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### INVENTIONS PATENTED.

NOTE—Patents are granted for 15 years. The term of years for which the fee has been paid, is given after the date of the patent.

#### No. 27,534. Machine for Making Shipping Tags. (*Machine pour faire les étiquettes.*)

The Canada Paper Company, Montreal, Que., (Assignee of Harner Denney, Brooklyn, N. Y., U.S.) 1st September, 1887; 5 years.

**Claim.**—1st. A machine for making shipping tags, constructed with two opposite punches for punching out paper disks from paper strips, a cutter for notching the edges of a paper strip, a perforator and a cutter all operated from the same shaft, substantially as herein shown and described. 2nd. A machine for making shipping tags constructed with wheels for gumming paper strips, guides for the gummed strips, punches mounted to pass through the guides for the gummed paper strips, a perforating punch, a cutter for notching the bottom edges of the paper strip, and a cutter for cutting said strip into lengths operated from the same shaft, substantially as herein shown and described. 3rd. In a machine for making shipping tags, the combination, with a frame, of gumming rollers on the same, rollers for pressing strips of paper on the gumming rollers, guides through which the gummed strips can be conducted, punches passing through apertures in said guides, and mechanism for perforating, notching and cutting a strip of paper passed longitudinally through the machine, substantially as herein shown and described. 4th. In a machine for making shipping tags, the combination, with a frame, of gumming rollers for applying adhesive material on paper strips, levers pivoted above said rollers, rollers pivoted on said levers, for the purpose of pressing the paper strips on said gumming rollers, and mechanism for punching out the gummed strips and applying them on a strip of paper passed longitudinally through the machine, and mechanism for perforating, notching and cutting the said strip, substantially as herein shown and described. 5th. In a machine for making shipping tags, the combination, with a frame, of a shaft, a driving pulley on the same, a cam-pulley on said shaft, two opposite slides operated by levers from said cam-pulley, punches on said slides, guides having apertures through which said punches can pass, gumming rollers over which strips of paper can be passed, and a lever for operating said gumming rollers from the cam-pulley on the driving shaft, substantially as herein shown and described. 6th. In a machine for making shipping tags, the combination, with a frame, of a driving shaft on the same, a cam-pulley on said shaft, two opposite slides on the frame, a punch on each slide, and a cushioned connecting rod for operating one of said slides from a lever operated by the cam-pulley, substantially as herein shown and described. 7th. In a machine for making shipping tags, the combination, with a frame, of a driving shaft on the same, a cam-pulley on said shaft, two opposite slides on the frame, the lever F operated by the cam-pulley, the rod F<sub>2</sub> connecting one of the slides with the upper end of the lever F, the lever G for operating the other slide, the connecting rod I, the socket I<sub>2</sub> having the slot I<sub>5</sub>, the pin I<sub>4</sub> projecting from the rod I through the slot I<sub>5</sub>, the washers I<sub>7</sub> and the nuts I<sub>6</sub> on the rod I, substantially as herein shown and described. 8th. In a machine for making shipping tags, the combination, with a frame, of opposite sliding punches, wheels for gumming strips of paper, guides through which the punches and the gummed strips can pass, and of rollers for winding up the punched strips substantially as herein shown and described. 9th. In a machine for making shipping tags, the combination, with a frame, a sliding opposite punches on the same, wheels for gumming strips of paper, guides through which the gummed strips and the punches can pass, rollers for winding up the punched strips of paper, a driving shaft on the frame, a cam-pulley on the said shaft and of levers and rods for operating the

punches, the gumming rollers and the winding rollers from said cam-pulley, substantially as herein shown and described. 10th. In a machine for making shipping tags, the combination, with a frame, of mechanism for punching disks of gummed paper and applying them on a strip of paper conducted over the frame, an adjustable mechanism for perforating said applied disks, and the strip, an adjustable cutter for notching the strip, an adjustable feeding device, and an adjustable cutter for cutting the strip into lengths of the desired width of the tags, all these mechanisms being driven directly from the same shaft, substantially as herein shown and described. 11th. In a machine for making shipping tags, the combination, with a frame of an intermittent feeder, a blade for cutting a paper strip into lengths, a sliding cutter for notching the strip, a punch for perforating the strip, and of a pair of punches for punching out disks of paper and applying them on said strip, substantially as herein shown and described. 12th. In a machine for making shipping tags, the combination, with a frame, of the rotating shaft A, the fixed shaft V, the adjustable cross-piece V<sub>1</sub> mounted to slide on said shaft, a fixed and a pivoted blade on said cross-piece, a screw for adjusting the cross-piece, a sliding cutter, an intermittent feeder for shifting a strip of paper, a sliding cutter for notching said strip, a punch for perforating the strip, and opposite punches for applying disks of paper on opposite sides of the strip, substantially as herein shown and described.

#### No. 27,535. Farm Gate. (*Barrière.*)

Phillip Dyer, and William Abernethy, Mooretown, Ont., 1st September, 1887; 5 years.

**Claim.**—1st. A gate consisting of the posts A, A<sub>1</sub> and rails B, B<sub>1</sub>, and brace C having intersecting bars D, E, F, and an arched brace G supported by a continuation of the bars D and strips H planted thereon, and standing on the top rail of the gate, as set forth. 2nd. The cam M pivoted to a supplementary post L hung to the ground post J, and extending through a slot or kerf I in the gate post, said cam provided with a cross-head o and a rope, and pulley or other means for lifting the cam simultaneously with the raising of the gate, as set forth.

#### No. 27,536. Improvements in a Child's Carriage, Reclining Chair and Sleeper Combined. (*Perfectionnements aux voitures d'enfants, fauteuils pliants et lits combinés.*)

John W. Savene and M. F. Richards, Toledo, Ohio, U. S., 1st September, 1887; 5 years.

**Claim.**—1st. In a child's carriage, a chair seat composed of two horizontal and one inclined portion, in combination with a lazyback hinged to the carriage, as and for the purpose described. 2nd. In a child's carriage, a reclining seat composed of a lazyback hinged to the carriage, and a flexibly connected seat, whereby a variable inclination of the reclining seat is afforded, as and for the purpose set forth. 3rd. In a child's carriage, a sleeper or bed frame pivotally connected with the body of the carriage, in combination with means for holding the stretcher to any desired inclination, as and for the purpose set forth. 4th. In a child's carriage, an extensible sleeper or bed frame pivotally connected with the body of the carriage, in combination with sliding keepers and means for holding the stretcher to any desired inclination, as and for the purpose set forth. 5th. In a child's carriage, the combination of a reclining seat having a hinged lazyback, an extensible sleeper, and telescoping rods for holding the sleeper in position, as and for the purpose set forth. 6th. In a child's carriage, convertible from a chair seat to a reclining seat or to a sleeper, a carriage-body having two horizontal portions connected by an inclined portion, in combination with a pivoted sleeper adapted to rest normally between the two horizontal portions, as and for the purpose set forth.

#### No. 27,537. Improvements in Screw Nails.

(*Perfectionnements aux vis.*)

The Russell and Erwin Mfg. Co., New Britain, (assignee of Horace K. Jones, Hartford,) Conn., U.S., 1st September, 1887; 15 years.

**Claim.**—1st. As a new article of manufacture, the herein-described

screw-nail formed of wire and having a head of solid stock, a continuous ratchet thread, and the pyramidal point extending from the end of said thread, substantially as described and for the purpose specified. 2nd. As a new article of manufacture, the herein-described screw-nail formed of wire, and having a continuous sunken ratchet thread, the pyramidal point extending from the end of said thread, and a head adapted to be engaged by a driver for turning the screw-nail axially, all substantially as described and for the purpose specified.

**No. 27,538. Improvements in Apparatus for Generating Steam and Heating Rooms.** (*Perfectionnements aux générateurs de vapeur pour le chauffage des maisons.*)

Omar A. Stemple and Ferdinand Meyrose, St. Louis, Miss., U. S., 1st September, 1887; 5 years.

*Claim.*—1st. The combination of the case or drum A, the lamp C within the same, and a boiler I consisting of the chamber *i*, the annular water-leg extending downward therefrom and over the flame of the lamp having perforations *i* near the top, and the pipes *j* projecting downward within the chamber formed by the water-leg, substantially as set forth. 2nd. The combination, with the lamp U and the boiler I consisting of chamber *i*, the annular water-leg *i*, projecting downward therefrom over the flame having perforations *i* at top, and pipes *j* projecting downward within the chamber formed by said water-leg, of the cup K extending downward from the bottom of the leg and perforated at the bottom for the admission of the burner, substantially as set forth.

**No. 27,539. Improvements on Machines for Making Picket-Fences.** (*Perfectionnements aux machines à clôtures de pals.*)

John C. Haag, Lansing, Mich., U. S., 1st September, 1887; 5 years.

*Claim.*—1st. In a machine of the kind described, the combination of two wrapping wheels having a common axis of rotation, and provided with corresponding radial slots and eccentric apertures, a bifurcated frame to which said wrapping wheels are journaled, and having slots communicating with the radial slots in the wrapping wheels, and suitable mechanism for revolving the wrapping wheels, all arranged to operate substantially as described. 2nd. In a machine of the kind described, the combination of two wrapping wheels having a common axis of rotation, and provided with corresponding radial slots and eccentric apertures, a bifurcated frame to which said wrapping wheels are journaled, and having slots communicating with the radial slots in the wrapping wheels of the intermeshing drive wheel placed at right angles to the wrapping wheels of the hand brace for communicating the motion thereto, all substantially as described. 3rd. In a machine of the kind described, the combination of two wrapping wheels having a common axis of rotation, and provided with corresponding radial slots and eccentric apertures, a bifurcated frame to which said wrapping wheels are journaled, and having slots communicating with the radial slots in the wrapping wheels of the intermeshing drive wheel, placed at right angles to the wrapping wheels of the hand-brace adapted to communicate motion to the drive wheel and of the rest B, all arranged, constructed and operating substantially in the manner and for the purposes described.

**No. 27,540. Machine for Pointing and Lapping the ends of Blank Hoops.** (*Machine à tailler les bouts des ébauches de cercles.*)

Fitzland L. Wilson, West Bay City, Mich., U. S., 1st September, 1887; 5 years.

*Claim.*—1st. In a hoop pointing and lapping machine, the combination, with a cutting block *k* rigidly secured to the machine frame of a reciprocating V-shaped pointing knife *ki*, a pressure foot *p* above the cutting block and adapted to pass between the shaped blades of the pointing knife, and devices imparting a reciprocating movement to the pointing knife, substantially as and for the purpose set forth. 2nd. The combination, in a hoop pointing and lapping machine, with devices for pointing and lapping the ends of blank hoops, and with endless carrying chains extending across the machine, and devices for imparting an intermittent movement to the chains, whereby the hoop blanks are carried from one operating device to another, of devices for stopping and holding the chains while the hoop blanks are being operated upon consisting substantially of a break wheel *h* secured to the chain propelling shaft, a break *h* upon the wheel, a lever *li* connected with the break, and a revolving cam pit operating upon the lever to apply the break, substantially as and for the purpose set forth. 3rd. In a hoop pointing and lapping machine, the combination, with devices, substantially as described, for pointing and lapping the ends of blank hoops, and endless chains extending across and supported on sprockets on opposite sides of the machine, and provided with outwardly projecting lugs, of a piece *j* having the groove *j* for supporting and guiding the chain between the sprockets substantially as and for the purpose set forth. 4th. In a hoop pointing and lapping machine, the combination, with devices for pointing and lapping the ends of blank hoops, the endless chains extending across the bed and mounted upon sprockets on opposite sides of the machine, of devices for transmitting a step-by-step movement to the chains, consisting substantially of the ratchet wheel *f* mounted upon the shaft *f*, carrying one of the said sprockets, the arm *e* loosely secured to the shaft, the pawl *g* pivoted to the arm and engaging with the ratchet, the track *dt* and pitman *e* connecting the crank with the arm *e*, substantially as and for the purpose set forth.

**No. 27,541. Running Gear for Sleighs.** (*Châssis de traîneau.*)

Robert E. Lee, Almont, Mich., U. S., 1st September, 1887; 5 years.

*Claim.*—1st. The combination, with a sleigh runner, having an

upward and inward curve, of a knee connected at the lower end to the main portion of the runner, in line with and forming a continuation of the curved portion of the runner, and a coupling connecting the upper end of the knee and the end of the curved portion of the runner together, substantially as described. 2nd. The combination, with a sleigh runner having an upward and inward curve, of a knee in line with and forming a continuation of the curved portion of the runner, a T-coupling connecting the end of the runner and the upper end of the knee together, and a bench connected to one branch of the said coupling, substantially as described. 3rd. A running gear for sleighs, consisting of tubular runners provided with runner irons, and bent upward and inward at the front ends, tubular knees and benches, the front knees being connected to the ends of the runners, and brace-rods connected to the runners, knees and benches, substantially as described. 4th. The combination, with a sleigh runner, of a knee having one end split or bifurcated to embrace said runner, and fastening devices securing the knee to the runner, substantially as and for the purposes described.

**No. 27,542. Under Garment.**

(*Vêtement de dessous.*)

Francis B. Brown, Boston, Mass., U. S., 1st September, 1887; 5 years.

*Claim.*—1st. The herein described combination garment, consisting of the body A and the legs B, B, permanently attached as a continuous garment, the leg portions extending from the front rearward at the waist-line to about the hip-line open at the rear with the flap C, attached to the back at the waist-line adapted to be brought forward between the legs, and provided with extensions D, D, and E, E, the said extensions D, D, adapted to be brought forward at each side, and to meet the extensions E, E, so as to secure the said flap, substantially as described.

**No. 27,543. Lever Knife for Cutting and Trimming Horses' Hoofs and Cutting Wire and Horse Nails and other Materials.** (*Couteau à levier, pour couper et dresser les sabots des chevaux, couper le fil de fer, le clou à cheval et autres objets.*)

Daniel H. Winters, Pictou, Ont., 1st September, 1887; 5 years.

*Claim.*—1st. The combination of the cutters *a*, *a*, and the levers *b*, *b*, and C, C, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the levers *b*, *b* and C, C, substantially as and for the purposes hereinbefore set forth.

**No. 27,544. Carriage Spring.** (*Ressort de voiture.*)

Samuel W. Patton and Edward B. Guerin, Newark, N. J., U. S., 1st September, 1887; 5 years.

*Claim.*—In a vehicle, the combination, with the body and bars *d* thereof, of springs *c*, *c*, attached to said bars at their outer extremities, and having their inner ends all interlaced, forming a truss-like structure and also forming a series of separated bearings, the downward pressure on any given bearing being distributed throughout the series, substantially as set forth.

**No. 27,545. Drawer Equalizer.**

(*Régulateur de tiroir.*)

Joseph H. Knaus, Fayette, Miss., U. S. A., 1st September, 1887; 5 years.

*Claim.*—1st. The combination, with a drawer and its casing, of a shaft journaled in the drawer at right angles to the line of movement, and a cord or other flexible connection, as described, arranged at each end of the shaft and wound around the same, the said cords having their ends connected respectively to the front and back of the casing, substantially as shown and described. 2nd. The combination, with a drawer and its casing, of a shaft journaled in the drawer at right angles to the line of movement, spring bearings for said shaft, and a cord or other flexible connection, as described, arranged at each end of the shaft, and wound around the same, the said cords having their ends connected respectively to the front and back of the casing, substantially as and for the purpose described.

**No. 27,546. Draft Attachment to Locomotive Furnace.** (*Appareil de tirage pour fourneau de locomotive.*)

George W. Wheeler, Ogdensburg, N. Y., U. S. A., 1st September, 1887; 5 years.

*Claim.*—1st. In a draft attachment for furnaces, the air pipe F opening into the ash pit D, and extended to the outer atmosphere to feed the fire with fresh air, substantially as shown and described. 2nd. The combination, with a furnace, of one or more air pipes F discharging into the ash pit, the upper end provided with a journal-shaped cowl G adjustable to face in any direction, whereby air is supplied to the furnace under pressure of the wind or that of the moving locomotive, as set forth. 3rd. The combination, with a furnace, of one or more air pipes F discharging into the ash-pit, and having cowls G adjustable to collect the atmosphere, and a series of graduated plates J hung from the grate bars C to increase the draft and equalize the distribution to all parts of the furnace, as set forth. 4th. The combination, with the furnace A, of a pipe or pipes F feeding air to the ash-pit, and plates H adjustable within the ash-pit to direct the current of air in any desired direction, as set forth. 5th. The combination, with a furnace A, of a pipe or pipes F supplying air to the ash-pit D, plates H adjustable within the ash-pit to direct the inflowing air, and deflecting plates J hung to the grate bars to equally distribute the draft to the fuel, as set forth.

### No. 27,547. Method of Spinning and Twisting Yarns and Threads. (*Manière de filer et retordre les fils.*)

Matias A. Drotina and Joseph Just, Rothkosteletz, Provinces of Bohemia, Empire of Austria, Hungary, 1st September, 1887; 5 years.

*Claim.*—1st. An improved method of converting roving into yarn and of twisting yarns, the said method consisting in unwinding the roving or the doubled yarns from a rotating spindle, and hereafter passing the said roving or doubled yarns from a rotating spindle, and hereafter passing the said roving or doubled yarns between two nipping rollers, or any other nipping device adapted to prevent the roving or yarns from twining, substantially as and for the purpose set forth. 2nd. The combination, with a rotating spindle carrying a cop of roving or of doubled yarns, of two nipping rollers or any other nipping device, through which the roving or set of yarns unwinding from the spindle is passed, and of a reel or a warp-beam, or any other winding mechanism for the yarn or thread coming from the nipping device to wind thereon, substantially as and for the purpose set forth. 3rd. The combination, with a rotating spindle, carrying a cop of roving or of doubled yarns, of two nipping rollers, or of any other nipping device through which the roving or the set of yarns unwinding from the spindle is caused to pass, of an apparatus for reeling or winding up the product delivered by the nipping device, and with machines or apparatus for starching, sizing, printing, cleaning, drying, dyeing, bleaching, or finishing the product, either or all interposed between the nipping and the winding mechanism, substantially as and for the purpose set forth.

### No. 27,548. Electric Water Level Indicators for Steam Boilers. (*Indicateur électrique d'eau pour chaudière à vapeur.*)

Charles H. Wickersham, Pottstown, Pa., U. S., 1st September, 1887; 5 years.

*Claim.*—1st. The combination, with the float spindle E, of the auxiliary spindle c, the mercurial circuit, closers K, K<sub>1</sub>, the arm i secured to the spindle c and provided with the curved bar J, the arm i' placed loosely on the spindle c and adjustable along the bar j, the flexible conductors q, q<sub>1</sub>, t, t<sub>1</sub>, and means, substantially as herein described, for indicating an electric contact formed by either of the circuit closers K, K<sub>1</sub>, as specified. 2nd. The combination, with the float G and spindle E, of the auxiliary spindle c, the arm i fixed to the spindle c and provided with the curved apertured bar j, the arm i' placed loosely on the spindle c and adjustable along the curved bar j, the circuit-closers K, K<sub>1</sub>, carried by the arms i, i', the index g and graduated scale h and an electric annunciator connected with the circuit-closers K, K<sub>1</sub>, substantially as herein shown and described. 3rd. In a water level indicator for steam boilers, the combination, with the relay-magnet e<sub>1</sub>, and armature lever g<sub>1</sub>, provided with the catch j<sub>1</sub>, of the contact spring l<sub>1</sub>, the contact screw r<sub>1</sub> and the lever O for holding the spring l<sub>1</sub> out of contact with the screw r<sub>1</sub>, substantially as herein shown and described. 4th. In a water-level indicator for steam boilers, the combination, with the relay-magnet e<sub>1</sub>, and armature lever g<sub>1</sub> provided with the catch j<sub>1</sub>, of the contact spring l<sub>1</sub>, the contact-screw r<sub>1</sub>, the lever O for holding the spring l<sub>1</sub> out of contact with the screw r<sub>1</sub>, and the spring-acted push-rod P for operating the lever O, substantially as herein shown and described. 5th. The combination, with the float G and spindle E, of the auxiliary spindle c, the fixed circuit-closer K and the adjustable circuit-closer K<sub>1</sub> carried thereby, the annunciator magnets e<sub>1</sub>, e<sub>11</sub>, the annunciator needle d<sub>1</sub>, the relay magnet e<sub>1</sub>, the armature lever g<sub>1</sub> and contact spring l<sub>1</sub> carried thereby, contact screw r<sub>1</sub>, the electric bell f<sub>1</sub> and the electrical conductors connecting the bell relay, and annunciator magnets and the local and main batteries, substantially as herein shown and described.

### No. 27,549. Railway Rail Splice.

*Joint de rail pour chemin de fer.*

Daniel E. Shea and John F. Shea, Carthage, N. Y., U. S., 1st September, 1887; 5 years.

*Claim.*—In combination with the perforated end portions of the rails, the chair composed of the base b, the longitudinal rib r on one edge of said base, the lip l on the opposite edge of the base, and the fish bar a rising from the lip, all formed in one piece, and the fish bar c formed with the foot d abutting against the rib r, and with the head h, having its top flush with the top of the rails, and bolts e, e clamping said fish bars against opposite sides of the rails, substantially as described and shown.

### No. 27,550. Sheaf Carrier. (*Porte-gerbe.*)

William A. Brown, Boisseran, Man., and Banfield Capron, Paris, Ont., 1st September, 1887; 5 years.

*Claim.*—1st. In combination, with a binder, a sheaf-carrying frame centrally supported and rigidly attached to a bar adapted to rock on its journal, so as to tilt the loaded sheaf carrier under the weight of sheaves when tripped, slats centrally hinged, the front halves being rigidly attached to the frame of sheaf carrier, and the rear halves being designed to hinge upwardly and trail along the ground while the sheaves are being discharged, and mechanism provided for tripping the loaded sheaf-carrier, and for automatically locking the same after it has assumed by gravitation its normal position and the head has been discharged, substantially as specified. 2nd. The combination, with the contact E and bent rod A rigidly attached to the binder of the sheaf-rod D and frame, of sheaf-carrier carrying the jointed-slats I, I<sub>1</sub>, the standard H, stop d, spring latch e, link N and treadle lever L, substantially as described and specified. 3rd. The rear half I of hinged slat hinged at m to the front half I<sub>1</sub>, with square shoulder and stop at n, in combination with the frame of sheaf-carrier, and sheaf-rod D on which the frame is adapted to tilt when the sheaf-carrier is tripped, substantially as specified. 4th. The bracket E rigidly attached to the binder, and having journal c for the sheaf-rod D, in combination with the stop d, standard H of

the sheaf-carrier frame, lath e, spindle e' having slotted enlarged end, spring p, frame-pieces P, link N and treadle lever L suitably attached to the binder-frame, so as to operate the spring-latch, substantially as specified. 5th. The treadle-lever L, suitably attached to binder-frame, so as to give throw to the bent arms l<sub>2</sub> and l<sub>3</sub> by pressure on the pedal l, in combination with a link N connecting a spring-latch with the short arm l<sub>3</sub> of the treadle lever L, the spring-latch and stop d being designed to lock the frame of sheaf-carrier in position to receive its load, substantially as specified.

### No. 27,551. Apparatus for Making Gas.

*(Appareil pour la fabrication du gaz.)*

Alfred Langdon and Charles R. Lewis, Jefferson City, Miss., U. S., 1st September, 1887; 5 years.

*Claim.*—1st. In an apparatus for carburating air, the combination of a water-tank having a perforated diaphragm, pipes terminating above the same, a cylinder provided with inlet and outlet valves communicating with said pipes and with a delivery-pipe, an air-chamber and means for heating the same, these chambers being connected with each other, substantially as specified. 2nd. The combination of the cylinder D, with its valves, the pipes F and L, air-chamber K, mixing-chamber M, still N and the gas-supply pipe Q, Q<sub>1</sub>, substantially as specified.

### No. 27,552. Apparatus and Method of Extracting Stumps. (*Manière d'arracher les souches et appareil pour cet objet.*)

John Barton, Jacksonville, Fla., U. S., 2nd September, 1887; 5 years.

*Claim.*—1st. A stump-extracting apparatus consisting of the movable winch, having winding drum A, winding-chain A<sub>1</sub>, worm-wheel B, guard B<sub>1</sub>, worm C, shaft D, disengaging motion E, E<sub>1</sub>, D<sub>2</sub>, d<sub>1</sub> frame F, F<sub>1</sub>, F<sub>11</sub>, and anchor-bar G, substantially as set forth. 2nd. The combination of the movable winch, as set forth, the draft chain H, tripod L, pulleys M and N, and grab-hooks K, substantially as set forth. 3rd. The combination of the movable winch, as set forth, anchoring-bar G, anchor-chain J, winding-chain A<sub>1</sub>, draft-chain H, and grab-hook K, substantially as set forth.

### No. 26,553. Hydraulic Gold Extractor. (*Appareil hydraulique pour l'extraction de l'or.*)

Benjamin Westhaver, Lunenburg, N. S., 2nd September, 1887; 5 years.

*Claim.*—1st. In a hydraulic gold separator, the combination of the reservoir having the transverse roller or shaft, the elevated roller, the endless elevator chain having the cups, the elevated receiver, the tubular leader communicating at the lower end with the bottom of the mercury-cup, the mercury-cup having the perforated cut-off plate, the waste pipe and the faucets, arranged as described, the vertical shaft having the lower fans and the upper fan, and having the gear wheel on its upper end, the short transverse shaft having the gear wheel, the drive-shaft and the connecting belts, substantially as and for the purpose set forth. 2nd. In a hydraulic gold separator, the combination of the reservoir having the transverse roller or shaft, the elevated roller, the endless elevator chain having buckets, the elevated receiver having the conical bottom and the roller at its front and rear edges, the tubular leader communicating at its lower end with the bottom of the mercury-cup having the removable neck bottom, the perforated cut-off plate, the waste pipe and faucets, arranged as described, the vertical shaft having the lower fans and the upper spiral fan, and having the gear wheel on its upper end, the short transverse shaft having the gear wheel, the drive-shaft and the connecting belts, substantially as and for the purpose set forth.

### No. 27,554. Seeding Machine. (*Semoir.*)

William D. Arnett, Denver, Col., U. S., 2nd September, 1887; 5 years.

*Claim.*—1st. In a grain-drill, and in combination with its distributor shaft, a spur gear H<sub>1</sub>, a cone gear G<sub>1</sub>, an intermediate laterally movable pinion I<sub>1</sub>, a lever by which the said pinion is carried, and means, substantially as described, for locking said lever in position. 2nd. In a grain-drill or seeder, the combination of the main-axle, its ground wheels and the cone gear G<sub>1</sub> with the distributor shaft, the spur gear H<sub>1</sub> fixed thereon, the intermediate pinion I<sub>1</sub>, and means, substantially as described, for sustaining said pinion, and permitting its lateral adjustment. 3rd. The cone gear G<sub>1</sub>, gear H<sub>1</sub> and intermediate pinion I<sub>1</sub>, in combination with the hand lever, the oblique guide or rod K<sub>1</sub> and the pinion support arranged to slide in said guide. 4th. In combination with the feed cup and the fluted distributor roll therein, the transversely sliding gate N<sub>1</sub> forming the lower edge and one end of the delivery orifice, and adapted to change its angle in moving to and fro, as described, whereby the lower edge of the orifice is given an increasing obliquity as its width is diminished and vice versa. 5th. The feed cup and the fluted distributor roll therein, in combination with the angular transversely sliding gate N<sub>1</sub> having its edges e<sub>1</sub> and e<sub>2</sub>, substantially as described. 6th. The herein described drag-bar for a seeding machine, cast complete in one piece, with its forward end adapted to receive the supporting shaft e, and its lower edge formed with the sole or runner d. 7th. A drag-bar having the rigid sole or runner thereon, in combination with a furrow-opening disk, a plate supporting said disk and devices, substantially as described, connecting said plate to the drag-bar and permitting its vertical adjustment thereon. 8th. The drag-bar provided with teeth or serrations, the toothed plate having the furrow-opening disk mounted thereon, the adjustable block seated between said plate and drag-bar, and a transverse bolt or bolts connecting the plate and drag-bar, substantially as described. 9th. In combination, with a drag-bar provided with teeth or serrations f, a disk-supporting plate having the curved toothed surface to engage the bar and fastening bolts applied, substantially as described, to connect the plate and drag-bar. 10th. In combination with the fur-

row-opening disks attached thereto, the drag-bar provided with the top flange *k* containing recesses *l*, substantially as and for the purposes described. 11th. In combination with the drag-bar having the slots *e*, and the teeth *f* on both faces, the two disk-supporting plates provided with teeth and applied to opposite sides of the bar, and bolts extending transversely through the bar and both plates, substantially as described. 12th. A furrow-opening disk having a central portion abruptly depressed below the plane of the periphery, as described and shown, to form an abrupt shoulder on the working-face thereof. 13th. A furrow opening disk having an annular face *c* of a true flat form, a central depressed portion, and an abrupt shoulder between the flat face and the central depressed portion, substantially as described. 14th. A furrow-opening disk having its outer face provided with an abrupt annular shoulder *b*. 15th. In combination with a drag-bar, a furrow-opening disk carried thereby in a position oblique to the line of travel, said disk having its working face formed with a central depression and an abrupt annular shoulder, as distinguished from a disk having a smooth concave surface. 16th. A spout or conductor for a seeding machine, having its lower end flattened laterally, and formed with a delivery orifice elongated in the direction of the line of travel, whereby the spout is enabled to deliver the seed centrally in a narrow furrow. 17th. A conductor-tube for seeding machines, having at its lower end a constantly open delivery orifice elongated in the direction of the line of travel, and the laterally-yielding plate forming one side wall of said orifice, as and for the purpose described. 18th. In combination with a furrow-opening disk *B*, a conductor-tube lying adjacent to the inner rear face of said disk, its lower end flattened and curved towards the disk and provided with a yielding side plate, as described.

### No. 27,555. Seeding Machine. (*Semoir*.)

William D. Arnett, Denver, Col., U. S., 2nd September, 1887; 5 years.

*Claim*.—1st. In a seeding machine, the combination, substantially as described, of the wheeled frame, the vertically swinging drag-bar attached adjustably to the frame, so that its angle to the line of travel may be changed and the furrow-opening disk attached to said drag-bar. 2nd. In a seeding machine, the combination of a wheeled frame, a series of drag-bars, each provided with a furrow-opening disk, and a transverse shaft or rod to which the drag-bars are jointed to swing vertically and independently, said shaft connected adjustably to the frame, substantially as described, so that its angle to the line of travel may be changed, whereby the obliquity of the disks to the line of progression may be varied to produce wide or narrow furrows, as demanded. 3rd. In a seeding machine, the combination of a wheeled frame, a series of drag-bars, each provided with a furrow opening device, a swivelling support connecting the shaft at one end to the frame, and a longitudinally movable support connecting the shaft at the opposite end to the frame, whereby the angle of the drag-bars to the line of travel may be changed at will. 4th. The wheeled main frame, in combination with the two series of drag-bars, the two shafts sustaining the drag-bars of the respective series, the swivelling bearings at the outer ends of the shafts, the sliding bearing at their inner ends, and the operating lever connected with the last-named bearing, whereby the two series of bars may be adjusted in opposite directions as regards their horizontal obliquity to the line of travel. 5th. In combination with the wheeled frame, a transverse shaft secured thereto, a drag-bar jointed on said shaft to swing vertically, a furrow-opening disk attached to the drag-bar, and a shoe or runner jointed at its forward end on said shaft, and adjustably attached at its rear end to the drag-bar. 6th. In a seeding machine, a wheeled frame, in combination with a series of vertically and laterally swinging drag-bars, attached thereto and provided with furrow-opening disks, a hand lever and intermediate connections, substantially as described, whereby the lever is enabled to effect the lateral swinging movement of the beam. 7th. The combination of the main frame, its wheels, the arms attached to the frame, the two shafts, the drag-bars mounted thereon, the bearings at their outer ends, and the sliding bearings at their inner ends. 8th. A drag-bar, consisting of two connected bars having their forward ends separated horizontally for attachment to the frame, and their rear ends arranged one directly over the other, substantially as described. 9th. The drag-bar, consisting of two flat metal bars, each having a quarter-twist midway of its length, their forward ends separated horizontally, and their rear ends arranged one directly over the other with their flat faces in a horizontal position, substantially as described. 10th. In combination with a drag-bar, and a furrow-opening disk oblique to the line of travel, a disk supporting plate, a vertical pivot connecting said plate to the drag bar, and means, substantially as described, for fastening the plate in position. 11th. The drag-bar having the upper and lower members, in combination with the disk-supporting plates inserted between said members, the vertical pivot and the adjustable wedges between the plates. 12th. The drag-bar having the upper and lower members, the intermediate disk-supporting plates, and the adjusting wedges, in combination with the bolt *h* acting to compress the bar upon the wedges and hold them in the required position. 13th. In a seeding machine, the combination of a wheeled frame, a vertically-swinging drag-bar jointed thereto, a furrow opening disk jointed to said drag-bar, its axis standing in a plane oblique to the line of travel of the machine, and also at an inclination from the horizontal, and the seed-spout or conductor also carried by said drag-bar, immediately behind the disk. 14th. In combination with the drag-bar, having the upper and lower members, the block *d* secured between their rear ends, substantially as and for the purposes described. 15th. In combination with a drag-bar, and an oblique furrow-opening disk carried thereby, a shoe or runner attached to the beam and bearing on the ground opposite the disk, whereby the disk is caused to act at a uniform depth in travelling over uneven ground. 16th. In combination with a drag-bar, and two furrow-opening disks on opposite sides, a runner attached to the drag-bar and acting on the ground between the disks. 17th. In combination with a drag-bar, and a furrow-opening disk applied obliquely to its side, a runner applied to the bar adjacent to the side of the disk, and devices, substantially as shown, for adjusting the runner vertically in reference to the bar and disk. 18th. In combina-

tion with a drag-bar and an oblique furrow-opening disk carried thereby, a furrow-closing arm extending from the bar past the outer side of the disk, and curving inward in rear of the same. 19th. In combination with the disk, and the disk-supporting plate having an upright arm *e*, the seed-conductor *h* pivoted to said arm and adapted to interlock therewith, substantially as described, whereby the tube is sustained in a proper position for action and permitted to swing freely upward. 20th. In combination with the two-part drag-bar and its intermediate block *d*, the runner, the coverer-sustaining plate *l* and the single bolt *k*, applied, as described, to connect said parts. 21st. The combination, substantially as described, of a drag-bar, two disk-supporting plates pivoted to said bar to swing horizontally, and an adjustable wedge attached to the drag-bar and formed at its edges to engage and hold the swinging plates, substantially as set forth. 22nd. The combination of the drag-bar, the adjustable wedge grooved or flanged to embrace said bar, and the horizontally-movable disk-supporting plates *B*, *B*2, having their rear edges notched to engage the edges of the wedge, whereby the plates may be adjusted both inward and outward by the movement of the wedge, and secured in position. 23rd. In combination with the drag-bar, having the upper and lower members *a*, *a*, the intermediate pivoted plates *B*, *B*2, notched at their ends, the wedge *D*3 provided at its edges with flanges engaging the plates and the fastening-bolt *E*2, substantially as described. 24th. In a seeding machine, the combination of a drag-bar and two furrow-opening disks attached to opposite sides of said bar, one in advance of the other, and inclined in opposite directions from the line of draft, substantially as and for the purpose described. 25th. In a seeding machine, a drag-bar and two furrow-opening disks arranged on opposite sides of the same, and inclined horizontally in opposite directions with reference to the line of draft, one located in advance of the other, in combination with two independent plates supporting the respective disks, and connected to the drag-bar by independent vertical pivots, located one in advance of the other. 26th. In a seeding machine, the combination of a drag-bar, two plates *B*1, *B*2 pivoted to said drag-bar at different points in its length, and two furrow-opening disks *C*3, *C*3, mounted on the respective plates, one in advance of the other. 27th. In combination with the drag-bar, having the upper and lower members *a*, *a*, the spacing plate *F*2 inserted between and bolted to said members and extended laterally beyond the same, in the form and manner substantially as described. 28th. In a seeding machine, the combination of the wheeled main frame, the drag-bars having the forked draw-heads, the transverse shaft on which said heads are mounted, the depending arms to sustain said shaft, the draft-bars or arms extending forward from said shaft, the bar to which the draft arms are connected for supporting said shaft from the main frame. 29th. In a seeding machine, the combination of the wheeled main frame, the drag-bars having the forked or widened draw-heads, the horizontal shaft on which said heads are mounted, and rigid depending supports, substantially as described, sustaining said shaft below the main frame. 30th. In a grain drill, the combination of the main frame, the depending arms at its front, the cross-bar sustained by said arms, the draft-bars or arms extending from the front bar rearward, the shaft extending from said draft bars, the depending arms to sustain said shaft, and the drag-bars mounted at their forward ends on the shaft, substantially as described. 31st. In combination with the wheeled frame, and the transverse shaft on which the drag bars are journaled, the depending arms *e*5, and the laterally inclined arms *d*5 connecting the shaft with the main frame. 32nd. In a seeding machine, a wheeled frame and a series of drag bars jointed at their forward ends, in combination with a series of upright rods connected at their lower ends to the respective drag-bars, and arranged to slide at their upper ends through guides on the frame, a weight and an equalizing lever or levers connecting said weight with two or more of the rods, as described. 33rd. In a seeding machine, the combination, with the main frame and a series of drag-bars jointed thereto, the series of equalizing levers connected with the respective drag-bars, and a box-like receptacle suspended from said levers and adapted to receive weights, as described.

### No. 27,556. Mowing Machine. (*Faucheuse*.)

Thomas E. Curry, Windsor, N.S., 2nd September, 1887; 5 years

*Claim*.—The combination of the shaft *A*, carrying peripherally grooved eccentric disks *C*, *D*, each having divided rings *F*, *F*, connected by bolts and nuts *K*, and applied peripherally to the eccentrics, and pitmans *H*, *H*1 screwing into a collar *G* on the rings *F*, *F*1, and hinged to the outer bars *J*, *J*1, as set forth.

### No. 27,557. Heel Plate. (*Plaque de talon*.)

Franco H. Richards, Springfield, Mass., U.S., 2nd September, 1887; 5 years.

*Claim*.—The improved heel-plate, herein described, consisting of a plate provided with puncturing prongs for the attachment thereof to the heel, and having dams or out-offs, substantially as described, for preventing the free access of water to the base of said prongs, substantially as set forth.

### No. 27,558. Nut Lock. (*Arrête-écrou*.)

John L. Pope, Cleveland, Ohio, U.S., 2nd September, 1887; 5 years.

*Claim*.—A cylindrical screw bolt, having a bent and flattened spring head portion, substantially as hereinbefore set forth.

### No. 27,559. Machine for Driving Nails.

(*Machine à chasser les clous*.)

Henry S. DeForest, Birmingham, (Administrator of the Estate of Thaddeus Fowler, Shelton) Conn., U.S. 2nd September, 1887; 5 years.

*Claim*.—1st. The combination, in a device of the character described, with the case arranged to hold a coil of nails, of the stationary driver secured upon the nose of the case, the spring-actuated cut-off bar adapted to slide in and out of said case, and the feed-

spring secured upon and adapted to move with the cut-off bar, substantially as set forth. 2nd. In a nail-driving machine, the hollow case having an opening therethrough at the top to serve as a hand hold, and a hub surrounding said opening, in combination with a reel arranged within the case and adapted to turn upon the hub, substantially as set forth. 3rd. The combination with the nail-feeding, driving and severing devices, of the case having the opening at its top, and the reel arranged and adapted to turn within said case, as and for the purpose set forth. 4th. The combination, with the stationary driver, as described, of the spring-actuated cut-off bar arranged to slide in and out of the case, and bevelled backward from its lower extremity, the guide-plate against which said bar normally rests, the feed spring secured to and carried by the cut-off bar, and the detent spring whereby the nails are secured against retraction all arranged as described and for the purpose set forth. 5th. In a nail driving machine, the combination, with the nail delivery and cut-off, of the case having an opening therethrough to serve as a hand hold, the hub around said opening and the two-part separable reel arranged to turn upon the hub, substantially as and for the purpose specified. 6th. The hollow case, provided with the opening for a hand hold, the hub and the reel arranged to turn upon the latter, in combination with the stationary driver secured upon the nose of the case, the spring-actuated cut-off bar bevelled backward from its point, and the feed-spring secured to and carried by the cut-off bar, substantially as described. 7th. The combination of the case having an opening for a hand hold, and a reel arranged therein, with the stationary driver, the stationary guide plate extending up within the case from the nose thereof, the reciprocating cut-off bar arranged to slide against the guide plate, the feed spring secured to and carried by the cut-off bar, the detent spring and the spiral spring connected to the cut-off bar, and adapted to hold the same without the case, substantially as set forth. 8th. The combination, with the driver, of the spring-actuated cut-off bar, whose extremity is bevelled backward, the stationary guide-plate against which the cut-off bar lies, and whereby it is deflected during its backward movement, and the feed-spring secured to the cut-off bar, all arranged as and for the purpose specified.

### No. 27,560. Box Nailing Machine.

(*Machine pour clouer les boîtes.*)

Thomas B. DeForest and H. S. DeForest, Birmingham, (Administrator of the estate of Thaddeus Fowler, Shelton), Conn., U.S., 2nd September, 1887; 5 years.

*Claim.*—1st. In a box-nailing machine, adapted to feed and to drive continuous or string nails, the combination, with the trough-shaped guideway through which the length of nails is led, and by means of the end whereof the end nail of said string is driven, of a cut-off bar arranged within said trough, said bar being formed broadest at its forward extremity, and normally spring-actuated without the guideway, and being adapted at its backward movement into said guideway to cut off the said nail against the end thereof, substantially as set forth. 2nd. In a box-nailing machine, as described, the combination with the main shaft extending longitudinally thereof, of a pair of grooved cams secured upon and carried by said main shaft, a pair of carriages arranged to slide in ways at either end of the frame, and having arranged thereon drivers, as described, and downward projections from said carriages engaging the said grooved cams, whereby through the rotation of the shaft said carriages and drivers are caused to advance and recede toward and away from each other, substantially as set forth. 3rd. The combination, in a box-nailing machine, with the main shaft, of a platen for the proper support of the work, a set of drivers arranged above the platen, and a cam on said main shaft adapted to engage and raise the platen and work upward toward the drivers, substantially as and for the purpose set forth. 4th. The combination, with the main shaft and the cams secured thereon, of the longitudinally movable carriages, and the driving devices, as described, mounted thereon and carried thereby, the set of top drivers mounted above the machine, and the vertically movable platen, and means for raising the same upward toward the top drivers, substantially as and for the purpose specified. 5th. In a box-nailing machine, adapted to drive and feed string nails, the combination, with the vertically movable platen and the longitudinally-movable driver carriages arranged upon either side thereof of the former for the support of the assembled shooks, the same having posts on its outside edges, and the springs adapted to press the shooks against the posts, and means, as described, for insuring its proper position upon the platen relative to the driving devices, substantially as shown and set forth. 6th. The combination, with the driving devices, and the platen grooved upon its upper surface, of the former having inside and outside supports for the shooks, a guide strip arranged to fit the groove in the platen, and a pin arranged to engage a hole in said platen, whereby the position of the box upon the platen may be accurately determined relative to the drivers, substantially as described.

### No. 27,561. Automatic Signal Lantern, for Railway Trains or Vessels. (*Lanterne à signal automatique pour trains de chemin de fer et pour vaisseaux.*)

Frank Watson, Scarsdale, N.Y., U.S., 2nd September, 1887; 5 years.

*Claim.*—1st. In an automatic signal-lantern, the combination, substantially as hereinbefore set forth, with the light of a stationary target composed of plates of different coloured glass, of an opaque disk covering one-half of said target, rotating upon a central axis in front of said target while the body upon which the lamp is displayed is moving, and means, substantially as described, for releasing the disk from the axis and rotating it independently of the motive force thereon. 2nd. In an automatic signal-lantern, the combination, substantially as hereinbefore set forth, with the light, of a stationary circular target composed of plates of different colored glass, placed in front of said light, of a cylinder surrounding said light, and target rotating upon a central axis, means for rotating said cylinder, substantially as described, an opaque semicircular disk covering one-

half of said target and rotating upon the same axis as said cylinder, and means for causing said disk to rotate with or independent of the cylinder. 3rd. In an automatic signal-lantern, the combination, substantially as hereinbefore set forth, of a rotating hollow cylinder surrounding the light and the signal target, a central axis upon which said cylinder rotates, a semicircular opaque disk covering one-half of said target, rotating upon said axis within said cylinder, a series of notches in the front face of said cylinder, and a flat spring or arm on said disk arranged to engage with said notches, for the purposes set forth. 4th. In an automatic signal-lantern, the combination, substantially as hereinbefore set forth, with the light of a stationary circular target composed of plates of different colored glass placed in front of the light, a cylinder surrounding said target and light rotating upon a central axis, a semicircular disk rotating in front of said target and upon the same axis as said cylinder, a series of notches upon the front face of said cylinder, a flat spring or arm upon the face of said disk arranged to engage with said notches and cause the same to rotate with said cylinder, a series of cogs upon the periphery of said cylinder, a train of clock-work engaging therewith for communicating a rotating motion to said cylinder, and means for disengaging the same, substantially as described. 5th. In an automatic signal-lantern, the combination, substantially as hereinbefore set forth, with the lamp, of two stationary circular targets composed of plates of different colored glass placed on either side of the light, a cylinder surrounding said targets, and light rotating upon a central axis, a semicircular disk rotating in front of each of said targets upon the same axis as the cylinder, a series of notches upon each end of said cylinder, a flat spring or arm upon the face of each, said disks arranged to engage with said notches and cause the disks to rotate with the cylinder, a series of cogs upon the periphery of said cylinder, a train of clock-work engaging therewith for communicating a rotary motion to said cylinder, and means for disengaging the clock-work therefrom, substantially as described. 6th. In an automatic signal-lantern, the combination, substantially as hereinbefore set forth, with the light of a stationary circular target composed of plates of different colored glass placed in front of the light, an opaque disk rotating upon a fixed axis while the body upon which it is displayed is in motion, a train of gear-wheels connected with a revolving shaft for imparting a rotary motion to said disk, and means, substantially as described, for releasing said disk from the rotary mechanism and rotating it independently upon the axis. 7th. In an automatic signal-lantern, the combination, substantially as hereinbefore set forth, with the light, of the stationary circular target composed of plates of different colored glass, a cylinder rotating around said light and target, a central axis upon which said cylinder revolves, a semicircular disk rotating on said axis within said cylinder and in front of said target, a series of notches on the front surface of said cylinder, and a flat spring attached to the surface of said disk arranged to engage with said notches, whereby the disk is caused to rotate with said cylinder, a set of cog-wheels on the periphery of said cylinder, a driving axis or shaft on the body on which the lamp is displayed, and a train of gear-wheels engaging with said axis or shaft and with said cylinder, whereby the movement of the former is imparted to the latter.

### No. 27,562. Store Service.

(*Appareil de service de magasin.*)

William R. Cole, Detroit, Mich., U.S., 2nd September, 1887; 5 years.

*Claim.*—1st. In a store service, the combination of a single wire track connecting two stations with the supplemental double track at each station located above such single track, and a carriage provided with wheels of two different sizes of tread, substantially as and for the purposes described. 2nd. In a store service, the combination of a single wire track connecting two stations, and a supplemental double track at each station located above such single track, with the means, as described, for vertically adjusting the plane of such double track with relation to the plane of the single track, and a carriage provided with wheels of two different sizes of tread, substantially as described. 3rd. In a store service, a carriage consisting of a frame, axes upon which are secured wheels of two different diameters, the larger running within the frame and adapted to run upon a single rail track, and the smaller running on each side of the frame and adapted to run upon a double track rail, substantially as and for the purposes described. 4th. The combination, with the main track, of the double track having outwardly and downwardly inclined ends, and the carriage provided with wheels of two different sizes of tread on the same axle, substantially as specified. 5th. A store service, comprising the tracks B and B' suitably supported, and a carriage C having axle *d*, wheels *e* and *h*, stop-blocks *k* and propelling cord, the parts being constructed, combined and operating substantially in the manner and for the purposes described.

### No. 27,563. Combined Latch and Lock.

(*Loquet et serrure combinés.*)

John H. Tilden, Hamilton, and George B. Underwood, Toronto, (assignees of Moses Jobbarn, Hamilton), Ont., 2nd September, 1887; 5 years.

*Claim.*—1st. In a lock and latch, the combination, with the latch-bolt 4, of slide 11, shaft 13 having cam 12, tappet 5, slide 16, gravitating lever 7 and tumblers 19, whereby the tappet can be locked from the inside of the door and the bolt retracted from without by a key, as set forth. 2nd. In a latch and lock, the combination of the latch-bolt 4, tappet 5, gravitating lever 7, lock-bolt 8 and tumblers 19, whereby the projection of the lock-bolt by a key locks latch-bolt 4 by engagement with the lever, as set forth. 3rd. The combination, with the case 1 of shaft 13 having cam 13, slide 11, tappet 5, lever 7, slide 16, tumblers 18 and lock-bolt 8, the tappet can be locked from the inside of the door, the latch-bolt retracted from the inside and outside by a key, and from the inside by a thumb knob, as set forth. 4th. The combination, with the gravitating lever 7, slide 16 and bolt 8, of gravitating tumblers 19 having slots 21, 23, and opening 25, whereby the tumblers depress the lever offer resistance to the key and prevent the retraction of slide and bolt without the use of a key, as set forth.

**No. 27,564. Milk Cooler. (Garde-lait.)**

Angus McLeod, William Templeton and George W. Beeman, Nanawau, Ont., 2nd September, 1887; 5 years.

*Claim.*—In a milk cooler, the combination of the water tank A, having a top or cover provided with a volute channel H on the outside, a collar B and removable cap C, a removable feeder D standing on the top or cover at the upper end of said channel and surrounding the collar B, and a receiver F surrounding the tank, as set forth for the purpose described.

**No. 27,565. Heater and Condenser for Steam Force Pump. (Réchauffeur et condensateur pour pompe à vapeur foulante.)**

Wilber S. Wandell and Charles W. Scott, Vicksburg, Mich., U. S., 2nd September, 1887; 5 years.

*Claim.*—The combination of the suction-pipe, the nozzle entering said pipe in the direction of the flow of the water, and the flanged valve larger than the end of the nozzle having a stem entering the nozzle, and a stem adapted to play in a guide-support in the suction-pipe, substantially as set forth.

**No. 27,566. Speculum. (Spéculum.)**

William S. Watson and Jackson Humphrey, Newburgh, N. Y., U. S., 2nd September, 1887; 5 years.

*Claim.*—1st. In a speculum, the piece B made elastic, and one-half adjustable laterally with respect to the other half, in combination with a piece C having blades *c*, *c*, and longitudinally adjustable with respect to the piece B, whereby the blades on both pieces may be brought closer together or carried further apart, as described. 2nd. In a speculum, the front blades *b*<sub>3</sub>, *b*<sub>4</sub> having a joint *b*<sub>7</sub> at the top, as shown and described.

**No. 27,567. Hinge for Awning Blinds. (Penture pour auvent.)**

(*Penture pour auvent.*)

Henry S. Tucker, Faulkner, Mass., U. S., 3rd September, 1887; 5 years.

*Claim.*—1st. In a blind awning, the upper fixture consisting of the box *e*, having vertical sleeve *e*<sub>1</sub> hinged on the stationary hinge-bracket *d*, and having hinged to its upper and outer end the plate *e* adapted to be secured to the outside of the blind, as set forth. 2nd. In a blind awning, the lower fixture consisting of the two angular plates *g*, *g*, hinged together by means of a pin *g*<sub>2</sub> in their outer ends, the plate *g* being held stationary, and the plate *g*<sub>1</sub> provided with a slot-hole *g*<sub>3</sub> adapted to receive the button *h* on the plate *h* attached to the lower portion of the blind, as set forth.

**No. 27,568. Metal Bottle for Blacking, etc. (Bouteille de métal pour cirage, etc.)**

(*Bouteille de métal pour cirage, etc.*)

Samuel M. Bixby, New York, N. Y., U. S., 3rd September, 1887; 5 years.

*Claim.*—1st. A head for bottles, cans, jars, etc., consisting of a disc A provided with a rim *c* for attachment to such vessels, and having at the middle a discharge aperture depressed or sunken below the rim, in combination with an inverted nozzle on the underside for holding the stopper, whereby the nozzle and stopper are all brought within the smallest compass. 2nd. The combination of the head having a sunken discharge aperture, and an inverted nozzle on the underside thereof, with a vessel having a body of paper or paper-pulp. 3rd. A bottle or jar for liquid blacking and other purposes, having an inverted tube or nozzle with a flaring or bell-shaped mouth depending downward from the top. 4th. A bottle or jar having a depressed top or head with a discharge opening therein, and in the opening a bell-shaped nozzle having the mouth or widest part depending downward from the top.

**No. 27,569. Baling Press for Hay, etc. (Presse d'emballage pour le foin, etc.)**

(*Presse d'emballage pour le foin, etc.*)

Albert S. Robinson, Albany, N. Y., U. S., 3rd September, 1887; 5 years.

*Claim.*—1st. The gear-plate I mounted on pivoted shaft L having the eccentric-gear section J of the former, and provided with catching holes *a*, *a*, in combination with the lever pivoted to said shaft and independent of said shaft, having key O and a spring to lock said gear-plate and lever, and stationary dogs adapted to release the same, all substantially as and for the purposes and operations set forth. 2nd. The gear-plate I mounted on shaft L, having the gear-section J provided with the elastic cushion *d*, *d*, in combination with the lever pivoted on said shaft and provided with cheeks *t*, *t*, substantially as and for the purposes and operations set forth. 3rd. The gear-plate I mounted on shaft L, having the gear-section J of said plate, and provided with catching holes *a*, *a*, cushion *d*, *d*, in combination with the lever pivoted on said shaft L, and carrying elastic key O and shanks *t*, *t*, substantially as and for the purposes and operations set forth. 4th. The combination, with the gear-plate I mounted on shaft L, and having the eccentric gear section of the lever M independently mounted on said shaft L, the means, substantially as described, for engaging and disengaging the said lever with the said plate, and the lever F provided with elliptical gear-section H, substantially as and for the purposes set forth. 5th. The combination of platen C, pitman E and lever F provided with elliptical gear-section H, as above described, with the gear-plate I having gear-section J mounted on shaft L, eccentric to said gear-section, catching-holes *a*, *a*, cushions *d*, *d*, elastic key O, lever M having cheek-block T and stationary dogs Q, substantially as and for the purposes and operations set forth. 6th. The combination of the key O having the bevelled lug *o* with the stationary lifting dog Q for disengaging the key from the catching-holes in the gear-plate, substantially as and for the purposes set forth. 8th. The combination of the gear-plate I,

provided with catching-holes *a*, *a* with the lever arm N, provided with perforations *c*, a key provided with bevelled arm *o*, a spring P and stationary dog Q, substantially as and for the purpose set forth. 8th. The pivoted gear-plate I, provided with cushions *d*, *d* held in recesses at the termination of the gear-teeth on said plate, in combination with the lever M provided with the cheek-block T, securely fixed thereto, both the lever and gear-plate being pivoted to the shaft L, substantially as and for the purpose set forth. 9th. The combination of the lever M pivoted to shaft L and provided with rollers *r* sliding on track *r*, with the stationary dog Q and the key O, substantially as and for the purpose set forth. 10th. In a baling-press, the combination, with the platen connected by a pitman to lever F, having a section of elliptical gear as a part thereof, and sweep-lever M pivoted to shaft L of gear-plate I above described, and provided to said shaft and provided with catching-holes *a*, *a*, key O for engaging said gear-plate with lever M, for operation and for purpose set forth. 11th. In a baling-press the combination, with the platen connected by a pitman to lever F having a section of elliptical-gear as a part thereof, and sweep-lever M pivoted to shaft L, of gear-plate I above described, and pivoted to said shaft which will be automatically moved in either direction by the reactive force of the compressed material to a point of engagement with key O, and intermittently moved by the continuous movement of the lever M to its full rearward thrust, substantially as and for the operations and purposes set forth.

**No. 27,570. Hot Air Furnace. (Calorifère à air.)**

Robert A. Chesebrough, New York, U. S., 3rd September, 1887; 5 years.

*Claim.*—1st. The combination, with a base or foundation and a metal chamber supported thereon, of a casing surrounding said chamber and having an inlet for cold air and an outlet for heated air, a furnace for supplying heat external to the casing, and a flue for products of combustion extending from the furnace through the base and beneath the chamber, and communicating with the interior of the chamber, substantially as herein described. 2nd. The combination, with the base A and the chamber B supported thereon, of the air casing having a cold air inlet and a heated air outlet, an external furnace D and a flue E leading from the furnace through the base, and intercepted at the opening under the chamber B by a deflector, substantially as herein described. 3rd. The combination, with a base or foundation, and a series of two or more dome-shaped metal chambers supported thereon, of a casing enclosing the base and chambers, having an inlet for cold air thereto and an outlet for heated air therefrom, a furnace external thereto and a combustion flue extending from the furnace through the base and communicating with the chambers in succession, substantially as herein described. 4th. The base or foundation A, the chamber B, the casing C with cold and heated air openings therein, the furnace D, the space *e* with the air inlets *f* communicating therewith, and the combustion flue E, all arranged relatively towards each other, as herein shown.

**No. 27,571. Art of Preventing Induction in Telegraphy, Telephony, etc., and Apparatus for Carrying out the Same. (Manière d'empêcher l'induction dans les télégraphies, téléphonies, etc., et appareil pour cette fin.)**

William A. Leggo, Lachute, Que., 5th September, 1887; 5 years.

*Claim.*—The art of avoiding or lessening the results of induction by the utilization of currents of volume, less than the conductive capacity of the wire or conductor proper, as fully herein set forth.

**No. 27,572 Vertical Shaft Bearings. (Coussinet d'arbre vertical.)**

(*Coussinet d'arbre vertical.*)

Isaac P. Lambing, Ione, Cal., U. S., 5th September, 1887; 5 years.

*Claim.*—A vertical shaft, with a collar or flange secured to it, in combination with a horizontal shaft or shafts, with wheels or rollers upon which the collar or flange of the vertical shaft rests, a step or box for the lower end of the vertical shaft, an oil chamber below the bridge-tree, into which the wheels dip, and an inclosing casing, substantially as herein described.

**No. 27,573. Insole. (Fausse semelle.)**

Robert White, Montreal, Que., 5th September, 1887; 5 years.

*Claim.*—The improved manufacture of insoles for boots and shoes, which consists in forming the same in layers united together with a waterproof compound, substantially as described.

**No. 27,574. Children's Saving's Bank. (Banque d'épargne pour enfants.)**

(*Banque d'épargne pour enfants.*)

Samuel S. Moyer, Berlin, Ont., 5th September, 1887; 5 years.

*Claim.*—1st. The bank, having glass sides, which may be in panes or in one square, oblong or round tube, substantially as and for the purpose hereinbefore set forth. 2nd. The bank, having inside against the glass sheets of the panes or card board, inscribed with a method of inducing children to learn Bible verses, and which can be removed when required to make memorandum thereon, substantially as and for the purpose hereinbefore set forth.

**No. 27,575. Copying Press. (Presse à copier.)**

Mark T. Scarff, Michigan City, Dak., 5th September, 1887; 5 years.

*Claim.*—1st. The combination, in a press, of the class described, with a suitable bed-plate, of a platen, an operating lever and a spring interposed between said lever and said platen, whereby the platen may be forced toward the bed plate with a yielding or spring pressure. 2nd. The combination, in a press of the class described, with





**No. 27,591. Shaft Attachment for Vehicles.***(Armon de limonière.)*

Robert W. Hare and Robert Sproule, Pittsburg, Pa., U. S., 6th September, 1887; 5 years.

*Claim.*—1st. In a device for securing shafts to vehicles, the combination, with the straight front of the vehicle body, a plate secured thereon, and shafts pivoted to said plate secured thereon, of a spiral spring or springs arranged at an acute angle to said front, and bearing upon the same, and shafts, substantially as described. 2nd. In a device for securing shafts to vehicles, the combination, with the vehicle-body and the shafts pivotally attached thereto, of a casing secured to the body and two springs in said casing, a rod pivotally attached to the shafts and projecting into said casing, and a collar fixed upon said rod between said springs, whereby said casing-springs, pivoted rod and collar, serve as a means for relieving both the upward and downward motion of the vehicle, substantially as described. 3rd. The combination of the vehicle body B, the shafts S and the socket C adapted to receive said shaft and pivoted to said body, of the spring-brace comprising the rod or bolt I, the collar L thereon, the case K and the springs M, O therein, said rod being pivotally attached to said socket, and said case being secured to the vehicle body, substantially as described.

**No. 27,592. Means for Dissipating Electricity in Printing Machines, etc.***(Manière de dissiper l'électricité dans les machines à imprimer, etc.)*

Louis E. Bathrick, Brooklyn, N.Y., U. S., 6th September, 1887; 5 years.

*Claim.*—1st. In combination with a machine for operating upon sheets or strips of fibrous insulating material, a grounded fluid discharging conductor arranged in the path of the sheets or strips, substantially as described. 2nd. In combination with a machine for operating upon sheets or strips of fibrous insulating material, a grounded fluid discharging conductor held in a mass of fibrous material, and arranged in the path of the sheets or strips, substantially as described. 3rd. In a printing press, the combination of the delivery apparatus thereof, with fibrous material arranged in relation thereto, and a grounded fluid conductor held by said fibrous material in the path of the material operated upon, substantially as described. 4th. In a printing press, the combination, with the delivery apparatus thereof, of fibrous material secured to the same, and a grounded fluid conductor held by said fibrous material in the path of the printed sheets or strips, substantially as described. 5th. In an apparatus for delivering sheets or strips of insulating material, after having received a charge of electricity, the combination of strips of fibrous material located in depressions below the surfaces of the apparatus, and in the paths of the sheets or strips, with a conducting fluid held by the fibrous material and ground connections from the same, substantially as described.

**No. 27,593. Sash Balance and Fastener.***(Contre-poids de croisée et arrêt-croisée)*

John D. Hess, Abilene, Kansas, U.S., 6th September, 1887; 5 years.

*Claim.*—1st. The combination, with the two sashes, the cords, or wires and pulleys, of the operating mechanism shown, consisting of the drum D, having the flange p, gear-wheel e which forms a flange for that end of the windlass D, and gear-wheel f journaled in the casing E, the crank handle secured to the shaft g, and provided with the recess k and grooves k<sub>1</sub>, the spring-catch i provided with the lug j, adapted to engage said recess, the hook l on the casing and forming a part thereof, and spring bolt m secured to the window-sill, the whole adapted to operate as shown, described and for the purposes set forth.

**No. 27,594. Compound to Restrain the Setting of Plaster. (Composé pour ralentir la solidification du plâtre.)**

George R. King, New Brighton, N.Y., U. S., 6th September, 1887; 5 years.

*Claim.*—1st. The process herein described, which consists in mixing with water, containing a gelatinous or glutinous substance, a powdered stone, hardening the same into a stone-like mass, and then regrinding this stone-like mass, substantially as described. 2nd. The process herein described, which consists in mixing with glue, dissolved in water, an artificially dried powder, made by grinding stone, allowing the same to harden and then regrinding the mass, substantially as described. 3rd. The process herein described, which consists in mixing with glue-water powdered marble, drying the same into a hard mass and regrinding the same, substantially as described. 4th. As a new article of manufacture, a restrainer, substantially as herein described, consisting of glue and ground stone, combined in the manner set forth.

**No. 27,595. Steamship. (Bateau à vapeur.)**

Andrew H. Lucas, St. Louis, Miss., 6th September, 1887; 5 years

*Claim.*—1st. In a ship, the combination of the main hull A, the parallel supplemental hulls B arranged under and supporting the same, said hulls B being at a suitable distance apart, and the vertically movable keel C suspended from the centre of the main hull, substantially as described. 2nd. In a ship, the combination of the main hull A, the parallel supplemental hulls B arranged under and supporting the same, the vertical open-ended cylinders C<sub>2</sub> arranged in line in the centre of the main hull and depending therefrom, the vertically-movable keel C arranged under the main hull and having the posts extending up through the cylinders, and means, substantially as set forth, to raise and lower the said posts and keel, substantially as described.

**No. 27,596. Jump Seat Vehicle.***(Siège à bascule pour voiture.)*

Targe G. Mandt, Stoughton, Wis., U. S., 6th September, 1887; 5 years.

*Claim.*—1st. In a buggy, or similar vehicle, the combination of the body having side cleats upon its foot-board, with an extension having guide-plates sliding upon the side cleats, and having the dash secured upon its forward edge, the said extension sliding with its ends between the side cleats, as and for the purpose shown and set forth. 2nd. In a buggy or similar vehicle, the combination of the foot-board having side cleats and side flanges, eye bolts upon said cleats, cam-headed levers pivoted to said eye bolts, an extension sliding with its ends between the cleats, and having longitudinally slotted plates sliding with the slots upon said bolts, and having their outer edges folded down to form guide flanges, and having the dash secured to the forward edge, as and for the purpose shown and set forth. 3rd. In a buggy or similar vehicle, the combination of the foot-board having the side cleats and side flanges, flat-headed perforated guide-bolts secured in the cleats, an extension sliding with its ends between the cleats, longitudinally slotted plates upon the ends of the extension sliding with their slots upon the flat-headed bolts, and having doubled and downwardly projecting side flanges sliding upon the side flanges of the foot-board, and having the dash secured to the forward edge, and a foot-rail having eccentric perforated lips at its bent ends pivoted upon the flat-headed bolts for locking the extension, as and for the purpose shown and set forth. 4th. In a buggy or similar vehicle, the combination of a seat having rear-joined legs for supporting its forward edge, and provided at its rear edge with downwardly-projecting curved arms pivoted near their upper ends upon the inner sides of the vehicle-body, a sliding extension upon the foot-board, and bars having their forward ends secured to the extension, and having their rear portions bent upward and pivoted at the ends to the ends of the curved arms, as and for the purpose shown and set forth. 5th. In a buggy or similar vehicle, the combination of a seat pivoted near the rear edge and having downwardly-projecting arms, a sliding extension having slotted plates sliding upon flat-headed bolts, bars secured to the extension and pivoted to the lower ends of the arms of the seat, and a foot-rail having eccentric perforated lips pivoted upon the flat-headed bolts, as and for the purpose shown and set forth.

**No. 27,597. Clod Crusher and Pulverizer.***(Brise-molte.)*

David Lubin, Sacramento, Cal., U.S.A., 6th September, 1887; 5 years.

*Claim.*—1st. The combination, in a clod crusher, of a series of rotating spiked wheels, and a series of spring metal crushing bars pointing forwardly or in the direction of the machine's travel, and adapted to yield or straighten out to permit the passage of an obstruction, substantially as described. 2nd. The combination, with a series of rotating spiked wheels, of a series of spring metal crushing bars in front of said wheels, with their points entering the ground in advance thereof, whereby an incompressible object caught by any one or more of said bars may be released by the movement of the corresponding or contiguous wheel or wheels, substantially as herein described. 3rd. The combination, in a clod crusher, of a series of rotating spiked wheels, and a series of spring metal crushing bars capable of a rearward yielding movement to release an obstruction held between said bars, and the spikes or teeth on said wheels, substantially as herein described. 4th. The combination, in a clod crusher having rotating spiked wheels, and one or more series of spring metal crushing bars, a reversible tongue pole whereby the relative position of the rotating wheels and crushing bars may be changed, and the action of the machine modified, substantially as herein described.

**No. 27,598. Automatic Regulating Device for Transmitting Power. (Régulateur automatique de transmission de la force.)**

Walter R. Close, Melville H. Wardwell, Bangor, Guy W. McAllister and William D. Swazey, Bucksport, Me., U.S., 6th September, 1887; 5 years.

*Claim.*—1st. An automatic device for coupling and uncoupling the winding gear of a windlass, consisting of the combination of the windlass carrying a gear wheel, a driving shaft carrying a loose pinion arranged to mesh with said gear wheel and having a coupling clutch arranged to slide longitudinally upon a spline on said shaft and to engage and disengage with the clutch on said pinion, a laterally tilting regulator or governor pivoted near its lower end to the frame having its lower extremity pivotally engaged with said sliding coupling clutch by a connecting rod, and branching above the pivot at which it is pivoted to the frame, and the windlass rope wound spirally upon said windlass, and having its free end weighted after passing between the branches of the upper end of the regulator, substantially as described. 2nd. A windlass having a rope wound spirally thereon, and automatic gear for disconnecting said driving gear from said windlass, in combination with a fixed ratchet wheel on the windlass shaft, a loose gear wheel also on said windlass shaft carrying pawls arranged to act upon said ratchet wheel when the windlass is being unwound, a clock-work connection between said gear wheel and a shaft from which the power may be transmitted, an escapement and spring pendulum acting with the escapement wheel, substantially as described. 3rd. In an automatic regulating device for transmitting power, the herein-described regulator for automatically coupling and uncoupling the winding gear of a windlass, operating by the action of the rope on said windlass in winding and unwinding thereon, said regulator consisting of an arm pivoted near its lower end to the frame, said arm having its lower end pivotally engaged to a coupling clutch by a connecting rod, its upper extremity above the point at which it is pivoted to the frame formed in two branches between which the windlass rope passes and having secured

to the base of the branches in such manner as to allow lateral tilt in one direction only, one or more upwardly projecting fingers with spring shanks, said fingers having revolving thimbles on their tips, substantially as described. 4th. The herein-described automatic regulating device for transmitting power, consisting of the combination of a driving shaft carrying a pinion meshing with a gear wheel upon a second shaft carrying also a loose pinion having a coupling clutch, a windlass carrying a gear wheel meshing with said loose pinion, a rope wound spirally upon said windlass having one end secured to said windlass, and the other after passing over a pulley to a weight, a clock-work connection (operating only when said windlass is being unwound) between said windlass and a shaft whence the power is transmitted, an escapement wheel mounted upon said last-named shaft, a spring pendulum and an escapement working upon said escapement wheel, a regulator so pivoted to the frame as to allow lateral tilt in either direction and to be tilted by the rope aforesaid passing therethrough when winding and unwinding upon said windlass, and a coupling clutch sliding upon a spline upon said second shaft adapted to couple with said loose pinion and actuated by said regulator, substantially as described. 5th. A wind engine consisting of the combination of a revolving shaft supported at one end in a box or bearing, and at the other end upon a step or in a box, and four triangular-shaped sails bent by their luffs to masts supported by radial arms, projecting from said shaft at right angles to each other, each of said sails having its clew made fast to the outer extremity of the radial arm next adjacent in the rear, substantially as described. 6th. The combination of a wooden or metallic step-holder or mortise, with a stone step fitting and secured within said step-holder or mortise, and having a smooth semi-spherical head projecting above the upper edges of the step-holder, substantially as described. 7th. The combination of a wind engine actuating, radiating or turnstile revolving arms, with the automatic regulating device consisting of a driving shaft having radially projecting turnstile arms adapted to be engaged with and operated by the radial arms just named, said driving shaft carrying a pinion meshing with a gear wheel upon a second shaft carrying also a loose pinion having a coupling clutch, a windlass carrying a gear wheel meshing with said loose pinion, a rope wound spirally upon said windlass having one end secured to said windlass, and the other end after passing over a pulley to a weight, a clock-work connection (operating only when said windlass is being unwound) between said windlass, and a shaft whence the power is transmitted, an escapement wheel mounted upon said last-named shaft, a spring pendulum and an escapement acting upon said escapement wheel, a regulator so pivoted to the frame as to allow lateral tilt in either direction, and to be tilted by the rope aforesaid passing therethrough when winding and unwinding upon said windlass, and a coupling clutch sliding upon a spline upon said second shaft adapted to couple with said loose pinion and actuated by said regulator, substantially as described. 8th. The herein-described automatic regulating device for transmitting power, consisting of the combination of a driving shaft carrying a pinion meshing with a gear wheel upon a second shaft carrying also a loose pinion having a coupling clutch, a windlass carrying a gear wheel meshing with said loose pinion, and a loose gear wheel connected with the windlass by pawls acting in one direction on a ratchet wheel attached to said windlass, a rope wound spirally upon said windlass having one end secured thereto, and the other end after passing over a pulley to a weight, a clock-work connection between said windlass and a shaft whence the power is transmitted, an auxiliary windlass on a shaft containing a pinion meshing with and arranged to operate on said clock-work when the first-named or main windlass is being wound up, a pulley carrying a friction clutch acting on said auxiliary windlass, connected by an endless rope or band to a pulley keyed to the shaft in the weight frame, a rope attached by one end and wound spirally upon said auxiliary windlass, its loose end after passing over a pulley connected to a weight, an escapement wheel mounted upon a shaft connected with the clockwork, a spring pendulum and an escapement working on said escapement wheel, a regulator so pivoted to the frame as to allow lateral tilt in either direction, and to be tilted by the rope from the main windlass passing therethrough when winding and unwinding upon said windlass, and a coupling clutch sliding upon a spline on said second shaft adapted to couple with said loose pinion and actuated by said regulator, substantially as described.

#### No. 27,599. Life Boat. (*Canot de sauvetage.*)

Albert L. Shears and George M. Ferris, St. Louis, Mich., U. S., 6th September, 1887; 5 years.

*Claim.*—1st. A vessel or boat having its body portion constructed of a series of longitudinal staves, said staves attached to end pieces and firmly engaged therewith, and clamping bands D externally embracing said staves, substantially as and in the manner described. 2nd. A vessel or boat having its body portion constructed of a series of longitudinal staves tapered towards their extremities, and engaged with end pieces, clamping bands embracing said staves, said bands provided with tightening devices, substantially as described. 3rd. A vessel or boat having its body portion constructed of longitudinal staves, end pieces engaging the extremities of said staves, and in combination therewith sleeves clamping the extremities of the staves upon the end pieces, and clamping bands D embracing said staves, substantially as described. 4th. A vessel or boat having its body portion made up of a series of longitudinal staves which are attached to conical end pieces, and clamped thereon by bands which cover said end pieces, substantially as shown and for the purpose set forth. 5th. The combination, in a vessel or boat, of a series of longitudinal staves A, A, recessed end blocks, metallic sleeves C engaging the staves upon said blocks, and metallic caps O engaged upon said sleeves and blocks, substantially as described. 6th. The combination, in a vessel or boat, of a series of longitudinal staves forming the upper and lower portions of the body, a stave E projecting laterally to form a gunwale, and a series of bands embracing said staves and passing through said gunwale and devices for tightening said bands, substantially as described. 7th. The combination, in a boat or vessel, of a series of longitudinal staves forming the upper and lower portions of the body, a stave E, located as described, and projecting laterally to form a gunwale, clamping bands D, D, recessed

blocks B, and devices for engaging said staves upon said blocks, substantially as described. 8th. The combination, in a boat or vessel, of a series of longitudinal staves forming the upper and lower portions of the body, a stave E, located as described, and projecting laterally to form a gunwale, clamping bands D, D, blocks B recessed to receive the ends of the staves, devices for engaging the staves upon said blocks, one of said blocks being centrally recessed, and a rudder and tiller therefor, the latter adapted to play in said central recess, substantially as described. 9th. A boat or vessel consisting of a hull and deck, made up of a series of longitudinal staves, and provided with a projecting gunwale and a keel F, the ends of the staves being secured to end blocks, said staves held in place by clamping bands D, substantially as described. 10th. A boat or vessel consisting of a body portion made up of a series of longitudinal staves which taper towards their extremities, conical end pieces engaged with the extremities of said staves, clamping bands D, keel F and gunwale E secured between the staves, said vessel provided with an entrance way to the interior, substantially as described. 11th. In a vessel, constructed substantially as described, a hand rail extending around the deck, and provided with tubes or supporting arms, substantially as described. 12th. A boat or vessel consisting of body portion, made up of a series of longitudinal staves engaged at their ends upon end blocks, clamping bands engaged upon said staves, the body portion of said boat or vessel provided with a well G and motive power, substantially as described. 13th. A boat or vessel consisting of a body portion, made up of a series of longitudinal staves engaged upon end blocks, clamping bands engaged upon said staves, said body portion consisting of a hull and deck and having air tubes communicating with the interior, substantially as described. 14th. A boat or vessel consisting of a hull and deck made up of a series of longitudinal staves, clamped together and engaged upon end blocks, said hull provided with air-tight compartments, substantially as described.

#### No. 27,600. Water or Fluid Meter.

(*Compteur à eau ou à fluide.*)

The Firm of Macfarlane, Strong & Co., (assignee of Aimé Bonna), Paris, France, 6th September, 1887; 5 years.

*Claim.*—1st. In a water or fluid meter, with reciprocating piston cylinder A, and a close top vessel B with inlet and outlet branches B<sub>1</sub> for containing the valve C and valve chest C<sub>1</sub>, C<sub>2</sub>, of a small motive power cylinder D for working the valve E of the measuring cylinder A, in combination with an intermediate portable and cover A<sub>2</sub> jointed between the top of cylinder A and bottom of vessel B, and valve chests C<sub>1</sub>, C<sub>2</sub>, E<sub>1</sub>, E<sub>2</sub> and cylinder D, and formed with or containing the passages for conveying the fluid to and from the several parts of the said valves and valve chests and cylinder A, substantially as herein described and shown. 2nd. In a reciprocating piston, cylinder water or fluid meter, the combination of vertical reciprocating valves actuated by the outer end of the piston rod b, of the measuring cylinder for distributing the pressure fluid to a small motive cylinder D for working, vertical reciprocating valves for leading the water to and from the measuring cylinder A, all jointed to the portable cover A<sub>2</sub> with the close chamber B, substantially as herein described and shown. 3rd. In a reciprocating piston, cylinder water or fluid meter, the arrangement and combination of vertical faced reciprocating valves C and E, and their valve chests C<sub>1</sub>, C<sub>2</sub> and E<sub>1</sub>, E<sub>2</sub>, with ports and ducts in them, substantially as and for the purposes herein described. 4th. In a reciprocating piston, cylinder water or fluid meter, the herein described mode and means of actuating the internal ratchet wheel j of the outer indicating mechanism by a bracket I and pawl k from the outer end of the piston rod b, substantially as described and shown. 5th. In a reciprocating piston cylinder water or fluid meter, the combination of an arrangement of three circular chambered distributing valve chests M and L, with oscillated disc valves l, l, l, the first L oscillated by the outer end of the piston rod b of the measuring cylinder for distributing the pressure fluid to the controlling cylinder D, the reciprocating piston rod D<sub>1</sub> of which oscillates the disturbing valves of the chest L for leading the water to and from the measuring cylinder A, all jointed to the portable cover A<sub>2</sub> within the close chamber B, substantially as herein described and shown.

#### No. 27,601. Fruit Pails for Gathering Fruits. (*Seau pour cueillir les fruits.*)

Fred A. Brundage, Belmont, N. Y., U. S., 6th September, 1887; 5 years.

*Claim.*—1st. A fruit-pail consisting of two hinged sections, a sliding ring for closing the same, and a bail or arm secured to the ring, whereby the sections may be opened when the pail is set down and the said arm engaged, substantially as specified. 2nd. The combination, with a fruit-pail composed of two hinged sections having lower conveying ends, of a slide ring for closing the sections, a bail secured to the ring for moving the same, and a covering for the said bail to prevent injury to the fruit, substantially as specified. 3rd. As an improved article of manufacture, a fruit-pail consisting of two similar sections, tapering or converging at their lower ends, hinged together at their upper ends, provided with ears to receive a suspension-rope and external guard-hooks near their upper ends, an external slide-ring encircling the two sections for closing the same, a bail secured to the slide-ring, and extending beneath the pail and an elastic tubing on the bail, substantially as shown and described.

#### No. 27,602. Thill Coupling. (*Armon de limonière.*)

Daniel R. Porter and Charles F. Fessenden, Chelsea, Mass., U. S., 6th September, 1887; 5 years.

*Claim.*—1st. The india-rubber or leather washers E, E, in combination with the shackle B, shaft iron C and bolt D, substantially as and for the purpose set forth. 2nd. The combination of the washers E, E and washers F, F, with shackle B, shaft iron C, and bolt D, substantially as and for the purposes set forth. 3rd. In combination with a thill coupling, india-rubber, or leather washers, as arranged upon the connecting bolt that they can be compressed to hold the said bolt rigidly to the shaft iron, substantially as and for the purposes set forth.

**No. 27,603. Label Cabinet.** (*Casier pour étiquettes.*)

Uriah D. Mihills, Font du Lac, Wis., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. In a label cabinet, the curved label-receptacle D and pivoted arms *a* in combination substantially as described. 2nd. In a label-cabinet, a label-receptacle adapted to hold the labels in a curved position, in opposition to their tendency to curl, substantially as specified. 3rd. In a label-cabinet, the combination, with the curved receptacle D and pivoted arms *a* attached thereto, of the three-armed lever E and the connecting wires *e*, substantially as shown and described. 4th. In a label-cabinet, the combination of the curved label-receptacle D, provided with the notch *j* and nib *i*, the arms *a* attached to the receptacle, the three-armed lever E connecting wires *e* and the covers F, substantially as shown and described. 5th. The combination, with the cabinet A having an inclined top and provided with compartments B, of series of curved label-receptacles D provided with arms *a*, series of levers E provided with curved outwardly-projecting arms *f*, connecting-wires *e* and the notched and hinged covers F arranged over the curved receptacles, substantially as shown and described. 6th. The combination, with the cabinet A having an inclined top and provided with arms *a*, series of levers E provided with curved outwardly-projecting arms *f* connecting wires *e*, the compartments B, of series of curved label-receptacles D provided with curved outwardly-projecting arms *f*, connecting-wires *e*, the notched and hinged covers F arranged over the curved receptacles, and the stop G for limiting the motion of the receptacles, substantially as shown and described.

**No. 27,604. Stretcher for Invalids.***(Civière pour invalides.)*

Horace H. Judson, Stratfort, Conn., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. A stretcher consisting of a supporting piece, as a sheet, side strips adapted to be rolled in said supporting piece from opposite sides, and braces at opposite ends which engage the side strips, whereby the latter are held firmly in position. 2nd. A stretcher consisting of a supporting piece, as a sheet, two side strips adapted to be rolled in the sheet from opposite sides, and adjustable braces which engage the side strips to hold them firmly and press them outward to take up the slack in the sheet. 3rd. The combination, with a supporting piece, as a sheet, of side strips having angular portions A, reduced squared portions B and handles C, and adjustable braces bifurcated at their ends, the parts of which are forced outward by a right and left threaded nut.

**No. 27,605. Road Grading Machine.***(Niveleur de chemins.)*

Joshua Moore, Marseilles, Ill., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. In combination, with the frame F having the axles A and A<sub>1</sub> and wheels V, V<sub>1</sub>, W and W<sub>1</sub>, the scraper board M, braces R, R<sub>1</sub>, R<sub>2</sub> pivotally connecting said scraper board M with the rear axle A, and hand levers L, L<sub>1</sub> secured to said scraper board, as described, and adapted to vertically adjust said scraper-board, substantially as set forth. 2nd. In the road-grader, shown and described, the combination of the scraper board M, axle A, braces R, R<sub>1</sub>, R<sub>2</sub> for pivotally connecting said scraper board and axle, and the hand levers L, L<sub>1</sub> pivotally connected to said scraper board and to frame F, F<sub>1</sub> for vertically adjusting said scraper-board, as and for the purposes set forth. 3rd. In the grading machine, shown and described, and in combination with the frame F, F<sub>1</sub> and rear supporting wheels W, W<sub>1</sub>, the axle A diagonally arranged across said frame, as shown, so that each of said wheels may more closely follow the scraper-board, as and for the purposes set forth. 4th. In combination with the frame F, F<sub>1</sub>, the forward supporting truck and the rear supporting wheels and their axle, arranged as described, the scraper-board M, brace bars R, R<sub>1</sub> and R<sub>2</sub>, and hand levers L, L<sub>1</sub>, connected and arranged to operate as and for the purposes set forth. 5th. In the grading machine, shown and described, and in combination with the arched frame F, F<sub>1</sub> and axle A, the plate P secured to said axle, and having the integral hooks *h*, *h*, bolster block J and king-bolt *t*, as and for the purposes set forth. 6th. The means shown and described for supporting, bracing and adjusting the scraper-board M independent of the frame F, F<sub>1</sub>, consisting of the brace bars R, R<sub>1</sub> and R<sub>2</sub> pivotally connecting the lower part of said scraper-board with axle A, and the hand levers L, L<sub>1</sub> pivotally connected with the upper part of said scraper-board and adapted to be independently operated to vertically adjust said scraper-board, as set forth. 7th. In the road-grader described, the frame F, F<sub>1</sub> consisting of two beams, one arranged on either side at the rear part of the machine, in such manner as to support the hand-levers L, L<sub>1</sub>, one near either end of the scraper-board M, and braced by the cross rods D, D<sub>1</sub> and D<sub>2</sub>, and cross-bar E and converging and arched at their front end, as and for the purposes set forth.

**No. 27,606. Door Latch and Lock.***(Loquet et serrure de porte.)*

Edward S. Winchester, Boston, Mass., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. In combination with a latch-bolt and a spring to project the same, the detent, substantially as described, bearing normally on said bolt, and acting frictionally to hold the same whether wholly or partially retracted against the influence of the projecting spring, and a lateral pin or projection for lifting the detent out of action. 2nd. In combination with the latch-bolt and its projecting spring, the friction-spring F acting upon the bolt, and adapted to hold the same against the influence of the projecting spring, the pin G to act upon the detaining spring, the projecting pin H extending beyond the lock and the spring I acting upon the pin H, as described. 3rd. In combination, with the lock-case, the locking-bolt provided with a shoulder K, and a spring-actuated detent operating automatically to hold the key against said shoulder, substantially as described.

**No. 27,607. Boiler for Hot Water Heater.***(Chaudière pour calorifère à eau.)*

Robert Neil and John Morrison, Quebec, Que., 10th September, 1887; 5 years.

*Claim.*—1st. The combination, with the case A, of a furnace B and two or more boiler sections J, K, connected by a pipe L and arranged horizontally one above the other, and provided with drop conductors P, the upper section having a branch pipe or header O for connection of the circulating pipes N, as set forth. 2nd. The combination, with the case A, of the furnace B having an inlet C at the bottom for the admission of gas, and provided with a perforated floor D, boiler sections J, K having conductors P and arranged one above the other and connected by pipe L, the upper section having a pipe M and header O, and the shutters Q arranged to deflect the heat under the boiler sections, as set forth.

**No. 27,608. Device for Hitching Animals.***(Appareil pour attacher les animaux.)*

William Clarke, Grand Rapids, Mich., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. A device for hitching animals, consisting of a rod having transverse bar at one end, provided with spurs, a handle having a projection or cap in which the other end of the rod is secured, a foot on the rod having a circumferential groove, a ring having an extended loop rotating in said groove, and a spiral spring surrounding the rod attached to the foot and cap, substantially as described. 2nd. In a hitching device of the class described, the rod B provided with a cap *b*, a handle A and a transverse bar *e*, in combination with the removable foot C, the loop D and the spiral spring F surrounding said rod B, the whole adapted to be attached in the manner and for the purpose specified.

**No. 27,609. Rowing Attachment for Boats.***(Appareil à ramer.)*

Selden B. Lard, Waterville, Ks., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. The oar-shaft E having fixed blade *f* and hinged blades or wings *f*, *f*, combined with a rock-shaft bearing a sleeve, or journal, carrying said oar-shaft and crank-handles, and means for reversing said oar-shaft on its axis, substantially as described. 2nd. The combination of the rock-shaft D having handles *c*, *d* at one end, and sleeve *e* at the other, the oar-shaft E with regular blade and pinion *g* at its upper end, the toothed segment *h*, the arm *i* and locking bar *j*, substantially as shown and described. 3rd. The combination, with a boat, of the transverse frame fitting the bottom and sides of the boat, and having journal-bearings on its upright portions, and rowing attachments arranged in said upright parts, substantially as and for the purpose described. 4th. The transverse frame B having the seat C connected therewith, and fitted transversely to the bottom and sides of the boat, in combination with rowing attachments carried by the upright parts of said frame, substantially as and for the purpose described.

**No. 27,610. Valve.** (*Soupage.*)

Samuel P. Blackburn, Boston, Mass., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. A valve for steam engines, pumps and similar devices, formed of felted, plaited, laid, or woven goods, consisting of any mineral fibre, such as asbestos, mineral wool, etc., and a suitable enclosing case, the whole being sewed and stitched together, substantially as described. 2nd. A valve for steam engines, pumps, and similar devices, formed of layers of any suitable mineral, fibre, and an enclosing case, the whole being securely fastened together by sewing, substantially as shown and described. 3rd. A valve for steam engines, pumps, and similar devices, formed of layers of fibrous material, said layers being partly of mineral fibre and partly of animal or vegetable fibre, the whole being securely fastened together by sewing, substantially as shown and set forth. 4th. A valve for use in steam, water, oil or other engines, pumps or appliances formed of any suitable animal, vegetable or mineral fibre fastened together by sewing, rivetting, or equivalent means, substantially as shown and described. 5th. A valve formed of any suitable animal, vegetable or mineral fibre closely packed or laid in an enclosing case or cover, the whole being securely fastened together by sewing or equivalent fastening means, substantially as described. 6th. A valve made of any animal, vegetable or mineral fibre held between two confining disks of a textile fabric by means of sewing, rivetting, or similar fastenings, substantially as described. 7th. A valve formed of any suitable animal, vegetable or mineral fibre, secured together by sewing, stitching, rivetting, or equivalent devices, and saturated with any suitable filling material such as paraffine, oils, etc., for filling, preserving and hardening it, substantially as described and set forth. 8th. A valve formed of any suitable animal, vegetable or mineral fibre sewed or otherwise fastened together, saturated with any suitable filling material such as paraffine oil, turpentine, etc., and subjected to pressure so as to leave it in a condensed form, substantially as described.

**No. 27,611. Mattress for Water Beds.***(Matelas pour lit-baignoire.)*

Horace H. Judson, Stratford, Conn., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. As a new manufacture, a mattress for water beds, having a thickened portion at or near the centre thereof, as and for the purpose set forth. 2nd. As a new manufacture, a mattress for water beds having weight pockets at the lower end thereof, as and for the purpose set forth. 3rd. As a new manufacture, a mattress for water beds having a thickened portion at or near the centre thereof, and weights at the lower end thereof, whereby in use the mattress is prevented from sinking in the middle and rising up at the lower end.

**No. 27,612. Automatic Doctor for Callender Rolls.** (*Docteur automatique pour laminoir à papier.*)

Richard Smith, Sherbrooke, Que., 10th September, 1887; 5 years.

*Claim.*—1st. A doctor constructed substantially as herein described, and freely oscillating upon pivots disposed above and laterally of a longitudinal axis passing through the centre of body, said doctor hanging loosely at all times, and free to move vertically in order that it may maintain contact with the roll by its own gravity, for purposes herein stated. 2nd. In combination with the revolving roll doctor swinging freely there-against, and provided with pivotal supports which are disposed above and to one side of its centre of body axially, and adapted to continuously contact the roll and doctor, said doctor hanging loosely at all times, and free to move vertically in order that it may maintain contact with the roll by its own gravity, substantially as set forth. 3rd. The plate *a*, rib *b* and the curved shield *k* hinged to the plate, and composing a doctor as an entirety which is pivoted and disposed eccentrically of and above its centre of body, said doctor hanging loosely at all times, and free to move vertically in order that it may maintain contact with the roll by its own gravity, substantially as herein stated. 4th. In combination with the standards *A*, *A* and the series of rolls *B*<sub>2</sub>, *B*<sub>3</sub> supported thereupon, the doctors *C*<sub>2</sub>, *C*<sub>3</sub> loosely hung and forced continuously in contact against the rolls by gravity induced through the pins *d*, *d* pivoted in the collars *f*, *f*, and adjustable upon the rods *e*, *e*, substantially as and for the purposes set forth. 5th. The combination, with the revolving roll *B*, the standards *A*, *A* and the rods *e*, *e* secured thereto, of the freely moving doctor *C* composed of the plate *a*, rib *b*, and strip *c*, and pivoted upon the pins *d*, *d*, as and for the purposes herein described. 6th. In a standard provided with a series of revolving rolls, the combination, with the pivoted plate *a* and strip *c* secured to said standard, of a shield *k* likewise pivoted thereto, and movable with respect to the rolls, the whole forming a doctor, substantially as herein stated.

**No. 27,613. Steam Boiler Feeder.**

(*Alimentateur de chaudière à vapeur*)

George A. Kelly, Longview, Texas, U. S., 10th September, 1887; 5 years.

*Claim.*—1st. The combination of the cylinders *A*<sub>1</sub> and *A*<sub>2</sub>, the valve to alternately admit steam to and exhaust steam from the said cylinders, the cylinder *C* having the piston *D* and devices connecting the said piston to the steam valve to reverse the latter at each upstroke of the piston, the valve case *E* communicating with the cylinders *A*<sub>1</sub>, *A*<sub>2</sub> and *C*, and with the water supply pipe, the valve *R* in the said case, the valve-case *F* communicating with the cylinders *A*<sub>1</sub> and *A*<sub>2</sub>, and with the water-discharge pipe, and in the valve in the said case adapted to alternately cut off communication to the cylinders, substantially as described. 2nd. The combination of the turning valve *K*, the walking-beam *U* attached thereto, the spring-actuated pawls *T* pivoted to the ends of the walking-beam, and the reciprocating piston *D* having the rod provided with notches on opposite sides adapted to engage the free ends of the pawls alternately at each alternate upstroke of the piston, for the purpose set forth, substantially as described. 3rd. In a steam-boiler feeder, the combination of the cylinders *A*<sub>1</sub> and *A*<sub>2</sub> to which water is alternately supplied under pressure, the valve-case *F* communicating with the said cylinders, and having the double-ended valve movable lengthwise in the valve-case to alternately close the valve-seats, and the delivery pipe extending from the valve-case, substantially as described. 4th. The combination of the cylinders *A*<sub>1</sub> and *A*<sub>2</sub>, the valves to alternately admit steam to and exhaust steam from the said cylinders, the valves to alternately admit water to and discharge it from the cylinders, and the cylinder *C* communicating with the cylinders *A*<sub>1</sub> and *A*<sub>2</sub>, and having the piston *D* and valve-gearing actuated by the said piston to operate the steam inlet and exhaust valve, substantially as described.

**No. 27,614. Railway Track System.**

(*Système de voie de chemin de fer.*)

Philip Noonan, Boyce, La., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. In a railway-track system, the combination, with ties of main rails laid loosely thereon in connected sections, spikes or equivalent fastenings fixed to the ties at the sides of the rails and allowing a free limited vertical or wave movement of the main rails, and splice-rails fixed to the ties at and connecting the ends of the main rail sections to form a continuous track, substantially as described for the purposes set forth. 2nd. In a railway-track system, the combination, with ties or other rail-supports, of main rails laid loosely on the ties or supports and out-turned at their ends, splice-rails laid at and connecting the out-turned ends of the main rails to form a continuous track, and grips fitted to the main-rail sections at or near their out-turned ends, substantially as described for the purposes set forth. 3rd. In a railway-track system, the combination, with ties *E*, of loose main rails *A* having out-turned ends *u* and connected in sections by end-butted joints, splice-rails *B* scarfed at the ends, and laid fixedly at and connecting the out-turned ends of the main rails to form a continuous track, grips *F* crossing beneath rails *A*, and adjusting devices, substantially as specified, whereby the grips may be caused to bite and hold the rails *A*, substantially as described for the purpose set forth. 4th. In a railway-track system, the combination, with the main and splice rails *A*, *B*, arranged substantially as specified, and the grips *F* supported in recessed blocks *H*, *H*, and adapted to bite at diagonally-opposite corners on the rails *A*, of a pin *J*, spring *K*, and screw *L*, substantially as herein set forth. 5th. In a railway-track system, the combination, with the main and splice rails *A*, *B*, arranged substantially as specified, and the grips *F* supported in recessed blocks *H*, *H*, and adapted to bite at diagonally-opposite corners on the rails *A*, of a screw *I* threaded into the block *H*, substantially as herein set forth. 6th. A railway-track system comprising ties *E*, main rails *A* connected in sections having closed or end-butted joints, and provided with out-turned ends *u* and laid loosely on the ties between spikes allowing free limited vertical

or wave movement of the rails splice-rails *B* fixed to the ties and connecting by scarfed end with the out-turned ends of the main rails to form a continuous track, grips as at *F* placed on the rails *A*, devices substantially as specified, for adjusting the grips and ballast, as at *N*, *O*, covering the ties, substantially as described for the purposes set forth.

**No. 27,615. Spring Locking Mechanism for Locking and Raising Windows.** (*Arrête-croisée.*)

George W. Willment, Ottawa, Ont., 10th September, 1887; 5 years.

*Claim.*—In a spring locking mechanism for windows, frame *A* having the slot *D* support *d*, and holes or apertures *a* and *c* into which passes a bolt, in combination with bolt *B*, spring *C* and thumb-piece *d*<sub>1</sub> pivotally screwed to said bolt, all substantially as described and for the purposes set forth.

**No. 27,616. Horse Hay Rake.**

(*Râteau à cheval.*)

George C. Robinson, Moravia, N. Y., U. S., 10th September, 1887; 5 years.

*Claim.*—1st. In combination with the main frame and rake-lifting lever, a cushion arranged to receive the thrust of said lever to its normal position, as set forth. 2nd. In combination with the pivoted rake-head, the pivoted cleaning teeth coupled with the rake-head to swing simultaneously with and in opposite directions from the rake-head, as set forth. 3rd. In combination with the axle wheels and rake-head, the annular racks *c*, pawls *O* and eccentrics *b*, substantially as and for the purpose set forth. 4th. In a horse hay rake, the combination, with the axle *B*, wheels *b*<sub>1</sub>, main frame *A*, frame *D* and bar *L* carrying the cleaning teeth of the lever *k*<sub>1</sub>, link-rod *k*, plate *K*, and eccentric sleeves *b*, substantially as specified. 5th. In a horse hay rake, the combination, with the main frame, frame *D* carrying the rake and bar *L* carrying the cleaning teeth of the plate *K*, link-rod *k*<sub>1</sub>, lever *k*<sub>1</sub>, and spring bar *X*, substantially as specified.

**No. 27,617. Bottle or other analogous receptacles for Liquids.** (*Bouteille ou autre receptacle analogue pour liquides.*)

Harvey J. Leith, Providence, R. I., U. S., 12th September, 1887; 5 years.

*Claim.*—1st. The combination, with the apertured neck of a bottle and a self-closing stopper or valve fitting therein, of the protection cap having an outlet, and lugs formed therein, for limiting the lift of said valve, and means for securing and sealing the cap to the upper end of the bottle, and inclosing said apertured neck and valve, substantially as hereinbefore set forth and for the purpose specified. 2nd. The combination, with a bottle having a self-seating stopper, of the protection cap having an outlet, lugs for limiting the lift of the stopper formed in the cap, and means consisting of an annular groove or rim formed in the bottle, to receive cement into which the lower end of the cap is embedded and adapted to be sealed, substantially as shown and hereinabove described. 3rd. The combination of a bottle, as *B*, a valve normally seated therein, a rubber band adapted to limit the lift of the valve and seat it when the bottle is inverted, and an apertured protection cap sealed to the top of the bottle, and inclosing said valve and rubber band, whereby, upon returning the bottle to its upright position, a quantity of the liquid contents is left in the upper chamber to serve as a seal to the valve and a preservative to the rubber, substantially as hereinabove described. 4th. The improved bottle hereinbefore described, consisting of the base or liquid-holding portion, a valve seated therein, a rubber band for normally closing the valve when the bottle is inverted, an apertured protection cap sealed to the top of the bottle and inclosing said valve and rubber band, and a perforated plate located in the neck of said protection cap, substantially as shown and for the purpose specified.

**No. 27,618. Machine for Attaching Heel Plates to Shoes.** (*Machine pour assujettir les plaques des talons aux chaussures.*)

Francis H. Richards, Springfield, Mass., U. S., 12th September, 1887; 5 years.

*Claim.*—1st. The improved heel-plate attaching machine herein described, the same consisting in a framework, a vertically movable anvil provided with prong-bending dies, and a laterally movable plate-holder, all substantially as described. 2nd. In a heel plate attaching machine having a vertically movable anvil, of the swinging heel-plate holder pivoted to the frame above said anvil, all combined and operating substantially as set forth and for the purpose specified. 3rd. The combination, in a machine for attaching heel-plates, of the plate-holder having oppositely-disposed inclined ledges, and a movable jaw on said holder, and having oppositely-disposed faces for bearing against and centering the plate, substantially as described. 4th. In a machine of the class specified, the plate-holder pivoted to the frame above the anvil, and a projecting part, as *24*, or the like, on said holder, combined with a spring, as *23*, holding said holder either up or down, substantially as set forth. 5th. The combination, a heel-plate holder, of the holder *H* provided with ledges against which the plate rests, of the hinging jaw *18* and means (as a screw and spring) for closing and unclosing said jaw, all substantially as set forth. 6th. The combination, in a machine of the class specified, of a plate-holder, a vertical slide carrying the anvil under said holder, the cam *M* and means for separating said cam, all substantially as described. 7th. The combination, in a machine of the class specified, of the slide *L* having stem *26*, and anvil *D* fitting on said stem and having the arm *33* working between guides on the frame, all substantially as described. 8th. The combination, with a framework having the holder post *14* and bearing *13*, of slide *L* adapted to slide in said post, the slide *T* adapted to turn in said bearing, and the cam *M* on said shaft and working against said slide, substantially as described.

**No. 27,619. Organ Case.** (*Buffet d'orgue.*)

Edwin S. Votey, Detroit, Mich., U. S., 12th September, 1887; 5 years.

*Claim.*—1st. In an organ case, the combination of a desk-frame provided with hooks or cleats, and pins connected with the case for said cleats, to engage with the said pins and cleats, being arranged substantially as described, so that, when the desk-frame is turned on said pins it may be moved backward or lifted and removed from the case without disturbing the case-top, substantially as described. 2nd. The combination, with an organ case, of a key-slip provided with a bolt or catch adapted to be operated by the hand to lock and unlock the slip to the case, substantially as described. 3rd. The combination, with an organ case, of a key-slip provided with dowels and with spring-actuated bolts to engage with sockets in the case, to lock and unlock the slip to the case, substantially as described.

**No. 27,620. Hose.** (*Tuyau Elastique*)

George Meacom, Chelsea, Mass., U. S., 12th September, 1887; 5 years.

*Claim.*—1st. A single-ply woven fabric for hose having a body composed of wefts and warps of fibrous material, with wefts and warps of ductile wire woven therein at regular intervals, as set forth. 2nd. An improved hose or flexible tubing having the body portion thereof composed of convolutions of a textile fabric having strands of wire woven therein at regular intervals, as set forth. 3rd. An improved hose or flexible tubing having the body portion thereof composed of convolutions of a single piece or strip of textile fabric, treated or frictioned with caoutchouc or rubber cement, and having strands of flexible wire woven therein at suitable intervals throughout its structure, constructed and combined substantially as and for the purposes hereinbefore set forth.

**No. 27,621. Gas Pressure Regulator.**(*Régulateur à gaz.*)

Richard Pickering, Cleveland, Ohio, U. S., 12th September, 1887; 5 years.

*Claim.*—1st. In a fluid-pressure regulator, the coupling A having a main inlet I directly intermediate between the regulator-opening M and the valve-outlet passage opening e, a main outlet O communicating by a passage K, through said single opening e, with said inlet I and regulator-opening M, the bottom opening in passage K and the cap or cup for said opening, substantially as described. 2nd. A fluid-pressure regulator with inlet, outlet and expansion passages, a single valve-opening between said inlet and outlet, a second valve-opening in the expansion passage, and a valve or valves to operate with said openings, substantially as described. 3rd. In a fluid-pressure regulator, the double-action valve D working in a surrounding chamber or stop-passage *M g J e*, having an inlet I directly connected with an expansion-chamber F, the movable part of which supports said valve D by a stem E, said passage J having a single open connection, at e, with a passage K leading to an outlet O, said expansion-chamber connecting with the outlet O only through the valve D, when said valve has closed the inlet, and through said valve and said single opening e when said valve opens said inlet, substantially as described. 4th. In a fluid-pressure regulator, a valve and a float stem having a connecting-joint that serves as a radiating and guiding centre, adapted to slide up and down in a fluid-pressure passage surrounding said joint, allow the fluid to pass and guide said valve and float stem, substantially as described. 5th. In a fluid-pressure regulator, a float F having a close-bottom annular cup i, G, A, with the part G adapted to close upon a seat C, in a liquid-chamber B, having a vent b, in combination with a coupling having an inlet and outlet, a regulator-valve passage, and a valve connected by a stem with said float, substantially as described. 6th. In a fluid-pressure regulator, a double-action tubular valve D, operating in a regulator valve-seated passage J, which, together with a main inlet I, have direct communication with an expansion-chamber F, said inlet F and chamber F communicating with a main outlet O, through said valve D and said passage J, substantially as described. 7th. In a fluid-pressure regulator, a tubular valve D, arranged to interpose and communicate between the outlet and a regulator-passage and the inlet, and also between the inlet and the outlet and the regulator-passage of a chambered coupling communicating with an expansion-chamber, so as to open and regulate the inlet-pressure to the outlet by relieving the pressure contained in said expansion-chamber through said valve to the outlet, and also by said valve intermeduating between the outlet and said expansion-chamber, the inlet, expansion-chamber and the outlet, substantially as described. 8th. In a fluid-pressure regulator, the coupling A having inlet and outlet in a horizontal plane, which, together with the other passages, concentrate downward to a bottom opening that holds, and is closed by a cup H, and serving for the purposes set forth, in combination with a float F, having the part G, and supporting a regulator-valve by a stem through a central tube C, having a seat C, as set forth, said float acting in liquid contained within an outer casing supported by said coupling, substantially as described. 9th. In a fluid-pressure regulator, the coupling A, casing B, tube C, link-valve D, link-stem E and float F, said coupling having a bottom cup H and an inlet I direct to said float, the pressure being first on the float side of the valve in Y C, and, second, on the outlet K, O, substantially as described. 10th. In a fluid-pressure regulator, a float expansion-chamber F adjustably attached to a stem E, by nuts *m, n*, said nut *m* receiving a closing seat for the top of tube C, a loose annular float-cup i, G, A, within the sides K of the float F, and a casing B having a vent b adapted to contain a suitable liquid for said floats, in combination with a coupling having inlet and outlet passages with a valve-chamber, and a valve thereof connected to said float, substantially as described. 11th. In a fluid-pressure regulator, a regulator-tube C having a screw-threaded and shouldered base c, adapted to join to a coupling A and grip a casing B, between said shouldered base c and the shoulder a of the coupling A, substantially as described. 12th. In a fluid-pressure regulator, a coupling A, with inlet and outlet in a horizontal plane and having a bottom opening and a cup H, for said opening, a shoulder a and a screw-threaded regulator-opening M, in combination with a screw-threaded

and shouldered regulator-tube C, adapted to support and grip a casing B between said shoulders, substantially as described. 13th. In a fluid-pressure regulator, a coupling A, with inlet and outlet passages, a regulator-valve guide passage M, adapted to guide a flexible top joint N, of a suspending valve D, flexibly connected to a stem E, of a float expansion-chamber F, substantially as described. 14th. In a fluid-pressure regulator, a regulator-tube C, having a cone-base c, in a liquid-chamber B, substantially as described. 15th. In a fluid-pressure regulator, a float F, with an annular close bottom cup i, G, A and stem E, flexibly connected to a valve D as set forth and substantially as described. 16th. In a fluid-pressure regulator, the valve D formed with top and bottom outward projecting seats or surfaces with a tubular central passage, substantially as described. 17th. In a fluid-pressure regulator, a regulator expansion-passage (extending above the liquid in an expansion-chamber) having a seat-face at the upper and lower openings, of said passage for the purposes set forth and substantially as described. 18th. In a fluid-pressure regulator, a float with a closing part or seat in liquid, and a corresponding seat therefor in casing containing said liquid and said float, substantially as described. 19th. In a fluid-pressure regulator, a float with differential closing-seat surfaces G, m, and corresponding seats therefor, substantially as described.

**No. 27,622. Watch Protector.**(*Bourrelet de queue de montre.*)

Thomas W. Crawford, Toronto, Ont., 12th September, 1887; 5 years.

*Claim.*—The moulded rubber ring, substantially as and for the purposes hereinbefore set forth.

**No. 27,623. Apparatus and Means for Bending Tubes.** (*Appareil à courber les tuyaux.*)

James H. Kelly, Rochester, N. Y., U. S., 12th September, 1887; 5 years.

*Claim.*—1st. In an apparatus for bending tubes and pipes, the combination of a form on which the tube is laid, a clamp for holding the tube, a rod or mandrel for bending the tube, and a carrier for holding the rod, as specified. 2nd. In an apparatus for bending tubes and pipes, the combination of a form on which the tube is laid, a clamp for holding the tube, a rod or mandrel for bending the tube, a carrier for holding the rod, and a die which sweeps around the form, as set forth. 3rd. The combination, of a form on which the tube is laid, a clamp for holding the tube, a rod or mandrel for bending the tube, a carrier for holding the rod, a die which sweeps around the form, and a yoke to which the die is attached, as specified. 4th. The combination of a form, a clamp, a rod or mandrel, a die, a yoke and a stirrup attached to the yoke, said stirrup serving as a holder for the rod, as specified. 5th. In an apparatus for bending tubes and pipes, the combination, with a form to which the tube is clamped, of a rod or mandrel attached to a carrier, said rod or mandrel entering the end of the tube and producing the bend by being drawn around the form, as set forth. 6th. The process herein described of bending tubes and pipes, which consists in securing the tube or pipe on a form of the shape to which it is desired to have the tube or pipe conform when bent, then inserting a rod or mandrel in the tube or pipe, and finally giving a simultaneous drawing and lateral movement to the rod or mandrel around the form, as and for the purpose specified. 7th. The process herein described of bending tubes and pipes, which consists in securing the tube or pipe on a form of the shape to which it is desired to have the tube or pipe conform when bent, inserting a rod or mandrel in the tube or pipe and resting a die upon the tube or pipe, and finally carrying the rod or mandrel and die around the form, as and for the purpose specified.

**No. 27,624. Blind and Shutter Hinge.**(*Peinture de jalousies ou de volets.*)

Eber C. Byam, John A. Stewart and James S. Baker, Rochester, N. Y., U. S., 12th September, 1887; 5 years.

*Claim.*—The combination, with a blind hinge having a knuckle joint of a weighted catch pivoted crosswise in one portion, and a loop or eye standing crosswise of the other portion, said catch having an arm or handle cast on one side, and extending out laterally through the joint or opening between the blind and casing, when the blind is thrown back, as herein shown and described.

**No. 27,625. Sash Lift.** (*Mentonnet de croisée.*)

Eber C. Byam, John A. Stewart and James S. Baker, Rochester, N. Y., U. S., 12th September, 1887; 5 years.

*Claim.*—As an improved article of manufacture, a sash-lift consisting of a right-angled finger piece having an inclined back to fit the inclined bead or bevel of the sash, and allow the finger portion to rest parallel with the face of the sash and within its surface, as and for the purpose specified.

**No. 27,626. Heel Plate.** (*Plaque de talon.*)

Charles Doney, Ottawa, Ont., 12th September, 1887; 5 years.

*Claim.*—1st. As an improved article of manufacture, the skeleton plate B, formed with the circumferential ribs g and the tooth bars e provided with radial ribs f, substantially as and for the purposes set forth. 2nd. The combination, with a leather or rubber boot or shoe, of the skeleton plate B projecting on, or embedded in the heel thereof, and formed with the circumferential ribs g, and the tooth bars e provided with the radial ribs f, substantially as and for the purposes set forth.

**No. 27,627. Apparatus for Manufacturing Plumbers' Traps.** (*Appareil pour la fabrication des valves d'égout pour plombiers.*)

John Robertson, Montreal, Que., 12th September, 1887; 5 years.

*Claim.*—1st. The combination of the mandrel D having enlarged

head N, throat B forming passage K flared as described, around the head N, the whole substantially as described. 2nd. The combination of the mandrel D having enlarged head N, throat B forming passage K, and die O forming a continuation of the passage K, flared around the head N, the whole substantially as described.

### No. 27,628. Spring Tooth Harrow.

(*Herse à dents élastiques.*)

William P. McNeil, New Glasgow, N. S., 12th September, 1887; 5 years.

*Claim.*—The combination of the intersecting harrow bars A, A', blocks B and C, tooth D<sup>2</sup> having a curved heel D, and clip E, as set forth.

### No. 27,629. Harrow. (*Herse.*)

Frederick Clinkman, Courtright, Ont., 12th September, 1887; 5 years.

*Claim.*—1st. The clip, clamp or fastener C, as and for the purpose hereinbefore set forth. 2nd. The combination of the tooth D and the clip, clamp or fastener C, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, with the bull A, the cross-piece B and the tooth D, of the clip, clamp or fastener C, substantially as and for the purpose hereinbefore set forth.

### No. 27,630. Water Heater. (*Calorifère à eau.*)

William Rodden, Montreal, Que., 12th September, 1887; 5 years.

*Claim.*—1st. In a hot water heater, the combination, with sections containing the ash chamber and fire chamber, provided with water spaces and water inlets, and with a top section with water space and outlets and smoke flue, of vertical hollow sections forming separately front back and sides of heater, situated intermediate between fire chamber section and top section, and with separate water spaces communicating with water spaces of said fire chamber section and top section, and having hollow arms forming extensions of water spaces cast in one with them, and projecting inwardly over or into fire space, as and for the purposes described. 2nd. In a hot water heater, the combination, with sections containing the ash chamber and fire chamber having water spaces and inlets, and a top section having water space and outlets, and smoke flue, of sections C, C' forming sides, and D, D', forming front and back of heater intermediate between and with their water spaces communicating with water spaces of fire chamber and top section, constructed as shown and described. 3rd. In hot water heaters, the combination, with the ash chamber, of a water chamber or jacket constructed beneath its bottom, as and for the purposes set forth.

### No. 27,631. Stretching and Attaching Wire to Iron Fence Posts and Securing them firmly to the ground.

(*Manière de tendre et d'attacher le fil métallique aux poteaux de fer et d'assujettir ces derniers fermement en terre.*)

John W. Davy, Kingston, Ont., 12th September, 1887; 5 years.

*Claim.*—1st. In an iron fence, the post A, in combination with the braces C, D, E, toe-plates Q and pins F, substantially as and for the purpose set forth. 2nd. In an iron fence, the combination of the posts a, a', straps G, G', braces C, C', E, E', toe-plates Q and pins F, to hold the posts and wires, substantially as and for the purpose hereinbefore set forth. 3rd. In an iron fence, the combination, with the clip K having post mortise in the centre, and flanges projecting from the top and ends of rods or eyebolts, J, J', having bows or eyes I, I', to receive the wires h, h', and screws and nuts N, N', O, O', on the opposite ends to stretch, or tighten the wires, substantially as described and shown. 4th. The combination of wedge M, clip K and post B, substantially as and for the purpose set forth. 5th. In an iron fence, the metallic clip P having hooks R, R', to hold wire h, in combination with the wedge M driven through the end of the clip opposite to the hooks, combining clip, wedge and post, substantially as and for the purpose hereinbefore set forth.

### No. 27,632. Furnace. (*Calorifère.*)

Edward Gurney and Charles Sellers, Toronto, Ont., 12th September, 1887; 5 years.

*Claim.*—1st. In a furnace having a fire-pot surrounded by a metal water-jacket, the interior wall A having a series of inwardly projecting hollow metal ribs a arranged to form retaining spaces for the bricks B, substantially as and for the purpose specified. 2nd. In a furnace having a fire-pot surrounded by a metal water-jacket, a metal wall A, made with a series of inwardly projecting hollow metal ribs a having sides converging towards the centre of the pot, so as to form dove-tail recesses to receive the fire-bricks B, substantially as and for the purpose specified.

### No. 27,633. Key Fastener. (*Arrête-clé.*)

Joseph S. Randall and William L. Krepps, Grand Rapids, Mich., U.S., 15th September, 1887; 5 years.

*Claim.*—1st. In a key-fastener, the combination of an outer plate provided with an opening, and communicating slot constituting a key-hole, a laterally movable plate provided with an opening, and two communicating slots at right angles to each other, the opening in said movable plate and one of the communicating slots therein corresponding to the key-hole in the outer plate aforesaid, and being adapted to receive a key when said opening slot and key-hole register, the inner shoulder on said movable plate at the intersecting point between the two communicating slots being rounded so as to turn the key when the plate is moved, substantially as specified. 2nd. In a key fastener, in combination with a sliding plate adapted to secure the key within the lock, a plate a having the slot d formed

therein, a pin C having a shank adapted to pass through said slot and lock said plate, and having attached a cam c, substantially as described. 3rd. In a key fastener, in combination with a movable plate adapted to secure the key within the lock, a plate having a slot formed therein, said slot having lateral enlargements, and a pin passing through said slot and attached to said plate, said pin having attached a cam having a projection formed thereon, add adapted to lock said plate, substantially as described.

### No. 27,634. Knob Attachment.

(*Posage de bouton de porte.*)

Frank A. Hollenbeck, Syracuse, N. Y., U.S., 20th September, 1887; 5 years.

*Claim.*—1st. The combination, with a door-knob and a shank provided with an inwardly projecting spline, of a spindle provided with a longitudinal slot engaging said spline, and having an interior screw-thread and the retaining-screw, substantially as described. 2nd. The combination, with a door-knob and a shank having an inwardly projecting spline, of a split spindle having an interior screw-thread, the spline of the shank and the slot of the spindle being the one of wedge-form and the other engaging the same and the retaining-screw, substantially as described. 3rd. The combination, with a door-knob and shank having a tapering opening in the same increasing toward the outer end, and an inwardly projecting wedge-shape spline increasing in the same direction of a split spindle engaging said spline, and provided with an interior screw-thread and the retaining-screw, substantially as described. 4th. The combination, with the door-knob and shank having a spindle-opening therein provided with an inwardly-projecting spline having screw-threads, of a spindle split longitudinally, and a screw passing through the knob into the split spindle, and engaging with the screw-threads of the spline, substantially as described. 5th. The combination of the knob, an elastic washer in the same with a screw passing through the knob and washer, the split spindle having an interior screw-thread, and a knob shank having an opening increasing in size toward its outer end, and a wedge-shaped spline engaging the spindle, the said parts being constructed and operating, substantially as described. 6th. The combination of the knob, an elastic washer in the knob, a screw passing through the knob and washer, a split spindle having interior screw-threads and a knob shank having a spline, substantially as and for the purpose set forth.

### No. 27,635. Guard Finger for Harvesters.

(*Pointe pour lames de moissonneuses.*)

Randall W. Walker, Oxford, N. Y., U. S., 20th September, 1887; 5 years.

*Claim.*—The combination, with the finger A having projections b, and with the single securing-screw f, of the ledger plate B having locking slot e with the enlarged openings at each end, the rear one being countersunk and recesses to receive the said projections b, whereby the ledger-plate may be removed by loosening the screw until the plate pass the projections b, and without removing the screw, as set forth.

### No. 27,636. Horse Shoe. (*Fer à cheval.*)

Heinrich Jonns and Carl Hirsch, Dresden, Germany, 20th September, 1887; 5 years.

*Claim.*—1st. The combination, with a horse shoe constructed with the notch b, the mortise a and the hole c, of the toe-piece d having the tenon a' adapted to the mortise a, and the screw-threaded shank d' adapted to the hole c, substantially as and for the purpose set forth. 2nd. In a horse shoe, the combination of the notch b, the mortise a, the hole c, the toe-piece d, the tenon a', the screw-threaded shank d' and the nut e, substantially as and for the purpose set forth.

### No. 27,637. Horse Shoe. (*Fer à cheval.*)

John E. Bingham, Walla Walla, W.T., U.S. 20th September, 1887; 5 years.

*Claim.*—1st. As an article of manufacture, a horse shoe constructed of a toe-piece and two side-pieces, each adapted for attachment to a hoof, and formed at their contiguous ends with corresponding recesses and tongues, which follow or tend in a direction parallel with the general contour of the shoe, substantially as and for the purpose described. 2nd. As an article of manufacture, a horse shoe constructed of a toe-piece and two side-pieces, each adapted for attachment to a hoof, and formed at their contiguous ends with corresponding recesses and tongues which follow the general contour of the shoe, the said pieces being also formed with overlapping projections extending inwardly at the point of juncture thereof, substantially as and for the purpose set forth. 3rd. The combination, with the toe-piece having nail holes, and provided with recesses a, which tend inwardly toward each other, and projections b, mortised as shown, of the side-pieces also having nail-holes, and each provided with a tongue c corresponding to the recess a, and a projection b' mortised as at a', substantially as and for the purpose set forth.

### No. 27,638. Thrill Coupling.

(*Arron de limonière.*)

Robert McLaughlin, Oshawa, Ont., 20th September, 1887; 5 years.

*Claim.*—1st. The combination, with a bracket A having cylindrical shaped end B, with a recess as described, of the rubber spring F in said recess, the shaft-eye D eccentrically pivoted within said recess, and the metal plate G secured in said end B between the eye D and spring F, substantially as described. 2nd. The combination, with the bracket A, provided with cylindrical end B and slot g, of the rubber spring F inserted in a recess in said end B, the shaft-eye D eccentrically pivoted within said recess, and the curved metal plate G secured in said end between the eye D and spring F, and having one end passed

through the slot *g*, substantially as and for the purpose specified. 3rd. The combination, with the bracket A having a cylindrical-shaped end B with a recess, as described, and the shaft I D pivoted within the said recess, of the rubber spring F, metal plates G and *a*, inserted in the recess C and actuated by the set-screw B, substantially as and for the purpose specified.

### No. 27,639. Filter. *Fitre.*

William T. Nesbet, Schell City, Mo., U.S., 20th September, 1887; 5 years.

*Claim.*—1st. The combination, with the cylinder A, cover B and bottom *a* leading to the pipe *b*, of the strainer C formed of the portions *d* and *g*, and having the collar *f* and cover *e*, the section *d* being provided with a pipe *q* and a partition *k*, and *π* between which the filtering material is placed, substantially as described. 2nd. The combination, with the cylinder A, cover B and bottom *a* leading to the pipe *b*, of the strainer C formed of the portion *d* and *g*, the section *d* being provided with cover *e*, collar *f* and pipe *q*, and the filtering material which is confined and held by a partition K formed with ridges *i*, *l*, and a pin *l* having walls *n*, *π* and handles *o*, *o* and resting on a shoulder *m*, substantially as described.

### No. 26,640. Car Heater. *Calorifere de char.*

Palmer J. Gurnee, Rondout, N. Y., U. S., 20th September, 1887; 5 years.

*Claim.*—1st. The combination, with a cylindrical heater, of a series of spaced annular guard-plates apertured to receive the fuel magazine, substantially as shown and described. 2nd. The combination, with a double cylindrical heater provided with an intervening packing of non-heat-conducting material, of a series of spaced annular guard-plates apertured to receive the fuel magazine, and means for conducting the products of combustion from said heater, substantially as herein set forth. 3rd. The combination, with a double cylindrical heater provided with an intervening packing of non-heat-conducting material, of a series of spaced annular guard-plates secured to the inner cylinder and apertured to receive a fuel magazine, means for introducing air through the casings, and means for conducting the products of combustion from the heater, substantially as herein shown and described. 4th. The combination, with a cylindrical heater provided with annular spaced guard-plates attached thereto, of a fuel magazine having a hinged top and passing through said plates, and a tubular heat-conductor also passing through said plates, provided with an apertured bottom, substantially as shown and described and for the purpose herein set forth. 5th. The combination, with a double cylindrical heater provided with an intervening packing of non-heat-conducting material, and spaced annular guard-plates secured to the inner cylinder, of a fuel magazine penetrating said plates, and having a hinged cover, a tubular heat-conductor also passing through said plates, provided with an apertured bottom and an airway penetrating said cylinder, substantially as shown and described. 6th. The combination, with a cylindrical heater provided with annular spaced guard-plates attached thereto, and a fuel magazine penetrating said plates provided with a closed top of a tubular heat-conductor also passing through said plates, provided with an apertured top and bottom, substantially as shown and described and for the purpose herein set forth. 7th. The combination, with a double cylindrical heater provided with an intervening packing of non-heat-conducting material, a series of spaced annular guard-plates attached to the inner cylinder, and a fuel magazine provided with a closed top penetrating said plates, of a tubular heat-conductor also penetrating said plates, provided with an apertured top and bottom and means for introducing air in said heater, substantially as herein shown and described. 8th. The combination with a double cylindrical heater provided with an intervening packing of non-heat-conducting material, a series of annular spaced guard-plates attached to the inner cylinder, a fuel magazine penetrating said plates having a closed top, and an apertured tubular heat-conductor also penetrating said plates, of an incased aperture in the outer casing to admit air and registering apertures in the inner casing, substantially as shown and described and for the purpose herein set forth. 9th. The combination, with a cylindrical heater provided with a series of spaced annular guard-plates, a fuel magazine penetrating said plates and having a closed hinged top, of a tubular heat-conductor also penetrating said plates provided with an apertured top and bottom apertures in the side below the bottom guard-plate, and apertures in the side at the top between the upper guard-plate and head of the heater, substantially as herein shown and described. 10th. The combination, with a double cylindrical heater provided with an intervening packing of non-heat-conducting material, a series of annular spaced guard-plates attached to the inner cylinder, a fuel magazine penetrating said plates having a hinged closed top, of a tubular heat-conductor also penetrating said plates, provided with an apertured bottom and top apertures in the side below the lower guard-plate and apertures in the side near the top between the upper guard-plate and the heater-head, together with means of introducing air in said heater, substantially as shown and described and for the purpose herein set forth. 11th. The combination, with a double cylindrical heater provided with an intervening packing of non-heat-conducting material, of an incased air passage extending through the outer cylinder and packing, registering apertures *g* in the inner cylinder adapted to introduce air over the fire, and an apertured base-door *h* hinged to the inner cylinder, together with an outer draft-door *H* hinged to the outer cylinder parallel with the inner door adapted to supply air beneath the fire, substantially as shown and described.

### No. 27,641. Dirt Cart. *Charrette aux ordures.*

Samuel M. Stevenson, Bastrop, La., U. S., 20th September, 1887; 5 years.

*Claim.*—1st. The combination, with a cart, of pivotally-mounted levers formed with outwardly-extending flanges, a scoop or shovel carried by the levers and rollers carried by the cart wheels, substantially as described. 2nd. The combination, with a cart, of clips 13 connected to the axle of the cart, and formed with downwardly-ex-

tending and slotted arms 15, levers 20, formed with flanges 22 and pivotally mounted within the slots of the arms 15, a scoop or shovel 24 carried by the levers, and rollers 23 carried by the wheels, substantially as described. 3rd. The combination, with a cart of levers 30, carrying standards 31, substantially as described. 4th. The combination, with a cart, of clips 13 formed with upwardly and forwardly-extending arms 20, levers 30, pivotally connected to said arms, bars, or standards 31 pivotally connected to the levers, and hooks 33 carried by the shafts of the cart, substantially as described. 5th. The combination, with a cart, of clips 13 formed with arms 15 and 29, connecting bolts 8 and 9, plates 16 formed with cars or bosses 17 within which the trunnions of the cart-body ride, levers 20 pivotally connected to the arms 15, a scoop 24 carried by the levers 20, flanges 22 formed upon said levers, rollers 23 carried by the wheels and levers 30 having standards 31, said levers being pivotally connected to the arms 29 of the clips 13, substantially as described. 6th. The combination, with a cart, the wheels of which have laterally-extending projections, of the levers pivotally connected with the cart in the path of the said projections, and having a scoop at their outer ends, substantially as set forth.

### No. 27,642. Store Service Apparatus.

*(Appareil de service de magasin.)*

Edwin P. Osgood, Malden, Mass., U. S., 20th September, 1887; 5 years.

*Claim.*—1st. In a cash car apparatus, a wire stretched horizontally between fixed supports at each end, and in the described relation to the cashier's desk, in combination with a freely moving car held below the wire on wheel hangers, to which it is rigidly connected, the wheels thereof being pitted to run one behind the other on the wire, whereby the car is held rigidly against oscillation longitudinally of the way, the whole moving structure being thus adapted to be impelled as a third body from one end of the way to the other in either direction by the momentum imparted by a single impulse substantially as described. 2nd. In a cash car apparatus, a wire stretched horizontally between fixed supports at each end, and in the described relation to the cashier's desk, and having adjustable stops placed axially on said wire, in combination with a freely moving car held below the wire or wheel hangers, to which it is rigidly connected, the wheels thereof being fitted to run one behind the other on the wire, whereby the car is held rigidly against oscillation longitudinally of the way, the whole moving structure being thus adapted to be impelled as a solid body from one end of the way to the other in either direction by the momentum imparted by a single impulse or push, substantially as described.

### No. 27,643. Machine for Sowing Fertilizers.

*(Machine à distribuer les engrais.)*

John Aikman, North Norwich, Ont., 21st September, 1887; 5 years.

*Claim.*—1st. The combination of the scatterer E and the disturber J, substantially as and for the purpose hereinbefore set forth. 2nd. The scatterer E, substantially as and for the purpose hereinbefore set forth. 3rd. The oscillating disturber J, substantially as and for the purpose hereinbefore set forth.

### No. 27,644. Harvester Binder.

*(Moissonneuse-lieuse.)*

Frederick D. Mercer and John S. Mercer, Dereham, Ont., 21st September, 1887; 5 years.

*Claim.*—1st. In a harvester binder, a series of rake-teeth D, fixed to the rake-head G, having spindles *b* designed to pass through the endless slots *f* made in the elevator sides B, in combination with the travelling endless sprocket-chain or band H connected to the spindle *b*, substantially as and for the purpose specified. 2nd. In a harvester binder, a series of rake-teeth D, arranged to project through slots *a* made in the deck C, and fixed to the rake-head G, having spindles *b* designed to pass through the endless slots *f*, made in the elevator sides B, in combination with the travelling endless sprocket-chain or band H connected to the spindle *b*, substantially as and for the purpose specified. 3rd. In a harvester binder, a series of rake-teeth D fixed to the rake-head G, having spindles *b* designed to pass through the endless slots *f*, made in the elevator sides B, the crank *g* fixed to the spindle *b* and having the crank-end or pin *i* formed on its end, and designed to project partially into the slot *f*, in combination with the travelling endless chain or band H, groove *k* and block *m*, arranged substantially as and for the purpose specified. 4th. A sprocket chain or band H, having one or more clevis-links *d* connected together by the rake-head spindle *b*, which forms one or more cross-bars of the chain, substantially as and for the purpose specified. 5th. In a harvester binder, a series of rake-heads G, each rake-head having fixed to it rake-teeth D, which project through the slots *a*, made in the deck C, in combination with the endless chain or band connecting the series of rake-heads G, and arranged to travel so that the rakes connected to it will convey the grain from the grain-table to the binding-table, substantially as and for the purpose specified. 6th. In a harvester binder, the roller J located between the canvas A and the bottom plate of the elevator frame, in combination with the straps *n*, substantially as and for the purpose specified. 7th. In a harvester binder, a series of rake-teeth D fixed to the rake-head G having spindles *b* designed to pass through the endless slots *f* made in the elevator sides B, the crank *g* fixed to the spindle *b* and having the crank nut or pin *i* formed on its end, and designed to project partially into the slot *f*, in combination with the travelling endless chain or band H arranged to carry the rake-heads, the block *m* designed to tilt the crank *g*, so as to throw its end *i* into the groove *k*, the dip in the slot *f* and groove *k*, to tilt the rake-head, so as to discharge the grain towards the binding-table.

### No. 27,645. Buckle. *(Boucle.)*

James R. McMillan, Chicago, Ill., U. S., 21st September, 1887; 5 years.

*Claim.*—1st. A clasp, snap or buckle, constructed substantially as herein set forth, comprising a shank, provided at one end with a

hook, a detent pivoted to the shank at a point remote from the hook and having one of its ends movable laterally toward and from the shank, across and adjacent to the end of the hook, said end of the detent, when the latter is closed, standing across the hook-opening for the retention of the eye within the hook, substantially as described. 2nd. A clasp, snap or buckle, constructed substantially as described, comprising a shank provided with a hook, a detent movably mounted on the shank and having a cross-bar at its end, which, when at rest, stands across the hook-opening, and an open eye adapted to pass behind and beneath the said cross-bar into the hook, substantially as set forth. 3rd. A clasp, snap or buckle, constructed substantially as described, comprising a shank provided with a hook, a detent pivoted to the shank and provided at one end with a cross-bar, which, when the snap is closed, stands across the opening of the hook, a spring arranged to hold the detent in position to thus close the hook-opening, and an open eye adapted to pass behind and beneath the cross-bar into the hook, substantially as described. 4th. A snap, clasp or buckle, constructed substantially as herein set forth, comprising a shank provided with a hook, a movable T-shaped detent mounted on the shank and adapted to close the opening of the hook, the transverse part or cross-bar of the said detent being inclined or bevelled upon its rear or inner surface, a spring applied to hold the said detent normally in position to close the opening of the hook and an open eye or loop adapted to pass behind and beneath the cross-bar into the hook, substantially as described.

### No. 27,646. Grain Meter. (*Compteur à grain.*)

Joseph B. Dutton, Detroit, Mich., U.S., 21st September, 1887; 5 years.

*Claim.*—1st. The combination, in a grain meter, of a counterpoised receptacle, counter-weighted doors at the discharge end of such receptacle, and the means, substantially as described, for automatically controlling the movements of such doors, substantially as set forth. 2nd. A grain meter, provided with a counterpoised receptacle, a fixed hopper, carrying shut-off gates, in combination with the means, substantially as described, for opening and closing said gates in the vertical movement of the receptacle, substantially as described. 3rd. In a grain meter, a weighing receptacle supported from a scale beam and provided with an upper receiving and a lower discharge opening, a stationary hopper supported over the receiving opening, two hinged cut-off valves in the stationary hopper, two hinged doors at the discharge opening, a vertical sliding bar secured by guides to the weighing receptacle crank connections between said sliding bar and the cut-off valves, and the doors at the discharge opening, a vertical sliding bar secured by guides to the weighing receptacle crank connections between said sliding bar and the cut-off valves, and the doors at the discharge opening, a detent engaging with the sliding bar and a stop to release said detent automatically by the vertical drop of the loaded receptacle, all substantially as described. 4th. The combination, in grain meters, of a scale beam, a grain receptacle suspended in the scale beam, a stationary hopper located in the receiving opening of the receptacle, and provided with hinged cut-off valves, a receiving hopper located beneath the weighing receptacle, a hinged and counter-weighted valve arranged to regulate the feed from said hopper, and of connection between said valve and the cut-off valves in the stationary hopper, whereby the admission of grain to the receptacle is regulated by the valve in the receiving hopper beneath the receptacle, substantially as described. 5th. In a grain meter, and as a means for controlling the action of the receiving and discharge openings thereof, the sliding bar K and a spring-actuated detent N, in combination with an adjustable stop P, substantially as and for the purposes described. 6th. A grain meter, provided with a counterpoised weighing receptacle, a fixed hopper provided with shut-off valves, in combination with the means, substantially as described, for automatically actuating said shut-off valves and the discharge door of the receptacle, substantially as described. 7th. In combination, with an automatically operating grain meter, a hopper located beneath such meter and provided with a valve-gate, substantially as and for the purposes described.

### No. 27,647. Furnace Grate. (*Grille de foyer.*)

Hiram P. Talmadge, Boston, Mass., U.S., 21st September, 1887; 5 years.

*Claim.*—1st. In a furnace-grate, the combination of the following instrumentalities, to wit: A supporting frame adapted to be inserted in the fire-pot, a rocking-bar journaled in the outer end of said frame, a supporting-bar mounted in the inner end of said frame, a series of rockers mounted on said supporting-bar, and a series of grate-bars mounted on said rockers, and on said rocking-bar certain of said grate-bars resting on and being engaged with the rocking-bar below its axial support, and certain of said grate-bars resting on, and being engaged with the rocking-bar above its axial support, substantially as described. 2nd. The grate-bar B, provided with the cross-bars *g* and arm *k*, having the notch *l*, whereby said bar is adapted to rest upon and engage the rocking-bar *H* below its axial support, when its body is on a plane or flush with the bodies of the other bars composing the grate, substantially as described. 3rd. The horizontally-journaled rocking-bar *H*, provided with the elevations *g*, depressions *h* and handle *J*, in combination with the bars *B*, provided with the notched arms *k*, the bars *C* provided with the notches *d*, the bar *k* provided with the notches *r*, the rockers *L*, cap-plates *F* and a frame-work for supporting said bars in the fire-pot, all being arranged to operate substantially as set forth. 4th. The cap-plates *F*, secured to the legs *D* by the clamps *m*, in combination with the bars *B*, *C*, substantially as specified. 5th. The cap-plates *F*, perforated to form flues for the circulation of air, substantially as specified. 6th. The bars *E*, provided with the teeth *f*, in combination with the legs *D*, serrated clips *v* and keys *r* for rendering the frame-work adjustable, substantially as set forth. 7th. The rockers *L*, in combination with the bar *K* for supporting the bars of a furnace grate, substantially as set forth.

### No. 27,648. Boot and Shoe Heel Fastener. (*Ajustage des talons des chaussures.*)

Joseph L. Joyce, New Haven, Conn., U.S., 21st September, 1887; 5 years.

*Claim.*—1st. A boot and shoe heel fastener consisting of the body *A*, terminating at one end in one or more points to pass through the heel, and with a flange *B* at the opposite end, turned at substantially right angles to the body, the said flange constructed with one or more spurs *b* upon its edge, substantially as described. 2nd. A fastener for boot heels made from sheet metal and consisting of a body terminating at one end in one or more points adapted to pass through the heel and at the other end with a flange *B* turned at right angles thereto, the said points corrugated vertically, substantially as described.

### No. 27,649. Brake Beam for Railway Trucks, etc. (*Sommier de frein pour voitures de chemin de fer etc.*)

Francis G. Susemihl and William A. Pungs, Detroit, Mich., U.S., 21st September, 1887; 5 years.

*Claim.*—1st. A tubular brake beam constructed of plate or sheet metal, said metal cut to form a blank and bent into desired shape, substantially as described. 2nd. A brake beam constructed of plate or sheet metal bent to form a longitudinal tubular rib and a stiffening web, substantially as described. 3rd. A brake beam constructed of plate or sheet metal bent to form a longitudinal tubular rib and, in combination therewith, a stiffening bar or pipe located within said rib, substantially as described. 4th. A brake beam constructed of plate or sheet metal bent to form a longitudinal tubular rib having a strengthening flange or web, and in combination therewith, plugs engaged in the open ends of said rib, substantially as described. 5th. A brake beam constructed of plate or sheet metal bent to form a rib *a*, and in combination therewith, a bar or pipe inclosed in said rib, and plugs closing the ends of said rib and pipe, substantially as described. 6th. A brake beam constructed from a single piece of plate or sheet metal bent into tubular form with the meeting edges lapped to form a strengthening web or flange, substantially as described. 7th. A brake beam constructed from a single piece of plate or sheet metal bent to form a longitudinal rib and strengthening web, said web broadened intermediate of its ends, substantially as and for the purpose described.

### No. 27,650. Sulky Plough. (*Charrue à sidge.*)

Walter C. Johnson, Clinton, Ont., 21st September, 1887; 5 years.

*Claim.*—1st. In a sulky plough, the combination of the loose points *A*, *C* and *E*, with the loose tongue *G* attached to frame *N*, and beam *R*, substantially as and for the purposes hereinbefore set forth. 2nd. The flexible arm *L*, the wheel *F*, the ratchet *P* and the lever *O*, in combination, substantially as and for the purposes hereinbefore set forth.

### No. 27,651. Automatic Sprinkler for Lawn, etc. (*Arrosoir automatique pour pelouse, etc.*)

Benjamin F. Egleson, Ottawa, Ont., 21st September, 1887; 5 years.

*Claim.*—1st. The combination of the tripod head *A* having legs *A1*, leg sockets *A11*, legs *L* and shoes *L1*, bridge *A111*, inlet *a* and shoulder *at*, the bulb-head *B* having tubular journal neck *B1*, shoulder *b1*, arm sockets *b11*, arms *B11*, nozzles *b111*, the bolt *C*, nut *D* and washer *D1*, substantially as set forth. 2nd. The combination of the chambered tripod head *A*, rotative bulb head *B* journaled in the head *A*, the bolt *C* held in the head *A* by the bridge *A111*, the nut *D* and washer *D1*, substantially as set forth. 3rd. The combination of the globular or bulb-shaped head *B*, a tubular journal *B1*, shoulder *b1*, jet holes *b1111*, arm sockets *b11*, the bolt *C*, hollow and perforated at its upper end, washer *D1*, nut *D* pierced for jets, and the bridge *A111* holding said rod or bolt. 4th. The combination of the tripod-head *A*, joint lugs *A1*, sockets *A11*, and bolts *A111*, inlet *a*, bridge *A1111*, and shoulder *at*, substantially as set forth.

### No. 27,652. Hot Water Boiler. (*Calorifère à eau.*)

Eugene S. Manny, Montreal, Que., 21st September, 1887; 5 years.

*Claim.*—In a hot water boiler, the double envelopes *A* and *C*, separated by a third one *D*, in order to provide for the two concentric spaces *J* and *K*, so as to have the water to circulate and be thoroughly heated, combined with the top return pipes *L*, *L* and exit pipes *M*, *M*, the whole arranged as above described and for the purpose set forth.

### No. 27,653. Metal Sleigh Knee.

(*Courbe métallique de traîneau.*)

Peter Adams, Paris, Ont., 21st September, 1887; 5 years.

*Claim.*—1st. In a metal sleigh knee, constructed with the outer upright portion *b* and the inner portion *c*, slanting inwards and upwards to form a brace, the top of the two parts bent horizontally to form bearings *a*, *d* for the bench *B*, and the flanges *i*, *i* formed at the bottom to clasp the runner *D*, and semicircular notches *j*, *j* to receive bolts *E*, all constructed substantially as and for the purpose specified. 2nd. In combination with a metal knee constructed as described, the bolts *E*, *E*, made to pass through the runner *D* on each side, in the notches *j*, *j* of the horizontal portions of the flange *i*, and through the rave *C* on each side of the bench *B*, secured by nuts *k*, *k*, and short bolt *f* made to pass through bearing *d* and bench *B*, and bolt *e* to pass through bearing *a*, bench *B* and rave *C* secured by nuts, all arranged and constructed substantially as and for the purpose specified.

### No. 27,654. Process of Preparing Infusorial Diatomaceous or Silicious Earths for Fuel. (*Procédé de préparation des sols infusoires, diatomacéux ou siliceux pour combustible.*)

Charles H. Soranton, Long Island, N.Y., U.S., 21st September, 1887; 5 years.

*Claim.*—1st. The use of infusorial, diatomaceous or silicious earths as an absorbent of oils, substantially as herein described. 2nd. The use or application of infusorial, diatomaceous or silicious earths saturated with oil for and to the purpose of fuel, substantially as herein described.

### No. 27,655. Safety Helmet. (*Casque de sûreté.*)

Gustav Kunge and Alexander Stude, Bremen, Germany, 21st September, 1887; 5 years.

*Claim.* 1st. A safety helmet partially open in front, projecting above and below such opening beyond the face of the wearer, the spaces thus left being connected by branch and principle air pipes with a blower. 2nd. A safety helmet provided with an outer covering and an inner lining having between the same an air space extending from the rear to the front, and with an opening at the front about opposite the eyes of the wearer, said air space having an outlet around the edges of said opening of the helmet, in combination with a pipe and branch pipes connecting with the air space of the helmet, substantially as and for the purpose set forth. 3rd. The combination, with a main air pipe, of a shield or breast-plate S, straps for fastening same, and the connecting pipe R, as and for the purpose set forth.

### No. 27,656. Process for Preserving Butter.

(*Procédé de conservation du beurre*)

George W. Towar, jr., Detroit, Mich., U. S., 21st September, 1887; 5 years.

*Claim.*—The process herein described of converting butter, either new or old, and freed from all extraneous matter, into an artificial cream by applied heat and the admixture of fresh milk, and then reconverting such artificial cream into fresh butter, substantially as described.

### No. 27,657. Pipe Wrench. (*Clé à tuyaux.*)

Daniel R. Porter, Chelsea, and John B. Cremins, Boston, Mass., U. S., 22nd September, 1887; 5 years.

*Claim.*—1st. In a pipe wrench, the combination of a fixed jaw and shank provided, on its underside, with ratchet teeth, with a movable jaw provided with an extension, the end of which forms a pawl to take into the ratchet teeth, and which is held to the fixed jaw by means of saddles, substantially as and for the purposes set forth. 2nd. In a pipe wrench, the fixed jaw B and shank A provided with ratchet teeth *a*, in combination with the movable jaw D, provided with an extension D<sub>1</sub> and pawl *d*, saddles F, F and springs H and J, substantially as shown and described.

### No. 27,658. Machine for Turning Irregular Forms. (*Machine à tourner les objets de forme irrégulière.*)

Hilbert E. Taylor, Bloomington, Miles D. Taylor, and John Stally, Janesville, Wis., U. S., 22nd September, 1887; 5 years.

*Claim.*—1st. In a machine for turning irregular forms, the combination of a main frame, a revolving cylinder, a sliding feed carriage, a pattern mounted on the cylinder, suitable means for imparting an independent rotation to the pattern, a knife carried by the cylinder, and means, substantially as described, for actuating the knife by the rotation of the pattern, as set forth. 2nd. In a machine for turning irregular forms, the combination of a main frame, a tube stationary on the frame, a revolving cylinder arranged on the tube, a sliding feed carriage, a pattern mounted on the cylinder, suitable means for imparting an independent rotation to the pattern, a spring-apron forming part of said cylinder, a knife arm secured to the axis of the apron, and a collar that travels on said tube and has transverse play, whereby it is caused to simultaneously bear against said pattern and apron, substantially as set forth. 3rd. In a machine for turning irregular forms, the combination of a main frame, a tube stationary on the frame, a revolving cylinder arranged on the tube, a sliding feed carriage, a pattern mounted on the cylinder, suitable means for imparting an independent rotation to the pattern, a spring-apron forming part of said cylinder, a knife arm secured to the axis of the apron, a collar arranged to travel and have transverse play on said tube so as to simultaneously bear against the pattern and apron, and an anti-friction roller journaled on the collar to come in contact with said pattern, substantially as set forth. 5th. In a machine for turning irregular forms, the combination of a main frame, a revolving pattern, a rotating vibratory knife, a bearing that rests against and travels along the pattern to control the movement of the knife, a sliding feed carriage, a screw-threaded shaft, an open nut connected to the carriage and arranged to engage the shaft, a block loose on said shaft, a headed rod knuckle jointed to the nut and passed through the block, and a crank-rod connected to said block, substantially as set forth. 7th. In a machine for turning irregular forms, the combination of a main frame, a revolving pattern, a rotating vibratory knife, a bearing that rests against and travels along the pattern to control the movement of the knife, a sliding feed carriage, a screw-threaded shaft, an open nut composed of two arms pivoted to the feed carriage and having turned down

ends that engage said shaft, a block loose on said shaft, a headed rod passed through the block and knuckle jointed to the nut arms, a crank-rod connected to said block, and a spring arranged to return the crank-rod to its normal position after setting the nut, substantially as set forth. 8th. In a machine for turning irregular forms, the combination of a main frame, a revolving pattern, a rotating vibratory knife, a bearing that rests against and travels along the pattern to control the movement of the knife, a longitudinal sliding feed carriage, a transverse plate loosely mounted on the carriage and provided with a jaw, a pivoted block in opposition to the jaw and provided with a cam-shaped recess that engages a lug on the transverse plate, and a lever for actuating the block, substantially as set forth. 9th. In a machine for turning irregular forms, the combination of a main frame, a revolving pattern, a rotating vibratory knife, a bearing that rests against and travels along the pattern to control the movement of the knife, a longitudinal sliding feed carriage, a transverse plate loosely mounted on the carriage and provided with a jaw, a pivoted block in opposition to the jaw and provided with a cam-shaped recess that engages a lug on the transverse plate, a lever adjustably secured to the block, and a set screw for holding the lever in its adjusted position, substantially as set forth. 30th. In a machine for turning irregular forms, the combination of a main frame, a revolving pattern, a rotating vibratory knife, a bearing that rests against and travels along the pattern to control the movement of the knife, a sliding feed carriage, a revolving bracket arranged in advance of the vibratory knife and terminated in a ring, and a knife secured to said bracket to have its cutting edge inside the ring, substantially as set forth. 11th. In a machine for turning irregular forms, the combination of a main frame, a revolving pattern, a rotating vibratory knife, a bearing that rests against and travels along the pattern to control the movement of the knife, a sliding feed carriage, a loose sleeve provided with a lateral extension, an arm adjustably held in this extension, a grooving knife secured to the arm to operate upon a form during the return movement of the feed carriage, substantially as set forth. 12th. In a machine for turning irregular forms, the combination of a main frame, a revolving pattern, a rotating vibratory knife, a bearing that rests against and travels along the pattern to control the movement of the knife, a sliding feed carriage, a loose sleeve provided with a lateral extension, an arm adjustably held in this extension, a grooving knife secured to the arm to operate upon a form during the return movement of the feed carriage, and a spring arranged upon the sleeve and connected to said extension thereof, substantially as set forth. 13th. In a machine for turning irregular forms, the combination of a main frame, a revolving cylinder, a sliding feed carriage, a pattern mounted on the cylinder, a suitable means for imparting an independent rotation to the pattern, a spring apron forming part of the cylinder and having a scolloped bearing edge, a bearing that rests against and travels along the pattern and scolloped edge of the apron, and a knife arm secured to the axis of said apron, substantially as set forth. 14th. In a machine for turning irregular forms, the combination of a main frame, a tube stationary on the frame, a revolving cylinder arranged on the tube, a pattern mounted on the cylinder, suitable means for imparting an independent rotation to the pattern, a sliding cross-head carrying a clamping mechanism, a plunger operative in the tube and provided with a chuck, an arm connecting the cross-head and plunger, a screw feed detachably united to the plunger, an apron forming part of said cylinder, a knife-arm secured to the axis of the apron, and a collar arranged on said tube, to be actuated by the plunger and travel along the pattern and bearing edge of said apron, substantially as set forth. 15th. In a machine for turning irregular forms, the combination of a main frame, a screw-threaded shaft journaled in the frame, a pulley fast on the shaft, a feed carriage, an open nut connected to the carriage and arranged to engage said shaft, suitable means for closing and opening the nut, a revolving cylinder mounted on said frame, a belt connecting the cylinder and feed shaft pulley, a pattern mounted on said cylinder, suitable means for imparting an independent rotation to the pattern, an apron forming part of the cylinder, a knife arm secured to the axis of the apron, and a bearing that rests against and travels along said pattern and bearing edge of the apron, substantially as set forth.

### No. 27,659. Organ or Harmonium and Piano.

(*Orgue ou harmonium et piano.*)

Alexander Marcy, Montreal, Que., 26th September, 1887; 5 years.

*Claim.*—1st. In a transposing key-board, the addition of an octave of keys, or less, to either end of the key-board, as shown and described for the purposes set forth. 2nd. In a transposing key-board, the addition of a half octave of keys, or less, to each end of the key-board, as shown and described for the purposes set forth. 3rd. The combination, in a transposing key-board A, of the lifts B and the movable key-board, as shown and described for the purposes set forth. 4th. The combination of the key slip *c*, having the chromatic scale D, and the transposing key-board A, as shown and described for the purposes set forth. 5th. The combination of the hole F and the pin E, with the key-board A, as shown and described for the purposes set forth. 6th. The combination of the strap or catch H, with the key-board A, as shown and described for the purposes set forth. 7th. The combination of the key-binder I and the grooved piece J with the key-board A, as shown and described for the purposes set forth. 8th. The combination, in a transposing key-board, of the board A, lifts B, key slip C, chromatic scale D, sustaining pin E, hole F, strap or catch H, key-binder I and grooved piece J, as shown and described for the purposes set forth.

### No. 27,660. Divided and Double-Seated Valve. (*Soupape à Siège double et divisé.*)

Peter Barclay, East Boston, Mass., U. S., 28th September, 1887; 5 years.

*Claim.*—1st. A valve body or barrel, with two valve seats, in combination with a lower valve having a guiding stem extending downward from its under face, and upwardly-extending projection, and an upper valve having a threaded operating stem and a downwardly extending projection, substantially as herein shown and described. 2nd. The combination, with a valve body or barrel having two seats,

of a lower valve having a downwardly-extending stem and an upwardly extending and recessed stem, an upper valve having a downwardly-extending projection, and a threaded stem which engages with the valve body or barrel, and carries a hand-wheel or manipulating attachment, substantially as herein shown and described. 3rd. The combination, with a gauze tube, of valve bodies or barrels in which the tube is held, said valve bodies being formed with double valve seats, lower valves having guiding stems and upwardly-extending stems, upper valves, the main stem of which are threaded to engage with the valve bodies or barrels, said valves being formed with downwardly-extending projections that are arranged to bear against the upwardly-extending projections of the lower valve, substantially as herein shown and described.

### No. 27,661. Anvil. (Enclume.)

Charles N. Asselstine, Hamilton, Dak., U.S., 28th September, 1887; 5 years.

*Claim.*—1st. An anvil, for the purpose specified, having concave face portions and a groove in said face, substantially as shown and described. 2nd. An anvil, for the purpose specified, having concave face portions and grooves, and a centre line, substantially as shown and described. 3rd. An anvil, having the halves of its face portions adapted for operating on different forms of ploughshares, substantially as shown and described. 4th. An anvil, for the purposes named, having a concave face and the grooves *f, f*, increasing in depth from the face to the end of the anvil, and provided with openings *n* and screw-bolts *m*, all substantially as shown and described. 5th. An anvil, having a groove with an opening leading thereto from the sides, and provided with a screw-bolt working in said opening, and a second opening leading from the base or underside of the anvil, permitting the passage of nut *n*, which is adapted to be engaged by said screw-bolt, all substantially as set forth and for the purposes described.

### No. 27,662. Anvil. (Enclume.)

Charles N. Asselstine, Hamilton, Dak., U.S., 28th September, 1887; 5 years.

*Claim.*—1st. An anvil, for the purpose named, having convex ridges bounded by straight edges, substantially as and for the purposes set forth. 2nd. An anvil, for the purposes named, having straight ends and curved sides, and having grooves increasing in depth from the opposite oblique corners to near the centre of the face of said anvil, substantially as specified. 3rd. An anvil, having the grooves *f, f* extending diagonally inward towards the centre of the face, and increasing in depth from the corners *d* inwardly, and decreasing in width in the same direction, as set forth. 4th. An anvil, having the grooves *f, f*, and a centre concave depression on the face thereof, and provided with the openings *k, k* at right angles to said grooves, all substantially as described. 5th. An anvil, having a groove with an opening leading thereto from the side, and provided with a screw-bolt working in said opening, and a second opening leading from the base or underside of the anvil, permitting the passage of a nut which is adapted to be engaged by said screw-bolt, all substantially as and for the purposes specified.

### No. 27,663. Dry Closet. (Cabinet à la terre sèche.)

Isaac D. Smead, Toledo, Ohio, U.S., 28th September, 1887; 5 years.

*Claim.*—1st. A vault for a dry closet, having arranged therein a transverse partition or raised floor C, composed of, or having a layer of bri-k, or similar absorbent material, arranged to receive, absorb and retain the liquid matter deposited in said vault, until the same is evaporated by the current of air passing through the vault, as set forth. 2nd. In combination with the vault D, of a dry closet, the transverse absorbent partition C with an air space, both above and below it, for the passage of air, substantially as shown and described. 3rd. In combination with the vault D, the fire-proof seats composed of the metal plates G, H and I, arranged substantially as shown. 4th. In combination with the fire-proof seats, composed of the metal plates, substantially as shown, the metal-lined lids c arranged to operate the connection therewith, as and for the purpose set forth.

### No. 27,664. Spool for Holding Silk and Twist, etc. (Bobine pour la soie et le cordonnnet, etc.)

Leonard O. Smith, Philadelphia, Penn., U.S., 28th September, 1877; 5 years.

*Claim.*—1st. A compound spool, formed of two parts, and an expandible connecting joint, substantially as described. 2nd. A compound spool, consisting of two spools connected together by a removable sleeve, substantially as described. 3rd. A compound spool, consisting of two independent spools and a spring sleeve for joining them together, substantially as described. 4th. The combination of two or more spools and a connecting spring, substantially as described.

### No. 27,665. Fire Escape. (Sauveteur d'incendie.)

John Batten, Pittsburg, Penn., U.S., 28th September, 1887; 5 years.

*Claim.*—1st. The combination, with a balcony of a floor constructed of bars separated by thimbles *e, e*, said bars and thimbles united by rods C, substantially as described. 2nd. A balcony provided with front and end trusses, said balcony engaged with the building by a bolt *a* and a bar *b* projecting into the building, substantially as described. 3rd. The combination, with a balcony, of a ladder pivotally engaged underneath the floor of the balcony, of a ladder pivotally support the ladder when folded, said hook constructed to automatically engage the ladder when folded, substantially as described. 4th. The combination, with a series of balconies, of a series of ladders pivotally connected with said balconies respectively, said balconies provided with tilting hooks to support the ladders when folded, and a chain or cable connecting said hooks, substantially as and for the

purpose described. 5th. The combination, with a series of balconies, of a series of ladders engaged therewith, devices for supporting said ladders when folded up, the construction being such that one or all of the ladders may be released, substantially as described. 6th. The combination, with a series of balconies, of a series of ladders pivotally engaged therewith, tilting hooks for supporting said ladders, said hooks having a connection with each other, whereby the whole series of ladders may be simultaneously released from the top balcony and a series of ladders below any given balcony be simultaneously released without releasing the ladder or ladders above, substantially as described. 7th. The combination, with a balcony, of a ladder pivotally engaged therewith at one end, a cable engaged with said ladder and passed over intermediate pulleys, one of said pulleys engaged with a tensioning device, substantially as described. 8th. The combination, with a balcony, of a ladder pivotally connected therewith, with a lever I connected with a rotatable gear J having rotatable gear K meshing therewith, said gear K provided with a weighted arm and cable engaged with the ladder and passed over intermediate pulleys engaged with said arm I, substantially as and in the manner described. 9th. The combination, with a balcony, of a ladder pivotally engaged therewith, of a counterpoise device consisting of rotatable gears J and K meshing with each other, the gear J connected with a lever JI, and the gear K with a weighted arm L, and pulley engaged with the arm I, and the pulley engaged with the balcony, a cable passed over said pulleys and engaged with the ladder, the construction being such that, when the ladder descends, the weighted arm will be tilted, and *vice versa*, substantially as described. 10th. The combination, with a balcony provided with a folding ladder, of a reciprocating slide, the construction being such that the slide will be reciprocated by the operation of the ladder, substantially as described. 11th. The combination, with a balcony provided with a folding ladder, of movable window guards, a movable slide to engage and release said guards, said slide operated automatically by the operation of the ladder, substantially as described. 12th. The combination, with a series of balconies, of a series of ladders, each hinged at one end to one of the balconies, supporting devices for holding the free ends of said ladders when they are folded up, and mechanism, substantially as described, connecting said supporting devices, whereby, as the upper ladder is dropped, the series of ladders beneath it will be simultaneously released, substantially as described. 13th. The combination, with a balcony, of a ladder hinged at one end to said balcony, means for holding the free end of said ladder when folded up, and in connection therewith, counterpoise mechanism engaged with the free end of said ladder, substantially as described. 14th. The combination, with movable window guards, of a device for locking and unlocking said guards, a pivoted ladder arranged to lock the said guards when folded up, substantially as described. 15th. The combination, with movable window guards, of a locking device and a ladder engaged to operate said locking device, substantially as described. 16th. The combination, with a folding ladder, of a tilting supporting hook and electric mechanism, whereby an alarm may be sounded on the disengagement of the hook with the ladder, substantially as described. 17th. The combination, with a balcony, of a ladder pivotally engaged therewith, a tilting hook to support the ladder when folded, said hook connected to the exit doors by means of a cable or chain, substantially as and for the purpose described. 18th. The combination, with a series of ladders pivotally connected with said balconies respectively, said balconies provided with tilting hooks to support the ladders when folded and a chain or cable connecting said hook with the exit doors, substantially as described. 19th. The combination, with a balcony of a ladder pivotally engaged therewith, said ladder provided with suitable trusses or braces for the purpose of stiffening the same, substantially as described.

### No. 27,666. Coasting Toboggan. (Toboganne.)

Charles H. Emerson, Burlington, Vt., U.S., 28th September, 1887; 5 years.

*Claim.*—1st. In a combined coasting toboggan and sled, the combination, substantially as hereinbefore described, of a pair of longitudinal bearing faces, each of which is adjustable for service in one plane to co-operate with auxiliary bearing surfaces as in a toboggan, and also for service in a plane, below the bottom of the toboggan, to operate as the bearing faces of sled runners. 2nd. In a combined coasting toboggan and sled, a slot or runner which is adjustable in one plane, to serve as a toboggan slat, and is also adjustable in a projected position for duty as a sled runner, and has a bearing face which is operative in both positions, substantially as described. 3rd. In a combined coasting toboggan and sled, a pair of bearing slots secured at their front ends to the hood, but depressible throughout the length of their bearing faces, and adjustable for duty in different positions with reference to the bottom of the toboggan, substantially as described, whereby the same bearing faces are employed whether they are adjusted for use as in a toboggan or for use as in a sled. 4th. In a combined coasting toboggan and sled, the combination, substantially as hereinbefore described, of depressible bearing slats or runner, each having a bearing face which is employed for bearing service in different positions, and slat controllers for projecting the bearing face of each slat from the position normally occupied by it, as when used in a toboggan, and maintaining it in proper position for service as a sled runner. 5th. In a combined coasting toboggan and sled, the combination, substantially as hereinbefore described, of a slat or runner adapted to perform duty as a toboggan slat and as a sled runner, pivoted slat controllers located at intervals above said slats, and a rod or hand-rail coupled to said controller, whereby all of them are simultaneously operated for adjusting the slat or runner. 6th. In a combined coasting toboggan and sled, the combination, substantially as hereinbefore described, of a pair of slats or runners adjusted for duty either as toboggan slats or as sled runners, pivoted slat controllers, which engage with both of said slats, and two hand rails or rods coupled to all of said controllers, whereby both of said rails and all of said controllers will be moved simultaneously in adjusting said slats or runner. 7th. In a combined coasting toboggan and sled, the combination, with a depressible bearing slat, of a spring which exerts its force in lifting said slat from its depressed to its normal position, substantially as described. 8th. In a slat-bottomed

toboggan, the combination, with a series of slats and the cross-bar of a bearing slat longitudinally divided into upper and lower sections, said upper section being directly secured to said cross-bar and having supports interposed between said sections at intervals between between the cross-bar throughout the length of the bearing face of the slat, substantially as described. 9th. In a slat-bottom toboggan, the combination of the cross-bar, the slats and the loops for coupling them together, said loops being located between the slats secured to their coincident edges and projecting upward therefrom to embrace the cross-bar, substantially as described.

### No. 27,667. Lifting Jack. (*Cric.*)

Alvin N. Woodard, Jamestown, N.Y., U.S., 23th September, 1887; 5 years.

*Claim.*—1st. In a lifting-jack, the combination, with the ratcheted standard A and bar K, of the heads sliding on said standard, a dog for each head, and an oscillating lever operating said heads and connected with one of them, substantially as and for the purposes set forth. 2nd. In a lifting-jack, two heads C, G, actuated by an oscillating lever to travel vertically upon a standard, in combination with a standard A, the rack B, dogs D, I, the pull-bar K and connecting links J, substantially as described. 3rd. A lifting-jack comprising the following elements in combination, the standard A, base B, rack bar B, heads C, G, lever E, pivoted to the head C, and connected with the head G, handle F, dogs D, I, pivoted to said heads C, G, respectively, links J, pull-bar K, and bails L, Lt, all constructed, arranged and operating substantially in the manner and for the purposes set forth. 4th. In a jack of the kind described, the combination of the standard A, bar H, the head G, links J with the bifurcated lever-head E, and an adjustable handle F provided with the series of holes f, substantially as described. 5th. A lifting-jack comprising the following elements in combination, the standard A, detachable base B, rack-bar B, sliding-heads C, G, lever-head E, fulcrumed upon the sliding-head C, and connected with the sliding-head G, adjustable handle F, dogs D, I, carried by the sliding-heads respectively, links J and detachable push-bar M, all combined substantially as described. 6th. A lifting-jack comprising the following elements in combination, the grooved and ratcheted standard A, the base B detachably secured thereto, the sliding-heads C, G, having interiorly projecting ribs engaging into the grooves of the standards, and rearward projections or handles, the bifurcated lever-head E, fulcrumed upon the sliding-head C and connected with the sliding-head G, adjustable handle F, dogs D, I, carried by the sliding heads respectively, links J, notched pull-bar K, and bails L, Lt, all arranged to operate substantially as described.

### No. 27,668. Thread Cutter and Holder for Sewing Machines. (*Coupe-fil et porte-fil pour machines à coudre.*)

Leverett A. Pratt, Bay City, Mich., U.S., 23th September, 1887; 5 years.

*Claim.*—1st. As a new article of manufacture, a thread-cutter and holder consisting of a thin strip or arm of metal provided on one side edge of one end with a transverse slit *i*, cut partially across the arm, and on the opposite side edge of the arm with a notch *k*, having cutting edges and provided with an opening *h*, near the opposite end of the arm, and having the holding portions *e* and *f*, projecting at right angles with the arm and formed of the material removed from the opening, and with their opposite outside edges perpendicular to the arm, substantially as and for the purpose set forth. 2nd. The combination, with a spool, of an arm *c* provided on one side-edge of one end with a transverse slit *i* cut partially across the arm, and with a notch *k* having cutting-edges on the opposite side-edge of the arm, and provided with an opening *h* near the opposite end of the arm and having the metal removed from the side-opening turned at right angles with the arm and passed into the spool opening, substantially as and for the purpose set forth.

### No. 27,669. Basket Bottom. (*Fond de panier.*)

Albert N. Beckett, St. Catharines, Ont., 23th September, 1887; 5 years.

*Claim.*—1st. A basket having a bottom formed of sheet metal or other suitable material struck up, substantially as described, in combination with the side stakes or standards and wicker-work sides. 2nd. A metallic struck up basket bottom having a perforated rim in connection with the side stakes or standards and wicker-work sides, substantially as described. 3rd. A basket bottom having a corrugated inner surface, upturned rim and perforations in said rim and in one of the inner corrugations, in combination with the side standards and wicker-work side, substantially as described. 4th. A basket bottom A having inner corrugations *a*, a plain or corrugated flange *a1*, perforations *a2*, a depressed wire section A1 and perforations *a3* in the inner wall of said rim section, in combination with the side standards and wicker-work side, substantially as described. 5th. A basket bottom A having a flange *a1*, perforations *a2*, *a3* and a lip or bearing *a5* formed by turning up the metal alongside of the perforation, in combination with the side standards and wicker-work sides, substantially as described.

### No. 27,670. Fire Extinguisher.

(*Extincteur d'incendie.*)

Emlen G. Penrose, Hervey S. Nutting and William H. Smith, Tama, Iowa, U.S., 23th September, 1887; 5 years.

*Claim.*—In a fire-extinguisher, a compound consisting of carbonate potash, salt-peter, saleratus salt, alum, sulphate of iron, and water, in a combination with glass bottles or other suitable vessel to convey the liquid to the fire, substantially as in the proportions and for the purposes set forth.

### No. 27,671. Manufacture of Chocolate Icings. (*Préparation des glacés au chocolat.*)

James Russell, Winnipeg, Man., and George A. Clarke, Toronto, Ont., 23th September, 1887; 5 years.

*Claim.*—1st. A process of manufacturing chocolate icings from a compound produced by the amalgamation of pure cocoa paste, farina and pulverized sugar in about the following proportions, cocoa paste 30 parts, farina, 30 parts, and pulverized sugar, 120 parts, the paste is dissolved and heated by steam in a double jacketed metallic boiler, preferably of copper, up to 140° F., when the farina is added and thoroughly amalgamated with the dissolved paste and produces the necessary albumen, which takes the place of the whites of eggs formerly used, and when the sugar is added and the mass is cooled it is subjected to the action of a rotating cylinder or mill, when it assumes the character of a powder and is ready for use, substantially as specified and described as a new process of manufacture.

### No. 27,672. Alphabetical Toy.

(*Jouet alphabétique.*)

William F. Hopkins, Sturgis, and Horace F. Marshall, Carbonate, Dak., U.S., 23th September, 1887; 5 years.

*Claim.*—1st. An alphabetical toy comprising a case A, provided with an opening D, a plate E adapted to cover and uncover said opening, a cylinder C fitted to rotate within the case A and provided with the alphabet and numerals, either or both, and mechanism for rotating the cylinder C and simultaneously operating the cover plate E, substantially as described for the purposes set forth. 2nd. The combination, in an alphabetical toy, of a case A provided with an opening D, a sliding plate E adapted to said opening, a cylinder C fitted to rotate in case A and provided with the alphabet and numerals, either or both, or toothed rack D on cylinder C, a cranked shaft H *h* journaled in the case A, a pinion I on said shaft, meshing with rack D, and a pitman G and arm F connecting the crank *h* of shaft H with the sliding cover-plate E, substantially as described for the purposes set forth. 3rd. An alphabetical toy comprising a case A having an opening D, a cover-plate E adapted to said opening, a cylinder C fitted to rotate within the case A and provided with the alphabet and numerals, either or both, mechanism for rotating the cylinder C and simultaneously operating the cover-plate E, a figure mounted on the case A and movable in whole or part, and connections from the moving parts of said figure to the cylinder and cover-plate operating mechanism, substantially as described for the purposes set forth. 4th. The combination, in an alphabetical toy, of a case A having an opening D, a cover-plate E fitted at said opening, a cylinder C in case A and provided with the alphabet and numerals, either or both, and also having a rack D, a cranked shaft H *h*, pinion I, pitman G, arm F, a figure on case A movable in part or in whole, and a rod M connecting the movable part of the figure with the arm F, substantially as described for the purposes set forth. 5th. In an alphabetical toy, the combination, with a case A having an opening D, and a sliding plate B, of a pendent tubular bearing B provided with a collar *b*, and a cylinder C having a sleeve *c* fitting on the bearing B, above the collar *b*, and mechanism, substantially as specified, for operating the cylinder C and plate E, as and for the purposes set forth.

### No. 27,673. Bolt for Door Locks, etc.

(*Pène de serrure de porte. etc.*)

John E. Parker, Hamilton, Ont., 23th September, 1887; 5 years.

*Claim.*—1st. The combination of a lock-case provided with a bolt having an outer head formed with two or more bevelled sides or faces B, forming a step surface, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the bolt B, formed with bevelled sides, and the retaining or striker plate *c* formed with an aperture *c1*, having step edges and shaped to correspond with shape of said bolt-head, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, in a bolt for door-lock and other fastenings, of a bolt B formed with two or more bevelled sides B<sup>1</sup> with any approved device for forcing the same out and withdrawing the same into a case, and a striker plate C having two or more bevelled or rounded sides *c2* and an aperture *c1*, substantially as described and set forth.

### No. 27,674. Spool. (*Bobine.*)

Leonard O. Smith, Philadelphia, Penn., U.S., 29th September, 1887; 5 years.

*Claim.*—A compound spool formed of two parts, both of which have end flanges and central openings, one of the parts having an end projection of smaller diameter than the body of the said part, and the other part having a socket larger in diameter than the central opening and adapted to receive the said projection of the other part which fits therein, substantially as and for the purpose set forth.

### No. 27,675. Treatment and Application of Wood to the Covering of Surfaces. (*Traitement et application du bois pour couvrir les surfaces.*)

Don Pastor Peres de la Sala, Hackney, Eng., 29th September, 1887; 5 years.

*Claim.*—1st. The manufacture of flexible or supple wood layers, sheets or leaves, fitted to cover surfaces in the manner and by the means or treatment hereinbefore described. 2nd. The manufacture of wood covered surfaces or articles by first producing thin sheets, layers or leaves, or flexible or supple wood in the manner and by the means or treatment hereinbefore described, and then applying them to the surfaces or articles also as hereinbefore described.

**No. 27,676. Mower and Reaper.***(Faucheuse-moissonneuse.)*

Collin A. McNea, Ormstown, Que., 29th September, 1887; 5 years.

*Claim.*—1st. The combination of the shear-plates A having the toe *c*, diagonal corners *e* and openings *g*, *h* and *i*, with the body B and screw F, substantially as and for the purpose set forth. 2nd. The combination of the finger body B having the shoulders D, with the shear-plate A having the toe *c*, diagonal corners *e* and openings *g*, *h* and *i*, substantially as shown and described and for the purpose set forth.

**No. 27,677. Clock and Watch.***(Horloge et montre.)*

Anselme M. Léger and Zoél M. Léger, Shediac, N.B., 29th September, 1887; 5 years.

*Claim.*—1st. A watch or clock having on its dial an outer circle of figured numbers, to denote consecutively all the hours of the day, an inner circle divided into spaces indicating the minutes of an hour, and hour and minute hands operated to sweep over said circles in proportionate spaces of time, substantially as described. 2nd. In a watch or clock, the train of gear wheels and pinions B, C, F and G, arranged and proportioned to give the minute hand twenty-four revolutions, and the hour hand one revolution in the same space of time, substantially as described.

**No. 27,778. Sewing Machine.***(Machine à coudre.)*

Charles F. Harlow and Edwin E. Angell, Malden, Mass., U. S., 29th September, 1887; 5 years.

*Claim.*—1st. In a sewing-machine provided with stitch-forming mechanism, the rotary shaft *f* provided at its extremity with the member M having two outwardly projecting pins P, in combination with the balance-wheel J grooved perpendicularly on its inner face, whereby said pins may reciprocate in said grooves, substantially as and for the purpose set forth. 2nd. In a sewing-machine provided with stitch-forming mechanism, the looper shaft F having fixed on one end the disk M, formed with the eccentric N and pins P, P, in combination with the needle-arm H and rod R, and with the grooved balance-wheel I J and its bearing-arm D, substantially as and for the purpose set forth. 3rd. The looper mechanism herein described consisting of the eye-pointed needle and the rotating double eccentric *a b*, in combination with the hook-lever *e f* and spreader-lever *g h*, pivoted on the axis *d* and slotted for engagement with said eccentrics, for the purposes set forth.

**No. 27,679. Railway Brake.***(Frein de chemin de fer.)*

Charles Selden, Baltimore, Md., U. S., 29th September, 1887; 5 years.

*Claim.*—1st. The combination, with an air brake cylinder, the piston of which is connected with the brake mechanism, of a pipe through which air is admitted to one side of the piston to hold the brakes off, and an electro-magnetically controlled valve for admitting air to the other side of said piston so as to furnish pressure for applying the brakes. 2nd. The combination, with the air brake cylinder, of a supply pipe leading from a source of air under pressure and opening into the cylinder, on one side of the piston, an electro-magnetically controlled valve governing the passage of air from said pipe to the opposite side of the piston, and means for controlling the pressure in the supply pipe. 3rd. The combination, with an air brake cylinder, of a valve controlling the passage of air to or from the rear side of the piston, an electro-magnet for operating said valve, and a pressure gauge operating a circuit controller or switch connected with the circuit of said electro-magnet. 4th. The com-

ination, with an air brake cylinder, of a pipe leading from a suitable source of air pressure and communicating with the cylinder at the front of the piston, a valve controlling the communication between said pipe and the rear of the piston, an electro-magnet for operating said valve, a circuit connecting the electro-magnet with a circuit controller, and a pressure gauge connected also with said pipe and operating upon the circuit controller, as and for the purpose described. 5th. The combination, with an air-brake cylinder, of an electro-magnet and valve governing a passage communicating with one side of the piston, a pressure gauge having means of adjustment placed within the control of the engineer, and an electric switch or circuit controller operated by said pressure gauge and governing the action of said electro-magnet. 6th. The combination, substantially as described, with an air brake apparatus, of an electro-magnetically controlled valve and an automatic pressure gauge and circuit controller governing the operation of said electro-magnet. 7th. The combination, with the piston cylinder, of connections from an air supply to both ends of the cylinder, a valve controlling the flow of air to the end of the cylinder and side of the piston proper, for applying the brake, and means for closing said valve when the brakes are to be applied, so as to cause the brakes to be put on by the pressure of air stored in one end of the brake cylinder. 8th. The combination, with the hollow magnet core of iron forming a portion of the air passage, of a valve controlling said passage, an armature for said electro-magnet connected with the valve for operating the same, and a spiral spring supported within the hollow magnet core and serving as the retractor for the armature, as and for the purpose described. 9th. The combination, with the hollow magnet core of iron forming a portion of the air passage to the brake cylinder, of a rod working longitudinally and parallel to the magnetic axis, and a valve and armature carried by said rod.

**No. 27,680. Automatic Car Brake.***(Frein automatique de char.)*

Charles Selden, Baltimore, Md., U. S., 29th September, 1887; 5 years.

*Claim.*—1st. In an automatic air brake, the combination, with the air-brake apparatus upon the car, constructed to apply and release the brake in the ordinary way, of a suitable auxiliary cock or valve, by the opening of which the brake may be released, an electro-magnet controlling said cock or valve, and a circuit controller upon the locomotive controlling the circuit of said magnet, as and for the purpose described. 2nd. The combination, with the usual auxiliary air reservoir upon a car, of an electro-magnet for controlling the relief cock of said reservoir, an electric circuit containing said magnet and extending to the locomotive, and a circuit controller upon the locomotive, whereby, in case the brake should become accidentally set, it may be released by the operation of said magnet and the consequent opening of the usual cock connected with the auxiliary reservoir. 3rd. In an automatic air brake, the combination, with the air brake apparatus upon the car, constructed to apply and release the brake in the ordinary way, of a suitable auxiliary vent pipe connected with said air brake apparatus, by the opening of which exit the brakes may be applied, an electro-magnet controlling said exit, and means upon the engine for controlling the circuit of the electro-magnet, whereby, through the operation of said magnet, the brakes may be set, in case they should fail to work, by the operation of the cock or valve upon the locomotive in the usual way, as and for the purpose described. 4th. In an automatic air brake, the combination, with the air-brake apparatus upon the car, constructed to apply and release the brake in the ordinary way, through relief and increase of air pressure in the pipe leading to the locomotive, of an auxiliary vent pipe upon the car, and a magnet controlling the same, for permitting the brake to be applied by the action of a suitable circuit controlling device in a circuit extending through the train. 5th. The combination, in a railway air brake apparatus, of two electric train circuits, a magnet in one circuit controlling a valve, by which the brakes of a car may be applied, and a magnet in the other controlling independently a valve by which the brakes may be released.

**CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO  
THE FOLLOWING PATENTS.**

952. J. B. DEWEY and D. H. MINAKER, 3rd 5 years of No. 7,866, from the 4th day of September, 1887. Improvements in Harrows, 2nd September, 1887.
953. J. RITCHIE (assignee), 2nd 5 years of No. 15,428, from the 8th day of September, 1887. Improvements in Locomotive Ash Pans, 5th September, 1887.
954. THE GEORGE T. SMITH MIDDINGS PURIFIER CO. (assignee) 2nd 5 years of No. 15,431, from the 9th day of September, 1887. Improvements on Conveyers for Flour Mills, 5th September, 1887.
955. J. MAUNDER and E. ROGERS, 2nd 5 years of No. 15,436, from the 9th day of September, 1887. Improvements on Maunier's Ontario Harrow, 5th September, 1887.
956. H. J. LIVERGOOD, 2nd 5 years of No. 15,496, from the 19th September, 1887. Improvements on Machines for Separating Pulverulent Impurities from Bran and Fibre from Middlings, 5th September, 1887.
957. E. L. BUSHNELL, 2nd 5 years of No. 15,433, from the 9th September, 1887. Improvements on Car Seats, 7th September, 1887.
958. J. E. MUNSON, 2nd 5 years of No. 15,447, from the 11th September, 1887. Improvements on Selecting Devices, 8th September, 1887.
959. H. LEGGETT, 3rd 5 years of No. 7,950, from the 5th October, 1887. Improvements on Dumping Waggons, 9th September, 1887.
960. C. W. NORTH, (executor) (assignee) 2nd 5 years of No. 15,445, from the 11th September, 1887. Pipe Junction and Boundary Line Indicator, 10th September, 1887.
961. THE NORTH AMERICAN CHEMICAL CO. (Limited), 2nd 5 years of No. 15,470, from the 15th day of September, 1887. Improvements in Salt Driers, 13th September, 1887.
962. J. M. STANLEY, and G. DESJARDINS, 2nd 5 years of No. 15,489, from the 19th day of September, 1887. Improvements on Saw Log Sleighs, 13th September, 1887.
963. H. M. HARVEY and J. M. SCRIBNER, 2nd 5 years of No. 15,471, from the 15th September, 1887. Improvement on a Protecting Device for Restraining Vicious and Unruly Animals, 15th September, 1887.
964. W. H. HALLADAY, 2nd 5 years of No. 15,491, from the 19th day of September, 1887. Improvements on Automatic Saw Sharpeners, 16th September, 1887.
965. G. D. BURTON, 2nd 5 years of No. 15,557, from the 30th day of September, 1887. Improvements in Stock Cars, 16th September, 1887.
966. G. PENNOYER, 2nd 5 years of No. 15,430, from the 19th day of September, 1887. Improvements on Buggy Springs, 17th September, 1887.
967. H. H. MUNRO, 2nd 5 years of No. 15,525, from the 26th day of September, 1887. Improvements in Rotary Harrows, 20th September, 1887.
968. J. A. MUNFORD, 3rd 5 years of No. 7,917, from the 20th day of September, 1887. Improvements in Shingle Machines, 20th September, 1887.
969. R. C. BLACKHALL, C. D. HAMMOND, J. W. SPRING and S. HUNTINGTON, 2nd 5 years of No. 15,574, from the 3rd day of October, 1887. Improvements on Means for Extinguishing Fires on Railway Trains, 20th September, 1887.
970. G. WILKINSON, 2nd 5 years of No. 15,534, from the 27th September, 1887. Improvements on Steel Scrapers for Grading Farm or Road Work, 27th September, 1887.
971. J. LOWMAN and J. HOWARD, 2nd and 3rd 5 years of No. 27,503, from the 24th day of August, 1892. Improvements in the Manufacture of Corks and in Machinery Employed for this Purpose, 24th September, 1887.
972. J. J. WOOD, 2nd 5 years of No. 15,530, from the 27th day of September, 1887. Improvements on Elastic Generators, 27th September, 1887.
973. J. J. WOOD, 2nd 5 years of No. 15,510, from the 27th day of September, 1887. Improvements on Electrical Armatures, 27th September, 1887.
974. J. J. WOOD, 2nd 5 years of No. 15,511, from the 27th day of September, 1887. Improvements on Commutator Couplings for Electrical Armatures, 27th September, 1887.
975. J. J. WOOD, 2nd 5 years of No. 15,532, from the 30th day of September, 1887. Improvements on Electric Lamps, 27th September, 1887.
976. J. J. WOOD, 2nd 5 years of No. 15,553, from the 30th day of September, 1887. Improvements on Electrical Lamps, 27th September, 1887.
977. J. J. WOOD, 2nd 5 years of No. 15,554, from the 30th day of September, 1887. Improvements on Electric Lamps, 27th September, 1887.
978. C. E. LEWIS, 2nd 5 years of No. 15,596, from the 9th day of October, 1887. Improvements on Pressure Rollers for Gang Saw Mills, 28th September, 1887.



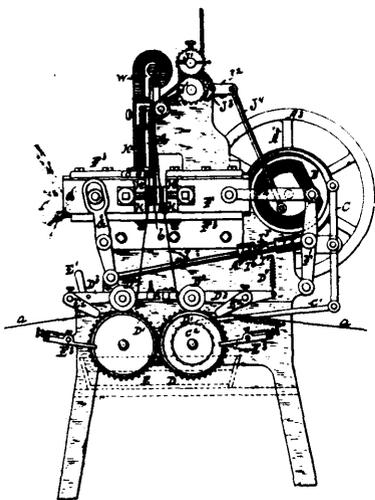
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ILLUSTRATIONS.

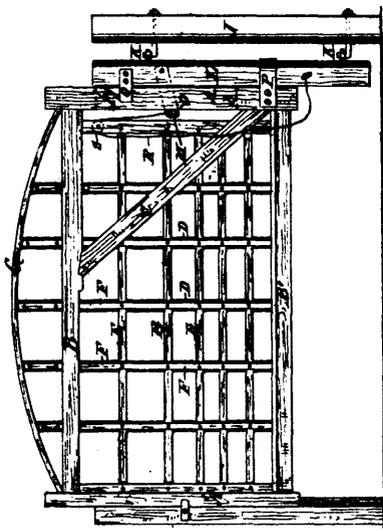
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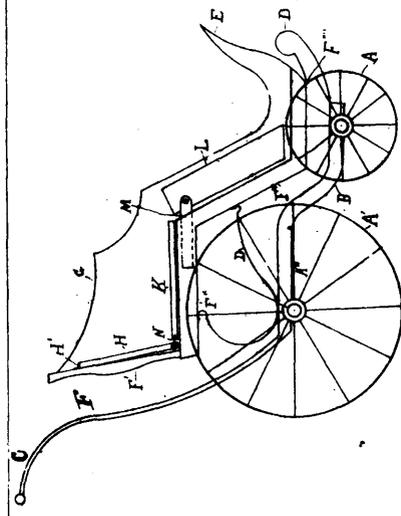
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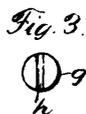
27534 Denney's Machine for Making Shipping Tags.



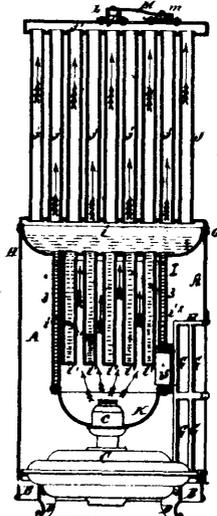
27535 Dyer's Farm Gate.



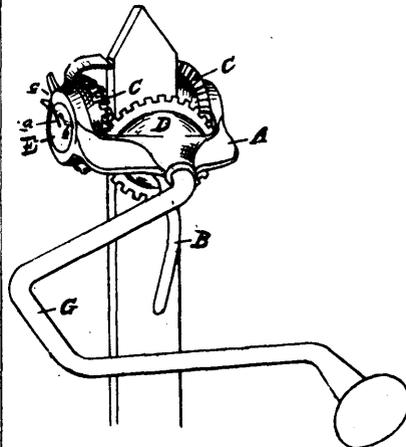
27536 Savene's Child Carriage, etc.



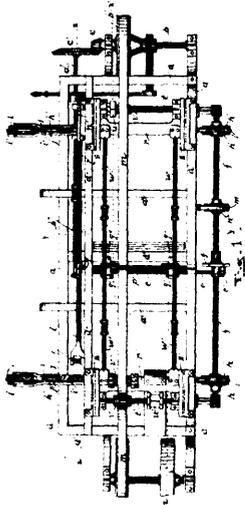
27537 Jones' Screw-Nail



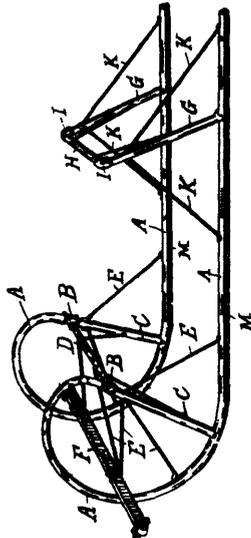
27538 Stempel's Steam Generator.



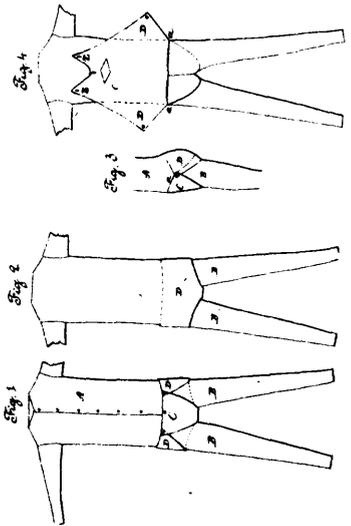
27539 Haag's Machine for Making Picket Fences.



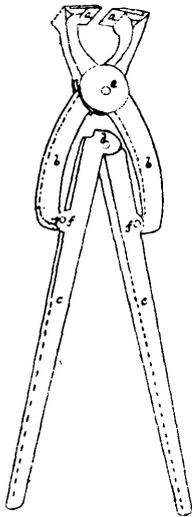
27540 Wilson's Machine for Preparing Blank Hoops



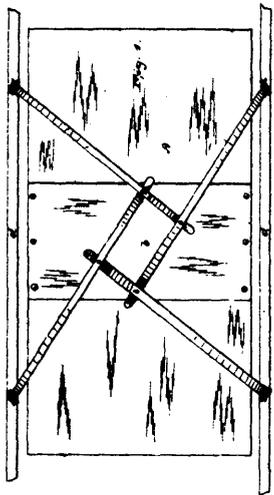
27541 Lee's Runing Gear for Sleighs.



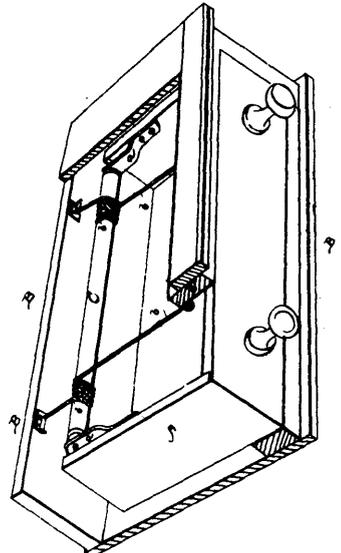
27542 Brown's Under Garment.



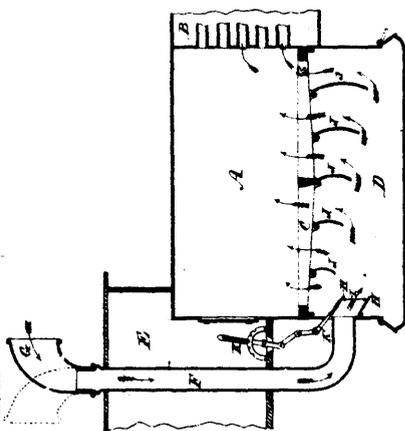
27543 Winter's Lever Knife.



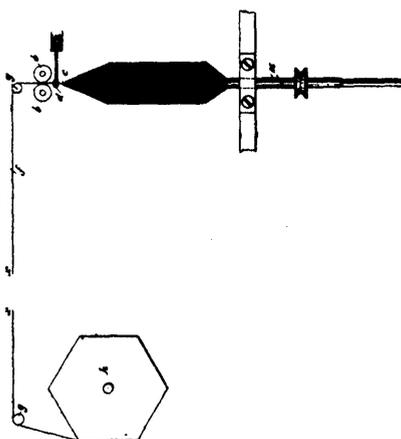
27544 Patton & Guerin's Carriage Spring.



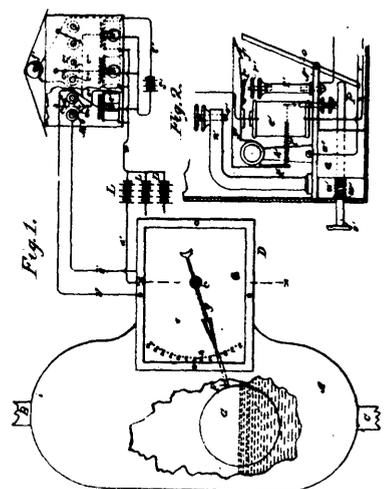
27545 Knaus' Drawer Equalizer.



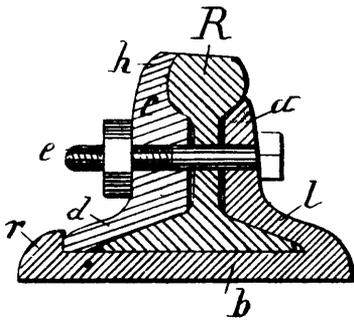
27546 Wheater's Locomotive Draft Attachment.



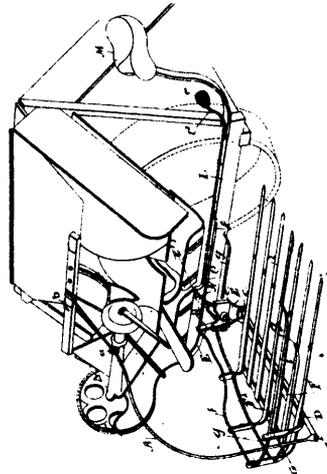
27547 Drtina & Just's Means for Spinning.



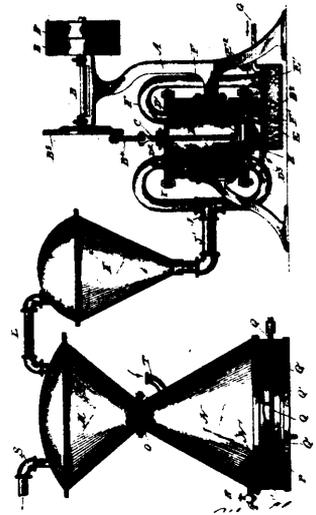
27548 Wickersham's Electric Water Level.



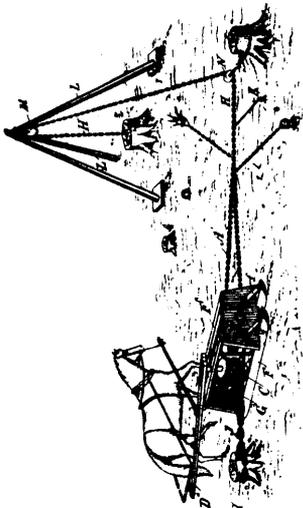
27549 Shea's Railway Rail Splice.



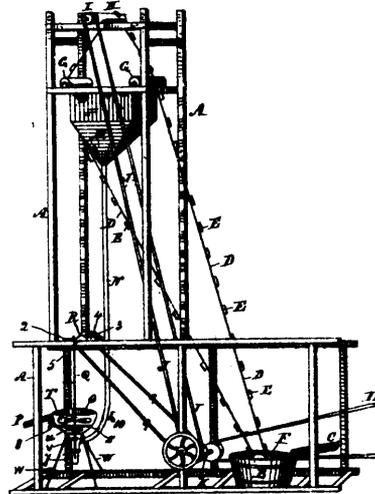
27550 Brown's Sheaf Carrier.



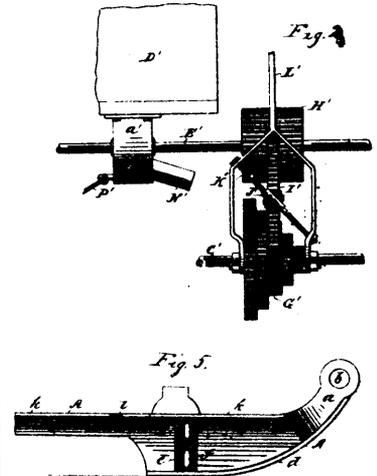
27551 Langdon's Apparatus for Making Gas.



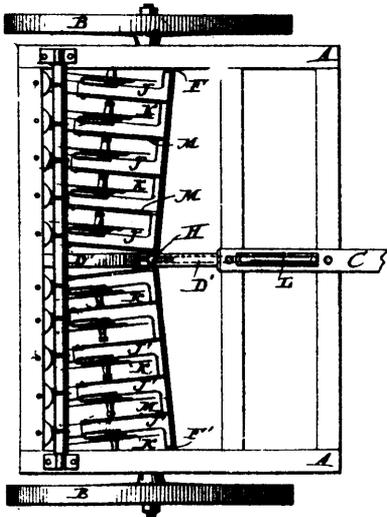
27552 Barton's Stump Extractor.



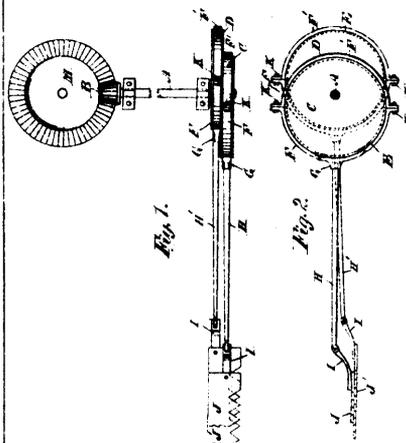
27553 Westhaver's Hydraulic Gold Extractor.



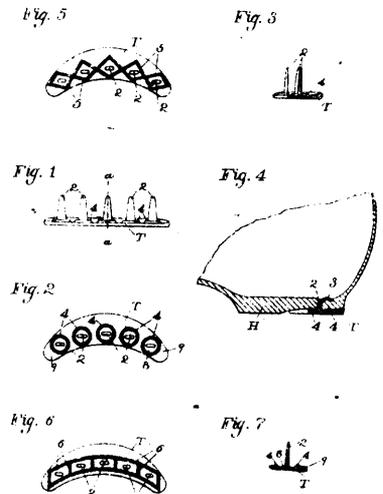
27554 Arnett's Seeding Machine.



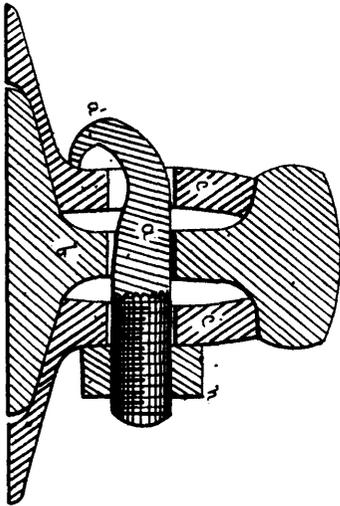
27555 Arnett's Seeding Machine.



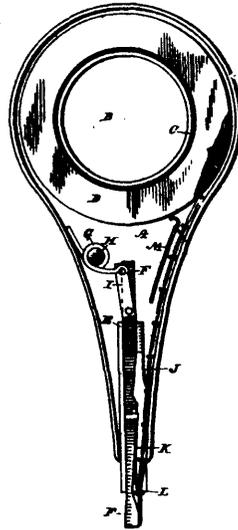
27556 Curry's Mowing Machine.



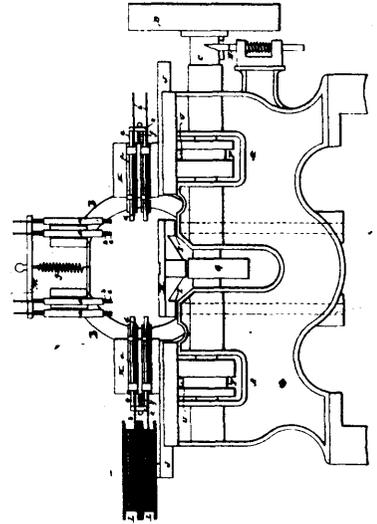
27557 Richard's Heel Plate.



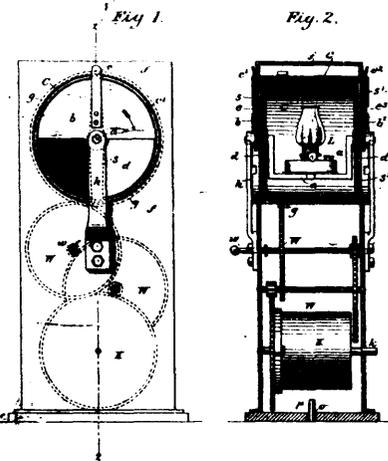
27558 Pope's Nut Lock.



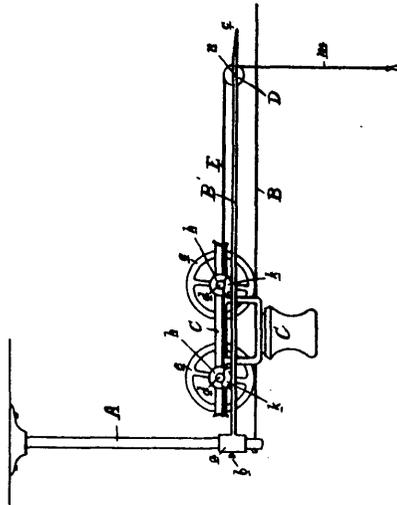
27559 Fowler's Machine for Driving Nails.



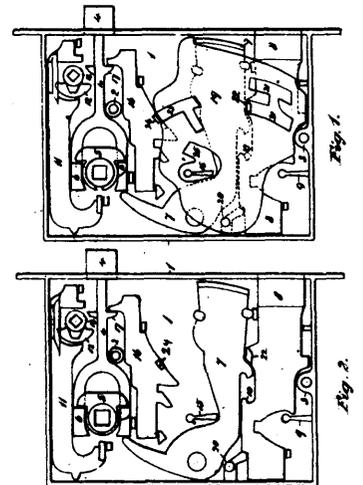
27560 Fowler's Box-Nailing Machine.



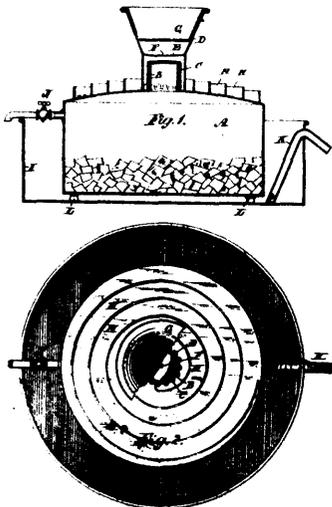
27561 Watson's Railway Signal-Lantern.



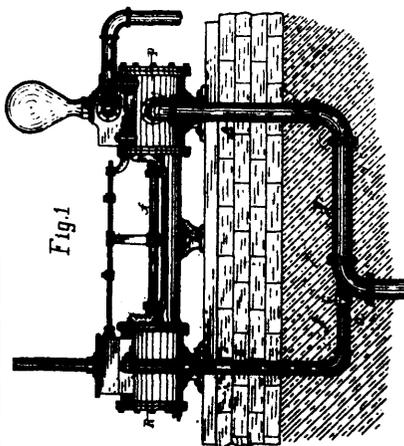
27562 Cole's Store Service.



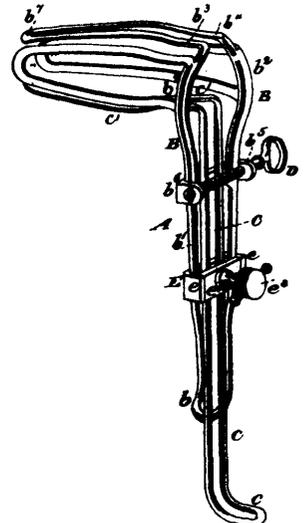
27563 Jobborn's Latch and Lock.



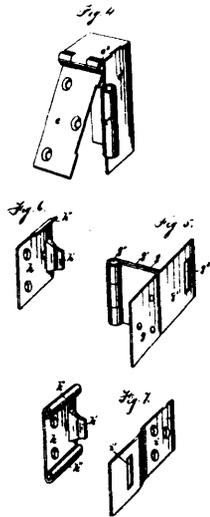
27564 McLeod's Milk Cooler.



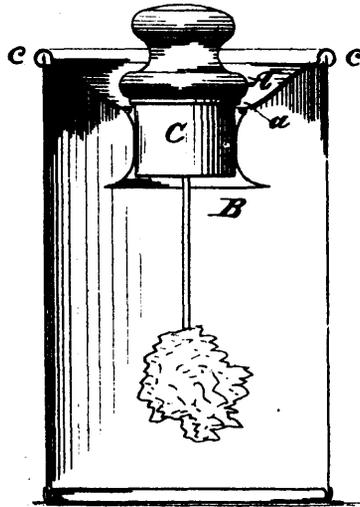
27565 Wandell's Condenser for Steam Force Pumps.



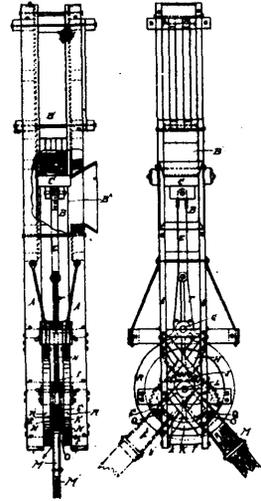
27566 Watson's Speculum.



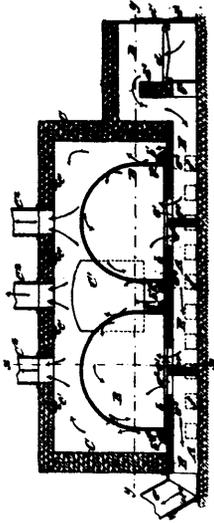
27567 Tucker's Hinge for Awning Blinds.



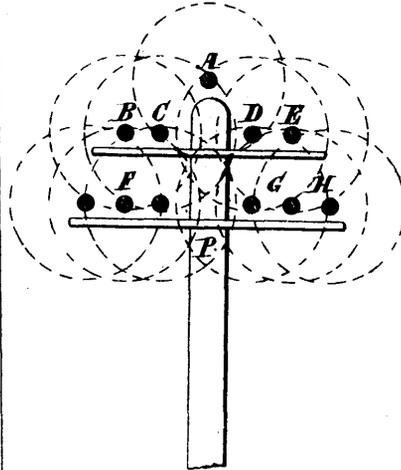
27568 Bixby's Metal Bottle.



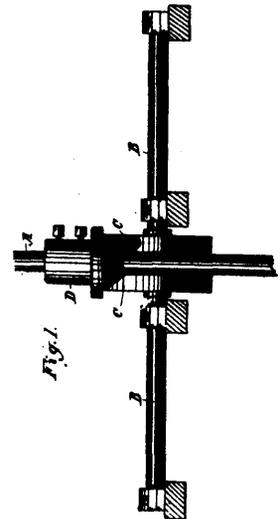
27569 Robinson's Baling Press.



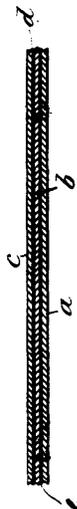
27570 Cheesbrough's Hot Air Furnace.



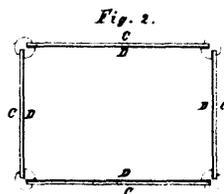
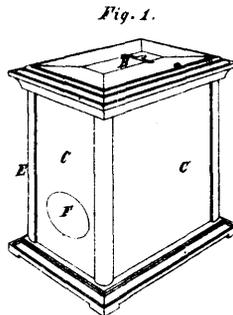
27571 Leggo's Art of Preventing Induction in Telegraphy, etc.



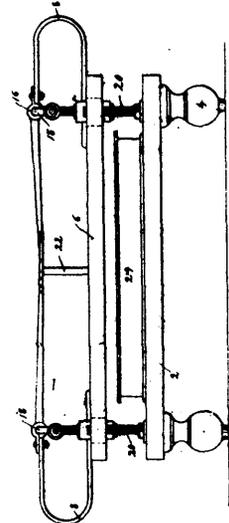
27572 Lambing's Vertical Shaft Bearing.



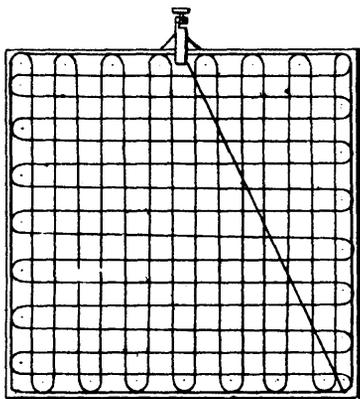
27573 White's Insole.



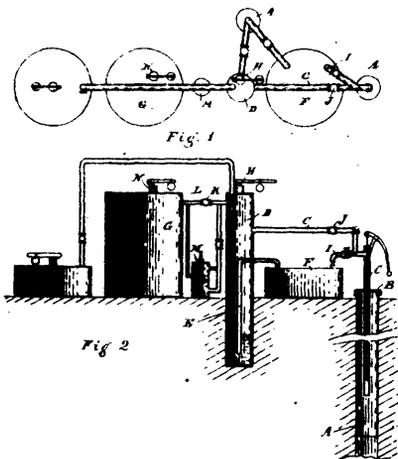
27574 Moyer's Toy Savings Bank.



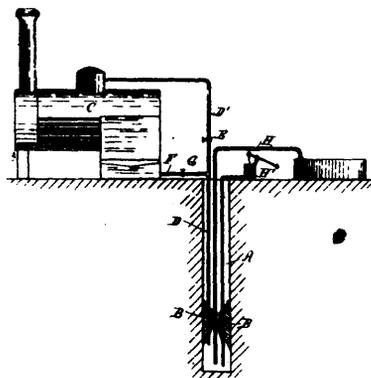
27575 Scarff's Copying Press.



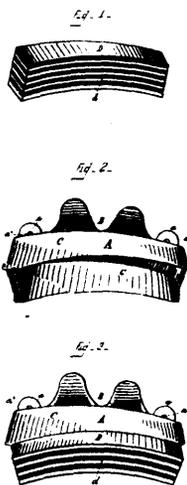
27576 Trippe's Electrods.



27577 Crocker's Apparatus for Collecting and Storing Oil, etc.



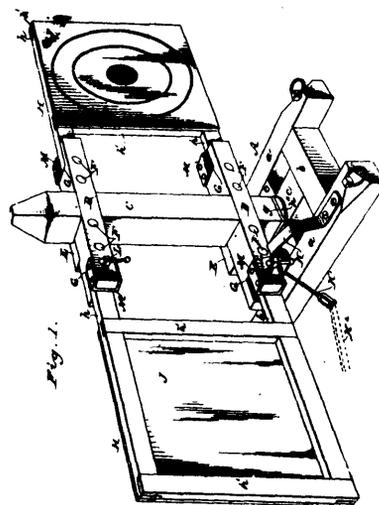
27578 Crocker's Art of Removing Paraffine from Oil Wells.



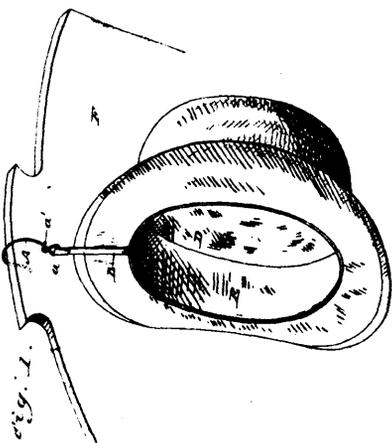
27579 Colburn's Railway Friction Brake Shoe.



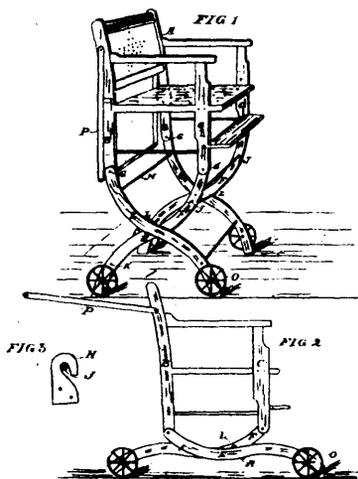
27580 Serafini's Cigar.



27581 Adam's Revolving Target.



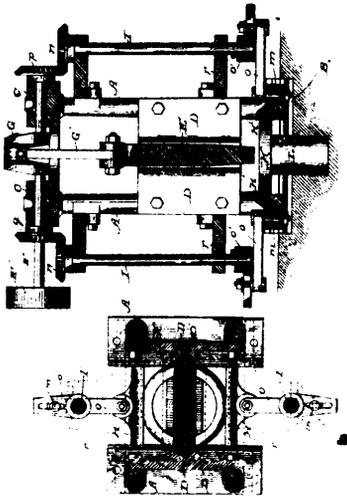
27582 Gulley's Hat Hook.



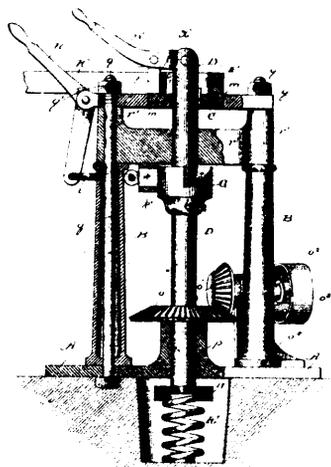
27583 Wright's Child's Chair.



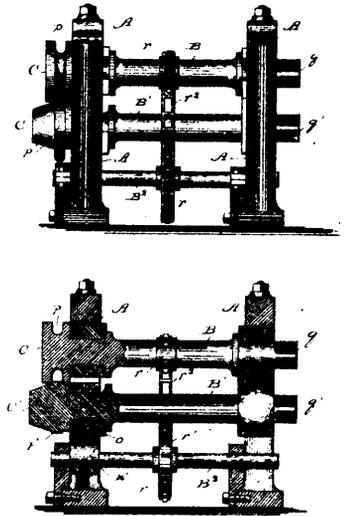
27584 Eddington's Adjustable Legs for Wash Tubs.



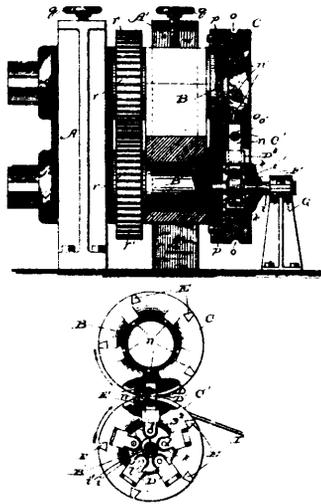
27585 Anderson's Machine for Manufacturing Coupling Links for Cars



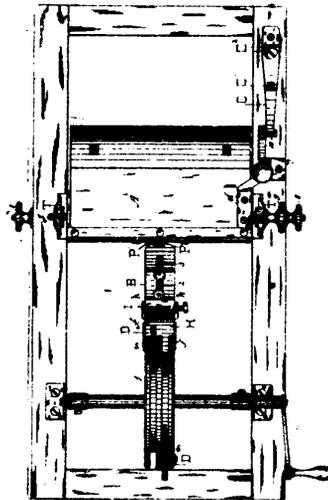
27586 Anderson's Machine for Manufacturing Coupling Links for Cars.



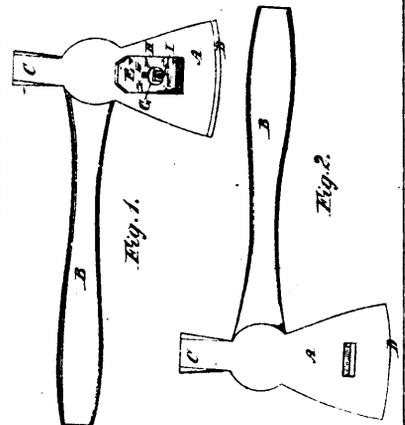
27587 Anderson's Rolling Machinery.



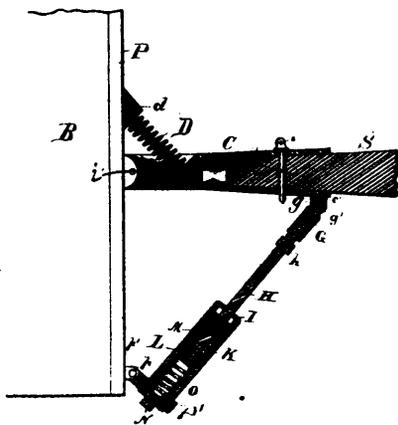
27588 Anderson's Rolling Machine.



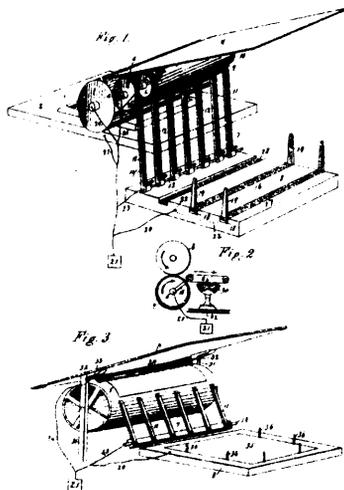
27589 Owens' Sticker Attachment for Paper Rulers.



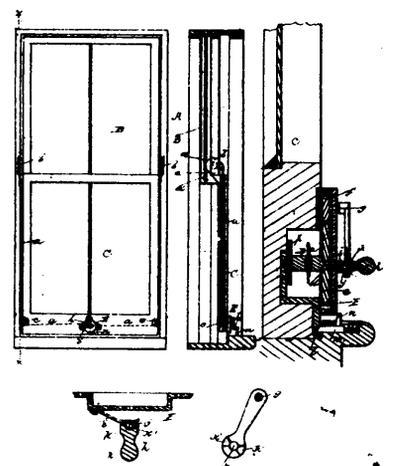
27590 Robertson's Plane and Tool.



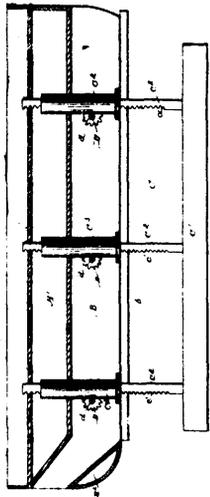
27591 Hare & Sproul's Shaft Attachment for Vehicles.



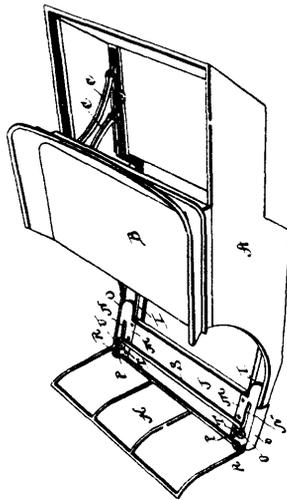
27592 Batrick's Means for Dissipating Electricity in Machinery



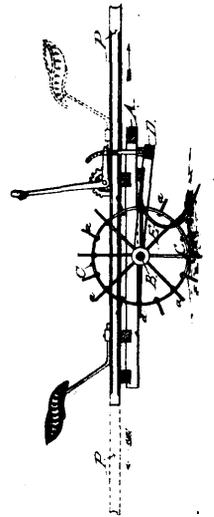
27593 Hess' Sash Balance.



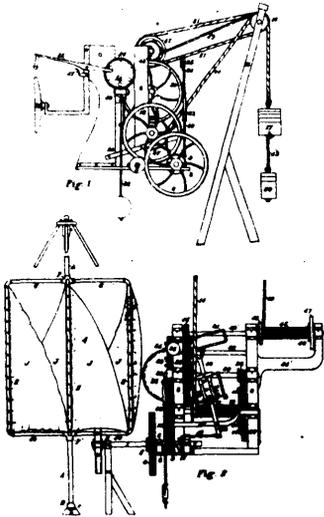
27595 Luca's Steam Ship.



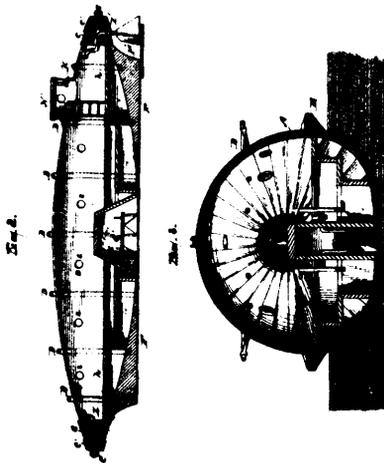
27596 Mandt's Jump Seat Vehicle.



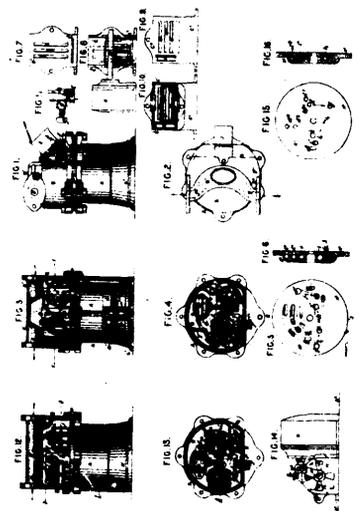
27597 Lubin's Clod Crusher and Pulveriser.



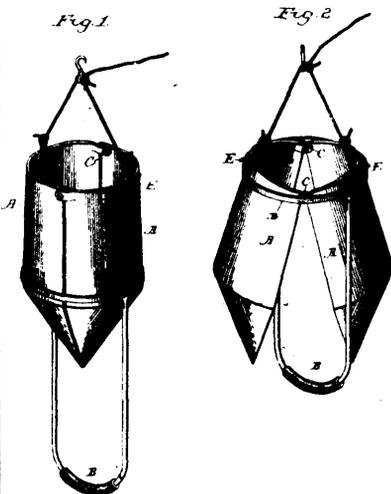
27598 Close's Power Transmitter.



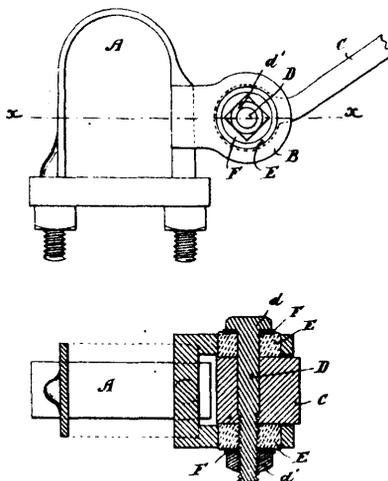
27599 Shears' Life Boat.



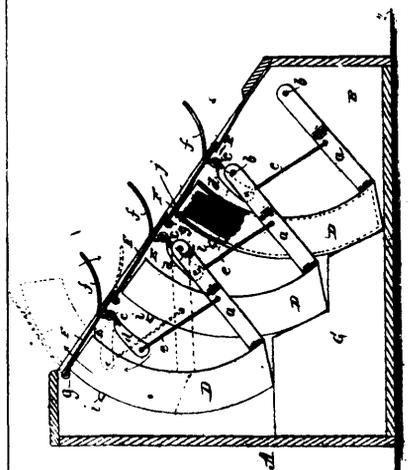
27600 Bonna's Fluid Meter.



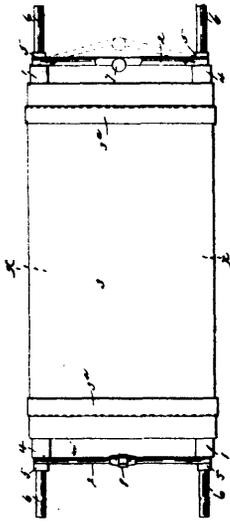
27601 Brundage's Fruit Pail.



27602 Porter's Thill Coupling.



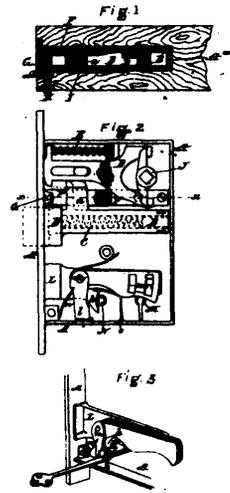
27603 Mihills' Label Cabinet.



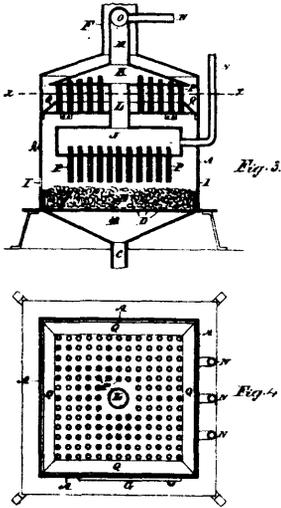
27604 Judson's Stretcher for Invalids.



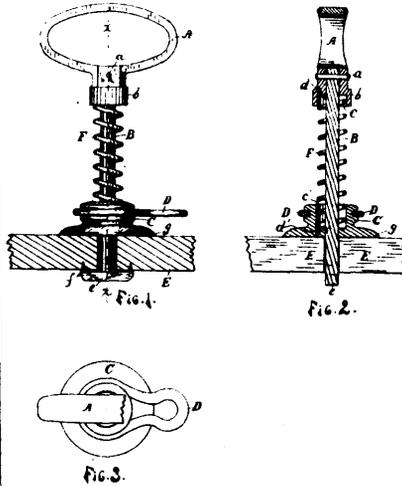
27605 Moore's Road Grading Machine.



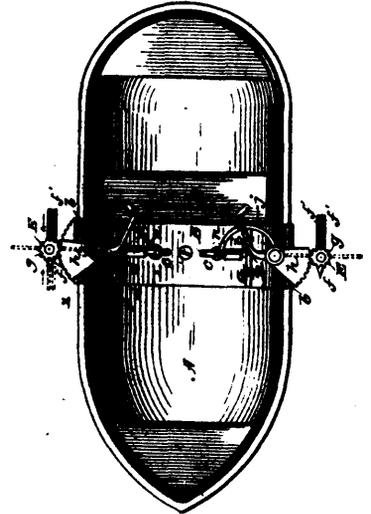
27606 Winchester's Door Latch and Lock.



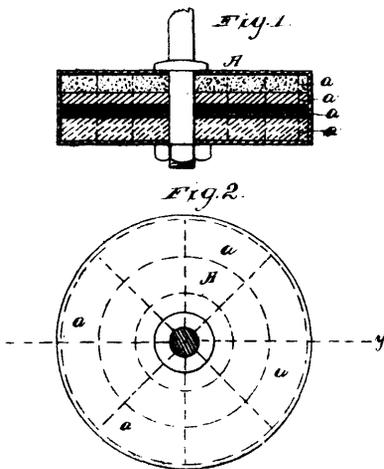
27607 Nell & Morrison's Railway Carriage Heater.



27608 Clarke's Animal Hitching Device.



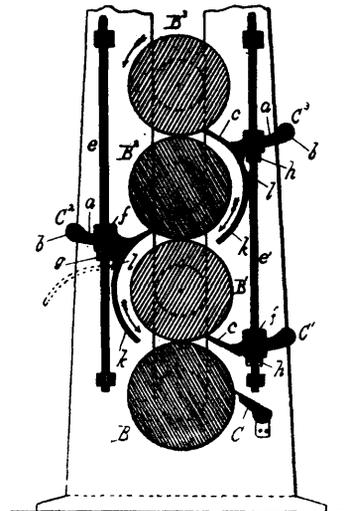
27609 Lard's Rowing Machine.



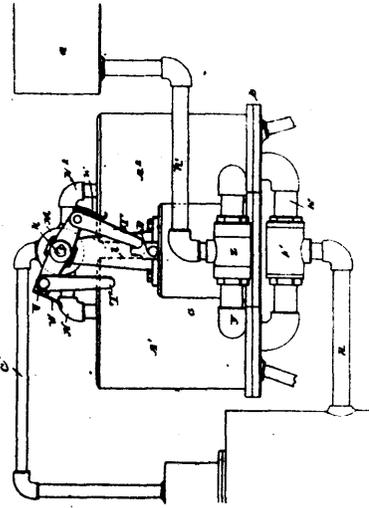
27610 Blackburn's Valve.



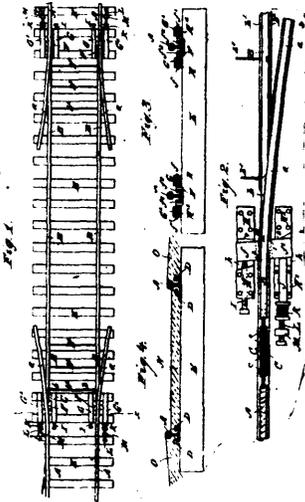
27611 Judson's Mattress for Water Beds.



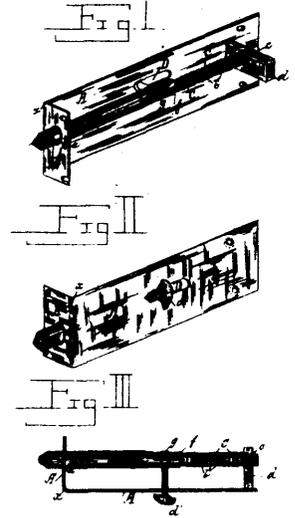
27612 Smith's Doctor for Calender Rolls.



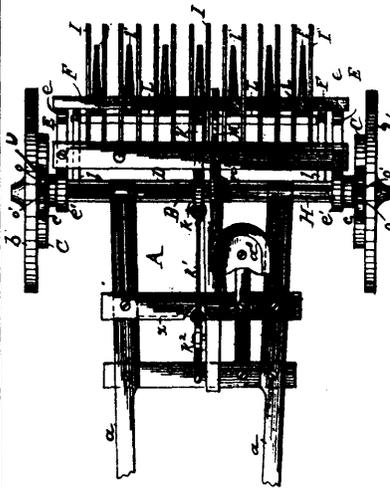
27613 Kelley's Steam Boiler Feeder.



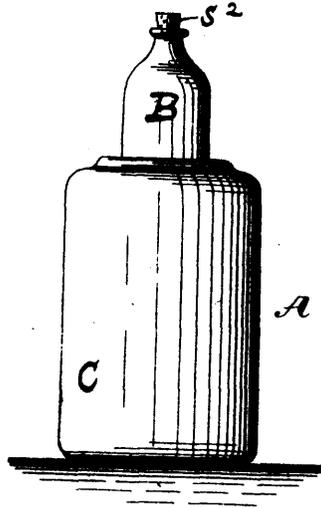
27614 Noonan's Railway Track System.



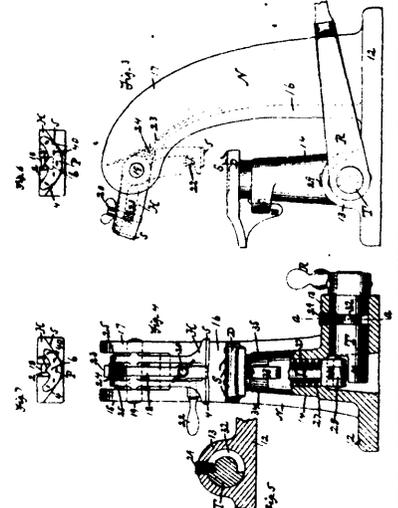
27615 Willment's Spring Lock for Windows.



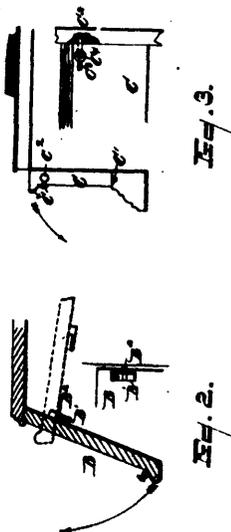
27616 Robison's Horse Hay Rake.



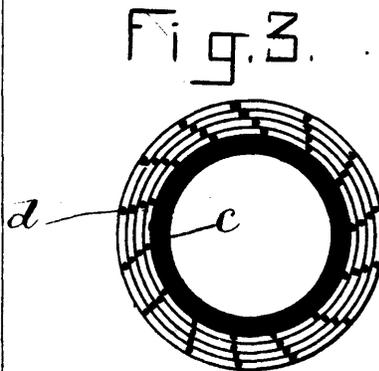
27617 Leith's Bottle.



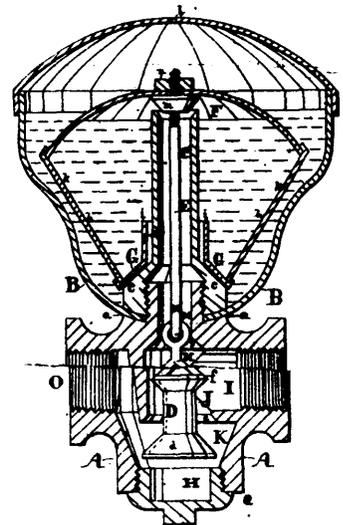
27618 Richard's Machine for Attaching Heel Plates to Boots, etc.



27619 Votey's Organ Case.

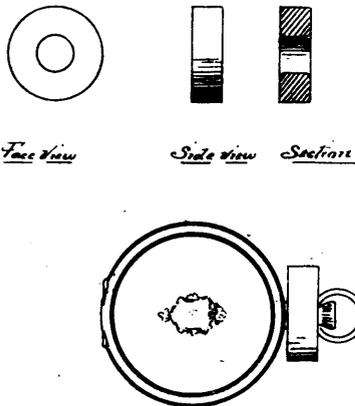


27620 Meacom's Flexible Tubing

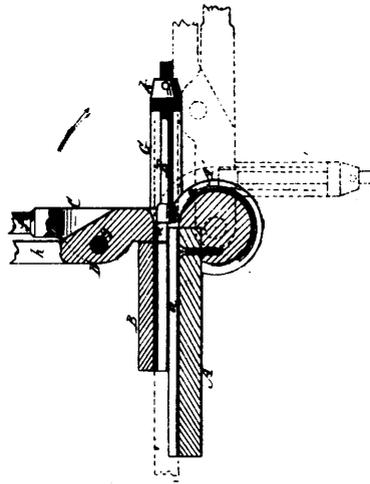


27621 Pickering's Gas Regulator.

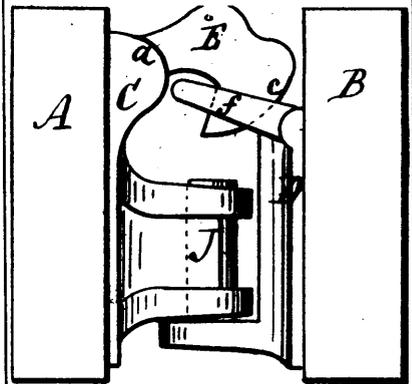
Fig. 1



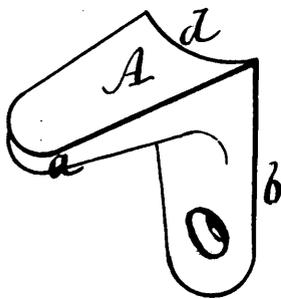
27622 Crawford's Watch Protector.



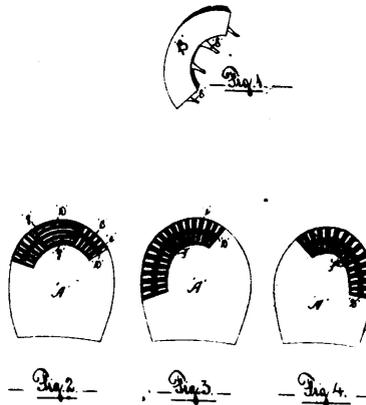
27623 Broad's Apparatus for Bending Tubes, etc.



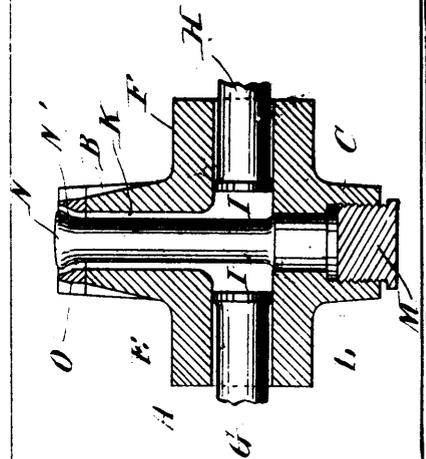
27624 Byam's Blind and Shutter Hinge.



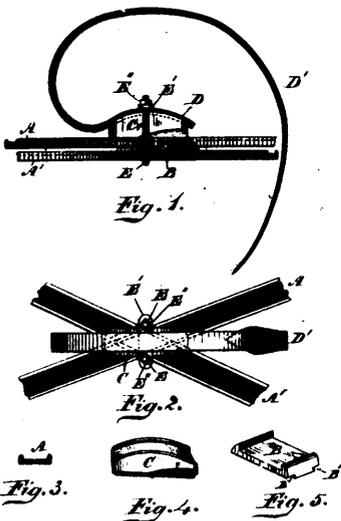
27625 Byam's Sash Lift.



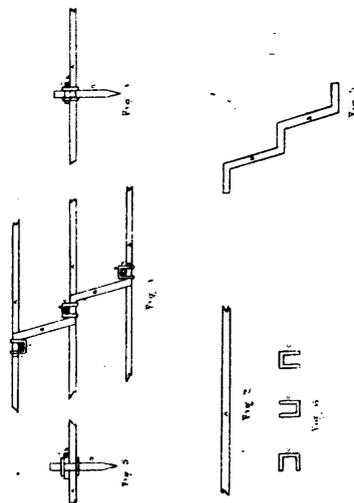
27626 Doney's Heel Plate.



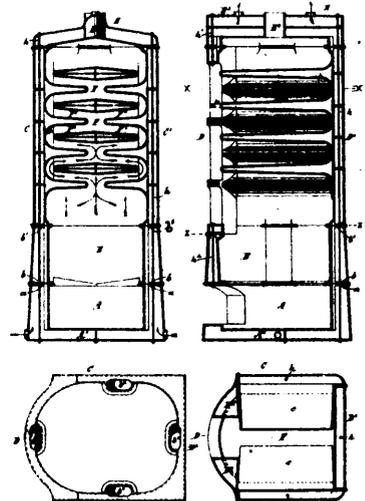
27627 Robertson's Apparatus for Manufacturing Plumbers' Traps.



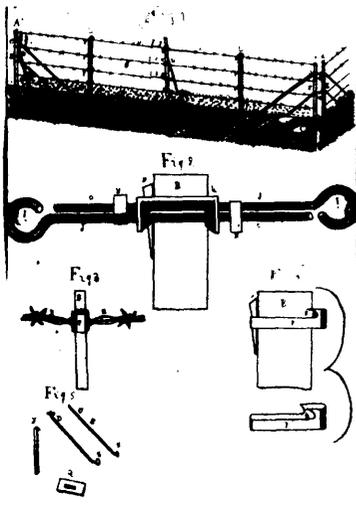
27628 McNell's Spring Tooth Harrow.



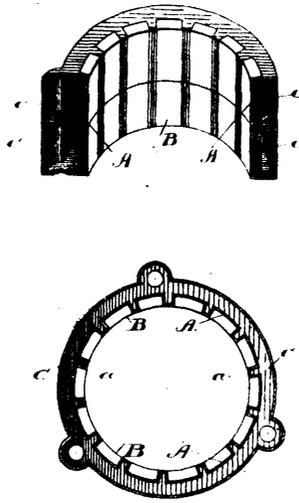
27629 Clinkman's Harrow.



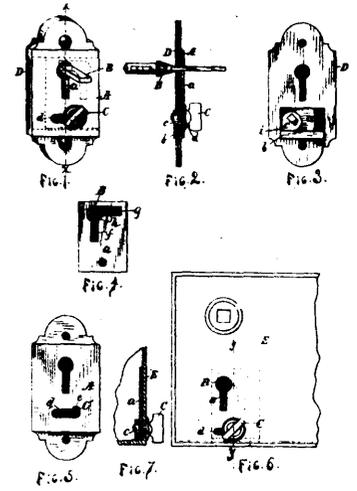
27630 Rodden's Water Heater.



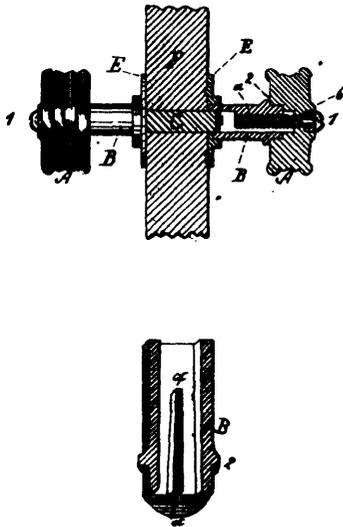
27631 Davy's Method of Attaching Wire to Iron Fence Posts, etc.



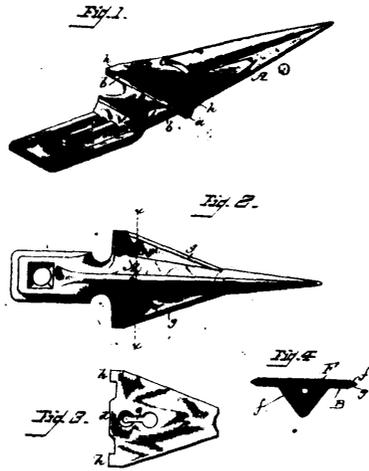
27632 Gurney & Sellers' Furnace.



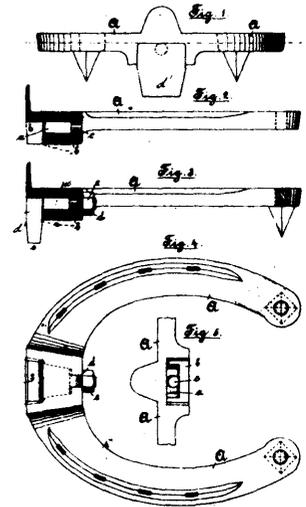
27633 Randall's Key Fastener.



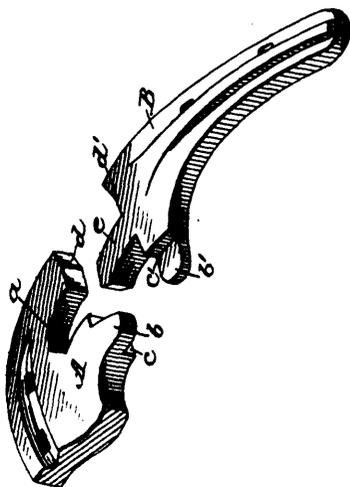
27634 Hollenbeck's Knob Attachment.



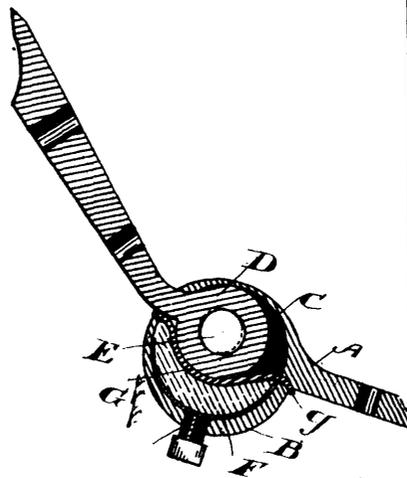
27635 Walker's Guard Finger for Harvesters.



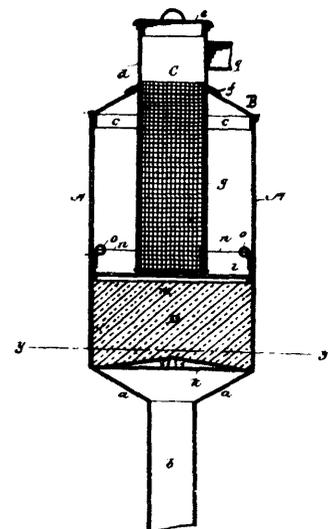
27636 Jonas & Hirsch's Horse Shoe.



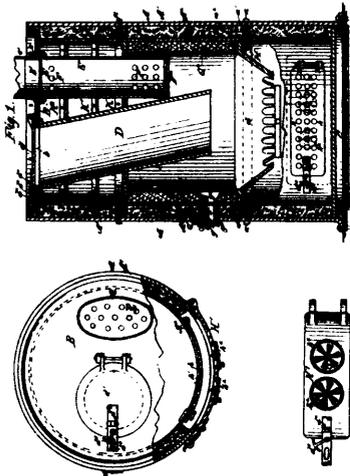
27637 Bingham's Horse Shoe.



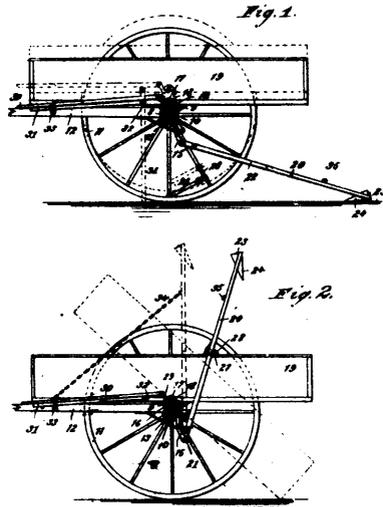
27638 McLaughlin's Thill Coupling.



27639 Nesbet's Filter.



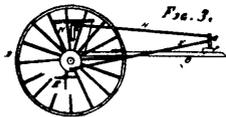
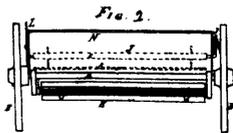
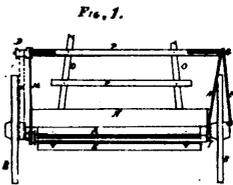
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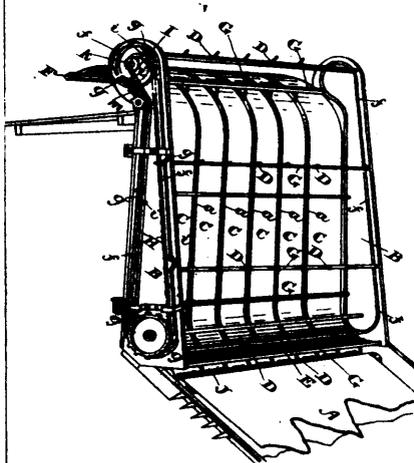
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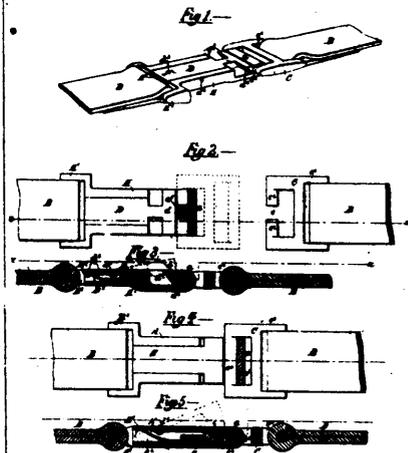
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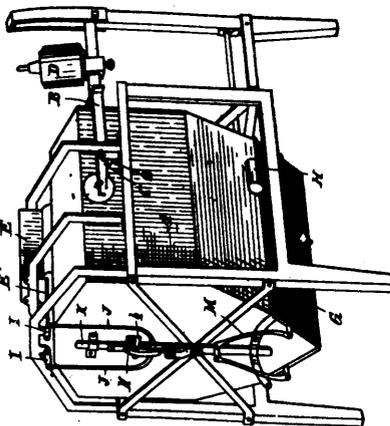
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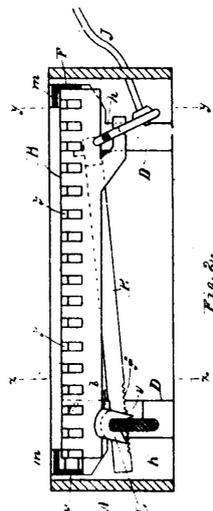
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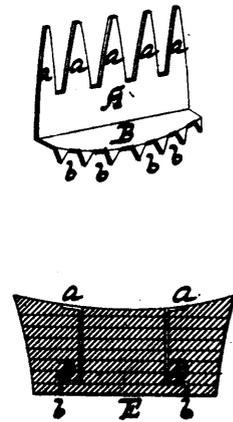
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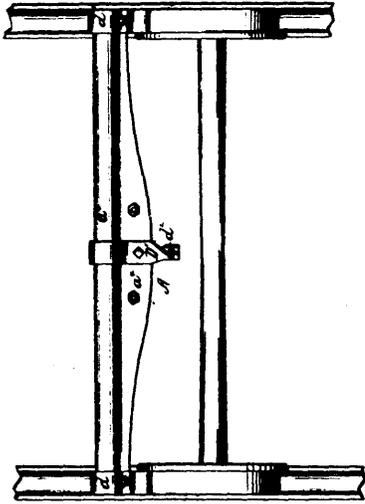
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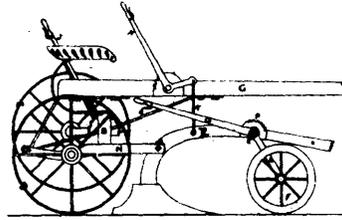


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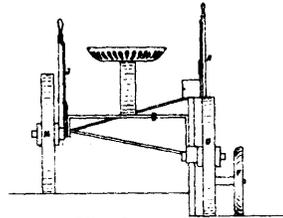
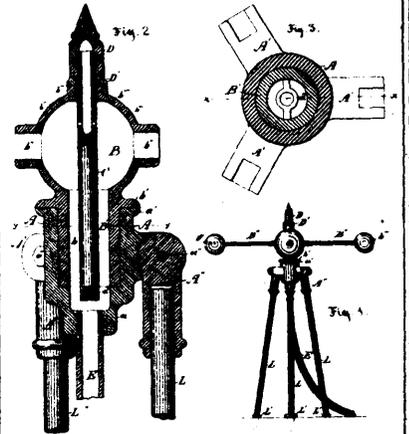


Fig. 2.

27650 Johnson's Sulky Plough.



27651 Egleson's Lawn Sprinkler.

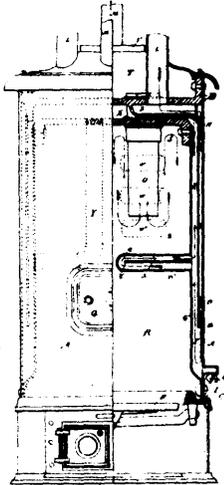


Fig. 1

27652 Manny's Hot Water Boiler.

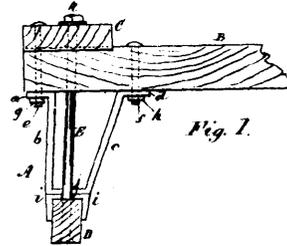


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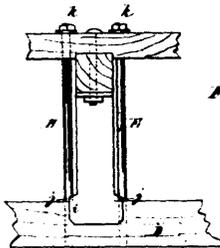
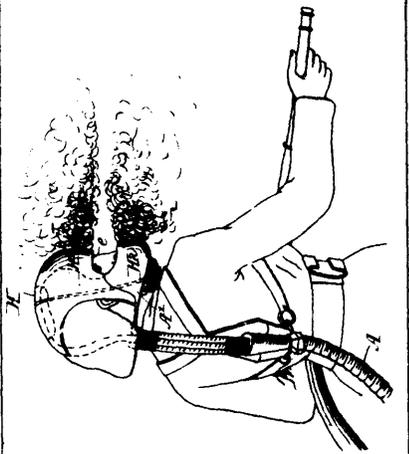
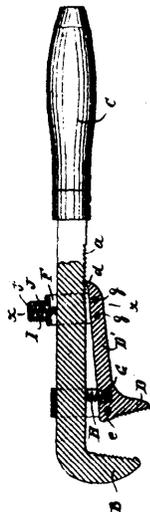


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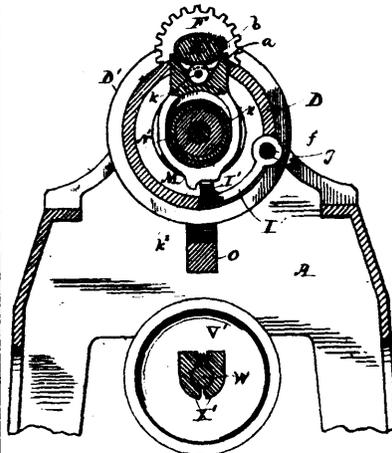
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27658 Taylor's Machine for Turning Irregular Forms.

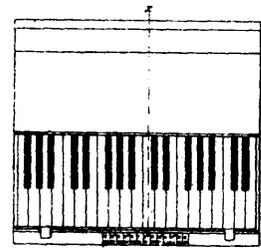


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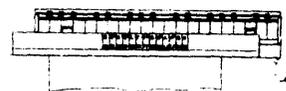
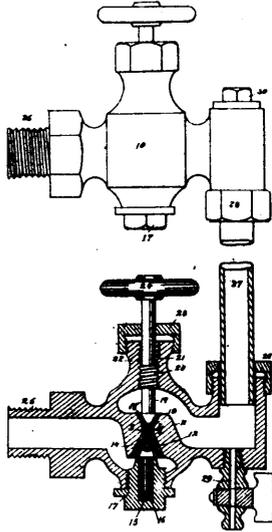


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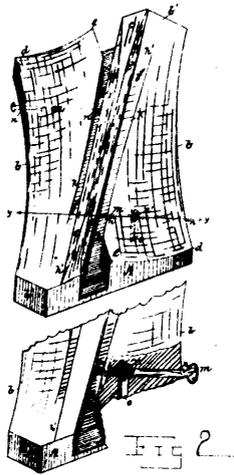


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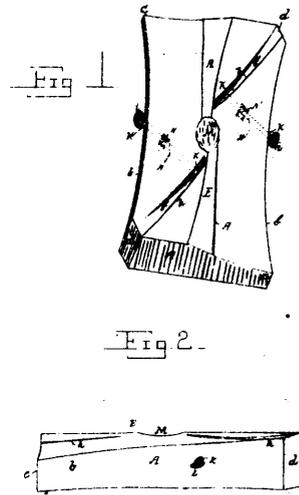
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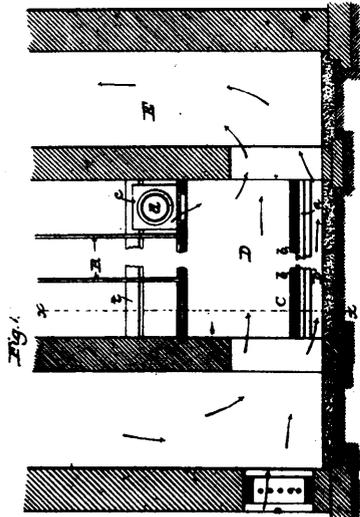
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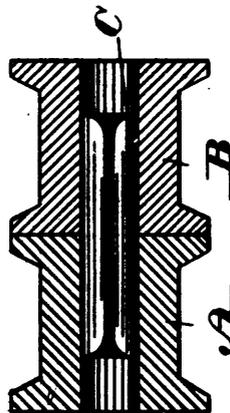
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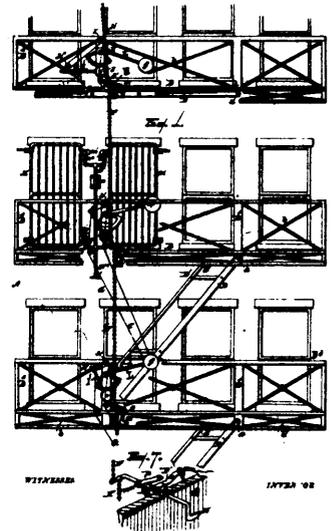
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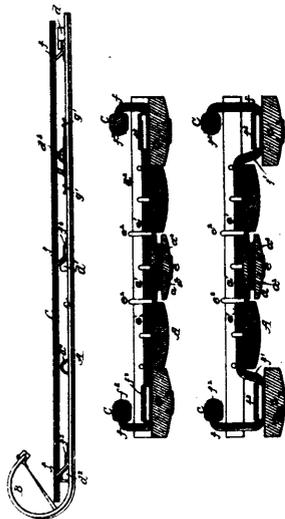
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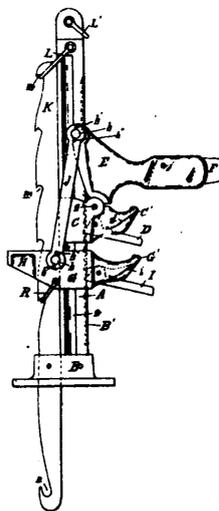
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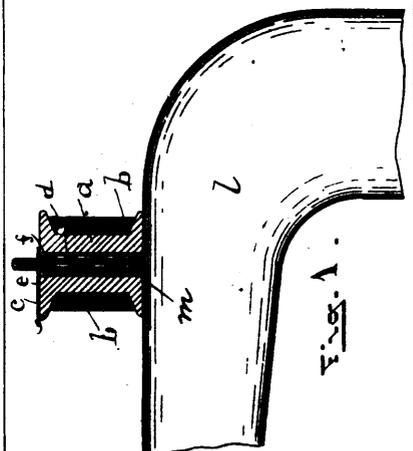
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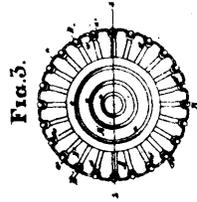
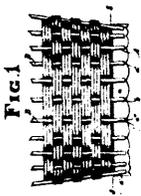
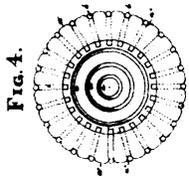
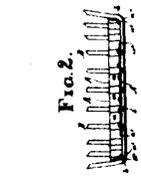
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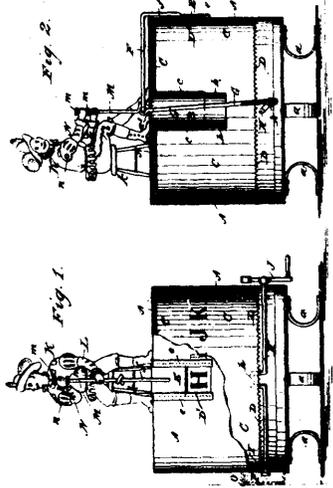
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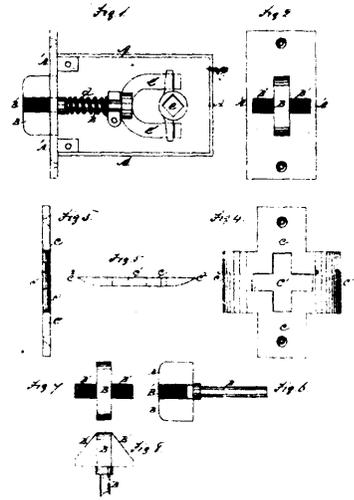
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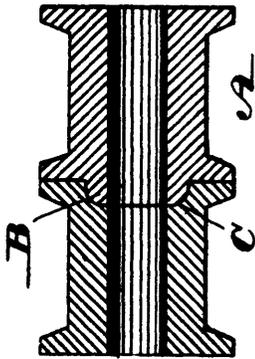
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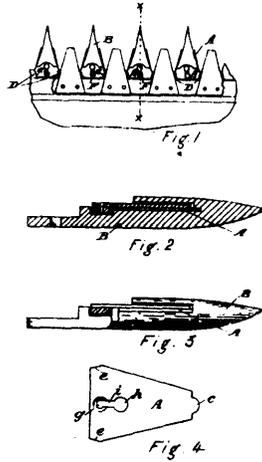
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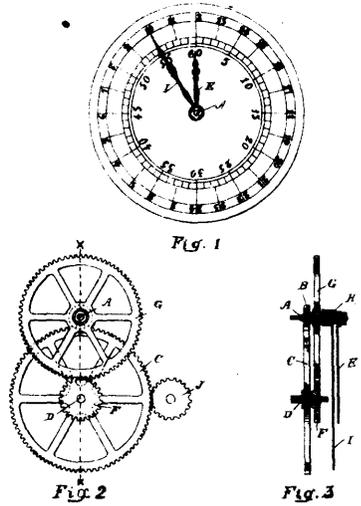
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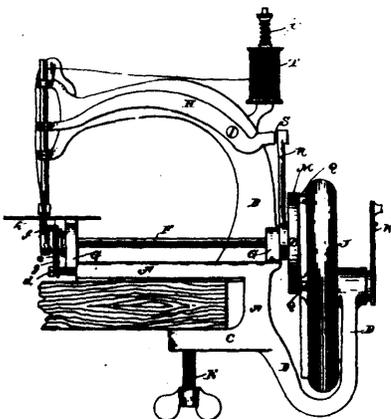
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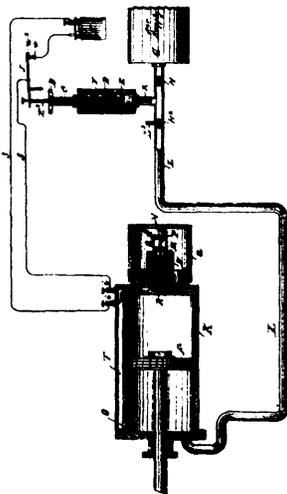
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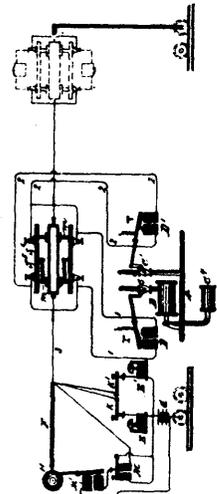
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