto, Ontario, Canada, 26th July, 1892; 6 years.

*Claim.*—A fastener for the folds of stove pipe lengths or joints, consisting of an outer fold, and slot made behind the fold at the upper portion, and a tongue formed at the lower portion of the outer fold, designed to engage with the tongue formed at the upper portion of the engaging fold within the pipe, and the slot at the outside of the fold near the bottom edge of the length respectively, both tongues being bent, as and for the purpose specified.

**No. 39,459. Tackle Block. (Poulie de palan.)**

Frank X. Rousseau, Detroit, Michigan, U.S.A., 26th July, 1892; 6 years.

*Claim.*—1st. In a tackle block, the combination, with the shell, of a sheave journaled therein, and a hook pivotally secured in the upper end, the shank of which hook is bifurcated, an eccentric clamping device pivotally secured upon the pivotal pin at the top, directly above said sheave and in a vertical line with the axis thereof, said clamping device having a reduced hub for fitting between the forks of the bifurcated shank, and having a lever arm extending from it in one direction and a weighted portion extending from it in an opposite direction, said weighted portion having an arc shaped clamping periphery, the curvature of which is opposite to the sheath and formed with a nose in normal contact with the hoisting cable, and a free upturned heel at the opposite extremity, said surface being substantially of the same width as the width of the sheave, and provided with a concave serrated groove, said clamping device being pivoted upon said pivotal pin above the nose of the weighted portion, the construction being such that a pull on said lever arm may throw the nose of the clamping device entirely out of contact with the hoisting cable, substantially as set forth. 2nd. A tackle block, comprising the shell consisting of three plates and three bolts through them for holding them together, two sheaves journaled upon the middle bolt, one upon each side of the central plate, a hook pivotally secured upon the upper bolt, the shank of which hook is bifurcated, the upper end of said plate fitting in said groove, two eccentric clamping devices upon said bolt, one upon each side of the central plate, each one of which is reduced at the hub to fit between the fork and the central plate, and the main portion being of the same width as the sheave, and consisting of an eccentric segment, the curvature of which is opposite to that of the sheave, and a surface provided with a concave spirally serrated groove to register with the groove of the sheave, and an eye upon the lower bolt, the shank or upper wall of which is provided through its centre to receive the lower end of the central plate, substantially as set forth.

**No. 39,460. Vehicle Running Gear. (Train de voiture.)**

George B. Caldwell, Ottawa, Ontario, Canada, 26th July, 1892; 6 years.

*Claim.*—The combination, with the front and rear axles, of the reach C, pivoted thereto, the sub-reaches E and F, respectively secured to said axles at right angles thereto, and connected loosely together by a pin or bolt H, whereby said sub-reaches elongate to adjust the axles to the radius of the curve to be traveled, as set forth.

**No. 39,461. Keel for Vessels. (Quille de vaisseau.)**

John Grothgar and John Morris Garfield, both of Galveston, Texas, U. S. A., 26th July, 1892; 6 years.

*Claim.*—1st. An improved keel for vessels, comprising a longitudinal centre strip having its edges stepped at intervals in its length, and auxiliary strips of different lengths attached to the edges of said centre strip between the steps thereon, substantially as specified. 2nd. The combination, with a vessel frame, of a longitudinal centre strip attached thereto, said strip being reduced in width for a portion of its length at its middle, and having its edges stepped at intervals in its length on either side of the reduced middle portion, and the auxiliary curved strips of different lengths attached to the edges of said centre strip between the steps thereon, substantially as specified.

**No. 39,462. Type Setting Machine.**

(*Machine à composer.*)

John Johnson Peavey Odell, assignee of John Byron Odell, both of Chicago, Illinois, U.S.A., 27th July, 1892; 12 years.

*Claim.*—1st. In a type setting machine, the combination, with a series of type boxes or compartments, from which the type are removed one at a time, a series of operating keys corresponding in arrangement with the type boxes, a series of type carrying levers connected with and actuated by the operating keys, and adapted to convey the type from the type boxes to a common point, a way wherein the type are assembled in line, and means for transferring the type from the type carrying levers to said way, substantially as

described. 2nd. In a type setting machine, the combination, with a series of type compartments, having apertures to permit the removal of type therefrom, a series of operating keys having levers connected thereto and to a plunger, a plunger adapted to force the type out of their compartments when the keys are depressed, a way in which the type are assembled, a series of type carrying levers connected to the key levers and provided with jaws adapted to grasp the type and deliver them at the way, the pivoted lever having means for taking the type from the carrying lever jaws, and transferring them to the way, and electrical appliances comprising magnets, a battery and wires, and adapted by the depression of the keys to form a circuit and rock the lever on its pivot, and cause its jaws to engage the type, and adapted to return to its normal position when the circuit is opened, and thereby transfer the type to the way, substantially as described. 3rd. In a type setting machine, the combination, with the type compartments having apertures to permit the egress of the type, a plunger, operating keys, levers connecting the plungers and the keys, type carrying levers, a way in which the line is formed, an electrically operated transfer lever adapted to take the type from the carrying lever and transfer it to the way, a movable stick or frame upon which the line is pushed from the way, and means for moving the stick with the line thereon to permit the formation of a new line, substantially as described. 4th. In a type setting machine, the combination, with a series of type compartments, a table below the latter having recesses therein into which the type are delivered from the compartments, a series of operating keys, a plunger, and levers connecting the plungers and keys, type carrying levers, one for each compartment, connected with the key, and adapted to engage the type and carry them to a common point, a pivoted transfer lever adapted to take the type from the carrying levers and deliver them in line upon a suitable support, a gate against which the line rests, a plate or follower, and suitable actuating mechanism for the gate and follower whereby the line is moved out of the way when completed, substantially as described. 5th. In a type setting machine, the combination, with type compartments concentrically arranged upon a suitable base or table having type recesses therein, whose bottom walls incline at varying angles increasing from the centre toward the side of the series, and a series of type carrying levers having their lower ends bent or inclined to correspond to the position of the type in the recesses, and suitable means for actuating said levers, whereby said levers deliver the type at a common point and in the same relative position, substantially as described. 6th. In a type setting machine, the combination, with means for delivering the type at a way, said way in which the type are assembled in line, and means for transferring the type to the way, comprising in combination a pivoted lever, one end of which has type bearing jaws, and the other of which forms the armature of magnets, said magnets and wires connecting them on one side with a battery, and the other with a key board, and contact points connected with the opposite side of the battery, whereby the depression of the key completes the circuit, and thereby actuates the transfer lever, substantially as described. 7th. In a type setting machine, means for delivering the type at a way, and a transfer lever for conveying the type onto said way, the lower end of said lever constituting the armature of a pair of magnets normally in an open circuit, and means for closing the said circuit, comprising keys, and insulated contact point upon which the keys impinge, a second pair of magnets normally shunted out of said circuit by its own armature, and said shunt circuit adapted to be opened to include said second pair of magnets in the first circuit by the movement of the transfer lever, a normally open shunt circuit around the first pair of magnets, and adapted to be closed by the forward movement of the armature lever of the second pair of magnets, thereby cutting out the first pair of magnets and releasing the transfer lever, said second pair of magnets remaining in the circuit until said circuit is opened by the release of the key, substantially as described.

**No 39,463. Method of Synchronizing Clocks and Transmitting Time Signals. (Méthode de synchroniser les horloges et de transmettre les signaux horaires.)**

William F. Gardner, Washington, District of Columbia, U.S.A.,  
27th July, 1892; 6 years.

*Claim.*—1st. In an observatory or time transmitting station, an automatic time signal transmitter, a primary local electric circuit opened and closed by said transmitter and containing a repeater, a secondary local electric circuit opened and closed by the primary and containing a multiple repeater, and a series of several outgoing lines adapted to be opened and closed by said multiple repeater, substantially as set forth. 2nd. In an observatory or time transmitting station, an automatic transmitting clock, a closed local electric circuit opened by said clock, an electro-magnet in said circuit, a secondary open electrical circuit closed by said electro-magnet, a supplemental repeater in said open circuit, and one or more outgoing main electric circuits, closed by the last said repeater, substantially as set forth. 3rd. The improvement in the art of transmitting and receiving time signals, consisting in sending from a transmitting station a series of electric impulses of a predetermined number over the main line of an electric telegraph circuit, and through a main line repeater to a local circuit, receiving a part of the said impulses in a telegraphic sounder or equivalent instrument in said local cir-

cuit, and then receiving the remainder of said impulses in one or more clocks or equivalent time signal receiving instruments, substantially as set forth. 4th. The improvement in the art of transmitting and receiving time signals, which consists in sending from a transmitting station a series of electric impulses of a predetermined number over a main line, and through a main line repeater to a local circuit receiving a part of said impulses in an electro-magnetic instrument in a local circuit of low electro-motive force, and then receiving the remaining impulse or impulses of the said series in another instrument in a local electric circuit of higher electro-motive force, substantially as set forth. 5th. The herein described improvement in the art of transmitting and receiving time signals, it consisting in sending from a transmitting station a series of electric impulses of a predetermined number over a main line, and through a main line repeater to local circuits of different electro-motive force receiving a part of said impulses in a telegraphic sounder in the weaker of said local circuits, and then receiving the remainder of said impulse or impulses of the said series in a clock synchronizer in the stronger local circuit, substantially as set forth. 6th. The improvement in the method of operating and testing the electric circuits of a time signalling system, it consisting in imparting electric impulses to a main line by a current of given polarity, and causing said impulses to close local circuits each through a polarized relay, and in testing such main line by imparting thereto a current of opposite polarity and reversing the direction in which the last said current traverses the magnets successively of the said polarized relays, substantially as set forth. 7th. In a time signal transmitting system, a transmitting station, an electric circuit extending therefrom to one or more time signal receiving stations, a time signal transmitting apparatus in said transmitting station, said apparatus including a polarized relay, a main line battery and a pole changing switch, substantially as set forth. 8th. In a time signal transmitting system, a transmitting station, an electric circuit extending therefrom to a signal receiving station, a polarized relay at said receiving station, and means for reversing the direction of the current through the said relay or repeater without affecting the direction of the current over the main line, substantially as set forth. 9th. In a time signalling system, a transmitting station, an electric circuit extending therefrom to one or more receiving stations, said circuit including (permanently or possibly by means of switches) a polarized relay at the transmitting station, a battery, a pole changing switch, and a galvanometer, substantially as set forth. 10th. In a time signalling system, an observatory or central transmitting station, a series of two or more main lines extending out from the said station and adapted to transmit time signals therefrom, and an indicator, as at N<sup>o</sup>, in the observatory or central station, adapted to be connected to said circuits, substantially as set forth. 11th. In a time signalling system, a signal receiving or local electric circuit, time signal receiving devices in said circuit, a telegraphic sounder or an equivalent receiving device in said local circuit, a telegraphic or telephonic main line circuit, a repeater therein which directly opens and closes the said local circuits, a time signal transmitting station adapted to be connected to said main line, and automatic signal transmitting apparatus at said station, substantially as set forth. 12th. In a time distributing system, a receiving station having a series of two or more electric circuits, as at 10, 10, 10<sup>a</sup>, 10<sup>b</sup>, one or more clocks or time signal receiving devices in each of said circuits, a multiple repeater opening and closing all of said circuits simultaneously, an electric circuit including said multiple repeater and independent of the aforesaid circuits, a main electric circuit, as at 5, 5, electro-magnetic devices in said main circuit for opening and closing the aforesaid repeater circuit, and a time signal transmitting station having automatic signal transmitting devices which open and close the aforesaid main line, substantially as set forth. 13th. A time receiving or clock station, having one or more local electric circuits, each having one or more clocks therein, a repeater which opens and closes all of said local circuits, a supplemental local circuit which operates said repeater, and a main line circuit, and a relay therein which opens and closes the primary local circuit, as set forth. 14th. In a time signalling system, a telegraphic or telephonic main line electric circuit, devices for transmitting time signals adapted to be connected therewith, a series of main line relays in said circuit, a series of telegraphic or telephonic stations respectively, containing said repeaters, a telegraphic signal receiving device in each of said stations, a local electric circuit extending from each of said stations and opened and closed by one of said repeaters, and one or more clocks or time signal receiving devices in said local circuit, substantially as set forth. 15th. In a time signalling system, a telegraphic or telephonic main line circuit, devices for transmitting time signals adapted to be connected therewith, a series of main line repeaters in said circuit, a series of telegraph or telephone stations respectively containing said repeaters, telegraphic or telephonic signal receiving devices in each of said stations, a series of two or more local electric circuits extending from each of said stations, and each, except the last, opening and closing a succeeding circuit, and one or more clocks or time signal receiving devices in the said series of local circuits, substantially as set forth. 16th. In a time signalling system, a time signal receiving station, a signal receiving device in said station, a local circuit including said signal receiving device, a repeater at said receiving station opening and closing said circuit, and an electro-magnet in the main line circuit supplemental to the said repeater, and adapted to open and close the circuit through the said repeater, substantially as set forth.

17th. In a time signalling system, a main line circuit, a polarized relay therein, a local circuit opened and closed by the said polarized relay, a repeater in said local circuit, a clock or time signal receiving device and an electric circuit including the said clock or signal receiving device, and opened and closed by the said repeater, substantially as set forth. 18th. The combination of the clock Q, the electric circuit 12, 12', 12'', the sounder R<sup>2</sup>, or equivalent instrument in the said circuit, or a part thereof, a main line, as at 6, 6, the repeater I<sup>1</sup> in said main line, and the time signal transmitting apparatus at a transmitting station adapted to be connected by the main line with the repeater I<sup>1</sup>, substantially as set forth. 19th. The combination of the clock Q, the circuit 12, 12', 12'', the sounder R<sup>2</sup>, the battery R<sup>1</sup>, the battery R<sup>2</sup>, the switch r, a main line, as at 6, 6, adapted to receive time signals, and the repeater I<sup>1</sup> in the main line, substantially as set forth. 20th. The combination of the clock Q, the circuit 12, 12', 12'', the sounder R<sup>2</sup>, the switch r, a main line as at 6, 6, the repeater I<sup>1</sup>, and the telegraphing key in the said main line circuit, substantially as set forth. 21st. The combination of the clock Q, the sounder R<sup>2</sup>, the circuit 12, 12', 12'' through the clock, the repeater I<sup>1</sup>, having its armature adapted to open and close the circuit through the clock, a main line circuit through the repeater, and the switch for opening the circuit through the clock, substantially as set forth. 22nd. The combination of the clock Q, the sounder R<sup>2</sup> or equivalent instrument, an electric circuit through the clock, a battery R<sup>1</sup> therein, the electric circuit through the sounder, a main line, as at 6, 6, a repeater, as at I<sup>1</sup>, in said main line having an armature adapted to open and close the circuit through the clock, and the switch for cutting out the clock, substantially as set forth. 23rd. The combination of the clock Q, the sounder R<sup>2</sup>, or equivalent instrument, an electric circuit through the clock, an electric circuit through the sounder, a main line circuit as at 6, 6, and a repeater I<sup>1</sup>, in said circuit adapted to open and close the circuit through the sounder, substantially as set forth. 24th. The combination of the clock Q, the sounder R<sup>2</sup>, or equivalent instrument, the electric circuit through the clock, the electric circuit through the sounder, the relay I<sup>1</sup> adapted to open and close either or both of the aforesaid circuits, the switch r, for opening the clock circuits, the time signal transmitting device, a main line as at 6, 6, running through the said repeater J<sup>1</sup>, and having two earth connections, one at the transmitting station and one outside thereof, and a switch as at r<sup>2</sup> for joining the main line to either of said earth connections, substantially as set forth. 25th. The combination of the clock Q, the electric circuit through the clock, a repeater as at Q<sup>1</sup>, which opens and closes the said circuit, a main line as at 5, 5, a polarized relay as at N<sup>1</sup>, which opens and closes the circuit through the repeater, and which is adapted to have the current from the main line passed through it in either direction without change in said main line, substantially as set forth. 26th. The combination, of the means for transmitting time signals, the battery, the pole changer and the polarized relay, all in the observatory of transmitting station, the electric circuit as at 5, 5, the clock station, the local electric circuit in said clock station, the clock in said circuit, the polarized relay N<sup>1</sup>, adapted to have the current from the line 5, 5, passed through it in either direction independently of the pole changer at the observatory or transmitting station, substantially as set forth. 27th. The combination of the time signal transmitting apparatus in the observatory or central station, including a multiple pointed repeater I, a series of two or more main electric circuits as at 5, 5, 6, 6, 7, 7, extending from said multiple pointed repeater I, out from the observatory or transmitting station, a time signal receiving station as at S<sup>1</sup>, a local electric circuit at the said station, a multiple pointed repeater in the said local circuit, and a series of two or more electric circuits extending out from the last said multiple pointed repeater to a series of clock stations as at O<sup>2</sup>, O<sup>3</sup>, substantially as set forth.

**No. 39,464. Display Device. (Appareil d'étalage.)**

Matthew Franklin Connett, Kansas City, Missouri, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. In a display device, the combination of a cyclic guide and a series of curtains overlapping each other and mounted upon supports placed one in advance of the other in the said guide and independently movable therein, whereby the curtains may be successively advanced into and out of the field of view, substantially as described. 2nd. In a display device, the combination of a cyclic guide, a series of curtains overlapping each other, and mounted upon supports placed one in advance of the other in the said guide and independently movable therein, and mechanism, substantially as described, for engaging and advancing the foremost curtain, whereby the curtains are successively moved across the field of view, substantially as set forth. 3rd. In a display device, the combination of a guide comprising two corresponding opposing stationary cyclic ways, a series of curtains overlapping each other and mounted upon supports extending at their opposite ends into the said ways and arranged one in advance of the other and independently movable in the guide, and mechanism, substantially as described, for engaging and advancing the foremost curtain, whereby the curtains are successively moved across the field of view, substantially as set forth. 4th. In a display device, the combination of a cyclic guide, a series of curtains overlapping each other and mounted upon supports placed one in advance of the other in the said guide and independently movable therein, mechanism, substantially as described, for

engaging and advancing the foremost curtain, and mechanism for simultaneously moving the next succeeding curtain into the position vacated by the said foremost curtain, substantially as and for the purpose set forth. 5th. In a display device, the combination of a guide comprising two corresponding opposing stationary cyclic ways, a series of curtains overlapping each other and mounted upon rods p, having end pieces p<sup>1</sup>, extending into the said ways, the rods being placed one in advance of the other and independently movable in the guide, and mechanism, substantially as described, for engaging and advancing the foremost rod, whereby the curtains are successively moved across the field of view, substantially as set forth. 6th. In a display device, a series of curtains, each provided toward one end with a rod p, having end pieces p<sup>1</sup>, movable in a cyclic guide, and a rod o toward its opposite end, movable in a plane outside the cyclic guide, and mechanism, substantially as described, for engaging the rods p and moving the curtains successively into and out of the field of view, substantially as set forth. 7th. In a display device, the combination, with an inclosing case having a display face A<sup>1</sup>, of end supports B, endless guide ways g on the supports, a rock shaft D, journaled toward opposite ends in the supports, a series of curtains upon rods p, which are mounted toward opposite ends and movable in the guide ways g, and levers E on the rock shaft provided at their free ends with catches i<sup>1</sup>, which project across and swing in the path of the rods p, whereby when the rock shaft is actuated the catches i<sup>1</sup>, will engage a rod p, and move a curtain, substantially as and for the purpose set forth. 8th. In a display device, the combination, with an inclosing case having a display face A<sup>1</sup>, of end supports B, guide ways g, on the supports, a rock shaft D, journaled in the supports, a series of curtains C, secured at one edge to rods p, which are mounted toward opposite ends, and movable in the guide ways g, and secured at their opposite edges to rods o, movable outside the guide ways g, and levers E, on the rock shaft, provided on their free ends with catches i<sup>1</sup>, which project across and swing in the path of the rods p, whereby when the rock shaft is actuated the catches i<sup>1</sup>, will engage a rod p, and move a curtain, substantially as and for the purpose set forth. 9th. In a display device, the combination, with an inclosing case having a display face A<sup>1</sup>, of end supports B, guide ways g, on the supports, clamping strips c, extending part way around the guide ways g, a rock shaft D, journaled in the supports, a series of curtains C, secured at one edge to rods p, which are mounted toward opposite ends and movable in the guide ways g, and secured at their opposite edges to rods o, movable between the strips c, and guide ways g, and levers E, on the rock shaft, provided at their free ends with catches i<sup>1</sup>, which project across and swing in the path of the rods p, whereby when the rock shaft is actuated the catches i<sup>1</sup>, will engage a rod p, and move a curtain, substantially as and for the purpose set forth. 10th. In a display device, the combination, with an inclosing case having a display face A<sup>1</sup>, of end supports B, guide ways g, on the supports, rock shafts D and F, journaled in the supports, a series of curtains upon rods p, which are mounted toward opposite ends and movable in the guide ways g, levers E, on the shaft D, provided at their free ends with catches i<sup>1</sup>, levers F<sup>1</sup>, on the shaft F, carrying catches f<sup>1</sup>, the catches i<sup>1</sup> and f<sup>1</sup>, all projecting across and swinging in the path of the rods p, and mechanism, substantially as described, for actuating the rock shafts D and F simultaneously, whereby the catches i<sup>1</sup>, will engage and move a curtain of the series from the field of view, and the catches f<sup>1</sup>, will advance the rest of the curtains, substantially as and for the purpose set forth.

**No. 39,465. Separator. (Séparateur.)**

James M. Bradshaw and William E. Meek, both of Eastonville, Colorado, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. In a separator, the combination, of a main frame, the vibrating shoe suspended within the same, the chain connected to the frame and shoe at opposite ends and limiting the movement of the shoe in one direction, and a stop for limiting the movement of the shoe in the opposite direction, substantially as described for the purpose set forth. 2nd. In a separator, the combination, of a main frame, a vibrating shoe suspended within the main frame, the chain connected at opposite ends to the frame and shoe, and the spring metal stop I fixed to the main frame and depending therefrom into the path of the vibrating shoe, substantially as described for the purpose set forth.

**No. 39,466. Printing Apparatus. (Machine à imprimer.)**

James Samuel Foley, London, England, 27th July, 1892; 6 years.

*Claim.*—1st. In a pocket printing instrument, an ink reservoir. 2nd. In a pocket printing instrument, a type wheel adapted to be rotated by frictional contact with the surface to be printed upon. 3rd. In a type wheel or printing roller, the combination, with the types, the shanks of which are tapered, of a sleeve and two discs, one or both of which are adjustable on the sleeve so that the types may be clamped between them. 4th. In a type wheel, of a pocket printing instrument, the combination, with types having notches or recesses, of a clamping disc formed with a projecting rim to fit into the said recesses. 5th. In the type wheel of a pocket printing instrument, the combination, with each type, of a projection on one face and a recess on the other face, whereby the types lock each other. 6th. In a pocket printing instrument, the combination, with the type wheel having a recess or notch, of a spring adapted to en-

gage with such recess to indicate a certain position of the wheel and to prevent its rotation in a wrong direction. 7th. In a pocket printing instrument, the combination, with the case of a type wheel pivoted within it so that its periphery or printing face projects beyond the adjacent edges of the case. 8th. In a pocket printing instrument, the combination, with the inking roller, of an ink reservoir formed within it. 9th. In a pocket printing instrument, the combination, with an ink reservoir D, of a spring controlled disc or valve  $d^2$ . 10th. In a pocket printing instrument, the combination, with an ink reservoir D, surrounded by an inking pad, and having a movable valve or cover  $d^2$ , of a spindle or arbor  $D^1$ , secured to and adapted to operate the said valve or cover for permitting the ink to flow out of the reservoir, and provided with a square portion  $d^{13}$ , key or like means for enabling the reservoir and inking pad to be rotated. 11th. In a pocket printing instrument, the combination, with an ink reservoir  $d^1$ ,  $d^2$ ,  $d^3$ , of a spindle  $D^1$ , casing  $d^7$ ,  $d^8$ , screwed gland  $d^{10}$ , and spring  $d^{14}$ . 12th. In a pocket printing instrument, the combination, with a type wheel, of a combined inking roller and ink reservoir. 13th. In a pocket printing instrument, the combination, with a type wheel of an inking roller, the arbor of which is mounted in slotted bearings, and which is pressed into peripheral contact with the type wheel by means of one or more springs. 14th. In a printing instrument, the combination, with an ink reservoir having an outlet pipe H, and cap  $H^1$ , for delivering ink to the inking roller, of a piston capable of being moved within such reservoir for the purpose of forcing out the ink. 15th. In a printing instrument, the employment of a perforated cap or piece  $H^1$ , the opening or openings in which remain closed except when the ink is forced through them. 16th. In a printing instrument, the employment of a cap nozzle or piece of material sufficiently porous to allow of the ink being forced through it, but impervious to the passage of the ink without pressure. 17th. In a printing instrument, the combination in a piston of two screw threaded plates or discs, and an interposed rubber or equivalent packing adapted to be compressed between said discs so as to fit tightly against the wall of the cylinder or reservoir, and to prevent the said discs from turning. 18th. In an inking apparatus, a piston adapted to work upon a screwed rod, and having the packing so arranged as to press and make a tight joint upon the said screwed rod. 19th. In an inking device, the combination, with the reservoir and piston working therein, of a discharge valve adapted to prevent the passage of ink except when intentionally forced through it. 20th. In an inking device, the combination, with a reservoir and piston, of a chamber  $H^2$ , containing a valve  $H^1$ . 21st. In a pocket printing instrument, the combination, with a cylindrical ink reservoir closed at its ends by caps through one of which passes a screw on which is threaded a piston of an inking roller, the periphery of which is in close proximity to or in contact with the ink delivering pipe of such reservoir. 22nd. In a pocket printing instrument, the combination, with a case having a printing roller pivoted on a fixed point within it of an inking roller carried on the ink reservoir, which is longitudinally movable within the case, so that proper peripheral contact may be maintained between the inking and printing rollers. 23rd. In a pocket printing instrument, the combination, with the inking roller, of a yoke in which is the arbor of such roller, and which is acted on by a spring, which presses the inking roller into peripheral contact with the printing roller. 24th. The combination and arrangement of parts forming the complete pocket printing instrument, substantially as herein described, and illustrated in figures 1 to 5 of the accompanying drawings. 25th. The combination and arrangement of parts forming the complete pocket printing instrument, substantially as herein described, and illustrated in figures 8 and 9 of the accompanying drawings. 26th. The combination and arrangement of parts forming the complete pocket printing instrument, substantially as herein described, and illustrated in figures 10 and 11 of the accompanying drawings.

#### No. 39,467. Sewing Machine. (*Machine à coudre.*)

Charles Branston Hunt, 59 Holborn Viaduct, London, England, 27th July, 1892; 6 years.

*Claim.*—1st. The combination, with the lock stitch mechanism and the chain stitch mechanism of a sewing machine, of a lever mechanism, substantially as described, for throwing the lock stitch mechanism out of action and the chain stitch mechanism into action, and conversely. 2nd. The combination, with the lock stitch mechanism and the chain stitch mechanism of a sewing machine, of a slide plate, and lever mechanism connected with and operated by the slide plate for throwing the lock stitch mechanism into action and the chain stitch mechanism out of action, and conversely, substantially as described. 3rd. The combination, with a needle bar, a thread carrier or reel and an under shaft A, having an eccentric B, of a lever D, pivoted intermediate its extremities and having one end actuated by the eccentric, a slide plate F, detachably engaged with the opposite extremity of the lever, and having a forked portion or prong  $a$ , and a spring plate I, moved by the slide and having elastic prongs  $c$ , substantially as described. 4th. The combination, with a needle bar, a thread carrier or reel and an under shaft A, having an eccentric B, provided with an arm C, of a lever D, pivoted intermediate its extremities and having one end connected with the said arm and its opposite end provided with a fork, a slide F, having the prongs  $a$ , and a stud E, detachably engaging the forked end of the lever, and a spring plate I, moved by the slide and having elastic

prongs  $c$ , substantially as described. 5th. The combination, with a needle bar, and a thread carrier or reel, of an under shaft A, the eccentric  $K^1$ , in which the under shaft turns, the pair of parallel beams J, K, mounted respectively on the shaft and eccentric, one of the beams having a tubular projection L, a looper N, arranged in the tubular projection and engaged with and turned by the other beam, and a loose connection between the ends of the beams which are opposite the looper, substantially as described. 6th. The combination, with the box  $f$ , having the pivoted catch or pawl  $h$ , and the button  $g$ , for actuating the catch or pawl of the reel carrier  $d$ , having a part engaged by the catch or pawl and provided with a horizontal spring turned post  $e$ , arranged in the box, substantially as described. 7th. The combination, with the reel cage V, and the spring U, attached thereto, of the lid T, acted on by the spring and held in its open or closed position thereby, substantially as described. 8th. The combination, with stitch forming mechanism, of the wheel  $j$ , the turn button  $i$ , having the bent pinion  $k$ , the threaded rod  $m$ , having the pinion  $l$ , engaging the bent pinion of the turn button, and the sliding block  $n$ , engaging the threaded rod for regulating and indicating the length of stitch desired, substantially as described.

#### No. 39,468. Slide Rule. (*Règle à calculer.*)

William Cox, New York, State of New York, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. In a slide rule, the body described, composed of a lower bar, grooved on its upper edge and logarithmically and identically graduated on each face, an upper bar grooved on its lower edge and logarithmically and identically graduated on each face, the two bars rigidly connected together by cross pieces arranged to hold the lower and upper bars firmly in their relative positions, so that the graduations of the two faces shall exactly coincide with each other. 2nd. A double faced rule having a slide with lines of logarithmic graduations on each face, in combination with a body composed of parallel rigidly connected bars engaged with the edges, respectively, and graduated logarithmically on each face, as herein specified. 3rd. The double faced slide rule described, having lines of logarithmic graduations on each face of the body and slide, with some of the lines of graduations in direct and others in reversed order adapted to overcome the necessity of inverting the slide, as herein specified. 4th. A runner enabling corresponding points on either face and on any scale to be noted, as herein set forth.

#### No. 39,469. Apparatus for Producing a Mixture of Steam and Air for Use in Motive Power Engines. (*Appareil pour la production d'un mélange de vapeur et d'air à l'usage des mécanismes de pouvoir moteur.*)

Edward Field, Chandos Chambers, 22 Buckingham Street, Adelphi, London, England, 27th July, 1892; 6 years.

*Claim.*—1st. The production of motive fluid and use thereof in motive power engines, substantially as described, namely, by compressing atmospheric air, then heating it in a suitable heater and causing it and also steam, both being at a suitable temperature and pressure, to enter in regulated proportions into and become mixed in a suitable pipe or mixer, the mixer thus produced being then conducted to the slide or valve jacket of the motive power engine and used in the cylinder or cylinders thereof. 2nd. The herein described method of working an engine with a mixture of steam and hot air by compressing atmospheric air, passing it through a suitable heater and causing it and also steam, both being at a suitable temperature and pressure, to enter simultaneously, but separately and in an automatic manner, into a mixing device and become mixed, and conducting the mixture of heated compressed air and steam to said engine, substantially as herein described. 3rd. The herein described method of working an engine, by first admitting steam direct thereto from a steam generator and afterwards cutting off the direct supply of steam and admitting to said engine a mixture of steam and hot air produced by compressing atmospheric air, passing it through a suitable heater and causing it and also steam, both being at a suitable temperature and pressure to enter simultaneously, but separately, into a mixing device wherein it becomes mixed, and from which it passes into a mixture main to said engine, substantially as herein described. 4th. Apparatus for producing mixture of steam and hot air, comprising a steam generator, an air compressor, and means for driving the same, an air heater in communication with said air compressor, a mixer adapted to be placed in communication with said steam generator and air heater, so that steam and heated compressed air can be conducted simultaneously but separately into it, and a mixture main into which mixture of steam and hot air is delivered from said mixer, substantially as herein described. 5th. Apparatus for producing mixture of steam and hot air for use as motive fluid in engines, comprising a steam generator, an air compressor, and means for driving the same, an air heater heated externally and through which air is forced by said compressor, a mixer, pipes whereby steam and heated compressed air can be conducted simultaneously but separately to said mixer, and a mixture main into which mixture of heated compressed air and steam can be delivered from said mixer, substantially as herein described. 6th. Apparatus for producing mixture of steam and hot air for use in engines, com-

prising a steam generator, an air compressor, and means for driving the same, an air heater through which air is caused to flow by said compressor, a mixer having inlets for steam and hot air from said steam generator and air heater respectively, steam and hot air valves for controlling the admission of steam and hot air to said mixture, and a mixture main into which mixture of heated compressed air and steam is delivered by said mixer. 7th. Apparatus for producing mixture of steam and hot air for use in engines, comprising a steam generator, an air compressor, and means for driving the same, an air heater through which air is caused to flow by said compressor, a mixer having inlets for steam, and hot air from said steam generator and air heater respectively, steam and hot air valves capable of admitting steam and heated compressed air simultaneously, but separately to said mixer, and a mixture main in communication with said mixer. 8th. In apparatus for producing mixture of steam and hot air for use in engines, the combination, with air compressing and heating apparatus, and steam supply apparatus, of a mixer provided with differential self-acting valves for admitting steam and hot air simultaneously but separately thereto, and a mixture main into which mixture of heated compressed air and steam is delivered from said mixer. 9th. The combination, with a fluid pressure engine, of air compressing and heating apparatus, steam supply apparatus, a mixer provided with differential self-acting valves capable of automatically controlling the supply of air and steam from said apparatus, and a mixture main in communication with said mixer and with said engine. 10th. The combination, with a fluid pressure engine, of air compressing and heating apparatus, steam supply apparatus, and a mixer provided with differential self-acting valves capable of automatically controlling the admission thereto of steam, and heated compressed air from said apparatus, a steam nozzle and a hot air passage for the purpose specified. 11th. For producing mixture of steam and hot air for use in fluid pressure engines, a mixer having inlets for steam and heated compressed air, an outlet for mixture of heated compressed air and steam, and differential self-acting valves of unequal area for simultaneously controlling said inlets for steam and heated compressed air. 12th. For producing mixture of steam and hot air for use in fluid pressure engines, a mixer having inlets 25 and 26, for steam and heated compressed air respectively, a steam lift valve 15, and a hot air lift valve 16 for simultaneously controlling said inlets, said valves being of unequal areas, a stem 17 connected to said steam valve, and loosely connected to said hot air valve, a steam nozzle 21 in communication with said steam inlet, and a hot air passage 25 surrounding said steam nozzle, substantially as herein described for the purpose specified. 13th. The combination of an engine, a steam generator 2, an air compressor and means for driving the same, an air heater in communication with said compressor, a mixer 7, a pipe 8, with valve 9 for connecting said mixer with said steam generator, a pipe 6 connecting said mixer with said air heater, a mixture main 12, with valve 14, for connecting said mixer with said engine, and a pipe 8, with starting valve 10, for connecting said engine direct with said steam generator, substantially as herein described.

#### No. 39,470. Metal Screw Machine.

(Machine à vis métallique.)

Samuel Lord Worsley, Taunton, Massachusetts, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. The combination, substantially as hereinbefore set forth, of a hollow rotating spindle and its holding chuck for a rod of stock, a spring feeding tube for such rod, a sliding sleeve connected with said tube, lugs for working said sleeve, which are adjustable relatively to each other, and a vibrating feeding lever having a fixed range of movement, whereby any extent of movement equal to or within that of the feeding lever can be imparted to the spring feeding tube at pleasure. 2nd. For the instantaneous reversal of the direction of rotation of the spindle and its holding chuck, the combination, substantially as hereinbefore set forth, of two pulleys arranged to revolve on said spindle in opposite directions, friction clutch devices for alternately connecting each of said pulleys to the spindle, a sliding collar for working and releasing such clutches alternately, and spring bolts for alternately vibrating the lever which slides such collar, said spring bolts being retracted, held and allowed to be shot off by means of operating cams, substantially as described. 3rd. The combination of two spring bolts arranged to be shot in directions opposite to each other, devices, such as revolving cams, for retracting such spring bolts and allowing them to be alternately projected by their springs, and a shipper lever arranged to vibrate on a fulcrum, one end of such lever being located in the path of movement of both spring bolts, substantially as described. 4th. The combination, with the main frame of the machine and with the sliding carriage carrying the turret head and its tools, of an independent bed carrying the revolving spindle and its chuck, the pulleys for rotating the same alternately in different directions, the clutches for said pulleys, the adjustable spring feeding tube, and the sliding cutting-off tool, said bed being arranged to be adjustable on the main frame in positions nearer to or farther from the faces of the tools carried by the turret head and its sliding carriage, substantially as described. 5th. The combination, substantially as hereinbefore set forth, of the prime motor shaft 37, the shaft 29 (carrying the cams for governing the movements of the rod feeding tube, the opening and the closing of the jaws of the chuck, and for the retreat-

ing movement of the cutting-off tool carriage), and an automatic clutch coupling mechanism controlled by a shaft in train with the prime motor, whereby an intermittent movement can be given to said shaft 29, for the purposes described. 6th. The combination, substantially as hereinbefore set forth, of the prime motor shaft 37, the cam 53 driven therefrom, the shaft 58, and an automatic clutch coupling mechanism controlled by the cam 53 in train with the prime motor, whereby an intermittent movement can be imparted to the turret head shaft 60 at any desired rate of speed, relatively to the speed of the prime motor shaft, for the purposes described. 7th. The combination of the intermittently revolving shaft 58, the cam 74, the turret head carrying the series of operating tools, and the locking pin 70, substantially as described. 8th. In combination with the revolving spindle of a screw machine, the sliding cutting-off tool carriage constructed with a rack, through which sliding movement is communicated to the carriage, which rack is adjustable in position relatively to the bed of the carriage by means of an adjusting device, as described, whereby the adjustment of the movement of the cutter relatively to the axis of the revolving spindle holding the rod of screw stock can be accurately effected. 9th. The combination in a metal screw machine, of a sliding turret head carrying a screw-cutting die held against revolving in the head, a revolving spindle carrying the chuck for holding the rod of screw stock, the said revolving spindle being arranged by means of pulleys revolving in opposite directions and alternately clutched to said spindle, to revolve, first, in the direction for allowing the thread to be cut by the non-rotating die, and secondly, to revolve in the opposite direction for running off the threader die, and a sliding cutting-off tool carriage arranged to move toward the axis of the rod of stock when the die is backing off, whereby the operations of backing off and severing the screw from the stock can be performed practically simultaneously. 10th. The combination, with the spindle of a screw machine capable of revolving first in one and then in the opposite direction, of a screw-cutting die held against rotation in a sliding turret head, a sliding turret head, a weight or equivalent means for giving a backward movement to said head and a cam for giving a forward movement to said head and permitting a movement at the proper time in the opposite direction, whereby the screw-cutting die is by the forward movement of the turret head forced to take a bite on the blank to be threaded, then allowed to project itself from the turret to feed itself along the blank for cutting the prescribed length of thread, and, finally, on the reversal of the movement of the spindle and the backing off of the die, be returned into the head, and the head itself with the die housed therein moved backward to its rearmost position, substantially as described.

#### No. 39,471. Stamp Battery or Ore Crusher.

(Machine à broyer les minerais.)

Charles Raleigh, Johannesburg, South African Republic, Africa, 27th July, 1892; 6 years.

*Claim.*—1st. In a stamp battery or crushing mill for reducing gold ores and other substances, causing the stamps to rotate first in one direction and then in the other, substantially as herein described. 2nd. In a stamp battery or crushing mill for reducing gold ores and other substances, causing each stamp to rotate in a direction opposite to that of its neighbour, substantially as herein described. 3rd. For holding the anvil or die in a stamp battery or crushing mill, a connector comprising the strap G, G', pivoted studs L and L', and clips M and M', arranged and operating, substantially as herein set forth.

#### No. 39,472. Apparatus for the Rescue of Persons Buried While in a State of Trance.

(Appareil pour la délivrance des personnes ensevelies en état de léthargie.)

Adalbert Kwiatkowski, Posen-Wilda, Posen, Prussia, Empire of Germany, 27th July, 1892; 6 years.

*Claim.*—An apparatus for the rescue of a person buried in a trance, in which the disengagement by said person recovering of a spring *f*, held in tension in a tube *r*, effects the removal of a cap *p* from said tube, as well as the projection therefrom of a visible signal, thereby admitting both air to the coffin and making the recovery of the person so buried known, substantially as set forth.

#### No. 39,473. Machine for Making Hydrogen Gas, etc.

(Machine pour la fabrication du gaz.)

Vivian Byam Lewes, Greenwich, England, 27th July, 1892; 6 years.

*Claim.*—1st. In an apparatus for the manufacture of hydrogen gas, or a mixture of hydrogen and carbon monoxide, the combination of a gas producer, and a retort for containing iron, or iron and carbonaceous material, said retort being arranged to be heated by direct contact with the mass of incandescent fuel in said gas producer, and having inlets for steam and reducing gases, an outlet for hydrogen and an outlet for reducing gases, substantially as herein described. 2nd. In apparatus for the manufacture of hydrogen gas, or a mixture of hydrogen and carbon monoxide, the combination, of a gas producer, a retort arranged to be maintained at a high temperature by direct contact with the mass of incandescent fuel in said gas producer, a passage

for placing the interior of said retort in communication with the interior of said gas producer, a pipe to admit steam to said retort, a pipe for the exit of hydrogen from said retort, a pipe for the exit of reducing gases from said retort, and valves for controlling the flow of gas or gases through said pipes, substantially as herein described for the purposes specified. 3rd. In apparatus for the manufacture of hydrogen gas, or a mixture of hydrogen and carbon monoxide, the combination of a gas producer, a retort to contain iron, or a mixture of iron and carbonaceous material, said retort being arranged side by side with said gas producer, so as to be maintained at a high temperature by direct contact with the mass of incandescent fuel in said gas producer, and a pipe for admitting superheated steam to said retort, substantially as herein described for the purposes specified. 4th. Apparatus for the manufacture of hydrogen, or a mixture of hydrogen and carbon monoxide, comprising a gas producer, and a retort formed by a wall or casing with transverse partition, a passage connecting said gas producer with said retort, pipes for admitting air and steam to said gas producer, a pipe to admit steam to the lower end of said retort, a pipe for the exit of gases that have been used to reduce oxide of iron in said retort, a pipe for the exit of hydrogen from the top of said retort and valves for controlling said passage and pipes, substantially as herein described for the purposes specified.

**No. 39,474. Frame Bolt for Doors, Etc.**

(*Boulon de cadre pour portes, etc.*)

Felix Carpentier, Brussels, Belgium, 27th July, 1892; 6 years.

*Claim.*—1st. The improvement in the art of tying or holding together the various parts of a door, et cetera, substantially as herein described and shown, consisting in the application of a bolt or tie rod, or bolts or tie rods, which traverses or traverse such parts, and having its head, or their heads, and the washer or washers (between which head, or heads, and washer, or washers, the various parts are held by means of a nut or nuts capable of adjustment against the washer or washers), concaved on the inner surface, or surfaces, the generating lines of such concave surface, or surfaces, when the door, et cetera, is in a finished condition, being parallel to the fibres of the wood of which the door, et cetera, is made. 2nd. The devices for use in tying or holding together the various parts of a door, et cetera, consisting of a bolt or tie rod having the inner surface of its head concaved, and a washer also concaved on its inner surface.

**No. 39,475. Camera. (Chambre photographique.)**

William Friese Greene and Mortimer Evans, both of Picadilly, London, England, 27th July, 1892; 6 years.

*Claim.*—1st. So arranging the mechanism of a camera as to cause the cycle of operations necessary for the obtaining of a latent photographic representation, or of a series of such representations, to be automatically effected in proper sequence, by means deriving their actuation from the rotation of a common shaft or its equivalent, to which motion may be imparted by hand or otherwise, with or without means for allowing of the period of exposure being varied as may be required. 2nd. In a camera, the combination, of an intermittently opening shutter, with mechanism for giving an intermittent movement to a sensitized strip, the whole being actuated from a common shaft or its equivalent, in such manner that the opening of the shutter takes place during a period of rest of the strip. 3rd. In a camera, in combination, a device which at each operation advances into position for exposure to the action of the lens a portion of a sensitized strip fed thereto, and simultaneously advances from the position of exposure towards a take up device the portion of the strip lastly exposed, and which between such times of operation arrests the portion of the strip in position for exposure or allows of its being so arrested, an exposure device (which may or may not be capable of independent adjustment to regulate the period of exposure, as may be required), timed to operate while the portion of the strip in position for exposure is arrested, and a shaft to which such devices are so connected as to be caused to operate in proper sequence upon the rotation of such shaft. 4th. In a camera, in combination, a device which at each operation advances into position for exposure to the action of the lens a portion of a sensitized strip fed thereto, and simultaneously advances from the position of exposure towards a take up device the portion of the strip lastly exposed, and which between such times of operation arrests the portion of the strip in position for exposure or allows of its being so arrested, and a shaft to which such device is so connected as to be caused to operate upon the rotation thereof. 5th. In a camera, in combination, let off and take up devices, which at each operation, respectively, let off and take up a portion of a sensitized strip of the length required for each representation, a device which at each operation advances into position for exposure to the action of the lens the portion of the strip supplied by the let off device, and advances from the position of exposure towards the take up device the portion of the strip lastly exposed, and which between such times of operation arrests the portion of the strip in position for exposure or allows of its being so arrested, an exposure device, which may or may not be capable of independent adjustment to regulate the period of exposure, as may be required, timed to operate while the portion of the strip in position for exposure is arrested, and a

common shaft to which such devices are so connected as to be caused to operate in proper sequence upon the rotation of such shaft. 6th. In a camera, in combination, let off and take up devices which at each operation, respectively let off and take up a portion of a sensitized strip of the length required for each representation, a device which at each operation advances into position for exposure to the action of the lens the portion of the strip supplied by the let off device and advances from the position of exposure towards the take up device the portion of the strip lastly exposed, and which between such times of operation arrests the portion of the strip in position for exposure or allows of its being so arrested, and a common shaft to which such devices are so connected as to be caused to operate in proper sequence upon the rotation of such shaft. 7th. In a camera, in combination, the spindle 39, means for operating it, the roller 16, and connecting spring 38, the escapement tooth 37, the escapement hub 43, and gearing connecting the latter with the spindle 39. 8th. In a camera, in combination, the spindle 39, means for operating it, the roller 16, and connecting spring 38, the escapement tooth 37, the escapement hub 43, and gearing connecting the latter with the spindle 39, the let off roll 10, the take up roller 18, the connecting feed roller 12, the shaft 5, and gearing connecting the shaft with the rollers 16 and 18, respectively. 9th. In a camera, in combination, the spindle 39, means for operating it, the roller 16, and connecting spring 38, the escapement tooth 37, the escapement hub 43, and gearing connecting the latter with the spindle 39, the let off roll 10, the take up roller 18, the feed roller 12, the shaft 5, and gearing connecting the shaft with the rollers 16, 18 and 10 respectively. 10th. In a camera, in combination, the automatically acting roller 16, the frictionally driven roller 18, the shaft 5, and gearing connecting the shaft with such rollers respectively, substantially as and for the purposes set forth. 11th. In a camera, in combination, the automatically acting roller 16, the frictionally driven rollers 18 and 10, the shaft 5, and gearing connecting the shaft with such rollers respectively, substantially as and for the purposes set forth. 12th. In a camera, in combination, the automatically acting roller 16, the frictionally driven rollers 18 and 10, the connecting feed roller 12, the shaft 5, and gearing connecting the shaft with such rollers 16 and 18, respectively, substantially as and for the purposes set forth. 13th. In a camera, in combination, the roller 18, the shaft 5, means for frictionally actuating the roller from the shaft, the roll 10, and the connecting feed roller 12, for frictionally actuating the roll 10, from the roll 20, substantially as and for the purposes set forth. 14th. In a camera, in combination, the roller 18, the shaft 5, and means for frictionally actuating the roller from the shaft, substantially as and for the purposes set forth.

**No. 39,476. Sash and Sash Frame for Windows.**

(*Croisée et cadre de fenêtre.*)

George Russell Williams and Thomas Gregory, both of Pontypridd, South Wales, 27th July, 1892; 6 years.

*Claim.*—1st. In sashes and sash frames for windows, the coinciding grooves B, B', containing elastic balls D, free to be travelled by the sliding of the sashes, whereby the sashes are held or retained in any desired position, the said elastic balls assuming a somewhat squeezed out elongated or ellipsoidal shape by the frictional contact, and in accordance with the shape of the combined grooves in the sashes and frames, all substantially as hereinbefore described and illustrated with reference to the accompanying drawings. 2nd. In sashes and sash frames for windows, the combination, with the grooves B, B', of the elastic balls D, the said grooves when together being of elliptical section, whereby the balls are caused to change their spherical shape and to act as wedges when stationary, but to act as soundless guides when in motion, and substantially as set forth.

**No. 39,477. Ventilator. (Ventilateur.)**

William Samuel Laycock, Sheffield, England, 27th July, 1892; 6 years.

*Claim.*—1st. A double coned ventilator or air extractor having two fixed cones with an encircling ring and an outlet pipe, and fitted internally with a valve constructed to close the mouth of said outlet pipe when moved by an inrush of water, substantially as described. 2nd. A double coned ventilator or air extractor, consisting of two fixed cones, A and B, an encircling ring C, and an outlet pipe D, and fitted internally with a balanced valve or cover H, normally supported away from the mouth of said outlet pipe, and closed by an inrush of water, substantially as specified.

**No. 38,478. Galvanic Battery. (Batterie galvanique.)**

Walter A. Crowdus, Chicago, Illinois, U.S.A., 27th July, 1892; 6 years.

*Claim.*—The combination, with a battery cell having a metallic trough in its bottom, of a conductor leading from said trough to the exterior, a bath of mercury in said trough, and an electrode with its bottom portion immersed in the mercury, whereby the mercury forms an electric connection between the electrode and the metallic trough.

**No. 39,479. Liquid Hydrocarbon Motor Engine.***(Machine motrice à hydrocarbures liquides.)*

Herbert Lindley and Thomas Browett, both of Salford, Lancaster, England, 27th July, 1892; 6 years.

*Claim.*—1st. In a liquid hydrocarbon motor engine, the combination, with the motor cylinder, of a heating device, comprising a vessel or chamber capable of being heated by a lamp, and into which the charge of hydrocarbon is delivered, a tube or chamber in communication with said cylinder, a pipe or passage connecting said vessel or chamber with said tube or chamber, and a valve whereby said pipe or passage can be controlled, substantially as herein described. 2nd. In a liquid hydrocarbon motor engine, the combination, with the motor cylinder, of a heating device, comprising a vessel or chamber capable of being heated by a lamp, and into which the charge of hydrocarbon is delivered, a vessel or chamber capable of being heated and through which air can flow, a tube or chamber in communication with said cylinder, a pipe or passage connecting said vessel or chamber with said tube or chamber, and a valve whereby said pipe or passage can be controlled, substantially as herein described. 3rd. In a liquid hydrocarbon motor engine, the combination, with the motor cylinder, of an injector for liquid hydrocarbon, and a heating device comprising a vessel or chamber into which hydrocarbon is delivered in the form of spray by said injector, a tube or chamber in communication with said cylinder, a pipe or passage connecting said vessel with said tube or chamber, and a valve to control said pipe or passage, substantially as herein described. 4th. In a liquid hydrocarbon motor engine, the combination, with the motor cylinder, of a heater comprising a casting J, with a tubular portion M<sup>1</sup>, into which hydrocarbon spray can be delivered, a tubular portion M, in communication with said cylinder, a passage M<sup>2</sup>, connecting said portions M, M<sup>1</sup>, a check valve N, for controlling said passage, an air space or Jacket J<sup>2</sup>, and a flue J<sup>1</sup>, and an injector P, arranged to draw air through said air space or jacket J<sup>2</sup>, and deliver the same with hydrocarbon to the tubular portion M<sup>1</sup>, substantially as herein described for the purpose specified. 5th. In a liquid hydrocarbon motor engine, the combination, with the motor cylinder, of a tube or chamber in communication with said cylinder, and provided with an inlet for successive charges of partly heated gas or vapour, and a snifting valve capable of admitting air to said tube or vessel at each suction stroke of the engine, said tube or chamber being so arranged that a portion of each charge exploded in the cylinder will pass into and heat said tube or chamber, substantially as herein described for the purpose specified. 6th. In a liquid hydrocarbon motor engine, the combination, with the motor cylinder, of a tube or chamber in communication with said cylinder and provided with an inlet for successive charges of partly heated gas or vapour, a snifting valve capable of admitting air to said tube or chamber on the suction stroke of the engine, and a perforated nozzle extending into said cylinder and through which a portion of each charge exploded in the cylinder can pass into and heat said tube or chamber, substantially as herein described for the purpose specified. 7th. In a liquid hydrocarbon motor engine, a Bunsen burner or apparatus for burning heavy oils, as set forth for the purpose specified, said burner or apparatus comprising a gas generator or oil vaporizer, a jet piece having a gas orifice in communication therewith, a mixing tube or channel with air inlet and a perforated combustion plate, said jet piece being arranged opposite the inlet end of said mixing tube or piece, and said gas generator or oil vaporizer being arranged to be heated by flame from said combustion plate, substantially as herein described for the purpose indicated. 8th. In a liquid hydrocarbon motor engine, a Bunsen burner or apparatus for burning heavy oils, as set forth for the purpose specified, comprising a gas generator or oil vaporizer, a wire or wires arranged to extend into the same, a jet piece having a gas orifice in communication with said gas generator or oil vaporizer, a mixing channel with air inlet, and a perforated combustion plate, said jet piece being arranged to deliver gas into said mixing channel, and said gas generator being arranged to be heated by flame resulting from combustion of gas and air at said combustion plate, substantially as described and for the purpose indicated. 9th. In a liquid hydrocarbon motor engine, a Bunsen burner or apparatus for burning heavy oils, as set forth for the purpose specified, comprising a gas generator or oil vaporizer, a bent mixing tube with air inlet and with perforated combustion plate, a tubular heat conducting part connected to said gas generator or oil vaporizer, a jet piece carried by said heat conducting part, and a heat conducting support carried by said mixing tube and connected with said tubular heat conducting part, the arrangement being such that when the burner is in use said jet piece will receive heat from the flame by conduction through the gas generator or oil vaporizer and tubular heat conducting part, substantially as herein described for the purpose indicated. 10th. In a Bunsen burner or apparatus for burning heavy oils, as set forth for the purpose specified, the combination of a coil 1, a wire 14 extending into the same, a bent mixing tube 6, having an air inlet at one end and a perforated combustion plate at the other end, a tubular heat conducting part, such as 3, connected to said coil, a jet piece 5 carried by said heat conducting part 3, and arranged to deliver gas into said mixing tube, and a heat conducting support carried by said tube and connected to said part 3, and with or without a rib, such as 13, connecting the end of said tube, substantially as herein described for the purpose indicated. 11th. In a liquid hydrocarbon motor engine, the com-

ination, with the motor cylinder, of a pump for supplying hydrocarbon to said cylinder, and consisting of a vessel, the form of which can be varied in such a way that its contained volume can be alternately diminished and increased, suction and delivery valves for controlling the flow of hydrocarbon to and from said vessel, and means for bending or otherwise varying the form of said vessel, substantially as heretofore described for the purpose specified. 12th. In a liquid hydrocarbon motor engine, the combination, with the motor cylinder, of a pump for hydrocarbon consisting of an oval or flattened tube closed at one end, a vessel in communication with the interior of said tube and provided with inlet and outlet passages in communication with a reservoir of hydrocarbon and with the cylinder, respectively, suction and delivery valves for controlling the flow of hydrocarbon to and from said tube, a lever arranged to act against the free closed end of said tube so as to open or uncoil the same, and means for operating said lever, substantially as herein described. 13th. In a liquid hydrocarbon motor engine, the combination, with the motor cylinder of a heating device, comprising a heating vessel or chamber into which hydrocarbon can be delivered, a tube or chamber in communication with said cylinder, a pipe or passage connecting said vessel and tube, and a valve controlling the passage through said pipe, an injector arranged to deliver hydrocarbon spray into said vessel, and a pump substantially as herein described and shown, arranged to deliver measured quantities of hydrocarbon to said injector, as and for the purposes set forth. 14th. In a liquid hydrocarbon motor engine, the combination of a motor cylinder, a pump for delivering a measured quantity of hydrocarbon for each working stroke, a heating device through which said hydrocarbon passes on its way to said cylinder, a valve such as N for controlling the flow of hydrocarbon through said heating device, a valve such as E, and means for operating said valves, a distributing valve for controlling the admission of air to and the exhaustion of gases from said cylinder, and an air admission pipe H, substantially as herein described for the purpose set forth. 15th. In a hydrocarbon motor engine, the combination of a motor cylinder, a pump T for delivering measured quantities of hydrocarbon, a spray injector into which said hydrocarbon is delivered, a heating device formed with a passage or conduit through which said hydrocarbon passes on its way to the cylinder, a check valve N that normally closes said passage, a governor and means for operating said pump, and for opening said valve, said means being controlled by said governor and capable of being put out of action when the speed of the motor becomes excessive, substantially as herein described. 16th. In a hydrocarbon motor engine, the combination of a motor cylinder, a pump for delivering measured quantities of hydrocarbon, an injector into which said hydrocarbon is delivered, a heating device formed with a passage or conduit through which hydrocarbon can pass on its way to said cylinder, a check valve N that normally closes said passage, a governor, a rock shaft V, provided with a lever V<sup>11</sup> arranged to act upon said check valve, and a lever W<sup>2</sup> adapted to operate said pump, and means, substantially as described, for operating said rock shaft and adapted to be put out of operation by said governor, substantially as herein described for the purpose set forth.

**No. 39,480. Spring Motor for Sewing Machines.***(Moteur à ressort pour machines à coudre.)*

Daniel Markley Pfautz, Philadelphia, Pennsylvania, U. S. A., 27th July, 1892; 6 years.

*Claim.*—1st. The combination of the driving shaft, clutch pinions on said shaft, a series of spring shafts and gearing for connecting each of said spring shafts to one of the clutch pinions on the transmitting shaft, substantially as specified. 2nd. The combination of the driving shaft, the power transmitting shaft geared thereto, clutch pinions on said shaft, a series of spring shafts each having a friction brake and gearing connecting each of said spring shafts to one of the clutch pinions of the transmitting shaft, substantially as specified.

**No. 39,481. Gas Lamp. (Lampe à gaz.)**

Thomas C. J. Thomas, Finburry Park, Middlesex, England, 27th July, 1892; 6 years.

*Claim.*—1st. In a regenerative gas lamp, the combination, with an air heater, of an inverted burner comprising an inlet tube, an outlet tube, a perforated wall or diaphragm between said tubes, and a stem arranged centrally within said outlet tube, and provided with a deflector below the lower end of said tube, said outlet tube being made of gradually decreasing cross sectional area below said perforated wall or diaphragm, and said burner being suspended centrally within said air heater, substantially as herein described for the purpose specified. 2nd. In a regenerative gas lamp, the combination, of an air heater comprising a perforated plate having at its upper side a tubular extension for attachment to a gas supply pipe, and at its under side an air tube of inverted hollow truncated form, and an inverted burner suspended centrally within said air heater, and comprising an inlet tube, an outlet tube, a perforated diaphragm between said inlet and outlet tubes, and a stem arranged centrally within said outlet tube and forming therewith an annular gas passage of gradually decreasing cross sectional area as it proceeds downward, and a deflector carried by said stem and located below the lower

end of said outlet tube, substantially as herein described. 3rd. In a regenerative gas lamp, an inverted burner comprising an inlet tube, an outlet tube, a perforated diaphragm between said tubes, and a stem arranged centrally within said outlet tubes, and provided with a button located below the lower end of said outlet tube, said outlet tube and stem forming together an annular gas passage that gradually decreases in cross sectional area to one part, and then gradually increases in cross sectional area to the exit end, substantially as herein described. 4th. In a generative gas lamp, an inverted burner comprising an inlet tube forming a gas box, an outlet tube arranged below and co-axial with said inlet tube, a perforated diaphragm between said tubes, a stem carried by said diaphragm and arranged centrally within said outlet tube so as to form therewith an annular gas passage of gradually decreasing cross sectional area as it proceeds downward, and a button carried by said stem and located below the lower end of said outlet tube, substantially as herein described. 5th. In a regenerative gas lamp, an inverted burner comprising an inlet tube forming a gas box, an outlet tube arranged below and co-axial with said inlet tube, a perforated diaphragm loosely supported upon a shoulder between said tubes, so as to be capable of being lifted by pressure applied to it from below, a stem carried by said diaphragm and arranged centrally within said outlet tube, so as to form therewith an annular gas passage of gradually decreasing cross sectional area as it proceeds downward, and a button carried by said stem and located below the lower end of said outlet tube, substantially as herein described for the purpose specified. 6th. In a regenerative gas lamp, an inverted burner comprising an inlet tube forming a gas box, an outlet tube arranged below and co-axial with said inlet tube, a perforated diaphragm located between said tubes and having a conical upper surface, a stem carried by said diaphragm and arranged centrally within said outlet tube so, as to form therewith an annular gas passage of gradually decreasing cross sectional area as it proceeds downward, and a button carried by said stem and located below the lower end of said outlet tube, substantially as herein described for the purpose specified. 7th. In a regenerative gas lamp, a combined air heater and inverted burner comprising a perforated plate 4, with screw threaded tubular part 5 at its upper side, and a hollow inverted truncated tubular part 14 at its under side, an inlet pipe 1 carried by said perforated plate and formed with gas exit apertures 2<sup>a</sup>, a stem 6 screwed into the lower end of said pipe 1, and provided with a deflecting button 7, and a tube 1<sup>a</sup>, of inverted truncated conical form surrounding said burner and stem, substantially as herein described. 8th. A regenerative gas lamp in which there is provided around the lamp chimney an air chamber between which and the chimney there is an air space that communicates with the air regenerator, the said air chamber being in communication with the external atmosphere through holes made in its outer wall opposite non-perforated or blind portions of its inner one, and with the regenerator by one or more holes opposite or near a non-perforated or blind part or parts of the outer one, substantially as hereinbefore described for the purpose specified. 9th. A regenerative gas lamp, in which there is provided around the air regenerator 20, inner and outer air chambers, each provided with an annular air passage, or with an annular row of air passages of gradually increasing cross sectional area from the outer to the inner end, and through which air can flow on its way to the flame, the air inlet or inlets to the outer chamber being protected by a wind guard, substantially as hereinbefore described and shown. 10th. In a regenerative gas lamp, the combination, of a regenerator 20, inner and outer air chambers 37 and 38, provided with annular air passages 44 and 48 respectively, of gradually increasing cross sectional area from the outer to the inner end, air inlets 39, to the chamber 38, a wind guard for said inlets, an air heater secured to the lower side of said regenerator, and comprising a perforated plate 4, with tubular part 5, and conical air chamber 14, an inverted burner suspended centrally within said air heater and comprising a tube 1, fitted with a perforated diaphragm 2, carrying a stem 6, with button 7, an air tube 52, located below said stem and button, and carrying a stem 54, one or more air tubes 51, connecting said air chamber 48, with said air tube 52, a gallery 55, removably attached to said stem 54, and a glass 42, carried by said gallery and enclosing said burner and air tube or tubes, substantially as hereinbefore described and shown.

#### No. 39,482. Signal for Railways.

(Signal de chemin de fer.)

John Henry Arthur Child and James Emery, both of East Greenwich, Kent, England, 27th July, 1892; 6 years.

*Claim.*—1st. The improvements in signalling apparatus for use more particularly in foggy or snowy weather, arranged, constructed and operating, substantially as and for the purpose set forth. 2nd. In signalling apparatus, for use more particularly in foggy or snowy weather, the arrangement in the four foot way, of a telescopic spring box platform capable of being raised above ground or depressed to the level thereof, by means of the ordinary signal arms, this platform establishing moreover a contact enabling a gong attached to a signal post erected in the six foot way to be sounded, substantially as and for the purpose set forth. 3rd. In signalling apparatus, to be used more particularly in foggy or snowy weather, the application of a weighted electric contact roller under the headstock or other suitable part of an engine, in such a manner as to establish an elec-

tric contact when such roller passes over the spring box platform claimed, in order to ring a bell and drop a disc above the foot plate of the said engine, substantially as described and shown and for the purpose set forth. 4th. The construction, of the above mentioned weighted electric contact roller, mounted upon a rigid and hollow shaft, carried in a frame, whereby a contact is established between an eccentric spring and two contact metal bars, arranged upon the flat portion of partly circular core, mounted upon the same shaft through which pass wires connected to the contact bars, substantially as and for the purpose set forth.

#### No. 39,483. Packing Case for Cheese.

(Boîte d'emballage pour le fromage.)

Oswald James Allen, Evercreech, Somerset, England, 27th July, 1892; 6 years.

*Claim.*—1st. In air-tight packing cases or boxes for transporting cheese and other similar articles of food, the combination of the case or box B, lid L, cheese C, space s, and a plaster coating, substantially as and for the purpose described and shown in the drawings. 2nd. In air-tight packing cases or boxes for transporting cheese and other similar articles of food, the combination of the case or box B, the lid L, cheese C, space s, and openings  $o, o^1, o^2, o^3$ , substantially as and for the purpose specified. 3rd. In air-tight packing cases or boxes for transporting cheese and other similar articles of food, the combination of the box or case B, lid L, cheese C, space s, openings  $o, o^1, o^2, o^3$ , and a plaster coating, substantially as and for the purpose specified.

#### No. 39,484. Vending Apparatus. (Appareil de vente.)

John A. Williams, Brooklyn, New York, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. In a vending machine in which the strain necessary for the actuation of the machine comes upon the coin inserted, the combination, with the actuating slide of such a machine, of an adjustable resistance device, constructed and arranged, substantially as shown and described, to increase or diminish the strain put upon the coin or token inserted. 2nd. In a vending machine in which the actuating and delivery slides are adapted to be connected by a coin or similar token, the combination, with such slides of an adjustable resistance device, constructed and arranged, substantially as shown and described, to come into action only when a coin or token is inserted. 3rd. In a vending machine, the combination, with the actuating and delivery slides and their retracting springs, of a resistance device independent of the springs, adapted to come into action only in case a coin or similar token is inserted. 4th. In a vending machine, the combination, with a slide, of the bolt or pin b, and the spring arm P, all arranged substantially as shown. 5th. In combination with a slide, the pin or bolt b, the spring arm P, and a set screw q, all arranged substantially as shown. 6th. In a vending machine the coin supporting blocks Q, provided each with a lug r, having a curved face s, the said curved faces extending diagonally across the lugs, substantially as shown. 7th. In a vending machine, the combination, with an actuating slide and a delivery slide, of an adjustable stop O, to limit the inward movement of the delivery slide and to vary the relative positions of the two slides. 8th. In combination with a delivery slide and an actuating slide adapted to be connected by means of a coin, a pin or stud R, having a beveled inner end to dislodge the coin after the slide has been pulled outward far enough to eject an article. 9th. In a vending machine, the combination, with a frame provided with a coin slot a, of an actuating slide E, provided with a coin slot c, and a detent held out of action by the articles to be sold, all substantially as shown, whereby, when the articles to be sold are exhausted, the detent may prevent the two coin slots from coming into alignment. 10th. In combination with frame A, having a coin slot a, actuating slide E, having a coin slot c, a detent M, adapted to be depressed by the articles to be sold into such position as to allow the coin slots to come into alignment, and a spring arranged, substantially as shown, to throw the detent into position to prevent the alignment of the coin slots when the supply is exhausted. 11th. In a vending machine, the combination, with an actuating slide, of a delivery slide, a spring P carried by the latter and adapted to bear against a fixed surface, and a screw for adjusting the spring, all substantially as shown. 12th. In a vending machine, in which an actuating slide and a delivery slide are adapted to be connected by a coin, a single pawl or dog, as L, arranged substantially as shown and described, to engage one of said slides and to hold both in a partially extended position in case they should not be pulled outward far enough to eject the article to be sold. 13th. In a vending machine, the combination, with an actuating slide and a delivery slide adapted to be connected therewith by means of a coin, of a pawl or dog L, to engage the actuating slide, and adapted to be disengaged by the delivery slide, all substantially as shown and described. 14th. In a vending machine, the combination, with an actuating slide, of a pawl adapted to engage said slide, a delivery slide adapted to be connected with the actuating slide by means of a coin, and arranged, substantially as shown, to hold the pawl normally out of engagement with the actuating slide and to automatically release said pawl from engagement when the latter has been permitted. 15th. In a vending machine, the combination,

with slides E and F (the latter having a cut away portion *j*), of a pawl L having a tail to work in the cut away portion, and a spring *i* connected with the pawl, all substantially as shown.

**No. 39,485. Friction Clutch.** (*Embrayage à friction.*)

Harry Willard Hill, Cleveland, Ohio, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. In a friction clutch, in combination, a clutch arm, a pair of movable jaws mounted thereon, a toggle lever pivotally connected at its outer end to a link, and pivotally connected between its ends to the outer jaw, a link pivotally connected at its outer end to the inner jaw, and at its inner end with the outer end of the toggle lever, and means for actuating said toggle lever, substantially as set forth. 2nd. In a friction clutch, in combination, a clutch arm, a pair of movable jaws mounted thereon, a toggle lever pivotally connected at its outer end to a link, and between its ends to the outer jaw, a link pivoted at its inner end to the outer end of said lever, an adjustable pivotal connection between the outer end of said link and the inner jaw, and means for actuating said toggle lever, substantially as set forth. 3rd. In a friction clutch, in combination, a clutch arm, a pair of radially movable clutch jaws mounted thereon, a toggle, of which one jaw is pivotally connected with the outer jaw, and the other is pivotally connected with the inner jaw, means for adjusting the said connection with the inner jaw, and mechanism for actuating the toggle, substantially as set forth. 4th. In a friction clutch, in combination, a clutch arm, a pair of radially movable jaws mounted thereon, a block, and means for adjustably connecting the same to the inner jaw, combined with a toggle, suitable connections between the toggle members and the outer jaw and said block respectively, and means for actuating said toggle, substantially as set forth. 5th. In a friction clutch, in combination, a clutch arm, a pair of clutch jaws mounted thereon, with a recess between the jaw shanks, a toggle lever pivoted between its ends to the outer jaw, the outer end of said lever lying in said recess, a link in said recess pivoted at one end to the toggle lever and at the other end to the inner jaw, and suitable connections between the inner end of the toggle lever and the sliding sleeve, substantially as set forth. 6th. In a friction clutch, a clutch arm, a pair of radially movable clutch jaws mounted thereon, said jaws being curved substantially as described, whereby a longitudinal recess is formed between them, a block lying in said recess, and an adjusting screw threaded rod connecting said block with the inner jaw, said rod extending outward in said recess to a joint where it can be reached through a hole in the outer jaw, combined with a toggle lever pivoted between its ends to the outer jaw, the outer end of said lever extending into the recess between the jaws, a link lying in said recess and pivoted at one end to the end of the toggle lever and at the other end to the said block, and a link connecting the inner end of the toggle lever with the sliding sleeve, substantially as set forth. 7th. In a friction clutch, a clutch arm having grooved side bars, a pair of clutch jaws loosely mounted thereon, whereby they are permitted a limited rocking motion, combined with mechanism for moving said jaws toward and from each other and an interposed cylindrical flange, substantially as and for the purpose specified. 8th. In a friction clutch, a clutch arm having grooved side bars and a connecting web, a pair of clutch jaws, the shanks of which are slidable upon each other, and are loosely fitted into the grooves in the side bars, combined with a spring interposed between the said web and the nearest jaw shank, and mechanism for moving said jaws toward and from each other and an interposed cylindrical flange, substantially as and for the purpose specified. 9th. In a friction clutch, in combination, a clutch arm having two parallel grooved side bars and a curved web connecting them, a pair of jaws having curved shanks, the edges of which lie in said grooves, a toggle lying in the recess between said jaws, and suitably connected with the jaws, a sliding sleeve, and a link passing through a slot in the web of the clutch arm, and connected at its ends respectively with said sleeve and with an inward extension of one of the toggle members, substantially as set forth. 10th. In a friction clutch, in combination, a clutch arm, a pair of radially movable clutch jaws mounted thereon and adapted to engage on opposite sides of a cylindrical flange, a lever pivotally connected to said jaws, a pin on which said lever is fulcrumed between said pivotal connections, and a radially adjustable connection between the fulcrum pin and the clutch arm, whereby said jaws may be adjusted to simultaneously approach and engage with, and to disengage and recede from cylindrical flanges of different diameters, substantially as set forth. 11th. In a friction clutch, a clutch arm, a pair of radially movable jaws mounted thereon, and means for moving said jaws toward and from each other, combined with a lever pivotally connected with said two jaws, an automatically adjustable fulcrum for said lever, and means for rigidly connecting said fulcrum to the clutch arm, substantially as and for the purpose specified. 12th. In a friction clutch, a clutch arm having a longitudinal slot, a pair of radially movable jaws mounted on said arm, a lever pivotally connected with said jaws respectively, a fulcrum piece for said lever movable in the slot in the clutch arm, and means for rigidly connecting said fulcrum piece with the clutch arm, substantially as set forth. 13th. In a friction clutch, a clutch arm having a radial slot through one side bar, a bolt passing through said slot having its head and its nut on opposite sides of said bar, and a lever pivoted on said bolt, combined with a pair of clutch jaws mounted on the clutch arm, and pivotally connected with said lever, substantially as set forth.

**No. 39,486. Buckle.** (*Boucle.*)

John Mulcair, Montreal, Quebec, Canada, 27th July, 1892; 6 years.

*Claim.*—1st. A buckle having eyes or recesses formed at its lower corners to receive stitching or other lateral fastening of the strap connected thereto, all as herein set forth. 2nd. A buckle having one or more projections formed on the inner side of the base bar, as and for the purposes set forth.

**No. 39,487. Grass Catching Apparatus for Lawn Mowers.** (*Réceptacle à herbe pour faucheuses de pelouses.*)

Jacob Lincoln Bieder, Cleveland, Ohio, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. In a grass catcher for lawn mowers, a receptacle having wire frame *a* in top edge, and frame *b* in lower corners, the forward end or ends of said frame or frames extending across the front edge of the canvas and loosely lapped in the seam of the same, by means of which the catcher may be adjusted in breadth, substantially as and for the purpose set forth. 2nd. In a grass catcher for lawn mowers, a receptacle having wire frame *a* in its top edge and a frame *b* in its lower corners, the canvas bottom having a fold or tuck, or the metal bottom having a slit and lapped, whereby the catcher may be adjusted in breadth, substantially as and for the purpose set forth. 3rd. A lawn mower provided with a grass catcher consisting of a receptacle having supporting frames in top and bottom, the end or ends of the frame or frames lapped in the front edge, or the canvas bottom provided with a tuck or the metal bottom with a slit and lapped, eyelet holes in the upper corners, and clips for adjustably attaching the catcher, substantially as and for the purpose set forth.

**No. 39,488. Meter for Electricity.**

(*Compteur à électricité.*)

Chaimsonovitz Prosper Elieson, London, England, 27th July, 1892; 6 years.

*Claim.*—1st. An electricity meter having in combination a closed vessel containing liquid through which the current to be measured passes, a vessel having provision for maintaining a liquid at a constant level therein and for feeding said closed vessel, and a register having connections with said closed vessel, as described, substantially as and for the purposes set forth. 2nd. An electricity meter serving to register the number of pulsations caused by the accumulation of gas generated by electrolysis of a liquid, having in combination with a vessel *a* containing liquid through which the current passes and with an indicator or counter, an intermediate mercury vessel suitably connected to the vessel *a* and to such indicator, and provided with an escape tube, all substantially as set forth. 3rd. In an electricity meter, the combination of a closed vessel containing liquid through which the current or any fraction thereof passes, of an inlet tube for the liquid and an outlet tube for the gas generated, a mercury vessel connected to said outlet tube, and an electric indicator or counter connected to said mercury vessel, whereby the pulsations caused by the accumulation of gas generated by the electrolysis of the liquid are registered, substantially as set forth. 4th. An electricity meter having between the indicator and the vessel containing the liquid and electrodes an intermediate vessel or cup containing a mercurial trap, which permits the flow or escape of gases at intervals only when a definite pressure has been attained.

**No. 39,489. Metallic Cartridge Case and Apparatus for Charging.** (*Étui de cartouche métallique et appareil à charger.*)

Paul Giffard, Paris, France, 27th July, 1892; 6 years.

*Claim.*—1st. For the purpose of charging metallic cartridge cases with liquefied carbonic acid gas, a carbonic acid gas reservoir having an opening fitted with a powerful spring valve opening inwards and having a device to open said valve, in combination, with an apparatus by which the cartridge cases can be connected with the said reservoir in order that such cases may be charged from the reservoir, substantially as hereinbefore described. 2nd. In the apparatus, which connects the cartridge case with the charging reservoir, a conical ended rod, such as O, adapted to close and open the upper end of a passage such as F, forming the connection between the channel leading from the charging reservoir and the cartridge case, in combination, with an outlet, such as *o*<sup>1</sup>, leading to the atmosphere, substantially as and for the purpose set forth. 3rd. The supply washer *n*, on the rear end of the cartridge case, in combination, with the annular space *d*, around the inner circumference of said washer, whereby hermeticity of the connection between said cartridge case and the charging apparatus is ensured, as set forth and shown. 4th. The combination, of parts, whereby the mouth of the charging reservoir R, is hermetically and automatically closed, as set forth. 5th. The concave valve S, in the cartridge case, in combination, with the washer *c*<sup>1</sup>, which is fitted for only part of its thickness on a conical part of the stopper B, as and for the purpose set forth and shown. 6th. The modified arrangement of the valve S, in which its face has a central projection with inclined sides, as and for the purpose set forth and shown.

**No. 39,490. Knitting Machine.** (*Machine à tricoter.*)

Robert Walter Scott and Louis Napoleon Devon Williams, both of Philadelphia, Pennsylvania, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. The combination, in a knitting machine, of the needle carrier and its needles, means for actuating the needles to draw the stitch and for subsequently moving the needles to inoperative position, and a presser for acting upon the needles to restore them to operative position, substantially as specified. 2nd. The combination, in a knitting machine, of the needle carrier and its needles, means for actuating the needles to draw the stitch and for subsequently moving the needles to inoperative position, a presser for restoring the needles to operative position, and provision for expanding and contracting the presser, substantially as set forth. 3rd. The combination, of the needle carrier and its needles with the cam box having a drawing down cam, and at each side of the same a yielding cam for moving the needles out of the path of the draw down cam, and a presser for restoring the needles to the influence of said draw down cam, substantially as specified. 4th. The combination, of the needle carrier and its needles, the cam box having a draw cam, and at each side of the same a yielding lift cam for moving the needles out of the path of the draw down cam, and a supplementary draw down cam in advance of one of said lift cams, substantially as specified. 5th. The combination of the needle carrier and its needles, means for operating said needles to draw the stitches and for subsequently moving them to inoperative position, a presser for restoring them to operative position, a carrier for said presser, and a rock shaft on which said carrier is mounted, substantially as specified. 6th. The combination, of the needle carrier and its needles, means for operating said needles to draw the stitches and for subsequently moving them to inoperative position, a presser for restoring them to operative position, said presser consisting of a pair of segments, and rack and pinion mechanism for moving said segments in respect to each other, substantially as specified. 7th. The combination, of the needle carrier and its needles, means for operating said needles to draw the stitches and for subsequently moving them to inoperative position, and a presser for restoring them to operative position, said presser consisting of a vibrating frame, a pair of segments carried thereby, rack and pinion mechanism, a ratchet wheel on the pinion shaft, and a pawl for actuating said ratchet wheel as it is moved with the vibrating frame, substantially as specified. 8th. The combination, of the needles with a needle carrier having ribs with free portions forming laterally bent fingers for bearing on the shanks of the needles and holding them in inoperative position, substantially as specified.

**No. 39,491. Baking Oven.** (*Four de boulangerie.*)

William Morton, Kirkdale, near Liverpool, Lancaster, England, 27th July, 1892; 6 years.

*Claim.*—1st. A group of internally heated baking ovens, having a single fire place, a main uptake flue adapted to be placed in communication with said fire place, with a chimney and with each of the ovens of the group, dampers controlling each of these communications, exit flues adapted to be placed in communication with each of said ovens and with said chimney and dampers for controlling said communications, substantially as herein described for the purpose specified. 2nd. A group of internally heated baking ovens, having a single fire place, a main uptake flue adapted to be placed in communication with said fire place, with a chimney, and with each of the ovens of the group, dampers controlling each of the communications, uptake exit flues each adapted to be placed in communication with two or more of said ovens, with the main exit flue and directly with said chimney, and dampers controlling each of said communications, substantially as herein described for the purpose specified. 3rd. A group of internally heated baking ovens, arranged in pairs, the ovens of each pair being one above another, a fire place, a main uptake flue adapted to be placed in communication with said fire place, with a chimney, and with each of the ovens of the group, dampers controlling each of these communications, uptake exit flues each adapted to be placed in communication with each of the ovens, of a pair valves controlling these communications, horizontal flues connecting each said uptake exit flues with the main uptake flue at points between the dampers that control the communications between this flue and the fire place and chimney, and horizontal flues connecting each of said uptake exit flues direct with said chimney, substantially as described. 4th. A group of internally heated baking ovens arranged in two pairs A, A<sup>2</sup>, and A<sup>3</sup>, and having a fire place B, between the two pairs, an uptake flue E, with dampers D, D<sup>1</sup>, and chimney, dampers controlling the communication between said main uptake flue and said ovens, uptake exit flues F, F<sup>1</sup>, each fitted with a damper G, and adapted to be placed in communication with each of the ovens of a pair, dampers G, each controlling the communication between the upper oven of a pair and the corresponding uptake exit flue, means for operating said dampers, horizontal flues F<sup>2</sup>, F<sup>3</sup>, connecting said uptake exit flues direct with said chimney, and horizontal flues F<sup>4</sup>, F<sup>5</sup>, connecting said exit flues at points below said dampers G, with said main uptake flue at points between said dampers D, D<sup>1</sup>, substantially as

herein described for the purpose specified. 5th. An internally heated baking oven having an exit flue connecting it with a chimney uptake flue connecting the front end of said oven with said exit flue, and located at the inner sides of the door of said oven, and a damper controlling said uptake flue, substantially as herein described for the purpose specified.

**No. 39,492. Overland Conveyor for Ships and Heavy Bodies.** (*Appareil de transport par voie de terre pour navires, etc.*)

Walter Robert Kinipple, of Westminster, England, 27th July, 1892; 6 years.

*Claim.*—1st. In apparatus of the kind referred to for conveying ships or large and heavy bodies overland, means whereby the positions of the hydraulic cushions can be varied to adapt them to various sizes or forms of vessels or bodies, substantially as hereinbefore described. 2nd. In apparatus of the kind, and for the purpose referred to, means whereby the heads of liquid giving the pressures in the various hydraulic cushions can be regulated to correspond with the various displacement weights of different vessels or bodies, substantially as hereinbefore described. 3rd. In apparatus of the kind, and for the purpose referred to, the arrangement of hydraulic cushions and means for adjusting them, substantially as hereinbefore described and shown. 4th. In apparatus of the kind, and for the purpose referred to, the arrangement of cross bearers, or gridiron, or pontoon supported upon hydraulic cushions and receiving the vessel or body, substantially as hereinbefore described and shown. 5th. In apparatus of the kind, and for the purpose referred to, the combination, with the hydraulic cushions, of tanks, or reservoirs in communication with the said cushions for receiving the liquid from the cushions, and allowing it to again return thereto as the trucks pass over varying levels or gradients, substantially as hereinbefore described and illustrated. 6th. In apparatus of the kind, and for the purpose referred to, the combination, with the hydraulic cushions, of tanks or reservoirs in communication with the said cushions and adjustable relatively thereto, substantially as and for the purpose hereinbefore described and illustrated.

**No. 39,493. Stitching Horse.** (*Serre de sellier.*)

Herman Doering, Reedsburg, Wisconsin, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. A stitching horse, comprising a fixed jaw having an integral bifurcated standard detachably secured to a main frame, a roller within the lower portion of said bifurcation, a movable jaw pivotally secured in the upper portion of the bifurcation, and having a single arm extending through the latter, a spring for actuating the movable jaw, and a flexible connection extending from the lower end of said arm over said roller to the power device, substantially as herein described. 2nd. In a stitching horse, the main frame and operating foot lever, the fixed jaw having an integral bifurcated standard, a base plate integral with the standard and provided with slotted foot portions, bolts detachably uniting the standard with the main frame, a movable jaw pivotally held within the bifurcation of the standard and having a lever arm extension, a spring for holding the jaws open, a guide roller in the base of the standard, and a flexible connection secured at one end to the arm of the movable jaw, passing over said roller, and having its opposite end secured to the foot lever, substantially as herein described.

**No. 39,494. Electric Piano Player.**

(*Appareil électrique pour jouer le piano.*)

Joseph Dart Case, Plainfield, New Jersey, and Clark Wright Evans, Baltimore, Maryland, both in the U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. In an electric piano player, the combination, with electro-magnets for operating the piano keys, of a circuit and a battery or batteries therefor, two sets of one or more oppositely located terminals in said circuit, and a cylinder forming part of said circuit and connecting said terminals, substantially as set forth. 2nd. In an electric piano player, the combination, with electro-magnets for operating the piano keys, of a circuit therefor, including two sets of oppositely located terminals, one set of said terminals comprising terminals connected to two or more batteries of different intensities, and a cylinder forming part of said circuit and connecting said terminals, substantially as set forth. 3rd. In an electric piano player, the combination of a circuit having one or more terminals connected with a battery or batteries, a divided cylinder forming a part of said circuit and connected by other terminals with electro-magnets for operating the piano keys, substantially as set forth. 4th. In an electric piano player, the combination of a circuit having two or more terminals connected with batteries of different intensity, a divided cylinder forming a part of said circuit and connected by other terminals with electro-magnets for operating the piano keys, substantially as set forth. 5th. In an electric piano player, the combination of a music sheet, electric supplies of different intensities, electro-magnets, circuit connections, and oppositely located terminals for each of such source of supply and actuated by said music sheet to make and break such circuit connections for transmitting currents of equal and of varying intensity or pressure to said electro-magnets, substantially as set forth. 6th. In an electric piano player, the combination of two or more batteries of different

intensity, each having terminals, a music sheet passing between said terminals, and magnets for operating the piano keys included in said circuit and connected with said batteries and with the conductor over which the music sheet passes, substantially as set forth. 7th. In an electric piano player, the combination of a main circuit, in separate electro-magnets for the piano keys having terminals in multiple arc relation with one side of said main circuit, separate batteries in multiple arc relation with said main circuit, and each battery having a number of separate terminals in multiple arc relation forming the other side of said main circuit, and a music sheet operating said electro-magnets, and battery terminals for directly transmitting to the magnets currents of the same and of varying intensity, as set forth. 8th. In an electric piano player, the combination of electrically operated keys, one or more terminals connected with a battery or batteries and connecting with other terminals in circuit with a make and break device for producing tremolo effect, substantially as set forth. 9th. In an electric piano player, the combination of a music sheet, a source of electric supply, electro-magnets, circuit connections, and oppositely located contact terminals actuated by said music sheet to take up and divert surplus currents to equalize the strength of the current throughout the instrument, substantially as set forth. 10th. In an electric piano player, the combination of electro-magnets for actuating the piano keys, of a circuit and a battery or batteries, or a source of electricity, a cylinder forming part of said circuit, and contact terminals of uniform or varying resistance, with a music sheet having perforations of different sizes into which pass one or more several terminals to increase the force, substantially as described.

### No. 39,495. Harness. (*Harnais*.)

Louis Dannhauser, Munich, Bavaria, Germany, 27th July, 1892; 6 years.

*Claim.*—1st. The combination, with the head stall of a bridle for animals, and with eye covers attached to such head stall, of reins attached to the head stall near the bit and passing through loops in the eye covers, and through guides at the top of the head stall, whereby the eye covers may be closed over the eyes of the animal, substantially as set forth. 2nd. The combination, with the head stall of a bridle for animals, and with the eye covers *b* attached thereto, of the reins *c*, *c* attached to the snaffles of the bridle and passing through the loops *b*<sup>1</sup>, *b*<sup>1</sup> in the eye covers, and through guides *a*<sup>1</sup>, *a*<sup>1</sup> at the top of the head stall, substantially as set forth. 3rd. In a harness for animals, a strap passing around the nose of the animal, and a rein or reins connected thereto and passing down under the body and between the fore legs of the animal, and suitably guided to the driver's position in the carriage, substantially as set forth. 4th. The combination, with an animal's bridle, of a strap passing around the nose of the animal, a strap connecting the same to the head stall of the bridle, and the rein *f* connected thereto, and the guide ring *f*<sup>1</sup>, substantially as set forth. 5th. In a harness for animals, a strap around the nose of the animal, a bag of air tight material connected thereto, and a rein or reins connected to such bag, whereby the bag is pulled over the nostrils of the animal, substantially as set forth. 6th. The combination, with an animal's bridle, of the straps *c* and *h*, passing around the nose of the animal, the strap *g* joining the strap *e* to the head stall, the bag *j* connected to the straps *c* and *h*, and a rein or reins connected to the strap *h*, substantially as set forth. 7th. The combination, with an animal's bridle, of the strap *e* and *h* passing around the nose of the animal, the strap *g* joining the strap *e* to the head stall, the bag *j* connected to straps *c* and *h*, the rein *f* connected to the strap *h*, and the guide ring *f*<sup>1</sup>, substantially as set forth.

### No. 39,496. Injector. (*Injecteur*.)

Robert Grundy Brooke, Salford, Lancaster, England, 27th July, 1892; 6 years.

*Claim.*—1st. An injector, having its casing adapted for attachment to a boiler shell and otherwise, so constructed that when fixed in position for use the delivery from the injector casing will take place within the boiler, the discharge from the delivery nozzle having first passed through a non-return valve or screw down valve, or both, situate in the portion of the injector casing external to the boiler and from thence by a passage to the discharge end of the injector or within the boiler. 2nd. An injector, having an external flange or other equivalents, means of connection located between the delivery and overflow outlets, and surrounding the injector casing so that when said injector is applied to a boiler in position for use the delivery end of said injector will be within said boiler, and the discharge from the delivery nozzle will take place on the inner side of the boiler shell, and said overflow outlet will be at the outer side of said flange. 3rd. An injector, having an external flange surrounding the injector casing and adapted to be connected to a boiler shell, one or more overflow passages leading to an outlet at the outer side of said flange, passages leading respectively from the inner end of the delivery nozzle and from the open delivery end of said injector, to the outer end portion of said casing and connected by a passage, and a non-return valve arranged to control said latter passage, substantially as herein described. 4th. An injector, having an external flange surrounding the injector casing and adapted to be connected to a boiler shell, one or more overflow passages leading to an outlet at the outer side of said flange, passages leading respectively from

the inner end of the delivery nozzle, and from the open delivery end of said injector to the outer end portion of said casing and connected by a passage, a non-return valve arranged to control said latter passage and a screw spindle adapted to hold said non-return valve in the closed position, substantially as herein described. 5th. An injector, comprising a casing adapted for attachment to a boiler shell at a point between the delivery and overflow outlets, steam and water inlets at the outer side of said flange, a combining nozzle and a delivery nozzle made in one piece, with or connected to a tubular part adapted to be inserted in place and withdrawn endways through the outer end of said casing, a steam nozzle located within said tubular part, one or more overflow passages leading to an outlet at the outer side of said flange, passages leading respectively from the inner end of said delivery nozzle to the outer portion of said casing, and from said outer portion of the casing to the open delivery end of said casing, and a non-return valve controlling the communication between the two last mentioned passages, substantially as herein described. 6th. An injector, comprising a casing having an external surrounding flange located between the delivery and overflow outlets, steam and water inlets at the outer side of said flange, a combining nozzle and a delivery nozzle made in one piece with or connected to a tubular part adapted to be inserted in place and withdrawn endways through the outer end of said casing, a steam nozzle located within said tubular part, overflow passages leading from the ordinary and supplementary overflows to an outlet at the outer side of said flange, passages leading respectively from the inner end of said delivery nozzle to the outer portion of said casing, and from said outer portion of the casing to the open delivery end of said casing, a non-return valve controlling the communication between the two last mentioned passages, and a stop valve adapted to close the passage leading to the delivery end of said casing, substantially as herein described. 7th. An injector, comprising a casing 1, formed with a surrounding flange 2, and having a steam inlet 3, a steam nozzle 4, a water inlet 6, and an overflow outlet 7 at one side of said flange, and a combining nozzle 17, and delivery nozzle 18 at the other side of said flange, ordinary and supplementary overflow passages 8 and 9 leading to said overflow outlet, passages 12 and 13 leading from the inner end of said delivery nozzle and from the open delivery end of said casing to the outer portion of said casing, a passage 14, connecting said passages 12 and 13, a non-return valve 15, controlling said passage 14, a weighted valve 16 controlling the supplementary overflow outlet, a diaphragm 22 at the inner end of said delivery nozzle, substantially as herein described for the purpose specified. 8th. In an injector, the combination of a fixed combining nozzle, a longitudinally movable steam nozzle, and a spindle able to rotate, but not to move longitudinally with said steam nozzle, said spindle being provided with an externally screw threaded enlarged part adapted to engage with a correspondingly screw threaded portion of said steam nozzle, and with a valve seat 25<sup>a</sup> adjacent to the said screw threaded part, and said steam nozzle having lateral inlets for steam, and an annular seat 5<sup>c</sup> adapted to bear against said seat 25<sup>a</sup>, substantially as herein described for the purpose specified. 9th. In an injector, the combination of a fixed combining nozzle, a longitudinally movable steam nozzle having lateral inlets for steam and an annular valve surface 5<sup>c</sup>, and a spindle able to rotate but fixed in a longitudinal sense, said spindle being made hollow from its free or forward end outwards for part of its length, formed with a lateral inlet for steam to its hollow portion, and with an externally screw threaded enlarged part adapted to engage with a correspondingly screw threaded portion of said steam nozzle, and with a valve seat 25<sup>a</sup>, adjacent to said screw threaded portion, substantially as herein described for the purpose specified. 10th. In an injector, the combination of a longitudinally movable steam nozzle, a sleeve normally fixed but adapted to be removably secured to one end of the injector and within which said nozzle a cam slide, and a stuffing box located between said nozzle and sleeve, substantially as herein described. 11th. In an injector, the combination, of a longitudinally movable steam nozzle, a sleeve removably secured in one end of the injector casing and within which said nozzle can slide, a stuffing box formed by and located between said steam nozzle and sleeve, and a gland adjustably mounted on said steam nozzle, and extending into said stuffing box, substantially as herein described for the purpose specified. 12th. In an injector, the combination, of a longitudinally movable steam nozzle, a sleeve secured into one end of the injector casing and within which said steam nozzle can slide, a nut screwed into the outer end of said sleeve and constructed to serve as a stuffing box, and a spindle able to rotate but fixed longitudinally between said sleeve and nut, and capable of imparting longitudinal movement to said steam nozzle, substantially as herein described. 13th. In an injector, the combination, of a longitudinally movable steam nozzle, a sleeve fixed within said injector, and forming with said nozzle a stuffing box, and an adjustable gland for said stuffing box, the injector casing being divided in a plane situate between the steam and water inlets, and provided with flanges or being otherwise so formed as to admit of ready disconnection, substantially as herein described for the purpose specified. 14th. In an injector, the combination, of a sleeve 32, screwed into one end of the injector casing and formed with steam passages 56, a longitudinally movable steam nozzle 5, arranged to slide but not to rotate in said sleeve formed with lateral steam inlet passages 5<sup>b</sup>, and reduced in diameter at 34, so as to form with said sleeve an annular space or stuffing box 35 for packing material, a gland 36 adjustably mounted on said steam nozzle and arranged to enter said stuffing

box, a stuffing box 38 secured in the outer end of said sleeve, and a spindle 25 able to rotate and impart longitudinal movement to said steam nozzle, but fixed longitudinally between said sleeve and stuffing box 38, substantially as herein described for the purpose specified.

**No. 39,497. Process of Making Pure or Mixed Hydrogen.** (*Procédé de fabrication de l'hydrogène pure ou mélangé*)

Vivian Byam Lewes, Greenwich, England, 27th July, 1892; 6 years.

*Claim.*—1st. The process for producing hydrogen (alone or mixed with carbon monoxide), which consists in effecting decomposition of steam by contact with heated iron (alone or in presence of heated carbonaceous material), and reducing the resulting metallic oxide to the metallic state for reuse in the production of hydrogen, by subjecting such metallic oxide to the action of gases containing hydrogen that is produced by the decomposition of steam by carbon in a state of incandescence. 2nd. The hereinabove described process which consists in producing hydrogen (alone or mixed with carbon monoxide), by decomposition of steam by iron (alone or mixed with carbonaceous material), within a retort or vessel embedded in or in contact with a mass of incandescent fuel, and reducing the resulting magnetic oxide of iron to the metallic state by the action thereon of gases obtained by passing air or steam through the mass of incandescent fuel that is outside of the said retort or vessel, said gases being led direct from the fuel in their heated state into and through the retort or vessel containing the metallic oxide, as set forth. 3rd. The herein described method of facilitating the reduction of the oxide of iron (formed in the process of manufacturing hydrogen by passing steam over heated iron in a finely divided state), by causing the reducing gases to contain an admixture of hydrogen. 4th. In the manufacture of hydrogen (alone or mixed with carbon monoxide), by the decomposition of steam by contact with heated iron (alone or mixed with carbonaceous material), and reducing the resulting oxide of iron to the metallic state for reuse by subjecting it to the action of a reducing gas or gases, the herein described method of maintaining the iron (or iron and carbonaceous material), at a temperature at which it will decompose steam, and also the resulting oxide of iron at a temperature at which it can be reduced by the reducing gas or gases, by placing the retort or vessel containing the said iron (or iron and carbonaceous material), in contact with a mass of incandescent fuel from which said reducing gas or gases is or are generated, substantially as herein described. 5th. In the manufacture of hydrogen by decomposing steam by means of heated iron in a finely divided state, the herein described process for obtaining such finely divided iron by saturating material of a porous refractory nature, such as asbestos or pumice stone, with an iron salt that is decomposable by heat into oxide of iron, and reducing the oxide thus obtained to the metallic state by the action thereon of reducing gases, substantially as herein described, the said iron being used and reused in producing hydrogen in the manner set forth.

**No. 39,498. Machine for Making Boats.**

(*Machine pour faire les vaisseaux.*)

William Heslop, Wakefield, York, England, 27th July, 1892; 6 years.

*Claim.*—1st. In machinery for the pressing of plates for making metal boats therefrom, the combination, with the upper and lower dies, of a movable lower section actuated by hydraulic or other rams, for extracting the finished half boat or for supporting the plate, substantially as described and shown in the accompanying drawings. 2nd. In machinery for the manufacture of metal boats, the employment of a holding down plate for preventing the buckling of the plate during the pressing operation, substantially as described and shown in the accompanying drawings. 3rd. In machinery for the manufacture of metal boats, the combination of the upper and lower dies, holding down plate, rams for actuating same, and weights and levers for balancing the said holding down plate, substantially as described and shown in the accompanying drawings. 4th. In machinery for the manufacture of metal boats, the auxiliary plungers carrying a longitudinal bar, the longitudinal slot in the upper die, and corresponding slot in the lower die, for making a rib or corrugation in the boat's side, substantially as described and shown in the accompanying drawings. 5th. In combination with the dies, as previously claimed, the construction and arrangement of movable gas furnace, substantially as described and for the purposes set forth. 6th. In machinery for the stamping of plates for the formation of boats therefrom, the combination therewith of means described for holding the plates at one or more sides whilst the opposite side or sides is or are pressed to the shape required, substantially as set forth. 7th. The machinery composed of an upper and lower die for the pressing of plates for making boats therefrom, having the lower die made with movable lower section operated by hydraulic power for supporting the plate while being placed in position, and for pushing it out when stamped, and for supporting same until removed, together with the holding down plate for grasping the edge of the plate to prevent the buckling of the plate during the pressing operation, both dies being furnished with distance pieces to allow for the entrance of plate between the dies and the after guidance of dies, and, when desired, the auxiliary ram plungers for producing a longitudinal rib in the plate, the above dies producing pressed metal plates, two of which, when placed opposite to one another and riveted together, make the complete shell of a boat.

**No. 39,499. Method of Making Boots and Shoes.**

(*Méthode de faire les chaussures.*)

Paul Bender, Halle, Prussia, 27th July, 1892; 6 years.

*Claim.*—1st. The improved manufacture of a boot or shoe, substantially as herein described, a layer of india rubber being inserted between the layers of leather in the sole of the boot or shoe. 2nd. The improved manufacture of a boot or shoe, substantially as herein described, a layer of india rubber extending the whole length of the boot or shoe from the toe to the heel, as in Fig. 1 of the accompanying drawings. 3rd. The improved manufacture of a boot or shoe, substantially as herein described, a separate layer of india rubber for the sole and a separate layer for the heel being employed, as in Fig. 4 of the accompanying drawings. 4th. The improved manufacture of a boot or shoe having an ordinary sole, substantially as herein described, a layer of india rubber being inserted in the heel, as in Fig. 5 of the accompanying drawings. 5th. The improved manufacture of a boot or shoe having an ordinary heel, substantially as herein described, a layer of india rubber being inserted in the sole, as in Fig. 6 of the accompanying drawings.

**No. 39,500. Method of Preparing Sulphuretted Ores.**

(*Méthode de préparer les minerais sulfurés.*)

Stephen Henry Emmens, London, England, 27th July, 1892; 6 years.

*Claim.*—1st. The process of reducing sulphuretted ores which consists in subjecting such ores in a finely powdered and moist condition to the action of a gaseous oxidizing current, and then leaching out the soluble sulphates so formed. 2nd. In the process of reducing sulphuretted ores, the subjecting of such ores in a finely powdered and moist condition to the action of oxygen within gas tight ore holders. 3rd. In a process of reducing sulphuretted ores, the subjecting of such ores in a finely powdered and moist condition to the action of oxygen rich in ozone, as generated by the electrolysis of water. 4th. An apparatus for reducing sulphuretted ores by the action of a current of oxygen, consisting of two gas holders and a sufficient number of gas tight ore holders interposed between said gas holders, the whole being connected in series by gas circulating pipes, and said ore holders provided with perforated shelves for supporting the ore in a finely pulverized and moist condition, and with faucets for drawing off the sulphates in solution, substantially as hereinbefore described.

**No. 39,501. Machine for Making Twine.**

(*Machine pour la fabrication du cordonnet.*)

George A. Lowry, Chicago, Illinois, U. S. A., 27th July, 1892; 6 years.

*Claim.*—1st. The combination of a revoluble twisting device, with a reversely revoluble thread carrier, a conveyor for feeding the material to the twister, and suitable mechanism for drawing the twisted article through the machine. 2nd. The combination of a revoluble twisting device, with a reversely revoluble thread carrier, a tapering spout or trough, and suitable mechanism for drawing the twisted article through the machine. 3rd. The combination of the twisting jaws, with a trough or spout having its delivery end extending into immediate proximity to such twisting jaws, and a suitable means for drawing the material from such spout or trough and through the twisting jaws, substantially as and for the purpose set forth. 4th. The combination of a revoluble twisting device, with a reversely revoluble thread carrier, a conveyor for feeding the material to the twister, a guiding and supporting device for the twisted article while it is being wrapped with the thread, and suitable mechanism for drawing such twisted article through the machine. 5th. The combination of the revoluble twisting device, with a reversely revoluble thread carrier, a trough or spout having the inner end extending into immediate proximity to such twisting device, a hollow guide and support for the twisted article while it is being wrapped, and suitable means for drawing the article through the machine. 6th. The combination of a revoluble twisting device, with a reversely revoluble thread carrier, a trough or spout, a hollow guide or support for the twisted article, a friction roller or pulley for changing the direction of travel of such article, and drawing rollers arranged so as to feed at right angles to the other operating mechanism, substantially as and for the purpose set forth. 7th. The combination of a pulley having a hollow hub, an independent feeding spout or trough extending therethrough, and twisting arms secured at one end to such hollow hub, and projecting beyond the same, substantially as shown and described. 8th. A revoluble twisting device, a thread carrying device, and an arm supporting and guiding both the twisted article and the thread to be wound upon the same, substantially as shown and described. 9th. A twisting device comprising elastic arms secured at one end to the inner surface of the hollow hub of a revoluble pulley and their other ends projecting and provided with clamping jaws and adjusting devices for such springs, also secured to such hub, substantially as shown and described. 10th. In a machine for making twine, the combination of a revoluble twisting device, a thread carrier, and an arm having a grooved portion for supporting and guiding the twisted article, and a perforation at an angle to such grooved portion for guiding the thread to the twisted article, substantially as shown and described. 11th. In a machine for making twine, &c., the combination of

a hollow revoluble hub carrying the twister, another such hub bearing the thread to be wound upon the twisted article, and a spout or trough extending through such hubs and to the twisting jaws. 12th. In a machine for making twine, &c., the combination of a hollow revoluble hub, carrying arms with clamps at their ends, another hollow hub reversely revoluble carrying a spool of thread, and an arm provided with hollow portion with an aperture in its wall, and suitable drawing rollers, substantially as shown and described.

**No. 39,502. Portelectric. (Portelectrique.)**

John Thomas Williams, Mount Vernon, New York, U.S.A., 27th July, 1892; 6 years.

*Claim.*—1st. A series of magnetizable cylinders or rings, in combination with an electro-magnet constructed and adapted to pass through the same, a battery or other source of electricity for charging the magnet, and suitable electrical connections, substantially as shown and described. 2nd. In a portelectric, a series of stationary magnetizable rings, a car or carriage containing one or more electro-magnets, a battery or other source of electricity, and rails or guides extending through the series of rings for supporting and guiding the carriage in its movement, the battery, rings, carriage and electro-magnets being in electrical connection with each other, substantially as shown and described. 3rd. In portelectrics, the carriage H containing the electro-magnet or magnets, by the vitalizing of which motion is imparted to it, a series of stationary magnetizable rings through which the carriage is adapted to pass, and rails or guides extending through said rings for guiding and supporting the carriage, the carriage and magnets being in electrical connection with each other and with a battery or other source of electricity, substantially as shown and described. 4th. In portelectrics, the rings A, one or more, provided with brushes T, T', in combination with a carriage containing one or more electro-magnets, contact pieces connected with the coils of said magnets, a battery or other source of electricity and electrical conductors connecting the poles of said battery with the electro-magnets through said brushes and contact pieces, substantially as shown and described. 5th. The combination of the rings A, A', of a portelectric, a car or carriage containing an electro-magnet or magnets, and a battery or other source of electricity, with a lever pivoted to the carriage and operated by the rings to close an electric circuit from the battery through the rings, the carriage and lever, substantially as shown and described. 6th. In portelectrics, the combination of a car or carriage containing an electro-magnet or magnets, stationary magnetizable rings through which the car or carriage is adapted to pass, a battery or other source of electricity for charging the magnet, and suitable electrical connections, said rings being provided with slots through their sides to facilitate the escape of air from the rings as the car or carriage goes through them, substantially as described. 7th. In portelectrics, a car or carriage containing an electro-magnet or magnets, in combination with a battery or other source of electricity for charging the magnet, suitable electrical connections, and stationary magnetizable rings through which the car or carriage is adapted to pass, said rings being provided with longitudinal slots through their sides, and the car or carriage being provided with an arm adapted to pass freely through said slots to engage a vehicle or body outside of the rings, substantially as described.

**No. 39,503. Screw Press Brick Machine.**

(*Presse à vis pour machines à brique.*)

James D. Bain, Hamilton, Ontario, Canada, 27th July, 1892; 6 years.

*Claim.*—1st. The combination, of the movable press B, the adjustable cross bar D, connected by the vertical rods E, the vertical shaft e', having collar e'', and plate e', the lower cross piece m, suspended by hangers n, and the lever o, having its fulcrum at P, substantially as and for the purpose hereinbefore described. 2nd. The combination, of the press B, the adjustable vertical bars F, the levers H, having their fulcrum at I, the vertical pins J, with their coil springs S, and the mold lower plate e', substantially as and for the purpose hereinbefore set forth.

**No. 39,504. Screw Propeller. (Vapeur à hélice.)**

Charles Myers, Elizabeth Myers and John Davies, all of Manchester, England, 27th July, 1892; 6 years.

*Claim.*—1st. A screw propeller provided on the same hub or boss with two independent looped blades placed opposite to each other in a plane at right angles to the shaft, and two separate plain flat blades also opposite each other placed alternately therewith, substantially as described. 2nd. A screw propeller provided upon the same hub or boss with separate independent looped blade, or blades placed alternately with separate plain flat blade, or blades, substantially as described.

**No. 39,505. Machine for Drying Salt.**

(*Machine pour sécher le sel.*)

Dr. Sigismund Pick, Szczakowa, Austria, 27th July, 1892; 6 years.

*Claim.*—1st. An oven or apparatus for drying salt, constructed with end compartments and with an intermediate drying compartment that can be heated by the passage through or around the same of a heating medium, each end compartment being provided with

an outer door or doors, and there being a door or doors between each end compartment and the intermediate compartment, substantially as described for the purpose specified. 2nd. An oven or apparatus for drying salt, comprising end compartments and an intermediate drying compartment, an outer door to each end compartment, a door between each end compartment and the intermediate compartment, and inlet and outlet passages for the entrance and exit of hot air to and from said intermediate compartment, substantially as herein described for the purpose specified. 3rd. An oven or apparatus for drying salt, comprising end compartments, an intermediate drying compartment, doors at the outer end of each end compartment, doors adapted to be placed between each of said end compartments and the intermediate compartment, and an overhead rail or support extending through said end and intermediate compartments, and provided with hinged portions exterior to said end compartment, substantially as herein described for the purpose specified. 4th. An oven or apparatus for drying salt, comprising end compartments, an intermediate drying compartment, pipes for the inlet and exit of heated air to and from said drying compartment, a tunnel arranged lengthwise above and in communication with each of said compartments, a rail extending longitudinally through said tunnel, and having hinged portions external to said end compartments and tunnel, hinged doors at the outer ends of said end compartments, sliding doors each adapted to be placed between one of said end compartments and the intermediate compartment, hinged doors located at the ends of said tunnel, and sliding doors adapted to divide said tunnel into compartments corresponding to said end and intermediate compartments, substantially as herein described for the purpose specified. 5th. An oven or apparatus for drying salt, comprising end compartments, an intermediate drying compartment, doors at the outer end of each of said end compartments, doors adapted to be placed between said end compartments and the intermediate compartment, pushers carried by and extending through each of said outer doors, and means for operating said pushers, substantially as herein described for the purpose specified.

**No. 39,506. Electric Heater.**

(*Appareil de chauffage électrique.*)

Thomas Ahearn, Ottawa, Ontario, Canada, 27th July, 1892; 6 years.

*Claim.*—1st. An electric heater, composed of a core consisting of a coil of wire or strip of refractory metal of low electric conducting power, provided with leads and wound upon an insulated tube, said core placed in another tube large enough to form an annular space which is filled with powdered non-combustible, non-electric conducting material, substantially as set forth. 2nd. In an electric heater, the combination of a tube A, strips of asbestos B laid upon said tube longitudinally, strips of mica B' laid upon said asbestos strips, a coil of wire or strip C of refractory metal of low electric conductive power wound upon said strips and its terminals connected with leads, an outer tube D enclosing said coil and leaving an annular space, a filling of powdered non-combustible, non-electric conducting material in said annular space, insulating packing rings E' closing the ends of said annular space, covers E, having lugs e upon said packing rings, and bolts E'' passing through said lugs and holding said covers together, substantially as set forth. 3rd. In an electric heater, the combination of a tube A open at the ends, strips of non-combustible non-electric conducting material laid longitudinally on said tube, and a coil of wire or strip C of refractory metal of low electric conductive power, substantially as set forth. 4th. In an electric heater, the combination of a tubular core A, insulated with strips of asbestos B, and mica B', carrying a coil C, of wire or strip of refractory metal of low electric conductive power, an outer tube D enclosing said core and forming an annular space around said core and containing insulators through which pass the leads connecting the terminals of said coil, a powdered non-electric conducting material filling F in said annular space, insulated covers E closing said annular space, and held in place by bolts E', insulating feet G on one of said covers, an inner tube A' closed at the bottom, and a casing A'', around the external tube D, open at the bottom and forming an annular space around the same, substantially as set forth.

**No. 39,507. System of Warming Cars by Means of Electrically Heated Water. (Système de chauffage des chars au moyen de l'eau chauffée par l'électricité.)**

Thomas Ahearn, Ottawa, Ontario, Canada, 27th July, 1892; 6 years.

*Claim.*—1st. In a heating system for cars, the combination, of an electric water heater provided with flow and return, and flow and return circulating pipes extending through said car and connected with said heater, substantially as set forth. 2nd. In a heating system for cars, the combination, of a water heater having flow and return nozzle b and b', placed under the floor, supply pipe c, connected with said flow nozzle, radiating pipes C, connected with said supply, and return pipe C', connected with the return nozzle b', of the heater, substantially as set forth. 3rd. In a heating system for cars, the combination, with the car, of a water heater B, having flow and return nozzles b and b', placed under the floor, supply pipe c, connected with said heater, trunk pipe c', connected with the

supply, radiating pipes C, connected with the trunk pipe, trunk pipe  $c^{11}$ , connecting the pipes C, at the other end, return pipe C<sup>1</sup>, connected to the trunk  $c^{11}$ , and connecting with the heater, the reservoir D, connected with the supply c, and return  $b^1$ , and the expansion tank D<sup>1</sup>, connected with the circulating pipes, substantially as set forth. 4th. In an electric water heater for cars, the combination, of an externally insulated shell 2, of oval cross section, an internally insulated shell 3, of similar but smaller cross section inserted in the shell 2, so as to form a water space between them and having their ends joined water-tight and provided with nozzles at opposite sides and opposite ends, an insulated core 6, fitting in the internal space of the inner shell, resistance coils 7, wound upon the insulated shell 2, and core 6, a casing 9, inclosing the shell 2, and leaving a space all round the same, and a filling of powdered refractory material 11, within all vacant spaces of said casing except the water space, substantially as set forth. 5th. In a heating system for cars, the combination, of an externally insulated shell 2, of oval cross section provided with flow and return nozzles  $b$  and  $b^1$ , on opposite sides and ends, an internally insulated smaller shell 3, inserted in the shell 2, so as to form a water space between them, and having their ends joined water-tight, an insulated core 6, inserted in the smaller shell, resistance coils 7, wound upon the shell 2, and core 6, and placed in circuit, a casing 9, enclosing shell 2, so as to leave a space all round, a filling of refractory material within the vacant spaces of said casing, a supply pipe c, connected to the nozzle  $b$ , a trunk pipe  $c^{11}$ , connected to the supply pipe, radiating pipes C, connected to the trunk pipe, a trunk pipe  $c^{11}$ , connecting the radiating pipes, a return pipe C<sup>1</sup>, connecting the trunk  $c^{11}$ , and return nozzle  $b^1$ , a reservoir D, communicating with the supply c, and return C<sup>1</sup>, and an expansion tank D<sup>1</sup>, connecting with the circulating pipes, substantially as set forth.

**No. 39,508. Apparatus for Electrically Heating an Automatic Water Supply. (Calorifère électrique.)**

Thomas Ahearn, Ottawa, Ontario, Canada, 27th July, 1892; 6 years.

*Claim.*—The combination, with a hot water circulating pipe, of an electric heater composed of an elongated vessel having an inlet at one end and an outlet at the other, and having its surface electrically insulated and wound with a resistance coil connected with an electric circuit, and having its coiled surface enclosed in a capacious jacket filled with powdered refractory material which is a non-conductor of electricity, substantially as set forth. 2nd. The combination, of a water-tight elongated vessel having an inlet at one end and an outlet at the other, insulating strips upon the surface of said vessel, a resistance coil wound upon said insulation, and having terminals adapted to be connected with an electric circuit, a jacket covering said coiled surfaces so as to leave a space all round, and a filling of powdered refractory material in said space, substantially as set forth. 3rd. The combination, of a circulating pipe C, a reservoir R inserted in said pipe, insulating strips  $a$  on said reservoir, a resistance coil  $r$  wound on said insulation, and having terminals  $r^1$ , a jacket  $j$  surrounding said coiled reservoir large enough to leave a space all round it, and a filling  $f$  of powdered refractory material, substantially as set forth.

**No. 39,509. Apparatus for Evaporating Liquors Containing Salts, and for Separating such Salts. (Appareil évaporatoire et séparatoire des liqueurs contenant des sels.)**

Dr. Sigismund Pick, Szczakowa, Gaticia, Austria, 27th July, 1892; 6 years.

*Claim.*—1st. In apparatus of the kind herein referred to for evaporating liquors containing salts, and for separating such salts, the combination, with the upper and lower parts 1 and 2 of the evaporator or boiler, of a heating chamber 3, having circulating tubes 11 and 11<sup>a</sup>, and adapted to be readily removed from and replaced and re-fixed between the upper and lower parts 1 and 2 of the evaporator, substantially as herein described for the purpose specified. 2nd. In apparatus of the kind herein referred to for evaporating liquors, a boiler or evaporator comprising upper and lower parts 1 and 2, and an intermediate part or heating chamber 3, with circulating tubes 11, 11<sup>a</sup>, the bottom of said upper part, the top and bottom of said heating chamber, and the top of said lower part being provided each with a horizontal flange formed with notches or slots, packing material interposed between the adjacent flanges, and bolts hinged or pivoted to the heating chamber, and adapted to enter the notches in the adjacent flanges, and to be secured therein by suitable fastenings, substantially as herein described for the purpose specified.

**No. 39,510. Machinery for Feeding Paper to Printing Machines and for Separating Paper from Rolls. (Machine pour alimenter le papier aux machines à imprimer et séparer le papier des rouleaux.)**

Thomas Ruddiman Johnston, 26 Charterhouse Square, Middlesex, England, 28th July, 1892; 6 years.

*Claim.*—1st. In power driven overfed printing machines, the combination of a sunk paper box at the upper part of the feeding board, a lifter consisting of a frame carrying blocks of slightly adhesive

composition, such as printers' roller composition, and receiving motion, whereby it is enabled to follow the level of the paper in the box and to lift a sheet of paper therefrom slightly above the level of the feeding board, and a travelling carrier provided with grippers which seize the paper raised by the lifter and convey it down the feeding board and deliver it to the gripper of the printing cylinder, substantially as herein shown and described. 2nd. In power driven overfed printing machines, and in other machinery or apparatus, a paper lifter consisting of a block or blocks of slightly adhesive composition, such, for instance, as printers' roller composition, mounted in suitable carriers, for separating and lifting a sheet or sheets of paper from a pile or piles, substantially as herein described. 3rd. In power driven overfed printing machines, a sunk paper box having its upper edges flush with the face of the lower portion of the feeding board, the inner face of its lower side parallel with the printing cylinder gripper, the inner face of one of its sides at right angles with its lower side and corresponding in position to that of a fixed side lay, substantially as herein shown and described, and for the purpose stated. 4th. In power driven overfed printing machines, the peculiar construction of sheet carrier mounted on guides and caused, by two paths of a reciprocating rotary cam, to travel between the sheet lifter and the printing cylinder, and so operated as to receive and grip a sheet of paper from the sheet lifter and to deliver it to the grippers of the printing cylinder, substantially as herein shown and described. 5th. In power driven overfed printing machines, a paper lifter fitted with adhesive composition, such, for instance, as printers' roller composition, and operated by two paths of a reciprocating rotary cam, so as to descend into the paper box to lift a sheet of paper therefrom and to deliver it to the carrier grippers, substantially as herein shown and described.

**No. 39,511. Lamp Shade. (Abat-jour de lampes.)**

Henry Schloerb, Greenville, New Jersey, U.S.A., 28th July, 1892; 6 years.

*Claim.*—1st. The combination, with light producing devices, of a shade, of a strip  $f$  secured to the inner side thereof, and having two parallel lugs E, a bar C, having one end pivotally clamped between said lugs, and the opposite end carrying a pin  $b$ , and a segmental slot between the two ends, with a spring clasp consisting of two metal plates, each having a curved end and a flat end, and the pivot pin  $b$  between said ends, the flat ends being united together, and to the bar C, through the segmental slot of the latter, substantially as described. 2nd. The combination of a shade, a strip  $f$  secured to the inner side thereof, and a fastener bearing against the outer face of the shade, and having its ends passing therethrough, and through the strip  $f$ , with the lugs E, projecting from the inner face of the strip  $f$ , and a bar C, having one end pivotally clamped between said lugs, and the opposite end pivotally clamped between the arms of a spring clasp, substantially as described. 3rd. The combination of a lamp shade, its support, and lamp clasp with a bar having Y-shaped ends hooked into the curved ends of the metal clasp, and a weight adjustably retained upon said bar to counterbalance the shade, substantially as described. 4th. The combination, with a lamp shade D, of the supporting bar C and C<sup>1</sup>, constructed as described and shown, and the elliptical spring or clasp B, connected by pins, being revolving centres, governed and fixed as to position by clamping devices, and counter weighted by the bar K, L, and weight M, substantially as set forth, all for the purposes specified.

**No. 39,512. Hot Air Furnace. (Calorifère à air.)**

William Thuener, Jr., and Paul Herchenbach, both of St. Louis, Missouri, U.S.A., 28th July, 1892; 6 years.

*Claim.*—1st. A hot air furnace having three flues arranged parallel with one another, the centre one of which is larger than the side ones, the said centre flue in communication with the furnace through which the products of combustion are adapted to pass, substantially as described. 2nd. A hot air furnace, comprising three flues, the centre one of which is larger than the other two, and in communication with the furnace, and suitable couplings in communication with the said flues for directing the products of combustion to the chimney or other source after the heat has been radiated therefrom, substantially as described. 3rd. A hot air furnace, comprising two couplings, pipes in connection therewith, the centre one of which is larger than the remaining ones, and in communication with the furnace, a damper located in the upper coupling and arranged to close the upper end of the said central pipe for causing the products of combustion passing from the furnace to be passed through all of said pipes, of directing the same to the chimney or other source, without being passed through the said pipes, substantially as described. 4th. A hot air furnace, comprising two couplings, the upper one of which is in communication with the chimney or other source, three pipes or flues in communication with said couplings, the larger or centre one in direct communication with the furnace, a valve or damper located in the upper coupling for directing the products of combustion, and a suitable opening also formed in the said upper coupling and provided with a suitable door through which the air is allowed to pass when it is desired to cut off the draught of air from the furnace, substantially as described. 5th. A hot air furnace, consisting of a large central flue 10, in communication with the furnace, side flues 15, located on either side of the said flue 10, and in communication with the same, coupling 16 and 24, composed of sections bolted together, into which the ends of the

pipes are adapted to be fitted, an opening such as 26, for removing the soot or other accumulations, a damper 20, located in the coupling 16, and adapted to close the upper end of the pipe 10, a pipe 17, in communication with the said coupling, through which air is adapted to pass, and a door 18, attached to the outer edge of said pipes for closing the same, substantially as described.

**No. 39,513. Grain Drill. (*Semoir en drill.*)**

Thomas Renwick, Miami, Manitoba, Canada, 28th July, 1892; 6 years.

*Claim.*—1st. In a grain drill, a shoe of the form described having two arms D and E, for securing the same to a hoe of the common drill A, and an aperture or hole for securing the front end to the arms B, B, substantially as and for the purpose hereinbefore set forth. 2nd. In a grain drill, a hoe A, having two apertures or holes for receiving the two arms D and E, of a shoe, substantially as and for the purpose hereinbefore set forth. 3rd. In combination with the hoe of the common grain drill, a shoe, the object of such combination being the conversion of the common grain drill into a shoe drill, substantially as and for the purpose hereinbefore set forth.

**No. 39,514. Vaginal Syringe. (*Seringue vaginale.*)**

William Barton Spencer, Chicago, Illinois, U. S. A., 28th July, 1892; 6 years.

*Claim.*—1st. In a vaginal syringe, the conico-elliptical back receiving reservoir, a supply pipe and nozzle communicating with the interior thereof, and a vertically adjustable telescoping discharge pipe, substantially as set forth. 2nd. In a vaginal syringe, the combination, with the conico-elliptical back receiving reservoir and discharge pipe, of a suitable support, a supply pipe and nozzle communicating with the interior of said reservoir, and a return pipe in connection with the discharge of the reservoir, and in circuit with the syringe and supply pipe, substantially as set forth. 3rd. In a vaginal syringe, a back receiving reservoir provided with a lateral perforation and extended discharge pipe, a supply pipe and nozzle communicating with the interior of said reservoir through said perforation, and telescopic discharge sections connecting said extended pipe with the receiving receptacle, substantially as set forth. 4th. In a vaginal syringe, a back receiving reservoir provided with a lateral perforation and extended discharge pipe, a supply pipe and nozzle communicating with the interior of said reservoir through said perforation, telescopic discharge sections connecting said extended pipe with the receiving receptacle, and a spiral spring interposed between said sections to adjustably regulate the height of the instrument, substantially as set forth. 5th. In a vaginal syringe, a back receiving reservoir provided with a lateral perforation and extended discharge pipe, a sliding tube vertically adjustable in said discharge pipe and reservoir and provided with lateral outlet openings, a crown or shield secured to the upper end of said sliding tube, a supply pipe and nozzle communicating with the interior of said reservoir through said lateral perforation and supported vertically upon said crown or shield, and spring actuated telescopic sections connecting said discharge pipe with the receiving receptacle, substantially as set forth. 6th. In a vaginal syringe, a back receiving reservoir provided with a lateral perforation and extended discharge pipe, a sliding tube vertically adjustable in said discharge pipe and reservoir and provided with lateral outlet openings, a crown or shield secured to the upper end of said sliding tube, a supply pipe and nozzle communicating with the interior of said reservoir through said lateral perforation and supported vertically upon said crown or shield, a return circulating pipe connected with the lower end of said extended discharge pipe and the syringe supply pipe, and spring actuated telescopic sections connecting said discharge pipe with the receiving receptacle, substantially as set forth. 7th. In a vaginal syringe, a back receiving reservoir provided with a lateral perforation and extended discharge pipe, a sliding support vertically adjustable in said pipe and reservoir, a convex crown or shield secured to the upper end of said sliding support and provided with a centrally located perforation, a supply pipe and nozzle communicating with the interior of said reservoir through said lateral perforation and passing through the perforated crown or shield and vertically supported thereupon, a return circulating pipe connected with the lower end of said discharge pipe, a perforated nipple joining said return pipe with the syringe supply pipe, and a suitable adjustable support for the instrument, substantially as set forth. 8th. In a vaginal syringe, a back receiving reservoir provided with a lateral perforation, a discharge tube, a vertically adjustable support passing through said tube and within the reservoir, a convex crown or shield secured to the top of said support and provided with a perforation, a supply pipe and nozzle communicating with the interior of said reservoir through said lateral perforation and passing through the perforated crown or shield, and a return circulating pipe connected with the discharge of the reservoir, substantially as set forth.

**No. 39,515. Grapple. (*Grappin.*)**

Arthur W. Covell, Lombardy, Ontario, Canada, 28th July, 1892; 6 years.

*Claim.*—1st. A drag or grapple, consisting of a head A, provided with ropes C, C, and having teeth B, extending from the lower edge or face of said head at about right angles thereto, said teeth having the points curved downwardly, substantially as set forth. 2nd. A

**No. 39,516. Fog Signal. (*Signal de brume.*)**

Walter Richard Close, Bangor, Maine, U. S. A., 28th July, 1892; 6 years.

*Claim.*—1st. An improved fog signal consisting of the combination of a float with a mast extending above said float, a gong secured to said mast, and radial arms projecting horizontally near said gong, said arms provided with tubes having balls therein, for the purpose described, and substantially as shown and set forth. 2nd. An improved fog signal consisting of the combination of a gong erected upon a vertical mast, radial arms projecting from said mast, horizontal tubes attached to said arms, said tubes having their outer ends closed and provided with buffers therein, and balls adapted to roll in said tubes in such manner as to come in contact with and strike said gong upon a slight inclination of the radial arms, with a float secured to the lower end of said mast, all for the purpose described, and substantially as shown and described. 3rd. An improved fog signal consisting of the combination of a float having converging sides and convex bottom, a vertical mast extending above said float, a gong attached to the upper end of said mast, radial arms projecting from said mast near said gong and beyond the same, said arms provided with tubes having one end closed and their opposite ends in proximity to said gong, rolling balls within said tubes adapted to strike against said gong, and an anchoring attachment consisting of a balance rod secured to the bottom of said float and connected thereto by a link, a cable fastened to the lower end of said rod, and tenor chain departing from the lower end of said cable, and having their extremities attached to anchors, substantially in the manner shown, and for the purpose set forth and described. 4th. The improved fog signal consisting of the combination of a vertically mounted mast provided with radially projecting arms, tubes containing rolling balls mounted upon said arms, and a gong attached to said mast between said tubes, in such manner that the rolling of the balls will strike against said gong, substantially in the manner shown and described.

**No. 39,517. Steam Vacuum Pump.**

(*Pompe à vapeur à vide.*)

George Edward Nye, Chicago, Illinois, U. S. A., 28th July, 1892; 6 years.

*Claim.*—1st. An improvement in steam vacuum pumps, consisting of removable valve seats provided with upwardly projecting supports between which the fixed end of the rubber valve is placed, in combination with the valve stop placed also between said supports, and secured to the base and guide standards attached to the seats to bring the valves to their seats, as hereinbefore specified and shown. 2nd. A hollow steam valve consisting, in face view, of a portion of a circle bounded by two radial lines and segment line with the steam ports through the segment, and its top angle rounded to have a bearing within the case, and the case provided with pipes leading to the respective water chambers and a receiving steam pipe, and the valve chamber having a width greater than the valve, whereby the latter is automatically shipped to reverse the ports, as hereinbefore described and shown.

**No. 39,518. Book Binding. (*Reliure de livres.*)**

Adam Clarke Bausman, Minneapolis, Minnesota, U. S. A., 28th July, 1892; 6 years.

*Claim.*—1st. In a book, the combination, with the leaves and covers, of a back adapted to fold, substantially as set forth. 2nd. A book having its binding edge square, in combination, with a back adapted to fold, substantially as set forth. 3rd. In a book, the combination, with the covers and leaves having a square binding edge, of a flexible strapping and a back adapted to fold, substantially as set forth. 4th. A book having its binding edge square, covers flush with the bottom of the leaves, a flexible strapping and a back adapted to fold, substantially as set forth.

**No. 39,519. Machine for Copying and Duplicating Writings. (*Machine pour copier et reproduire l'écriture.*)**

Max Sommer, New York, State of New York, U. S. A., 28th July, 1892; 6 years.

*Claim.*—1st. The improved copying and duplicating apparatus, consisting of a shell or casing having a longitudinal slot, and containing a roller mounted in suitable bearings, the said roller being adapted to rotate by means of a spiral spring, and with means for checking the rotation, together with an absorbent sheet, absorbent and reinforce sheets, or an oil sheet suitably attached to the roller at one end, and with their other ends extending through the slot in the casing, said ends being provided with suitable means to prevent their being drawn within the casing, substantially as described. 2nd. The construction of the improved copying and duplicating apparatus, substantially as and for the purposes hereinbefore described, set forth and illustrated in the accompanying drawings.

**No. 39,520. Meter for Grain. (Compteur à grain.)**

John Henry, William A. Fox and George Hill, all of Ardoch, North Dakota, U.S.A., 29th July, 1892; 6 years.

*Claim.*—1st. In a grain meter, the combination, with a frame and a scale beam fulcrumed thereon, of a grain measuring receptacle pivotally supported on the beam, gravity cut-offs, a stationary device carried by the measuring receptacle and adapted to gradually open the cut-offs as the receptacle rises, and a pivoted spout connected with the cut-offs, so that it closes them when it is depressed, substantially as set forth. 2nd. In a grain meter, the combination, with a frame and a scale beam fulcrumed thereon, of a grain measuring receptacle pivotally supported on the beam, gravity cut-offs controlled by the receptacle, and a spring sustained stop for ordinarily preventing a complete closure of the cut-offs, and a pivoted discharge spout connected with the stop, substantially as set forth. 3rd. In a grain meter, the combination, with a frame, a forked scale beam fulcrumed therein, a grain measuring receptacle supported on the beam, and links for retaining the receptacle in position, of a parting board pivoted on the receptacle, hinged bottoms, a lever connected with the bottoms and parting board, gravity cut-offs, a stationary device carried by the measuring receptacle and adapted to gradually open the cut-offs as the receptacle rises, and a pivoted spout connected with the cut-offs for closing them with the depression of the spout, substantially as set forth. 4th. In a grain meter, the combination, with a frame, grain hopper, and pivoted gravity cut-offs pivoted on the latter, of a scale beam, a grain measuring receptacle supported on the beam, a rocking parting board, hinged bottoms on the receptacle, a pivoted lever having connection with the parting board and the hinged bottoms, a guard plate for regulating the position of the lever, and a rest projecting from the receptacle and adapted to open the cut-offs by engagement therewith, substantially as set forth. 5th. In a grain meter, the combination, with a frame, a hopper, and gravity cut-offs pivoted on the lower end of the latter, said cut-offs having ears or projections thereon, of a parting board pivoted on the receptacle, hinged bottoms on the receptacle, and inverted T-shaped lever connected to the receptacle, said lever having pivotal sliding connection with the parting board, rods connecting the short arms of the lever with the hinged bottoms, a guard plate for controlling the swing of the lever, and a projecting rest on the receptacle adapted to engage the ears on the cut-offs to open the latter, substantially as set forth. 6th. In a grain meter, the combination with a frame, a hopper, and gravity cut-offs pivoted on the lower end of the latter, said cut-offs having ears thereon, a scale beam fulcrumed in the frame, a measuring receptacle supported thereon, the latter having compartments, and links for retaining the latter in position, of a parting board pivoted on the receptacle and having a slotted plate on one end, hinged bottoms on the receptacle, a T-shaped lever located on a shaft extending through the receptacle, two arms of which are connected to the hinged bottoms, and one arm of which has a projection which works loosely in the slotted plate on the parting board, a guard plate against which this arm of the lever abuts, and a projecting rest on the receptacle adapted to engage the ears of the cut-offs to open them, substantially as set forth. 7th. In a grain meter, the combination, with a frame, a hopper, and a movable spout, of a cut-off on the hopper, a movable spring actuated support for normally holding said cut-off partly open, and a connection between said support and spout, whereby the cut-off is closed by the depression of the spout.

**No. 39,521. Railway Tie. (Traverse de chemin de fer.)**

Amos Kinzer Hoffmeir, Lancaster, Pennsylvania, U.S.A., 29th July, 1892; 6 years.

*Claim.*—1st. A cross tie having an arm formed integral therewith and projecting from the sides to form additional bearings for the rails, the ends of the cross ties projecting beyond the arms, substantially as and for the purpose shown. 2nd. The combination, with the tie having the perforations G and slots H, of the angle plates and the bolts provided with the grooves k connected by the eyes i, substantially as and for the purpose described. 3rd. The combination, with a tie having perforations to receive the head of the bolt, and clamps for securing the rails in position, of bolts provided with grooves k connected by eyes i, substantially as set forth.

**No. 39,522. Apparatus for Washing Clothes.**

(Machine à blanchir.)

Elizabeth Lynham Maybee, Sydney, New South Wales, Australia, 29th July, 1892; 6 years.

*Claim.*—The improved appliance for washing clothes, consisting of a cylinder having a corrugated or fluted periphery, the same being mounted upon a central shaft, upon which it is free to turn, as specified and as illustrated in the drawing.

**No. 39,523. Apparatus for Making Aerated or Gaseous Liquids and for Filling Bottles Therewith. (Appareil pour gazéifier des liquides et les mettre en bouteille.)**

Chinnery & Company, assignee of Luther George Chinnery and Swartz Martyn Chinnery, all of London, England, 29th July, 1892; 6 years.

*Claim.*—1st. In combination, liquid aerating apparatus, a vessel or holder for compressed gas, bottle filling devices connected there-

with, and a system of connecting pipes and three-way cocks as set forth, the combination serving to control the amount of gas to be mixed with the water, and the passing of the aerated liquid into a bottle or syphon, all substantially as set forth. 2nd. The combination, in a liquid aerating apparatus adapted for agitating within its reservoir the gas and liquid, of a vessel for holding compressed gas, a system of pipes and cocks for filling the reservoir and for charging it with gas to the required degree prior to agitating the mixture, and bottle and syphon filling devices connected by a cock with the reservoir, and consisting of a cradle or its described equivalent adapted for supporting the bottle, all substantially as set forth. 3rd. In combination, with apparatus for the manufacture of aerated liquids, syphon filling devices constituted of an elbow o, provided with a three-way cock adapted to receive at one end a syphon spout q, an inclined cage r, arm s, yielding table t, arranged in adjustable guides t', t', and lever u, the combination, being and operating, substantially as set forth. 4th. In combination, the water reservoir a, cylinder h<sup>1</sup>, for compressed gas, connected with such reservoir, and a revoluble cradle i centrally supported, these parts being connected by the described system of pipes, as and for the purposes set forth.

**No. 39,524. Method of and Apparatus for Making Chlorine and Caustic Soda. (Méthode et appareil pour fabriquer du chlore et soude caustique.)**

The Caustic Soda and Chlorine Syndicate, assignee of James Greenwood, all of London, England, 29th July, 1892; 6 years.

*Claim.*—1st. In apparatus for the manufacture or production of chlorine or caustic soda by electrolysis, metal carbon electrodes, constituted of metal coated with carbon and applied substantially as hereinbefore described. 2nd. In apparatus for the manufacture or production of chlorine or caustic soda by electrolysis, the combination, in a cell of a porous partition formed of a number of V-shaped troughs filled with asbestos fibre, or other suitable material, maintained in vertical series, substantially as hereinbefore described. 3rd. In apparatus for the manufacture of chlorine or caustic soda by electrolysis, the combination, in rectangular cells, of porous diaphragms formed of a series of V-shape troughs filled with asbestos fibre, and maintained in vertical series by suitable supporting frames. 4th. In combination, with the electrolytic vessel divided into a series of anode and cathode sections d and a, made as described, an insulating plate f, a series of porous partitions formed of V-shaped troughs and asbestos fibre or suitable porous material, pipes l and m, disposed as set forth, and terminals c and e, all substantially as shown and described. 5th. The process of eliminating from caustic soda produced from common salt by electrolysis, as hereinbefore described and claimed, the sodium chloride which it contains by transferring the caustic alkaline liquor from the electrolytic vessel or tank p, to evaporating pans in which the liquor is concentrated by evaporation until the sodium chloride is precipitated and the caustic soda alone remains in solution, substantially as described.

**No. 39,525. Apparatus for Preventing Snoring.**

(Appareil pour empêcher de ronfler.)

Anton Mosterts, Strassburg, Alsace, German Empire, 29th July, 1892; 6 years.

*Claim.*—1st. A device or apparatus for the prevention of snoring, consisting of an elastic circular or crescent shaped bag fitting below the lower maxillary of the wearer so as to afford a proper support thereto, and thus prevent it from dropping and the mouth from opening, substantially as described. 2nd. In devices or apparatus for the prevention of snoring, such as above claimed, the combination, of a circular or crescent shaped bag of vulcanized India rubber with the mouthpiece a, by means of which the same can be inflated and with the bands c, fixed to the tags b, for the purpose of attaching the bag to the neck of the wearer, substantially as described.

**No. 39,526. Gas Engine. (Machine à gaz.)**

Benjamin Caldwell Vanduzen, Winton Place, Ohio, and Ezra Williams Vanduzen, Newport, Kentucky, both in the U.S.A., 29th July, 1892; 6 years.

*Claim.*—1st. In a gas engine, the combination of the inlet valve G, exhaust valve H, conduit I, and ignitor valve J, having passage way J<sup>8</sup> below the valve and communicating with conduit I, and space J<sup>7</sup> above the valve, connected, when the valve piece J<sup>6</sup> is elevated, with the said passage way J<sup>8</sup>, tube K located above space J<sup>7</sup>, pipe K<sup>1</sup> in contact with the said space J<sup>7</sup> and passing through space K<sup>4</sup> of the burner, and sphere K<sup>2</sup> communicating with pipe K<sup>1</sup>, and also having aperture K<sup>3</sup>, allowing egress of the gas within into the outer air, substantially as and for the purposes specified. 2nd. In a gas engine, the combination of the inlet valve G, exhaust valve H, conduit I, said inlet valve and exhaust valve opening into said conduit I, ignitor valve J, having passage way J<sup>8</sup> below the valve and communicating with conduit I, space J<sup>7</sup> above the valve, connected, when the valve piece J<sup>6</sup> is elevated, with the said passage way J<sup>8</sup>, tube K located above the space J<sup>7</sup>, and pipe K<sup>1</sup> in contact with the said space J<sup>7</sup> and passing through space K<sup>4</sup> of the annular lining of non-heat conducting material surrounding the pipe K<sup>1</sup> above said burner space K<sup>4</sup>, substantially as and for the purposes specified. 3rd. The combination, with a gas engine and with the supply pipe

leading thereto, of a carburetor having an air pipe opening upwardly therein, a gravity valve covering said pipe and lifted by the suction in the engine supply pipe, and an oil valve engaging the air valve and lifted thereby to pass oil to the surface of the air valve, whence it is distributed by the air current, all substantially as described.

4th. In a gas engine having a governor and an air and gas supply pipe, a carburetor communicating with said supply pipe, a feeding valve in said carburetor operated by the suction in the supply pipe, and an air controlling valve in the supply pipe, itself controlled by the governor, whereby the suction in the supply, and hence the carbureted supply, is controlled by the governor, substantially as and for the purposes specified.

5th. The combination, with a gas engine and the supply pipe thereof, of a carburetor communicating with said supply pipe opening upwardly into said carburetor, a gravity air valve covering said pipe and operated by suction in the engine pipe, a liquid controlling valve engaging said air valve and operated thereby to feed liquid upon the surface of said air valve, and carbureting rings in proximity to said air valve, substantially as described.

6th. The combination, with the suction pipe of a gas engine, of the carburetor having the delivery pipe  $L^1$  connected to said suction pipe, and having the exterior shell  $L$ , interior tube or hollow cylinder  $L^2$ , carbureting rings  $L^{13}$ , between said shell  $L$ , and said cylinder  $L^2$ , communicating with the outer air and provided with valve piece  $L^4$  resting upon it, valve stems  $L^5$  and  $L^{14}$ , valve piece  $L^7$ , lifted by valve  $L^8$ , spaces  $L^9$ ,  $L^{10}$ , for the passage of oil past the valve piece  $L^7$ , when the valve is lifted, space  $L^{10}$ , above the valve piece  $L^7$ , and inlet valve, substantially as and for the purpose specified.

7th. In a gas engine, a governor, and the gas supply valve  $G$ , swinging valve stem  $G^5$ , beneath the valve  $G$ , vertically reciprocating stud  $G^{12}$ , and lever  $V^2$ , connected to the governor and to stem  $G^5$ , substantially as and for the purposes specified.

8th. In a gas engine, the inlet valve  $G$ , and its supporting stem  $G^5$ , the valve lifter  $G^{13}$ , exhaust valve  $H$ , and its supporting stem  $H^3$ , valve lifter  $H^7$ , and the single cam  $R$ , having working surface  $R^1$  for both valves, substantially as and for the purposes specified.

9th. In a gas engine, the inlet valve  $G$ , its lifter  $G^{13}$ , and exhaust valve  $H$ , and its lifter  $H^7$ , the lifters hinged in the common pivot  $R^2$ , and both engaging the same cam  $R$ , whose shaft  $P$ , is at right angles to the common plane passing through the valves, substantially as and for the purposes specified.

10th. In a gas engine, the inlet valve  $G$ , its lifter  $G^{13}$ , and roller  $G^{14}$ , and exhaust valve  $H$ , and its lifter  $H^7$ , and roller  $H^8$ , the lifters hinged on the common pivot  $R^2$ , and both engaging the same cam  $R$ , whose shaft  $P$  is at right angles to the common plane passing through the valves, substantially as and for the purposes specified.

11th. In a gas engine, the gas inlet valve, exhaust valve, and ignitor valve, and their lifters, and the cams  $R$  and  $T$  on a common shaft and operated thereby, the cam  $R$  in contact with the lifters of the inlet, and exhaust valves and cam  $T$ , in contact with the lifter of the ignitor valve, substantially as and for the purposes specified.

12th. In a gas engine, the gas inlet valve and conduit  $I$ , leading therefrom to that part of the cylinder which is above the upper stroke of the piston, and above the said upper part of the cylinder, the said gas inlet valve being arranged for the admission of air and a volatilized hydro-carbon, the exhaust valve located in conduit  $I$ , between said gas inlet valve and the exhaust valve, and an ignitor valve, located in said conduit  $I$ , between the gas inlet valve and the exhaust valve, thereby heating those parts of conduit  $I$ , through which the commingled unignited air and volatilized hydro-carbon pass on their way to the cylinder, thereby preventing any condensation of the carbureted air under pressure in said conduit and cylinder, substantially as and for the purposes specified.

13th. In a gas engine, the gas inlet valve and conduit  $I$  leading therefrom, to that part of the cylinder which is above the upper stroke of the piston, and above the said upper part of the cylinder, the said gas inlet valve being arranged for the admission of air and a volatilized hydro-carbon, the exhaust valve located in conduit  $I$ , between the gas inlet valve and the exhaust valve, thereby heating those parts of conduit  $I$ , through which the commingled unignited air and volatilized hydro-carbon pass on their way to the cylinder, thereby preventing any condensation of the carbureted air under pressure in said conduit and cylinder, and the cylinder below the uppermost point therein reached by the piston being in contact with a water jacket  $Z$ , for keeping the lower portion of the cylinder wherein the piston plays at all times, cool and in proper condition for lubrication with oil, substantially as and for the purposes specified.

14th. A gas engine having an inlet suction pipe, in combination with a carbureting device consisting of the exterior  $L$ , gas exit pipe  $L$ , connected thereto and to the said suction pipe of the engine, air inlet pipe controlled by valve  $L^4$ , valve  $L^8$ , inlet gasoline valve  $L^7$  and means, substantially as herein set forth, for enabling said air inlet valve  $L^4$ , to operate said gasoline inlet valve  $L^7$ , substantially as and for the purposes specified.

#### No. 39,527. Screw Propeller. (*Vapeur à hélice.*)

Charles Myers and Matthew Wells, both of Manchester, England, 29th July, 1892; 6 years.

*Claim.*—1st. A screw propeller blade of the form of a flat severed loop, constructed with the striking edge of the front or forward arm of the loop, approximately tangential to the hub or boss at its point of contact therewith and parallel to the face of the boss, and with the rear edge of the other arm of the loop approximately radial to the

centre of the boss, and inclined at a considerable degree to and overhanging its vertical face, substantially as described and shown. 2nd. A flat looped screw propeller blade provided at one side with an arm tangential to the boss and parallel with the face thereof, and at the other side with an arm radial with the centre of the boss and inclined to the face thereof, and with the top vertical flat surface increasing in pitch from the front to the back, substantially as described.

#### No. 39,528, Paper Box. (*Boîte de papier.*)

The E. B. Eddy Company, assignee of George H. Millen, all of Hull, Quebec, Canada, 29th July, 1892; 6 years.

*Claim.*—1st. A blank for making paper boxes, comprising sections A, B and C, having at the ends flaps  $A^1$ ,  $B^1$ ,  $C^1$ , respectively, the flap  $A^1$ , rectangular and the flaps  $B^1$ ,  $C^1$ , of triangular shape, as set forth. 2nd. A box constructed from a blank cut integrally from a sheet of paper or paper board, said blank having flaps  $A^1$ ,  $B^1$ ,  $C^1$ , integral with the bottom A, and sides B and C respectively, the flap  $A^1$  rectangular and forming the end of the box on the inside, and the flaps  $B^1$ ,  $C^1$  cut away triangularly and connected by a wire staple G, fastened into the flap  $A^1$ , as set forth. 3rd. A box cover, constructed of a blank cut from a sheet of paper or paper board, said blank having flaps  $D^1$ ,  $E^1$ ,  $F^1$ , integral with the sides and top, the flaps  $E^1$ ,  $F^1$  lapping the flaps  $D^1$ , and a wire staple H, reinforcing the angles or corners, one leg of the staple secured through the sides of the cover and the other leg holding the lapped flaps together to form the ends of the cover, as set forth.

#### No. 39,529. Ballot Holder. (*Porte-scrutin.*)

William Francis Wilkins, Adamsville, and Frederick England, Knowlton, both in Quebec, Canada, 29th July, 1892; 6 years.

*Claim.*—The case A, of any desired material having glazed openings  $b$ , for the names of the candidates, and openings  $d$  for the crosses or marks to be made opposite to such names, the whole substantially as described.

#### No. 39,530. Method of Constructing Fire-Proof Buildings. (*Méthode de construire des bâties à l'épreuve du feu.*)

The United States Fire Proofing Company, assignee of Mitchell Francis McCarthy, all of Chicago, Illinois, U.S.A., 29th July, 1892; 6 years.

*Claim.*—1st. In fireproof structures, the combination, with the beams, of the wire strands extending over and drooped between the same, and the span filling sustained by said strands, substantially as described. 2nd. In fireproof structures, the combination, with the beams, of the wire fabric extending over and drooped between the same, and the concrete span filling wherein said beams and fabric are embedded, substantially as described. 3rd. The method of laying fireproof floor structures which consists in drooping a wire fabric over and between contiguous beams, embedding the beams and fabric in plastic concrete and maintaining the fabric under tension, whilst the concrete filling sets, substantially as described. 4th. In fireproof structures, the combination, with the beams, of the strand or fabric support extending over and depressed between them, and the section tile united together and to the support by plastic concrete, substantially as described. 5th. In laying fire proof floors, the combination, with the beams and with the strand or fabric support extending over and drooped between them, of the temporary girders, the clamps or grapples between said girders and the beams, and the tension jack mounted upon said girders, and bearing against the support, substantially as described.

#### No. 39,531. Harrow. (*Herse.*)

Joseph Drader, joint inventor with and assignee of Andrew B. McKay, both of London, Ontario, Canada, 29th July, 1892; 6 years.

*Claim.*—1st. The drawing braces D, vertically adjustable at their front end, and means for adjusting and holding them at different elevations, substantially as shown and described and for the purpose specified. 2nd. The draw braces D, vertically adjustable at their front end, and means for adjusting and holding them at different elevations, in combination, with the bar N, sliding block F, and spade spindles C, substantially as shown and described and for the purpose specified. 3rd. A pivotal bar N, and means for adjusting and holding said bar at its different positions, in combination, with the draw braces D, secured to the block F, the latter slidingly supported on said bar N, and the spade spindles C, substantially as shown and described and for the purpose specified. 4th. The combination, of the pivotal bar N, formed with teeth  $n$ , the block F, the dog  $o$ , the lever R, formed with the tooth  $r$ , and slot  $s$ , and the toothed wheel P, in combination, with the draw braces D, and spade spindles C, substantially as shown and described and for the purpose specified. 5th. The standard H, the chain I, the lever K, and means for holding the latter at the position to which it is adjusted, in combination with the pivotal bar N, the block F, dog  $o$ , draw braces D, and spade spindles C, substantially as shown and described and for the purpose specified. 6th. In a spade harrow, a bearing box M, formed with a bracket  $m$ , in combination, with the tongue E, substantially as shown and described and for the purpose specified. 7th.

In a spade harrow, the bearing box M, formed with a bracket *m*, and a recess *l*, formed in the latter, in combination, with the spring tooth B, and tongue E, substantially as shown and described and for the purpose specified. 8th. In a spade harrow, the bearing box M, formed with a bracket *m*, and a recess *l*, formed in the latter, in combination, with spade gangs J, pivotally secured in said bearing box, the tooth B, and tongue E, substantially as shown and described and for the purpose specified. 9th. The collars G, G, formed with projections *g*, and recesses *h*, substantially as shown and described and for the purpose specified. 10th. The collars G, G, formed with projections and corresponding recesses, having their lines of projection from the ends of said collars and at right angles to the line in which they are rotating, substantially as shown and described and for the purpose specified. 11th. The collars G, G, formed with corresponding projections and recesses, having their lines of projection from the ends of said collars, and at right angles to their line of rotation, and with teats *b*, and holes *d*, and fitted on the spindle C, in combination, with the spades J, formed with the holes *e*, substantially as shown and described and for the purpose specified. 12th. The cover Q, formed with the elongated slot *q*, and lubricant reservoir T, in combination, with the stud pin U, formed with an elongated head *u*, which head is fitted to the slot in said cover, substantially as shown and described and for the purpose specified. 13th. The cover Q, in the upwardly inclined end of which the elongated slot *q*, is formed, and having a downwardly inclined end with the opening *p*, therein, and the flanges *i*, in combination, with the stud pin U, having an elongated head *u*, fitted to the slot *q*, in the cover Q, and the lubricant reservoir T, formed with the flange *j*, and pin *k*, substantially as shown and described and for the purpose specified. 14th. The cover W, formed with the notches *v*, in combination, with the bearing box M, having a lubricant reservoir V, therein, and formed with the studs X, and the spring tooth casting Z, substantially as shown and described and for the purpose specified.

**No. 39,532. Cigarette Machine. (Machine à cigarette.)**

The Bohls Cigarette Machine Company, Richmond, Virginia, assignee of Henry Bohls, San Francisco, California, both in the U.S.A., 29th July, 1892; 18 years.

*Claim.*—1st. In a cigarette machine, the combination, with a feed belt, of mechanism to granulate the tobacco, and one or more inclined shaking trays adapted to have vibrating motion and to receive the tobacco from the granulating mechanism and distribute it upon the feed belt, substantially as described. 2nd. In a cigarette machine, the combination, with a feed belt, of mechanism to granulate the tobacco, a series of inclined trays adapted to have vibrating motion and to receive the tobacco from the granulating mechanism, the lower tray of the series being located to distribute the tobacco upon the feed belt, and a guard plate located opposite the lower tray and over the edge of the feed belt remote from the tray, substantially as specified. 3rd. In a cigarette machine, the combination, with a feed belt and granulating disks to dress and separate the tobacco, of a series of inclined trays adapted to be given lateral shaking motion and to receive the tobacco from the granulators, the lower tray of the series being arranged to distribute the granulated tobacco upon the feed belt, and an elevator for carrying tobacco to the upper set of granulating disks, substantially as described. 4th. The combination, with a feed belt, of fingers adapted to be given vibrating motion in opposite directions transversely to the direction of travel of the feed belt, substantially as described. 5th. The combination of a feed belt, vibrating fingers adapted to reciprocate across the belt from opposite sides, the connecting lever 62, the revolvable shaft 50, and an eccentric and strap carried by the shaft 50, and actuating the vibrating fingers, substantially as described. 6th. In combination with a feed belt, the scraping blades 42 extending over the edge of the belt from opposite sides and adapted to bring the tobacco to the middle of the feed belt, substantially as described. 7th. In a cigarette machine, the combination of a feed belt 35, the top belt 64, and the side belts 71, 71, the latter being formed of links having grooved faces and adapted to travel between the top and feed belts, all of the said belts being arranged to move at uniform speed, substantially as described. 8th. In a cigarette machine, a metallic filler shaping belt constructed of jointed links hinged together at their backs, and having grooved front faces, substantially as described. 9th. The combination, with a wrapper folding guide, of an adjustable presser foot adapted to hold down and turn in the shreds of tobacco below the standing sides of the wrapper, substantially as described. 10th. In a cigarette machine, the rotating folding disk 116, adapted also to act as a pasting disk, in combination with a paste supply trough having a paste feeding wheel partially immersed and rotating in the trough, and a paste carrying device formed of an endless cord or thread which is carried over the top of said feed wheel and arranged to run in contact with the face of the folding disk, substantially as described. 11th. The combination, with a rotating pasting disk and a paste trough, of a paste feeding wheel partly immersed and having rotation in said trough, a cord or thread arranged to travel over the top of said feeding wheel clear of the trough and take a charge of paste from the wheel, and guide pulleys adapted to carry said cord or thread in working contact across the face of said pasting disk, substantially as described. 12th. The combination with the folding lips 115, 117, and the disk 116, and paste trough 119, pulleys 123, 124, the fountain wheel 120, and cord

or thread 121, the cord being adapted to lay a line of paste upon the surface of the disk 116, and the disk, by its rotation, to apply it under the top or last folded edge of the wrapper, substantially as described. 13th. A cutting device for separating a continuous cigarette into lengths, consisting of a rotating disk on the end of a revolving arm, adapted to travel across the path of a moving continuous cigarette, and suitable mechanism to impart movement to the rotating disk and revolving arm, substantially as described. 14th. The combination of a rotating shaft, an arm 142, fast on said shaft, a spindle on the free end of the arm, a cutting disk mounted for rotation on said spindle, a driving pulley on the cutting disk spindle, a loose sheave on the shaft, a connecting belt, and a driving pulley fast on the sheave, and adapted to be driven from a separate shaft, substantially as described. 15th. In a cigarette machine, the combination, with the filler forming belts, of a mouth piece having an open channel to receive the continuous filler, and a slot through which the paper wrapper passes to receive the continuous filler, said slot having converging sides to gradually turn up the sides of the wrapper around the filler, substantially as described. 16th. In a cigarette machine, the combination, with the mouth piece having an open channel to receive the continuous filler, and a slot through which the paper wrapper and a carrier belt pass to receive the continuous filler, said slot having converging sides to gradually turn up the sides of the paper wrapper, of devices to fold and paste the wrapper, a carrier wheel having a peripheral groove in which the carrier belt and continuous cigarette are received, and a belt 130 passing around pulleys and engaging about one-half the periphery of the carrier wheel to hold the cigarette in said groove and carry it to the cutting mechanism, substantially as specified. 17th. In a cigarette machine, the combination, with the mouth piece and the grooved carrier wheel, of the folding guide consisting of two parallel sides, and the folding lips, one on each side of the guide, and the rotating disks, one on each side of the guide, one of said disks serving to fold over one side of the paper wrapper on the filler and apply paste to the other side of the wrapper, and the other disk folding the pasted side of the wrapper over and on the previously folded side, substantially as specified.

**No. 39,533. Sterilizing Apparatus.**

(Appareil de stérilisation.)

Arthur Regel, Schominger, Brunswick, German Empire, 29th July, 1892; 6 years.

*Claim.*—1st. Apparatus for sterilizing beer and other liquids comprising two cylinders C, C' surrounded by cooling or heating shells or casings, and provided with pistons D, D', adapted to be moved up and down by beer or other liquid when introduced into the cylinder by the action of compressed air, and with pipes by which the interiors of the cylinders can be connected with a cask, whose contents are to be sterilized, substantially as described. 2nd. The modified construction of sterilizing apparatus for treating beer and other liquids, in which several cylinders C, or C', are surrounded by a single shell or casing common to them all, as hereinbefore described. 3rd. In sterilizing apparatus for treating beer and other liquids, a thermometer *o*, and cock *p* on each piston, and an alarm or signalling device *u*, *u'* on each cylinder or on each piston, for indicating when each cylinder is full, substantially as described. 4th. In sterilizing apparatus, the combination, with the two cylinders C, C', of a pipe *q*', in communication with the upper ends of each of the cylinders C, C', and provided with three way cocks *q*, substantially as described.

**No. 39,534. Car Brake and Bumper.**

(Frein et tampon de chars.)

Leonard George Arnold, Menaska, Wisconsin, U.S.A., 29th July, 1892; 6 years.

*Claim.*—1st. A draw bar provided with a rack, a laterally adjustable shaft, a pinion fast on the shaft to come in and out of mesh with the rack, and a brake lever flexibly connected to said shaft. 2nd. A spring controlled draw bar provided with a rack, a laterally adjustable shaft, a pinion fast on the shaft to come in and out of mesh with the rack, and a brake lever flexibly connected to said shaft. 3rd. A draw bar provided with a rack, a laterally adjustable shaft, levers connected to the shaft, a pinion fast on the same to come in and out of mesh with the rack, and a brake lever flexibly connected to said shaft. 4th. A spring controlled draw bar provided with a rack, a laterally adjustable shaft, a pinion fast on the shaft to come in and out of mesh with the rack, a ratchet wheel fitted to said shaft to rotate therewith without interference with the adjustment thereof, a detent for the ratchet wheel, a hand wheel screw threaded to one end of the shaft and loosely connected with said ratchet wheel, and a device for locking the hand wheel and shaft.

**No. 39,535. Snow Plough. (Charrue à neige.)**

Max Szarbinowski, Stettin, Prussia, German Empire, 29th July, 1892; 6 years.

*Claim.*—An apparatus for clearing and throwing aside masses of snow by means of a movable cutter (rudder) mounted on the point of the repulsing surfaces, in such a manner that tilting over moments are entirely avoided, substantially as described.

**No. 39,536. Machine for Preparing Web Paper.***(Machine pour préparer le papier-toile.)*

James Lilly and Charles Joseph George, both of Clerkenwell, Middlesex, England, 29th July, 1892; 6 years.

*Claim.*—1st. In a machine in which web paper may be ruled, perforated, printed, numbered and severed longitudinally and transversely, printing consecutively numbers on the backs of the sheets simultaneously with the printing and numbering of the front side of the same by means of a chain of type  $K^1$ , carried forward, and through one division at a time by the ratchet  $w^1$ , operated by the pawl  $P^1$ , and spring  $Q^1$ , after each impression of the type, the said pawl being withdrawn from the ratchet tooth ready for another engagement by the striking of the projecting stud  $M^1$ , on the type carrier  $I$ , against the pawl lever  $N^1$ , substantially as described. 2nd. In a machine in which web paper may be ruled, perforated, printed, numbered and severed longitudinally and transversely, the employment of the archimedean or helical rotary knife  $T$ , with adjusting screws  $x$ , and blocks  $y$ , in combination with the shear blade  $T$  for severing the paper web transversely, substantially as described. 3rd. In a machine in which web paper may be ruled, perforated, printed, numbered and severed longitudinally and transversely, the spindle  $a^1$ , roller discs  $c^1$ , pressing on the roller  $R$ , and rotary cutter disc  $b$ , in combination with the metallic ring  $g$ , fixed upon the roller  $R$ , substantially as described and for the purpose specified.

**No. 39,537. Friction Coupler. (Joint à friction.)**

August Schroeder, Rheydt, Prussia, German Empire, 29th July, 1892; 6 years.

*Claim.*—In a combined frictional and toothed gearing coupling, the employment of a recessed face plate internally provided with a frictional surface and a toothed surface, and fitted with break blocks capable of being pushed into gear with the same by double armed levers operated by a sliding coupling box provided with suitable conveying recesses, substantially as described.

**No. 39,538. Calk for Horse Shoes.***(Crampon de fer à cheval.)*

Ferdinand of Eulendorf, Brislau, Prussia, German Empire, 29th July, 1892; 6 years.

*Claim.*—1st. A horse shoe calk, consisting of a prong surrounded by a cushion ring, substantially as set forth. 2nd. In a horse shoe calk, the combination, with a prong, provided at its upper end with a threaded stem, and of a cushion ring surrounding said prong, substantially as set forth. 3rd. In a horse shoe calk, the combination, with a prong, provided at its upper end with a square collar, and a threaded stem projecting upward from said collar, of a cushion ring surrounding said prong, substantially as set forth.

**No. 39,539. Method of and Apparatus for Pickling Meat, Fish, Etc. (Méthode et appareil pour mariner de la viande, du poisson, etc.)**

Johann Fey, Offenbach, Hesse-Darmstadt, German Empire, 29th July, 1892; 6 years.

*Claim.*—1st. A pickle or brine vessel provided with a perforated to contain the meat or other substance, and means for supplying vessel compressed air. 2nd. In apparatus for pickling meat or other like substance, provided with a perforated disc or sieve to support the meat, and through which, and the pickle, or brine, air is caused to pass, substantially as described. 3rd. An apparatus for pickling meat or other like substance, provided with a perforated disc or sieve to support the meat, and a perforated pipe for supplying compressed air under the disc or sieve and causing such air to pass through the liquor containing the meat to be pickled, substantially as described. 4th. The employment in connection with the pickling of meat and like substance, of compressed air supplied from any suitable source, such as a compressed air supply main, substantially as described.

**No. 39,540. Machine for Piling and Removing Coal and Analogous Materials. (Appareil pour empiler et transporter le charbon, etc.)**

James Mapes Dodge, Philadelphia, Pennsylvania, U. S. A., 29th July, 1892; 6 years.

*Claim.*—The combination in an apparatus for removing or piling coal or analogous material, of the shears of the piling apparatus spanning the pile of the material, with a horizontally movable conveying trough and a conveyor thereon for removing the material from the pile, the arrangement of parts being such that the removing trough can pass freely under the shears of the piling apparatus to remove the coal piled thereunder, substantially as set forth.

**No. 39,541. Fire Alarm. (Avertisseur d'incendie.)**

John Patrick McMahon, Buffalo, New York, U. S. A., 29th July, 1892; 6 years.

*Claim.*—1st. The combination of a closed metallic circuit including a thermostat, a motor, a controlling magnet for said motor, a tap wire from said circuit on one side of said thermostat and returning to said circuit on the other side of said thermostat and including a magnet, contact points carried by said magnet and its armature,

electrical connections from said contact points to said controlling magnet, a ground branch from said circuit, and a second ground branch including a thermostat, whereby said controlling magnet may be further energized, as and for the purpose described. 2nd. The combination of a closed metallic circuit including a thermostat, a motor, a controlling magnet for said motor, a tap wire from said circuit on one side of said thermostat, and returning to said circuit on the other side of said thermostat and including a magnet, contact points carried by said magnet and its armature, a branch from one leg of said circuit to said controlling magnet and to one of said contact points, and a second branch from the other leg of said circuit to the other of said contact points, a ground branch from said circuit, and a second ground branch including a thermostat, whereby said controlling magnet may be further energized, as and for the purpose described. 3rd. The combination, of a normally closed metallic circuit, a battery and thermostat therein, a ground branch from said battery, a motor, a controlling magnet for said motor, a tap wire from said circuit on one side of said thermostat, and returning to said circuit on the other side of said thermostat, and including a magnet, contact points carried by said magnet and its armature, electrical connections from said contact points to said controlling magnet, and a second ground branch from the metallic circuit, including a thermostat, whereby said controlling magnet may be further energized, as and for the purpose described. 4th. The combination, of a closed metallic circuit, including a thermostat, and a characteristic circuit breaker, a second characteristic circuit breaker insulated from the first, a motor for said circuit breakers, a controlling magnet, a tap wire from said circuit on one side of said thermostat and returning to said circuit on the other side of said thermostat and including a magnet and said second current breaker, contact points carried by said magnet and its armature, a branch from one leg of said circuit to said controlling magnet, and to one of said contact points, and a second branch from the other leg of said circuit to the other of said contact points, as and for the purpose described. 5th. The combination, of a closed metallic circuit including a thermostat, a characteristic circuit breaking device, and a receiving instrument, a second characteristic circuit breaking device insulated from the first, a motor for said circuit breaking devices, a controlling magnet, a tap wire from said circuit on one side of said thermostat, and returning to said circuit on the other side of said thermostat, and including a magnet and said circuit breaking device, circuit points carried by said magnet and its armature, a branch from one leg of said circuit to said controlling magnet and to one of said contact points, and a second branch from the other leg of said circuit to the other of said contact points, as and for the purpose described. 6th. The combination, of a closed metallic circuit including a series of thermostats, a series of circuit breaking devices and a receiving instrument, a series of tap wires, each extending from said circuit on one side of a group of thermostats, and returning to said circuit on the other side of said group of thermostats, and each including a magnet, and one of said circuit breaking devices, a motor for said circuit breaking devices, a controlling magnet, contact points carried by each of the magnets in the tap wires and its armature, a branch from one leg of said circuit to the controlling magnet and to one of the contact points, and a second branch from the other leg of said circuit to the other of said contact points. 7th. The combination, of a closed metallic circuit including a thermostat, a tap wire from said circuit on one side of said thermostat, including a magnet, and returning to said circuit on the other side of said thermostat, contact points carried by said magnet and its armature, a motor, a controlling magnet therefore, electrical connections for said contact points to said controlling magnet including a switch, means whereby said motor may open said switch, a ground branch, a contact point upon which said switch is moved, and a second ground branch from said contact point, whereby the controlling magnet may be demagnetized and then further energized, as and for the purpose described. 8th. The combination, of a closed metallic circuit including a thermostat, a tap wire from said circuit on one side of said thermostat, including a magnet, and returning to said circuit on the other side of said thermostat, contact points carried by said magnet and its armature, a motor, a controlling magnet therefore, a branch from one leg of said circuit to said controlling magnet and to one of said contact points, and containing a switch, a second branch from the other leg of said circuit to the other of said contact points, means whereby said motor may open said switch, a ground branch, a contact point upon which said switch is moved, and a second ground branch from said contact point, as and for the purpose described. 9th. The combination, of a normally closed metallic circuit, a battery and thermostat therein, a ground branch from said battery, a shunt around thermostat including a magnet, a motor, a controlling magnet, contact points carried by said first named magnet and its armature, a branch from one leg of said circuit to said controlling magnet and to one of said contact points, and including a switch, a second branch from the other leg of said circuit to the other of said contact points, means carried by said motor and adapted to move said switch, a contact point upon which the switch is moved, and a normally open branch from said last named contact point to the ground, including a thermostat, as and for the purpose described. 10th. The combination, of a normally closed metallic circuit, a battery, receiving instrument and thermostat therein, a ground branch from said battery, including a receiving instrument, a shunt around said thermostat, including a magnet, a circuit breaking de-

vice in said closed circuit, a motor, a controlling magnet, contact points carried by said first named magnet and its armature, a branch from one leg of said circuit to said controlling magnet and to one of said contact points, and including a switch, a second branch from the other leg of said circuit to the other of said contact points, means carried by said motor and adapted to move said switch, a contact point upon which the switch is moved, and a normally open branch from said last named contact point to the ground, including a thermostat, as and for the purpose described. 11th. The combination, of a normally closed metallic circuit, a battery, a receiving instrument and a series of thermostats in said circuit, a ground branch from said battery including a receiving instrument, a series of circuit breaking devices, a series of shunts one around each group of thermostats and each including a magnet and one of said circuit breaking devices, a motor, a controlling magnet, contact points carried by each of said first named magnets and its armature, a branch from one leg of said circuit to said controlling magnet, and one of the contact points of each of said first named magnets and including a switch, a second branch from the other leg of said circuit to the other of said contact points of each of said first named magnets, means carried by said motor and adapted to move said switch, a contact point upon which the switch is moved, and a normally open branch from said last named contact point to the ground, including a thermostat, as and for the purpose described. 12th. The combination of a closed metallic circuit, including a battery, a receiving instrument, a thermostat, a series of characteristic circuit breakers, insulated from one another, a shunt around said thermostat and including one of said circuit breakers, a branch from said battery to the ground, including a receiving instrument, a second branch from said circuit between the circuit breakers to the ground, normally open and including a thermostat, as and for the purpose described. 13th. The combination of a closed metallic circuit, including a receiving instrument and a battery, a branch from said battery to the ground, including a receiving instrument, a plurality of characteristic circuit breakers in said circuit, a motor therefor, a second branch from said circuit between the circuit breakers and the ground, normally open and including a controlling magnet for said motor, and a thermostat for closing the last named branch, as and for the purpose described. 14th. The combination of a closed metallic circuit, including a battery, a branch from the battery to the ground, including a receiving instrument, a normally open branch from said circuit to the ground, including a thermostat, a circuit breaker, a motor, a controlling magnet, a relay in one leg of said metallic circuit, and contact points adapted to be closed when the circuit is broken, connections from one contact point to the controlling magnet, to the circuit breaker and to the other leg of said circuit, and connections from the other contact point to said normally open ground branch, as and for the purpose described. 15th. The combination of a closed metallic circuit, including a battery, a branch from the battery to the ground, including a receiving instrument, a normally open branch from the circuit to the ground, including a thermostat, a circuit breaker, a motor, two controlling magnets therefor, two relays, one in each leg of said metallic circuit, and contact points adapted to be closed when the circuit is broken, connections from one contact point of the first relay to one controlling magnet, to the circuit breaker and to the opposite leg of the circuit, and similar connections from one contact point of the other relay to the other controlling magnet, to the circuit breaker, to the opposite leg of the circuit, and connections from the other contact points to said normally open branch, as and for the purpose described. 16th. The combination of a closed metallic circuit, a receiving instrument and a thermostat therein, a normally open ground branch from said circuit, a thermostat and an alarm therein, a second ground branch from circuit and a receiving instrument therein, and a characteristic circuit breaker in each leg of said circuit on either side of the connection therewith in the second ground branch, whereby the same characteristic signal is received upon both receiving instruments and upon the alarm, as and for the purpose described. 17th. The combination of a closed metallic circuit including a thermostat, a motor, an indicator frictionally connector with said motor, a tap wire from said circuit on one side of said thermostat, and returning to said circuit on the other side of said thermostat and including a magnet, and a rod connected to the armature of said magnet and adapted to be moved thereby into the path of said indicator, as and for the purpose described. 18th. The combination of a closed metallic circuit including a thermostat, a receiving instrument, and a characteristic circuit breaker, a tap wire from said circuit on one side of said thermostat, and returning to said circuit on the other side of said thermostat, and including a second characteristic circuit breaker, and a motor for said circuit breakers, as and for the purpose described. 19th. The combination of a closed metallic circuit including a thermostat, a receiving instrument, and a characteristic circuit breaker, a tap wire from said circuit on one side of said thermostat, and returning to said circuit on the other side of said thermostat, and including a magnet and a second characteristic circuit breaker, and a motor for said circuit breakers, as and for the purpose described. 20th. The combination of a closed metallic circuit, including a series of thermostats and a receiving instrument, a series of circuit breakers, a motor therefor, a series of shunts, one around each group of thermostats, and each including one of said circuit breakers, as and for the purpose described. 21st. The combination of a closed metallic circuit including a series of

thermostats, a circuit breaker, and a receiving instrument, a series of additional circuit breakers, a motor for all said breakers, a series of shunts, one around each group of thermostats and each including one of said series of circuit breakers, as and for the purpose described. 22nd. The combination of a train of gear wheels, a pin in one of said wheels, a pin in another and a slower moving wheel, a lever having one end adapted to stand normally in the path of said first mentioned pin, a controlling magnet and connection between the armature of said magnet and said lever, whereby, when the magnet is momentarily energized, the lever is moved from the path of said first pin, and the train is released, and when the magnet is energized for a longer time, the end of the lever is held in the path of the second pin and the train is stopped, substantially as described. 23rd. The combination of a case having an aperture, a tube engaging said case, a disk secured to the tube with fusible solder, an insulated post formed with a shoulder, spring contact strips held in contact by the lower end of said post, and other spring contact strips held out of contact by the shoulder of said post, as and for the purpose described.

#### No. 39,542. File Cutting Machine.

(*Machine pour tailler les laines.*)

Julius Erlenwein, Edenkoben, Bavaria, German Empire, 29th July, 1892; 6 years.

*Claim.*—1st. In a file cutting machine, the mechanism for automatically feeding the file indicated by a screw spindle *n*, connected with the file table and rotated by the toothed wheel *x*, the rotation of which wheel is carried out by pawls with the aid of a lever *p*<sup>1</sup>, of a connecting rod 3, jointed to the link 36, by means of the socket joint 13, the nut 7, the shaft 32, and the discs 5 and 33, and of a crank lever 37, actuated by the driving shaft for the purpose of regulating the extent of the stroke of the pawls, and of obtaining coarse or fine cuts or serrations, substantially in the manner and for the purposes hereinbefore described. 2nd. In a file cutting machine, the mechanism for moving the chisel or cutter holder, automatically indicated by the arrangement of an adjustable pin *Q*, upon which the lever *P*, carrying the chisel is arranged to pivot the other end of the said lever *i. e.*, the end opposite that carrying the chisel being connected by a rod *R*, with two rings *U*, carrying a roller *W*, and clamping the driving shaft while the said roller enters when the driving shaft rotates a recess formed in the said shaft, so that the up and down motion thereby imparted to the lever carrying the chisel or cutter can be intensified by the springs *T*, *X*, substantially as described. 3rd. In a file cutting machine, the mechanism for pressing the file tightly upon the anvil, and for actuating the hammer indicated by a movable and adjustable lever *h*<sup>1</sup>, one end of which is connected with a pressure piece *r*<sup>1</sup>, while its other end is jointed by means of a rod *k*<sup>1</sup>, and a lever *h*<sup>2</sup>, with the axis *x*<sup>11</sup>, carrying the hammer, which axis is surrounded by springs and is furnished with a projection *z*<sup>1</sup>, actuated by the cam *x*<sup>1</sup>, mounted on the main shaft, substantially in the manner and for the purposes hereinbefore described.

#### No. 39,543. Bicycle. (*Bicycle.*)

Frederick J. H. Hazard, Toronto, Ontario, Canada, 29th July, 1892; 6 years.

*Claim.*—1st. Two or more horizontal spring rods suitably connected to the rigid frame of a bicycle, and designed to form a spring support for the seat, substantially as and for the purpose specified. 2nd. Two or more horizontal spring rods connected to the rigid frame of a bicycle by means of pivot blocks or crank arms, in combination with a bifurcated standard connected to the spring rods and to the seat standard, substantially as and for the purpose specified. 3rd. Two or more horizontal spring rods *L*, each supported at its rear end by a block *M*, pivoted on the rear fork of the machine, and at its front end to a crank arm *O*, pivoted to the front portion *Q* of the frame, in combination with a bracket *K*, bifurcated standard *H*, bracket *C* and seat pillar *B*, substantially as and for the purpose specified. 4th. The seat pillar *B* passing through the bracket *C*, to which it is adjustably connected by means of the set screw *D*, a tube *E* connected to the bracket *C*, and movably fitted into the sleeve *F*, which is fixed to the backbone *G*, in combination with a bifurcated standard *H* connected to the seat pillar *B* by the bracket *C*, and to the spring rods *L* by means of the brackets *K*, substantially as and for the purpose specified.

#### No. 39,544. Sounding Board for Pianos.

(*Caisse de sonorité pour pianos.*)

Frederick Kaiser, Freiburg, Bade, German Empire, 29th July, 1892; 6 years.

*Claim.*—1st. For equalizing and strengthening the sound of pianos, the arrangement upon the rear side of the sounding board of a bar placed exactly opposite that which limits the length of the cord, substantially as described. 2nd. In pianos furnished with a bar, the arrangement of resounding pipes or tubes which are prolonged in accordance with the various sounds or notes to be emitted, substantially as described.

**No. 39,545. Condenser for Surfaces.***(Condensateur pour surfaces.)*

Gustave Hörner, Lubben, Prussia, German Empire, 29th July, 1892; 6 years.

*Claim.*—1st. The construction of the surface condenser claimed, consisting of separate rectangular boxes  $a^1, a^2, a^3$ , containing vertical chambers A, A<sup>1</sup>, D, E, F, G, and supplied in the interior with ribs  $c$ , through which circulates the steam, the feed water resulting from the condensed steam and the cooling means, respectively, substantially as described. 2nd. In an apparatus, as claimed, the application of an overflow pipe  $r$ , for the contact of the operation of the surface condenser, substantially as described.

**No. 39,546. Apparatus for Removing Coal.***(Transport à charbon.)*

James Mapes Dodge, Philadelphia, Pennsylvania, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. In an apparatus for removing coal or analogous material from a pile, the combination, of a horizontal conveyor trough, a conveyor therein, a pivot for said trough, mechanism for driving the conveyor, said conveyor trough being free to move laterally on its pivot, whereby it can be projected in a horizontal plane against and into the pile of material, so as to receive material by gravity from said pile, substantially as specified. 2nd. In an apparatus for removing coal or analogous material from a pile, the combination, of a conveyor trough constructed with one side open, a pivot for said trough, a conveyor in said trough and mechanism for driving the conveyor, the whole being so arranged that the trough can be moved on its pivot against and into the pile in a plane, substantially the same as that of the base of said pile, whereby the material is induced to flow by gravity into the trough and is carried lengthwise therein by the conveyor to the pivot point, substantially as set forth. 3rd. The combination, in an apparatus for removing coal or analogous material from a pile, of a receiving trough, a fixed vertical pivot therefor, a supplementary open sided conveyor trough, a vertical pivot connecting the two troughs, conveyors in said troughs, and mechanism for operating said conveyors, whereby the receiving trough can be moved laterally on the fixed pivot toward and into the pile, and the supplementary trough can be moved laterally on its pivot independently of the receiving trough, but in the same plane, substantially as described. 4th. In an apparatus for removing coal or analogous material from a pile, the combination, of the vertically pivoted conveyor trough, the supplementary trough joined thereto, both troughs being open at their sides to receive the material, conveyors adapted to said troughs, and mechanism for operating said conveyors, substantially as and for the purpose set forth. 5th. In an apparatus for removing coal or analogous material from a pile, the horizontal conveyor trough, a vertical pivot therefor, and conveyors therein, said conveyor trough being free to move sidewise in a horizontal plane against and into the pile, in combination, with an elevating conveyor at the discharge end of the pivoted conveyor, and from which it receives the material and carries it above the level of the terminal point of said pivoted conveyor, substantially as specified.

**No. 39,547. Generator for Steam.***(Générateur à vapeur.)*

John Isaac Thornycroft, Chiswick, Middlesex, England, 30th July, 1892; 6 years.

*Claim.*—1st. In a steam generator, the combination of a steam collector and separator, a main water vessel in communication therewith, a supplementary water vessel in communication with said main water vessel, and bent tubes connecting each of said water vessels, with the top of said steam collector and separator, and arranged to form the top and sides of a fire box, the tubes forming one side of said fire box being arranged to form a tubulous wall, and some of the other tubes being arranged close together for the greater portion of their length to form inner and outer longitudinal tubulous close walls of a flue within which the remainder of said tubes are arranged, and bent at other parts to form inlet and outlet passages for hot gases to and from said flue, substantially as herein described. 2nd. In a steam generator, the combination of an upper steam collector and separator, lower main and supplementary water vessels in communication therewith, and bent tubes connecting the said water vessels with the top of said steam collector and separator, said tubes being arranged in four series so as to form two fire boxes between which the principal groups of tubes are located, substantially as herein described. 3rd. In a steam generator, the combination of a steam collector and separator, a main water vessel in communication therewith, supplementary water vessels in communication with said main water vessel, and bent tubes connecting each of said water vessels with the upper part of said steam collector and separator, and arranged to form the sides and tops of two fire boxes, and an intermediate smoke box. 4th. In a steam generator, the combination of a steam collector and separator, a water vessel in communication therewith, and two series of bent tubes arranged to connect said water vessel to the upper part of said steam collector and to form in conjunction with said steam collector and separator and water vessel, a smoke box, some of said tubes of each series being arranged close together for the greater part of their

length to form inner and outer longitudinal close tubulous walls of flues within which the other tubes of the series are placed, and the tubes forming said outer wall being bent at their lower ends to form inlets to the bottom of said flue, and the tubes forming said inner wall being bent at their upper ends to form outlets from the top of said flue into said smoke box, substantially as herein described. 5th. In a steam generator, the combination of a steam collector and separator, a main water vessel in communication therewith, supplementary water vessels in communication with said main water vessel, two fire boxes one at each side of the main water vessel, two series of bent tubes connecting the main water vessel with the upper part of said steam collector and separator, and arranged to form between them a smoke box or boxes, and two series of bent tubes connecting the supplementary water vessels to the upper part of the said steam collector and separator, the tubes in each of these latter series being arranged to form a single tubulous outer wall for one of said fire boxes, substantially as herein described. 6th. In a steam generator, the combination of a steam collector and separator, a main water vessel, supplementary water vessels in communication with said main water vessel, bent tubes connecting each of said water vessels with the top of said steam collector and separator, and arranged to form the sides and top of two fire boxes, and an intermediate smoke box, and return tubes connecting said steam collector and separator with said main water vessel, and extending downward through said smoke box, substantially as herein described. 7th. In a steam generator, the combination, of a steam collector and separator, a main water vessel, supplementary water vessels in communication with said main water vessel, bent tubes connecting each of said water vessels with the top of said steam collector and separator, and arranged to form the sides and top of two fire boxes and an intermediate smoke box, plates arranged longitudinally within said smoke box so as to divide the same into a central closed chamber and two other passages, and return tubes connecting said steam collector and separator with said main water vessel, and extending downwards through the central portion of said smoke box, substantially as herein described for the purposes specified. 8th. In a steam generator, the combination, of a steam collector and separator, a main water vessel 2, bent return tubes 5 connecting the two, fire grates 3, supplementary water vessels 2<sup>a</sup>, located at the outer sides of said fire grates, and connected to said main water vessel, tubes 4 and 4\*, connecting the said water vessels 2 and 2<sup>a</sup>, with the top of said steam collector and separator, some of said tubes 4 being arranged to form flues within which other of said tubes are located, and having inlets 9 at the bottom and outlets 10 at the top, and said tubes 4\* being arranged to form a single tubulous wall at the outer side of each fire box, a smoke box formed by and between said tubes 4, steam collector and separator 1, and main water vessel, and bent plates arranged longitudinally within said smoke box so as to divide the same into three parts, within the inner of which said tubes 5 are located, substantially as herein described.

**No. 39,548. Filter. (Filtre.)**

Edward Martin Knight, San Francisco, California, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. A filter consisting of asbestos, cloth or other fibrous material, and an exterior coating of filtering medium in the form of paste spread upon the cloth, and an interior cover of wire screen to uphold the medium, substantially as herein described. 2nd. A filter consisting of asbestos, cloth or other fibrous material, an exterior coating of filtering medium spread upon the cloth, and an interior rigid supporting screen over which the fibrous material is stretched and by which it is prevented from sagging, said inner supporting screen having projecting prongs over which the edges of the fibrous material are passed, whereby said material is secured, substantially as herein described. 3rd. In a filter, the foraminous plate or screen forming an interior rigid support for the filter bed, a filter bed composed of asbestos, cloth or other fibrous material stretched over the exterior of the screen, and having the edges projecting and folded over the edges of the screen, and folded metal plates adapted to clasp the edges of the cloth and screen, said plates being soldered or secured so as to retain the screen and cloth and form a tight joint between the edges thereof, substantially as herein described. 4th. A filter consisting of asbestos, cloth or other fibrous material, and an exterior coating of filtering medium in the form of paste spread upon the cloth, a rigid interior screen forming a back or support for the filter bed, over the edges of which the cloth is folded, clamping strips fitting over the folded edges of the cloth and soldered or secured so as to retain it stretched over the screen, and supplemental corner pieces or plates fitted upon the angles of the filter frame, substantially as herein described. 5th. In a filter, the exterior frame having the filtering sides, the supporting screens, and the diagonal plates upon which the screens rest, in combination with the tubular stay extending vertically through the filter frame and diagonal plates, and having the adjusting collars, whereby the stay is connected with both top and bottom of the frame and the central plates, so that the filter frame may be lifted without twisting it out of shape, substantially as herein described. 6th. In a filter, the filter frame having the diagonal and perforated bracing plates, the sides formed of screens supported upon the edges of the interior plates and hermetically secured to the edges of the frame, a fibrous filter bed stretched over said screen, having its edges secured thereto, and a coating of filtering material applied to the exterior

of the fibrous cloth in the form of a paste, in combination with an exterior casing for containing unfiltered water within which the filter frame is submerged, and a tubular stay extending through the filter frame from top to bottom, having perforations in the lower part within the filter frame, through which water may flow from the interior of the filter frame into the tube, a ground or rubber joint exterior to the lower part of the filter frame, through which the filtered water passes out, and a transverse brace fixed across the upper part of the casing and having a locking device which engages the upper end of the tubular stay, whereby the filter frame is prevented from rising and the joint at the lower end is kept tight, substantially as herein described. 7th. A filter consisting of an exterior casing, one or more filter frames having the filtering sides, interior screen supports for the said sides, and the plates upon which the screens are supported, a tubular stay extending through each of the filters, having a ground or rubber joint at the lower end, by which connection is made with the reservoir or receiver of the filtered water, openings in said tube near the bottom and interior of the filter frame, through which water escapes therefrom into the tube, and openings in the upper part within the filter frame through which air may be admitted from the upper end of the tube to aerate the filtered water, a transverse brace fixed in the upper part of the exterior casing, and adjusting nuts or collars fitted upon the tubular stay, so as to engage the brace and hold the filter frames in place within the casing, substantially as herein described. 8th. A filter consisting of an exterior casing, one or more filter frames having the filtering sides, through which the water passes from the exterior casing to the interior of the filter frames, and a pipe or passage through which the water escapes from the interior of said filter frames, in combination with a reservoir into which said pipes deliver the filtered water, a ground or rubber joint between the unfiltered and filtered water reservoirs, and a strengthening stay or support within the filtered water reservoir upon which the ground joint is fixed and supported, substantially as herein described. 9th. In a filter, a series of tanks set side by side and having the inclosing bands or bars, and connecting bolts whereby the sides of each tank are supported and a series of tanks connected together, substantially as herein described. 10th. In a filter, a series of tanks set side by side and united together, a common supply pipe having branch pipes with cocks delivering water into the bottom of each tank independently, other pipes connecting with the same inlet passages, and provided with cocks, and connecting with the common discharge pipe, through which the unfiltered water within any of the tanks may be discharged independent of the others, substantially as herein described. 11th. A filter, consisting of a series of tanks supported and united as shown, a common supply pipe having a branch pipe and cock opening into the bottom of each of the filtering tanks, discharge pipes connecting with the same openings and having cocks, and a common discharge pipe with which they are connected, pipes connected with the filter frames within the tanks, and a common receiving pipe for filtered water with which said pipes are connected, and cocks whereby any one or more of the filter chambers may be cut off from the receiving pipe, substantially as herein described. 12th. A filter, consisting of a series of tanks having interior filter chambers, pipes or passages leading from said interior chambers through the bottom or sides of the tanks and connecting with a common receiving and discharge pipe for filtered water, cocks whereby said pipes may be cut off from the common discharge pipe, and other pipes connecting with said discharge pipes and provided with cocks through which water may be drawn directly from any one or more of the filter chambers independently of the others whereby leakages may be detected and located, substantially as herein described. 13th. In a filter, having a supply and delivery chamber, a fixed filtering screen, and a removable filtering screen, said fixed and removable screens each consisting of an upper and lower foraminous plate and an intermediate fibrous material, and a flange or rim bent over the edges of the upper and lower plates and fibrous material, and inclosing said edges to prevent leakage, substantially as herein described. 14th. A filtering apparatus, consisting of the supply and delivery chambers, a filter composed of wire screens having a fibrous material clamped between them and a surrounding ring or flange whereby the parts are held together and leakage around the edges is prevented, a coating of filtering material spread upon the upper surface and in the interstices of the wire cloth, and a removable screen or guard above the filter, substantially as herein described. 15th. A filtering apparatus, consisting of the supply and delivery chambers, the intermediate filter consisting of disks of wire cloth with an intermediate fibrous material compressed between them, a removable screen consisting of similar disks of wire cloth with intermediate fibrous material and a rim or flange around the periphery of the disks, whereby the whole is clamped together, and a coating of filtering material in the form of paste spread upon the upper surface of the lower screen or filter, substantially as herein described. 16th. In a filter having a supply chamber, a chamber below the same made conical in form, and having a discharge pipe leading therefrom, fixed and removable screens above the conical chamber, and each consisting of a fibrous material compressed between an upper and lower foraminous disk, and a clamping flange surrounding the edges of both disks and fibrous material, whereby leakage at said edges is prevented, substantially as herein described. 17th. In a filter having removable independent chambers for unfiltered and filtered water, a hollow stand having an open top adapted to support the filtered water chamber, and to receive the discharge end of the unfiltered water

chamber, whereby the drip from the latter chamber is received into the base when the filtered chamber is temporarily removed, substantially as herein described. 18th. A filter frame having its front and rear sides provided with outwardly extending flanges, asbestos or fibrous material placed against said sides with its edges turned over the flanges, a clamping strip over the bent over edges of the asbestos or fibrous material whereby a water tight joint is formed, and a foraminous plate contiguous to the asbestos or fibrous material, substantially as herein described.

#### No. 39,549. Method of Making Beer.

(Méthode de fabrication de la bière.)

Charles Francis Lawton, Rochester, New York, U.S.A., 30th July, 1892; 6 years.

*Claim.* 1st. The improvement in the process of manufacturing beer, which consists in alternately passing through the fermenting liquid common air, and a mixture of carbon monoxide and nitrogen gases. 2nd. The improvement in the process of manufacturing beer, which consists in alternately passing through the fermenting liquid common air, and a mixture of carbon monoxide and nitrogen gases, and then passing the carbon monoxide and nitrogen mixture through a mixture of ferrous oxide and lime, for the purpose of enabling the gas to be used over again, for the purpose described.

#### No. 39,550. Method of Making Beer.

(Méthode de fabrication de la bière.)

Charles Francis Lawton, Rochester, New York, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. The improvement in the process of manufacturing beer, etc., which consists in raising the temperature of a body of air by highly compressing it, and confining it in this condition until the sterilization shall have been effected, and then cooling the air and injecting it into the wort, substantially as and for the purposes described. 2nd. In combination with a tun or vat, a compressed air receiver D, an air filter C containing an incombustible filtering material, a pump B connected with the filter, a non-conducting jacket surrounding the filter and receiver, and pipes connecting the receiver with the vats and with the filter. 3rd. In combination with the tuns or vats G, a pump or compressor B, and air filter C, and a receiver D for the compressed air, a coil or manifold E, a water supply f and a pipe K leading from the coil to the vats, all substantially as shown. 4th. In combination with an air pump or compressor B, and air filter A applied to the supply pipe thereof, an air filter C applied to the discharge pipe of the pump, a compressed air receiver D, a cooling coil or manifold connected with the receiver, the tuns or vats, and suitable connecting pipes.

#### No. 39,551. Dental Engine. (Engin dentaire.)

Carl Herman Seeger, Manitowoc, Wisconsin, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. In a dental engine, the combination, of a swinging bracket, a holder provided with bearings, a shaft arranged in the bearings, a dental tool flexibly connected to the shaft, a suitably arranged spring controlled plunger, a cord or analogous means extended along the bracket to unite said holder and plunger, and a belt and pulley gear for operating the tool shaft, substantially as set forth. 2nd. In a dental engine, the combination, of a swinging bracket, a counter-balanced holder provided with bearings, a shaft arranged in the bearings, a dental tool flexibly connected to the shaft, a suitably arranged spring controlled plunger, a cord or analogous means extended along the bracket to unite said holder and plunger, and a belt and pulley gear for operating the tool shaft, substantially as set forth. 3rd. In a dental engine, the combination, of a swinging bracket, a holder suspended from the bracket and provided with bearings, a shaft arranged in the bearings, a dental tool flexibly connected to the shaft, a pulley on the shaft, a counter shaft carried by said bracket and provided with a power transmitting pulley, a belt arranged on said pulleys, a tight pulley and two loose pulleys arranged on the counter shaft, a suitably arranged and driven double pulley, a straight belt normally connecting the double pulley and said tight pulley on the counter shaft, a crossed belt normally arranged to connect said double pulley and one of the loose pulleys on said counter shaft, a spring controlled sliding rod carried by the swinging bracket and provided with projections arranged to straddle said belts, a lever connected to the rod, a spring controlled plunger, and a cord or analogous means connecting the lever and plunger, substantially as set forth. 4th. In a dental engine, the combination, of a swinging bracket, a holder provided with bearings, a shaft arranged in the bearings, a dental tool flexibly connected to the shaft, a pulley carried on the shaft, a counter shaft carried by said bracket and provided with a power transmitting pulley, a belt arranged on said pulleys, a suitably arranged spring controlled plunger, a cord or analogous means extended along the swinging bracket to unite the holder and plunger, a spring controlled clutch lever pivoted to said frame in opposition to the latter and said belt, a cord or analogous means uniting the lever with the cord that connects said holder and plunger, and a belt and pulley gear for actuating said counter shaft, substantially as set forth. 5th. In a dental engine, the combination, of a shaft, a system of belts and pulleys arranged to actuate the shaft in either direction, a shifter for the belts, and a spring controlled plunger flexibly connected to the shifter, substantially as

set forth. 6th. In a dental engine, the combination, of a swinging bracket, a holder suspended from the bracket and provided with bearings, a shaft arranged in the bearings, a dental tool flexibly connected to the shaft, a pulley on said shaft, a counter shaft carried by said bracket and provided with a power transmitting pulley, a belt arranged on said pulleys, a clutch for the belt, and a spring controlled plunger flexibly connected to said holder and belt clutch, substantially as set forth. 7th. In a dental engine, the combination of a holder provided with bearings, a shaft arranged in the bearings, a dental tool flexibly connected to the shaft, and a tubular support for the flexible connection having a curved and flaring end, substantially as set forth.

**No. 39,552. Apparatus for Making Gas.**

(*Appareil de fabrication du gaz.*)

James Winants Tallmadge, Boston, Massachusetts, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. The combination, of a tank for containing an acid solution, and a dome disposed therein, provided at its top with an education gas pipe and a hand hole closed by a hand hole plate, said dome being open at the bottom to permit said solution to rise into the dome, and being provided with a perforated diaphragm disposed above the base of the dome for supporting metal to be acted upon by said solution. 2nd. The combination, of a tank for containing an acid solution, and a dome disposed therein, provided at its top with an education gas pipe, and a hand hole closed by a hand hole plate, said dome being open at the bottom to permit said solution to rise into the dome and being provided with lugs on its interior, a perforated diaphragm provided with notches and supported on said lugs for holding metal to be acted on by said solution.

**No. 39,553. Pessaries. (Pessaire.)**

Jason Samuel McCants, Talladego, Alabama, U.S.A., 30th July, 1892; 6 years.

*Claim.* The improved uterine supporter herein described and shown, consisting of the base H, having the horizontal perforations K, near their ends, the stem pivoted at its lower end on said base, the cup formed integral with the upper end of the stem, the elastic belt, and the straps secured to the belt and passing through the perforations K, as set forth.

**No. 39,554. Apparatus for Printing for the Use of the Blind. (Appareil pour imprimer à l'usage des aveugles.)**

Frederick William Smith, Brighton, Sussex, England, 30th July, 1892; 6 years.

*Claim.*—1st. An apparatus for the production of printing for the use of the blind, comprising an embossing wheel provided with blind characters, a stamp between which and the embossing wheel the paper to be printed is placed, an index plate having characters to be reproduced, an index arranged to move relatively to said index plate, and mechanism for operating said embossing wheel when said index is moved relatively to said index plate, substantially as herein described for the purpose specified. 2nd. In an apparatus for the production of printing for the use of the blind, the combination, with the embossing wheel and stamp, of an index plate, an index geared with the said embossing wheel and arranged to move relatively to said index plate, a carrier for the paper to be printed, and feeding mechanism for intermittently moving said carrier, substantially as herein described for the purpose specified. 3rd. In an apparatus for the production of printing for the use of the blind, the combination, with the embossing wheel, stamp, index and index plate, of a paper carrier, a rack secured thereto, a vertically movable slide arranged to be actuated simultaneously with said stamp, pawls pivoted to said slide and adapted to engage alternately with said rack, and a weighted arm arranged to bear on one or other of said pawls, substantially as described for the purpose specified. 4th. In an apparatus for the production of printing for the use of the blind, the combination of an embossing wheel, a stamp, an index plate, an index arranged to move in relation thereto, and geared with said embossing wheel, a carriage for the paper to be printed, a rack secured to said carriage, a sliding piece connected to the stamp, pawls pivoted to said sliding piece and each arranged to operate said rack and carriage at each downward movement of said sliding piece, a weighted arm adapted to bear on one or other of said pawls, and means for feeding the paper forward after the completion of each line of printing, substantially as described.

**No. 39,555. Apparatus for Supplying Electricity to Electrical Vehicles. (Appareil pour l'alimentation de l'électricité.)**

Frank Wynne, Westminster, Middlesex, England, 30th July, 1892; 6 years.

*Claim.* 1st. In apparatus for supplying electricity to electrically propelled vehicles, the combination of an insulated main conductor, a series of insulated road contacts, and a series of contact making devices, said road contacts being arranged one in advance of the other in the longitudinal direction of the road, and connected in pairs by conductors, each connected to a solenoid in the corresponding contact making device, substantially as herein described. 2nd.

In apparatus for supplying electricity to electrically propelled vehicles, the combination of an insulated main conductor, a series of insulated road contacts normally disconnected from said main conductor, arranged one in advance of the other in the longitudinal direction of the road, and connected in separate pairs by conductors, and a series of contact making devices each in circuit with one of said conductors connecting a pair of road contacts, substantially as herein described for the purpose specified. 3rd. In apparatus for supplying electricity to electrically propelled vehicles, the combination of an insulated main conductor, a series of insulated road contacts arranged one in advance of the other in the longitudinal direction of the road and connected in pairs by a conductor, a series of contact making devices each in circuit with the conductor connecting the corresponding pair of road contacts, a car motor, a motor contact, a battery on said vehicle, and contacts in connection with the poles of said battery, one of these latter contacts being arranged in advance of said motor contact, substantially as herein described for the purpose specified. 4th. In apparatus for supplying electricity to electrically propelled vehicles, the combination of an insulated main conductor, a series of insulated road contacts arranged one in advance of the other in the longitudinal direction of the road and connected in pairs by a conductor, a series of contact making devices each in circuit with the conductor connecting the corresponding pair of road contacts, a battery on said vehicle contacts connected to the poles of said battery, and arranged to travel in contact with said road contacts, and a car motor connected to one pole of said battery and to one of said contacts, and to a return conductor, substantially as herein described for the purpose specified. 5th. In apparatus for supplying electricity to electrically propelled vehicles, the combination of an insulated main conductor, a series of insulated road contacts arranged one in advance of the other in the longitudinal direction of the road and connected in pairs by a conductor, a series of contact making devices, each in circuit with the conductor connecting the corresponding pair of road contacts, a battery on said vehicle, a forward contact connected to one pole of said battery, rearward contacts connected to the other pole of said battery, a contact breaking device in the circuit between said forward contact and the battery, and adapted to break the circuit between the rearmost contact and said battery, and a car motor connected to one pole of said battery and to one of said contacts and to a return conductor, substantially as herein described for the purpose specified. 6th. In apparatus for supplying electricity to electrically propelled vehicles, the combination of an insulated main conductor, a series of insulated road contacts arranged one in advance of the other in the longitudinal direction of the road and connected in pairs each by a conductor, and a series of contact making devices, each comprising two solenoids in circuit with the conductor connecting two road contacts constituting a pair, an armature for each of said solenoids, an insulated movable contact piece, a lever carrying said armatures and contact pieces, and separate contacts connected to said solenoids and to said main conductor, and arranged in proximity to said contact piece, substantially as hereing described. 7th. In apparatus for supplying electricity to electrically propelled vehicles, the combination of an insulated main conductor, a series of insulated road contacts arranged one in advance of the other in the longitudinal direction of the road and connected in pairs each by a conductor, and a series of contact making devices, each comprising two solenoids in circuit with a conductor connecting two road contacts constituting a pair, an armature for each of said solenoids, an insulated movable contact piece, a lever carrying said armatures and contact piece, separate contacts connected to said solenoids and to said main conductor, and arranged in proximity to said contact piece, and a removable air-tight box or lid inclosing said solenoids, armatures, lever and contacts, and adapted to act after the manner of a diving bell, substantially as herein described for the purpose specified. 8th. In apparatus for supplying electricity, a contact or junction box comprising an inner air-tight box, having its upper part arranged to form part of the roadway, and to extend beyond the sides of the box, and an outer box or receptacle having its upper part enlarged to receive and support the top of said inner box, the enlarged part of said outer box or receptacle being directly supported by the roadway, substantially as herein described for the purpose specified.

**No. 39,555. Soldering Machine. (Appareil à souder.)**

Jacques Wehrin, Vevey, Switzerland, 30th July, 1892; 6 years.

*Claim.*—1st. A soldering iron or hammer of any suitable shape whatever, having the solder contained in a suitable cavity of itself, said solder being maintained fluid by heating the soldering iron by any suitable means, and means being provided to have the said fluid solder fed continuously or not upon the pieces which are to be soldered. 2nd. The soldering iron hammer or cylinder A, having a hole *a*, with sharp circular edges, in combination, with a rod *A*<sup>1</sup>, working like a valve to shut said hole *a*. 3rd. The combination, of the soldering iron hammer, or cylinder A, with suitable blow pipes B for the purpose of melting the solder contained in the hollow cylinder A. 4th. The combination, with the rod *A*<sup>1</sup>, of the bent arms V, of the cross piece V<sup>1</sup>, which are temporarily acted upon to allow the melted solder contained in the hollow cylinder A, to flow out of the opening *a*, substantially as shown and described. 5th. The combination, with the endless chains I and K, of the square bolts M, half cylindrical clutches O<sup>1</sup>, O<sup>2</sup>, provided with sliders P<sup>1</sup>,

P<sup>2</sup>, for the purpose of carrying the tubes N, which are to be soldered, between the half cylindrical pieces Q<sup>1</sup> and Q<sup>2</sup>, substantially as shown and described. 6th. The combination, of the endless chains I and K, with the projections *l*, *l'*, of the levers T, T', in view of temporarily lifting the rod or valve A<sup>1</sup>, as and for the purpose specified. 7th. The combination, of the cylindrical channel formed of the parts Q<sup>1</sup> and Q<sup>2</sup>, with a felt wheel R, wetted with chlorate of zinc or the like, as and for the purpose specified. 8th. The combination, of the chains I and K, and of the axis G and H, of the chain wheels G<sup>1</sup> and K<sup>1</sup>, with a loose disc V, bearing a chain wheel *r*, driven by means of an endless chain *r*<sup>1</sup>, by a fix chain wheel X, and provided with forked arms V<sup>1</sup>, as and for the purpose specified.

### No. 39,557. Electric Time Call.

(*Timbre horaire électrique.*)

Richard Varley, Jr., Englewood, New Jersey, and James Jones and James Jones, Jr., both of Brooklyn, New York, all in the U. S. A., 30th July, 1892; 6 years.

*Claim.* 1st. The combination, with a clock movement and an alarm, of a revolving circuit closing arm, contact pins for the same, an annunciator board and check holders adapted to receive several checks, and connected respectively with the contact pins and circuit wires, and a portable circuit, closing check adapted to be received by the check holder and to close the metallic circuit, so that the alarm is rung when the moving arm of the clock comes in contact with the pin at the designated hour, substantially as set forth. 2nd. The annunciator board having check holders, each adapted to the reception of a number of portable circuit closing checks, a clock movement, an alarm, and electric circuit and contact pins, and an arm actuated by the clock movement for closing the circuit and ringing the alarm through the agency of the circuit closing checks, substantially as set forth. 3rd. An annunciator board having contact strips 4, in combination with the separate check holders and circuit connections, and the circuit closing checks adapted to be placed on the holders to close the electric circuit by contact with the same and with the strips, substantially as set forth. 4th. The combination, with a time movement and a circuit closing arm, of a range of contact pins, a spring upon the end of the arm, and an annunciator and sliding check holders and circuit closing checks, substantially as set forth. 5th. The combination, with the annunciator board and the stationary contact strips 4, of the check holders and the portable circuit closing checks, such check holders being adapted to receive one or more of the circuit closing checks and an electric circuit closed by such checks, and an electric alarm mechanism connected with the check holders, substantially as set forth. 6th. The combination in an electric call, of a time mechanism and circuit closer revolving once each twelve hours, an annunciator or check board with circuit connections in two sections, an electric call or alarm and battery, and an electric switch and mechanism for moving the same at the end of each twelve hours to change the circuit connections to the respective sections of the annunciator or check board, substantially as set forth. 7th. The combination in an electric alarm mechanism, of a spring connected to one part of the alarm circuit, a check holder connected to the other part of the electric circuit, and checks adapted to be received by the check holder, after such check holder has been moved to close the electric circuit to the spring, substantially as set forth. 8th. The combination in an electric call, of a circuit closer revolved once in twelve hours, a switch for changing the circuit connections, a spring and pawl for moving the switch progressively, and a cam rotated each twelve hours and acting upon the pawl to give motion to the same and to cause the movement of the switch, substantially as set forth.

### No. 39,558. Store Service.

(*Mode de service des magasins.*)

William Robert Cole, Detroit, Michigan, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. In a store service apparatus of the kind described, a hanger or bracket, a two-rail elevated terminal track, and a lower guide rail, substantially as described. 2nd. In a store service apparatus, the combination, with the bracket or hanger, a wire track connecting the stations, a two-rail elevated track at said station, a lower guide rail, a starter sliding upon the wire track, and means, substantially as described, for propelling said starter, substantially as described. 3rd. In a store service apparatus, the combination, with the double elevated terminal track and the lower guide rail, of the propelling device consisting of the sliding starter secured to the cord, which passes at its forward loop over a wheel journaled between the elevated tracks and the guide rail, whereby all the horizontal portion of the said cord is between the upper tracks and the guide rail, substantially as described. 4th. In a store service apparatus, a hanger supporting a bracket, a head vertically adjustably secured to said bracket, and terminal tracks secured to said head, substantially as described. 5th. In a store service apparatus, the standard supporting clamping plates, of brackets secured between these plates, of a vertically adjustable head secured to the bracket, and terminal tracks secured to said head, substantially as described. 6th. In a store service apparatus, the combination of the following elements:—A standard, clamping plates supported by said standard, a bracket or brackets between said clamping plates, having forwardly projected arms, one of which is provided with a curved slot, of a two-rail

elevated track, a guide rail secured to the said head, and the propelling device for the carriage, substantially as described. 7th. In a store service apparatus of the kind described, a carriage having track wheels and lower guide wheels, of a guide rail at the terminal stations, with which said guide wheel is adapted to engage, substantially as described. 8th. In a store service apparatus of the kind described, in combination with the carriage having wheels of different diameters adapted to ride, respectively, upon the track rail and the elevated terminal guide rails, of a lower guide wheel on said carriage, and the incline at the upper end of the elevated tracks, whereby the track wheels are elevated from the wire track, and the guide wheel is engaged with the guide rail, substantially as described. 9th. In a store service apparatus, a carriage provided with wheels consisting of the central body and the extended circular flange *r*, the part being constructed and arranged substantially as described. 10th. In a store service apparatus, a carriage provided with wheels having side enlargements *s*<sup>1</sup>, substantially as described. 11th. In a store service apparatus, a carriage having a detachable cup or basket provided with pins, of a locking flange on the carriage having apertures to receive said pins, and a spring locking device consisting of a spring or springs having the depressed portion over the apertures, substantially as described. 12th. In a store service apparatus, in combination with terminal elevated tracks, of a track wire passing between and supported at or near the outer end of said tracks, in the aperture *h*<sup>1</sup> of the lugs *g*, and the depressions *h*<sup>2</sup> for the flanges of the wheel, substantially as described.

### No. 39,559. Bit Stock. (*Vilrequin.*)

Leonardo McMarsh, Spaulding, Nebraska, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. The stationary box provided with apertures at right angles to each other, and the chuck having a shank adapted to enter either of said apertures, in combination, with the rotary handle swiveled to said box and engaging and turning said chuck in either position, substantially as described. 2nd. The stationary box having an elongated bearing at its rear, and provided with two apertures at right angles to each other, one in its face opposite said bearing and the other in its side, and the rotary handle turning on said bearing, in combination, with a chuck having a shank adapted to enter either of said apertures and to engage with and be rotated by said handle in either position, substantially as described. 3rd. The stationary box B, having a hollow elongated bearing *b*, at its rear end and provided with two apertures Q, one in its face opposite said bearing and the other in its side at right angles thereto, and the handle A, bevel gear G, thereon, having hollow hub *g*, and a wrench having an enlarged head W, provided with a squared recess, the shank *w*, of said wrench fitting within said hollow bearing *b*, and hub *g*, and both being secured to said handle, in combination, with the chuck C, having a reduced shank C<sup>1</sup>, fitting loosely in either of said apertures Q, and squared at its ends to fit said squared recess in the wrench, and a bevel gear G<sup>1</sup>, on said clutch, adapted to mesh with said gear G, when the shank is inserted in the side aperture of the box, substantially as described. 4th. The stationary box D, having a hollow elongated bearing *b*, at its rear end, and provided with two apertures Q, one in its face opposite said bearing and the other in its side at right angles thereto, and the handle A, bevel gear G thereon, having hollow hub *g*, and a wrench having an enlarged head W, provided with a squared recess, the shank *w*, of said wrench fitting within said hollow bearing *b*, and hub *g*, and both being secured to said handle, in combination with the chuck C, having a reduced shank C<sup>1</sup>, fitting loosely in either of said apertures Q, and squared at its end to fit said squared recess in the wrench, and a bevel gear G<sup>1</sup>, on said chuck adapted to mesh with said gear G, when the shank is inserted in the side aperture of the box, and with a thumbscrew T, in one side of the said box provided with a rounded point *t*, engaging an annular groove *t*<sup>1</sup>, in said shank C<sup>1</sup>, substantially as described. 5th. The box B, having an elongated bearing *b*, the handle A, journaled upon said bearing, and the cap S, swiveled in one side of said box and having a squared recess in its inner face, said box having two recesses Q, one opposite said bearing, the other opposite said cap, in combination, with the chuck C, having a reduced shank C<sup>1</sup>, fitting either of said apertures Q, and squared at its end to fit said recess in the cap S, as and for the purpose described. 6th. A handle A, having a cavity in its face, the bevel gear G, having a hollow hub *g*, fitting said cavity, and a wrench having an elongated shank *w*, fitting within said hollow hub, said wrench also having an enlarged head W, in combination, with the pin *p*, passing through said handle, hub and shank, and with the box B, having a hollow bearing fitting within said hollow gear and swiveled upon said elongated shank *w*, and over said head W, as and for the purpose described. 7th. The handle A, carrying bevel gear G, wrench W, secured thereto and having a squared recess in its inner face, the box B, journaled upon said wrench, and the cap S, swiveled in the side of said box and having a squared recess in its inner face, in combination, with the chuck C, having a reduced shank C<sup>1</sup>, with squared end adapted to enter an aperture in the face of said box, and engage with said recess in the wrench, and a bevel gear G<sup>1</sup>, on said chuck adapted to engage said bevel gear G, when the shank C<sup>1</sup>, is passed into an aperture in the side of said box and its squared end seated in the recess in the cap, as and for the purpose described.

**No. 39,560. Method of Making Metal Tubes.***(Méthode de fabrication de tubes en métal.)*

John Earle and George Bourne, both of Birmingham, England, 30th July, 1892; 6 years.

*Claim.*—1st. The herein described improvement in the art of making metal tubes, consisting in bending a strip of metal into a skelp or tube, with the side or edge portions of the plate turned inward and so as to leave a space or cavity between them, placing solder within the said space or cavity, passing said skelp or tube through a brazing furnace, and finishing the tube thus formed by drawing, substantially as described and shown for the purpose specified. 2nd. The herein described improvement in the art of making metal tubes, consisting in bending a strip of metal into a skelp or tube, with the side or edge portions of the plate turned inward and so as to leave a space or cavity between them, one or both of said side or edge portions being arranged to extend longitudinally through the central portion of said skelp or tube, placing solder within the said space or cavity, passing said skelp or tube through a brazing furnace, and finishing the tube thus formed by drawing, substantially as described. 3rd. The herein described improvement in the art of making metal tubes, consisting in bending a strip of metal into a skelp or tube, with the side or edge portions of the plate turned inward and so as to leave a space or cavity between them, arranging a metal strip between said turned in portions, so as to extend across the central portion of said skelp or tube and longitudinally thereof, soldering said turned in portions to said metal strip, and finishing the tube thus formed by drawing, substantially as herein described. 4th. As a new article of manufacture, a metal tube having a strengthening rib or strip extending longitudinally through the central portion thereof, substantially as herein described.

**No. 39,561. Mill for Preparing Grain, etc.***(Moulin pour la préparation des grains, etc.)*

John Hyde Pendleton, Brooklyn, New York, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. In a mill, a receptacle caused to revolve, and means for rotating the receptacle about its own axis in the same direction as the direction of revolution, substantially as described. 2nd. A receptacle revolving about a fixed axis, combined with a stationary hopper arranged in line with said axis of revolution, and a feed pipe connected with said hopper, and having a portion rotating about said fixed axis, and a radial portion extending into and revolving with the receptacle, substantially as described. 3rd. The receptacle 5 mounted to rotate about a central axis, and provided with a series of compartments connected by contracted openings, means for causing the receptacle to revolve about a second axis, and a mechanism acting on the receptacle for controlling its motion about its central axis while revolving, substantially as described. 4th. In a mill, a receptacle caused to revolve, combined with a station gear concentric with the axis of revolution, a second gear on the receptacle, and an intermediate gear, all proportioned to hold the receptacle in a definite position while revolving, substantially as described. 5th. In a mill, two or more receptacles caused to revolve about a common axis, a stationary gear arranged concentric with the axis of revolution, gears attached to the several receptacles, and intermediate gears, all proportioned to hold the receptacles in certain definite positions, substantially as described. 6th. In a mill, a receptacle caused to revolve and held in a certain definite position by a stationary pulley or chain wheel arranged concentric with the axis of revolution, and a second pulley or chain wheel secured to the receptacle, and connected by a belt or chain with the first wheel, substantially as described. 9th. The receptacle 5 having the irregular form described, and provided with rough end portions 5<sup>a</sup>, combined with means for revolving the receptacle and controlling its position, the form of said receptacle allowing the material to fly off tangentially and against the roughened parts, substantially as described. 8th. In a mill, a receptacle for the material to be treated, crank shafts and cranks, the cranks pivoted to journals projecting from the receptacle, a driving pulley for rotating the crank shafts and revolving the receptacle, and an arm or arms projecting from the receptacle, and pivoted to a link or links pivoted to a fixed part, substantially as shown and described. 9th. In a mill, a receptacle for the material to be treated having a counterpoise attached, means for revolving the receptacle, and arm or arms projecting from the receptacle and pivoted to a link or links, pivoted to a fixed part, substantially as described. 10th. In a mill, a receptacle for the material to be treated, having counterpoise attached, crank shafts and cranks, the latter connected to journals projecting from the receptacle, a driving pulley for rotating the crank shafts and revolving the receptacle, and means for rotating the receptacle on the axis of the journals, substantially as shown and described. 11th. In a mill, a receptacle for the material to be treated having a balance weight attached, crank shafts and cranks, the cranks pivoted to journals projecting from the receptacle, a driving pulley for rotating the crank shafts and revolving the receptacle, and an arm or arms projecting from the receptacle and pivoted to a link or links pivoted to a fixed part, substantially as shown and described. 12th. In a mill, the combination of the frame 1, shafts 2, 2, cranks 3, 3, journals 4, 4, receptacle 5, provided with means for charging the material and for discharging

the same, and with lining 14, a balance weight 6, driving pulley 7, arms 8 projecting from the receptacle and pivoted to links 10 pivoted to fixed parts of the machine, substantially as and for the purpose specified. 13th. In a mill, the combination of frame 1, shafts 2, 2, cranks 3, 3, journals 4, 4, receptacle 5, provided with charging door 12, and discharging door 13, lining 14, counterpoise 6, driving pulley 7, and arms 8 projecting from the receptacle, and pivoted to links 10, pivoted to fixed parts of the machine, substantially as and for the purpose specified. 14th. The receptacle 5 provided with compartments opening in the partitions at alternate sides, means for causing the receptacle to revolve, and means for holding it in a fixed position with respect to its axis, substantially as described. 15th. A receptacle provided with an interior padding of soft material at its receiving end to avoid breakage of the grain while entering said receptacle, substantially as described. 16th. A bin for receiving the material discharged from the mill, having its walls or a portion of the same padded, substantially as described.

**No. 39,562. Nailing Machine. (Machin à clouer.)**

William Spencer Doig, Brooklyn, New York, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. In a nailing machine, the combination, with a circular column threaded for a hand wheel, of a hand wheel encircling this column, so as to turn on its screw thread, a platform having a hub surrounding and guided by said column and supported by the hub of said hand wheel, a nail box frame having a cross head and supported from said column, a nail box attached to said cross head, a punch carrying frame having a cross head and guided by said column, so that it can be reciprocated thereon, and a punch carried from the cross head of said punch carrying frame and located above said nail box, substantially as and for the purpose set forth. 2nd. A nail box for a nailing machine, consisting of a fixed and a movable jaw grooved on their adjoining faces, so as to form a channel for directing the nail, links hinged to the upper end of said fixed jaw and to the lower end of said movable jaw, and springs attached to both jaws, whereby they are drawn together, in combination with a punch for expelling and driving said nail from said channel, substantially as and for the purpose set forth. 3rd. A nail box for a nailing machine, consisting of a fixed and movable jaw grooved on their adjoining faces, so as to form a channel largest at its upper end and reducing with a uniform taper for guiding the nail, and springs for drawing the jaws together, in combination with a punch for expelling and driving said nail from said channel, and a supporting framework for the work and said fixed jaw, substantially as and for the purpose set forth. 4th. A nail box for a nailing machine, consisting of a fixed and movable jaw, an adjustable block set in said fixed jaw and grooved on its face opposite a corresponding groove on the adjoining face of the movable jaw, so as to form a channel for directing the nail, and springs for drawing the jaws together, in combination with a punch for expelling and driving said nail from said channel, substantially as and for the purpose set forth. 5th. In a nailing machine, a support for work, having two grooves at right angles to which they are adapted from their curved form and size to turn and clinch the points of the nails, as shown, and meeting in a ridge, in combination with a nail box located so as to direct the nails through the boards to be nailed together and in a line approximately intersecting the ridge formed by said adjoining grooves, a punch for expelling and driving said nails from said nail box, and a frame carrying said support for work and said nail box, substantially as and for the purpose set forth.

**No. 39,563. Clothes Drier. (Séchoir à linge.)**

Jehiel Franklin Wynkoop, Corsica, Pennsylvania, U. S. A., 30th July, 1892; 6 years.

*Claim.*—1st. The herein described clothes drier, consisting of the combination of the back B, the leaf L hinged thereto, the arms a pivotally connected to the leaf, the studded plate P for connecting said arms, the recess and socketed casting C fixed to the back and provided within its front wall with a slot, and the arm D hooked to the leaf, and provided with a cross head operating in the recess of said casting, substantially as and for the purpose set forth. 2nd. In the clothes drier described, the combination, with the extending arms a, respectively provided with the eyes b, of the cords c supported by said eyes, in the manner substantially as and for the purpose set forth. 3rd. In the clothes drier described, the combination, with the back B, and the hinged leaf L, of the casting C fixed to the back, as shown, and provided with the recess E, the extending recess or offset E<sup>1</sup>, and the face slot, the spring f, arranged within said casting recess, and of the arm D hooked to the leaf, and provided with the cross head V operating in said recess, in the manner, substantially as and for the purpose set forth. 4th. In the clothes drier described, the combination, with the back board B, having holes bored therein, as set forth, of the casting C, provided with the socket loops S, S<sup>1</sup>, arranged in the holes of said back, in the manner substantially as and for the purpose set forth. 5th. In the clothes drier described, the combination, with the leaf L, and the clothes supporting arms a, of the studded plate P, provided with the studs Z, Z<sup>1</sup>, arranged in corresponding holes of said arms, and the studs Z thereof arranged through holes of the leaf, and secured therein, by means of being riveted, thereby supporting said arms in the manner substantially as and for the purpose set forth. 6th. In

the clothes drier described, the combination, with the back and the leaf supporting arm pivoted to the leaf, and the arm guide fixed to the back of the leaf hinged to the back, and provided with the extending marginal hooks, substantially as set forth.

**No. 39,564. Method of Advertising.**

(*Méthode d'annoncer.*)

Horace Tassie Martin, Montreal, Quebec, Canada, 30th July, 1892; 6 years.

*Claim.*—1st. In combination, with a piece of cloth, texture or the like, a section thereof made easily detachable through lines of perforation in a ticket of gummed paper or the like, and adapted to contain an advertisement or to serve as a sample thereof, substantially as described. 2nd. In combination, with sheets or pieces of toilet paper, shaving paper, paper bags, paper boxes, and the like detachable section thereof, easily separated from the main tissue or body by lines of perforation or the like, substantially and for the purpose herein above described.

**No. 39,565. Machinery for Rolling and Expanding Metal Tubes.** (*Machine de laminage et expansion de tubes en métal.*)

Thomas Critchley Barraclough, London, England, 30th July, 1892; 6 years.

*Claim.*—1st. In machinery for rolling and expanding metal tubes, the combination, with a roller or roll mounted in fixed bearings, a roller or roll driven in the same direction as the first named roller, and mounted in movable bearings, said movable bearings being fitted in vertical guideways and normally forced towards said fixed bearings by powerful pressure, means for driving said rollers in the same direction, and means for forcing said movable roller towards said fixed roller, of a mandrel for carrying the tube to be operated upon adapted to enter between said rollers, and a mandrel and tube carriage revolvably supporting said mandrel and adapted to run said mandrel with the tube to be operated upon sideways into position between said lower and upper rollers, substantially as set forth. 2nd. In machinery for rolling and expanding metal tubes, the combination, with a roller or roll mounted in fixed bearings, a roller or roll driven in the same direction as the first named roller and mounted in movable bearings, said movable bearings being fitted in vertical guideways and normally forced towards said fixed bearings by powerful pressure, means for driving said rollers in the same direction, and means for forcing said movable roller towards said fixed roller, of a mandrel for carrying the tube to be operated upon adapted to enter between said rollers, a mandrel and tube carriage revolvably supporting said mandrel, and adapted to run said mandrel with the tube to be operated upon into position between said lower and upper rollers, and to maintain said mandrel there in position during the rolling operation, and a counterpoise arranged to lift said upper roller and its bearings when said pressure is removed, to permit insertion and withdrawal of said mandrel and tube, substantially as and for the purpose set forth. 3rd. In machinery for rolling and expanding metal tubes, the combination with the driven lower roller or roll  $d^1$ , mounted in fixed bearings, the upper roller or roll  $d$  rotating in the same direction as said roller  $d^1$ , movable bearings  $e$  for said upper roller, arranged to move in vertical guideways, and normally kept down by powerful pressure, means for driving said lower roller, means for forcing said movable roller towards said fixed roller, and a counterpoise tending to lift said movable roller, of the toothed wheel  $h^1$  on said lower roller, the toothed wheel  $i$  on an axis at one side of the axis of said lower roller and meshing with said toothed wheel  $h^1$ , and the toothed wheel  $h$  on said movable roller, and meshing with said toothed wheel  $i$ , whereby the rotation in the same direction as the roller  $d^1$  is transmitted from this roller through the toothed wheel  $i$  to the roller  $d$ , while the vertical movement of the latter under the influence of said counterpoise is permitted by reason of the relative location of its toothed wheel  $h$ , and the toothed wheel  $i$ , substantially as and for the purpose set forth. 4th. In machinery for rolling and expanding metal tubes, the combination with the lower roller or roll mounted in fixed bearings, and an upper roller or roll driven in the same direction as said lower roller, movable bearings in which said upper roller is mounted, means for driving said rollers in the same direction, vertical guideways for said movable bearings, and hydraulic cylinders normally exerting downward pressure on said movable bearings, of the counterweights  $s$ , levers  $s^1$ , carrying at their outer ends said counterweights, fulcrums  $t$  for said levers, links  $t^1$  engaging the other ends of said levers, lifting plates  $u$  to which said links are connected, and vertical rods  $v$ , connected to said plates  $u$  at one end and to said movable bearings at the other end, said parts constructed to transmit the counterpoising force of said counterweights  $s$  to said movable bearings for said upper roller, whereby when said hydraulic pressure is removed, the roller  $d$ , and its bearings  $e$ , are lifted, substantially as set forth. 5th. In machinery for rolling and expanding metal tubes, the combination with a lower roller or roll mounted in fixed bearings, an upper roller or roll driven in the same direction as said lower roller, movable bearings in which said upper roller is mounted, and which are normally kept down by powerful pressure, vertical guide ways for said movable bearings, means for driving said rollers in the same direction, and means for forcing said movable roller towards said fixed roller,

and a counterpoise adapted to lift said upper roller and its bearings when the downward pressure thereon is removed, of a mandrel for carrying the tube to be operated upon adapted to enter between said rollers, and a mandrel and tube carriage revolvably supporting said mandrel and adapted to run said mandrel with the tube to be operated upon sideways into position between said lower and upper rollers when the upper roller is lifted by said counterpoise, and to maintain it in position during the rolling operation, and while said upper roller is kept down by powerful pressure, and to withdraw it from position when said pressure is removed from said counterpoise again lifts said upper roller, said counterpoise constructed to permit the free operation of said mandrel and tube carriage sideways towards and from said rollers, substantially as set forth.

**No. 39,566. Machinery for Shaping and Preparing Metal Bodies.** (*Machine à façonner et préparer les corps en métal.*)

Thomas Critchley Barraclough, London, England, 30th July, 1892; 6 years.

*Claim.*—1st. In a machine for shaping metal bodies for barrels and other similar vessels, the combination, with a roller upon which the barrel body to be operated upon is loosely placed, and which has a longitudinal contour corresponding with that required in the finished body of a fulling roller adapted to come in contact with the barrel body, and having a reciprocating longitudinal traversing motion from the centre toward the two ends alternately of said barrel body, and of a screw and nut arranged to adjust and set up said fulling roller to its work on starting, and to rigidly maintain it at its work without further adjustment until the fulling process is completed, whereby said fulling roller imparts to said barrel body a contour corresponding with that of the roller which carries it, substantially as set forth. 2nd. In a machine for shaping metal bodies for barrels and other similar vessels, the combination, with a roller upon which the barrel body to be operated upon is placed, and a fulling roller adapted to come in contact with the barrel body, and having a reciprocating longitudinal traversing motion during which it acts upon said barrel body, of guide rollers adapted to come in contact with said barrel body, whereby its circular form is maintained during the shaping operation, substantially as set forth. 3rd. In a machine for shaping and finishing metal bodies for barrels and other similar vessels, the combination, with a roller upon which the barrel body to be operated is placed, and a fulling roller adapted to come in contact with the barrel body, and having a reciprocating longitudinal traversing motion during which it acts upon said barrel body, of finishing rollers adapted to come in contact with said barrel body, whereby any roughness or unevenness left on the barrel body after the action thereon of said fulling roller is removed, substantially as set forth. 4th. In a machine for shaping and flanging metal bodies for barrels and other similar vessels, the combination, with a roller upon which the barrel body to be operated upon is placed, and a fulling roller adapted to come in contact with the barrel body, and having a reciprocating longitudinal traversing motion during which it acts upon said barrel body and flange the same, substantially as set forth. 5th. In a machine for shaping and flanging metal bodies for barrels and other similar vessels, the combination, with a roller upon which the barrel body to be operated upon is placed, a fulling roller adapted to come in contact with the barrel body, and having a reciprocating longitudinal traversing motion during which it acts upon said barrel body, and flanging rollers adapted to come in contact with the ends of said body and flange the same, of conical rollers working in conjunction with said flanging rollers, and adapted to enter the corner formed underneath each flange, whereby said corner is sharpened, substantially as set forth. 6th. In a machine for shaping, finishing and flanging metal bodies for barrels and other similar vessels, the combination of the following rollers, substantially as set forth and shown, viz.: a roller upon which the barrel body to be operated upon is placed, a fulling roller adapted to come in contact with the barrel body and having a reciprocating longitudinal traversing motion during which it acts upon said barrel body, guide rollers adapted to come in contact with said barrel body and to maintain its circular form, finishing rollers adapted to come in contact with said barrel body and to remove any roughness or unevenness left thereon after the action of said fulling roller, and flanging rollers adapted to come in contact with the ends of said body and to flange the same. 7th. In a machine for shaping metal bodies for barrels and other similar vessels, the combination, with the roller  $a$ , upon which the barrel body to be operated upon is placed, of the movable cap  $f$ , fitting over one of the necks or journals of said roller, the rods  $c, c^1$ , attached to said cap and the hydraulic cylinder  $b$ , the piston of which is connected with said rods whereby said rods and said cap can be raised or lowered as required, and downward pressure can be brought upon the roller  $a$ , substantially as set forth. 8th. In a machine for shaping metal bodies for barrels and other similar vessels, the combination, with a roller upon which the barrel body to be operated upon is loosely placed, and which has a longitudinal contour corresponding with that required in the finished body, of a fulling roller adapted to come in contact with the barrel body, a carriage and carriage slides for said fulling roller, a hydraulic cylinder, piston and piston rod connected with said carriage and adapted to give to said

carriage and said fulling roller a reciprocating longitudinal traversing motion commencing at the centre of said barrel body and working right and left alternately towards the ends with a gradually increasing stroke, and a screw and nut arranged to adjust and set up said fulling roller to its work on starting, and to rigidly maintain it at its work without further adjustment until the fulling process is completed, all substantially as set forth. 9th. In a machine for shaping metal bodies for barrels and other similar vessels, the combination, with the reciprocating longitudinal traversing fulling roller *g*, and its carriage *h*, and carriage slides *t*, of the screw *m* and nut *n*, whereby said roller *g*, can be adjusted in a direction at right angles to the axis of the barrel body, substantially as set forth. 10th. In a machine for shaping metal bodies for barrels and other similar vessels, the combination, with the roller *a*, upon which the barrel body to be operated upon is loosely placed, and which has a longitudinal contour corresponding with that required in the finished body, and the fulling roller *g*, its carriage *h*, and carriage slides *l*, said fulling roller being adapted to come in contact with said barrel body and to act thereon with a reciprocating longitudinal traversing motion, of the copy or template *k*, having a curve corresponding with the longitudinal curve or belly of said roller *a*, whereby said fulling roller is caused to follow the same curve during its reciprocating longitudinal traversing motion, and thereby to produce a corresponding curve or belly of the barrel body, substantially as set forth. 11th. In a machine for shaping metal bodies for barrels and other similar vessels, the combination, with the reciprocating longitudinal traversing fulling roller *g*, of the guide rollers *o*, *a*, bracket *p*, and cross rail *g*, carrying said guide rollers, screws *r*, for adjusting said cross rail, and worm wheels *s*, *s*, and worm shaft *t*, for actuating said screws, substantially as set forth. 12th. In a machine for shaping and finishing metal bodies for barrels and other similar vessels, the combination, with the reciprocating longitudinal traversing fulling roller *g*, of the finishing rollers *u*, *u*, hydraulic cylinders *v*, the piston rods of said cylinder being connected to the bearings of said finishing rollers, whereby these rollers can be moved into contact or away from the barrel body as required, substantially as set forth. 13th. In a machine for shaping and flanging metal bodies for barrels or other similar vessels, the combination, with the flanging rollers B, B, of the worm shafts M, M, and worm sectors N, N, whereby said rollers can be moved radially, substantially as set forth. 14th. In a machine for shaping and flanging metal bodies for barrels and other similar vessels, the combination, with the flanging rollers B, B, adapted to be moved radially, of the slotted cross rail A<sup>1</sup>, along which said rollers can be adjusted in the direction which is parallel to the axis of the barrel body, slides H, H, adapted to move with said flanging rollers in the direction at right angles to the axis of the barrel body, and screws J, J, for moving said slides, substantially as set forth. 15th. In a machine for shaping and flanging metal bodies for barrels and other similar vessels, the combination, with the flanging rollers B, B, adapted to be moved radially, of the guide rollers *o*, *a*, adapted to be set up against the barrel body, and the guide rollers D, D, also adapted to be set up against the barrel body, substantially as and for the purpose set forth.

#### No. 39,567. Tablet for Letter Boxes, Etc.

(*Calepin pour boîte à lettres.*)

Jean Pape and Max Wermann, both of Dresden, Saxony, German Empire, 30th July, 1892; 6 years.

*Claim.*—1st. In an apparatus or appliance to be attached to doors, windows, letter boxes, and the like, for the purpose of enabling a person to write thereon and deposit therein a letter or message, the use of a revolving three or more sided drum automatically receiving consecutive plates or tablets upon one of its sides, presenting such to the person using the apparatus, and finally depositing said plate or tablet in a receptacle provided, substantially as described. 2nd. The apparatus or appliance for attachment to doors, windows, letter boxes, or other convenient objects or places, for the purpose of recording and receiving messages and the like, substantially as described.

#### No. 39,568. Machine for Nailing Boxes.

(*Machine à clouer les boîtes.*)

William Spencer Doig, Brooklyn, New York, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. The combination, in a box nailing machine, of the main frame, a table adjustable vertically thereon, a supplemental inclined table secured to the top of the vertically adjustable table, a slide adjustable along the inclined surface of the supplemental table, and box nailing mechanism located above both tables and having hammers reciprocating vertically toward and from them, substantially as set forth. 2nd. The combination, in a box nailing machine, of the main frame, a table adjustable vertically thereon, a supplemental inclined table secured to the vertically adjustable table, a slide adapted to move in a slot in the inclined surface of the supplemental table, a screw shaft extending through the screw threaded end of the slot and through a bracket on the inclined table, a hand wheel for operating the screw shaft and box nailing mechanism located above both tables, and having hammers reciprocating

vertically toward and from them. 3rd. In a box nailing machine, the combination, of a series of hammers having flanged heads, a grooved cross head in which the hammer heads are adapted to fit, a plate for holding the hammer heads in position on the cross head, and adjusting screws extending through vertical slots in this plate, whereby the plate may be lifted vertically and permit the removal of any one or all of the hammers, substantially as set forth. 4th. In a box nailing machine, the combination, in a nail box, of the pivoted jaws, springs for holding them together, and an open bearing for one of the jaws to prevent the clogging of nails in the box, substantially as set forth. 5th. In a box nailing machine, a nail conveyer consisting of the combination of an outer frame, an inner frame, cleats adjustably secured to the inner frame, plates secured to the cleats and the inner and outer frames, and devices for adjusting the inner frame relatively to the outer frame, substantially as set forth. 6th. In a box nailing machine, a nail conveyer having a nail channel, a vibrating stop V<sup>1</sup>, adapted to alternately open and close the channel, and a stop finger T connected with the frame of the conveyer and adapted to be moved into or out of said channel, substantially as set forth. 7th. The combination of a frame, a series of nail channels therein, a series of vibrating stops for alternately opening and closing the channels in the series, and a series of pivoted stop fingers secured to the frame and adapted to open and close said channels individually, substantially as set forth. 8th. The combination of a frame, a series of nail channels therein, and flanges below the channels with their inner ends diverging or flaring, substantially as set forth. 9th. The combination of a frame, a nail channel therein, a nail supply pan pivotally connected with said frame, supports for the front end of the frame, adjustable supporting rods for the rear ends of the frames, and flexible supports for the rear ends of the nail supply pans, the organization being such that the frames having the nail channels and the nail supply pans are adjusted vertically and simultaneously by the adjusting rods, substantially as set forth. 10th. In a box nailing machine, the combination of the nail supply pans, the hooks on the rear ends thereof, the rod extending through said hooks, the main driving shaft of the machine, and a flexible connection between the rod and the driving shaft, substantially as set forth. 11th. In a box nailing machine, the combination of two frames arranged one above the other, nail channels therein, means for independently raising and lowering said frames, means for opening and closing said channels, nail supply pans for the nail channels in the two frames, and means for actuating the nail supply pans, substantially as set forth. 12th. In a box nailing machine, the combination of two frames arranged one above the other, nail channels in these frames, means for independently raising and lowering said frames, nail supply pans for the channels in the two frames, the main driving shaft, flexible connections between the driving shaft and the nail supply pans, mechanism for automatically and independently opening and closing the nail channels, nail boxes, hammer mechanism, and conveyers for carrying nails from the nail channels to the nail boxes, substantially as set forth. 13th. In a nail supply pan, the combination of a fixed plate, an adjustable front plate, and a plate parallel with the fixed plate secured to the front plate and adjustable therewith, substantially as set forth. 14th. In a nail supplying pan, the combination of a fixed plate, an adjustable front plate, a plate parallel with the fixed plate secured to the front plate and adjustable therewith, and the bars u<sup>2</sup>, u<sup>4</sup>, on which the inner ends of the plate rest. 15th. In a box nailing machine, the combination, with a nail box, of two or more nail conveying pipes or tubes leading from separate nail channels to the nail box to carry nails of different sizes thereto, and means for feeding nails to the tubes, substantially as set forth. 16th. The combination of a series of nail channels, stops for opening and closing the front ends of these channels, a rod to which these stops are connected, a cam for operating the rod, and means for adjusting the cam to throw it into and out of operative connection with the rod, substantially as set forth. 17th. In a box nailing machine, the combination of the vertically reciprocating cross head and hammers, a series of nail channels, stops for opening and closing these channels, a rod to which the stops are connected, a cam for actuating this rod, connections between the cam and the vertically reciprocating cross head, and means for adjusting the cam relatively to the rod to throw it into or out of operative connection therewith, substantially as set forth. 18th. The combination of two separate sets of nail channels, two separate sets of stops for opening and closing these channels, rods to which these stops are connected, cams for operating these rods, means for operating the cam to actuate the stops for one set of channels, and connections between this cam and the cam which actuates the stops for the other set of channels, substantially as set forth. 19th. The combination of a nail channel, a pointer or finger for separating the nails in the channel, a hanger to which the pointer is secured, means for adjusting the pointer transversely to its axis in the hanger, and a bar to which the hanger is secured, substantially as set forth. 20th. The combination of a nail channel, a pointer, a hanger or frame in which it is mounted, a bar to which the frame or hanger is pivotally connected, and a spring for holding the hanger in its normal position, substantially as set forth. 21st. The combination of a series of nail channels, a series of pointers adapted to separate the nails in the channels, a reciprocating bar to which the pointers are connected, an arm engaging this bar to actuate it, a series of stops for opening and closing the nail channels, and a cam for actuating said stops, substantially as set forth. 22nd. In a box

nailing machine, the combination of a series of nail channels, a series of tubes to which nails from the channels are delivered, cross bars having recesses for supporting these tubes, and movable caps for holding the tubes in the recesses, substantially as set forth.

**No. 39,569. Method of Preparing Peat.**

(*Méthode de préparer la tourbe.*)

Jean Marie Anatole Gerard, Paris, France, 30th July, 1892; 6 years.

*Claim.*—1st. The method of treating and continuously drying peat, consisting in introducing the peat, as a homogeneous liquid paste, between two metallic bands, which circulate slowly over rollers, and convey it in a thin layer into all the parts of the apparatus, bringing it successively into connection with the draining and straining apparatus, then into contact, under pressure with absorbent fabrics, and finally into a drying and partially carbonizing stove, after which the dry peat is removed from the metallic band in order to be agglomerated, substantially as described. 2nd. The method of drying peat, consisting in bringing it in a thin layer into contact with endless absorbent webs circulating with it between pressure rollers, the webs being kept constantly dry in their transit by passing between pressure rollers, and through zigzag drying chambers into which a current of heated gas passes, substantially as described. 3rd. In apparatus for treating and drying peat, and in combination with metallic bands circulating over rollers, and inclosing the peat in a thin layer, means for draining and straining the peat consisting in causing it to circulate in a thin layer on a shaking trough, such as G, and on a suction apparatus, such as K, and between pressure rollers, such as I and J, substantially as described. 4th. In apparatus for treating and drying peat, and in combination with movable metallic bands, inclosing the peat in a thin layer, a drying arrangement consisting of absorbent endless webs L and M, circulating on one and the other part of the layer of peat contained between the metallic bands above named, and passing round pressure rollers N, the said absorbent webs being constantly dried during their transit by means of straining pressure rollers O and P, and stoves R and S, arranged internally with zigzags, substantially as described. 5th. In apparatus for the continuous treatment and drying of peat, the combination of disintegrating apparatus B, purifying apparatus C, endless metallic bands F and H, drainage apparatus, subjected to a series of shocks G, pressure rollers I and J, straining apparatus acting under suction K, endless absorbing webs travelling with the layer of peat between cylinders N, pressure rollers O and P, and zigzag stove chambers R and S, for the continuous drying of the absorbent webs, a circulating chamber U, for the partial carbonisation of the dry peat, revolving brushes X, for removing the peat from the moving metallic cloth, and, finally a pug mill Y, and a compressor, such as N, for agglomerating and moulding the peat into briquettes, as has been described above and shown on the annexed drawings.

**No. 39,570. Generator for Steam.**

(*Générateur à vapeur.*)

John Isaac Thornycroft, Church Wharf, Chiswick, Middlesex, England, 30th July, 1892; 6 years.

*Claim.*—1st. In a steam generator, the combination, of water chambers B, B, steam collector and separator C, groups of tubes D, arranged to form flues 14, and rows or walls of tubes 15, therein, and direct down take water tubes E, substantially as described for the purpose specified. 2nd. In a steam generator, a steam collector and separator comprising a vessel, to the upper side of which are connected steam generating tubes that are also connected to water vessels, and baffles or screens arranged opposite and below the outlet ends of said tubes and consisting of two or more curved plates extending longitudinally within the upper part of the said vessel, these plates being arranged a short distance apart so as to partly overlap one another, substantially as hereinbefore described for the purpose specified. 3rd. In a steam generator, the combination, of water vessels B, B, a steam collector and separator C, steam generating tubes D, arranged to form flues 14, and walls 13, 13<sup>a</sup> and 15, down take water tubes E, a furnace A, with fire brick sides A<sup>4</sup>, adapted to protect the water vessels B, from the direct heat of the fire, inclined refractory linings A<sup>1</sup>, A<sup>1</sup>, forming the ends of the furnace and carried by horizontal supports A<sup>2</sup>, and inclined supports A<sup>3</sup>, and outer casing F, and air chambers G and G<sup>1</sup>, between said outer casing and linings, and through which air can circulate, substantially as described and shown for the purpose specified. 4th. In a steam generator, the combination, of two water vessels B, B, connected to a steam collector and separator C, by two series or groups D, of connecting tubes, inclined refractory linings A<sup>1</sup>, arranged at the ends of the furnace and forming in conjunction with said two groups of tubes a fire box, return water tubes A, arranged at the front of the generator and connecting the steam collector and separator with the water vessels, and a triangular frame F\*, arranged to support the rear end of said steam collector and separator, and to connect the same and said water vessel together, substantially as described and shown. 5th. In a steam generator of the kind in which water chambers are connected to the steam collector and separator by two series of connecting tubes, an outer casing F, comprising end and intermediate portions, said end portions being each made in sections formed with flanges, adapted to be clamped within

bent covering strips, and being formed with bent over edges whereby they are supported by upward and outwardly extending flanges on the ends of the intermediate portion of said casing, substantially as described. 6th. In a steam generator of the kind in which two water vessels B, B, are connected to a steam collector and separator C by two series or groups D of connecting tubes arranged to form at each side of the fire box a flue having lower inlet openings and upper outlet openings, a steam pipe Q arranged to extend through one end of the generator and through which steam can be introduced into the fire box and thence into said flues, substantially as herein described for the purpose specified. 7th. In a steam generator of the kind in which two water vessels B, B, are connected to a steam collector and separator C by two series or groups D, of connecting tubes arranged to form at each side of the fire box a flue having lower inlet openings and upper outlet openings, the combination, with said steam collector and separator, of zinc plates 13 arranged within the same, and connected to metal distance strips 13<sup>a</sup>, the foremost of which is secured to the front end of said steam collector and separator, substantially as described for the purpose specified. 8th. In a steam generator, the combination, with two water vessels B, B, a steam collector and separator C, steam generating tubes D, a furnace A, and inclosing casing F, of non-return doors K, arms M fixed to a rock shaft N, with hand lever O, flexible connections L between said doors and arms, and a holding device O, substantially as herein described for the purpose specified. 9th. In a steam generator of the kind in which two water vessels B, B, are connected to a steam collector and separator C, by two series or groups D, of connecting tubes arranged to form at each side of the fire box, a flue having lower inlet openings and upper outlet openings, the combination with said water vessels, of a zinc plate or plates B<sup>1</sup>, supported at one end by a bent metal strip B<sup>2</sup>, and resting at the other end upon the bottom of said water vessel, substantially as described for the purpose specified. 10th. In a steam generator of the kind herein referred to, the combination, with the steam collector or separator, and each of its end covers, of a copper packing ring placed between the two, substantially as described for the purpose specified. 11th. The hereinabove described improved steam generator, comprising the furnace A, with fire brick sides A<sup>4</sup>, and end linings A<sup>1</sup>, water chambers B, B, combined steam collector and separator C, with baffles or screens comprising two or more longitudinal curved plates arranged a short distance apart, and so as to partly overlap each other, connecting tubes D forming close tubulous outer walls 13, 13<sup>a</sup>, with lower and upper openings D<sup>1</sup>, D<sup>2</sup>, flues 14 and rows of tubes 15, direct down take water tubes E, outer casing F, made in sections connected and arranged as described, air chambers G, G<sup>1</sup>, and support or frame F\*, substantially as described and shown.

**No. 39,571. Machinery for Moving Coal.**

(*Transport à charbon.*)

James Mapes Dodge, Philadelphia, Pennsylvania, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. In an apparatus for piling coal or analogous material, a sheer structure composed of legs arranged in respect to each other at or about the angle of repose of the material to be piled, and also arranged to span the pile to be formed, with a continuous forward feed conveyer carried by said sheer structure, and adapted to form the pile under the sheers, substantially as described. 2nd. In an apparatus for piling coal or analogous material, a conveyer support inclined at or about the angle of repose of the material to be piled, and fixed in this position, and an endless conveyer travelling on said support and provided with flights, the lower run of the conveyer being the elevating one, substantially as set forth. 3rd. The combination of a conveyer support extending upward at or about the angle of repose of the material to be piled, a movable bottom for varying the point of discharge, and a continuous forward feed conveyer for carrying the material up the inclined plane to the said discharge point, substantially as and for the purposes described. 4th. In an apparatus for piling coal or analogous material a stationary sheer structure composed of legs fixed in respect to each other at or about the angle of repose of the material to be piled, and also arranged to span the pile to be formed, masonry supports upon which the lower ends of the legs are fixed, and a continuous forward feed conveyer carried by said sheer structure and adapted to form the pile under the sheers substantially as described. 5th. The combination of a sheer structure composed of members upwardly inclined towards each other, and connected at the top, so as to form a mutual support, and leave a free and unencumbered space between said members, and a continuous forward feed conveyer supported throughout the length of its elevating portion by one of said members, the latter being open at the bottom to allow of the discharge of material from the elevating portion of the conveyer at advancing points beneath said supporting members, substantially as described. 6th. The combination of an inclined supporting structure having side plates and movable bottom with a continuous forward feed conveyer adapted to be supported throughout the length of its elevating portion by said structure, substantially as set forth. 7th. The combination of the sheers composed of legs inclined at or about the natural angle of repose of the material to be piled, and joined at their upper ends, with a conveyer arranged to carry the material to be piled up one of said legs, and means for connecting the lower parts of the legs together, substantially as set forth. 8th. The combination of the sheers having legs inclined at or about the natural angle of repose of the ma-

terial to be piled, and joined at their upper ends, an inclined plane on one of said legs, and a continuous forward feed conveyor for carrying the material on this incline plane to a point of discharge, substantially as set forth. 9th. The combination of the sheers composed of legs inclined at or about the natural angle of repose of the material to be piled, a wheel at or about the junction of the two legs, a wheel at the base of one of said legs, an endless chain conveyor, flights thereon, and a guide supported by the leg for the return run of the endless chain, substantially as specified.

**No. 39,572. Hobby Horse.** (*Cheval à bascule.*)

Martin Bohlig, St. Paul, Minnesota, U. S. A., 30th July, 1892; 6 years.

*Claim.*—1st. A self propelling hobby horse consisting of a base A mounted upon carrier wheels, boards D or M supporting a seat and hinged to said base, a spring E on springs E<sup>1</sup>, E<sup>2</sup>, interposed between said boards and the base, a clutch upon one of the axles of said carrier wheels, a spring connecting said clutch and said base, and a strap connecting said boards or seat and said clutch, whereby motion imparted to said boards causes said base and its attachments to be moved forward in successive movements, substantially as and for the purpose set forth.

**No. 39,573. Gas Lamp.** (*Lampe à gaz.*)

Fritz Stellwag, Berlin, Prussia, German Empire, 30th July, 1892; 6 years.

*Claim.*—1st. A burner of annular shaped form, the area of which widens gradually towards the outlet in proportion to the increasing volume of the gas, for the purpose specified. 2nd. The disposition of an annular widened space *a* in the burner into which the gas can be led directly without passing through an intermediate gas chamber, in combination with an annular space widening towards the outlet, substantially as set forth. 3rd. The disposition of an annular widened space *a* in the burner, and of an annular body *b*, divided by a number of small flues for the passage of the gas, in combination with an annular free space widening towards the outlet, substantially as above described. 4th. A burner provided with an annular free space widening towards the outlet in combination with one, two or more air heating chambers. 5th. A burner giving a flame burning from inside towards outside provided with an annular free space, widening towards the outlet, substantially as set forth and described.

**No. 39,574. Water Motor.** (*Moteur à eau.*)

John H. Hagerty, Lowell, Massachusetts, U. S. A., 30th July, 1892; 6 years.

*Claim.*—1st. The combination, with the float K, of the gooseneck M, adapted to be reciprocated in connection with the float K, and provided at its ends with a cupped collar, with the floats N, N<sup>1</sup>, their float rods *n*, n<sup>1</sup>, provided with eyes n<sup>2</sup>, carrying the clamps n<sup>3</sup>, and with the valve stem I<sup>2</sup>, passing through said clamps, and valves operated thereby, substantially as and for the purpose described. 2nd. In a water motor, the combination, with the float K, of an upwardly extending gooseneck attached to the said float, and having a cup I<sup>1</sup>, a water engine, its piston rod, a valve connected with the said piston rod, a valve stem I<sup>3</sup>, of the said water engine, a float having an upwardly extending stem provided with an eye surrounding said stem I<sup>3</sup>, and clamps n<sup>4</sup>, hinged to said eye and arranged to be engaged by said cup as the said float K rises or falls, substantially as set forth. 3rd. The combination, with the water engine, its valve stem I<sup>3</sup>, and a valve operated by said water engine, of a float having an upwardly extending stem provided with an eye surrounding said valve stem, the clamps hinged to said eye, and a float having a gooseneck provided with a cup to engage said clamps, substantially as set forth. 4th. The combination, with a float K, a water engine L, and the piston rod of the latter, of the engine valve stem I<sup>3</sup>, the clutches n<sup>4</sup>, the floats N, N<sup>1</sup>, by which said clutches are supported, a gooseneck M having a cup to operate said clutches, and a valve connected with the said piston rod, substantially as set forth.

**No. 39,575. Machine for Making Envelopes and for Placing Enclosures Therein.** (*Machine à faire des enveloppes et à y mettre ce qu'elles doivent contenir.*)

The National Mailing Machine Company, assignee of Timothy Stebbins and James R. McDonald, all of Chicago, Illinois, U. S. A., 30th July, 1892; 6 years.

*Claim.*—1st. The combination, substantially as hereinbefore set forth, with the creasing and folding apparatus in an envelope machine, of feed devices for delivering folded mail matter to the folding box after the creased envelope is deposited therein, and mechanism for closing the flaps of said blank down upon said matter. 2nd. The combination, substantially as hereinbefore set forth, with the envelope folding box and its plungers, of a table for supporting a stack of envelope blanks, a picker having gumming edge, devices for conveying said blanks one at a time to the folding box, and a carrier adapted to feed folded mail matter to said box and deposit it upon the blank. 3rd. The combination, substantially as hereinbefore set forth, with apparatus for creasing and folding envelope

blanks, of an intermittent rake or carrier acting immediately after the creasing mechanism, to deliver folded mail matter into the partially formed envelope. 4th. The combination, substantially as hereinbefore set forth, with apparatus for gumming, creasing and folding envelope blanks, of an intermittent rake or carrier acting immediately after the creasing mechanism, to deliver mail matter into the partially formed envelope, and endless belts or aprons for delivering such mail matter into the range of action of said rake. 5th. The combination, substantially as hereinbefore set forth, with apparatus for gumming, creasing and folding envelope blanks, of apparatus for folding circulars and other mail matter, and feed devices to which said apparatus delivers, arranged to carry the folded matter to the envelope folding box, and deposit it in the blank previously delivered thereto, prior to the action of the folding wings or lappers. 6th. The combination, substantially as hereinbefore set forth, of mechanism for folding circulars and similar mail matter, a creasing and folding box for envelope blanks, a carrier for delivering the folded mail matter thereto, and squeezing rolls acting upon such mail matter in its passage from the circular folding apparatus to the envelope folding box. 7th. The combination, substantially as hereinbefore set forth, with the squeezing rolls and the conveyor leading therefrom, and with the envelope creasing and folding box, of the circular folding bed, accessory folding devices, and the tucker arranged to sweep folded matter from said bed and into the grasp of the squeezing rolls. 8th. The combination, substantially as hereinbefore set forth, with apparatus for gumming, creasing and folding envelope blanks, of apparatus for folding circulars or other mail matter, a carrier to which it delivers and an immediate rake receiving from said carrier and delivering to the folding box after the creased envelope is deposited therein. 9th. The combination, substantially as hereinbefore set forth, with apparatus for gumming, creasing and folding envelope blanks, of apparatus for folding circulars or other mail matter, an intermediate carrier, and a cut-off arranged and actuated to temporarily stop and straighten said folded matter. 10th. The combination, substantially as hereinbefore set forth, with apparatus for gumming, creasing and folding envelope blanks, of apparatus for folding circulars and other mail matter, endless conveyor belts to which said latter apparatus delivers, a cut-off against which the belts carry the folded material, and a reciprocating rake taking said material from the cut-off and delivering to the envelope folding box. 11th. The combination, substantially as hereinbefore set forth, with the envelope folding box and the rake or conveyor for delivering mail matter thereto, of the cradle arranged and actuated to temporarily receive such matter about midway between the top and bottom of the box. 12th. The combination, substantially as hereinbefore set forth, with the envelope folding box, of the slatted flooring leading thereto, the conveyor belts delivering to said slatted flooring, the cut off and straightener playing through the interslated spaces of said flooring, the folding apparatus for mail matter delivering to the conveyor belts, and the reciprocating rake sweeping said floor from the conveyor to the folding box. 13th. The combination, substantially as hereinbefore set forth, with the envelope folding box and the apparatus for folding circulars, the conveyor belts leading from said apparatus, and the flooring leading from said belts to the folding box, of the sides to said flooring curved outwardly at their receiving ends, to form with said flooring a guide way or passage for the folded material. 14th. The combination, substantially as hereinbefore set forth, with the envelope folding box and the flooring which leads thereto, of the adjustable sides for said flooring. 15th. The combination, substantially as hereinbefore set forth, with the apparatus for folding circulars and other mail matter, of the horizontal conveyor belt or belts leading therefrom, and the guide way or passage to which they deliver, the twisted belt lying alongside of said horizontal belts and mounted upon a horizontal roll at the receiving end, and a vertical roll at the delivery end. 16th. The combination, substantially as hereinbefore set forth, with the circular folding apparatus and the envelope folding box, of the flooring leading to the latter, the adjustable sides or walls to said flooring, the conveyor belts receiving from the circular folding apparatus and delivering to said flooring and the twisted guide belt and its adjustable vertical pulley at the entrance to said flooring. 17th. The combination, substantially as hereinbefore set forth, with the twisted belt and the horizontal conveyor belts, the circular folding apparatus and the envelope folding apparatus, of the adjustable vertical pulley at the discharge end of said twisted belt. 18th. The combination, substantially as hereinbefore set forth, with the envelope folding box, the apparatus for folding circulars and other mail matter, the horizontal conveyor belts leading therefrom, and the walled flooring or guide way leading from said belts to the envelope folding base, of the twisted belt to one side of said horizontal belts, its horizontal and vertical end pulleys, and the intermediate vertical idle pulley. 19th. The combination, substantially as hereinbefore set forth, with the picker, of the reciprocating gum carriage, the distributing and gumming rolls carried thereby, the rack upon the frame, the pinion meshing with said rack, and the backing ratchet or one way clutch connecting said pinion to the gumming rolls whereby the latter is revolved in the movement of the carriage away from the picker, and is detached from its driving connection when moving towards and beneath the picker. 20th. The combination, substantially as hereinbefore set forth, with the picker and with the nipper carriage and nippers thereon, of the stripper plate and means whereby the stripper plate is brought beneath the gumming edges to detach the

blank therefrom after it has been lifted from the stack and seized by the nippers. 21st. The combination, substantially as hereinbefore set forth, with the picker, of the stripper plate, having outsetting lugs, the pins from said plate, the springs coiled around said pins and normally holding the plate above the plane of the gumming edges, the reciprocating carriage and the depressing fingers upon said carriage to act upon said lugs. 22nd. The combination, substantially as hereinbefore set forth, with the picker and the stripper plate having projecting lugs, of the nippers, the depressing fingers or stops engaging with the lugs of the stripper plate, and mechanism acting to give the picker an additional upward movement after the blank has been caught by the nippers and the depressing fingers have engaged the said lugs, whereby the gumming edges of the picker are caused to rise above the stripper plate that the gummed blank may be detached by the latter. 23rd. The combination, substantially as hereinbefore set forth, with the picker, and with the using and falling table supporting the stack of blanks, of actuating mechanism for the two operating to elevate both concurrently, but at a different speed, whereby the picker separates the top blank from the stack gradually. 24th. The combination, substantially as hereinbefore set forth, with the picker and the folding box and plunger, of the reciprocating nipper carriage having side bars moving past each end of said box, and nipper jaws above said side bars. 25th. The combination, substantially as hereinbefore set forth, with the picker and folding box and plunger, with the creasing frame or mouth at the top of said folding box, of the reciprocating nipper carriage having side bars embracing the ends of said creasing frame and flush with the top thereof, and the nipper over each of said side bars. 26th. The combination, substantially as hereinbefore set forth, with the picker and its tripper plate, and with the folding box and plunger, and creasing frame at the top of the folding box, of the reciprocating nipper carriage having side bars embracing the ends of said creasing frame and flush with the top thereof, the nippers over each of said side bars, and the depressing fingers or stops above the nipper jaws arranged to engage with the stripper plate when the nippers are depressed. 27th. The combination, substantially as hereinbefore set forth, with the picker, of a detachable gumming edge for the seal flap of the envelope blank, the folding box and its lappers, and means whereby the seal flap lapper may be caused to act in advance of, or later than, the back flap lapper. 28th. The combination, substantially as hereinbefore set forth, with the picker, of a detachable gumming edge for the seal flap of the envelope blank, the folding box, and its lappers, and a cam for the seal flap lapper, having a detachable section whereby said lapper may be caused to act in advance of, or later than, the back flap lapper. 29th. The combination, substantially as hereinbefore set forth, of the reciprocating nipper carriage, the nippers mounted thereon, the springs normally holding the nippers open, the cam shafts and cams, whereby they are closed, the crank arm from said cam shaft, and the reciprocating trip rod and its tappets, whereby the cam shaft is actuated at the terminal of each reciprocation to carry the nippers down upon the blank when the carriage reaches the picker and to open them when the carriage has conveyed the blank to the creasing box or mouth of the folding box. 30th. The combination, substantially as hereinbefore set forth, with the picker, the folding box and plunger, and with the reciprocating nipper carriage, of the stationary stops at the rear of the folding box, and the vibrating tucker or placer fingers at the front thereof to properly position the blank for the action of the plunger. 31st. The combination, substantially as hereinbefore set forth, with the picker, the folding box, and plunger, and the lappers for folding the envelopes, of the reciprocating nipper carriage, the nippers carried thereby, the slatted flooring at the rear of the folding box, and the rake mounted upon the nipper carriage and sweeping said flooring in its forward movement to convey mail matter to the folding box. 32nd. The combination, substantially as herein set forth, with the picker, the folding box and plunger, of the reciprocating nipper carriage, the nippers mounted thereon, the cam shaft and cams whereby they are closed, and the springs whereby they are held open, the reciprocating trip rod acting upon an arm from the nipper cam shaft, the vibrating rake mounted in bearings supported by the nipper carriage, the crank arm from the rake shaft and the link connecting said arm with an arm from the nipper cam shaft, whereby both the rake and the nippers are operated by the trip rod. 33rd. The combination, substantially as hereinbefore set forth, with the vibrating rake upon the reciprocating nipper carriage, and with the slatted flooring which it traverses or sweeps, of the vibrating cut-off beneath said flooring, with its fingers arranged to be projected through the interslatted spaces, and the trip rod having tappets to open and close the rake and a lug to lift the cut-off. 34th. The combination, substantially as hereinbefore set forth, with the nipper cam shaft, the rake and the cut-off, of the stops upon the bridge of the nipper carriage. 35th. The combination, substantially as hereinbefore set forth, with the folding box and its stationary stops, of the tucker shaft and its crank arm, and the trip rod and its lug, whereby the tucker is opened and closed at proper intervals. 36th. The combination, substantially as hereinbefore set forth, with the folding box and its reciprocating platen, of the chute, and the ejector fingers pivoted to said platen, and means whereby said fingers are raised from the platen as it reaches the head of the chute to discharge the envelope. 37th. The combination, substantially as hereinbefore set forth, with the folding box and the platen, of the chute, the vibrating dumping box, its curved shield and the vertical belts to which the dumping box

delivers. 38th. The combination, substantially as hereinbefore set forth, with the folding platen and plunger, of lappers folding over the edge of said platen as a fulcrum, and forming the lower part of the folding box. 39th. The combination, substantially as hereinbefore set forth, with the tilting envelope dumping box, of the ejector fingers fixed to the frame and passing through slots in the dumping box when the latter is tilted to discharge its contents. 40th. The combination, substantially as hereinbefore set forth, with the envelope chute and the vertical belts delivering to the packing box, of the intermediate dumping box having fingers at its discharge edge which enter between the pulleys at the head of the adjacent set of belts. 41st. The combination, substantially as hereinbefore set forth, with the envelope folding box and conveyor or carrier, and devices for delivering folded circulars or similar mail matter thereto, of the presser fingers moving in succession through opposite sides of the box to lay the flap of the folded material smoothly therein. 42nd. The combination, substantially as hereinbefore set forth, with the folding box, of the pressing finger for the top flap of the folded mail matter therein, and a vibrating arm upon which it is pivoted, said finger having a cam outline as and for the purpose set forth. 43rd. The combination, substantially as hereinbefore set forth, with the folding box, the conveyor devices for supplying envelope blanks thereto, and devices for feeding folded inclosures to said blanks as they lie within the box, of the presser fingers entering through the sides of the box to lay the flaps of said inclosures alternately and the folding wings or lappers for the blanks, succeeding in action the movement of the presser fingers. 44th. The combination, substantially as hereinbefore set forth, with the folding box, and its lappers, of a cam for operating the lapper for the seal flap, provided with a detachable section whereby the time of movement of said lapper may be varied. 45th. The combination, substantially as hereinbefore set forth, with the folding box, and platen of folding wings or lappers arranged to vibrate on axes practically concentric with the upper edges of said platen when elevated. 46th. The combination, substantially as hereinbefore set forth, with the folding box, of lappers for the end flaps having curved slots described on an arc practically concentric with the upper adjacent edge of the platen when elevated, the pins taking into said curved slots, curved guideways into which the heel extensions of said lappers take and the reciprocating rods pivoted to said lappers between the guide ways and the slots. 47th. The combination, substantially as hereinbefore set forth, with the folding box and its lappers and with the platen, of an operating cam for said platen, having successive notches as described, whereby the platen is caused to fall slightly as the lappers come down and then raised against them. 48th. The combination, substantially as hereinbefore set forth, with the folding box and its platen and lappers, of a cam for actuating said platen, having successive notches as described, and detachable plates whereby the depth of said notches may be varied. 49th. The combination, substantially as hereinbefore set forth, with the envelope folding box, and devices for delivering folded circulars or inclosures thereto, of the cradle fingers reciprocating through said box about midway of its height, a cam for projecting them, and a spring for suddenly withdrawing them, as and for the purpose described. 50th. The combination, substantially as hereinbefore set forth, with the folding box and its platen, and the reciprocating standard upon which said platen is mounted, of the independently reciprocating plunger and the yielding connection between said platen and standard, whereby the platen may yield before the descending plunger, and accommodate itself to the varying thickness of material. 51st. The combination, substantially as hereinbefore set forth, with the folding box and its platen and with the plunger, of the standard for the platen, the rods or spindles connecting said platen to the standard and playing through the latter, the coiled springs interposed between the platen and standard, and the adjusting nuts on the rods whereby the normal height of the platen may be positively varied. 52nd. The combination, substantially as hereinbefore set forth, with the plate which supports the stack of envelope blanks, of posts and dividing spurs arranged to come in contact with the gummed edges of the back flap about midway of their length, said spurs being upwardly beveled. 53rd. The combination, substantially as hereinbefore set forth, with the plate which supports the stack of envelope blanks, of the posts vertically slotted on the sides adjacent to the stack, the spindles playing in said posts, and the upwardly and outwardly beveled spurs playing through the slots therein. 54th. The combination, substantially as hereinbefore set forth, with the plate which supports the stack of envelope blanks, of stops for the rear edges of the blanks arranged to come on each side of the centre thereof, pivoted spring gates, and means for locking said gates against movement on their pivots when closed. 55th. The combination, substantially as hereinbefore set forth, with the plate which supports the stack of envelope blanks, of the pivoted spring gates having heel extensions, and a removable hooked link connecting said heel extension. 56th. The spring gate F', composed of a series of flat fingers  $f^1$  turned downward at their outer ends to prevent the blanks from catching between them. 57th. The combination, substantially as hereinbefore set forth, with the envelope folding box and its lappers and with the plunger, of devices for supplying envelope blanks to said box, devices for supplying folded inclosures thereto, and alternately acting pressers for the flaps or flaps of said inclosures, whereby they are laid flat before the action of the lappers upon the envelope blank.

**No. 39,576. Machinery for Decorticating and Disintegrating Grain.** (*Machine pour décortiquer et désagrèger de grain.*)

Achille Vansteenkiste, assignee of François Quéhéhen, both of No. 7 Alle Verte, Brussels, Belgium, 30th July, 1892; 6 years.

*Claim.*—1st. In a machine for decorticating or disintegrating grain, the use of cylinders having about three times the diameter of grinding cylinders heretofore employed, and by preference a diameter of 13½ inches and a length of 29½ inches, with a speed at least four times less than that at present employed, that is to say, about 70 revolutions per minute. 2nd. The construction of the sector S, cast in one piece, with the arms B, B', fixed on the shaft A', parallel to the shaft of the cylinder A, the sector being urged towards the cylinder by springs R, while the distance thereof from the cylinder being regulated by a screw spindle V, passing through a cross bar T, bearing on the arms B', and acted upon the nut V', of the spindle, by which arrangement an exact parallelism is maintained for the working faces, substantially as herein described. 3rd. The herein described form and arrangement of the grooves of the cylinder, in combination with the alternating ribs of the sector, which are twice the size of those of the cylinder, the said grooves and ribs being arranged in reversed positions, and forming an angle of about 40° with each other. 4th. Constructing the working surface of the sector of separate sections so as to facilitate the alternating position of the ribs and the adjustment and repair of the sections, substantially as herein described. 5th. The construction of a decorticating and disintegrating machine, combined and operating as herein described.

**No. 39,577. Generator for Steam.**

(*Générateur à vapeur.*)

John A. Snee, Charles T. Russell, William Guckert, James H. Canfield and John P. Nill, assignees of William Snee, all of Pittsburg, Pennsylvania, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. In a steam generator, the combination, with a casing, of a fire box located therein, a series of transverse combustion chambers, flues connecting the fire box with said combustion chambers and with one another, a series of feed water pipes arranged alternately upon opposite sides of the casing for supplying water from the boiler to the spaces intermediate the combustion chambers, and the boiler to the spaces intermediate the combustion chambers, and suitable pipes for conveying steam to the dome, substantially as described. 2nd. In a steam generator, the combination, with a casing of a fire box located therein, a series of transverse combustion chambers, said chambers consisting of two parts having flat sides and annular rims or peripheries, the latter provided with inwardly extending meeting flanges, flues connecting the fire box with said combustion chambers and with one another, a series of feed water pipes arranged alternately upon opposite sides of the casing for supplying water from the boiler to the spaces intermediate the combustion chambers, and suitable pipes for conveying steam to the dome, substantially as described. 3rd. In a steam generator, the combination of a boiler terminating in a forward reduced portion, of a fire box located within the rear of said boiler, transverse combustion chambers consisting of two parts having flat sides and annular rims or peripheries, the latter provided with inwardly extending meeting or peripheries, flues connecting the combustion chambers with the fire box flanges, flues connecting the combustion chambers with the fire box and with one another, heating compartments or auxiliary boilers intermediate said combustion chambers, curved feed water pipes for transferring the water from the boiler proper to the heating compartments, said pipes consisting of two sections having their ends secured to the casing of the generator and provided with a central joint, said pipe being arranged alternately upon opposite sides of the casing, and steam pipes for conveying the steam from the heating compartments to the boiler proper, substantially as set forth.

**No. 39,578. Method of and Apparatus for Producing Plastic Ornaments.** (*Méthode et appareil pour la production d'ornements en plâtre.*)

Jean Heckhausen and Weies, assignees of Jean Weies and Paul Gassen, all of Cologne, Prussia, German Empire, 30th July, 1892; 6 years.

*Claim.*—1st. A method of producing ornaments on prisms, bars, columns, rods and plates consisting in passing the work, either in its natural condition or when covered with plastic material, through rollers provided with raised and depressed portions, which rollers are placed at an angle to one another, rotate all in the same direction and inclose the piece to be operated upon, the rollers adjoining by one another and always meeting at the point of the angle formed by the same, substantially as described. 2nd. For carrying into practice the method indicated, a machine consisting substantially of several pressure rollers placed at suitable angles to one another, and a bottom roller capable of lateral adjustment on its spindle, carried in a frame capable of adjustment round a horizontal axle, raised and lowered by screws, substantially as described. 3rd. In a machine such as indicated, a ring 19, laterally adjustable on the bottom roller 8, engaging with a groove in the under side of the work 1, as and for the purposes hereinbefore described. 4th. In the machine characterized, the employment of a subsidiary rod or bar 40, of such action that it exactly fills the space between the

bottom roller 8, and the work 1, said subsidiary bar having at its underside a vertical groove 2, and on the top a perpendicular rod 19\*, and being so placed on the bottom roller 8, that both that bar and the work are together correctly passed through the machine, substantially as described.

**No. 39,579. Process for the Manufacture of Wooden Ornaments.** (*Procédé pour la fabrication des ornements en bois.*)

Otto Graetzer, Schlan, and Herman Schwarz, Prague, both in Bohemia, Austria, 30th July, 1892; 6 years.

*Claim.*—1st. A process for producing ornaments upon continuous cross cut wooden blocks of suitable length, consisting in cutting planks or boards lengthwise, in planing them on their cut surfaces with a serrated surfacer, in gluing them under hydraulic pressure, and in cutting them up into blocks or plates, superposed strips of veneer being glued crosswise upon the back of the said planks or boards, after which the latter are impressed under a powerful hydraulic pressure, substantially as described. 2nd. In the process claimed, the use of veneer instead of planks to produce inlaid ornaments, substantially as described. 3rd. In the process claimed, the use of embossed rollers with sharp raised edges for cutting out at the same time the ornaments formed, substantially as described. 4th. For the purpose of carrying out the process into practice, the use of an impressing machine consisting of a movable table C, supplied on both sides with the veneer plates required to be impressed, and of the two impressing rollers a and b, which have a suitable position relatively to the table and move uniformly with the latter, one of which rollers is movable in the pressure table, while the other moves in the plunger of a hydraulic press, substantially as described. 5th. In the machine claimed, the use of rotary brushes arranged before the rollers for the purpose of brushing the impressed ornaments, substantially as described.

**No. 39,580. Belt Fastener.** (*Agrafe-courroie.*)

The Steel Belt Fastener Company, assignee of Gilbert Patrick Kenehan, all of Cleveland, Ohio, U.S.A., 30th July, 1892; 6 years.

*Claim.*—A belt fastener having a body portion of varying transverse width, whereby the teeth on each edge are formed in two or more rows, and having plain teeth struck up directly from each of the opposite free edges of said body portion, and also provided with corrugated shoulders at the points of intersection of teeth and body portion, said body portion provided with corrugations immediately adjacent to and corresponding with the corrugated shoulders.

**No. 39,581. Method of Preparing Leather.**

(*Méthode de préparer le cuir.*)

Vincent Brosseau, Sherbrooke, Quebec, Canada, 30th July, 1892; 6 years.

*Claim.*—1st. The addition of linseed oil to the composition of the stuffing, as above described. 2nd. The process of working the stuffing in dry leather by high heat, substantially as described.

**No. 39,582. Compensator for Signal Rods.**

(*Compensateur pour tirants de signal.*)

Edwin Doorey, Peter Minehan, Charles Lodge, George Bonifacé and Samuel N. Allen, all of Townsville, Queensland, Australia, 30th July, 1892; 6 years.

*Claim.*—1st. In a compensator for signal rods, the combination, with a signal lever, such as B, of a sprocket or equivalent wheel, such as A, having its spindle squared or otherwise sided for a part of its length, in order that it may be secured in a fixed position by a suitable locking bar or bars, such as E, whilst the signal is being operated, substantially as specified. 2nd. In a compensator for signal rods, the combination, with a sprocket or equivalent wheel, such as A, of a locking bar or bars, such as E, figures 1 to 4, adapted to be raised by a projection or cam, such as e', on the upper surface of the stand, and having a slot, such as e', adapted to fit over the sided part, or one of the sided parts of the spindle of said sprocket or other wheel, substantially as specified. 3rd. In a compensator for signal rods, the combination, with a sprocket or equivalent wheel, such as A (journaled at or near the end of the horizontal part of a "cabin" lever), of a locking bar or bars, such as E, figures 10 and 11, pivoted to said lever and provided with a notch or recess adapted to fit over the sided part or one of the sided parts of the spindle of said sprocket wheel when the lever is moved to operate the signal, substantially as specified. 4th. In a compensator for signal rods, the combination, with a sprocket or equivalent wheel, such as A, (journaled at or near the end of the horizontal part of a "cabin" lever), of a locking bar or bars, such as E, figures 10 and 12, pivoted to said horizontal part of said lever, about midway between a slot or recess with which said locking bar is provided and its inner end, together with a stop piece or projection, such as e', adapted to raise said slot or recess out of engagement with the sided part of the spindle of the above-mentioned sprocket wheel when the lever is in its "off" position, substantially as specified. 5th. In a compensator for signal rods, the combination, of an arm or lever, such as m, figure 12, fulcrumed upon the semaphore post and having a weight, such as t, arranged to slide to and fro upon the said arm or lever, with a wire chain, or

rod, connecting the semaphore with the signal lever, a weight, such as D, upon the end of the said wire, chain, or rod, and means, such as those herein described, whereby said wire, chain, or rod, is automatically disconnected from said lever, the whole being constructed, arranged and operating, substantially as specified. 6th. In a compensator for signal rods, the combination, with a flanged or equivalent wheel, such as A, figures 13 and 14, having notches or teeth cut or otherwise formed in its flanges, of a signal lever, such as B, provided with a locking bar, such as E, having a projection, such as  $a^2$ , adapted to engage with the notches in said wheel, whilst said lever is provided with a hinged projection, such as  $a^1$ , adapted to engage with a projection upon a weight bar, such as B<sup>1</sup>, so as to carry said weight bar forward, and thereby cause its locking bar to engage with the notches in the above mentioned wheel when the signal is pulled off, substantially as specified. 7th. In a compensator for signal rods, the combination, with a wheel, such as A, and signal lever, such as B, of a weight bar, such as B<sup>1</sup>, provided with a locking bar, such as E, adapted to engage in notches or teeth, such as  $a^2$ , in the flange of said wheel, and so arranged as to be thrown out of, and into, engagement with said wheel, in order to put a greater strain upon the signal wire when the signal is "off" than when it is "on," the whole being constructed, arranged and operating, substantially as specified.

**No. 39,583. Skate, etc. (Patin, etc.)**

Berthold Hatschek, Prague, Austria, 30th July, 1892; 6 years.

*Claim.*—1st. In a device such as described, the arrangement of two side cheeks, such as  $a$  and  $b$ , placed diagonally opposite to each other, and between which the sole of the boot is locked, by turning the boot in relation to the skate or *vice versa*, substantially as described and illustrated in the accompanying drawings. 2nd. For securing a skate on to the heel of a boot or shoe a revolvable spur, such as E, inserted into the heel and adapted to engage a hook shaped plate such as P of the skate, by means of which the eccentric part  $n$  of the spur by its rotation slightly raises the back part of the skate and presses it against the bottom of the heel, substantially as described and illustrated in the accompanying drawings. 3rd. The peculiarly shaped spur E, inserted into the heel of the boot, the operative part  $n$ , of which is eccentric to the shank  $m$ , and is shaped substantially as described, and illustrated in figure 9, of the accompanying drawings. 4th. The method of fixing skates and other articles to boots or shoes, substantially as described, and illustrated in the accompanying drawings.

**No. 39,584. Apparatus for Burning Oils for Lighting and Heating Purposes. (Brûleur à huile pour éclairage ou chauffage.)**

George Rose, Archibald Baird and Matthew Barr Baird, all of Glasgow, Lanark, Scotland, 30th July, 1892; 6 years.

*Claim.*—1st. In oil spray lighting or heating apparatus, working with self generated steam, the method of creating a pressure in the water tank, by admitting steam from the self generating coil or

chamber to said tank, substantially as hereinbefore described. 2nd. The combination, with the steam generating coil or chamber of the lamp or burner, of a pipe connection for conducting steam from said coil or chamber to the water tank, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, with the self generated steam coil F, or chamber O<sup>1</sup>, and the water tank or compartment A, of the pressure pipe H, and valve J<sup>2</sup>, substantially as hereinbefore described. 4th. In oil spray lighting or heating apparatus, working with self generated steam, the application and use of an automatic water supply controlling valve, substantially as hereinbefore set forth. 5th. The combination, with the water tank A, of the steam generating coil F, pipe H, and automatic water supply controlling valve I, substantially as hereinbefore described. 6th. In oil spray lighting or heating apparatus, working with self generated steam, the combination, with the water tank and a self generating steam coil or chamber, of a pipe having a syphon bend therein for supplying water from said tank to the coil or chamber, substantially as hereinbefore set forth. 7th. The combination, with the burners D or U, and self generating steam coil F, or chamber O<sup>1</sup>, of an oil tank having a water tank fitted below, or inside said oil tank, substantially as hereinbefore described.

**No. 39,585. Electric Transformer.**

(*Transformateur électrique.*)

Michael Von Dolivo-Dobrowolsky, Berlin, Prussia, German Empire, 30th July, 1892; 6 years.

*Claim.*—A transformer for alternating currents of different phases, composed of three or more cores of iron arranged parallel to each other, two bodies of iron connecting the cores at their corresponding ends, and primary and secondary coils placed on the said cores, substantially as described.

**No. 39,586. Car Coupler. (Attelage de chars.)**

Josias Poffenbarger, York, Nebraska, U.S.A., 30th July, 1892; 6 years.

*Claim.*—1st. In a car coupling, the combination, with bumpers having transverse stationary rods, of a locking hook formed with the main part, the pivoted head having the curved lower end, the locking lever having a spring bolt at its forward end, and the pivoted connecting arms, substantially as set forth. 2nd. The combination of the bumpers having the transverse stationary rods, the locking hooks formed each with the main part, the pivoted head having the curved lower end, the locking lever having the spring actuated bolt in its forward end, and the pivoted connecting arms and levers for unlocking and raising said hooks. 3rd. The combination of bumpers having the transverse rods, the locking hooks formed each with the main part, the pivoted head, the locking lever having the spring actuated bolt in its forward end, and the pivoted connecting arms, levers for unlocking and raising said hooks, and the draw springs having the tension adjusting screws, substantially as set forth. 4th. The combination, with the hooks, of the springs arranged beneath the same to break the jar of the falling hooks.

**CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO THE FOLLOWING PATENTS.**

2651. THE ROYAL ELECTRIC COMPANY, 3rd five years of No. 15,072, from the 8th day of July, 1892. Improvements on Commutators for Dynamo-Electric Machines, 4th July, 1892.
2652. THE ROYAL ELECTRIC COMPANY, 3rd five years of No. 15,166, from the 24th day of July, 1892. Improvements in Regulators for Electric Currents, 4th July, 1892.
2653. THE ROYAL ELECTRIC COMPANY, 3rd five years of No. 15,183, from the 25th day of July, 1892. Improvements in Electric Lamp Mechanism, 4th July, 1892.
2654. THE ROYAL ELECTRIC COMPANY, 3rd five years of No. 15,206, from the 31st day of July, 1892. Improvements in Dynamo-Electric Machines, 4th July, 1892.
2655. THE ROYAL ELECTRIC COMPANY, 2nd five years of No. 27,343, from the 4th day of August, 1892. Improvements in Electric Arc Lamps, 4th July, 1892.
2656. GEORGE RUSSELL, 2nd five years of No. 27,271, from the 26th day of July, 1892. Improvements in Rail Fences, 7th July, 1892.
2657. DAVID W. VARY, 2nd five years of No. 27,121, from the 9th day of July, 1892. Improvements on Threshing Machines, 8th July, 1892.
2658. JAMES McADAM, 2nd five years of No. 27,160, from the 30th day of July, 1892. Improvements in Butter Tubs, 8th July, 1892.
2659. GEORGE WILSON KIRKPATRICK and HELEN MARY KIRKPATRICK, 2nd five years of No. 27,149, from the 11th day of July, 1892. Improvements in Multiple Speed Gearing (for machinery), 8th July, 1892.
2660. D. B. DAVIDSON, 2nd five years of No. 27,133, from the 9th day of July, 1892. Improvements on Ice Tongs, 8th July, 1892.
2661. H. DIERLAMM, 3rd five years of No. 15,279, from the 10th day of August, 1892. Improvements in a Composition of Matter to be used for the remedy of Diphtheria, Catarrh and Croup, 8th July, 1892.
2662. ALEXANDER WILLIAM GILLMAN and SAMUEL SPENCER, 2nd five years of No. 27,411, from the 30th day of August, 1892. Improvements on Machinery or Apparatus for Roasting or Popping Grain, 8th July, 1892.
2663. GEORGE LEE PHELPS, 2nd five years of No. 27,309, from the 29th day of July, 1892. Improvements on Grain Binders, 8th July, 1892.
2664. CHARLES NEWELL TYLER, 2nd five years of No. 27,278, from the 26th day of July, 1892. Improvements in Siphon Devices for Discharging Fluids, 11th July, 1892.
2665. THE INTERNATIONAL GAS COMPANY, 2nd five years of No. 27,151, from the 12th day of July, 1892. Improvements in Apparatus for Heating and Cooling Fluids, 12th July, 1892.
2666. GEORGE KINGSLEY, 2nd five years of No. 27,162, from the 13th day of July, 1892. Improvements in Steam Boilers, 13th July, 1892.
2667. JOHN HENRY STONE, 2nd five years of No. 27,252, from the 25th day of July, 1892. Improvements in Tubular Lanterns, 13th July, 1892.
2668. FREDERICK DE LA FONTAINE WILLIAMS, assignee of CARL AUER VON WELSBACH, 2nd and 3rd five years of No. 23,523, from the 2nd day of March, 1891. Improvements on Illuminant Appliances for Gas and other Burners, 13th July, 1892.
2669. CARL AUER VON WELSBACH, 2nd and 3rd five years of No. 26,162, from the 7th day of March, 1892. Method of Obtaining Compounds of the Rarer Metals from their Earths for use as Incandescence Bodies for Illuminating Purposes, 13th July, 1892.
2670. MRS. CORNELIUS SCOFIELD, 3rd five years of No. 15,139, from the 19th day of July, 1892. Improvements on Lounge and Sofa Beds, 15th July, 1892.
2671. FREEBORN FAIRFIELD RAYMOND, 2nd five years of No. 27,361, from the 8th day of August, 1892. Improvements on Heel Nailing Machines, 18th July, 1892.
2672. FREEBORN FAIRFIELD RAYMOND, 2nd five years of No. 27,362, from the 8th day of August, 1892. Improvements on Heel Attaching Machines, 18th July, 1892.
2673. FREEBORN FAIRFIELD RAYMOND, 2nd five years of No. 27,367, from the 8th day of August, 1892. Improvements on Sole Nailing Machines, 18th July, 1892.
2674. J. M. STAEBLER, 2nd five years of No. 27,193, from the 18th day of July, 1892. Improvements in Harvester Cutter Bars, 18th July, 1892.
2675. WALTER SCOTT, 2nd five years of No. 27,207, from the 19th day of July, 1892. Improvements in Device for Folding and Holding Blankets or Similar Articles, 19th July, 1892.
2676. CHARLES CLUTHE, 2nd five years of No. 27,203, from the 19th day of July, 1892. Improvements in Trusses, 19th July, 1892.
2677. EDWARD BORLAND, 2nd five years of No. 27,221, from the 22nd of July, 1892. Improvements in the Construction of Road Carts, 21st July, 1892.
2678. PETER B. BRAZEL, 2nd five years of No. 27,318, from the 1st day of August, 1892. Improvements in Snow Plows, 21st July, 1892.
2679. MICHAEL GARLAND, 2nd five years of No. 27,311, from the 30th day of July, 1892. Improved Contrivance for the Transmission of Power and Motion, 21st July, 1892.
2680. MICHAEL GARLAND, 2nd five years of No. 27,324, from the 2nd day of August, 1892. Improvements in Rope or Cable Couplings, 21st July, 1892.
2681. JAMES BENNETT STONE, 2nd five years of No. 27,488, from the 24th day of August, 1892. Improvements in Wire Rope Machines, 21st July, 1892.
2682. THÉOPHILE BLOUIN, 2nd five years of No. 27,218, from the 22nd day of July, 1892. Improvements in Boxes for Holding Corrosive Matters, 22nd July, 1892.
2683. JOHN HOWE, 2nd five years of No. 27,302, from the 28th day of July, 1892. Improvement on Locomotive Spark and Smoke Conductors, 25th July, 1892.
2684. SYLVESTER BURR WILKINS, 2nd five years of No. 27,315, from the 30th day of July, 1892. Improvements in Mechanical Movements, 25th July, 1892.
2685. ADAM HENRY BELL, 2nd five years of No. 27,315, from the 6th day of August, 1892. Improvements on Sheaf Carriers and Bundle Droppers, 28th July, 1892.
2686. FREDRICK CLARE, 2nd five years of No. 27,300, from the 28th day of July, 1892. Improvements in Hot Air Furnaces, 28th July, 1892.

## TRADE MARKS

Registered during the month of July, 1892, at the Department of Agriculture—  
Copyright and Trade Mark Branch.

4357. WILLIAM G. LUMSDEN, of Hamilton, Ont. Baking Powder, 2nd July, 1892.
4358. FERDINAND MULHENS, of Cologne, Germany. Eau de Cologne, Perfumery, Soap and other toilet preparations, 4th July, 1892.
4359. JUAN LOPEZ, of Habana, Cuba. Cigars, 6th July, 1892.
4360. THE MONTMORENCY COTTON MANUFACTURING CO., L'D, of Montmorency, Que. Cotton and the like textile fabrics, 11th July, 1892.
4361. JACOB GARBER, of Newcombville, N. S. Cough Medicines, 11th July, 1892.
4362. HENRY L. PIERCE, of Boston, Mass, U.S.A., trading as Walter Baker & Co. Cocoa and Chocolate, 11th July, 1892.
4363. JOSEPH TRAVERS & SONS, L'D, of 119 Cannon Street, London, England. Groceries, 12th July, 1892.
4364. WILLIAM H. SANFORD, of Tottenham, Ont. White Pine Cough Balsam, 13th July, 1892.
4365. POWELL, SMITH & CO., of New York, N.Y., U.S.A. Cigars, Cigarettes and Tobacco, 13th July, 1892.
4366. JOSEPH ADOLPHE GARNEAU, de Québec, Qué. Un remède pour rhume, catarrhe et autres maladies des membranes muqueuses, 14 juillet, 1892.
4367. THE HAMILTON VINEGAR WORKS CO., L'D, of Hamilton, Ont. Whiskies, 14th July, 1892.
4368. JOSEPH SMITH, of London, Ont. Cigars, 15th July, 1892.
4369. AUGUSTUS SCHOENHEIT, of San José, Cal., U. S. A. Liniment, 16th July, 1892.
4370. AUGUSTUS SCHOENHEIT, of San José, Cal., U.S.A. Medical Lozenges, 16th July, 1892.
4371. THE WELLS AND RICHARDSON CO., of Montreal, Que. Pills, 16th July, 1892.
4372. ARCHAMBEAUD FRERES, de Bordeaux, France. Cognacs, 16 juillet, 1892.
4373. BRENER BROS., of London, Ont. Cigars, Cigarettes and Tobaccos, 18th July, 1892.
4374. THE STEARNS MANUFACTURING CO., of Erie, Penn., U.S.A. Steam Engines, 19th July, 1892.
4375. ALEXANDER F. SAWHILL, of Allegheny, Penn., U.S.A. Proprietary Medicines, 19th July, 1892.
4376. ARCHAMBEAUD FRERES, de Bordeaux, France. Rhums, 20 juillet, 1892.
4377. ARCHAMBEAUD FRERES, de Bordeaux, France. Rhums, 20 juillet, 1892.
4378. THE LAKE PUBLISHING CO., of Toronto, Ont. Monthly Magazine, 23rd July, 1892.
4379. HERMAN AICH, of Woodside, N.J., U.S.A. Enamelled Sheet Metal Ware, 26th July, 1892.
4380. CHARLES LOUIS GOLDSMITH, of Toronto, Ont. Cigars, 28th July, 1892.
4381. HENRY KNOWLES, of 18 New Bridge Street, London & Albion Sanitary Pipe Works, Woodville, Leicester Co., England. Sanitary Pipes, 28th July, 1892.

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4382. PERRIN FRERES & CO., of Grenoble, France. Gloves, 29th July, 1892.  
4383. PERRIN FRERES & CO., of Grenoble, France. Gloves, 29th July, 1892.  
4384. PERRIN FRERES & CO., of Grenoble, France. Gloves, 29th July, 1892.  
4385. PERRIN FRERES & CO., of Grenoble, France. Gloves, 29th July, 1892.  
4386. PERRIN FRERES & CO., of Grenoble, France. Gloves, 29th July, 1892.  
4387. PERRIN FRERES & CO., of Grenoble, France. Gloves, 29th July, 1892.  
4388. PERRIN FRERES & CO., of Grenoble, France. Gloves, 29th July, 1892.  
4389. PERRIN FRERES & CO., of Grenoble, France. Gloves, 29th July, 1892.
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# COPYRIGHTS

Entered during the month of July, 1892, at the Department of Agriculture—

## Copyright and Trade Mark Branch.

6508. OLIVE'S BROW. Sacred Song. Words by W. B. Bradbury. Music by S. T. Church. The Anglo-Canadian Music Publishers' Association, Ltd., London, England, 2nd July, 1892.
6509. ROUNABOUT POLKA, by Walter A. Geddes. Sydney Ashdown, Toronto, Ont., 4th July, 1892.
6510. DAYBREAK WALTZ, by Walter A. Geddes. Sydney Ashdown, Toronto, Ont., 4th July, 1892.
6511. COUPON SYSTEM FOR NEWSPAPER ADVERTISING (book). The Mail Printing Co., Ltd., Toronto, Ont., 4th July 1892.
6512. CINQ CONFÉRENCES SUR L'ENCYCLIQUE DE LÉON XIII DE LA CONDITION DES OUVRIERS. Prêchées dans la Salle Saint-Joseph aux Sociétés Ouvrières d'Ottawa. Par le Rév. Père Alexis, Capucin, L'Institution Catholique des Sourds-Muets, de Mile End, près Montréal, Qué., 5 juillet 1892.
6513. RAPPORTS JUDICIAIRES REVISÉS DE LA PROVINCE DE QUÉBEC, par l'Honorable M. Mathieu. Tome III. Wilfrid John Wilson, Montréal, Qué., 6 juillet, 1892.
6514. BELL TELEPHONE COMPANY OF CANADA, LIMITED, HAMILTON AND DUNDAS EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, JULY, 1892. The Bell Telephone Company of Canada, Limited, Montreal, Que., 7th July, 1892.
6515. BELL TELEPHONE COMPANY OF CANADA, LIMITED, OTTAWA EXCHANGE, SUBSCRIBERS' DIRECTORY, JULY, 1892. The Bell Telephone Company of Canada, Limited, Montreal, Que., 7th July, 1892.
6516. PIONEER STEAMSHIP "BEAVER" and C. P. R. ROYAL MAIL STEAMSHIP, "EMPRESS OF INDIA," OFF OBSERVATION POINT (photo). Bailey Bros., Vancouver, B. C., 7th July, 1892.
6517. GRIP, JULY 9, 1892 (newspaper). The Grip Printing and Publishing Co., Toronto, Ont., 8th July, 1892.
6518. FORM OF APPLICATION FOR SHARES IN THE INDUSTRIAL BRANCH OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6519. TABLE OF PROFITS OF FIVE CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6520. TABLE OF PROFITS OF TEN CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6521. TABLE OF PROFITS OF FIFTEEN CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6522. TABLE OF PROFITS OF TWENTY CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6523. TABLE OF PROFITS OF THIRTY CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6524. TABLE OF PROFITS OF THIRTY-FIVE CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6525. TABLE OF PROFITS OF FORTY CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6526. TABLE OF PROFITS OF FORTY-FIVE CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.

6527. TABLE OF PROFITS OF FIFTY CENT SHARES OF THE YORK COUNTY LOAN AND SAVINGS COMPANY. Edward Joseph Lomnitz, Toronto, Ont., 9th July, 1892.
6528. THE DASHING HIGHLAND GUARDS. Words by James Fax. Music by Chas. Bohner. Whaley, Royce & Co., Toronto, Ont., 12th July, 1892.
6529. LOVELL'S CANADIAN BUSINESS GUIDE WITH DIARY FOR 1892. John Lovell & Son, Montreal, Que., 13th July, 1892.
6530. KNOWLES' HANDY MEMO., READY REFERENCE AND BUYERS' GUIDE. Joseph S. Knowles, St. John, N.B., 13th July, 1892.
6531. ADVENTURES OF A HIGHLAND SOLDIER, by Charles R. Martin. Imrie & Graham, Toronto, Ont., 14th July, 1892.
6532. BONNE STE. ANNE DE BEAUPRE, P.P.N. (bas-relief as per application). Alphonse Leblanc, Montréal, Qué., 16th July, 1892.
6533. PRACTICAL LANGUAGE TRAINING, by R. K. Row. The Copp, Clark Co., Ltd., Toronto, Ont., 16th July, 1892.
6534. THE BUSINESS GUIDE ; or, SAFE METHODS OF BUSINESS, by J. E. Hansford, LL.B., Toronto, Ont., 19th July, 1892.
6535. THE INVESTORS' TABLE. Hart & Riddell, Toronto, Ont., 19th July, 1892.
6536. CITY OF MONTREAL. VOL. I. APRIL, 1892. (Insurance Plan.) Charles E. Goad, Montreal, Que., 21st July, 1892.
6537. MURMURS FROM THE ATLANTIC. Waltz for the piano, by Maggie A. Macdonald, Sydney, Cape Breton, N.S., 22nd July, 1892.
6538. TABLEAU MIRACULEUX DE LA BONNE STE. ANNE, dont l'original repose dans l'église de la Bonne Ste. Anne de Beaupré (photo cabinet). Jules Ernest Livernois, Québec, Qué., 22 juillet 1892.
6539. GUIDE ME, KEEP ME. Sacred Song. Words and Music by Sim. Fax. Arranged by T. J. Hatton. Whaley, Royce & Co., Toronto, Ont., 25th July, 1892.
6540. THE BELL TELEPHONE COMPANY OF CANADA, LIMITED, QUEBEC, LEVIS, ST. JOSEPH, ETCHEMIN, THREE RIVERS, LOUISEVILLE, BERTHIER AND JOLIETTE, SUBSCRIBERS' DIRECTORY, JULY, 1892. The Bell Telephone Company of Canada, Ltd., Montreal, Que., 25th July, 1892.
6541. RELIQUE DE STE. ANNE ET SON RELIQUAIRE. (Photo cabinet.) Jules Ernest Livernois, Québec, Qué., 25 juillet 1892.
6542. PHOTOGRAPHIC FACSIMILE OF THE LAST WRITTEN WORDS OF JOHN BROWN, LIBERATOR OF KANSAS AND MARTYR OF VIRGINIA. Alexander Milton Ross, Toronto, Ont., 27th July, 1892.
6543. ARTICLES AND READING MATTER APPEARING IN THE MONTHLY NEWSPAPER "GOOD NEWS, JULY, 1892." David Lemay, Toronto, Ont., 28th July, 1892.
6544. ZANITA. Song. Words by Clifton Bingham. Music by H. Trotère. J. B. Cramer & Co., London, England, 28th July, 1892.
6545. ABRÉGÉ DE LA GRAMMAIRE FRANÇAISE. A l'usage des Ecoles Primaires. Frères Maristes, St. Athanase d'Iberville, Qué., 28 juillet 1892.
6546. NOUVEAUX PRINCIPES DE LECTURES. A l'usage des Ecoles des Petits Frères de Marie. Frères Maristes, St. Athanase d'Iberville, Qué., 28 juillet 1892.
6547. LE GUIDE DE L'ENFANCE ; ou PREMIER LIVRE DE LECTURE COURANTE, à l'usage des Ecoles Primaires. Frères Maristes, St. Athanase d'Iberville, Qué., 28 juillet 1892.
6548. C. E. HOLIWELL'S NEW GUIDE TO THE CITY OF QUEBEC AND ENVIRONS, with a Coloured Map of the City. Eighth Edition. Charles Edwin Holiwell, Quebec, Que., 29th July, 1892.
6549. A SLAVE TO DRINK. Words and Music by John Marchant Whyte, Toronto, Ont., 29th July, 1892.
6550. LA PRAIRIE WALTZ, by May Bell. Miller & Burley, Portage la Prairie, Man., 30th July, 1892.

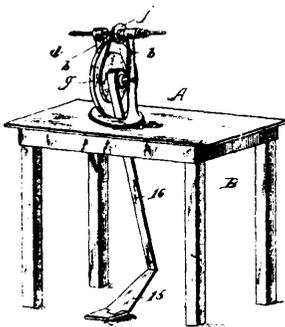
# THE CANADIAN PATENT OFFICE RECORD.

## ILLUSTRATIONS.

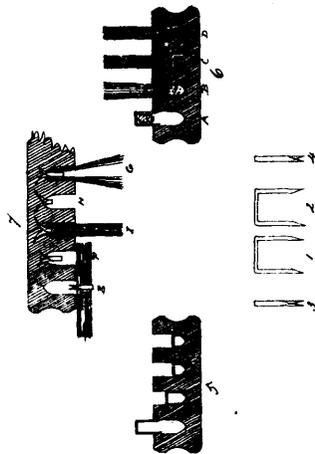
Vol. XX.

JULY, 1892.

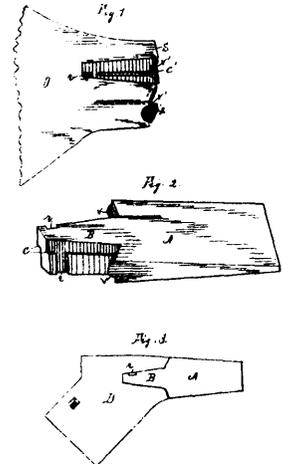
No. 7.



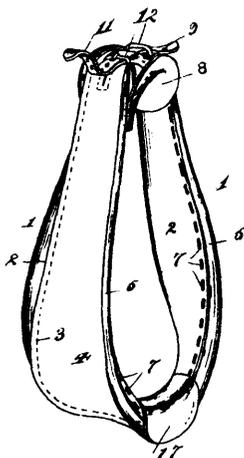
39264 Carpenter's Motor.



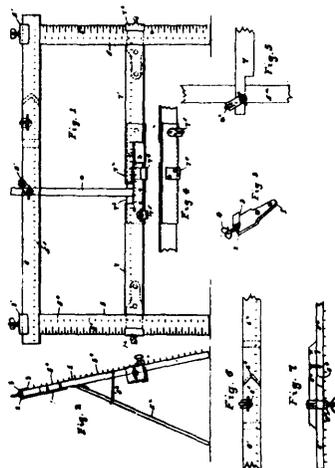
39265 Hepner's Brush.



39266 Westervelt's Reversible Plough Points.



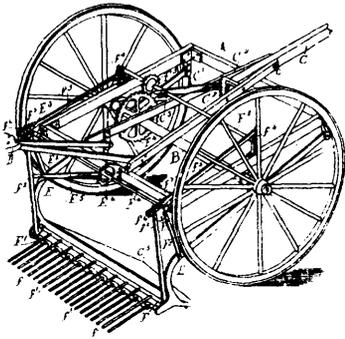
39267 Etshorn's Horse Collar.



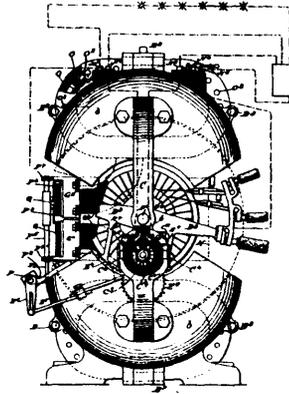
39268 Hough's Frame for Stretching Fabrics.



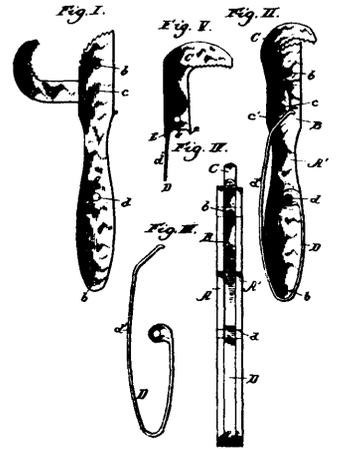
39269 Stamworth's Closet Bowl.



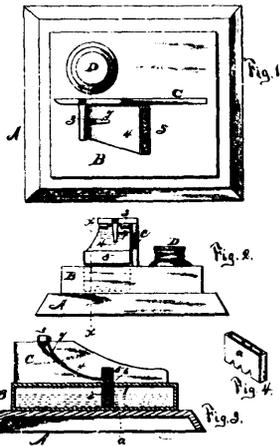
39270 Goodell's Potato Digger.



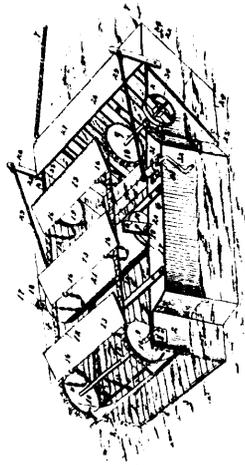
39271 Hochhausen's Dynamo Electric Machine.



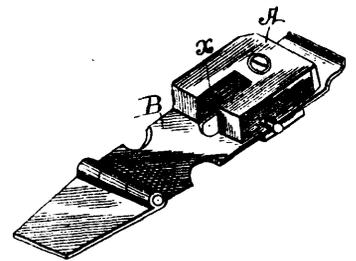
39272 McKercher's Pipe Wrench.



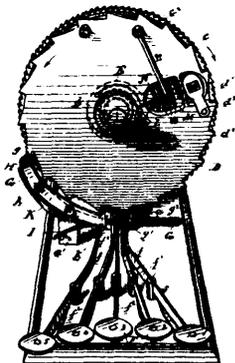
39273 Kingsley's Device for Dampening Envelopes.



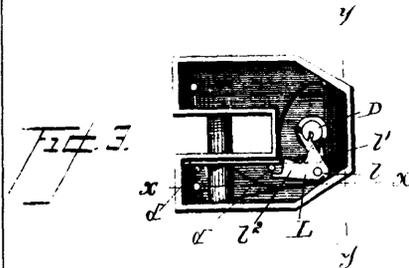
39274 Neal's Current Motor.



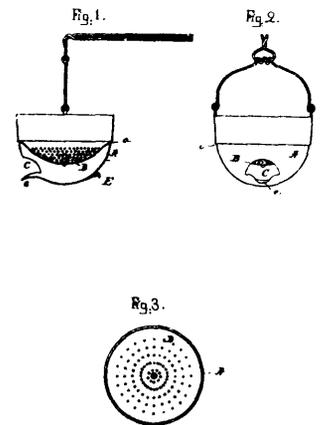
39275 Price and Shea's Hasp Lock.



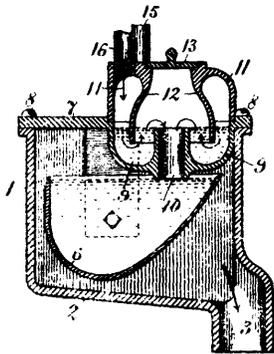
39276 Shattuck's Adding Machine.



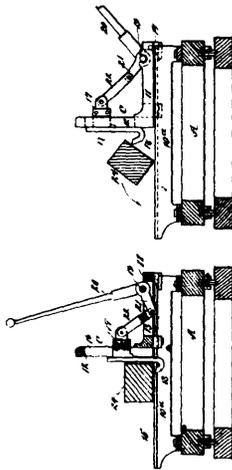
39277 Price and Shea's Padlock.



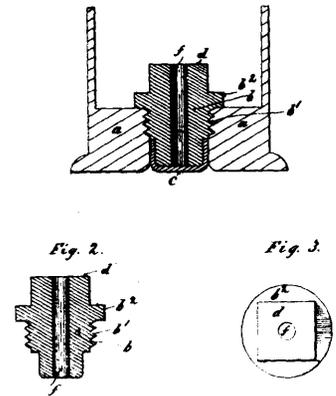
39278 Wills' Tea Strainer.



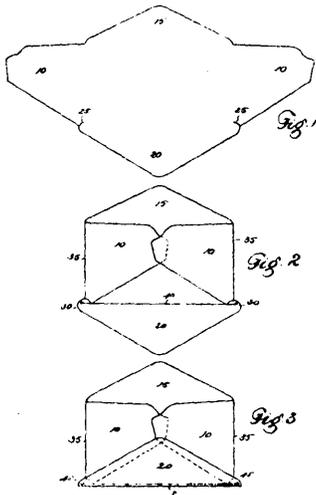
39279 Stanworth's Flushing Device for Sewers.



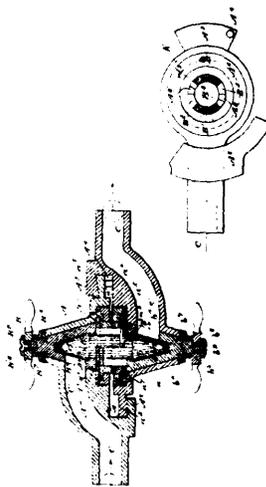
39280 Roche and Colclough's Canting Block for Saw-mill Carriages.



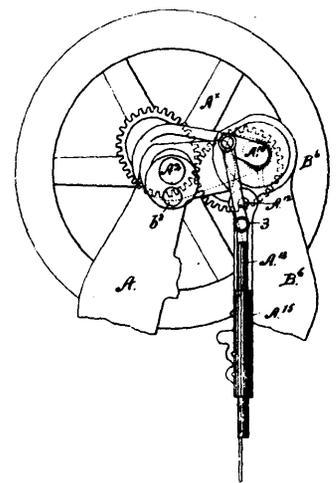
39281 Dobie's Cartridge Case.



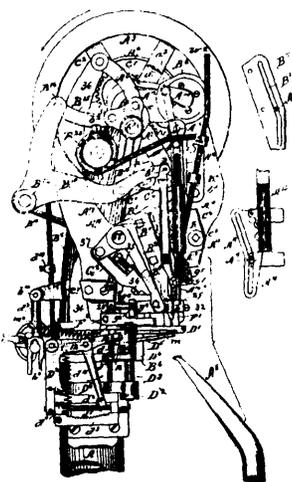
39282 Puckett's Envelope Opener.



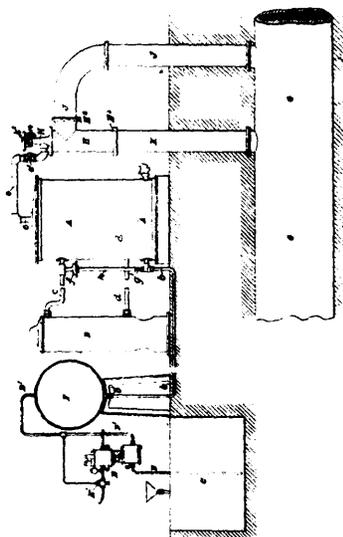
39283 List's Railway Brake Pipe Coupling.



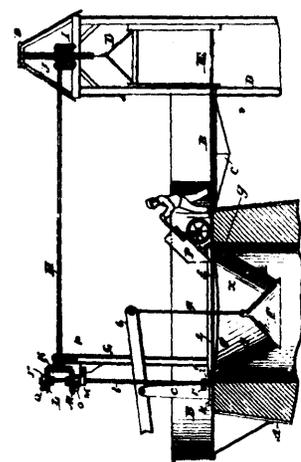
39284 Robinson's Nailing Machine for Boot and Shoe Work.



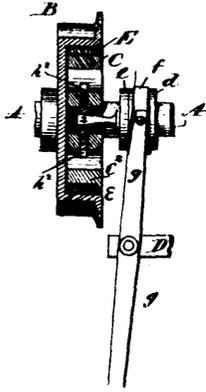
39285 Robinson and Watt's Nailing Machine.



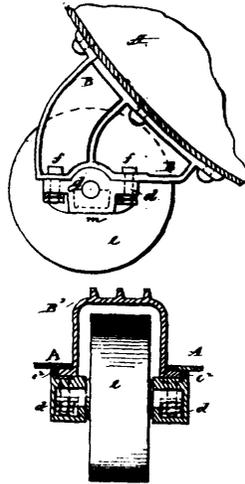
39286 Maxim's Carburetter for Gas.



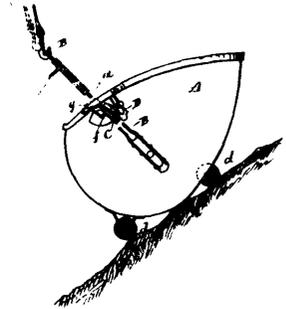
39287 Brown's Blast Furnace-filling Contrivance.



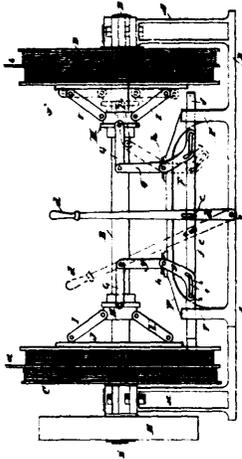
39288 Brown's Clutch Mechanism.



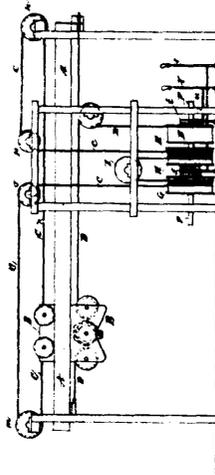
39289 Brown's Bucket for Hoisting and Conveying Machines.



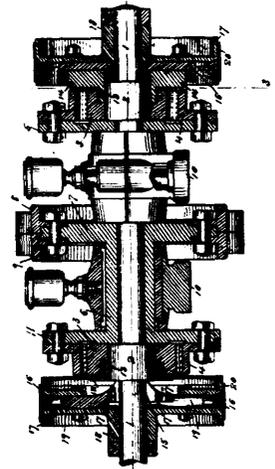
39290 Brown's Dump Bucket for Hoisting and Conveying Machines.



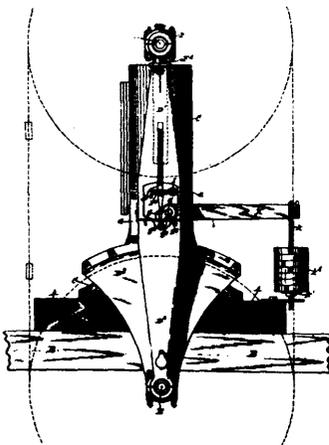
39291 Brown's Clutch Mechanism.



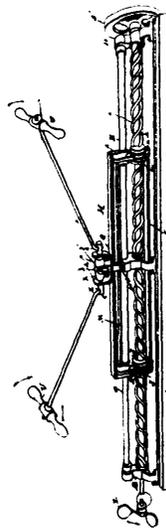
39292 Brown's Translating the Power and Motion of a Drive Shaft.



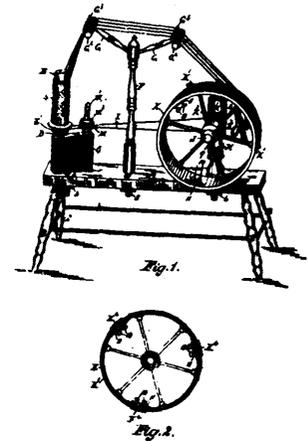
39293 Main's Power Transmitting Device.



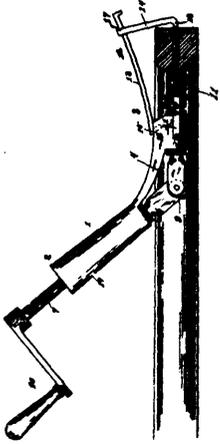
39294 Smith's Band Saw Mill.



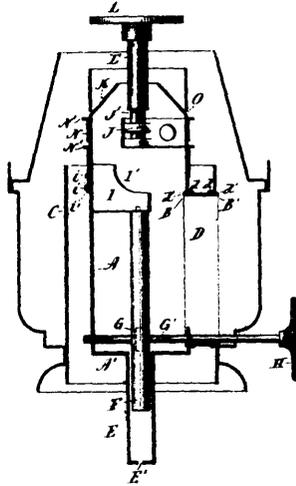
39295 Hall's Propelling Power.



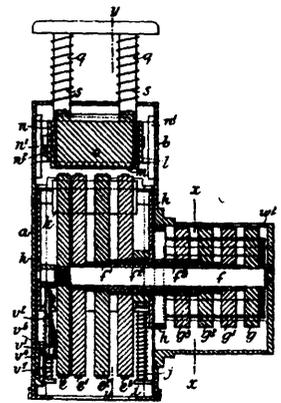
39296 Tourangeau's Reels for Unraveling Tubular Knitted Goods and Winding the Yarn.



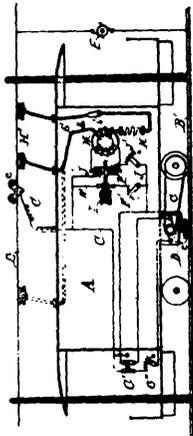
39297 Custer's Wrench.



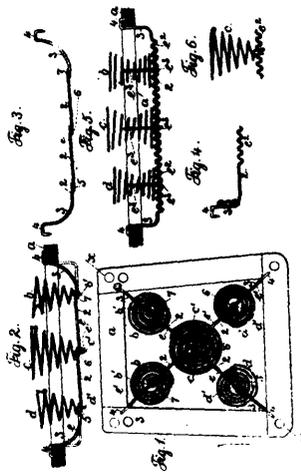
39298 Barton's Lamp Burner.



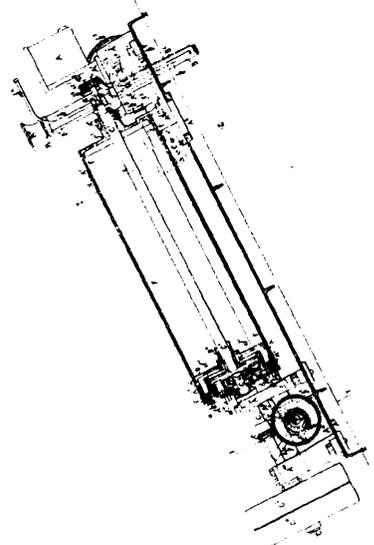
39299 Pink's Apparatus for Acknowledging and Recording Payments



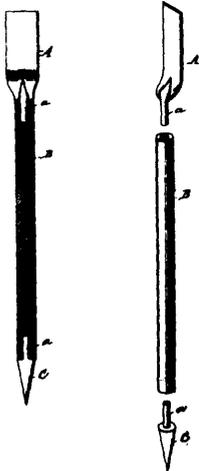
39300 Dewey's Electric Heating Apparatus for Railway Systems.



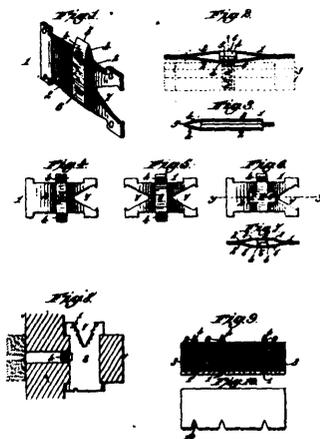
39301 Staples' Support for Upholstery Springs.



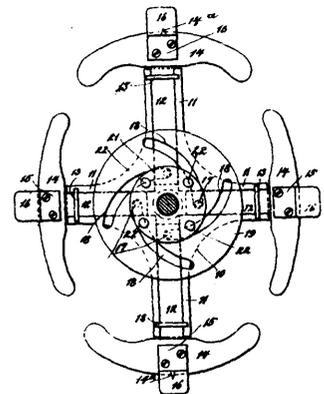
39303 Hogarth's Tester for Flour and Dough.



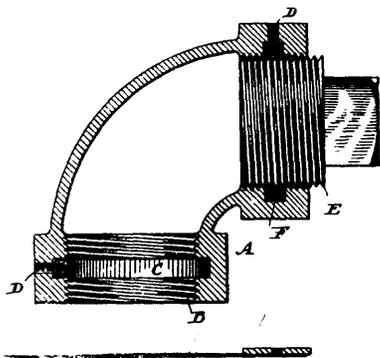
39304 Shimer's Tool.



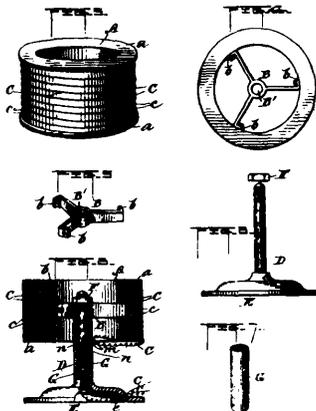
39305 Fowler's Spacers for Type Matrices.



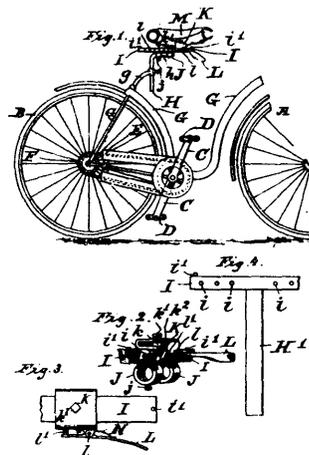
39306 Simis' Hat Polishing and Cleaning Machine.



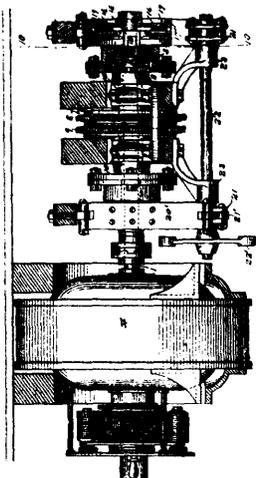
39307 Folly's Coupling for Pipes.



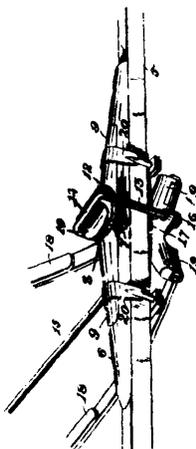
39308 Mitchell's Electric Car Heater.



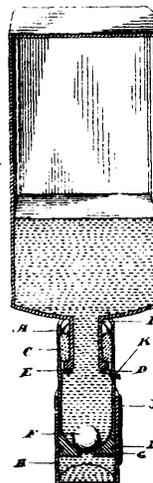
39309 Perry and George's Saddle Support for Bicycles.



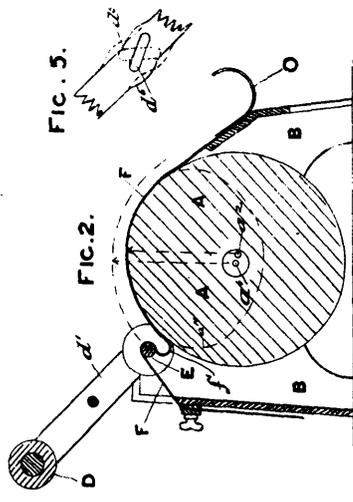
39310 Main's Power Transmitting Device.



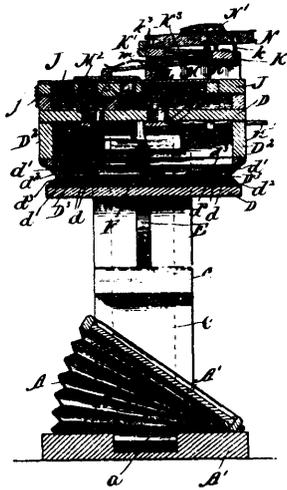
39311 Bishop's Fifth Wheel for Waggon.



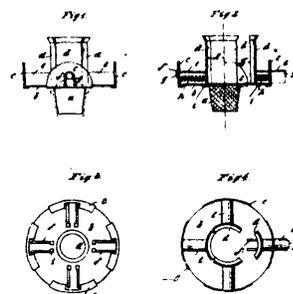
39312 Buchan's Measuring Device for Bottles.



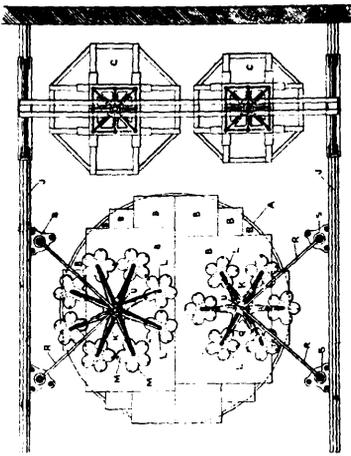
39313 Rickard's Machine for Rolling Tobacco.



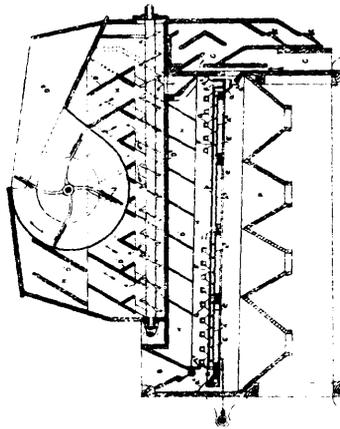
39314 Clark's Cabinet Organ.



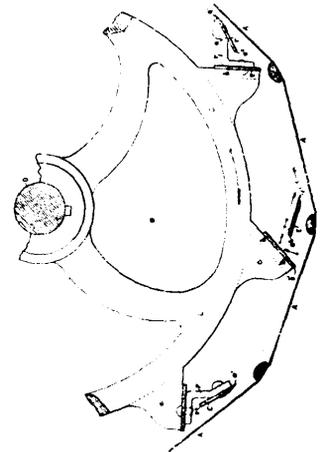
39315 Gurtler's Candle Holder.



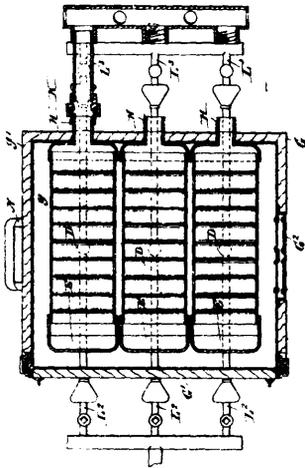
39316 Smith's Apparatus for Polishing Plate Glass.



39317 Higginbottom's Separator for Granular Material.



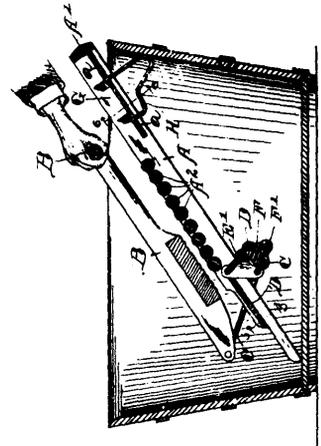
39318 Higginbottom's Centrifugal Separating or Dressing Machine.



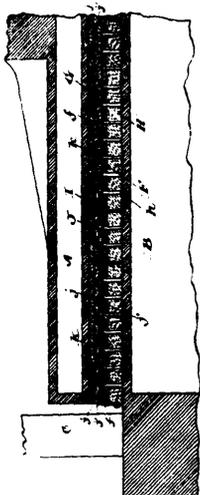
39319 Clift's Apparatus for Heating Houses.



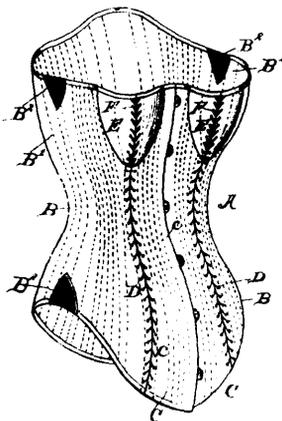
39320 Brown's Method of Manufacturing Insulated Wire.



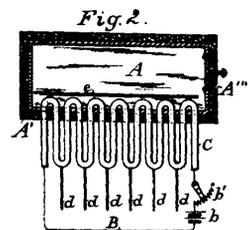
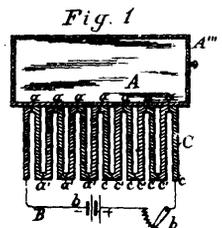
39321 Williams' Wash Board.



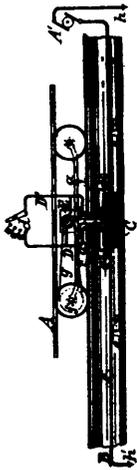
39322 Crompton's Machine for Manufacturing Garment Stays.



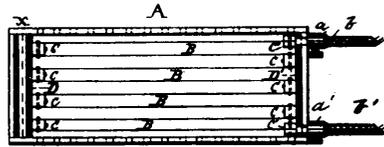
39323 Miles' Corset.



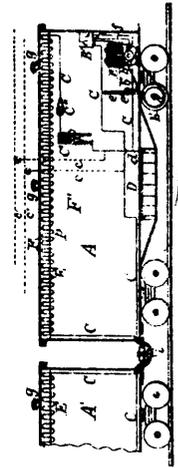
39324 Dewey's Method of Electric Refrigeration.



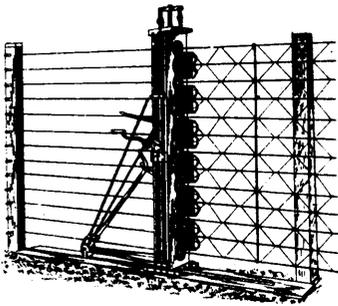
39325 Dewey's Electric Railway.



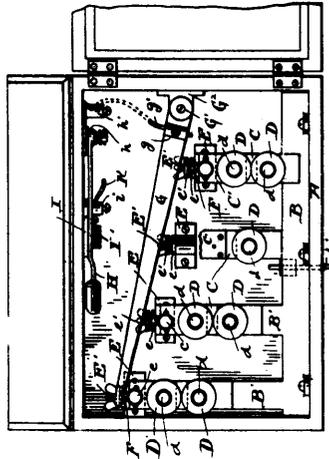
39326 Dewey's Electric Heating Apparatus.



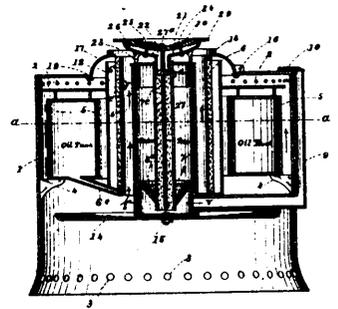
39327 Dewey's Electric Refrigerating Apparatus for Railway Cars.



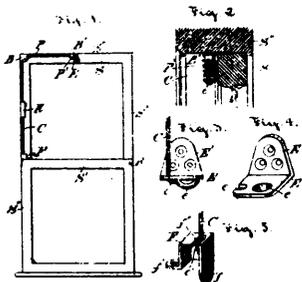
39328 Morgan's Wire Weaving Fence Machine.



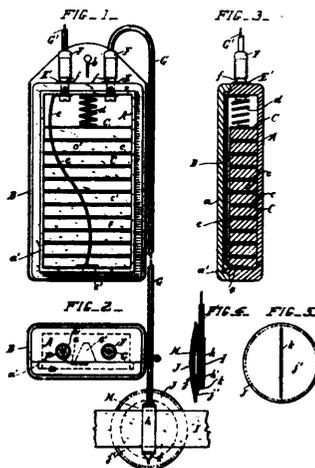
39329 Mansfield and Wason's Lightning Arrester.



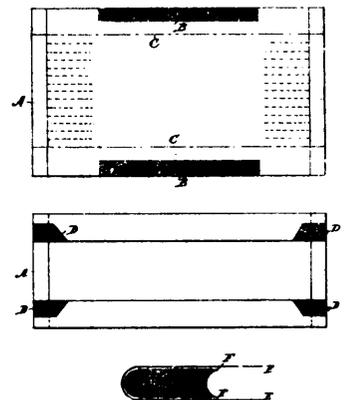
39330 Wright's Burner for Oil Stoves.



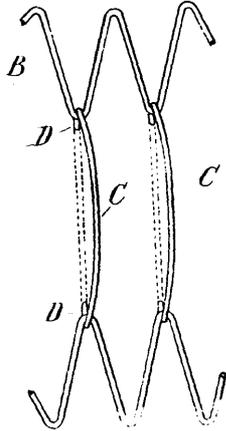
39331 Cove's Sash Balance.



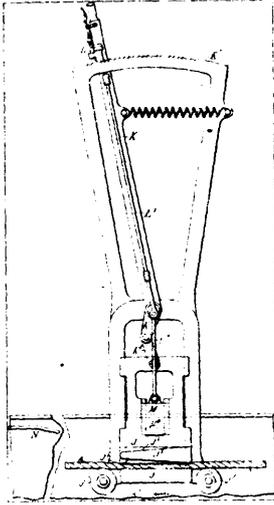
39332 Mears' Electric Body-wear.



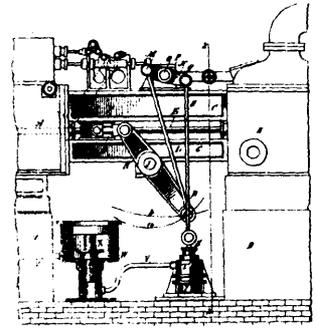
39333 Harison's Blank for Book Cover Protectors.



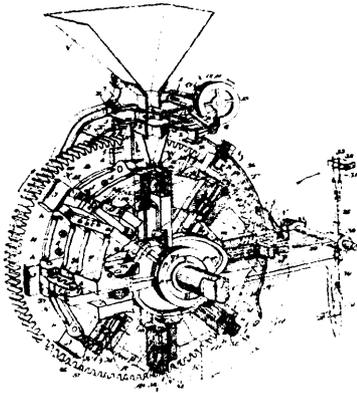
39334 Viel's Spring Bed.



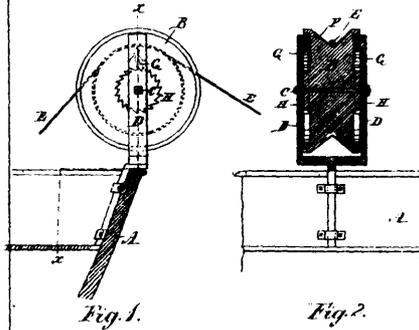
39335 Wallace's Traction Vehicle.



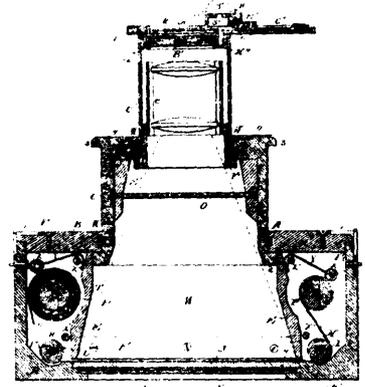
39336 Groshon's Steam Engine.



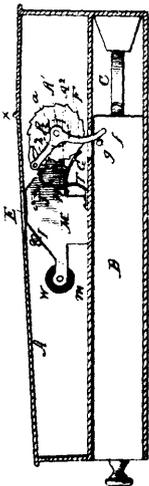
39337 Sims' Brick-making Machine.



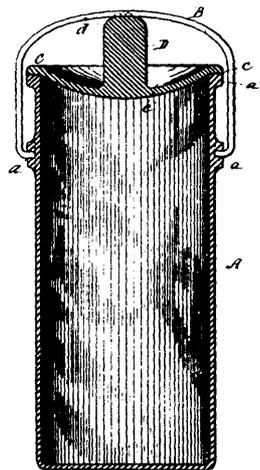
39338 Dentremont's Trawl Roller.



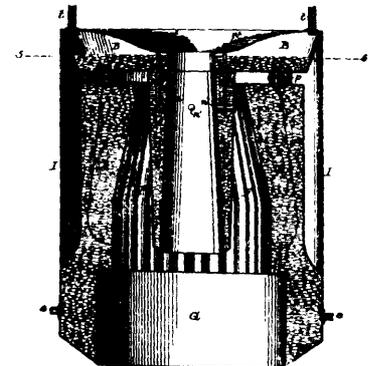
39339 Houston's Roll holding Photographic Apparatus.



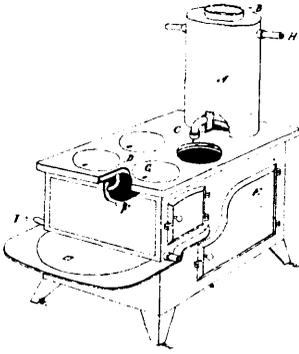
39340 Thompson's Cash Recorder.



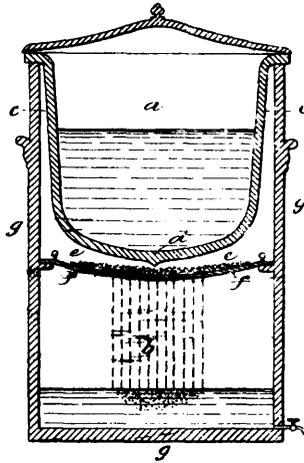
39341 Hatfield's Packing Can or Jar.



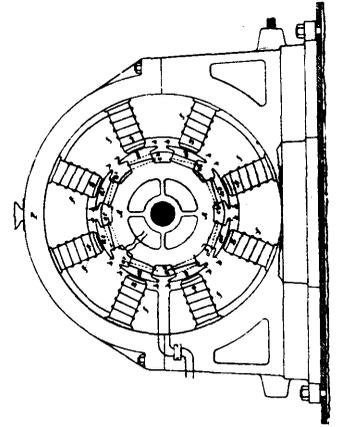
39342 Burling's Water Heater.



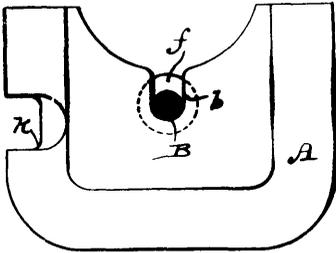
39343 Brooks' Cooking Stove and House-heater.



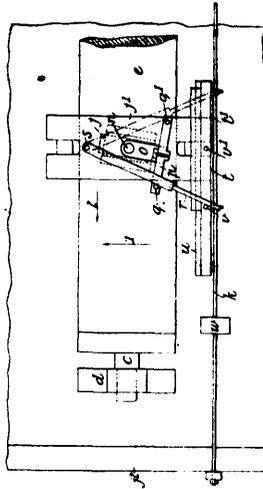
39344 McKay's Water Filter.



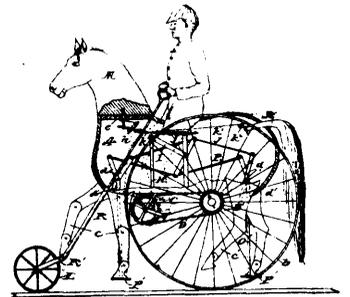
39345 Stanley's Dynamo Electric Machine,



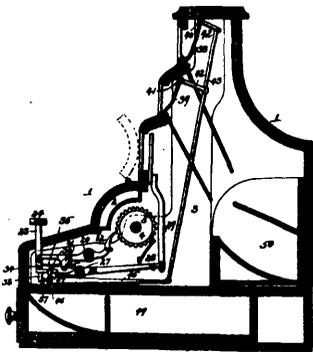
39346 Flaagan's Car Coupler.



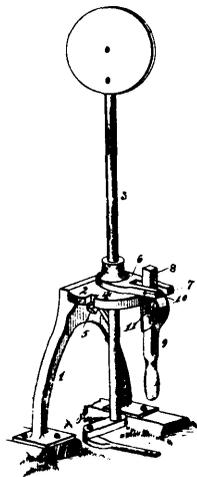
39347 Sander's Apparatus for the Manufacture of Metal Tubes, &c.



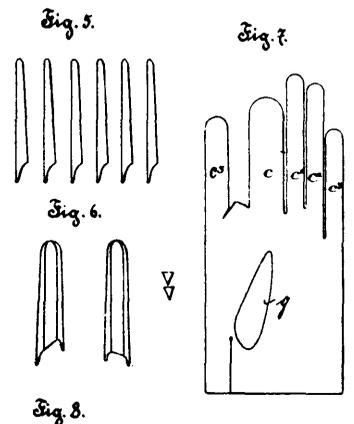
39348 Snyder's Tricycle.



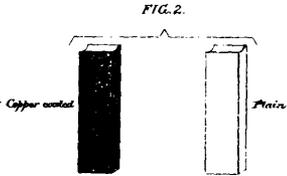
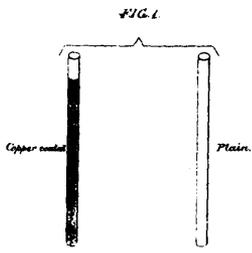
39349 Bierley's Cash Register.



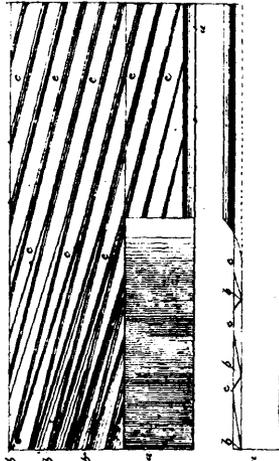
39350 Mohle and Newell's Lever for Railway Switches.



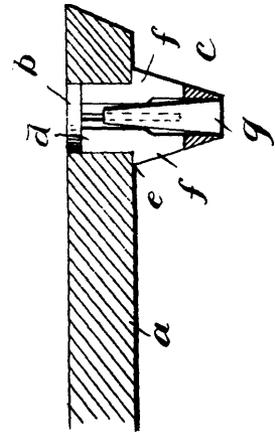
39351 Frankenbach's Glove.



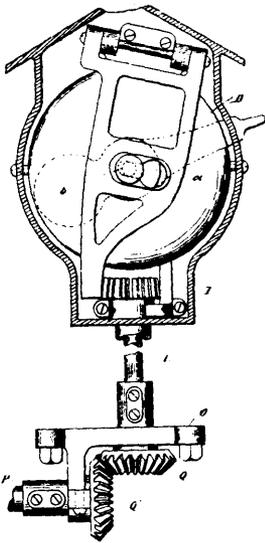
39352 Holmes' Electrical Conductor.



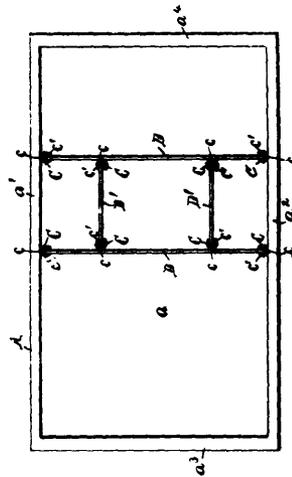
39353 Sheldon's Die for Forming the Threads of Screws.



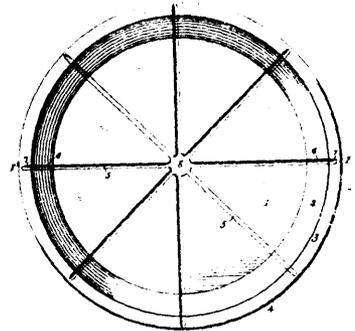
39354 Higgins and Lea's Calk for Horse Shoes.



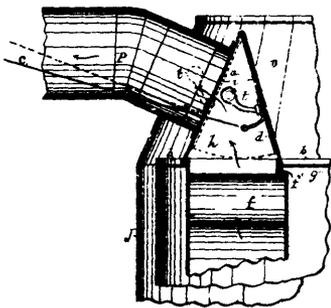
39355 McElroy's Temperature Regulator.



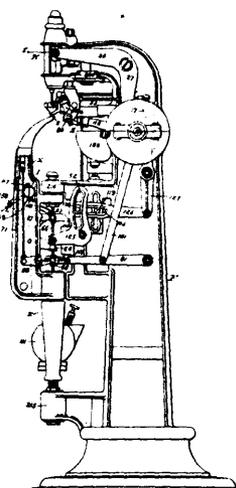
39356 Wells' Partition.



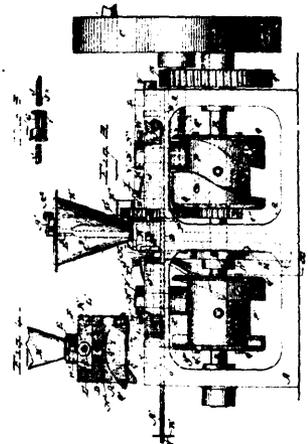
39357 Wagandt's Baking Plates.



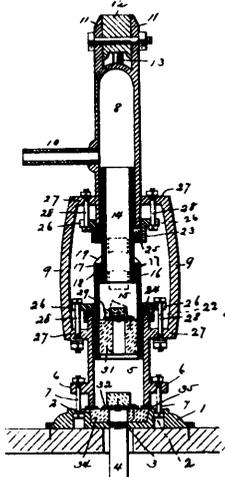
39358 Kelsey's Hot Air Furnace.



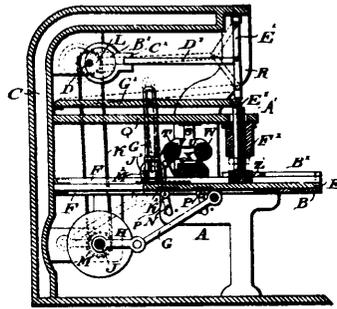
39359 Petree's Sewing Machine.



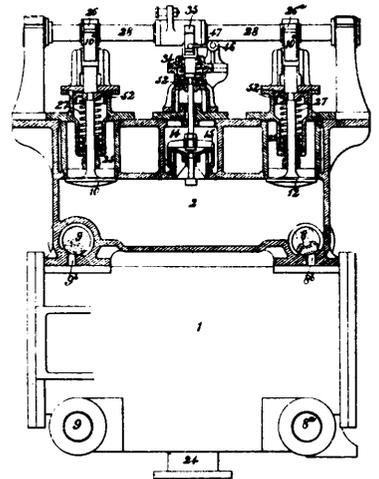
39360 Witsel's Pill Machine.



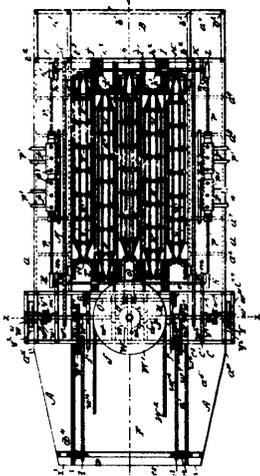
39361 Field's Pump.



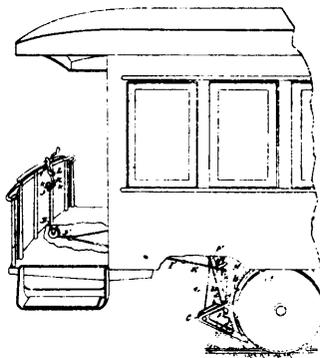
39362 Steen's Plate Printing Press.



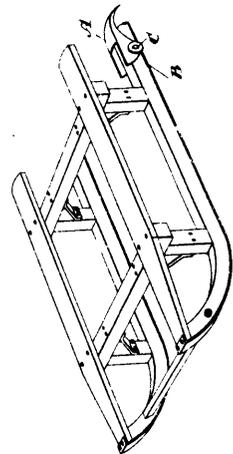
39363 Field's Engines to be Worked by Hot Gases.



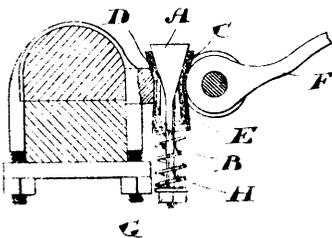
39364 Robinett's Hydraulic Motor.



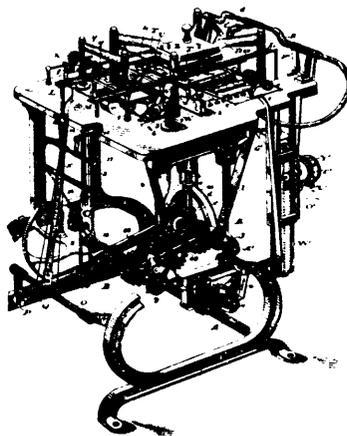
39365 Cassidy's Car Brake.



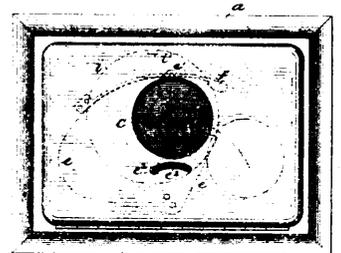
39366 Bunker's Drag for Sleighs.



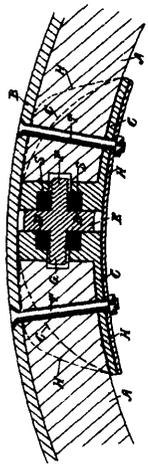
39367 Bunker's Anti-rattler for Thill Couplings.



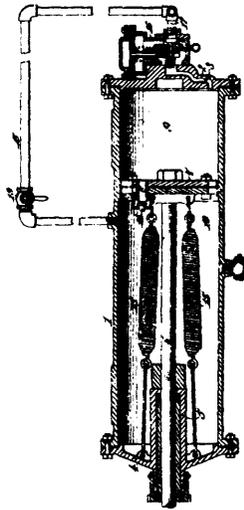
39368 Hutt and Phillips' Machine for Manufacturing Paper Boxes.



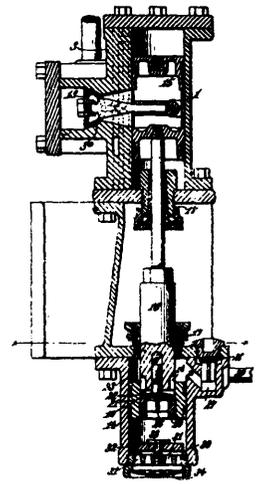
39369 Bishop and Down's Receptacle for Coins.



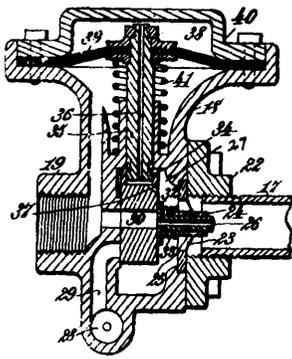
39370 Cuthbertson and Anderson's Fire Set.



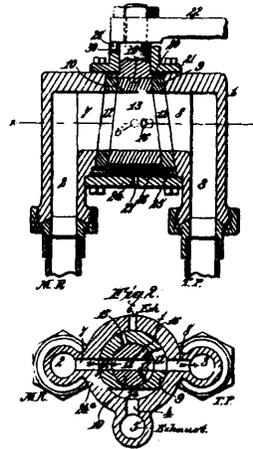
39371 Shortt's Automatic Brake Mechanism.



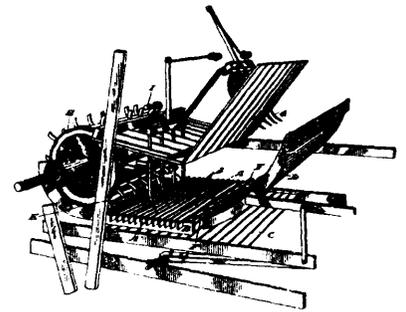
39372 Shortt's Air and Gas Compression Pump.



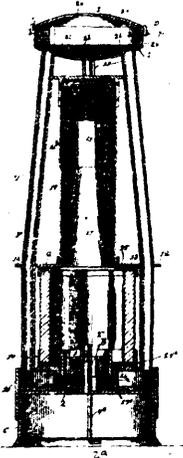
39373 Shortt's Relief and Exhaust Valve for Automatic Brakes.



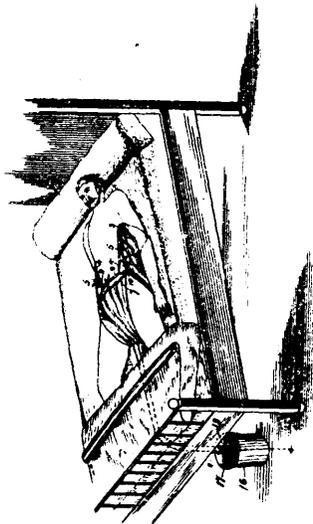
39374 Shortt's Engineer's Valve for Automatic Brake Mechanism.



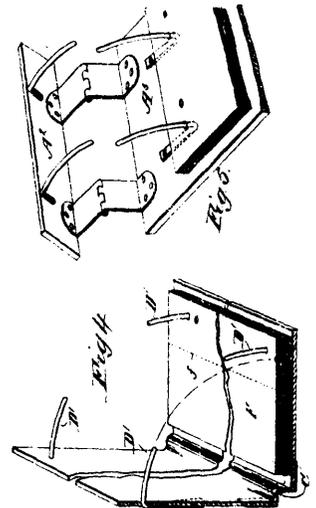
39375 Abell's Threshing Machine.



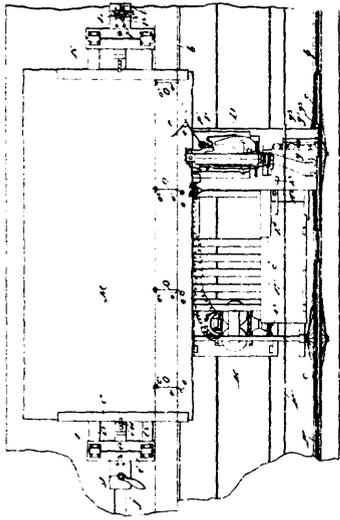
39376 Knapper, Nelson and Taylor's Lamp.



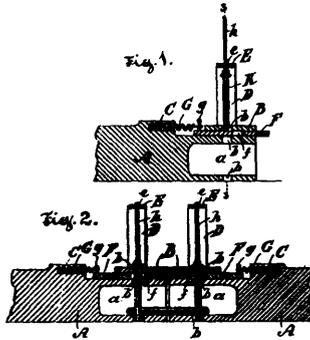
39377 Duval's Protector for Beds.



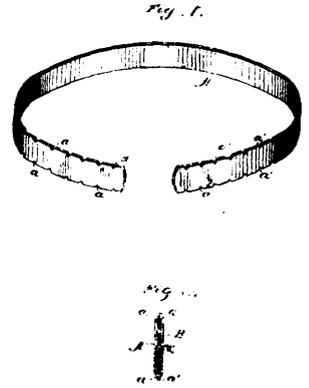
39378 Bliscoe's File.



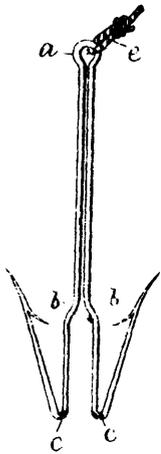
39379 Ames' Apparatus for Sewing Carpets.



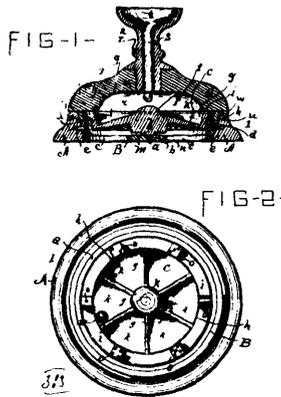
39380 Girey's Car Coupler.



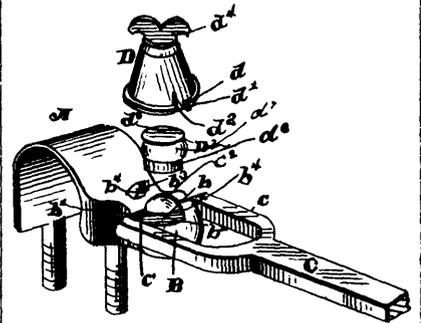
39381 Rankin's Bale Tie.



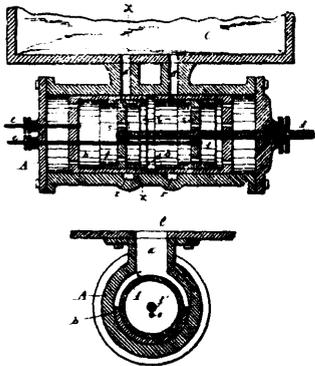
39382 Haviland's Fish Hook.



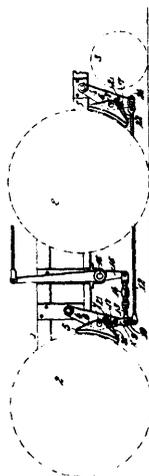
32383 Prendergast's Game.



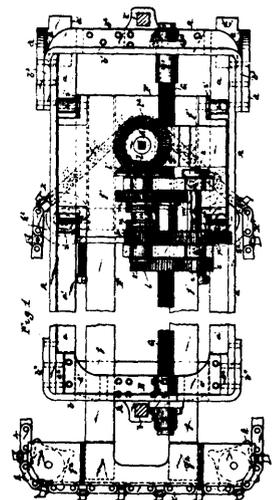
39384 Blackman's Thill Coupling.



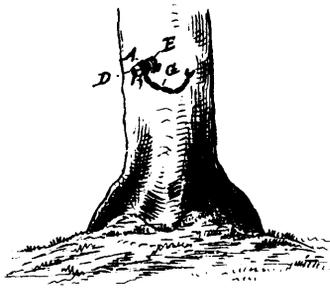
39385 Putman and Carten's Cut-off Valve for Steam Engines.



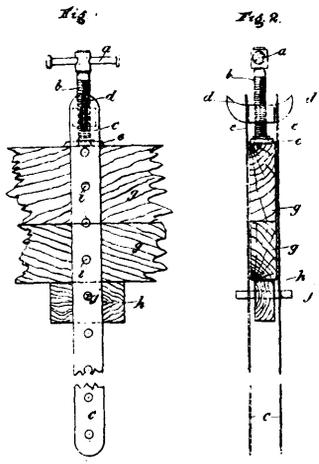
39386 Normand's Locomotive Driver Brakes.



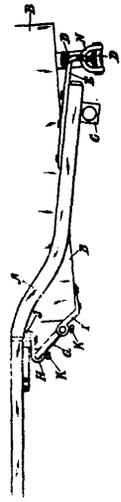
39387 Brown's Mining Machine.



39388 Finley's Timber Blasting Plug.



39389 Doddrell's Clamp for Drawing together Wooden Joints.



39390 Maxwell's Road Cart.

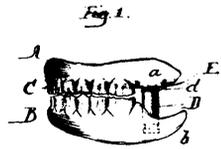


Fig. 3.

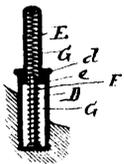
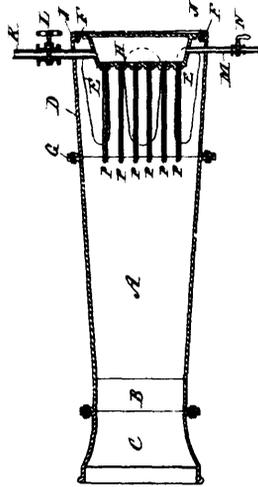


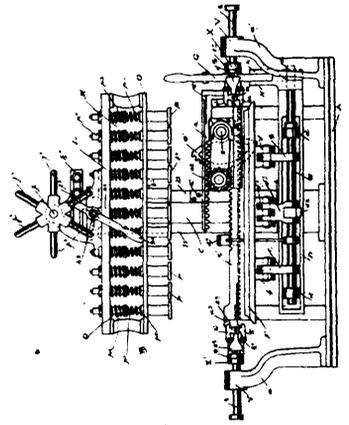
Fig. 2.



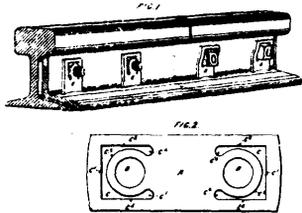
39391 Stedman's Artificial Dentures.



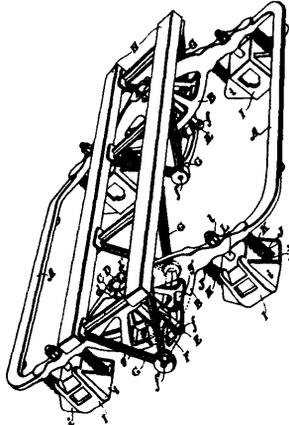
39392 Earle's Steam and Air Injector for Boiler Furnaces.



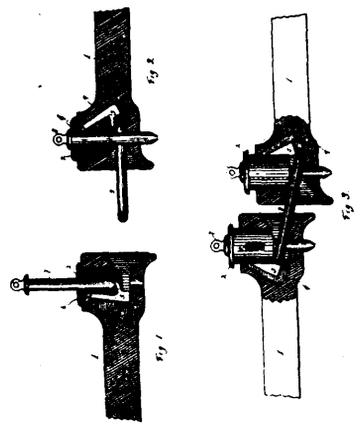
39393 Lewis and Gosselin's Moulding Machine.



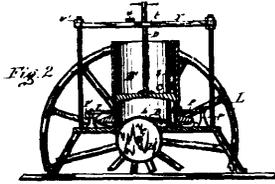
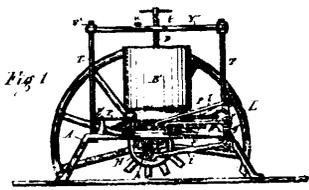
39394 Schroeder's Nut Lock Washer.



39395 Beach's Car Truck.



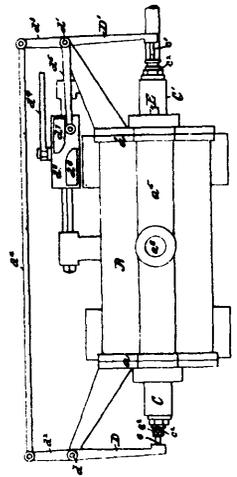
39396 Woodward's Car Coupler.



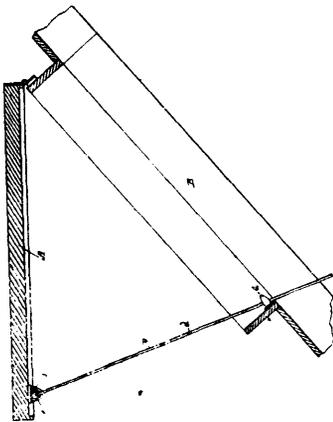
39398 Hannum's Green Bone Cutter.



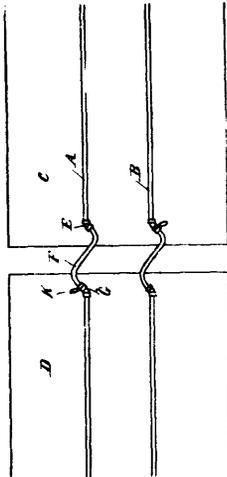
39400 Huntress' Metal Post.



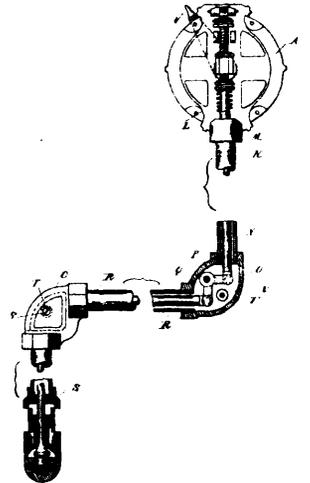
39401 Halsey's Valve for Pumps.



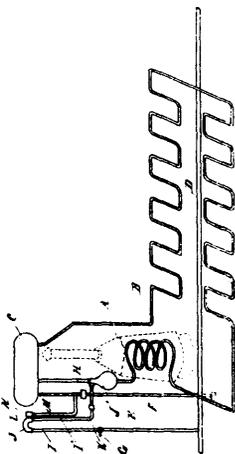
39403 Hamilton's Transom Operator.



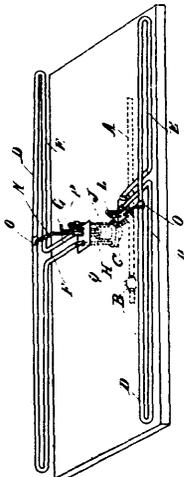
39404 McElroy's Hose Coupling.



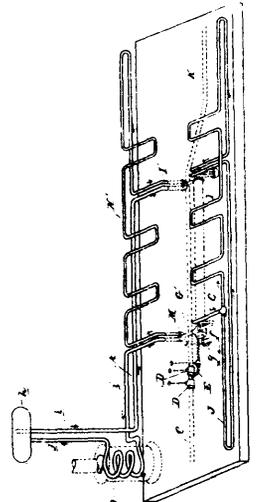
39405 McElroy's Temperature Regulator.



39406 McElroy's Car Heating Apparatus.

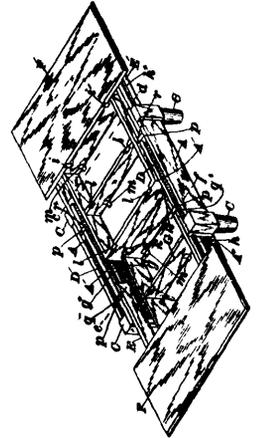
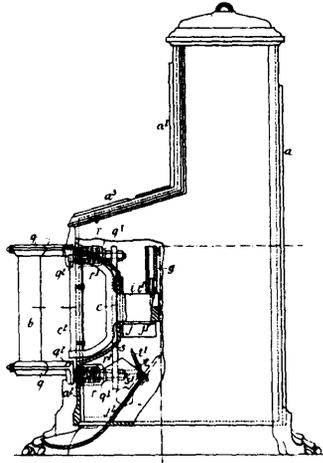
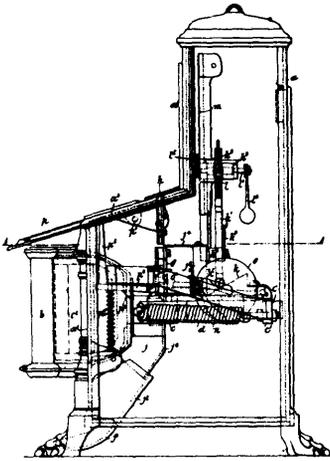


39407 McElroy's Car Heating Apparatus.



39408 McElroy's Hot Water Heating Apparatus for Railway Cars.

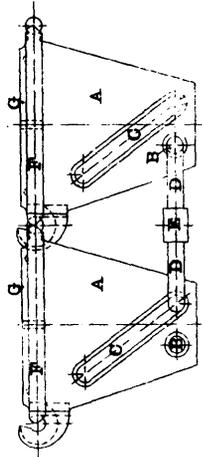
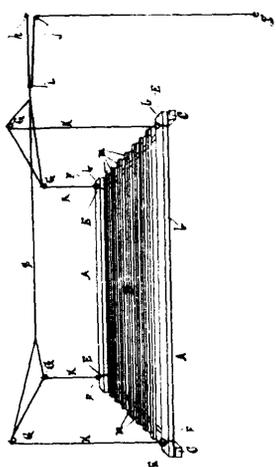
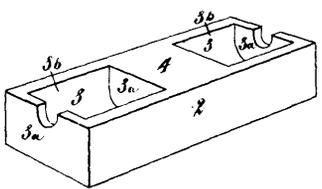
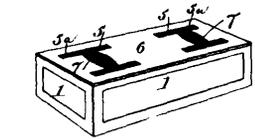




39418 Barrett's Muscular Power Testing Machine.

39419 Barrett's Muscular Power Testing Machine.

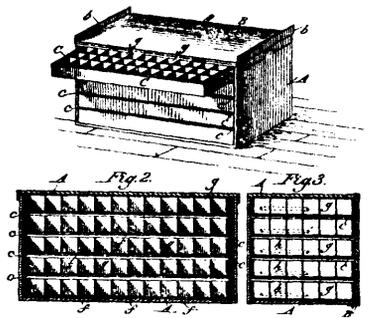
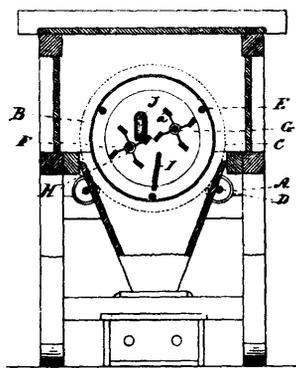
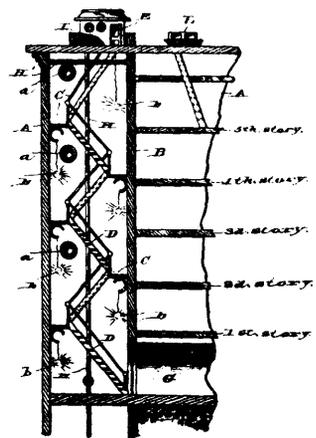
39420 Herr's Extension Table.



39421 Dunne's Match Box.

39422 Ingall's Clothes Drier.

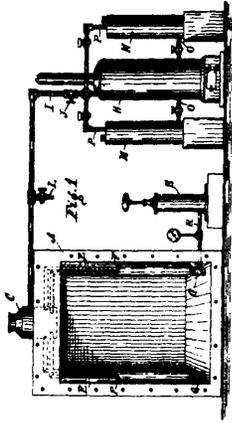
39423 Ivey's Chain Belt.



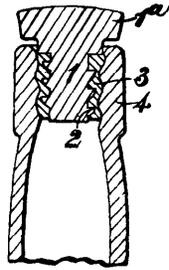
39424 Foose's Fire Escape.

39425 Dobson's Reel.

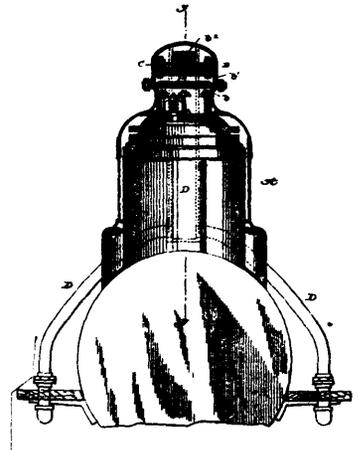
39426 Filghman's Egg Crate.



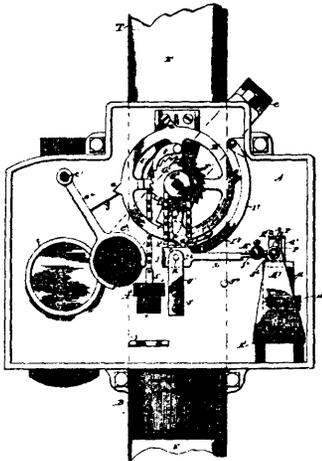
39427 Nixon's Depurator.



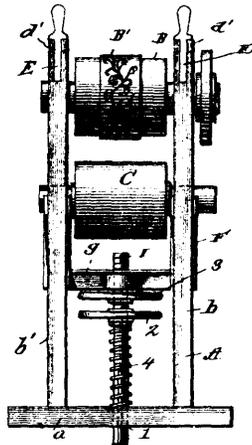
39428 Bonwick's Stopper for Bottles.



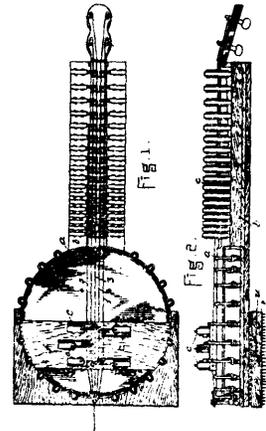
39429 Hildebrandt's Steam Muffler.



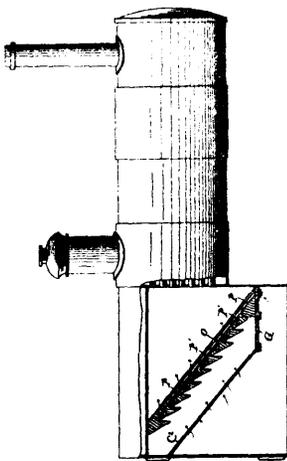
39430 Stitzel and Weinedel's Electric Semaphore.



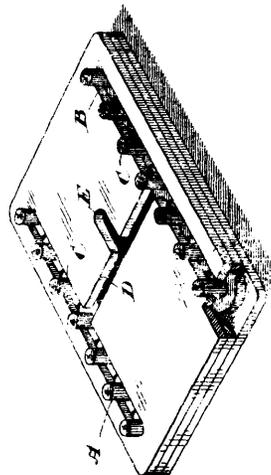
39431 Staber and Abbey's Machine for ornamenting Wood.



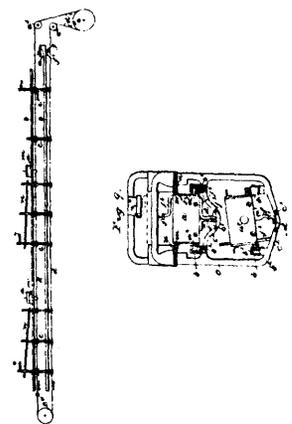
39432 Gilman's Musical Instrument.



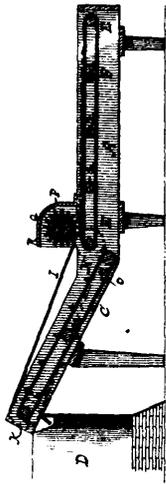
39433 Edgar's Heating Apparatus.



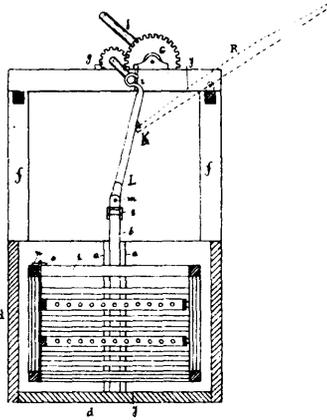
39434 Eddis' Puzzle.



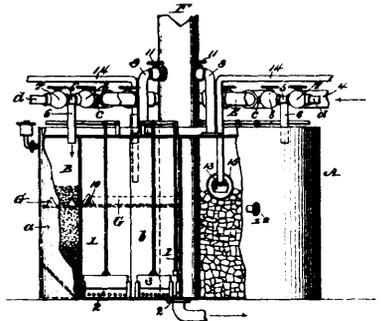
39435 Martin's Conveying Apparatus.



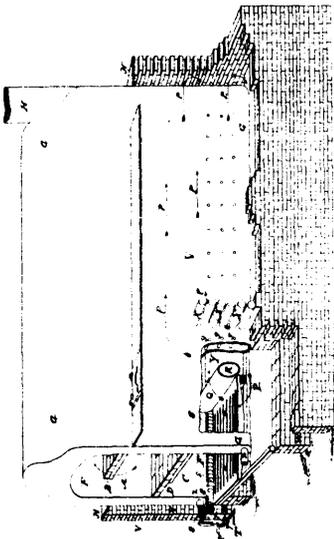
39436 Evans' Clay Pulverizer and Conveyor.



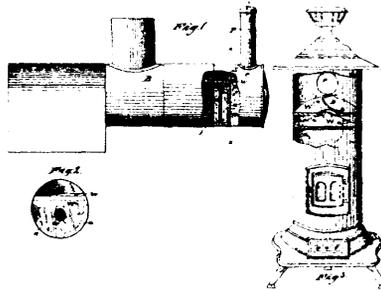
39437 Carriger's Washing Machine.



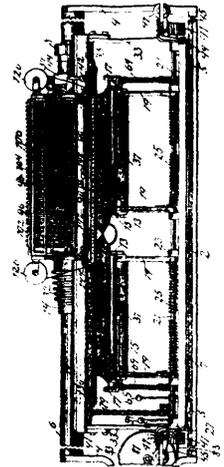
39438 Roeske's Filter.



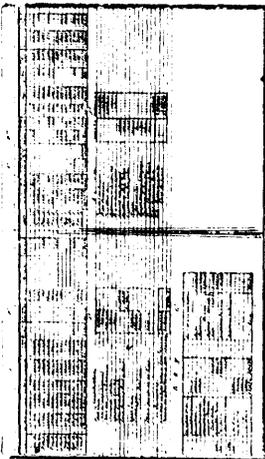
39439 Herbert's Steam Boiler Furnace.



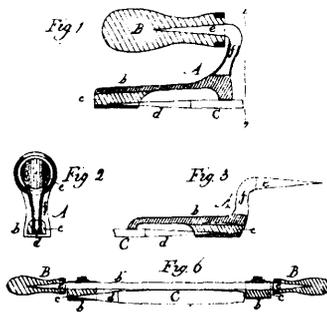
39440 Edgar's Furnace.



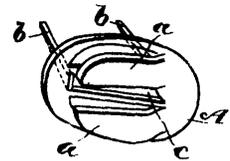
39441 Dean's Type Writer.



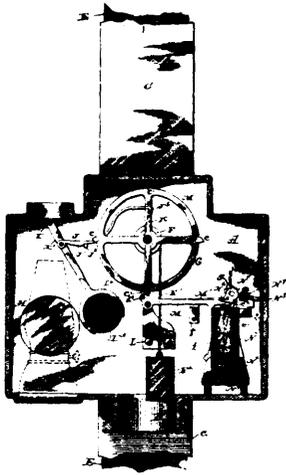
39442 Barton's Account Book.



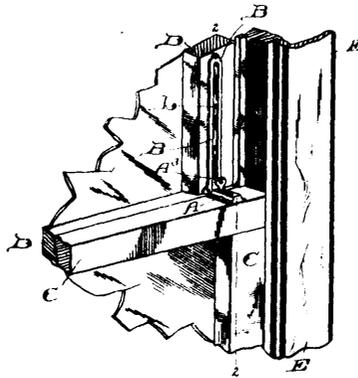
39443 Payler's Handle for Files, etc.



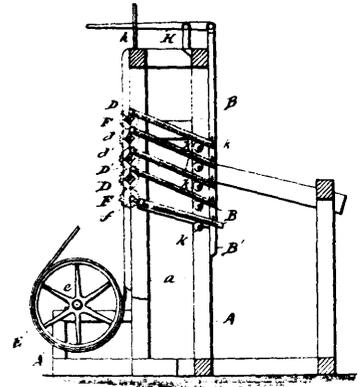
39444 Markle's Fastener for Boots and Shoes.



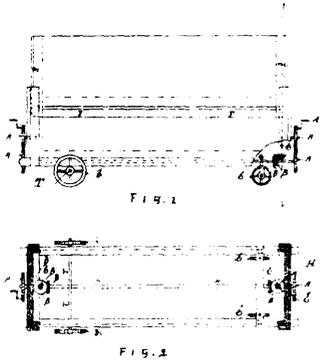
39445 Stitzel's Electric Semaphore.



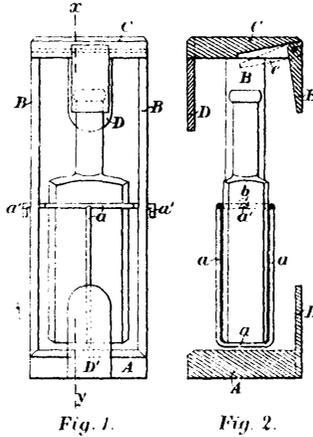
39446 Walker's Sash Fastener.



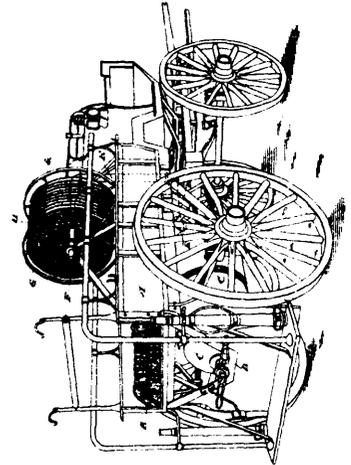
39447 Thomas' Machine for Sizing and Cleaning Coal.



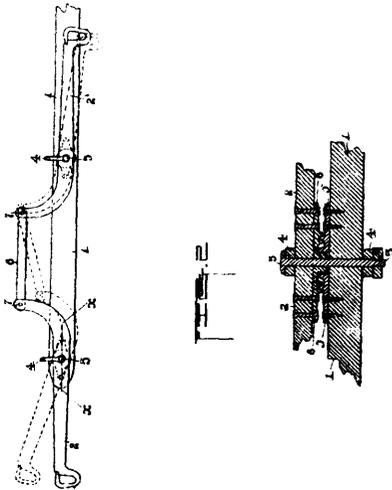
39448 Gordon's Baggage Truck.



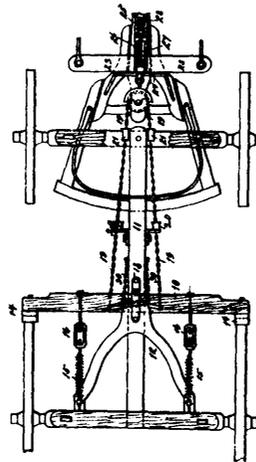
39449 Rand's Stand for Holding Bottles containing Poison.



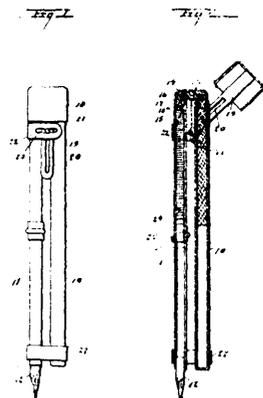
39450 Atchison's Chemical Engine, Wagon and Reel.



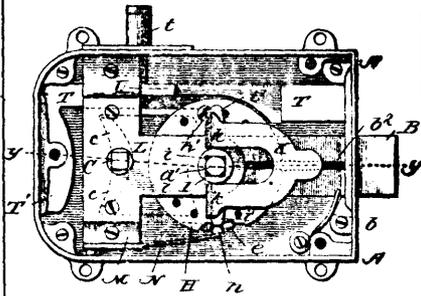
39451 Irion's Whiffletree.



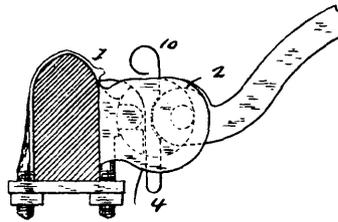
39452 Bowler's Brake.



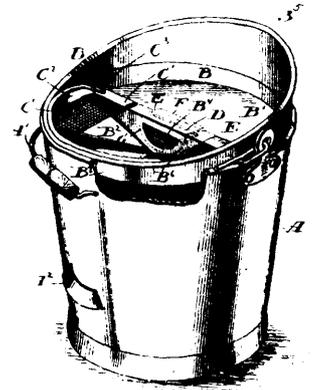
39453 Fawkes' Pocket Lamp.



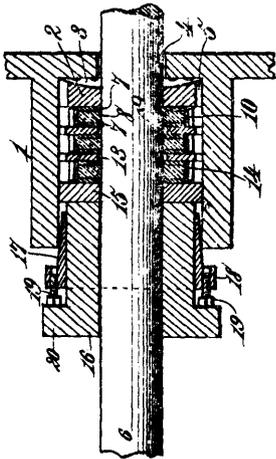
39454 Schneider, Barrett and Wierick's Permutation Lock.



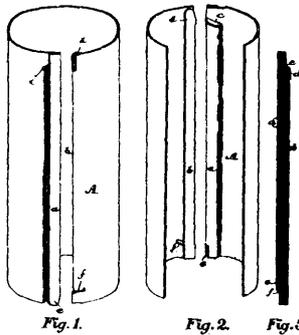
39455 Fuhs's Thill Coupling.



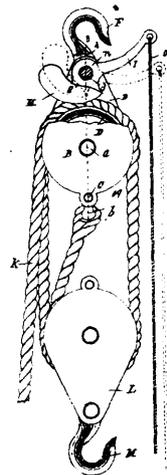
39458 Analey's Milk Pail and Strainer.



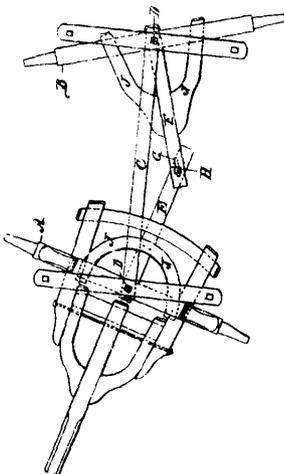
39457 Martin's Packing for Rods, etc.



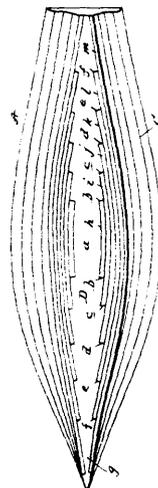
39458 Ross' Stove Pipe.



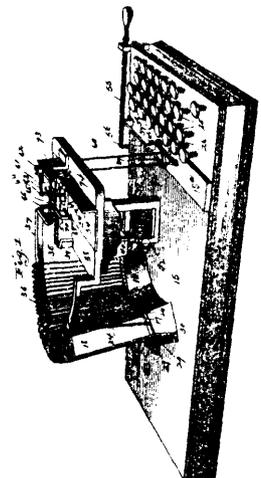
39459 Rousseau's Tackle Block.



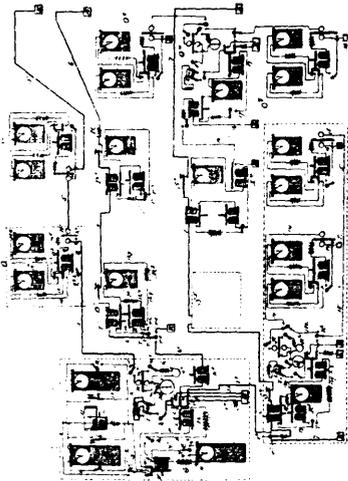
39460 Caldwell's Vehicle Running Gear.



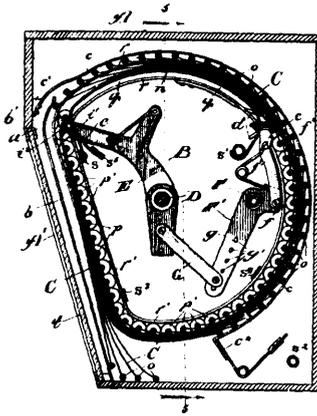
39461 Grothgar and Garfield's Keel for Vessel.



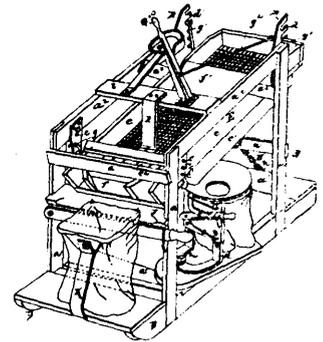
39462 Odell's Type Setting Machine.



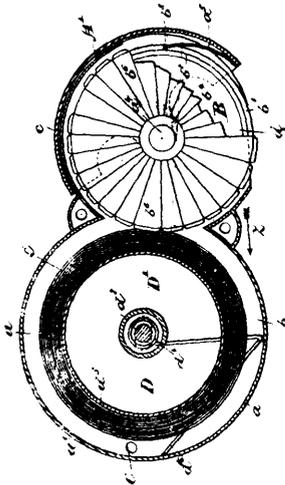
39463 Gardner's System for Synchronising Clocks and Transmitting Time Signals.



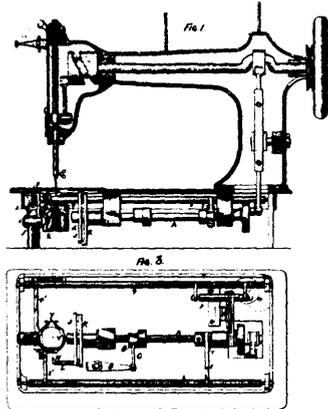
39464 Connett's Display Device.



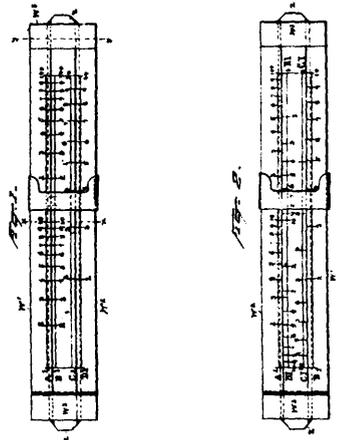
39465 Bradshaw and Meek's Separator.



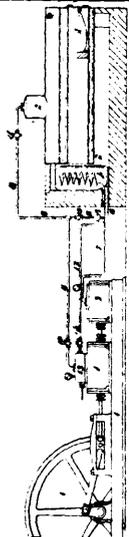
39466 Foley's Printing Device.



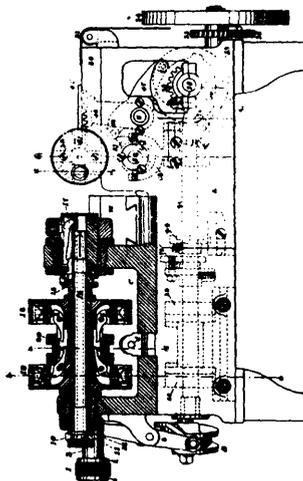
39467 Hunt's Sewing Machine.



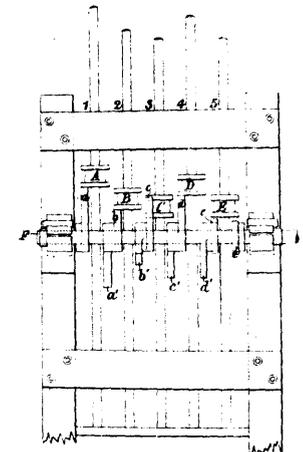
39468 Cox's Engineer's Slide Rule.



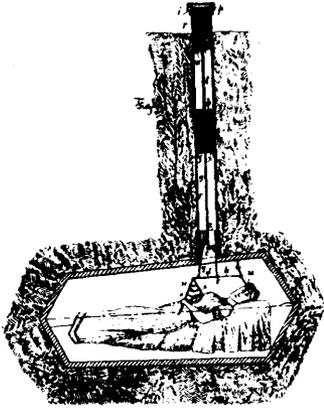
39469 Field's Apparatus for Producing Mixture of Steam and Air for use in Motive Power Engines.



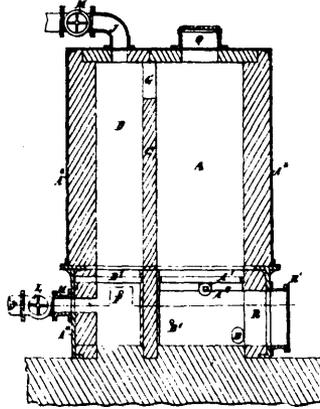
39470 Worsley's Metal Screw Machine.



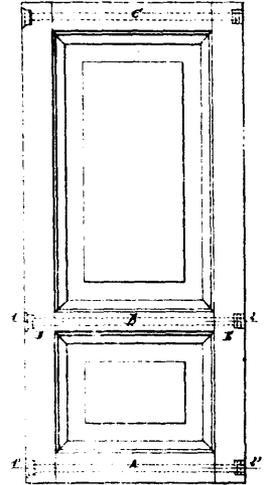
39471 Raleigh's Stamp Battery.



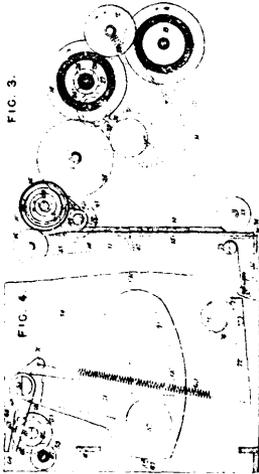
39472 Kwiatkowski's Apparatus for the Rescue of Persons buried in a Trance.



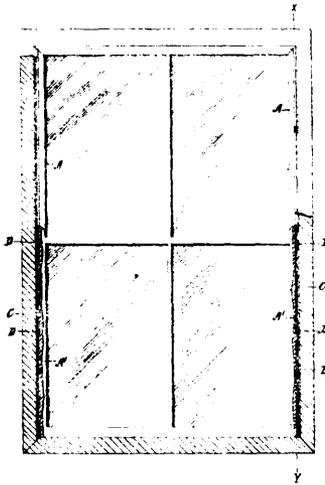
39473 Lewes' Apparatus for the Manufacture of Hydrogen Gas.



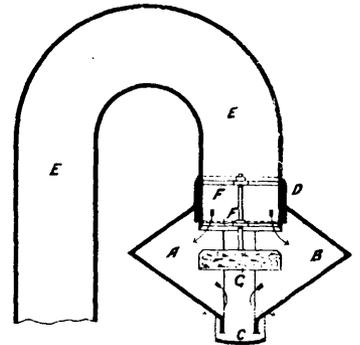
39474 Carpentier's means for holding together the various parts of a Door.



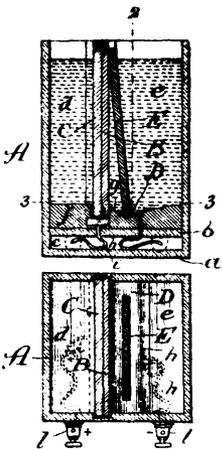
39475 Greene and Evans' Camera.



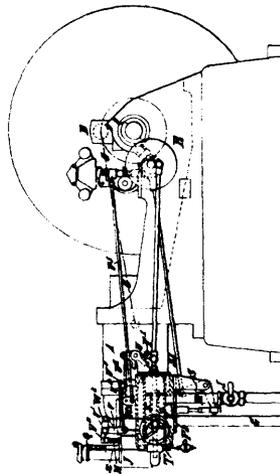
39476 Williams and Gregory's Sash.



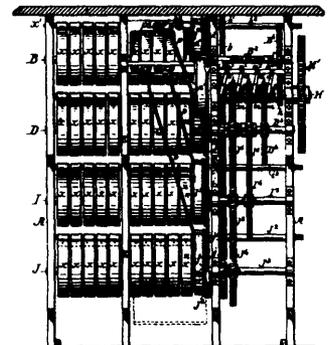
39477 Laycock's Ventilator.



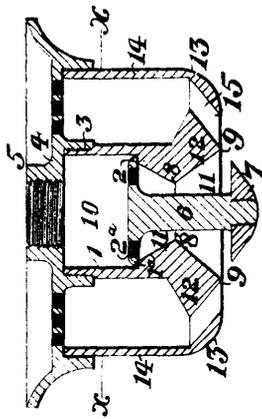
39478 Crowds' Galvanic Battery.



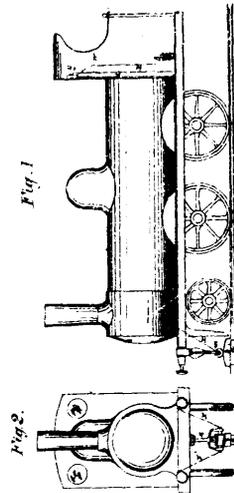
39479 Lindley and Browett's Liquid Hydrocarbon Motor Engine.



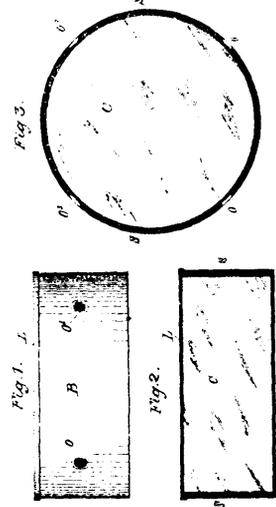
39480 Pfauts' Spring Motor for Sewing Machines.



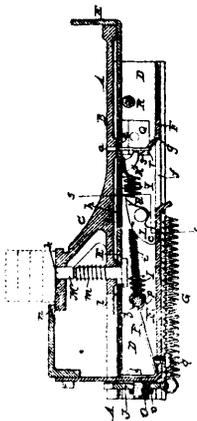
39481 Thomas' Gas Lamp.



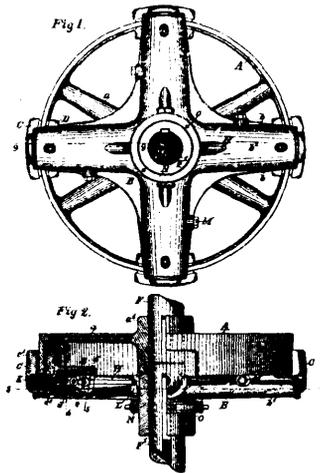
39482 Child and Emery's Signalling Device for Railways.



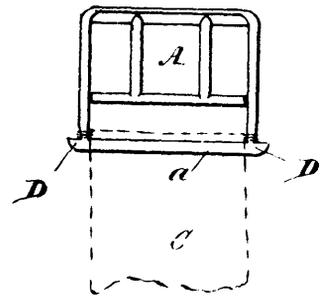
39483 Allen's Method of Packing Cheese.



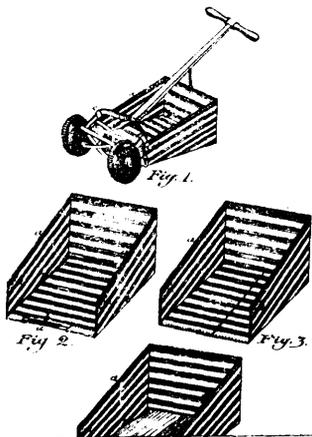
39484 Williams' Vending Apparatus.



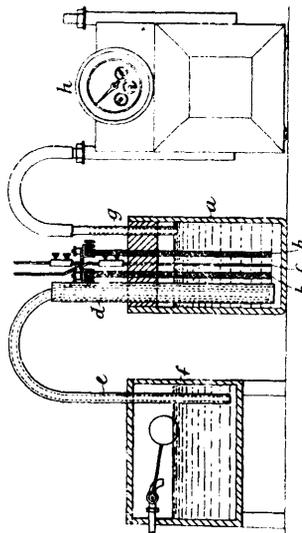
39485 Hill's Friction Clutch.



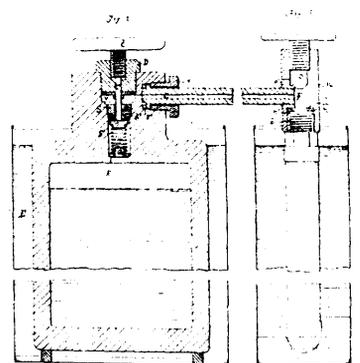
39486 Mulcair's Buckle.



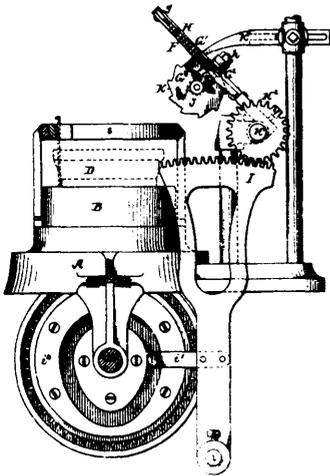
39487 Bieder's Grass Catching Attachment for Lawn Mowers.



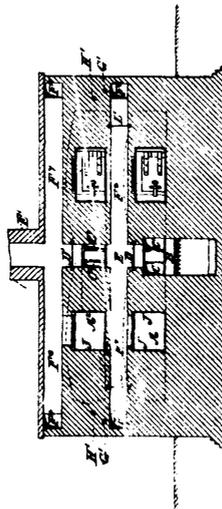
39488 Eliason's Motor for Electricity.



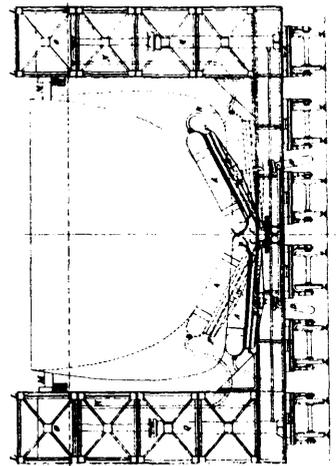
39489 Giffard's Apparatus for charging Metallic Cartridge Cases with Liquidified Carbonic Acid Gas and in the construction of such Cartridge Case.



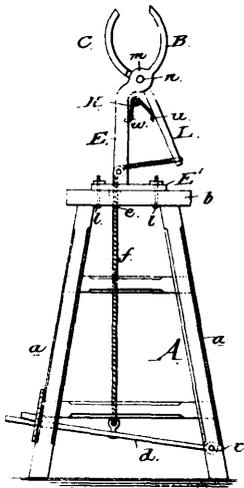
39490 Scott and Williams' Knitting Machine.



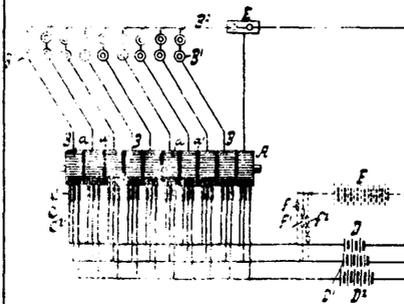
39491 Morton's Oven.



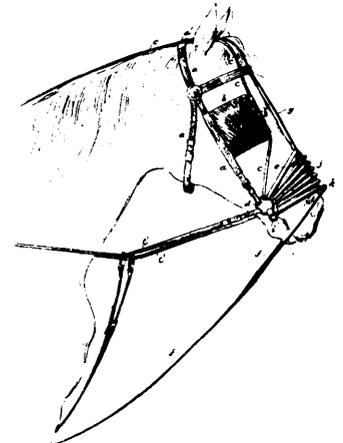
39492 Kimpfle's Apparatus for conveying Heavy Bodies Overland.



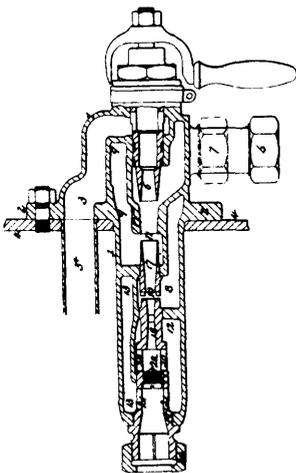
39493 Doering's Stitching Horse.



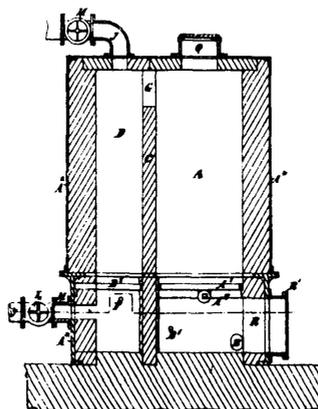
39494 Case and Evans' Electric Piano Player.



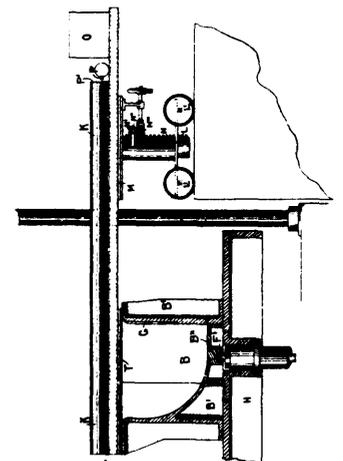
39495 Dannhauser's Harness.



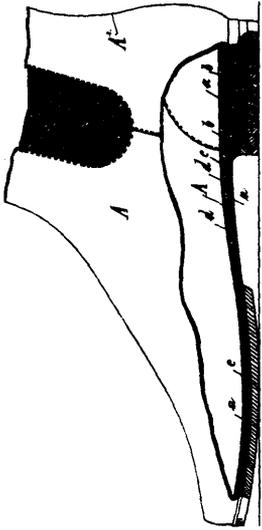
39496 Brooke's Injector.



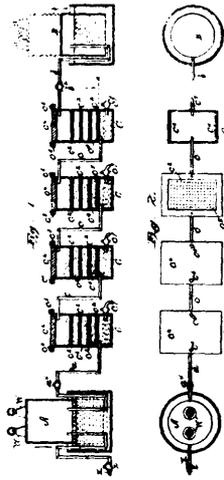
39497 Lewes' Method of Manufacturing Hydrogen.



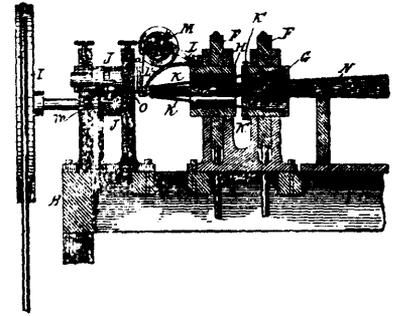
39498 Heslop's Machinery for Manufacturing Boats.



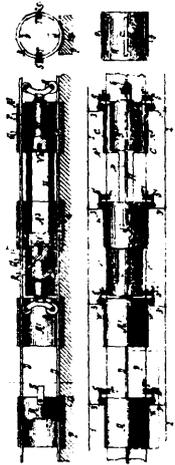
39499 Pender's method of Manufacturing Boots or Shoes.



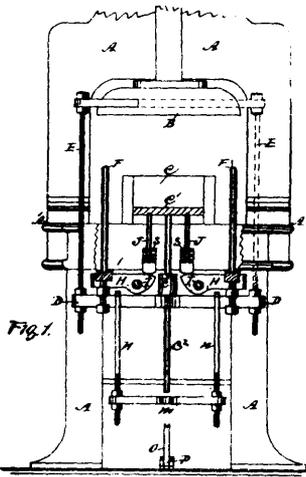
39500 Nansen's method of treating Sulphuretted Ores.



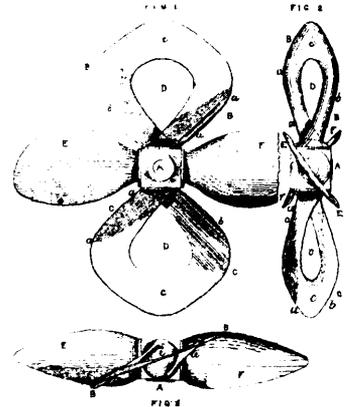
39501 Lowry's Machine for making Twine.



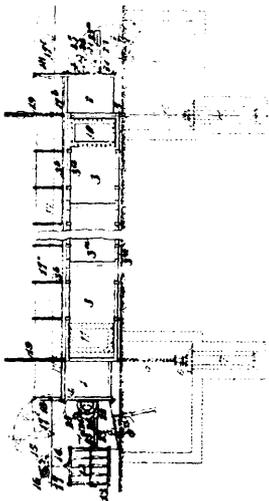
39502 Williams' Protelectrics.



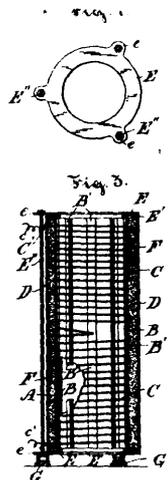
39503 Bain's Screw Press Brick Machine.



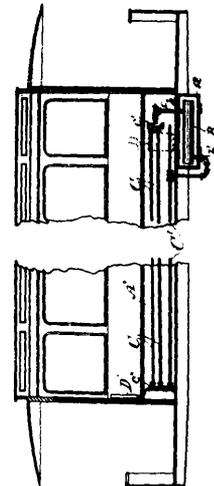
39504 Myers and Davies' Screw Propeller.



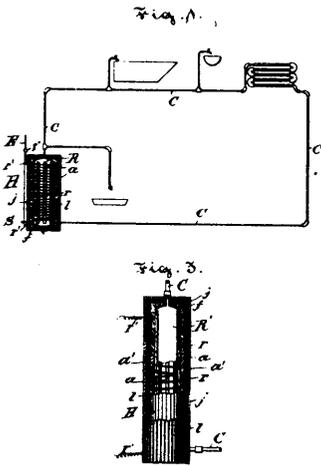
39505 Pick's Apparatus for Drying Salt.



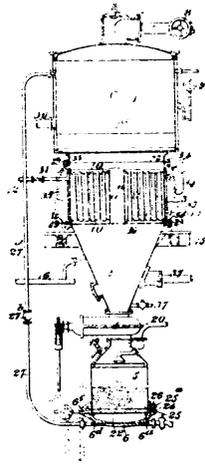
39506 Ahern's Electric Heater.



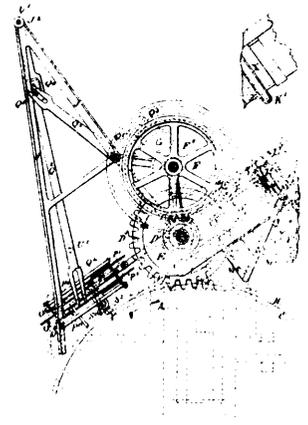
39507 Ahern's Electric Car Heater.



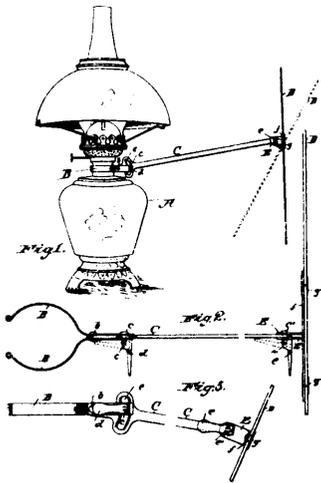
39508 Abern's method of Heating an Automatic Water Supply Electrically.



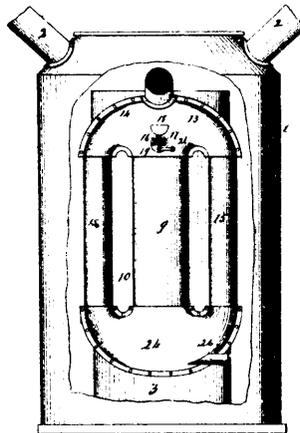
39509 Pick's Method of Evaporating Liquors containing Salt, etc.



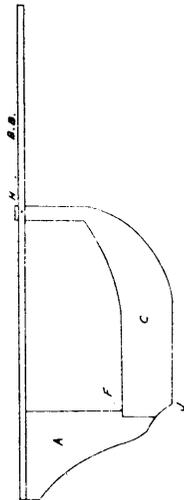
39510 Johnston's Apparatus for Feeding Paper to Printing Machines.



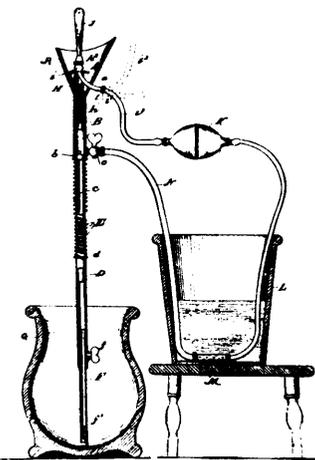
39511 Schloerb's Lamp Shade.



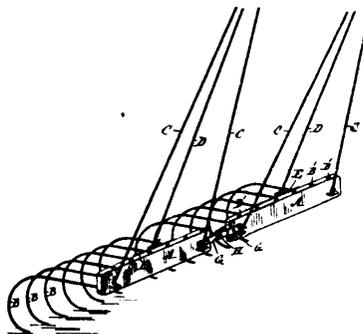
39512 Thuener and Herchenbach's Hot Air Furnace.



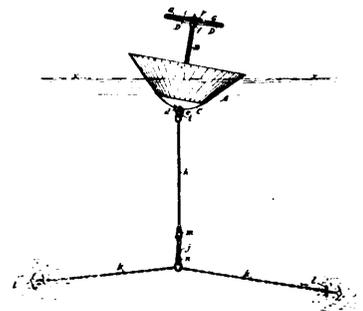
39513 Renwick's Machine for Drilling Grain.



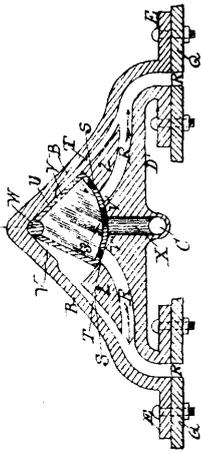
39514 Spencer's Syringe.



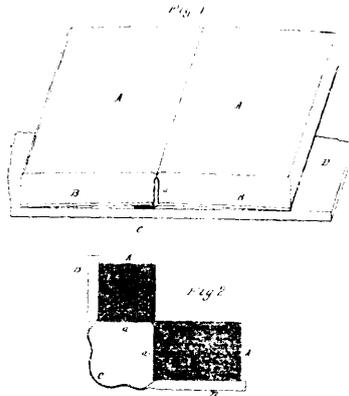
39515 Covell's Grapple.



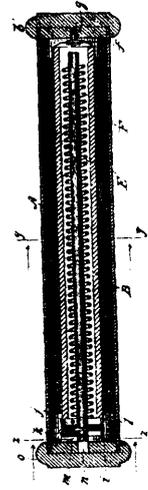
39516 Close's Fog Signal.



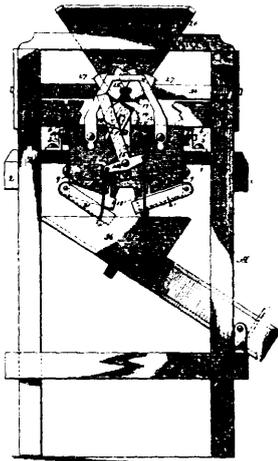
39517 Nye's Steam Vacuum Pump.



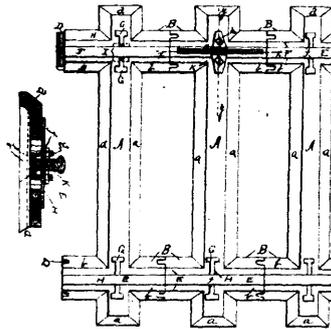
39518 Bausman's Bookbinding.



39519 Sommer's Apparatus for Copying and Duplicating Letters, etc.



39520 Henry's Grain Meter.



39521 Hoffmeier's Railroad Tie.

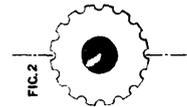
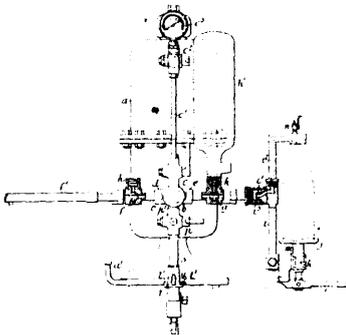


FIG. 2

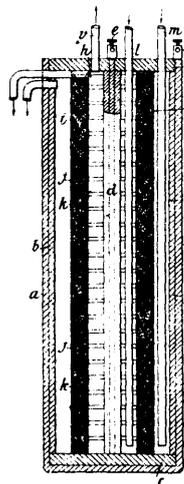


FIG. 1

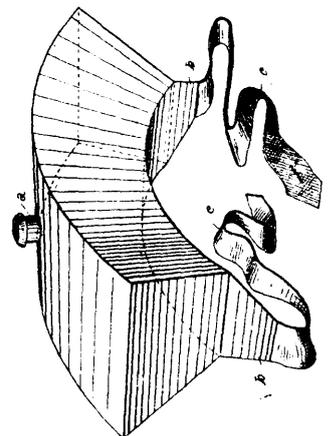
39522 Mabec's Clothes Washer.



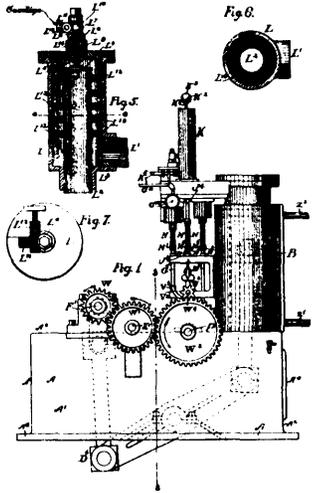
39523 Chinnery's Apparatus for Manufacturing Aerated Liquids and for filling the same into Bottles.



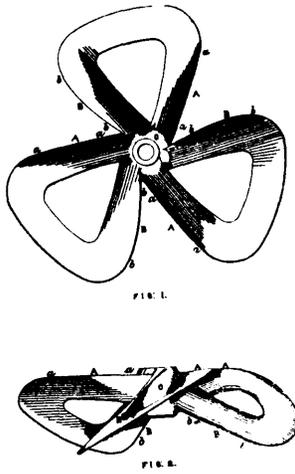
39524 Greenwood's method of Manufacturing Chlorine and Caustic Soda.



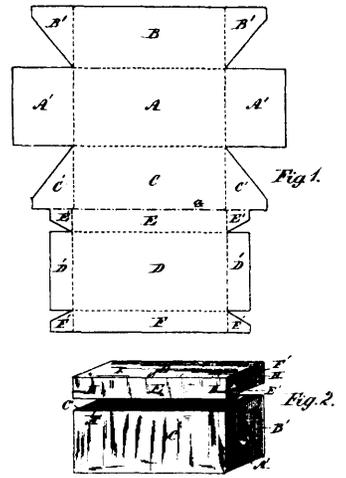
39525 Mosterts' Apparatus for preventing Snoring.



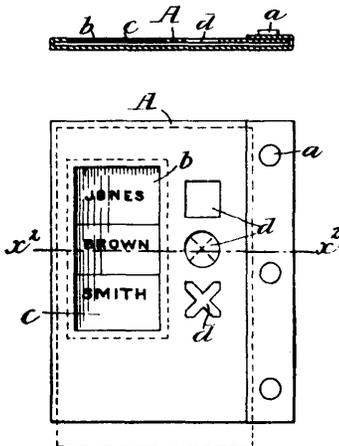
39526 Vandusen's Gas and Gasoline Engine.



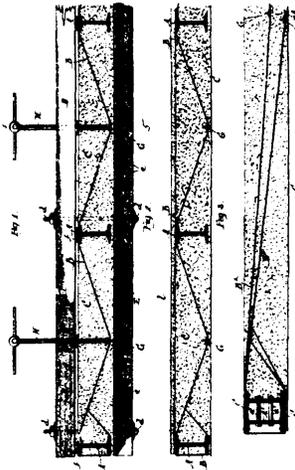
39527 Myers and Wells' Screw Propeller.



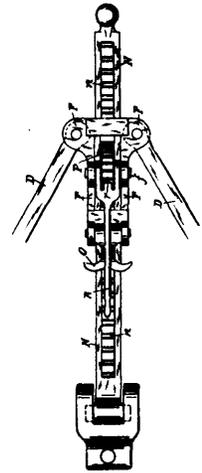
39528 Millen's Paper Box.



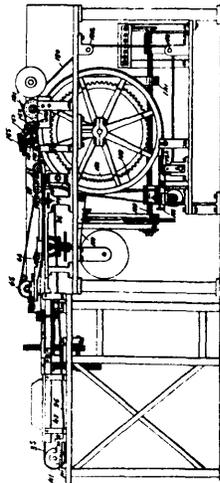
39529 Wilkins' Ballot Holder.



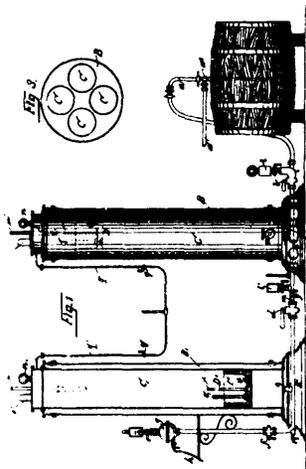
39530 McCarthy's method of constructing Fire-proof Buildings.



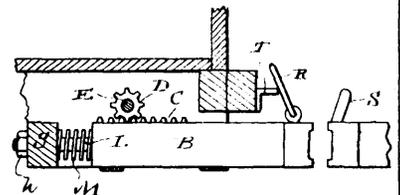
39531 Drader's Harrow.



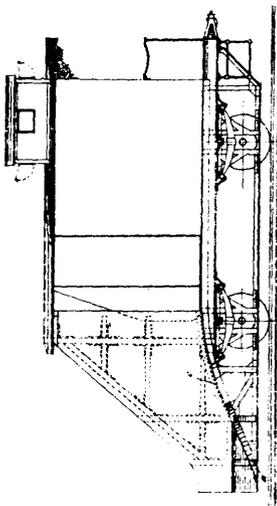
39532 Bohls' Cigarette Machine.



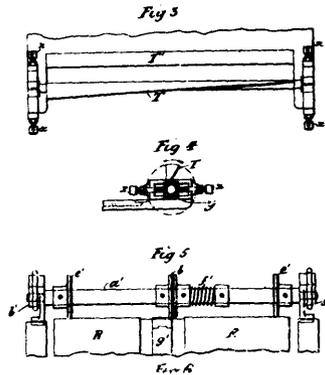
39533 Regel's Sterilising Apparatus.



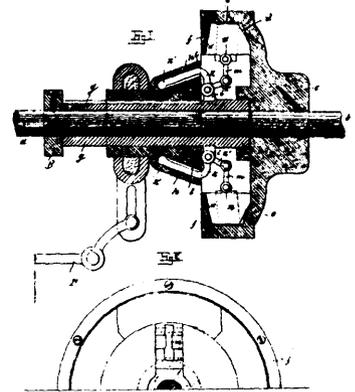
39534 Arnold's Car Brake and Bumper.



39535 Szarbinowski's Snow-plow.



39536 Lily and George's Machine for Ruling, Perforating, Printing, Numbering and Severing Web Paper.



39537 Schroeder's Friction Coupling.

FIG. I.

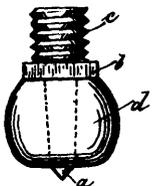
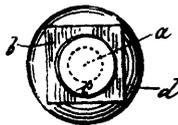
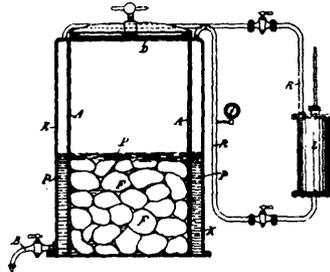


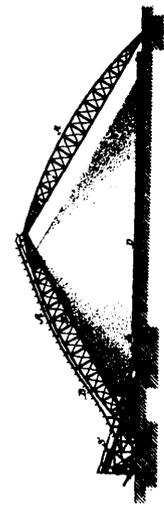
FIG. II.



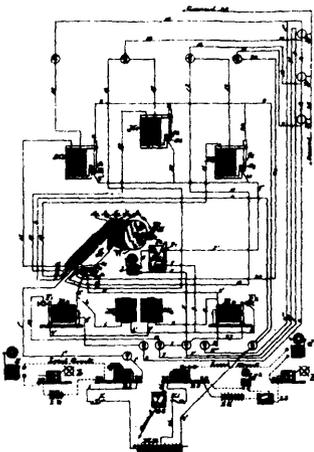
39538 Eulenfeld's Calking for Horse-shoes.



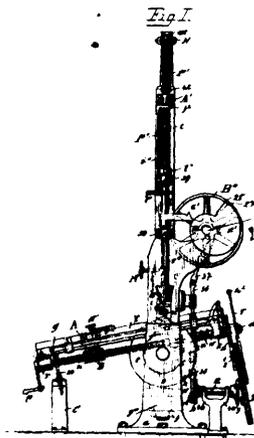
39539 Fey's Apparatus for Pickling Meat, etc.



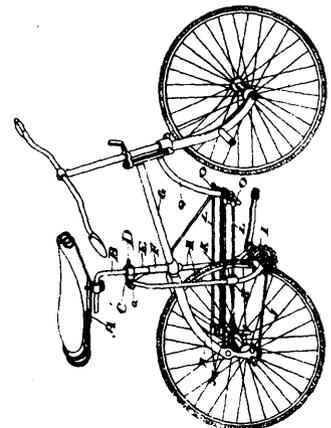
39540 Dodge's machinery for piling and removing Coal.



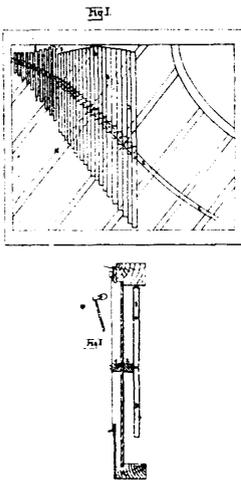
39541 McMahon's Fire Alarm.



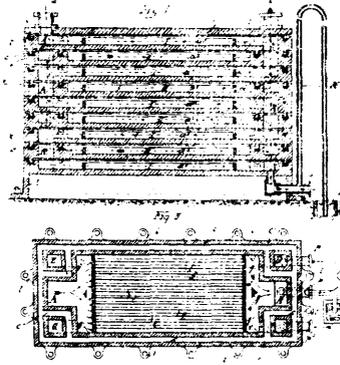
39542 Erlenwein's Cutting Machine.



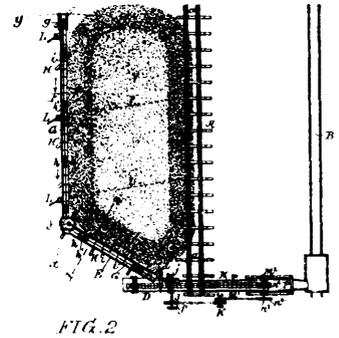
39543 Hasard's Bicycle.



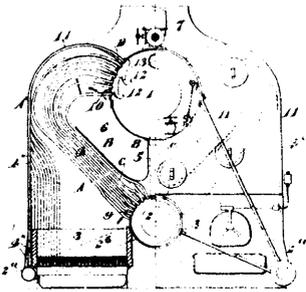
39544 Kaiser's Sounding Board for Pianos.



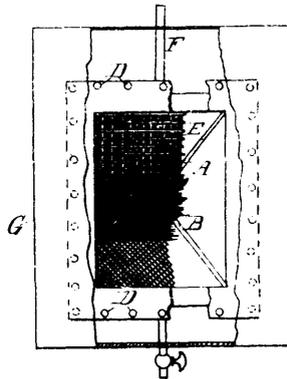
39545 Horner's Condenser for Surfaces.



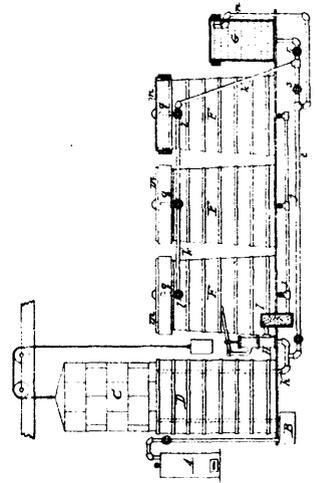
39546 Dodge's Apparatus for removing piles of Coal.



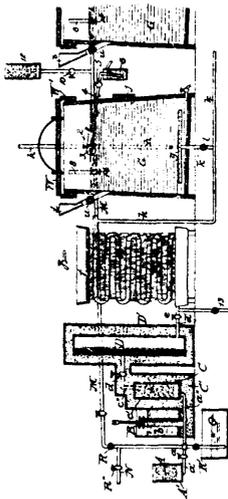
39547 Thornycroft's Steam Generator.



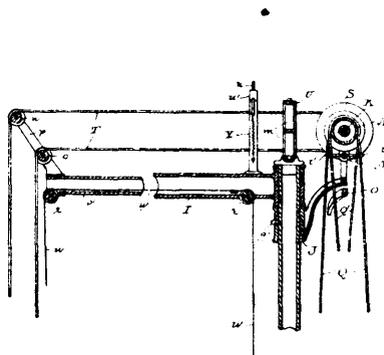
39548 Knight's Filter.



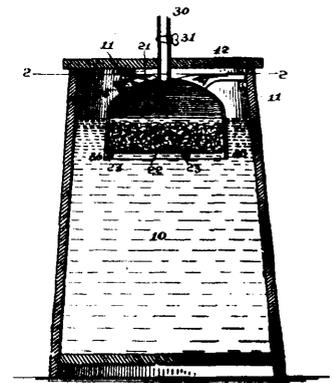
39549 Lawton's method of Manufacturing Beer.



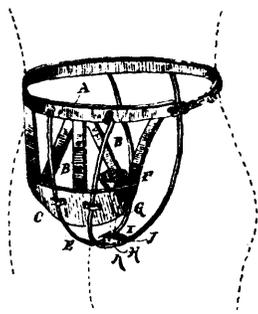
39550 Lawton's method of Manufacturing Beer.



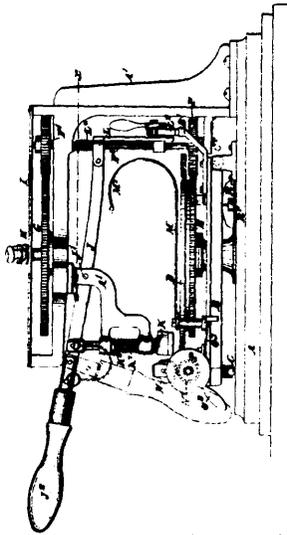
39551 Seeger's Dental Engine.



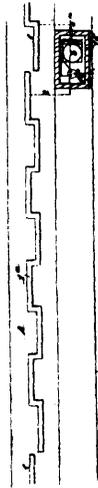
39552 Tallmudge's Gas Apparatus.



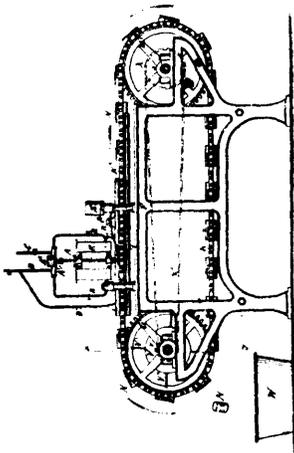
39553 McCant's Pressaries.



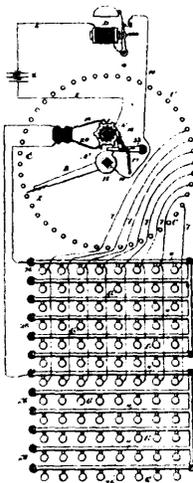
39554 Smith's Apparatus for the production of Printing for the use of the Blind.



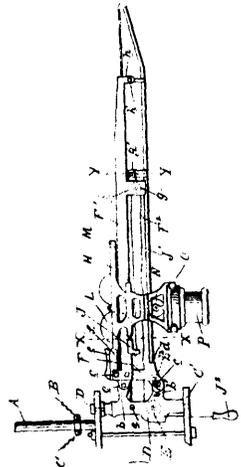
39555 Wynne's Apparatus for supplying Electricity to Electric Vehicles.



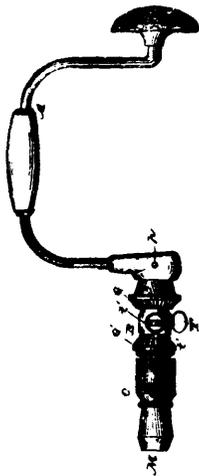
39556 Wehrlin's Soldering Machine.



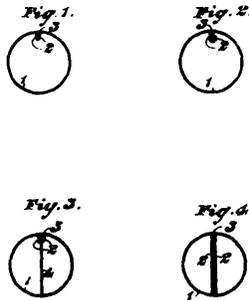
39557 Varley and Jones' Electric Time Call.



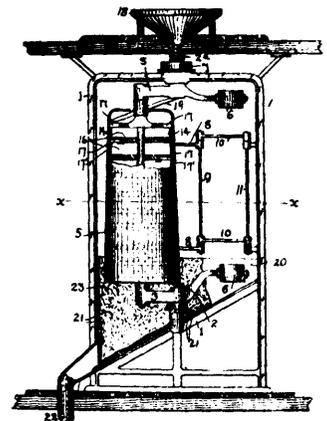
39558 Cole's Store Service Apparatus.



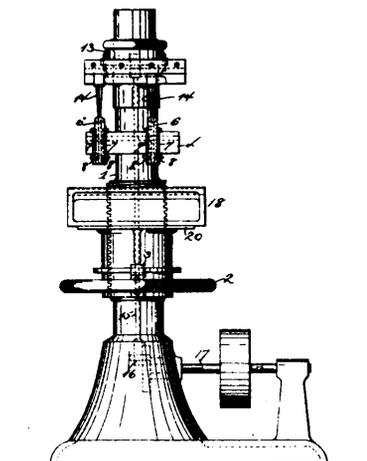
39559 McMarsh's Bic Stock.



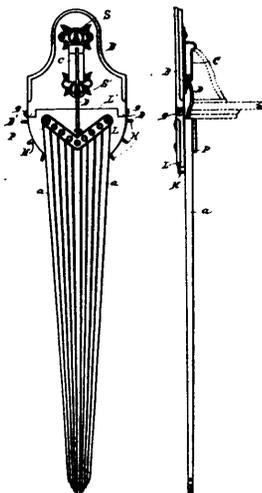
39560 Erie and Bourne's Metal Tube.



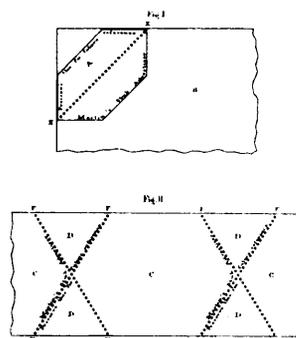
39561 Pendleton's Mill.



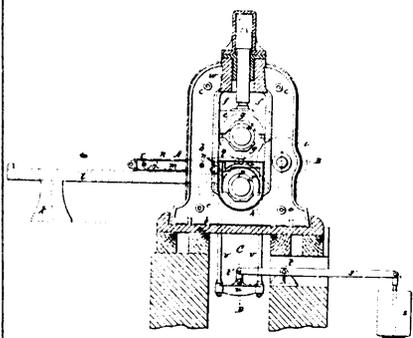
39562 Doig's Nailing Machine.



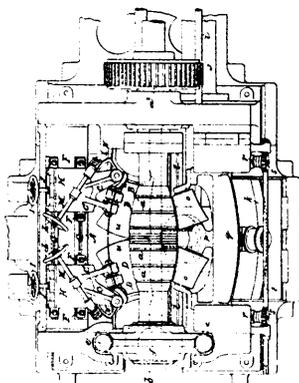
39563 Wynkoop's Clothes Drier.



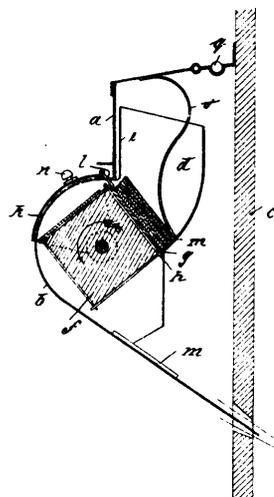
39564 Martin's method of Advertising.



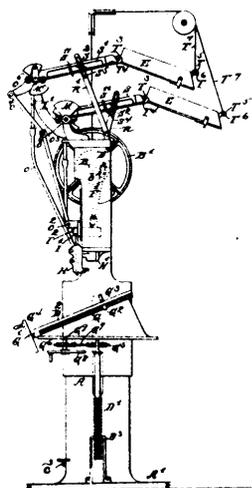
39565 Barraclough's Machinery for Rolling and Expanding Metal Tubes.



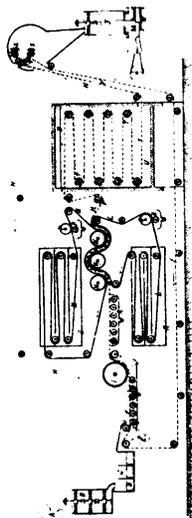
39566 Barraclough's Machinery for Shaping, Finishing and Flanging Metal Bodies for Barrels, etc.



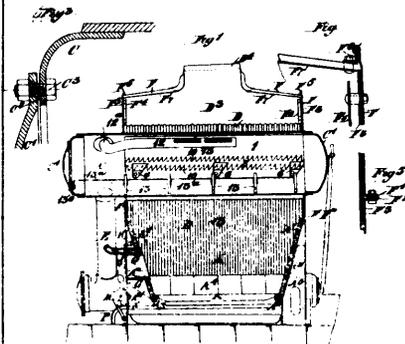
39567 Pape and Wermann's Changing Tablets on Post Boxes, etc.



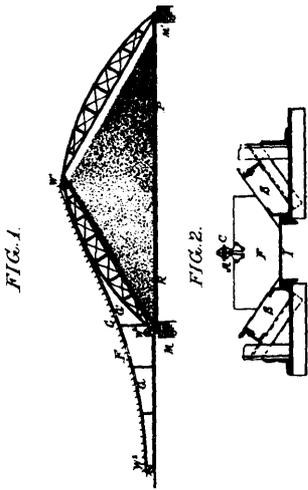
39568 Doig's Box-nailing Machine.



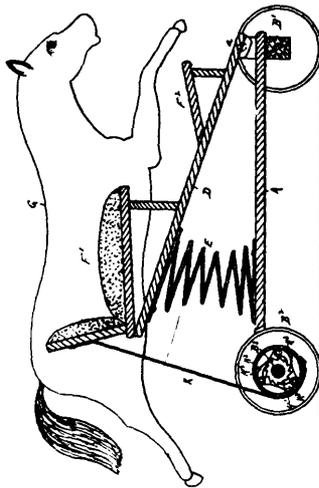
39569 Gérard's Treatment of Peat.



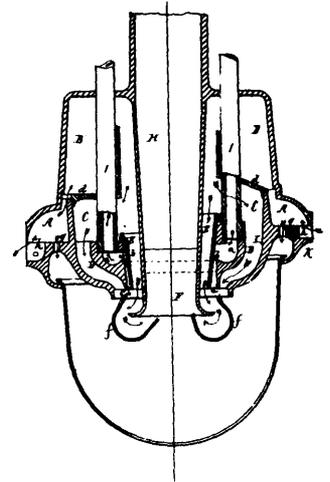
39570 Thornycroft's Steam Generator.



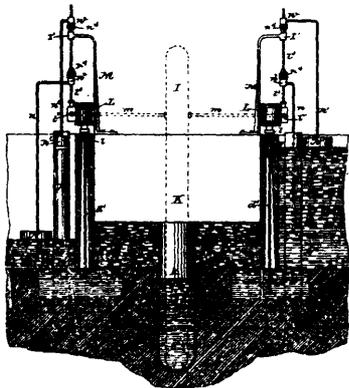
39571 Dodge's Machinery for handling Coal.



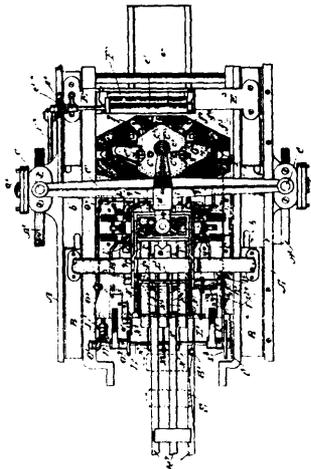
39572 Bohlig's Hobby Horse.



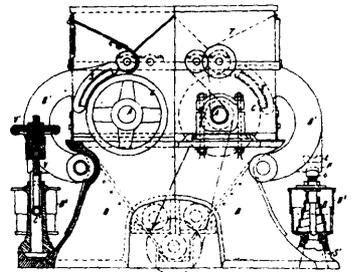
39573 Stellwag's Gas Lamp.



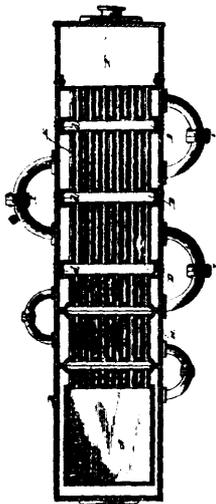
39574 Hagerty's Water Motor.



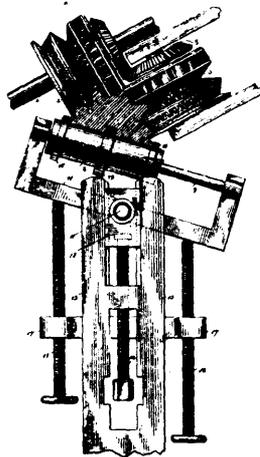
39575 Stebbins and McDonald's Machine for Making Envelopes and Placing Inclosures.



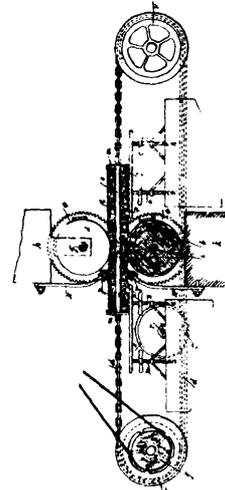
39576 Quenehen and Vansteenkiste's Machinery for Decorticating and Disintegrating Grain.



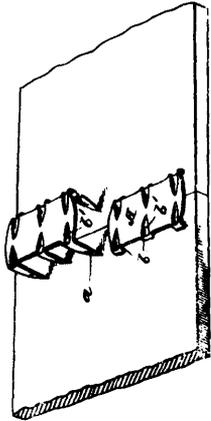
39577 Snee's Steam Generator.



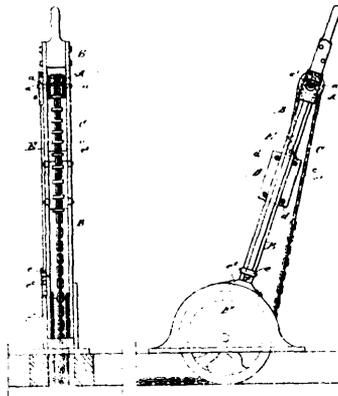
39578 Weles and Gassen's Apparatus for Producing Plastic Ornaments on Profiled Borders, etc.



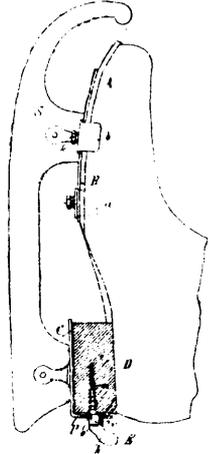
39579 Graetzer's Method and Apparatus for Making Wooden Ornaments.



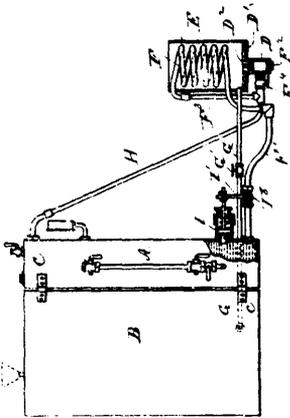
39580 Kenchan's Belt Fastener.



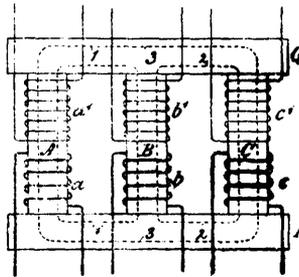
39582 Doorey, Minehan, Lodge, Boniface and Allen's Compensator for Signal Rods.



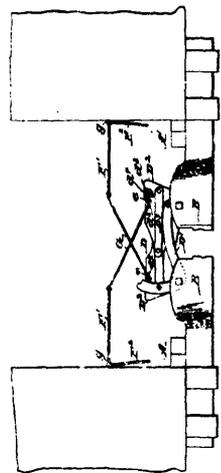
39583 Hatschek's Skate.



39584 Rose and Baird's Burner for Hydrocarbon.



39585 Von Dolivo-Dobrowolsky's Electric Transformer.



39586 Poffenbarger's Car Coupler.