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INVENTIONS PATENTED.

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

No. 21,053. Process, Method and Means for Cutting and Pressing Rags, &c. for Paper Stock. (*Procédé, Mode et Moyens de Tailler et Presser les Chiffons, &c. pour la Pâte à Papier.*)

Lemuel Coburn, Jehiel C. Coburn, Worcester, and Charles F. Taylor, Springfield, Mass., U.S., 7th February, 1885; 5 years.

Claim.—1st. A rag-cutting machine having two sets of cutters, one adapted to cut the rags across the cut of the other, in combination with a means to feed the material to the first set, and from the first to the second set. 2nd. A rag-cutting machine having two sets of cutters, one adapted to cut across the cut of the other, in combination with a positive feed, whereby the rags, after stripping, are conveyed and presented to the second cutters in such manner that the second cut is across the stripping cut. 3rd. The method of dressing rags for paper stock by machinery consisting of first stripping the rags by passing between cutters, then cross-cutting the strips by passing between cutters. 4th. The method of stripping rags, consisting of passing them through a gang of cutters. 5th. In a rag-cutting machine, a gang of rotary cutters or shears adapted to strip the rags, substantially as shown. 6th. A rag-cutting machine having two sets of cutters, one adapted to strip and the other to cross-cut the rags, in combination with a means to convey the rags from the first to the second cutter without turning the rags in the passage, substantially as shown. 7th. A rag-cutting machine having one or more sets of stripping-cutters and one or more sets of cross-cutters, and provided with a means to convey the rags from the strippers to the cross-cutters, substantially as shown. 8th. In a rag-cutting machine, a stripping device located above a feed apron, adapted to convey the strips to a cross-cutting device, substantially as shown. 9th. The cutters I, H, in combination with cutters O1, P, and a means to convey the material from the first to the second cutter, substantially as shown. 10th. An improved cutter for cutting rags, constructed of chilled iron, substantially as shown. 11th. A rag-dressing or cutting machine having rotary cutters whose axes are on approximately the same horizontal plane, whereby the material may be dropped directly to the shearing edges, substantially as shown. 12th. A rag-cutting machine having rotary cutters of large diameter, whereby the shear angle is so reduced that the material will not be forced away from the cutting edges, substantially as shown. 13th. In a machine for cutting rags and other materials, the combination of two or more series of rotating discs, said discs being arranged or mounted on adjacent shafts in alternating order, for interacting and shearing against each other, substantially in the manner described. 14th. In a machine for cutting rags and other materials, the combination of two or more series of rotating discs, having teeth or serrations about their peripheries, said discs being arranged or mounted on adjacent shafts in alternating order, for interacting and shearing against each other, substantially in the manner described. 15th. The combination, with the rotating shafts, of the disc-cutters mounted in alternating order and adjustably retained between the collars and nuts *h*111, whereby the shearing angles of the several discs or cutters can be set together with greater or less force, as and for the purpose set forth. 16th. The combination, with the series of rotating cutters and their supporting shafts, of a series of clearers *i, j*, located intermediately between the respective cutters, for forcing the severed material from the teeth thereof, substantially as hereinbefore set forth. 17th. A cutter or disc for rag-cutting machines, formed or punched from sheet metal, notched or serrated about its periphery. 18th. The combination, as hereinbefore described, of the cutter-cylinders composed of the interacting toothed cutters or discs mounted on rotating shafts, in the manner described, the clearer-bars or fingers arranged between said cutters, the travelling apron and the gears, for the purposes set forth. 19th. In a rag-cutting machine, a spiral-bladed revolving knife, in combination with a fixed knife and a means to feed the rags, substantially as stated. 20th. The combination of a spiral-bladed revolving knife, a fixed knife, a feed apron and guide, operating substantially as shown. 21st. The spiral-bladed knife O1, fixed knife P, feed roll M, a feed apron and guide, constructed and operating substantially as shown. 22nd In a rag-dressing machine, the combination of a spriral bladed cutter O1, fixed knife P, feed apron L, feed roll and guide springs *n*, all constructed and operating substantially as shown.

No. 21,054. Non-Detaching Automatic Cut-off for Steam Engines. (*Soupape de Détente Automatique Fixe pour Machines à Vapeur.*)

John B. Pritchford and William T. Garratt, San Francisco, Cal., U. S., 7th February, 1885; 15 years.

Claim.—1st. In a steam-engine valve-gear, an equalizing arm or lever swinging on the crank or rocker-arm pin of a rotary valve, at a point between its two ends, one end being connected to, and receiving motion from an eccentric, and the other end being connected to, and receiving motion in an opposite direction from a cam. 2nd. In a steam-engine valve gear with two rotary steam inlet-valves, an equalizing lever or arm swinging or pivoted upon a pin between its two ends, one end being attached by non-detaching connections to the eccentric, and the other end being attached by non-detaching connections to a cam. 3rd. In a Corliss Engine valve gear with two steam valves, two levers swinging on pins between their two ends attached to separate rotary valve-stems operating valves at each end of the cylinder, one end of each lever being connected with an eccentric with non-detaching connections, and the other end of each lever being connected and moved from a cam by non-detaching connections, and the other end of each lever being connected and moved from a cam by non-detaching connections, both valves being operated by the same eccentric and one cam. 4th. An engine valve-gear having two main steam inlet-valves controlled by the action of one eccentric for the admission of the steam, and one cam for cutting off the steam without having separate cut-off valves, by means of swinging evers pivoted at or near their centers on the valve-stems, with one of their ends attached to the eccentric, and the other ends attached to the cam, all connections having hold of the valve and non-detaching, substantially as described. 5th. A reversible engine valve-gear with two steam inlet-valves, operated by two eccentrics through a link motion, connected to one end by swinging levers upon the valve stems, while the other ends of the levers are connected to links which receive motion from a cut-off cam. 6th. A reversible engine with two steam inlet-valves, operated by eccentrics to run in either direction, with a reversible cut-off motion operated by one cam, all the connections retaining hold of the valve and being non-detaching. 7th. An engine with swinging levers, as described, connected to an eccentric and a cam, the cam being moved on the shaft by the toothed racks engaging in the pinion for the purpose of making the cut-off automatic. 8th. The device with a cam set on the engine shaft to cut off at a given point.

No. 21,055. Car-Coupling. (*Accouplage de Chars.*)

Richard W. Thomas and Jesse Roberts, Slatington, Penn., U. S., 7th February, 1885; 5 years.

Claim.—1st. In a self-coupling for cars, the combination, with a chambered draw-head, of a lug *g*, having a guiding groove and an inclined plane *i*, in combination with the spring-actuated coupling-block, movable in a passage through the upper part of the draw-head, and constructed with a flaring arch *b*, and bevelled legs *l, l*, substantially in the manner and for the purposes described. 2nd. The combination of the draw-bar, a guiding lug *g*, on the floor thereof, between its flaring mouth and a rear chamber B, and a vertically movable spring-actuated coupling block, arched as described.

No. 21,056. Stop and Waste Cock.

(Robinet de Retenue et de Décharge.)

John H. Kennedy and Joseph P. Farnan, Cleveland, Ohio, U.S., 7th February, 1885 ; 5 years.

Claim.—The combination, with the valve-body, constructed as described, and provided with the laterally-projecting stops, and a plug-valve, of the cap adapted to be removably secured to the projecting end of the plug-valve and provided with an angular upper end for the attachment of a removable key or other suitable device, and with an arm C^1, all of the above parts combined and adapted to operate as described.

No. 21,057. Extension File.

(Liasse à Rallonge,)

John Gross, Ottawa, Ill., U.S., 7th February, 1885; 5 years.

Claim.—1st. A file-holder composed of two covers, one of which forms a pocket into which a connecting-extension secured to the other cover may be pushed, or from which it may be partially withdrawn at will, substantially as and for the purpose set forth. 2nd. A file-holder made in two parts, one of which forms a pocket containing a slotted intermediate piece, and the other bas secured to it an extension formed with a T-head, or tongue upon its end, substantially as and for the purpose set forth. 3rd. In a file-holder, the cover *a*, provided with the extension *b*, having the tongue *c*, in combination with the cover *a*1 forming a pocket, in which is secured the intermediate part *d*, formed with slot *d*1, substantially as and for the purpose set forth.

No. 21,058. Burnishing Apparatus for Boots and Shoes. *(Astic de Cordonnerie.)*

Henry T. Spencer, Montreal, Que., 7th February, 1885; 5 years.

Claim.—In a burnishing apparatus for the shanks, etc., of boots and shoes, the combination, with the drive shaft, of head carrying stud set eccentrically therein, sleeve mounted on, and rotated by said stud and carrying burnishing tool, and arm or spindle connected with inner end of sleeve, and rock shaft or stud carried in frame, all substantially as and for the purposes set forth.

No. 21,059. Thrashing Machine.

(Machine à Battre.)

Ezra Bessey, Limehouse, Ont., 7th February, 1885; 5 years.

Claim.—As an attachment to a threshing machine, the trap door E, hinged as shown, to the solid bottom of the carrier-frame, and secured, when shut, by a bolt, or other equivalent device, in combination with the carrier-frame A, and rakes B, substantially as shown and for the purpose specified.

No. 21,060. Mould for Drum Traps.

(Moule pour Trappes Cylindriques.)

John T. Copithorn, Boston, Mass., U.S., 10th Fubruary, 1885; 5 years.

Claim.—1st. The outer mould and the separable core consisting of independent side pieces, and means to fasten them together, they having, when thus fastened, an opening at their ends, combined with the removable bottom piece, made in separable parts for closing the said opening, substantially as described. 2nd. A separable core composed of side pieces *f*, *f*, and *g*, *g*, the latter capable of being drawn together or contracted, and thereby disengaged from the former, combined with fastening links *h*, for holding the said part together in expanded position, and the independent threaded bottom or end piece, adapted to screw in a threaded opening at the end of the side pieces, when fastened together, substantially as described. 3rd. A separable core composed of side pieces *f*, *f*, and *g*, *g*, the latter provided with sockets g^2, combined with the bolts *m*, and nut m^1, whereby the side pieces *g*, *g*, are withdrawn from the others, thus separating the core and permitting its parts to be removed from the casting, substantially as described. 4th. The outer mould and the separable core provided with a shoulder to receive the ring *o*, combined with the core-suspending device mounted in the outer mould, substantially as described. 5th. The core and the separable outer mould, combined with the core-supporting device *r* r^1, hinged upon the outer mould, and adapted to engage and hold the core, the core-supporting device being provided with a pouring-cup and passage, substantially as described.

No. 21,061. Delivery Apparatus for Printing Machines. *(Appareil de Distribution pour Machines à Imprimer.)*

Calvert B. Cottrell, Stonington, Ct., U.S., 10th February, 1885 ; 5 years.

Claim.—1st. In a printing press, the combination, with an impression-cylinder capable of rotation in one direction only for printing, and a feed-board at the back of the cylinder, of chain-wheels arranged above and at the front of the cylinder, a receiving-table at the farther end of the press, chain-wheels adjacent to said receiving-table, endless chain passing around said chain-wheels, and a gripper-bar and gripper-rod extending between and connecting said chains, and provided between the chains with gripper-fingers, said chains being capable of movement in one direction only, to take the printed sheet from the cylinder and carry it over the inking apparatus and to the receiving table, substantially as herein described. 2nd. The combination, with the cylinder of a printing press, of endless chains extending from the front of the cylinder to a receiving-table at the farther end of the press, a gripper-rod carrying delivery-grippers and extending between and supported and carried by the chains, and mechanism, substantially such as described, for driving the chains at a greater velocity than the surface velocity of the cylinder, substantially as herein specified. 3rd. The combination with the cylinder of a two-revolution press capable of a rising and falling movement, and a feed-board at the back of the cylinder, of chain-wheels arranged at the front of the cylinder and supported from the rising and falling bearings of the cylinder, a receiving-table at the farther end of the press, chain-wheels adjacent to the receiving table, endless chains passing around said chain-wheels, and a gripper-bar and gripper-rod extending between and connecting said chains, and provided between the chains with gripper fingers, said chains being capable of movement in one direction only, to take the printed sheet from the cylinder and carry it over the inking apparatus and to said receiving table, substantially as herein described. 4th. The combination, with the cylinder of a printing press, of endless chains extending from the front of the cylinder, a gripper-rod carrying delivery grippers and extending between said chains, and mechanism, substantially such as described, for imparting a rising and falling movement to the said chains, substantially as herein specified.

No. 21,062. Pruning Shears.

(Ciseaux de Jardinier.)

John G. Rubach, Princeton, Ill., U.S., 10th February, 1885; 5 years.

Claim.—1st. A rubber spring, consisting of an annular ring or band, in combination with sleeves, whereby it may be secured adjustably between the handles or arms of a pruning shears or like implement, substantially as and for the purposes herein shown and specified. 2nd. A rubber spring for pruning shears and like implements, consisting of an annular ring or band having a transverse or diametrical brace, substantially as and for the purposes herein shown and specified. 3rd. In a rubber spring for pruning shears and like implements, the combination, with an annular rubber ring or band, of a transverse brace diametrically connecting the sides of the same, substantially as and for the purposes herein shown and specified. 4th The combination, with a pruning shear or like implement, of a spring consisting of an annular rubber ring or band, having a transverse or diametrical brace, said spring being arranged between the handles of such shears or implement, substantially in the manner and for the purpose herein set forth. 5th. The combination, with a pruning shear or like implement, of a spring arranged between the handles of the same and connected therewith by means of sleeves having set-screws whereby they may be adjusted, said spring consisting of an annular rubber ring or band having a transverse or diametrical brace, substantially as and for the purposes herein shown and specified.

No 21,063. Thermostat. *(Thermostat.)*

Alexander K. Rider, Walden, N. Y., U. S., 10th February, 1885 ; 5 years.

Claim.—1st. A thermostal, consisting essentially of a flattened metallic tube, filled, or partly filled, with an expanding fluid, the said tube being bent or coiled into a suitable shape, and secured at one end to a base, and provided at its opposite end with a contact pin, which is adapted to be moved into contact with a pin secured to the base. 2nd. In a thermostat, the combination, with a tube partly or wholly filled with an expansible or volatile liquid, one end of the said tube being rigidly secured to a base made of conducting material, the opposite end thereof being free and provided with a contact pin, of two separate contact-pins secured to the base, but insulated therefrom and from each other, the said pins being brought into electrical connection with the said tube, by the expansion thereof, substantially as set forth. 3rd. The combination, with the base and the curved flattened tube secured at one end thereto, and provided at its free end with a contact-pin, the said tube being filled, or partly filled, with an expansible or volatile liquid, of the plug F, spring-contact pins, and the wires W, W^1, W^2, W^3 and W^4, all of the above parts combined and adapted to operate as described.

No. 21,064. Preserving Jar. *(Pot à Conserves.)*

William G. Beach, New Glasgow, N.S., 10th February, 1885 ; 5 years.

Claim.—1st. As an improved article of manufacture, a glass jar having an inwardly fitting glass cover, provided with a rubber ring, to interpose the edge of the cover and interior of the jar, as set forth, for the purpose described. 2nd. The combination of the jar A having an annular internal shoulder B, cover C having an annular recess D, and packing ring F inserted in the recess, whereby the ring yields to prevent the jar being split by contraction to hold the cover fixedly in place and to exclude the air, as set forth.

No. 21,065. Electro-Magnetic Valve and Connection for Controlling Air Brakes on Railway Cars. *(Valve Electro-Magnétique et Raccordement pour Contrôler les Freins Atmosphériques des Chars de Chemin de Fer.)*

Henry Fladd, St. Louis, Mo., U.S., 10th February, 1885 ; 5 years.

Claim.—1st. The combination, with the cylinder provided with suitable ports, of the tubular diametrically-arranged valve, the armature carried by said valve, and the electro-magnet arranged to attract said armature, substantially as described. 2nd. The combination, with the main or communicating pipe and the cylinder having diametrically opposite ports or passages, arranged for communication with the said pipe and the external air respectively, of the tubular valve arranged to open and close said ports, and having its interior in communication with the interior of the cylinder, the armature carried by said valve, and the electro-magnet arranged to attract said armature, and having its helices arranged for connection in an electric circuit outside of the cylinder, substantially as described. 3rd. The combination, with the cylinder provided with ports arranged for communication with a main pipe and the external air respectively, and an electro-magnetic valve for controlling said

ports, of a supplementary valve for regulating the flow of air from the cylinder, when the electro-magnetic valve has opened the passage to the external air, substantially as described. 4th. The combination, with the cylinder provided with ports arranged for communication with a supply-pipe and the external air respectively, and an electro-magnetic valve arranged to open and close said ports alternately, of an automatic regulating valve arranged to close the communication between the cylinder and external air, when the pressure in the cylinder falls to a pre-determined point, after the electro-magnetic valve has opened the port to the external air, substantially as and for the purpose set forth.

No. 21,066. Air Filter. (*Filtre à Air.*)

Henry Flad, St. Louis, Mo., U.S., 10th February, 1885; 5 years.

Claim. The combination, with an air-pump located in the locomotive cab, of the air filter arranged in a chamber directly under the roof of the cab, said chamber being provided with openings at one side of said filter, and the suction pipe leading from said chamber on the opposite side of the filter to the air-pump, substantially as described.

No. 21,067. Hame. (*Attelle.*)

Emerson E. Winstead, Dresden, Tenn., U. S., 10th February, 1885; 5 years.

Claim.—The combination, with the hame, having plate D provided with the projecting perforated steps E, and trace-hook I having eye J, of the removable lock-bolt G constructed with the spring-catch H1 below its head H, whereby the bolt is locked removably between the upper and under side of the topmost step or projection, as shown and specified.

No. 21,068. Lubricator. (*Graisseur.*)

Luther B. Bailey, London, Ont., 10th February, 1885; 5 years.

Claim.—1st. The combination, with the transparent tube of a lubricator, of a surrounding casing partially surrounding the same and provided with a curved polished surface, to reflect and condense the rays of light, substantially as described. 2nd. The coupling A, provided with passages through the axes of the same and formed with recesses and adapted to hold in place a tube, in combination with the transparent tube C, secured in said passages, the interior of the ring formation of said coupling being polished to form reflectors, substantially as and for the purpose specified.

No. 21,069. Roller Skate. (*Patin à Roulettes.*)

Micajah C. Henley, Richmond, Ind., U. S., 10th February, 1885; 15 years.

Claim.—1st. In a roller skate, the combination, with the sole plate, of a hanger frame, a truck frame pivotally connected therewith, an elastic cushion supported by the truck frame and a compression screw having its threaded stem seated in a socket in the hanger above the cushion, and its lower end enlarged to form a bearing for the cushion when the skate is tipped or rocked in use. 2nd. In a roller skate, the combination, with a sole plate, of a hanger frame, a truck frame pivotally connected therewith, a rubber cushion supported upon the roller frame, a compression screw above the cushion, and a plate interposed between the screw and the cushion provided with a central socket to receive the projection on the screw and serrated on its under face, whereby it is caused to protect the cushion from wear and prevent undue lateral expansion thereof. 3rd. In combination with the sole plate of a skate, hangers applied to the under side thereof at or near its opposite edges, sliding clamps passing through said hangers, and a right and left hand screw journalled in the hangers and passing through threaded seats in the clamps, substantially as shown and described. 4th. In combination with sole plate A and hanger frame B secured thereto, truck frame C pivotally connected with the hanger, cushion H supported by the truck frame, serrated plate J provided with central recess *m*, and screw I provided with boss *j* and stud *l*, the upper end of said screw being seated in a threaded socket in frame B, the stud *l* extending into a recess in the plate J, and the disk *i* bearing upon said plates, substantially as described and shown. 5th. The combination, in a roller skate, of a hanger frame, a truck frame, an elastic cushion, a compression screw, and a plate interposed between the screw and the cushion and serrated on the face which rests upon the latter, to prevent the lateral spreading of the cushion. 6th. In combination with the sole plate A, hangers K, K, provided with recesses *t* and perforated lugs *u*, clamps M, M, seated in the recesses *t*, and right and left hand screw L journalled in the lugs *u* of the hangers, and passing through threaded seats in the clamps, all substantially as set forth. 7th. In a roller skate, the combination of a hanger frame B, truck frame C formed with a box or chamber *d* and pivotally connected to frame B, an elastic cushion H seated within said box or chamber, a serrated plate J resting upon said cushion, and a screw I provided with a boss or enlargement J and screwing into a socket in frame B above the plate and cushion. 8th. In a roller skate, the combination, with the hanger frame and truck frame, of an elastic cushion supported by the truck frame, a bearing plate resting upon said cushion and a compression screw having a threaded stem screwing into a socket in the hanger and provided with a boss or disk at its lower end to bear upon the plate, said disk and plate being provided respectively with shallow depressions and slight projections to lock the boss against accidental turning. 9th. In a roller skate, the combination, with a sole plate, of a hanger frame, a bearing plate resting upon the cushion, and compression screw above and resting upon the plate, one of the bearing faces in contact with the cushion being serrated to prevent undue spreading thereof. 10th. The combination, with a roller skate, of a sole plate, a hanger secured thereto and having a broad bearing face for the cushion, a truck frame pivotally attached to the hanger, a cushion interposed between the truck frame and hanger, a movable plate bearing against the cushion and an adjusting screw or screws bearing against said plate, substantially as described and shown.

No. 21,070. Cross-Cut Saw. (*Scie de Travers.*)

George W. Wills, Portland, Oregon, U. S., 11th February, 1885; 5 years

Claim.—The combination of two cutter-teeth, having their forward edges straight and their rear edges cut off inclined at their upper portions, and having the edges bevelled and sharpened at opposite sides of the two teeth, a clearer-tooth having a straight forward edge and inclined rear edge and having its edges bevelled to both sides, and two drag-teeth having their facing edges cut off inclined, and their outer edges straight, and having their edges bevelled and sharpened upon opposite sides, said teeth being arranged in alternating groups, the two cutter-teeth in front of the clearer-tooth forming one group and the drag-teeth forming another group, each group having an intermediate space, as and for the purpose shown and set forth.

No. 21,071. Mop-Holder. (*Manche de Torchon.*)

Donald McLellan, Woodstock, Ont., 11th February, 1884; 5 years.

Claim.—1st. The lever wire spring D B C E, substantially as and for the purpose hereinbefore set forth. 2nd. The groove on the side of the cross head or grooved part of the head-piece B, C, substantially as and for the purpose hereinbefore set forth. 3rd. The hook G on the head-piece, substantially as and for the purpose hereinbefore set forth. 4th. The hooked catches *f*, *f*, on the sides of the socket, substantially as and for the purpose hereinbefore set forth. 5th. The combination of the lever wire spring D B C E, the groove on the side of the cross-head B C, the hook G, and the hooked catches *f*, *f*, substantially as and for the purpose hereinbefore set forth.

No. 21,072. Hat Protector. (*Couvre-Chapeau.*)

Charles A, Helbig, Indianapolis, Ind., U. S., 11th February 1885; 5 years.

Claim.—1st. The centre piece A, which has odd branches, as shown in Fig. 1, so as to prevent an opposite contact of frame when folded, as specified fully heretofore. 2nd. Sliding tubes D applied to rod B, as duly described, so as to enable universal use of my invention, and decrease the size when the whole is folded, so that it may be placed in the smallest crown of a hat when not using. 3rd. The springs G, attached, as clearly specified, acting as a support of the frame, as shown in Fig. 2, and, furthermore, is a factor to facilitate immediate unfolding, the spring being in a strained condition, as shown in Fig. 3, all substantially as set forth.

No. 21,073. Machine for Bending Shanks of Handles for Sad Irons. (*Machine pour Courber les Poignées des Fers à Repasser.*)

John Sabold, Jr., Little Obey, Penn., U.S., 11th February, 1885; 5 years.

Claim.—1st. In a machine for bending the shanks of sad iron handles, the combination, substantially as set forth, of a stationary mandrel having a sunken surface *f* to receive the grasp part of the handle, a raised shoulder *f*1 at each end of said surface and sides which curve, first, outward near said shoulders, and are then hollowed inward and means to bend both shanks about the mandrel at once. 2nd. In a machine for bending the shanks of sad-iron handles, the combination, substantially as set forth, of a mandrel vertical guides, a large head C to move in the guides, two shank formers D pivoted by their upper ends to the head and each having a V-shaped lower end, and laterally adjustable block-guides F at each side of the mandrel. 3rd. In a machine for bending the shanks of sad-iron handles, the combination, substantially as set forth, of a mandrel vertical guides, a large head C to move in the guides, means to bend both shanks about the mandrel, a push *r a* adapted to reciprocate across the top of mandrel and attached to a head *a*1 having a downward inclined side *p*, and a vertically movable rod F having its upper end connected to the said large head and provided on its lower end with an upwardly inclined face *p*1. 4th. In a machine for bending the shanks of sad-iron handles, the combination, substantially as set forth, of a mandrel of requisite form, a head moving in vertical guides and having a horizontal slot I provided with a slide-block Q, two shank formers D to bend both shanks about the mandrel a pivoted lever G having one end pivoted to the said slide block, and the other end weighted and a rotary shaft provided with a cam to move the weighted end of the lever.

No. 21,074. Astronomical Instrument for Illustrating Astronomy. (*Instrument pour Illustrer l'Astronomie.*)

Martin Hoover, Toronto, Ont., 11th February 1885; 5 years.

Claim.—1st. An instrument composed of one spheroidal envelope made of mirrored glass in frames, within which envelope is a hollowed sphere of copper, or other suitable material, in such a way that when a light is fixed in a cavity placed at the south pole of the inner sphere, a spectator placed within this inner sphere will be able to see an image of the phenomena of the universe through apertures giving sight on the inside of the spheroidal mirrored outer envelope, as described and set forth.

No. 21,075. Churn. (*Baratte.*)

William M. Taylor, and Ira P. Merrill, Parsons, Ks., U.S., 11th February, 1885; 5 years.

Claim.—1st. The combined churn and washing-machine, herein shown and described, composed of the box or casing A, having ways G, G at opposite ends, and provided with an arched cover. N, removable bridge-piece B, bearings H, H, driving-gear composed of the crank D, shaft C, cog-wheel E, and pinion F, and rotary cylinder L I, constructed with the slats, or apertures J, and outwardly-flaring wings K, the whole constructed and combined substantially as and for the purpose herein shown and specified.

No. 21,076. Burial Vault. (*Caveau Funéraire.*)

William Corbett, Smith's Falls, Ont., 11th February, 1885; 5 years.

Claim.—1st. The burial vault herein shewn and described, consisting of the wooden box A, the wooden lid B, the iron sheeting C D E, the self lock F G, the cross bar H and the pin I. 2nd. In combination, with the box A and the lid B, the iron sheeting C D E, the self lock F G, the cross bar H and the pin I, all arranged to operate, substantially as described.

No. 21,077. Refrigerating and Apparatus therefor. (*Réfrigération et Appareil pour cet Objet*)

Nathan W. Condick, Jr., Jersey City, N. J., and Thomas Rose, Brooklyn, N.Y., U.S., 11th February, 1885; 15 years.

Claim.—1st. The mode, herein described, of cooling a refrigerating chamber, the said mode consisting in subjecting a strong ammoniacal solution, or other volatile hydrate, derived from an absorber, to a partial vacuum in a vacuum chamber, forcing the gases evolved therein to the said absorber, permitting the weak solution to flow by its non-gravity from the said vacuum chamber into a pump chamber and forcing it from the latter through the pipes or passages of a refrigerating chamber to the absorber, all substantially as set forth. 2nd. The mode, herein described, of cooling the strong solution in its course from the absorber to the vacuum chamber, the said mode consisting in subjecting the solution to the cooling influences of the spent solution, as passages to the absorber, substantially as specified 3rd. The combination in refrigerating apparatus of the following elements, namely: First, an absorber; second, a vacuum chamber communicating with the absorber; third, a pump for creating a partial vacuum in the said chamber, and for forcing the gas evolved therein into the absorber; fourth, a system of refrigerating pipes or passages, also communicating with the absorber; and, fifth, a pump situated between the refrigerating pipes and vacuum chamber, and so far below the latter that the cold solution will flow by its own gravity into the inlet chamber and barrel of the said pump prior to being forced thereby through the refrigerating pipes to the absorber, all substantially as described. 4th. The combination of the absorber of refregerating apparatus, with a secondary absorber communicating with the first for receiving from the latter any surplus gas, and thereby preventing the creation of pressure in the apparatus, substantially as set forth. 5th. The combination of the absorber, vacuum chamber, refrigerating pipes, pumps and their several connections, with a valve *v*, for regulating the flow of strong solution through the pipe *s*, to the said vacuum chamber, and thereby serving to regulate the action of the entire apparatus, substantially as set forth. 6th. The combination of the pipe *e*1 through which the spent solution is forced to the absorber, and a series of vessels communicating with, and forming a continuation of the said pipe, with the pipe *s*, which passes through the said vessel, and through which the strong solution is introduced to the vacuum chamber, substantially as described. 7th. In a gas pump for refrigerating apparatus, the combination of the following elements, namely: First, an inlet chamber; second, a barrel having a series of lateral openings communicating with the said chamber; third, the valveless piston, and, fourth, the discharge valve, all substantially as set forth. 8th. The combination of the outer casing of the pump, the inlet chamber therein, the barrels F, F1 extending into the said chamber and having lateral openings *i*, and discharge valves, with the pistons, guided racks and cog-wheel all contained in the said chamber, and with the rock shaft J, partly contained therein, but projecting at one end from the casing, as set forth.

No. 21,078. Electrical Connector in Pipe Couplings for Air Brakes. (*Raccordement Électrique pour joints des Tuyaux de Freins Atmosphériques.*)

Henry Flad, St Louis, Mo., U.S., 11th February, 1885; 5 years.

Claim.—1st. The combination, with the sections, of a pipe-coupling and insulating casings located within the coupling-sections, said casings provided with skeleton end bearings, of spring actuated metallic contacts, substantially as set forth. 2nd. The combination, with the sections of a pipe-coupling and insulating-casings, each made in longitudinal sections and provided with two part end bearings, of spring actuated metallic contacts supported in the bearings of the insulated casings, and electrical conductors connected with said contacts, substantially as set forth. 3rd. The combination, with the pipe-coupling sections, and gaskets D, D secured thereto, of the insulated casings E, metallic contacts E, *f*, spring *f*2, and electrical conductors W, substantially as set forth. 4th. The combination, with two sections of a pipe or hose coupling and gaskets, of insulating material attached to each section to form an air-tight joint of insulated casing located within the coupling sections, and spring actuated metallic contacts supported in bearings, of the insulated casing, and electrical conductors connected with said contacts, substantially as set forth.

No. 21,079. Railway Air Brake. (*Frein Atmosphérique de Chemin de Fer.*)

Henry Flad, St Louis, Mo. U.S., 11th February, 1885; 5 years.

Claim.—1st. In an electro-magnetic car brake system, a complete metallic electric circuit arranged through the main air pipe and connections, and including electro-magnets arranged to operate the valves, substantially as described. 2nd. The combination, with the main pipe hose and hose-couplings and the insulated electrical conducting wires arranged in said pipe and hose, of a spring-actuated ring forming the terminal of the other wire, the said spring and rod being located within the coupling and insulated from each other, substantially as set forth. 3rd. The combined hose and wire coupling composed of the hose-coupling part *a*, and the suitably supported and insulated spring-pressed thimble and rod, arranged within said coupling part, and adapted for connection with the separate conducting wires, substantially as described. 4th. The combination, with the blind coupling, arranged upon a car and inclosing the spring-pressed metallic head *g*6, of the hose coupling inclosing the suitably supported and insulated spring pressed thimble and rod connected to separate conducting wires, and adapted to come in contact with said spring-pressed metallic heads when the hose-coupling is engaged with blind coupling, substantially as described.

No. 21,080. Revoluble Joint for Screw Valve Stems. (*Manchon Mobile pour Valves Vissées.*)

James H. Blissing, Albany, N. Y., U. S., 11th February, 1185; 5 years.

Claim.—The combination, with a screw stem A, provided with a circular flange *a*, and a valve B, provided with a vertical stud *b*, having a circular flange *b*1, as herein described, of a split coupling C, adapted to engage with the flanges *a* and *b*1, and secured in place, substantially as herein specified.

No. 21,081, Telephone Apparatus. (*Appareil Téléphonique.*)

Theodore F. Taylor, Brooklyn, N.Y., U.S., 11th February, 1885; 5 years.

Claim—1st. The combination, substantially as hereinbefore set forth, a telephone transmitter, a telephone receiver, a signalling device, a battery, a switch, a main line connected therewith, circuit connections which are normally completed from said main line through said signalling device and key with the earth independently a supporting hook for said receiver attached to said switch, means, substantially such as described, for preventing said receiver from being placed upon said hook when said switch is in position to establish the above named connections, a contact point in connection with which said switch is placed, when said hook is moved into position to receive said receiver, and circuit connections, substantially such as described, from said switch-point through said transmitter and receiver to said battery. 2nd. The combination, substantially as hereinbefore set forth, of a telephone transmitter, a telephone receiver, a signalling device, a signalling key, consisting of a vibrating reed, a key-lever and a device carried upon said lever for giving said reed an impulse when the key is moved in a given direction, two contact springs applied to the respective sides of said reed, a positive and a negative source of electricity respectively connected with said contact springs, a main line, a switch connected with said main line, two contact points for said switch, the first of which is connected with said signalling key through said signalling device, while the second is connected with said telephone transmitter and receiver, a hook for receiving said telephone receiver attached to said switch, and means, substantially such as described, for preventing said hook from receiving said receiver except when said switch is in contact with the second stop, substantially as described. 3rd. The combination, substantially as hereinbefore set forth, of a telephone transmitter, a telephone receiver, a signalling device, a signalling key, consisting of a vibrating reed, a key-lever and a device carried upon said lever for giving said reed and impulse when the key is moved in a given direction, two contact springs applied to the respective sides of said reed, a positive and a negative source of electricity respectively connected with said contact springs, a main line, a switch connected with said main line, two contact-points for said switch, the first of which is connected with said signalling key through said signalling device, while the second is connected with said telephone transmitter and receiver, a hook for receiving said telephone receiver attached to said switch, means, substantially such as described, for preventing said hook from receiving said receiver, except when said switch is in contact with the second stop, substantially as described, means, substantially such as described; for normally connecting said signalling key with the earth and means, substantially such as described, for automatically connecting said sources of electricity with the earth, when said telephone instruments are placed in circuit. 4th. The combination, substantially as hereinbefore set forth, of a telephone transmitter, a telephone receiver, a signalling device, a signalling key consisting of a vibrating reed, a key-lever and a device carried upon said lever, for giving said reed an impulse when the key is moved in a given direction, two contact springs applied to the respective sides of said reed, a positive and a negative source of electricity respectively connected with said contact-spring, a main line, a switch connected with said two contact-points for said switch, the first of which is connected with said signalling key through said signalling device, while the second is connected with said telephone transmitter and receiver, a hook for receiving said telephone receiver attached to said switch, means, substantially such as described, for preventing said hook from receiving said receiver, except when said switch is in contact with the second stop, substantially as described, means, substantially such as described, for normally connecting said signalling key with the earth, means, substantially such as described, for automatically connecting said sources of electricity with the earth, when said telephonic instruments are placed in circuit, and means, substantially such as described for temporarily placing said sources of electricity in connection with the earth through the action of said signalling key when said vibrating lever is actuated, substantially as described.

No. 21,082. Steam Engine or other Machine Similaly run by Rotary Motion. (*Machine à Vapeur ou autre ayant un mouvement Rotatoire Semblable.*)

Alexander M. Barton, Strickland, and Philip Z. Davis, South Gabriel, Texas, U.S., 11th February, 1885; 5 years.

Claim.—1st. The disc or lever A, forming a medium of connection between the piston rod, and the disc or crank B on the fly-wheel shaft, as shown and described. 2nd. The combination of the arc movement of the lever, with the crank movement of the crank on the fly-wheel shaft, substantially as shown and described.

No. 21,083. Combined Sulky and Gang Plough. (*Charrue à Siège et Socs Multiples Combinée.*)

Henry W. Wynne, Dominion City, Man., 11th February, 1885; 5 years.

Claim.—1st. In a sulky plough, the vertical plate D secured to the axle A, and having the slide case E pivoted and bolted to it, as shown and described. 2nd. The suspension plate F, working in the slide case E, suspended by the link plates *h*, from the lever H, which is fulcrumed in the standard I, substantially as set forth. 3rd. The main plough beam G, carrying two ploughs attached to the bottom end of the suspension plate, and held in position by the brace rods *e* and, *f*, substantially as and for the purpose specified. 4th. The side beams L, connected to the main beam G by the cross beams M, substantially as described. 5th. The lever H, fulcrumed in the standard I, and provided with a spring lever latch *i* to take into the notched segment *j*, and connected by the link plates *h* to the suspension plate F, substantially as and for the purpose set forth. 6th. The plough stocks K, having the shoulders *m* formed in them, substantially as shown and described. 7th. The caster wheel N, having its shank *n*, pivoted to the plough beam, so that it will take an inclined position when trailing on the ground, and arranged to be drawn into a perpendicular position by the rod *o*, when required, as shown and described and for the purpose herein set forth.

No. 21,084. Paper Bag Machine.

(*Machine à Sacs de Papier.*)

William B. Purvis, Philadelphia, Penn., U. S., 12th February, 1885; 5 years.

Claim.—1st. In a machine for making paper bags, a former provided with means to create a suction, and a longitudinal aperture through which the tubes are fed in close succession, side by side, for the purpose of forming the bottom of the bag, substantially as and for the purpose specified. 2nd. In a machine for making paper bags, a stationary former made hollow, with its operating surfaces provided with numerous small apertures, in combination with an exhaust blower, and pipes connecting said blower with the interior of the former, substantially as and for the purpose specified. 3rd. In a machine for making paper bags, a former having two suction faces curved in opposite directions, and arranged to allow the tube sections to pass between said faces and side by side, as described, and adapted to suck and draw the sides of said tube apart to form the bottom of the bag, substantially as and for the purpose specified. 4th. In a machine for making paper bags, a former provided with means to create a suction, and a longitudinal aperture through said former through which the tubes are fed in close succession, for the purpose of forming the bottoms of the bags, and in combination with two endless bands having their line of contact in line with the aperture in the former and means to press said bands together to feed the tubes through said former, substantially as set forth. 5th. In a paper bag machine, the combination of the feeding bands C, suction former E, pasting roller I, folding former J, and drying rolls K, substantially as and for the purpose specified. 6th. A feeding device for sheets or sections of papers, fabric, etc., consisting of suction devices to separate the sheets, one at a time, and feed them to the machine to which said feeding device is attached, in combination with means to create a suction, and means to control the pulsations of said suction, substantially as and for the purpose specified. 7th. A feeding device for sheets, or sections of paper, fabric, etc., consisting of suction devices to separate the sheets, one at a time, and feed them to the machine to which said feeding device is attached, in combination with means to create an interrupted suction, and mechanism to guide said sheets to said suction devices, substantially as and for the purpose specified. 8th. The combination of cylinders B, B having apertures *b*, means to create a suction through said apertures from the outside to the inside, band C C, and a feed box to allow the sheets, to feed down flat against said cylinders, substantially as and for the purpose specified. 9th. The combination of cylinder B, having apertures *b*, stationary heads B_2, B^2 having apertures b_2, b_2 hollow axle B_3 having apertures b_1, case A_1, disc A_2 having slots or apertures A_3, pipe F_2, suction fan F_1, and means to guide the sheets against said cylinder B, substantially as and for the purpose specified. 10th. The combination of suction cylinder B, with inclined box P, having plate P_1, substantially as and for the purpose specified. 11th. The combination of suctione ylinder B, with inclined box P, having plate P_1, and plate P_3 substantially as and for the purposee specified. 12th. In a feeding device for feeding sheets of flexible material, the combination of mechanism, substantially as described, to create air currents, and devices, as set forth, to control said air currents and cause them to act upon the sheets in succession to separate them one from another, substantially as and for the purpose specified. 13th. The combination of belts C, with roller C_1, C_2, the latter of which has a large axle hole, spindles C_5, bars C_4 and C_6, substantially as set forth. 14th. The combination of the plate E_3, having curved part E_4, with pasting wheel I, and removable tubular paste vat H having devices to regulate the flow of paste, substantially as shown. 15th. The formers E having depression E_1, for the purpose set forth.

No. 21,085. Brake Shoe. (*Sabot de Frein.*)

George B. Ross, Buffalo, N. Y., (U.S.) 12th February, 1885; 5 years.

Claim.—A brake shoe, provided with the grooves a_1, a_4, and the wearing portions c, c_1, the portion or rib c projecting down to the wheel, as set forth.

No. 21,086. Bottle Filling Machine.

(*Machine à Embouteiller.*)

Edwin L. Lloyd, Philadelphia, Penn., U. S., 12th February, 1885; 5 years.

Claim 1st.—The combination of the filling tube of a bottle filling machine, a cork or stopper to be applied externally to the bottle mouth, and a plunger D adapted to force the cork through the filling tube, and provided at the lower end with cork receiving and cork retaining fingers detachably secured in recesses in the plunger, as specified. 2nd. The combination of the filling tube; the external cork or stopper, the plunger D having recesses *m*, the cork retaining fingers *f* and the securing screws *n*, as set forth.

No. 21,087. Composition of Matter for Rheumatism. (*Composition de Matières pour les Rhumatismes.*)

Samuel Nash, Winnipeg, Man., 12th February 1885; 5 years.

Claim.—A compound composed of medicamentum, oil of juniper and oil of rosemary, substantially in the proportions and for the purposes set forth.

No. 21,088. Cosmetic for Improving the Complexion. (*Cosmétique pour le Teint.*)

Isabella Cornell, Pheasant Forks, N. W. T., 12 February, 1885; 5 years.

Claim.—A compound consisting of by-carbonate of zinc, mixed with glycerine and soft water in equal proportions, until it assumes the consistency of cream with or without perfume.

No. 21,089. Mowing Machine. (*Faucheuse.*)

George Beatty, Fergus, Ont., 12th February, 1885; 5 years.

Claim 1st.—The frame J, as constructed with the hubs *l*, l_1, which frame encloses the gear wheels J_1, J_2, J_3, J_4, J_5, and the main shaft T, and carries the shaft L on which the gears J_2 and J_4 revolve for operating the knife, as shown and described. 2nd. The shaft L, as located directly underneath and parallel with the shaft T, which shaft L supports the frame K with the journal case K_1, the common crank wheel K_4 and crank shaft K_5, push bar D_1, with shoe N, and cutter bar N_3, as set forth. 3rd. In a mowing machine, as changed from a front to a rear cut machine, the drag bar D, in combination with the shoe N, and cutter bar N_3, as set forth. 4th. The frame K, as constructed with journal case K_1 and swung upon the shaft L, as shown and described and for purpose set forth. 5th. The extension O of frame K, bolted to the same by the bolt K_3, and movable so as to allow of the frame K being swung through and underneath the shaft T, when changing the machine from a front to a rear cut machine, or from a rear to a front cut machine, where so required, substantially as described. 6th. The extension O of frame K, bolted to the frame by the bolt K_3, and having three or more pivot holes therein for adjusting the seat stand P, so as to provide for the weight of the driver balancing the frame K and journal case K_1 with the machinery connected therewith, and to raise the weight of said machinery from the ground and remove the frictional resistance caused thereby and transfer the weight of said machinery to the driving wheels of the machine, substantially as set forth.

No 21,090. Plant Fender and Erector for Ploughs. (*Buttoir d'Agriculture.*)

Joseph H. Witt, Bobring, Mo., U. S., 12 February 1885; 5 years.

Claim 1st.—A plough fender consisting of a concavo-couvex shield H, having a nose *h*, rounded upon its outside at the top and at the bottom convex upper part h_{III}, and curved lower edge h_{IIII}, as shown and described. 2nd. A plough-fender, formed with a nose *h*, having a rounded outside, rounded top h^1, and rounded bottom h_{II}, as shown and described.

No. 21,091. Lock for Rail Fence.

(*Lien de Clôture en Palis.*)

Benjamin A. Welds, Jackson, Mich., and George A. Horn, Newark, N. Y., U. S., 12th February, 1885; 5 years.

Claim.—The method described of tightening the lock upon the ends of the rail, consisting in, first, building the fence complete, passing the wire loop which forms the lock around the overlapping ends of the rails while the next to the top rail is turned, or moved out, at an angle on the inside corner of the fence, and, then, moving this next to the top rail back into place, whereby its end that is passing through the lock is made to bend and tighten the lock, substantially as shown.

No. 21,092. Bag and Sack Fastener.

(*Attache-Sac.*)

John B. Ennis and William W. Ennis, (Assignees of Cornelious Collins,) Ottumwa, Iowa, U. S., 12th February, 1885; 5 years.

Claim.—In a bag clasp or fastener, the curved parts A and B having bevelled edges *a*, *b*, hinged at C, and provided with the projecting lips or ears D and I, in combination with the hinged latch E, provided with the shouldered thumb piece F, recessed at H, substantially as set forth.

No. 21,093. Safety Truck Appliance for Railway Cars. (*Châssis de Sûreté pour Chars de Chemins de Fer.*)

Samuel Davis, (Assignee of John Gebhardt,) Montreal, Que., 12th February, 1885; 5 years.

Claim 1st.—The combination, with the trucks of a railway car, of rods connecting them to the car frame, substantially as and for the purpose set forth. 2nd. The combination, with the truck frames of a car, of plate C to which the rods B are connected, and plates A secured to the longitudinals to which such rods are adjustable attached, as and for the purpose set forth. 3rd. The combination, with the threaded end of the rod B, of sleeve b_2, as and for the purpose described.

No. 21,094. Tire Setter. (*Machine à Poser les Bandages des Roues.*)

Albert P. Blackburn and William R. Horner, (Assignees of Joseph Jones,) Springfield, Ohio, U. S., 12th February, 1885; 10 years.

Claim 1st.—In a tire setting machine, in combination with a supporting bed having an open centre, a series of radial levers, each provided with a hook or claw projecting inward over the bed, and pivoted to said bed, substantially as shown and described. 2nd. In a tire-setting machine, in combination with a supporting bed B having an open centre, radial levers C consisting of parallel parts *d* and *e* connected by links, one of said parts being pivoted to the bed, substantially as explained, and hooks D applied to said levers and projecting inward over the bed, as and for the purpose explained. 3rd. In a tire-setting machine, in combination with an annular supporting bed, a central screw stem wholly above the same provided with a disk at its lower end to be forced downward toward the open centre of the bed, substantially as set forth. 4th. The described apparatus for producing the proper disk of, and applying tires to, wheels consisting of frame A, annular bed B, compound levers C joined or pivoted to said bed and provided with hooks D, yoke E, screw stem F and disk G, and hand wheel H applied to said screw stem, al substantially as shown and described.

No. 21,095. Post and Wire Fence.

(*Clôture en Pieux et Fil de Fer.*)

James Donaghy, Mono Road, Ont., 12th February, 1885; 5 years.

Claim.—In a post and wire fence, a series of posts stepped on blocks of stone, or other suitable material, and braced by means of wire stretched over the top of the posts, and after passing over the horizontal struts being secured to land ties, as shown and for the purpose specified.

No. 21,096. Machine for Wiring the Cork on Bottles. (*Machine pour Attacher les Bouchons des Bouteilles avec du Fil de Fer.*)

Nathaniel B. Abbott, (Assignee of Oramill C. Carpenter,) Brooklyn, N. Y., U. S., 12th February, 1885; 5 years.

Claim 1st.—In a bottle cork wiring machine, a pair of movable jaws attached to one end of a rotating and sliding shaft, the said shaft provided with mechanism for opening and closing the said jaws by being moved longitudinally in its bearings by a came, and rotated by a train of gearing, so that the sliding and rotating movements of the said jaws, together with their opening and closing movements, complete at one operation, and in an automatic manner, the complete wiring of a cork in a bottle. 2nd. The jaws A having sheaves *a*, journalled in their inner ends, and arranged to roll up an inclined or sloping faces on the sides of the sliding head B5, as the said jaws are moved rearwardly, so as to close the said jaws by means of the said sheaved ends thereof being passed apart by the said intervening sloping sided head piece 3rd. The sliding head piece B5, provided with a locking or latching piece A1, arranged to engage in a suitable notch in the shaft B to hold the said sliding head secured in place, with its improving jaws A closed, the said latch piece being provided with a spring lever A2, which permits the latch to engage with its notch in the shaft at the end of its rearward stroke, and to engage with a fixed stop A3, at the front end of its stroke so as to release the said latch and allow the jaws to open. 4th. The fixed head piece B4 of the sliding shaft B, and the sliding head piece B5, connected together by means of their respective lugs *b* 4 and *b*5, and the intervening rod B6, and the spring *b*3 arranged thereon so as to throw the sliding head piece back from the fixed head piece. 5th. The nippers C, operated by the intervening eliptical cam C1, the connecting rod C2, the cam frame C3, and the operating cam C4, on the shaft G1, so as to close the said nipper quickly, and to hold them thus for a considerable part of the time of each revolution of the shaft G1. 6th. The spring G5, arranged to throw the nippers C inwardly, and hold them thus while the wire is being twisted. 7th. The stop A3 placed adjustably on the frame K, so as to adjust it to trip the latch A1 at any required point. 8th. A vertically moving finger or wire depresser, pivoted to one of the jaw-heads, and operated by the longitudinal movement of its attached jaw-head, so as to throw the wire down to the bottom of the head of the neck of the bottle in the proper position for twisting it, and before the twisting commences. 9th. The clutch N3, N4, on the shaft G1, so arranged in combination with the lever N2, connecting rod N1, and treadle, as to start and stop the operative parts of the machine as required. 10th. The tubular shaft B, having a separate tube or conduct extending through its entire length for each wire used ont the machine. 11th. The spring catch M, arranged to engage with the stop *m*, of the wheel H, so as to prevent any recoil of the machine when its rotation is suddenly stopped. 12th. The cam G2 constructed so as to give the required maximum longitudinal movement of the shaft B, in about one third, (more or less) of its rotation, and the remaining portion, say about two-thirds of its rotation arranged to give just a slight longitudinal movement to the shaft B and its attached jaws A, for the purpose or moving the closed jaws during the twisting of the wire, just enough to compensate for the shortening of the wires between the ends of the closed jaws, and the bottle, by reason of the twisting operation. 13th. The driving shaft G1 and sliding shaft B connected together by a train of geering so as to rotate the said sliding shaft and it attached jaws a sufficient number of times to thoroughly twist and tighten the wire on the bottle in the time of such a fractional portion of the revolution of the driving shaft as to leave sufficient time for the forward and backward movement of the sliding shaft during the remainder of the time occupied by the rotation of the driving shaft. 14th. The automatic nipper C, attached to the front arm of the machine, and arranged to grasp the twisted front ends of the wires, when the jaws A, first carry the said twisted ends forward, and hold the said wires, while the jaws are being moved back and the wire placed over the bottle cork. 15th. The automatic nipper C, their operating cams C1, and C4, rod C2, and the bottle holding table combined substantially as described and set forth. 16th. The shears D, for cutting off the wires after the completion of the twisting operation as described and set forth. 17th. The wires *x x*1, be twisted together at their front ends and held in the nippers C, then twisted together behind the bottle neck, and cut off by the shears D in the middle of the twist at the inside of the bottle neck, so as to leave a twisted end for the nippers C to grasp at the next stroke of the machine.

No. 21,097. Roller Skate. (*Patin à Roulettes.*)

James E. Evans, Cincinnati, Ohio, U.S., 13th February, 1885; 5 years.

Claim.—1st. In a roller skate, the axle wheels and cylindrical bearing placed between the wheels, and non-frictional devices interposed between the axle and said cylindrical bearing, substantially as and for the purposes specified. 2nd. In a roller skate, the cylindrical bearing C located between the wheels and the axle, and rotary non-frictional devices interposed between the axle and said bearing, substantially as and for the purposes specified. 3rd. In a roller skate, the cylindrical bearing located between the wheels and the axle, and rods or rollers interposed between the axle and bearings, substantially as and for the purposes specified. 4th. In a roller skate, a long cylindrical bearing located between the wheels, the axle and rods, or rollers, extending the length of said cylinder, and interposed between said bearing and said axle, substantially as and for the purposes specified. 5th. In a roller skate, a bearing and an oil cup inclined downward and delivering when the foot board is tipped out of the horizontal, substantially as and for the purposes specified. 6th. In a roller skate, a cylindrical bearing placed between the wheels and oil cup D, substantially as and for the purposes specified. 7th. In a roller skate, a cylindrical bearing located between the wheels and an oil cup connected thereto, and inclined downward and delivering when the skate is elevated from the horizontal, substantially as and for the purposes specified. 8th. In a roller skate, a cylindrical bearing C, axle, non-frictional devices and oil cup, substantially as and for the purposes specified. 9th. In a roller skate, a long cylindrical bearing C, washer *a*, *a*, axle, and long rods or rollers E, interposed between the axle and the said bearing, substantially as and for the purposes specified. 10th. The combination of the wheels, washers *a*, *a*, cylinder C, axle A, rollers E and oil cup D, substantially as and for the purposes specified. 11th. The combination of the foot rest of a skate, and the frame work H, and rubber, of spring K, plate C4, and axle bearing, substantially as and for the purposes specified. 12th. In combination the foot rest frame work H1, rubber or spring K, plate I, device for adjusting said plate I, plate C4, and axle bearing, substantially as and for the purposes specified. 13th. In combination, the foot rest frame work H, rubber or spring K, plate I, screws L, L, plate C4, pin M, and axle bearing, substantially as and for the purposes specified. 14th. The combination of framework or box N1, rubber or spring K, plate I, set screws L, L, plate C4, pin M, axle bearing located between the wheels, substantially as and for the purposes specified. 15th. The combination of framework H1, rubber or spring K, plate I, set screws L, plate C4, pin M, cylindrical bearing C1, axle A, and the non-frictional rollers or balls interposed between the bearing C, and the axle, substantially as and for the purposes specified. 16th. The combination of framework H1, rubber or spring K, plate L, set screws L, plate C4, pin M, cylindrical bearing C, axle A, non-frictional rollers, or balls, and oil cup, the pin M, being inclined from the horizontal, substantially as and for the purposes specified. 17th. The combination of framework H1, rubber or spring K, plate I, set screws L, plate C4, pin M, cylindrical bearing C, axle A, non-frictional rollers, or balls, and oil cup, the pin M and oil cup being inclined from the horizontal, substantially as and for the purposes specified.

No. 21,098. Tent Pole. (*Mat de Tente.*)

Patrick Lewis, Quebec, Que., 13th February, 1885; 5 years.

Claim.—1st. The combination of the screwed extension butt, with the extension nut, provided with its lever, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the extension, with the socket, substantially as and for the purpose hereinbefore substantially set forth.

No. 21,099. Self-Binding Harvester.

(*Moissonneuse Lieuse.*)

Charles McLeod, Chatham, Ont., 16th February, 1885; 5 years.

Claim.—1st. The combination, in a self-binding harvester, of a rack disk, with a crank, and a panel worked therein engaging with the disk and with a spring with a pinion and lifting rack or rod, so that the driver from his seat can raise, or lower, or move inward, or outward, the binding apparatus and fasten the same when adjusted in any position without stopping the machine, or throwing it out of gear, substantially as and for the purposes specified. 2nd. The combination, in a self-binding harvester, of a rack or rod, with the main body of the harvester above the binding apparatus and with the binding apparatus, so as to hold or draw and fasten or adjust the binding apparatus upward, or downward, inward to, or outward from, the main body, substantially as and for the purposes specified. 3rd. The combination, in a self-binding harvester, of a supporting bracket, with the outer pipe or shaft of the frame carrying the binding apparatus, so that the binding apparatus is supported by such bracket, and is hinged upon such shaft, to enable it to move or turn inward or outward, upward and downward, oscillating on and above such pipe or shaft, substantially as and for the purposes specified 4th. The combination, in a self-binding harvester, having an adjustable binding apparatus, of an automatic chain or gear tightener, having a spring and other suitable appliances with the driving shaft, of the body of the harvester and with the driving shaft of the binding apparatus, so that the slack in such chain or gear will be taken up as the binding apparatus and table are adjusted to any position, leaving the driving chain or gear for such binding apparatus tight enough to keep the binding mechanism continually running while it is adjusted or moved inward or outward, upward or downward, substantially as and for the purposes specified. 5th. The combination, in a self-binding harvester having an adjustable bind-

ing apparatus, of a hood hinged to the elevator frame, and attached on the outward side or edge to the binding apparatus or frame, so that it will move upward and downward at a suitable distance from the inward or adjustable table to answer the purposes of a hood, and avoid contact with the binding apparatus while the binding apparatus is adjusted, or is being moved inward or outward, upward or downward while in motion, substantially as and for the purposes specified. 6th. The combination, in a self-binding harvester having an adjustable binding apparatus, of the outer side or edge of the hood with the binding apparatus, so that the adjusting or motion inward and outward, or upward and downward of the binding apparatus will make at the same time a suitable motion or adjusting of the hood, to prevent it from interfering with the binding apparatus and to enable it to answer the purpose of a hood, without the hood being taken off or displaced except as it is adjusted or moved, by the adjusting or moving of the binding apparatus, substantially as and for the purposes specified. 7th. The combination, in a self-binding harvester, of the binding apparatus and sheaf-table with the body of the machine, by means of a supporting bracket or stand, upon which the binding apparatus rests, and by means of a chain or gear with a tightener and by means of a lifting or supporting rod, rack or lever, so that such binding apparatus and table may be adjusted to any position or moved upward or downward, inward or outward while the machine and binding apparatus are in motion, so as to enable the driver to give the table the desired pitch to suit the condition of the grain, or to move the binding apparatus upward or downward, inward or outward to pass stumps, trees, or other obstructions without altering the course of the harvester or stopping it. 8th. The combination, with a self-binding harvester, of an adjustable table attached on the inner edge or side by bolt or hinge to the elevator frame, and with the outward edge or side resting on the sheaf-table, so as to move downward and inward and in such a way that it will allow the sheaf-table to adjust and to move upward and downward, inward and outward while the machine and binding apparatus are in motion, so that the adjustable table will answer the purposes for which it is intended and not interfere with the sheaf-table or binding mechanism, no matter into what position the latter may be moved while in motion or adjusted, substantially as and for the purposes specified. 9th. The combination, in a self-binding harvester, of an adjustable sheaf board, with the breast plate or bottom part of the knotter head attached by a hinge, and having a rod or bar from the sheaf board and connecting it with the binding apparatus, so that it may be moved or fastened upward or downward, inward or outward, substantially as and for the purposes specified. 10th. The combination, in a self-binding harvester, in which the binding apparatus having an adjustable inward or outward, upward or downward movement which can be made while the machine is in motion, is supported by a bracket or stand under the outer pipe or shaft, of a crank and connecting rod with the inner pipe and a lever, so that the driver, by means thereof, can move the binding apparatus forward or backward while the machine and binder are in motion, and while the binding apparatus is being adjusted or moved inward or outward, upward or downward, substantially as and for the purposes specified. 11th. The combination, in a self-binding harvester, of a sprocket wheel and shaft (separate from the canvas roller shafts), attached to, or running through, the elevator sides with a chain in a rear driving same and with a gear and rod, or other means of connecting it (the shaft) with the reel and driven by the separate shaft, substantially as specified.

No. 21,100. Sewing Machine Needle and Clamp Therefor. (*Aiguille de Machine à Coudre et serre-Aiguille.*)

Miles W. Simkins, Newbury, Ont., 19th February, 1885; 5 years.

Claim.—1st. The combination of the needle bar A, having the needle or vertical groove *a*, with the latch piece C, having formed in it the two grooves *b*, *b*, and between said grooves the stops *c*, the upper and lower sides of which are bevelled, substantially as herein shown and described. 2nd. The combination of the needle bar A, with the spring B, slotted as shown, secured at its upper end to the needle bar, and having its lower ends firmly attached to the latch piece C, in which are formed the grooves *b*, *b*, and the bevel-sided stop *c*, substantially as set forth. 3rd. The combination, with the needle bar A, of the latch piece C, the forked or divided holding pin *d*, and thumb nut *e*, substantially as and for the purposes specified. 4th. In a sewing machine, the combination of the latch piece C, having the grooves *b*, *b*, and the bevelled stop *c*, with the slotted spring B, the forked holding pin *d*, and the thumb nut *e*, substantially as and for the purpose described. 5th. A sewing machine needle provided with a notch to receive a fastening device, said notch being bevelled in two or more direction, substantially as and for the purpose described. 6th. The combination, in a sewing machine needle, adapted to be used with spring clamps, or pointed or chisel-shaped top, with a bevelled notch for the reception of a latch or holder, substantially as set forth.

No. 21,101. Air Motor. (*Moteur Atmosphérique.*)

John W. Callender, Clinton, Ont., 19th January, 1885; 5 years.

Claim—In the construction of an air motor, the combination of reservoir A, air pump B, engine *c*, pipe *n*, valve *o*, and driving wheel *d*, when the same are arranged, substantially in the manner herein shown and described. 2nd. In the construction of an air motor, the combination of reservoir A, air pump B, engines *c*, *c*, pipes *n*, valves *o*, pulleys *f*, *f*1, cable *h*, and weight *g*, when the same are constructed and arranged, substantially as and for the purpose set forth and described.

No. 21,102. Machine for Unloading Hay, &c. (*Machine pour Décharger le Foin, &c.*)

Henry Ham, North Fredricksburgh, Ont., 19th February, 1885; 5 years.

Claim.—1st. In a stationary or traveling hay unloader, the lean H, provided with notches or hooks P and P1, each end as shown and described for the purposes set forth. 2nd. In a stationary or traveling hay unloader, the pulley block G, having notch or hooks R, and rope groove I, as shown and described for the purposes set forth. 3rd. The combination, in a stationary or traveling hay unloader, of the lean H, provided with hooks or notches P and P1, the pulley block G, having notches or hooks R and rope groove I, all as described and shown for the purpose set forth.

No. 21,103. Ice Creepers. (*Crampon à Glace.*)

Charles Pagé and Louis Goullioud, Montreal, Que., 19th February, 1885; 5 years.

Claim.—In an ice creeper, the combination of a plate secured to the heel and carrying spikes or projections, a spring-plate attached thereto, and a lever lying between the plates and operating to force them apart, all substantially as and for the purposes set forth.

No. 21,104. Stock Car. (*Wagon à Bestiaux.*)

William Smith, John H. Smith and Harrison Arnes, Hillsdale, Mich., U.S., 19th February, 1885; 5 years.

Claim.—1st. In a stock car, the combination, and arrangement above the floor of the car, of an upper feed trough or manger and a lower water tank, both running longitudinally of the car, the manger being placed directly above and upon the tank, substantially as set forth. 2nd. The combination in stock car, and arrangement above the floor thereof, of a water tank, and a feed trough or manger placed over and directly upon the water tank, the latter projecting at one and beyond the feed trough, substantially as set forth. 3rd. The combination, in a stock car, of a water tank, resting upon the floor thereof, and a feed trough or manger placed above and upon the tank, both running longitudinally at a side of the car from or near an edge of the door opening of the car, substantially as set forth. 4th. The combination, in a stock car, and arrangement at either side thereof, of a water tank resting upon the floor of the car, and a feed trough or manger, the latter placed above and upon the former, each pair, viz: a feed trough and a water tank beginning at one side of the car at or near the edge of the door opening at that side of the car and each pair running longitudinally in an opposite direction to an end of the car, substantially as set forth. 5th. In a stock car, a water tank arranged at the side of the car, and running longitudinally thereof, having at one end an opening through which a bucket can be passed for dipping out water, substantially as set forth. 6th. In a stock car, a series of stanchions having hinging rods, and a series of partitions having hinging rings surrounding said rods, combined with a series of oppositely arranged grooved stanchions, whereby the partitions may be swung upon their hinges and lifted, and placed in the grooves of said opposite series of stanchions, substantially as set forth. 7th. In a stock car, the combination with a series of stalls, of a kicking beam extending transversely thereof, substantially as set forth. 8th. In a stock car, a series of stalls combined with a kicking beam, extending transversely of the same, and adapted to be raised or lowered, or secured at the desired height, stubstantially as set forth. 9th. A stock car having longitudinal water tanks, and feed troughs, and having its wall or walls above the feed troughs provided with windows, combined with a series of pivoted slats arranged in said windows, and means for opening, closing or adjusting the series of slots, substantially as set forth. 10th. A stock car having longitudinal water tanks and feed troughs, provided with windows, combined with a series or slats arranged in said windows upon vertical pivots, a rod connecting the series of slats, and a lever for operating the rod, substantially as set forth.

No. 21,105. Fence. (*Clôture.*)

John A. Grove, Bluffton, Ind., U.S., 19th February, 1885; 5 years.

Claim.—The fence, hereinbefore described, consisting of the single posts having their upper ends bevelled, and extended above the top rails of the panels, the rails C having their ends lapped one upon the other and upon the posts A, the double-loop wire fastenings F, the stakes B, the stakes B1 rested upon the bevelled upper end of the posts A, the riders D bound to the stakes by the wires G, and the adjustable loop E passed around the stakes and between two adjacent rails, as and for the purposes set forth.

No. 21,106. Fanning Mill. (*Tarare-Cribleur.*)

George N. Mansfield, Hillsborough, Ill., U.S., 19th February, 1885; 5 years.

Claim.—1st. In a fanning mill, the combination, with the upper reciprocating carrier and rod *c*3, provided with depending arm *c*4, of the lower vibrating carrier, belt-crank *f*, links F and *f*1, and pitman *c*5, all constructed and arranged substantially as and for the purpose specified. 2nd. In a fanning mill, the combination, with the frame A, provided with the bottom *a*11, and spout *a*12, of the sieves *e*3, *e*4, and *c*5, and carrier D, composed of two side parts E, E, provided with the ways *e*, *e*1, *e*2, and two bottom parts *d*1 and *d*2, the formea provided with the spout *d*4, and the latter with the spout *d*6, and the opening *d*7, all constructed and arranged as shown and described. 3rd. The combination, in a fanning mill, with the frame A and hopper *a*2, provided with the feed opening *a*3, of a properly-shaped door *a*4, sliding in proper ways to open and close said feed-opening, links *a*5, *a*5, centrally-pivoted levers *a*6, *a*6, links *a*7, *a*7, oscillating rod *a*8, provided with crank arms *a*9, *a*9, and handle *a*10, sliding in a proper support fixed to the top of frame A, and the hand-hold of which is in reaching distance from the driving crank handly, all constructed and arranged as shown and described, for the purpose specified. 4th. The combination, in a fanning mill, of sieves *e*3, *e*4, *e*5, each having its lower end projected in advance of the next lower sieves, the oppositely-inclined carrying board *d*1, provided with discharge-spout *d*4, and having its upper end projected outward beyond that of sieve *e*3, and the similarly inclined board *d*2, having discharge-openings *d*7 and spout *d*6, and having its upper end arranged about midway between the lower ends of sieve *e*3, *e*4, substantially as set forth.

No. 21,107. Car Replacer. (*Appariel pour Remettre les chars sur la Voie.*)

Robert Jones, Salt Lake, Utah, U.S., 19th February, 1885 ; 5 years.

Claim.—1st. A car replacer, consisting essentially of a frog C, provided with a pivoted tongue, and bent at I, to form a downward incline *h*, the inclined flanges D, formed on opposite sides of said incline *h*, and the depending lugs F, at the opposite end of the frog from the incline *h*, substantially as set forth. 2nd. In a car replacer, the combination, with a frog adapted to extend from the rail to the roadbed, provided with a pivoted tongue and having downwardly-extending lugs, of a wedge adapted to be placed between one of the lugs and the web of the rail, substantially as specified. 3rd. The combination, with the frog C having flanges D, downwardly-extending lugs F, and prongs H, and provided with the tongue E, of the wedge G and the set screws *f*, substantially as specified. 4th. In a car replacer, the extension J having flanges K, and adapted to fit upon the frog C, substantially as specified.

No. 21,108. Automatic Brake for Railroad Cars. (*Frein Automatique de Chemin de Fer.*)

John H. Ames, St. Paul, Minn., U.S., 19th February, 1885 ; 5 years.

Claim—The combination of the cars of a train, each having braking and coupling appliances, and a series of coupled bars or shafts, or their equivalents, extending throughout the train, and independent of the car couplings, with springs, or their equivalents, for drawing or forcing the brakes against the wheels, and with a steam, air, or water cylinder, or equivalent operating device with necessary mechanism, whereby rotary movement and torsional strain can be imparted to the bars, or their equivalents, in opposition to the action of the springs, so as to insure the simultaneous withdrawal or application of the brakes throughout the train, the strain upon the bars and the operation of the brakes being unaffected by any strain exerted upon the ordinary couplings or bumpers, all as set forth.

No. 21,109. Car Wheel. (*Roue de Char.*)

Joseph G. Lafontaine, Champlain, N, Y., U. S., 19th February, 1885 ; 5 years.

Claim—In a car wheel, the combination of the chilled cast iron rim, inclosing a wrought-iron band, with the crossed wrought-iron spokes and cast metal hub, substantially as specified.

No. 21,110. Hay and Grain Elevator, &c. (*Monte-Foin, &c.*)

James Tomlin, Otterville, Ont., 19th February, 1885 ; 5 years.

Claim.—As an elevator for farm produce, the combination of the cradle B, with the pulleys C, cords D, and drum E, with ratchet and pawl, arranged and acting as shown, and controlled by the brake J, substantially as shown and for the purpose specified.

No. 21,111. Force Pump. (*Pompe Foulante.*)

William A. Bickford, Moncton, N.B., 19th February, 1885 ; 5 years.

Claim.—1st. In a force pump, the cylinder A having projecting rings *c*, *c*, as shown and for the purpose described. 2nd. In a force pump, the piston rod D having circumferential groove, or recess *e*, in combination with clips F, having projections *f*, *f*, substantially as shown and described. 3rd. The cast handle H, having flanges *h*, *h*, in combination with the wood lever I, having slot *i*, substantially as shown and described. 4th. In a force pump, the combination of the fulcrum pin L, with caps K, K, as shown and described. 5th. In a force pump, the combination of the cylinder A, rings *c*, *c*, piston rod D, clips F, handle H, lever I, pin L, and caps K, K, substantially and for the purpose hereinbefore set forth.

No. 21,112. Governor for Regulating the Draft in Stove and Furnace Pipes. (*Gouverneur pour Réyler le Tirage des Tuyaux de Poêles et de Fourneaux.*)

Isaac Cosgrave, Chatham, Ont., 19th February, 1885 ; 5 years.

Claim.—1st. The valve or damper D, operated by the expansion and contraction of the pipe P, when connected thereto by rods H, or I, or the equivalent, substantially as shown and described and for the purpose specified. 2nd. The combination of the rod I, provided with a screw thread near one end, nuts N_1, N^2, bracket or arm B, with the shaft F, and crank E, connecting the damper D, and pipe P, substantially as shown and described and for the purpose specified. 3rd. The combination of the collars C, C, brackets B, B_1, upright U, lever G, rod H, rod I, provided with a screw thread at one end, nuts N_1, N_2, shaft F and crank E, connecting the damper D, with pipe P, substantially as shown and described and for the purpose set forth.

No. 21,113. Appliance for taking off and Putting on Boots. (*Appareil pour Tirer et Mettre les Bottes.*)

Joseph E. Townshend, Montreal, Que., 19th February, 1885 ; 5 years.

Claim.—1st. The combination of the legs *d*, provided with pins *k*, and board *a* provided with hole *b*, substantially as described for the purposes set forth. 2nd, The combination of the legs *d* having pins *l*, with board *a* having hole *b*, substantially as described for the purposes set forth. 3rd. The novel construction and arrangement of the legs *d*, provided with rails, as described, with pins *k* and *l*, the whole combined substantially as described for the purposes set forth. 4th. The novel construction and arrangement of the legs *d* provided with rails, as described, and pins *k*, the whole combined substantially as described for the purposes set forth. 5th. The novel construction and arrangement of the legs *d*, provided with rails, as described, and pins *l*, the whole combined substantially as described for the purposes set forth.

No. 21,114. Moccasin. (*Mocassin.*)

John Siegel, Three Rivers, Que., 19th February, 1885 ; 5 years.

Claim.—1st. As a new article of manufacture, a moccassin consisting of the foot or shoe A and the upper B, seamed at the rear and having an inner flap *b* formed integrally with the upper, and having a segmental piece c cut out, and the seam C formed, the edges provided with binding D, the upper provided with the ball and socket fasteners F *f* of equivalent, closing approximately in the centre line of the upper and reinforced by stiffeners or lining E underneath the fasteners. 2nd. As a new article of manufacture, a moccassin consisting of the foot or shoe A, and the upper B seamed at the rear, and having an inner flap *b* stitched to the concaved edge of the upper and a seam C formed, the edges of the upper provided with binding D, and adapted to close at the centre line of the upper front by means of ball and socket fasteners F *f*, buttons and button-holes, or equivalents and reinforced by stiffenings or linings E under the fasteners. 3rd. As a new article of manufacture, a moccassin upper made with a seam C7 at the rear to conform to the angle, and a seam C cut to conform to the instep, and formed with overlapping flaps to close in the centre line of the front provided with suitable binding and enforced with internal stiffening or linings E in position to receive the means of fastening, consisting of buttons and button-holes, or equivalents, all substantially as described and for the purpose described.

No. 21,115. Water Closet. (*Cabinet à l'Eau.*)

Henry A. Macdonald, Halifax, N.S., 19th February, 1885 ; 5 years.

Claim.—The combination of the valve D, with the stand pipe E, the lever F and the spring H, substantially as and for the purpose hereinbefore set forth.

No. 21,116. Priming Paint. (*Couleur d'Apprêt.*)

William H. Wilbur and Philip P. Seeber, Buffalo, N. Y., U. S., 19th February, 1885 ; 5 years.

Claim.—A printing paint compound, composed of liquid asphaltum, rosin, linseed oil, turpentine, or naphtha, and white lead in their relative proportions, substantially as set forth.

No. 21,117. Duplex Telegraphy. (*Télégraphie à Double Courant.*)

Alexander Muirhead, Oakwood, Eng., 19th February, 1885 ; 15 years.

Claim.—1st. The combination, substantially as hereinbefore set forth, in an electrical of telegraphic circuit, of an adjustable condenser with an adjustable resistance circuit. 2nd The combination, substantially as hereinbefore set forth, in an electrical or telegraphic circuit, of the receiving instrument, the adjustable rheostat, the separate condensers in the circuit, one connecting with the actual and the other with the artificial or compensating line, the adjustable supplementary condenser, and the adjustable resistance coil in connection with one or the other of said condensers, with the key and battery and the condenser in the circuit between the actual and the artificial lines.

No. 21,118. Stringing Pianos. (*Manière de Poser les Cordes des Pianos.*)

Richard McMillan, Kingston, Ont., 19th February, 1885 ; 5 years.

Claim.—The combination, with the wrest plate, perforated as set forth, of the wrest pins G, and screw followers H, for securing the strings, as set forth.

No. 21,119. Setting Instrument for Attaching Buttons to Leather, &c. (*Outil pour Poser les Boutons sur le Cuir, &c.*)

George E. Parker, Boston, Mass. (Assignee of Charles H. Eggleston, Marshall, Mich.), U.S., 19th February, 1885.

Claim.—In a button setting apparatus, a staple guide, slotted to receive the shank of the button connected to the staple, a jaw, or member supporting an anvil, or clinching surface for the staple legs, and a jaw or member provided with a driver D, to enter the staple guide, act on the crown of the staple, and drive the latter from the guide into the material clinching the prongs of the staple at the under side of the material, substantially as described.

No. 21,120. Grain Separator. (*Séparateur des Grains.*)

Andrew B. Mouck, Fargo, Dak., and Bernard Cloutier, Minneapolis, Minn., U.S., 19th February, 1885 ; 15 years.

Claim.—1st. The main casing A, provided with zig-zag screening partition B, in combination with the hinged portion of the casing provided with the zig-zag screening partition C, substantially as specified. 2nd. The zig-zag screening partition B, in combination with the screening partition C, and adjustable securing devices, whereby the partitions can be adjusted to and from each other, as set forth. 3rd. The zig-zag screening partitions B, C, in combination with the passage ways *k* attached to one screening partition, and passage ways *k* attached to the other screening partition, said ways *k* and k_1 registering with each other when the hinged portion of the casing is closed, all constructed substantially as set forth.

No. 21,121. Die and Form for Shaping Heel Counters. (*Etampe et Forme pour Façonner les Contreforts des Chaussures.*)

Robert White, (Assignee of Joseph Kieffer,) Montreal, Que., 19th February, 1885 ; Reissue of patent No. 11,076.

Claim 1st.—In the construction of a female die or mould, operating with a male die or former, actuated as described, the combina-

tion of the male die E, configurated as described, and shown with the side dies D, arranged as described, (to close around the male die by the inward motion of the male die) substantially as described for the purposes set forth. 2nd. In the construction of a female die or mold, operating with a male die or former, actuated as described, and actuating the female die as described to cause it to form a female die or mould about said male die, the combination of the dies C and D D with the die E, substantially as and for for the purposes set forth. 3rd. The combination of the side pieces A, A, having throat c, and recess b, forming a shoulder a, dies D and C, arranged as described, in the formation of a female die, substantially as described for the purposes set forth. 4th. The combination, in the construction of a female die, or mould, of a back die C, and side closing dies D, D, substantially as set forth. 5th. The combination, with the concave back die, of wings, or side pieces, or dies forming a continuation of the back die, and hinged or pivoted at points between their ends, substantially as set forth.

No. 21,122. Fire-Place and Open-Grate.

(*Foyer et Grille de Foyer.*)

William H. Jackson and Company, New York, (Assignee of Homer P. K. Peck, Brooklyn,) N. Y., U.S., 19 February, 1885; 5 years.

Claim 1st.—The fire place, or open-grate, for warming air drawn through chambers around the grate, embodying the removable air-heating conduits M, plates R, S, and smoke flues F, in combination, secured by a single removable key plate, substantially as specified. 2nd. The key plate t, with keys o^2, and rods m, in combination with the conduits M, and the bevelled flanges 1, 2, 3, 4 of plates R, S, as described for the purpose specified.

No. 21,123. Telephone Trumpet.

(*Cornet de Téléphone.*

John P. Lister, Cleveland, Ohio, U.S., 20th February, 1885 ; 5 years.

Claim 1st.—A telephone speaking attachment, adapted to be seated over the outer orifice of the transmitter, and provided at its discharge end with an annular flange, substantially as set forth. 2nd. A telephone speaking attachment, adapted to be seated over the outer orifice of the transmitter, and provided at its discharge end with an annular flange having its outer face cushioned, substantially as set forth. 3rd. In a telephone speaking attachment. the combination, with tube A, of the sound-wave deflector H, located within said tube at a suitable point therein, said deflector surrounded by the annular passage h for the sound waves, substantially as set forth.. 4th. In a telephone speaking attachment, the combination, with the speaking tube A, provided with the sound-wave chamber d, located near the discharge end of said tube, of the sound-wave deflector H, located partly or entirely within said chamber, said deflector having around one periphery of its largest end the sounp-wave passage h, said passage being continuously open and unobstructed excepting such portions of it as are occupied by what connects said deflector to the shell of the tube, substantially as set forth. 5th, In a telephone speaking attachment, the combination of tube A, chamber d, flange c, deflector H, supports s and s^2 and passage h, all as described and for the result as set forth. 6th. A telephone speaking attachment, adapted to be seated over the outer orifice of the transmitter, and provided with a swinging device to bring it directly into line with said orifice, substantially as set forth. 7th. A telephone speaking attachment, adapted to be seated over the outer orifice of the transmitter, and provided with the holding arms D, E and D_1, for purposes and substantially as set forth. 8th. A telephone speaking attachment adapted to be seated over the outer orifice of the transmitter, and provided on its discharge end b with the spring clasp b^2, for purposes as set forth.

No. 21,124. Brick Machine. (*Machine à Briques.*)

Joel Tiffany, Hinsdale, Ill., U.S., 23rd February, 1885; 5 years.

Claim 1st.—In a brick machine, the combination, with the upper and lower dies, of the movable moud and the feeder mounted thereon, and means, substantially as described, for operating the same, substantially as and for the purpose set forth. 2nd. In a brick machine, the combination, with the upper and lower dies and a plunder O, of the feeder T having lug b, the mould J having lugs e and K and the shoulder c, and the wheels E' and E^2 having projections to engage the said lugs, substantially as set forth. 3rd. In a brick machine, the combination, with the dies K and the pivoted arm connected thereto, and provided with he cam projection R, of the shaft B having cams N, N' to lower the dies, and a cam T to engage the projection R to raise the dies, substantially as set forth. 4th. In a brick machine, the combination, with the dies K, of the pivoted arms m m_1 connected thereto, substantially as described, one of said arms being provided with a cam projection R and cross-arm n, and of the shaft B having cams n, n' arranged thereon to operate successfully to lower the dies, one at a time, and cams T to raise the dies in pairs, substantially as and for the purpose set forth. 5th. In a brick machine, the combination, with the upper dies, of cams arranged to lower the said dies successively, and other cams arranged to raise the said dies in pairs successively, substantially as and for the purpose set forth. 6th. In a brick machine, the combination, with the dies K having rollers K' and slotted plates t, of the pivoted arms m, m_1 having pins m_2 entering the slots, and means for operating the said arms, substantially as set forth. 7th. In a brick machine, the combination, with the plunger O, of the lever h connected thereto by rods g, and having curved arm h^1 and shaft F having pin i and cam F_1, substantially as set forth. 8th. In a brick machine, the combination of two or more pairs of dies, each pair being composed of an upper and a lower die and means for actuating the several pairs successively, substantially as set forth. 9th. In a brick machine, the combination of a series of molds, a series of upper dies, a series of lower dies, a series of cams, an upper cam shaft, a series of pressure-cams arranged spirally on said shaft, whereby said upper dies are actuated successively, a lower cam shaft and a series of cams arranged spirally on said lower cam shaft, whereby the lower dies are also actuated successively, substantially as described.

No. 21,125. Table. (*Table.*)

Edgar R. Hinman, Ilion, N. Y., U.S., 23rd February, 1885 ; 5 years.

Claim.—In combination, with a table-top, having hinged legs, and provided with jointed braces, the rectangular block G, provided with elastic plates, and secured longitudinally to the under side of the table-top, and having pivotally attached on opposite sides thereof the jointed braces, substantially as described and or the purpose set forth.

No. 21,126. Lath. (*Latte.*)

James Morrison, Jr., New York, N. Y., U.S., 23rd February, 1885 ; 5 years.

Claim—As a new article of manufacture, a web of lath composed of the backing A, and lath sticks B secured to the backing, substantially as described. 2nd. The lath sticks B, secured to the backing A, and bevelled at their edges, substantially as and for the purposes set forth.

No. 21,127. Brick Machine. (*Machine à Briques.*)

William Andrews, Keokuk, Iowa, U.S., 23rd ebruary, 1885 ; 5 years.

Claim 1st.—In a brick-machine, a toggle-pressure pivoted in the frame of the machine eccentrically to a line drawn through the centre of said toggle, the upper section being provided with an extension to which the rods for operating the lower plunger are secured, as set forth. 2nd. In a brick-machine, a toggle-pressure operated from its joint by devices, substantially such as described, the upper section of which is pivoted eccentrically near its upper portion to the sides of the machine, while the upper end is provided with triunnions or arms to which are secured the rods for operating the lower plunger, as set forth. 3rd. In a brick-machine, a toggle pressure pivoted in the sides of the frame of the machine, as described, and to which the upper plunger is attached, and adapted to be operated from its joint, and to the upper end of which are attached rods, which are secured to and connect the lower plunger with the free end of the toggle-pressure, whereby the upper plunger is adapted to be thrust downward and the lower plunger pulled upward simultaneously, as set forth. 4th. In a brick-machine, a tuggle-pressure pivoted eccentrically, as described, to the frame of the machine, and provided with an upwardly extended portion, in combination with an operating-bar secured to the joint of the toggle, and with the bars for operating the lower plungers, as set forth. 5th. In a brick-machine, a lower plunger adapted to be raised and lowered, in combination with a rock-shaft, operated as described, whereby the lower plunger is carried up and the brick is ejected from the mould, as set forth.

No. 21,128. Check Punching Machine.

(*Machine à Découper les Etiquettes.*)

John Williams, Brooklyn, N. Y., U.S., 23rd February, 1885 ; 5 years.

Claim 1st.—A check punching machine, having a rotary hub, a circular series of punches, supported thereon, separate hand levers pivoted to the said punches and fulorumed on the rotary hub, so as to have liberty of endwise movement. 2nd. A check punching machine having a revolving series of punches, with two lugs or shoulders on their faces, in combination with an oscillating feed lever adapted to be engaged by one or the other of said lugs or shoulders, when either of the punchers is brought into position for use, so as to be positively actuated by said punches in both directions of their movements, for the purposeset forth. 3rd. The combination of the punch 6, bow-shaped feed lever 11, staff 13, clutch or ratchet movement 14, 16, 17, feed shaft 15, and feed shaft 19, as set forth. 4th. The combination of a rotary series on punches, an oscillating feed lever common to all, a feed table having feed and guide rollers, and a hinged holding plate, having idle rollers located above the rollers in the feed table on both sides of the punches, for the purposes set forth. 5th. In a check punching machine, the combination, with a rotary series of punches and a plate having corresponding matrices, of a hinged holding plate perforated for the passage of the punch being operated to serve as a stripper. 6th. In a check punching machine, flanged rotary hub cap 34, shouldered bolts 35, and bar or handle 33, for the purpose set forth. 7th. In a check punching machine, the combination of a longitudinally grooved fed wheel, and a circumferentially grooved holding wheel, substantially as and for the purpose hereinbefore set forth. 8th. In a check punching machine, the holding plate 21 carrying a glass stripping plate 30, permitting the inspection of the work, as described.

No. 21,129. Tile Machine. (*Machine à Tuiles.*)

Philip H. Kells, Adrian, Mich., U.S., 23rd February, 1885 ; 5 years.

Claim.—1st. In a tile machine, the combination of the tempering-box sections H, H_1 formed with recesses in their adjoining surfaces near the discharge end, and a cross-bar T having one of its ends bevelled, whereby the latter may be inserted into the recesses without taking the sections apart, as described. 2nd. The tempering-box composed of halves or sections, having laterally-extending suitably-connected flanges, provided with recesses in their inner adjoining sides near the discharge end of the machine, a cross-bar seated in the said recesses and having a bevelled end, and an outwardly-extending screw-threaded rod, a set-screw bearing against and retaining the said cross-bar, a core seated upon the screw-threaded rod, and a tile-ring secured detachably upon the end of the temporing-box, all arranged and operating substantially as set forth. 3rd. The combination of the lower-half H, of the tub provided with flange Q in position for securing the leg-frame O thereto, and with lugs K to receive the bolts connecting the same with the end B, substantially as shown and described.

No. 21,130. Grain Binder. (*Lieuse à Grain.*)

Hector A. Holmes and Watson M. Holmes, Hoosick Falls, N. Y, U.S., 23rd February, 1885; 15 years.

Claim.—1st In an automatic grain binder, an E-shaped frame, the upper limb of which supports the packers and knot tying device, and the lower limb supports the needle arm, substantially as described. 2nd. In an automatic grain binder,an E-shaped frame, the upper limb of which supports the packers and the discharging device, and the lower limb supports the needle-arm, substantially as described. 3rd In an automatic grain binder, an E-shaped frame, the upper limb of which supports the packers knot tying device, and the discharging arms and the lower limb supports the needle-arm, substantially as described, 4th. In an automatic grain binder, the combination of the packers, which operates to pack the grain into a sheaf, and mechanism for starting the binding device, when the said binding device by its action stops and starts the packer. 5th. In an automatic grain binder, the combination of the packing device located above the binder platform, a tripping lever acted on by the grain when a sufficient amount of grain has been received from the packing device to form a bundle, with mechanism for tripping the same to start the binding mechanism and thereby stop the packing device, substantially as described. 6th. In an automatic grain binder, the combination of a tripping lever, with a packing device when both tripping lever and packing device are located above and act on the upper surface of grain to be bound. 7th. The combination of the tripping lever J, shaft T and intermediate mechanism between shaft I and shaft P, to start the binding mechanism and stop the packer, substantially as described. 8th. In an automatic grain binder, the combination of the two members, of a toothed clutch which form a part of the mechanism for starting and stopping the binding device, and automatic positively acting mechanism to cause the disengagement of the clutches wholly or in part, and a spring when said spring is compressed by some fixed portion of the machine, and then released to act suddenly to complete and continue the separation of the clutches as long as desired. 9th. The combination of the packer wheel, with the shaft P and the disc P_1, an intermediate mechanism between P_1 and the packer wheels for actuating the same, substantially as described. 10th. The combination of the knotter hooks A_1 and A_3, the hollow shaft a, shaft a_1, cap a_5 and spring a_{10}, substantially as and for the purpose described. 11th. The combination of the knotter hooks A_1 and A_3, the shafts a and a_1, the semi-circular flange a_2, the shaft a_4, spring a_3, the lever A_3, and detaching hook A_6, substantially as and for the purpose described. 12th. The combination of the pinion D_2 and cam flanges thereon, with the grasper B_1, and mechanism for actuating the same, substantially as described. 13th. The combination of the pinion D_2 and cam flanges thereon, with the tucker C_1 and mechanism for operating the same, substantially as described. 14th In an automatic binder, the pinion D_2, with its cam flanges d_5 and d_4, and alternate long and short teeth d_2 and d_3, whereby the grasper or cord holder and tucker are both actuated by the same, substantially as described. 15th. In an automatic grain binder, the swinging arm o_4 which supports a board to hold the sheaf, and the post o_5 against which the grain is compressed, the two o_4 and o_5 being fastened together, in combination with mechanism for swinging the same out of the way to allow the bundle to be discharged, and swing back again to receive the next bundle, substantially as described. 16th. In an automatic binder, the combination of the knot tying hooks A_1 and A_3 and the tucker C_1, and mechanism for actuating the same, whereby the cord is forced into the opening between the hook at the right time, substantially as described. 17th. The combination of the adjustable cleats o_3, with the binding platform o, substantially as and for the purpose described. 18th. The combination in an automatic grain binder of the fhe shaft M_1, the clutches J_1 and M_3, spiral spring I^8, pinion M, crooked shifter I_4, latch J_5, spring J_4, projection T_7 and wheel J_3, substantially as and for the purpose described. 19. The combination of the tripping lever J, the shaft T and mechanism connecting the same to the crooked shifting lever S_4, substantially as and for the purpose set forth. 20th. In an automatic grain binder, one or more discharging arms located above the binding platform, the points of which arms move in an elliptical arc and discharge the bundles when bound, substantially as described. 21st. The combination of the discharging arm P_2, the crank K_2, shaft P and mechanism for driving the same at proper intervals, all arranged as and for the purpose set forth. 22nd. In a needle of a grain binder without the ordinary fixed curved back or wing, a canved back or wing pivoted at one end to the back of the needle, and at the other end to a swinging link pivoted at a fixed point on the machine.

No. 21,131. Vehicle Hub. (*Moyeu de Roue.*)

Franklin P. Circle and Perry Circle, Springfield, Ohio, U.S., 23rd February, 1885; 5 years.

Claim—1st. A metallic hub for vehicles, constructed in one piece, and having a spoke-receiving flange, the mortices of which have slightly bevelled edges, the said hub being provided with an elastic filling or core, extending from a point near one end to and flush with the opposite end of said hub, substantially as and for the purpose described. 2nd. The hub A, cast in one piece and provided with the flange B, and elastic filling D the said flange having mortices with bevelled edges, as shown, a portion of which mortices extend entirely through the metal of the hub, to permit a portion of the spokes to be driven through the hub and into the filling D, for the purpose and substantially as described.

No. 21,132. Grappling or Holding Device.

(*Appareil pour Ancrer ou Retenir.*)

Matthew T. Wyatt, Quebec, and William F. Ramsay, Montreal, Que., 23rd February, 1885; 5 years.

Claim.—The combination, with a stick or handle, of a sliding grip or handle, carrying bent or spring wires having flanged or hooked ends, and passing through a ring on end of said handle, and a spring or other equivalent device, for retaining such holder in desired position upon the handle, substantially as herein set forth and for the purposes described.

No. 21,133. Locomotive Grate.

(*Grille de Locomotive.*)

Charles F. Swallow, (Assignee of Isaac W. Swallow,) Kingston, Penn., U.S., 23rd February, 1885; 5 years.

Claim.—1st. In a locomotive grate, the water-bars extending longitudinally of the fire-box, in combination with the front and rear sections of connected tumbler-bars, operated by shaking-rods from the exterior of the fire-box, substantially as specified 2nd. In a fire-grate for locomotives, the combination, with water-bars extending longitudinally of the fire-box, of the tumbler rods or bars, connected to the slotted connecting-bars by an intermediate, and two outer arms and a connecting rod passed through the several arms, and the slotted connecting bars, substantially as specified.

No. 21,134. Shaking Grate Bar for Boilers or Furnaces. (*Barreau de Grille Oscillante pour Chaudières ou Fourneaux.*)

Thomas Elliott, Hamilton, Ont., 25th February, 1885; 5 years.

Claim—1st. The combination of the double shaking bars a, with half circular ends a_{11}, and shank I, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the shaking bars a, with half circular ends a_{11}, shank I, and the movable bar D, with the lever H, substantially as and for the purpose hereinbefore set forth.

No. 21,135. Mechanical Telephone.

(*Téléphone Mécanique.*)

George F. Shaver, New York, N.Y., U.S., 25th February, 1885; 5 years.

Claim.—1st. In a mechanical telephone, the cup a_2, and washer of sound-absorbing material a_3, in combination with the guys a_1, diaphragm A, and line-wire C, as herein shown and set forth. 2nd. In a mechanical telephone, the diaphragm A, and line-wire C, in combination with the cup a_2, and the washer of sound-absorbing material a_3, as herein shown and set forth. 3rd. In a mechanical telephone, the diaphragm A, re-inforced by radial face or tension-wires a, in combination with the guy-wires a_1, washer a_3, and the line-wire C, as herein shown and described. 4th. In a mechanical telephone, the combination, with the line-wire C, and diaphragm A, of the sound-deflecting cup a_2, and bag G. 5th. In a mechanical telephone, the combination, with the line-wire C, of a diaphragm A, having the radial wires a, connected to the sounding-board b_1, of the box B, substantially as and for the purpose herein shown and described. 6th. In a mechanical telephone, the combination, of a concentrator D, with the diaphragm A, substantially as herein shown and described. 7th. In a mechanical telephone, the combination, with the line-wire C, of the sound chamber F, and oar-tube E, substantially as and for the purposes herein shown and set forth. 8th. In a mechanical telephone, the cut-off H, in combination with the line-wire C, substantially as and for the purposes herein shown and set forth. 9th. In a mechanical telephone, a diaphragm A_1, A_{11}, consisting of textile fabric or membrane prepared with varnish, as and for the purposes herein shown and described. 10th. The hanger K, having the isolater k, in combination with the line-wire C, substantially as herein shown and described.

No. 21,136. Furnace for Burning Small, Moist or Liquid Fuel. (*Fourneau pour Consumer le Combustible Menu, Humide ou Liquide.*)

George A. Godillot, Paris, France, 25th February, 1885; 5 years.

Claim.—1st. A fire grate composed of bars or plates with longitudinal openings, arranged in a semi-pyramidal or approximately semi-pyramidal form, as shown in the drawings Figs. 1, 2, 3, 4, 5, 6, 7, 8 and 9, so that the fuel bed at its upper part descends its slope while burning, and air is supplied thereto from under said grate, in combination with the fire chamber A, feeder F, and draft D, substantially as described. 2nd. The pyramidal semi-pyramidal fire-grates, in combination with a series of horizontal bars, so arranged as to form shelves over which liquid fuel may run or drop from shelf to shelf, exposed to the entering air at each descent, as shown in Figs. 5, 6, 7, 8 and 9, hereto annexed, and substantially as described in the foregoing specification.

No. 21,137. Becket Clamp for Steering Wheels. (*Chambrière pour Roues de Gouvernails.*)

Aladin Dole, Penn's Grove, N. J., U. S., 25th February, 1885; 5 years.

Claim.—The combination, with a wheel shaft, stationary bearings containing the same, and a steering-gear connecting with the rudder, tiller, and the wheel-shaft, of a clamp I, II, surrounding the said shaft and provided with screw d, and the standard H, supporting said clamp at its upper end, and provided at its lower end with an attachment secured to a stationary part of the vessel, substantially as described.

No. 21,138. Road Scraper. (*Grattoir de Chemin.*)

Lewis Lamborn, Wilmington, Del., U. S., 25th February, 1885; 5 years.

Claim.—1st. In a road-machine, a supporting frame which arches from end to end, in combination with a scraper-bar, substantially as set forth. 2nd. In a road-machine, an arched frame supported at its rear end by the rear axle, and at its front end through a fifth wheel by the front axle, in combination with a scraper-bar, substantially as set forth. 3rd. In a road-machine, the combination, with an arched frame supported at its rear end by the rear axle, and at its front end

through the fifth wheel by the front axle, of an auxiliary wheel arranged between the rear wheels of a four-wheeled machine, substantially as set forth. 4th. As an improvement in adjustable blades forming the cutting edge of the scraper-bar of a road machine, the combination, with said blades, of a binding plate which permits the removal or adjustment of the blades, by loosening without removing its fastenings, substantially as set forth. 5th. In a road-machine, the combination, with the scraper-bar, of upwardly curved draft-beams connnected by clevices with the draft-bar which is attached to the supporting frame, substantially as set forth. 6th. In a road-machine, the combination, with the draft-bar and upwardly-curved draft-beams, of clevices *t* and *u*, constructed with downward and forward curves, and engaging eyes in the draft-bar which is attached by hangers to the supporting frame, substantially as set forth. 7th. In a road-machine, a rudder consisting of the blade k_1, perforated shank l_1, elbow-lever m_1, flexible arm n_1, and hooked rod o_1, in combination with a scraper-bar and supporting frame, substantially as set forth. 8th. In a road-machine, the landside consisting of a runner, the parallel rods t_1, and n_1, the lever lower ends of which turn in sockets attached to the plate r_1, and the upper ends of which are flexibly attached to a supporting frame, and the perforated bar v_1, adapted to engage a pin or hook or equivalent device on the frame, substantially as set forth.

No. 21,139. Plough Coulter.

(*Coutre de Charrue.*)

Thomas C. Sargeant, Church Stowe, Weedon, Eng., 25th February, 1885; years.

Claim.—1st. In a plough coulter, constructing the blade, or cutting part A, separate from its stem B, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the blade A, with the stem B, substantially as hereinbefore described. 3rd. In a plough coulter, the blade A, having a double cutting edge, subtantially as and for the purposes hereinbefore set forth.

No. 21,140. Steam Boiler. (*Chaudière à Vapeur.*)

Elisha E. Ells, Cornwallis, N.S., 25th February, 1885; 5 years.

Claim.—1st. In combination with a steam boiler, a steam-tight sheet-metal jacket having a steam inlet and outlet, and outlet for the water of condensation, whereby exhaust steam from the engine will heat the exterior of the boiler, as set forth. 2nd. In combination, with a steam boiler and jacket a^1, feed coil K, covered by the jacket for heating the feed water on its way into the boiler, as set forth.

No. 21,141. Electro-Magnetic Gas Lighter.

(*Allumoir à Gaz Electro-Magnétique.*)

Evans H. Jenkins, Richmond, Ind., U. S., 25th February, 1885; 5 years.

Claim.—1st. In an electro-magnetic gas lighter, the combination, with an electro-magnet and a gas inlet duct provided with a valve seat, of a counter balanced tilting lever mounted pivotally upon an adjustable fulcrum, an armature attached to said lever, and a conoidal valve also attached to said levers and arranged to operate in conjunction with the valve seat of the gas inlet duct, substantially as and for the purpose described. 2nd. The combination, with an electro-magnet and a gas inlet duct, provided with a valve seat, of a tilting lever carrying an armature and a conoidal valve arranged to act in conjunction with the valve seat, and mounted pivotally upon an adjustable fulcrum, a counterbalance weight attached to said lever and a screw passing through the counter weight and arranged to limit the descent of said weight, substantially as and for the purpose set forth. 3rd. The combination, with an electro-magnet, a main gas inlet duct provided with a valve seat, and an auxiliary gas inlet duct provided with an adjustable discharge opening, of a tilting lever mounted pivotally upon an adjustable fulcrum, an armature attached to said lever, a conoidal valve also attached to said lever and arranged to act in conjunction with the valve seat and a counterbalance weight mounted upon said lever and provided with an aperture for the reception of the upper end of the auxiliary gas duct, substantially as and for the purposes set forth. 4th. The combination, with the electro-magnet *f*, *f*, the gas inlet ducts H, J, and the externally bevelled valve seat formed at the upper extremity of the duct J, of the tilting lever N mounted upon the adjustable fulcrum S, the armature O attached to said lever, the counterbalance weight S with its regulating screw Q, and the conoidal valve L secured movably to the lever by its stem H, and arranged to operate in conjunction with the said bevelled valve seat, substantially as set forth. 5th. The combination, with the electro-magnet *f*, *f*, the inlet duct H, the branch duct J, provided at its upper extremity with the bevelled valve seat and the auxiliary branch duck K, of the sub-cylinder D, provided with the invested cover for the terminus of said duct, the adjusting screw R, the tilting lever N mounted upon an adjustable fulcrum secured to said sub-cylinder, the conoidal valve L secured movably by its stem to said lever, the apertured counter-weight S and the armature O mounted upon said lever, substantially as described. 6th. The combination, with the casing sections A, B, the sub-cylinder D and the base plate U, of the chamber g_1, the plate *n*, the magnet *f*, *f*, the screw *t* connecting the said chamber with the plate *n*, the screw *w* connecting the plate *n* to the base of the magnet, and the screws g_{11} connecting the upper end of the magnet to the plate *d* of sub-cylinder D, substantially as specified. 7th. The combination, with the casing and the sub-cylinder, the counterbalanced lever carrying the armature and the conoidal valve, and the electro-magnet, of the base plate *n*, the aperture chamber g_1 and the branches J, K opening from the aperture in said chambers, said branch J being provided with a valve seat for the conoidal valve, and said branch K being provided with an adjustable valve, substantially as herein set forth.

No. 21,142. Stump Extractor. (*Arrache-Souche.*)

Hubert C. Brown, Lowell, Vt., U.S., 25th February, 1885; 5 years.

Claim.—1st. In a weight-raising implement, consisting mainly of a ratchet bar suspended from suitable supports and operated by a hand lever, the bracket G secured rigidly to the fulcrum bar B, substantially as and for the purpose shown and described. 2nd. In a weight raising implement provided with a ratchet, and lever for operating the same, the combination of the fulcrum bar B, lever F and bracket G, with the links *d*, substantially as as and for the purpose set forth. 3rd. In a weight-raising implement, operated by a ratchet and lever, the combination of two or more holding links H pivoted to the holding bar, so as to operate in the manner herein described.

No. 21,143. Stop Valve. (*Soupape d'Arrêt.*)

Albert Rappold, Titusville, Penn., U. S., 25th February, 1885; 5 years.

Claim.—As an improved article of manufacture, a stop cock valve especially adapted for corrosive substances, and comprising a valve chamber A formed of lead, or equivalent soft metal, and consisting of the walls B, and the conical valve seat E formed integral with the walls B and forming the bottom of the valve chamber, the cap piece H, the operating stem G, the conical valve plug F corresponding to the seat E, and likewise formed of lead, or an equivalent soft metal, whereby should particles become lodged between the plug and seat they will be compressed into the soft metal and not prevent closing of the valve, and the discharge pipe D having a conical throat that encircles the soft metal seat E and protects and strengthens the same from damage from the outside, substantially as set forth.

No. 21,144. Method of Hanging the Rudders of Rowing Boats and other small Craft. (*Moyens de Suspendre les Gouvernails des Bateaux à Rames et autres légères Embarcations.*)

Albert T. Frampton, East Holesay, Eng., 25th February, 1885; 5 years.

Claim—As an improved means of hanging or hinging the rudders of rowing boats and other small craft, the combination, with a joint formed of a single long pintle and corresponding socket or pair of sockets, of a pivotal connection in axial line with the pintle, constituted by two oppositely directed concentric flanges respectively carried by the rudder and the boat, and engaging automatically with one another when the rudder is shipped, substantially in the manner and for the purpose specified.

No. 21,145. Device for Propelling Vehicles.

(*Appareil de Propulsion des Voitures.*)

Baldwin S. Moore, Austin, Texas, 25th February, 1885; 5 years.

Claim.—1st. The combination of the vehicle, the vertically extensible propeller frame connected thereto, so that the one may slide longitudinally upon the other, and arranged so that when elongated it will bear above against the vehicle and below upon the ground, and mechanism for causing the elongation and sliding movement of the said propeller frame, these parts being combined and having the mode of operation, substantially as hereinbefore set forth. 2nd. The combination, with the vehicle, the vertically extensible propeller frame carried by and sliding lengthwise on said vehicle, and the propeller actuating mechanism, of reversing mechanism, substantially as described, whereby the direction of movement of the vehicle upon the propeller-frame at the time the latter is elongated or extended by its actuating mechanism can be reversed at will, substantially as and for the purpose hereinbefore set forth.

No. 21,146. Saw Swage. (*Etampe de Scie.*)

Loy B. Young, Newport, Ark., U. S., 25th February, 1885; 5 years.

Claim.—1st. The combination, in a saw swage, of the two oppositely arranged rolling eccentric swags, as herein described. 2nd. The combination, with a shank A, provided with a chamber B, of the swags C having journals D and the adjusting screws *b*, as herein specified. 3rd. The combination, in a saw swage, of the oppositely arranged eccentric swags C, spring *d*, adjusting screws *b* and the shank A, as specified.

No. 21,147. Paper Wrapper for Packages.

(*Enveloppe en Papier pour Paquets.*)

Dundas Dick, New York, N.Y., U.S., 25th February, 1885; 5 years.

Claim.—The described package wrapper, provided at one end with the notches or cuts *d*, thereby forming the tongue *f*, with or without the edges of the border *a*, being cut-away at a_1, a_1, as described, whereby the wrapper is capable of being applied to a package, as specified.

No. 21,148. Hay Tedder. (*Faneuse à Foin.*)

Solomon Tripp, Grand Rapids, Mich., U. S., 25th February, 1885; 5 years.

Claim.—1st. In a hay tedder, the combination of the pinion R, driving shaft N supported in the slot U, the rack-bar T and lever F, for the purpose of moving the driving shaft N in the slot U, thereby throwing the tedder crank into and out of gear, substantially as described. 2nd. The following parts, in combination, namely: the the frame Q, rack-bar T, journal box W, with slot U, the pinion R, driving shaft N, cog wheel O, sector V and lever F, substantially as described. 3rd. The combination of the sleeve E, provided with the shoulder P, and square part J with the sector V, and tedder crank S, as and for the purpose described. 4th. In a hay tedder, the combination of the arc 20, the adjustable clamps 12, 12, with the lever F, substantially as described. 5th. In a hay tedder, the combination of the sleeve E, the crank-shaft S and the fork-arm A, said sleeve being rigidly attached to the shaft, substantially as described. 6th. In a

hay tedder, the curved fork B, in combination with the fork-arm A, said fork being attached to the arm by means of the clamp C, and adjustable in said arm A and supported at a point other than the point of attachment by means of the end *a* of the fork, substantially as described. 7th. The combination of the fork B, with the arm A, and connecting link D, substantially as described. 8th. The combination of the link D, packing *b* and fork B, substantially as described. 9th. The combination of the fork B, and fork arm A, as described. 10th. In a hay tedder, the combination of the adjustable lugs H, H, provided with slots *h*, *h*, the bolts *i*, *i* and arm I, substantially as described.

No. 21,149. Automatic Damper Regulator.

(Régulateur Automatique de Clé de Tuyau.)

James A. House and Charles H. Dimond, Bridgeport, Ct., U. S., 25th February, 1885; 5 years.

Claim.—1st. In a damper regulator, the diaphragm held to the chamber by a gasket ring, in combination with a cap, as described, resting against said diaphragm and adapted to actuate a pivoted bar, substantially as set forth. 2nd. The bar pivotally attached to the frame, and provided at its upper end with an anti-friction roller, in combination with a weighted arm having at its point a contact with the roller, a cam surface upon which said roller may act, substantially as described. 3rd. In a damper regulator, the combination, with the chambers A having outlet D, of the diaphragm E, ring F, cap H, pivoted bar I having roller K and arm M provided with cam surface L, all arranged as described for the purpose set forth.

No. 21,150. Harvester. *(Moissonneuse.)*

Amédée Tétrault and Mary Maddin, (Assignees of Samuel D. Maddin,) Miamisburg, Ohio, U.S., 25th February, 1885; 5 years.

Claim.—1st. A grain binder provided with an arm overhanging the platform and supporting the knotter devices, and a lever pivoted to the side of the overhanging arm extending below the platform, and connected to devices for operating the knotter appliances, substantially as set forth. 2nd. The combination, with the knotter devices supported by an overhanging arm, of a frame reciprocating in guides upon said arm, constructed to operate the knotter devices, and connected to a lever supported by the arm and extending below the platform, substantially as set forth. 3rd. The combination, with the knotter devices, of a grain binder, and with an operating lever extending below the platform, of an intermediate sliding frame, connected to the lever and constructed to operate the knotter devices, substantially as set forth. 4th. The combination, with the overhanging arm and knotter shaft turning therein, of a sliding frame provided with a rack arranged to engage with a pinion upon the knotter shaft, substantially as specified. 5th. The combination of a knotter hook having a slot in the under side of the lower jaw, and a reciprocating bar carrying a projection arranged to traverse said slot, substantially as and for the purpose set forth. 6th. The combination of a knotter hook, and a reciprocating bar carrying a projection arranged to strike the loop of cord, and carry it off the hook, substantially as and for the purpose set forth. 7th. The combination, with the knotter hook, of a vibrating lever T, and means for reciprocating the latter to carry the cord from the needle upon and below the hook, substantially as specified. 8th. The notched and holding disk and clamping plates, arranged adjacent to the revolving knotter hook, in combination with a reciprocating frame, and connections, whereby the disk is rotated part of a revolution at each forward movement of the frame, substantially as set forth. 9th. The combination of the rotating knotter hook, the cord clamping disk Q, and cord controlling lever T, supported adjacent to the hook, and a reciprocating frame and connections, whereby the movement of the frame in one direction is caused to operate the said parts to form the knot, substantially as specified. 10th. The combination of the knot forming devices, sliding frame constructed to operate the same to form the knot by a movement in one direction, and an operating lever connected to said frame to draw the same in said direction, substantially as specified. 11th. The combination, with the cord holding disk and clamping plates, of a ratchet upon said disk, and vibrating lever provided with a pawl engaging with the said ratchet, substantially as set forth. 12th. The combination, with the knotter arm, of a lever T, provided with arms *r*, *r*1, and reciprocating bar provided with a stud arranged to make contact with said arms, substantially as specified. 13th. The combination of compressor arms hung to a shaft or pivot below the platform, toggle links connected to said arms, and a reciprocating rod connected to the central joint of said toggles, substantially as set forth. 14th. The combination of the pivoted compressor arm, toggle links, lever I1, and spring bearing for said lever, substantially as set forth. 15th. The combination of the compresser arms, toggle links, lever I1, bar I2, spring and nut, substantially as and for the purposes specified. 16th. The combination, with the pivoted compressor arms, of discharge arms J1, hung in front of the compressor arms, and extending back beyond the shaft of said arms, substantially as set forth. 17th. The combination, with the discharge arm, of toggle links connected thereto, substantially as set forth. 18th. The combination of the pressor arms, and discharge arms, and toggle links connected to both the compressor and discharge arms, substantially as specified. 19th. The combination of the compressor and discharge arms, toggle links, connecting rod *g*1, and operating crank and connecting rod F1, substantially as specified. 20th. The combination of the needle and compressor arms, discharge arms, rotating disk G1, and connections, whereby the said arms are operated in succession by the rotation of the said disk, substantially as specified. 21st. The combination of the needle, compressor arms, discharge arms, disk G1, carrying a segmental rack pinion F3, gearing with said rack, and connections between the arms and disk and pinions, substantially as described. 22nd. The combination of the needle compressor arms, whereby said needles and arms are operated from said disk, and shaft K1, having a pinion gearing with a rack upon said disk, and connections between the said shaft and the knotter devices carried above the platform, substantially as specified. 23rd. The combination of the disk and connections for driving the devices below the platform, a shaft K, provided with a pinion gearing with the disk, and with a crank connected with the lever U, extending above the platform, substantially as specified. 24th. The disk G1, carrying a crank pin, connected with a rod attached to the needle, provided with a segmental rack gearing with a pinion upon the shaft, connected to operate the compressor and discharge arms, and with a segmental rack arranged to gear with the pinion of a shaft connected to operate the knotter devices, substantially as specified. 25th. The combination, with a harvester, of a binder and packer arms, arranged above the binder platform, connected to a crank shaft V2, driven from one of the shafts of the harvester, substantially as specified. 26th. The combination, with a harvester, of a binder having a horizontal platform extending over the outer wheel, packers arranged to carry the grain over the platform towards the compressor, and conductors arranged to carry the grain to the platform, substantially as specified. 27th. The combination, in a harvester, of a grain binder elevator, and conductors extending horizontally between the elevator and the platform, substantially as specified. 28th. The combination, with the binder platform and elevator, of conducting chains, pulleys supporting the same, and means for adjusting the pulleys to carry the grain at different angles from the elevator, substantially as set forth. 29th. The combination, with the elevator and binder, of horizontal pulleys, conducting chains passing round the same, and a bar supporting the pulleys next to the binder, and adjustable substantially as set forth. 30th. The combination, in a harvester, of a binder supported between two wheels, a vertically adjustable cutter frame outside the wheels, an elevator frame jointed at the lower end to the adjustable frame, and a frame carrying conductors, jointed at the outer end to the upper portion of the elevator frame, and at the inner end adjacent to the platform of the binder, substantially as set forth. 31st. The combination, with a harvester, of two drive wheels, and a binder carried between the wheels, substantially as described. 32nd. A harvester provided with a main frame, supported by two wheels, a cutter frame arranged laterally in line with the main frame, and an intermediate frame jointed to the main frame near the outer side and to the inner end of the cutter frame, substantially as set forth. 33rd. The combination of the man frame supported by two wheels, the cutter frame, an intermediate frame jointed to both the main and the cutter frames, a grain wheel supporting the outer end of the cutter frame and a lever, and connections whereby the jointed frame and the outer end of the cutter frame may be simultaneously raised and lowered, substantially as described. 34th. The combination of the main frame, cutter frame, jointed frame, grain wheel connected to a lever upon the cutter frame, and operating lever jointed to the main frame, and connected to the frame and to the lever of the grain wheel, substantially as set forth. 35th. The combination, with the main frame of a harvester, of a frame C jointed to the main frame near the outer side thereof, and enclosing and projecting beyond the inner wheel, and a cutter frame jointed to the inner end of the frame, substantially as set forth. 36th. In a harvester, the combination of the main frame supported upon two wheels, and adapted to carry the binder, a cutter frame extending in line with the main frame at the side thereof, and a jointed connecting frame and operating levers, and appliances, substantially as described, whereby the jointed and cutter frames may be adjusted independently of the main frame, for the purpose set forth. 37th. The combination of the main frame, supported by two wheels, the cutter frame, adjustably jointed frame and pitman connected to the cutter bar, and to a crank disk upon the shaft concentric with the joint of the jointed frame, substantially as set forth. 38th. The combination of the main frame, carrying the shaft *b*, parallel to the driving wheel, and connection for driving it therefrom, a jointed frame hung to the main frame upon a line coincident with the axis of the shaft *b*, a cutter frame jointed to the outer end of the jointed frame, and carrying a cutter bar and connections, whereby the latter is driven from the shaft *b*, substantially as set forth. 39th. The combination of the main frame, swinging centrally upon an axis supported by two wheels, a cutter frame in line with and extending laterally beyond the main frame, an interposed connecting frame, a pole pointed to the main frame, and a lever and appliances, whereby the frames may be tilted in respect to the pole, substantially as set forth. 40th. The combination of the main frame supported by two wheels, a jointed frame and a cutter frame extending laterally beyond the main frame, and elevating bands or appliances supported by a frame consisting of two parts jointed together, one jointed to standards upon the main frame, and the other to the jointed frame, substantially as set forth. 41st. The combination of the main frame, jointed frame, cutter frame, and jointed elevator frame, provided with rollers carrying bands, one of said rollers carrying a sprocket around which passes a chain to a sprocket upon a shaft coincident with the outer joint of the jointed frame, substantially as set forth. 42nd. The combination of the main frame, cutter frame, jointed connecting frame, and elevator apparatus provided with rollers carrying band and geared together at their forward ends, to leave the space between the bands unobstructed at the rear, for the purpose set forth. 43rd. The combination of the main frame and its supporting wheels B, B1, cutter frame A1, intermediate jointed frame C, and elevator frame jointed to swing back, as the frames C, A1, are raised, substantially as described. 44th. The combination, with the main frame, cutter frame and connecting frame, of the elevator frame consisting of the parts, the part L1, carrying the outer rollers being connected by links to the lower portion, substantially as described. 45th. The combination of the main frame, cutter frame, intermediate frame and elevator frame, jointed to standards on the main frame and to the intermediate frame, and provided with an outer portion L1, carrying the outer rollers and connected by links to the lower portion of the frame, substantially as described. 46th. The combination of the portion L3, of the elevator frame carrying the rollers Q, Q1, and the portion L1, connected by links to the portion L3, and carrying the rollers R, R1, and gears *u*1, *u*2, with long teeth connecting the shafts of the rollers R, Q, substantially as and for the purpose described.

NO. 21,151. Combination Lock.

(Serrure à Combinaison.)

The Yale and Towne Manufacturing Company, (Assignee of Emory Stockwell,) Stamford, Ct., U.S., 25th February, 1885; 15 years.

Claim.—1st. The combination, with the lock-case of a combination lock, of a back plate and rotating notched tumblers of ordinary construction, the back plate being provided with a rib P, or equivalent projection, whereby the tumbler serve normally to lock the plate in place, substantially as and for the purpose set forth. 2nd. The combination of a lock-case, and the separable back plate, provided with a fence or rib P, and a tumbler-curb, all so constructed and arranged that when the plate is locked in position by the tumblers the fence will interlock with the curb and hold it in place, substantially as set forth. 3rd. In a side-shaft dial-lock, a removable tumbler-curb provided with a screw-threaded hub, in combination with a screw-threaded stump projecting from the case, substantially as described. 4th. In a side-shaft dial-lock, the combination of a movable tumbler-curb provided with a screw-threaded hub, screw-threaded stump and a projecting stop engaging with the curb to holding it against unscrewing, substantially as described. 6th. In a dial-lock, the combination of a rotary fence bearing a spindle for operating the tumblers, and mechanism connecting or gearing the two together, so that whenever the spindle is rotated the fence-bearing must also rotate, substantially as described.

No. 21,152. Printing Press.

(Presse d'Imprimerie.)

Calvert B. Cottrell, Stonington, Ct., U.S., 25th February, 1885; 5 years.

Claim.—1st. The combination, with an impression-cylinder, of an endless carrier provided with delivery grippers, arranged at the front of the cylinder, and having an alternatly accelerated and retarded movement, substantially as herein described. 2nd. The combination, with an impression-cylinder, of an endless carrier provided with two sets of delivery-grippers, arranged at equidistant points in the carrier, the said carrier being arranged at the front of the cylinder, and having a movement which is alternately accelerated and retarded, substantially as and for the purpose described. 3rd. The combination, with an impression-cylinder, of an endless carrier provided with delivery grippers, and arranged at the front of the cylinder, a shaft having a uniform speed of rotation, and mechanism, substantially such as described, for imparting to said carrier from said shaft a movement which is alternately accelerated and retarded, for the purpose herein set forth. 4th. The combination, with an impression cylinder, and its grippers, of an endless carrier provided with delivery grippers, arranged at the front of the cylinder, and having a movement which is alternately accelerated and retarded, and receiving motion from the cylinder when it is so retarded, in order that the cylinder-grippers and the delivery-grippers shall be caused to move in proper relation with each other during the transfer of the sheet from the cylinder-grippers to the delivery-grippers, substantially as herein described. 5th. The combination, with an impression-cylinder B, and an endless carrier arranged at the front thereof, and provided with delivery-grippers, of shafts D^1, D^2, wheels D^3, D^4, for supporting and operating said carrier, a pinion e, loose on the shaft D^2, a disk e^1, fast on said shaft, and connected with said pinion by a pin and slot connection, the shaft H, having a rotation which is alternately accelerated and retarded, and provided with the bevel-wheel e^5, and the toothed sectors n, n^1, whereby motion is imparted from the cylinder to said shaft D^1, when the speed of the carrier is retarded, substantially as and for the purpose herein described. 6th. The combination, with an impression-cylinder and an endless carrier, arranged at the front thereof and provided with delivery-grippers, of shafts D^1, D^2, and wheels for supporting and moving said carrier, an upright shaft geared with the shaft D^2, a horizontal shaft geared with the upright shaft and provided with a pinion, a reciprocating rack-bar having a variable movement and a swinging frame or hanger and wheels which are alternately moved to impart from the reciprocating rack-bar a variable rotary motion to said upright shaft, substantially as hereid described. 7th. The combination, with an impression-cylinder and an endless carrier arranged at the front thereof, and provided with delivery-grippers, of the shafts D^1, D^2, and their wheels D^3, D^4, the upright shaft H, geared to the shaft D^2, the pinion and wheel f, f^1, and shaft f^2, and pinion f^4, the swinging frame J^1 with its pinion j, j^1, and wheels k, k^1, and rack-bar J, provided with racks g, g^1, and a cam for reciprocating said bar, all substantially as described. 8th. The combination, with an impression-cylinder and an endless carrier arranged at the front thereof, and provided with delivery-grippers, of the shaft D^1, D^2, and their wheels D^3, D^4, the upright shaft H, geared to the shaft D^2, the pinion f^4, the swinging frame J^1, with the pinions j, j^1, and wheels k, k^1, the rack-bar J, provided with racks g, g^1, and rod I^3 and the cams I^1, I^2, and shaft I, all substantially as described. 9th. The combination with the cylinder B, provided with the gripper-recess B^1, of the rock-shaft E^2, the arms E^3, E^4, projecting therefrom, the cam E^5, the gripper-shaft and grippers E, E, the arm E^6, and the rod E^7, and gripper-closing spring E^8, all substantially as and for the purpose described. 10th. The combination, with the impression-cylinder B, provided with the gripper recess B^1, of the rock-shaft E^2, the arms E^3, E^4, the cam E^5, the gripper-shaft and gripper E^1, E, a spring for closing the grippers, the arm F, and the cam G, all arranged to operate substantially as described. 11th. The combination of an impression-cylinder, an endless carrier arranged in front thereof, and provided with delivery-grippers and having a movement which is alternately accelerated and retarded cylinder-grippers and a gripper-shaft supporting said grippers and having a rocking movement to release the printed sheet and a bodily movement to withdraw the grippers within the gripper recess, substantially as herein described. 12th. The combination, with the chains D, of the heads or disks c, connected with the chains by neck or portions c^1, the gripper-shaft c^2, journalled in said or disks and provided with the grippers c^4, the gripper-bar c^3 fixed in said heads or disks and provided with rests c^5, the notched hub c^7, and catch I, and the closing spring c^6, all substantially as described. 13th. The combination with a rotating impression-cylinder, of a stationary blade or cutter arranged close to or against the periphery of the cylinder to be introduced under the paper thereon and a rotary blade or cutter for acting on the paper from the outside thereof, and operating in conjunction with said stationary blade or cutter with a shearing motion, substantially as and for the purpose herein described. 14th. The combination with a rotating impression-cylinder, of a stationary blade or cutter to be introduced under the paper, and a rotating blade or cutter for acting on the outside of the paper in conjunction with said stationary cutter or blade and having its rotary motion in the same direction as the adjacent portion of the cylinder and at a greater speed, substantially as and for the purpose herein described. 15th. The combination with a rotating impression-cylinder, of a stationary blade to be introduced flatwise under the paper and having a vertical slot and a rotary blade or cutter arranged opposite said slot for acting on the outside of the paper with a shearing action, substantially as and for the purpose herein described.

No. 21,153. Wood Working.

(Ciselage du Bois.)

Frederick Manhey, Williamsport, Penn., U.S., 25th February, 1885; 5 years.

Claim.—1st. The within-described process of treating wood surface by rotary machine cutters, which consists in traversing said cutters upon the face of the lumber, at an angle to the direction of the grain, whereby the wood is exactly and regularly cut at varying depths across the grain, substantially as described. 2nd. As a new article of manufacture, a board, the surface of which is exactly and regularly cut or grooved at an angle to the grain, with deep and shallow depressions, by the passage of rotary cutters thereon, substantially as described 3rd. A panel formed of wood pieces, surface cross cut in elevations, and depressions matched and secured together, substantially as described. 4th. An ornamental strip of wood produced by first surface cross cutting, and then sawing the stuff, substantially as described. 5th. The new and improved article of manufacture, consisting of surface cross-cut wood, sawed into strips or pieces and fastened together, substantially as described.

No. 21,154. Scales. (*Balance.*)

Abraham G. Lombard, Chatfield, Minn., U.S., 25th February, 1885; 5 years.

Claim.—1st. In a platform scale, a main frame provided with a system of levers beneath which the platform is suspended, in combination with stay rods, connected to the centre of the platform, and having their outer ends adjustably secured in slotted plates, whereby the platform may be evenly adjusted and perfect weight insured, whether the load be in the centre of the platform or seat, substantially as shown and described. 2nd. In a platform scale, the frame A^1, A, and the series of levers C, C, D^1, in combination with the platform K, suspended therefrom, and the stay-rods k, k, having their ends secured in slotted segments L, substantially as and for the purpose set forth. 3rd. The combination, in a platform scale, of the frame A, A^1, entirely above the ground, the castings B, B, levers C, C, D^1, rod d^1, and scale beam E, with the suspension hooks G, having prongs g, g^1, rods H, H^1, secured to the centre and ends of the hanging platform, the stay rods i, i, m, m, and k, k, and slotted segments L, all constructed and arranged to operate substantially as and for the purpose set forth.

No. 21,155. Door Knob Attachment.

(Manière d'Assujétir les Boutons des Portes.)

Thomas Brundage and Mary Jane Gonne, (Assignee of William H. Gonne,) Chatham, Ont., 25th February, 1885; 5 years.

Claim.—1st. In a door knob attachment, a spindle F consisting of two flat metal plates, each having one end bent slightly outward, and the inner side of the other end serrated for a portion of its length, and a shorter similar metal plate adapted to separate the first named plates, substantially as and for the purpose hereinbefore set forth. 2nd. J, a fastening pin, which passes between said plates, to engage with the serrated portion thereof, substantially as and for the purpose hereinbefore set forth.

No. 21,156. Brick Kiln. (*Four à Briques.*)

Stephen W. Underhill, Croton Point, and George E. Fisher, Rochester, N.Y., U.S., 25th February, 1885; 5 years.

Claim.—1st. In a permanent brick kiln base, moulded *in situ*, series of passages or hot air reservoirs extending through from one side to the other, and having exit flues only on the sides, substantially as herein shown and described. 2nd. A brick kiln base, constructed substantially as herein shown and described, of fire-clay or other suitable material, moulded *in situ*, in or by means of removable forms or moulds. 3rd. A brick kiln base, provided with series of flues leading upward from hot air reservoirs, the end flues being larger or of greater capacity than the more central flues, substantially as and for the purposes described. 4th. A brick kiln base, constructed with its extreme end flues of greater capacity than the central flues, and with their ingress openings on a higher level than the ingress openings of the central flues, substantially as herein described and for the purposes set forth.

No. 21,157. Wind Engine. (*Moulin à Vent.*)

Charles H. Cramer, Lake Mills, Wis., U.S., 25th February, 1885; 5 years.

Claim.—1st. The combination of the windmill hub D, provided with lugs a, shaft E, collar F, provided with recesses b, and arms G, chain O, spiral spring N, radial arms C, rods H and sections A, said lugs a, a, being adapted to move in the recesses b, b, and said chain being adapted to be wound upon said collar, and said spiral spring extended as the motion of said collar F is resisted by the action of the brake, while said sections A are thrown from a vertical into a horizontal position out of the wind, as said wheel moves forward by the action of said rods H, said collar being moved forward and said sections brought into a vertical position by the said spring when the resistance of the brake is removed, all for the purpose and substantially as specified.

No. 21,158. Button Hole Attachment for Sewing Machines. (*Machine à Coudre faisant les Boutonniéres.*)

Friend W. Smith, jr., and S. Stuart Williamson, Bridgeport. Ct., U. S., 25th February, 1885 ; 5 years.

Claim.—1st. In a button hole sewing attachment for sewing machines, the combination, with a vertical rack secured to a feed bar adapted to be oscillated, of a pinion stationary, except as to revolution, around its axis, and adapted to mesh with said rack, and step by step to operate laterally against every portion of the latter circumferentially, whereby the said bar is fed back and forth, substantially as described. 2nd. In a button hole sewing attachment for sewing machines, the rack by means of which forward and backward motion is communicated to the feed bar, constructed and adapted to act as a templet for the button hole, substantially as set forth. 3rd. In a button hole sewing attachment for sewing machines, a wiper wheel, ratchet wheel and pinion rigidly secured on the same short shaft (the number of teeth in the ratchet being double the number of cams on the wiper wheel), in combination with the pivoted oscillator embracing at its rear extremity the said wiper wheel, means for turning the ratchet, the feed bar adjustably connected to the oscillator and having attached thereto a vertical rack with which the pinion is adapted to engage, substantially as shown and describ d. 4th. The combination of the operating lever, pawl lever, spring pawl attached to the lower extremity of said pawl lever, ratchet wheel pinion and wiper wheel secured on the same short shaft, oscillator pivoted to the bed plate and embracing said wiper wheel, feed bar adjustably connected to the oscillator rack attached to the seed bar and engaging with said pinion, and means for clamping the goods at the forward extremity of the feed bar, substantially as specified. 5th. In a button hole sewing attachment for sewing machines, the combination, with a pinion capable of being revolved, of the vertically depending rack attached to the feed bar, and adapted to be engaged by the pinion throughout its entire circuit, whereby lengthwise forward and backward movement is imparted to the feed bar, substantially as and for the purpose set forth. 6th. In a button hole attachment for sewing machines, the combination, with a ratchet wheel and a wiper wheel, both rigidly mounted on the same short shaft, of the oscillator pivoted to the bed plate and having its rear extremity forked and embracing said wiper wheel, and means for intermittently rotating said ratchet, whereby a positive vibration is imparted to the oscillator, substantially as set forth. 7th. The combination, with the pivoted lever Y, adapted to be operated by the needle bar of a sewing machine, of the the pawl lever V, spring-actuated pawl X, pivoted to the lower extremity of the pawl lever, ratchet wheel D, and wiper wheel C, secured on the same short shaft, and the pivoted oscillator forked at the rear end and embracing said wiper-wheel, substantially as shown and described. 8th. In a button hole attachment for sewing machines, the combination, with the feed bar carrying a vertically depending rack having a circumferential groove around its base, of a pinion meshing with said rack and adapted to be revolved intermittently, and a guide pin projecting axially from said pinion within said groove, whereby continuous engagement of the rack and pinion is insured, substantially as and for the purpose described. 9th. The combination, with the oscillator, forked, as described, and the feed bar carrying the vertically depending rack, of the wiper wheel, ratchet wheel and pinion, all rigidly secured on the same short shaft, and means for intermittently revolving said ratchet wheel, substantially as shown and described.

No. 21,159. Reversible Latch. (*Loquet Reversible.*)

Daniel H. Fitzgerald, Reading, Penn., U.S., 25th February, 1885 ; 5 years.

Claim.—1st. The combination, with the side plates A, A1 of a lock case, of the latch-bolt composed of the yoke or fork B, having ears *b*, and the part B1, capable of being turned relatively to the yoke B, a spring for projecting the bolt, the hub C consisting of a single piece of a length to fit and slide between the plates of the lock-case, and having toes *c*, which act upon the ears *b*, to retract the bolt, and a spring for resisting the sliding movement of the hub in a direction to project the bolt, substantially as herein described. 2nd. The combination, with the lock-case, constructed with the semi-circular flanges *h* on its inner sides, of the hub fitting in said flanges and capable of sliding between the plates of the case, a spring for resisting such sliding movement of the hub, and a latch-bolt comprising a reversible portion, substantially as herein described. 3rd. The combination, with a lock-case and a bolt comprising a reversible portion, of a hub arranged to slide between the plates of said case, a spring for resisting the sliding movement of the hub in a direction to project the bolt, and a spindle fitting the hub, the plate of the lock-case being formed with holes which are of sufficient size to receive the spindle but too small to receive the hub, and which prevent any sliding movement of the hub so long as the spindle is in place, substantially as herein described. 4th. The combination, with the plates A, A1, having semi-circular flanges *h*, and the hub C, journalled therein, and sliding between the plates, of the spring *i*, extending across and bearing upon the hub, and confined at its ends, and the bolt B, B1, capable of operation by the hub, substantially as herein described.

No. 21,160. Vehicle. (*Voiture.*)

William A. Dawson, Stony Point, Cal., U.S., 25th February, 1884; 5 years.

Claim.—1st. In a vehicle having a front and rear axle, and a tongue to which hounds may be attached, the means, for relieving the tongue or pole from side shocks, consisting of a pivot pin or joint by which the tongue is loosely connected with the axle, and chains, slots, cushions, or other devices by which the independent side motion is limited or checked, substantially as herein described. 2nd. In a vehicle having a front and rear axle, the tongue loosely pivoted to the front axle or hounds, so that its front has a movement independent of the axle, and a means for locking the tongue, so as to move with the axle, substantially as herein described.

No. 21,161. Lamp. (*Lampe.*)

Adolph Geiss, Chicago, Ill., U.S., 25th February, 1885 ; 5 years.

Claim.—1st. In a lamp, the combination, with a wick-raising tube and a pinion for operating said tube, of an oil-tight box for said pinion, as set forth. 2nd. In a lamp, the combination, with a central air-tube, a wick tube and a pinion and stem for operating the latter, of a detachable tube provided with an inverted L-shaped slot, as set forth. 3rd. In a lamp, a wick-raising tube provided with prongs stamped out of the same metal, and situated upon the upper end of said tube, as set forth.

No. 21,162. Doubletree for Proportioning the Draught of a Loaded Waggon Between a Team of Horses of U equal Strength. (*Palonnier pour Regler le Tirage de deux Chevaux d'Inégale Force.*)

Stepen McKenzie, Georgetown, Ont., 25th February, 1885 ; 5 years.

Claim.—The combination of the plate and doubletree, and the manner in which it is attached to the tongue by the friction roller D, and the slot F, substantially as and for the purpose hereinbefore set forth.

No. 21,163. Device for Operating Hay Carriers. (*Appareil pour faire fonctionner les Monte-Foin.*)

Joseph E. Porter, Ottawa, Ill., U.S., 25th February, 1885; 5 years.

Claim.—1st. The combination, in hay-elevating devices, of the carrier draft rope drum, and means of operating the same. 2nd. The combination, with a hay-carrier and draft-rope, of a drum loose on vertical shaft, said shaft and means for imparting the motion of said shaft to said drum. 3rd. The combination of a hay-carrier, draft rope-drum, vertical shaft and horse reach. 4th. The combinations with the hay-carrier, draft-rope drum loose on a vertical shaft, and a pawl attached to its upper surface, of said vertical shaft and ratchet thereon, and means for operating said shaft. 5th. The combination, in devices for elevating hay, of the carrier drum and means for operating the same, and draft-rope, one end of which is secured to said carrier and the other end to the drum.

No. 21,164. Hay Fork. (*Fourche à Foin.*)

James A. Buchanan and Robert Neely, North Dorchester, Ont., 25th February, 1885 ; 5 years.

Claim.—In a hay-fork, the cranks *c*, *c*, cross-bar B, and handle H, for imparting upward and downward motion to side-bars D, and securely locking the same, substantially as shown and described.

No. 21,165. Machine for Spreading and Drawing Hemp, etc. (*Appareil pour Etendre et Etirer le Chauvre, etc.*)

John Good, Brooklyn, N. Y., U.S., 26th February, 1885 ; 5 years.

Claim.—1st. The combination, with an endless series of gill-pins, of a pair of drawing rolls, one having a metallic working surface, and the other having a covering of india rubber, and a leather belt passing around the rubber covered roll and forming a working surface therefor, substantially as described. 2nd. The combination, with an endless series of gill-pins and pair of drawing rolls, one having an india-rubber covering, of the endless leather belt, the tension roller and adjusting screws for maintaining the tension of said belt, and springs, applied as described, for giving pressure to the upper drawing roll, substantially as set forth. 3rd. The combination, with the pair of drawing rolls and the leather belt passing around one of them, of the fibre cleaning rubbers or guards applied to the said belt and lower drawing roll, either or both, and sewing to prevent fibres from lapping round the belt and roll, substantially as described. 4th. The combination of two series of gill-pins, and endless chains for carrying the same arranged relatively to each other as described, so that the pins which are at any time in operation are presented in a downward direction on the lower portion of one series, and in an upward direction on the upper portion of the other series, and mechanism for moving the two belts in reverse directions, so that their operative portions will move in the same direction, but at different speeds, substantially as set forth. 5th The combination, with the two series of gill-pins, and endless chains for carrying the same, arranged relatively to each other, as above mentioned, of driving wheels for the chains of the first series, arranged at the delivery end of said series, and guiding rails extending beyond the said wheels, whereby the downwardly presented pins of the first series are held in operative position and their direct travel is prolonged beyond said wheels, substantially as described. 6th. The combination, with the chains and pin bars of the first series or belt of gill-pins in the spreader, the driving wheels for said chains arranged at the delivery end of the series, and the guide rails extended beyond said wheels, as described, of the inclined guides or supports n^2, and the stationary cams n^3, for preserving the upright position of the said pins while they are ascending out of the fibre, substantially as described. 7th. The combination, with the chains and pin bars, of the second series, or belt of gill-pins in the spreader, and the driving wheels for said chains, arranged at the receiving end of said series, of the cams *l*, *l* and the inclined guides, supports or tracks j^3 for bringing and keeping the said pins upright, or nearly so, before and during their entrance into the fibre, substantially as described. 8th. The combination, with a pair of feeding rolls and a belt of pins, the lowermost portion of which is operative with its pins presented downwards, of a reciprocating fibre clearing blade or plate arranged within the belt of pins and working between the pin bars to clear the pins of the fibre, substantially as described. 9th. The combination, with a pair of feeding rolls and an endless belt of pins, the lowermost portion of which is operative with its pins presented downwards,

of an endless retaining apron arranged below and moving with said belt, and receiving through it the pins of the latter, whereby the fibre is prevented from dropping off the pins, substantially as described. 10th. The combination, with the feeding rolls H, H1 and the belt of pins C1, of the clearing blade or plate g^2, and its supporting arms g^3, pivoted at g^4, and provided with toes g^5, to be acted on by the pin bars i, substantially as described. 11th. The combination, with a pair of feeding rolls and an endless belt, of pins to which fibre is fed by the rolls, the upper feeding roll being journalled in movable boxes, of an indicator and connections through which the indicator is operated by the rising and falling feed roll to indicate the quantity of material being fed to the machines, substantially as described. 12th. The combination, with the driving shaft of a spreader or driving frame and a clutch on said shaft for imparting motion thereto, of a spring acting upon the movable clutch portion to hold it in driving engagement with its felloes, a clutch lever, a rock shaft, and cam weighted to turn automatically when released, and to throw off the clutch lever, a catch for holding the rock shaft in operative and trip mechanism operated by the driving shaft and adapted to release the rock shaft from its catch, and disengage the clutch after a determined number of turns of the driving shaft, substantially as described.

No. 21,166. Book and File Case.

(*Case pour Livres et Dossiers.*)

Jacob Baker, Greenville, Ohio, U.S., 26th February, 1885 ; 5 years.

Claim.—1st. The main body or frame of the case, in combination with partitions and drawers, said partitions being provided with supporting strips for the drawers at intervals, substantially as described, whereby a space is left above each drawer, for the purpose specified. 2nd. The receptacle for file cases consisting of a block G, rabbeted block F, and a strip U of metal bent to form the sides and bottom of the box, inclosing the block G and fitted to the rabbeted edge of the block F, substantially as set forth.

No. 21,167. Sowing Machine. (*Semoir.*)

Thomas D. Galloway, Oshawa, Ont., 26th February, 1885 : 15 years.

Claim.—1st. The combination, substantially as set forth, of a drill tooth and a hoe attached thereto, so as to operate in rear thereof. 2nd. The combination, substantially as set forth, of the receiving funnel of a drill tooth, the detachable tubular drill point and the hoe attached to the funnel in rear of the drill point. 3rd. The combination, substantially as set forth, of the receiving funnel and the hoe attached thereto, in a position, substantially as described, so as to leave room for a tubular drill point in advance. 4th. A receiving funnel, constructed substantially as described, so that both tubular drill point and a hoe may be carried thereby at the same time.

No. 21,168. Manufacture of Barrels and Apparatus therefor. (*Fabrication des Barils et appareil pour cet objet.*)

Frederick Andrew and Charles Fox, London, Eng., 26th February, 1885 ; 5 years.

Claim.—1st. The method of manufacturing cylindrical barrels by uniting flatwise side by side a series of staves by means of hoops or strips at each end and in the centre of the staves, which staves and hoops are secured together by nails or their equivalents, and subsequently forming this series of staves into the cylindrical body of the barrel by means of the apparatus, substantially as described. 2nd. An apparatus for manufacturing cylindrical barrels (or casks), in the manner described in the first claim, essentially consisting of the base B, the part cylinder g and the top n, in combination with the roller h pivoted to a bearer which can be rotated on the centre k, and one or more rods l for holding one of the ends of the series of staves, as described and represented in the accompanying drawing.

No. 21,169. Automatic Pole or Evener Coupler for Horse Cars. (*Accouplage automatique de Timon ou Régulateur pour Chars à Cheval.*

John N. Ackerman, Somerville, Mass., U. S., 26th February, 1885 ; 5 years.

Claim.—1st. In an automatic pole or evener coupler for horse cars, the forked draw-bar a, the lever d pivoted to the said draw-bar and having the arm d^{11}, as described, the pin e pivoted to said lever, and arranged to pass through the holes a^3, a^3, in the draw-bar, in combination with the eye b^1, b^{11} of the pole b, and the projection b^3 on said eye to act on the arm d^{11} of the lever d, all as and for the purpose set forth. 2nd. In an automatic pole or evener coupler for horse cars, the forked draw-bar a, the lever d pivoted to the said draw-bar and having the arm d^{11}, as described, the pin e pivoted to said lever and arranged to pass through the holes a^3, a^2 in the draw-bar, in combination with the eye b^1, b^{11} of the pole b, the groove b^4 on said eye and the projection b^3 on said eye to act on the arm d^{11} of the lever d, all as and for the purpose set forth and described. 3rd. In an automatic pole or evener coupler for horse cars, the forked draw-bar a, the lever d pivoted to said draw-bar, and the pin e pivoted to said lever and passing through holes in the draw-bar, in combination with the stop a^4 on said draw-bar, for the purpose set forth. 4th. In an automatic pole or evener coupler for horse cars, the forked draw-bar a, the lever d pivoted to said draw-bar, and the pin e pivoted to said lever and arranged to pass through holes in said draw-bar, in combination with the chain rod or cord f for disconnecting the pole or evener from the draw-bar, as set forth.

No. 21,170. Machine for Sewing or Quilting Fabrics. (*Machine à coudre ou piquer les étoffes.*)

Frank L. Palmer, New London, Ct., U. S., 26th February, 1885 ; 5 years.

Claim.—1st. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts consisting of two carriages, one mounted upon the other and movable in directions transverse to each other, the first carriage being capable of free movement in order to permit a universal movement of the second carriage, a guide in pattern form, and a device, as shaft C, connected with the second carriage whereby the movements of said carriages are controlled, substantially as described. 2nd. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for said fabric holder consisting of two carriages, one mounted upon the other and movable in directions transverse to each other, the first carriage being capable of free movement in order to permit a universal movement of the second carriage, a guide in pattern form, and a device, as shaft C, connected with the second carriage, whereby the movements of said carriages are controlled, substantially as described. 3rd. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports from which said fabric holder is suspended, a guide in pattern form, and a device, as shaft C, engaging with said guide and connected with said supports, whereby the movements of the suspended fabric holder and its supports are controlled, substantially as described. 4th. In a quilting machine, the combination with a fabric holder, and a sewing machine, of movable supports for one of said parts consisting of two carriages, one mounted upon the other and movable in directions transverse to each other, the first carriage being capable of free movement to permit a universal movement of the second carriage, a pattern arranged in a plane approximately parallel with the fabric holder, and comprisin ga guide in pattern form, and a device, as shaft C, engaging with said guide and connected with the second carriage, whereby the movements of said carriages are controlled, substantially as described. 5th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, and pattern mechanism connected with said supports for controlling their movements, and consisting of a pattern comprising a guide in pattern form, and a device, as shaft C, engaging with said guide, the said fabric holder and the pattern being capable of being turned and secured in different position relatively to each other, whereby provision is afforded for producing the design of the pattern in different positions on the fabric, substantially as described. 6th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, and a pattern mechanism connected with said supports for controlling their movements, and consisting of a pattern comprising a guide in pattern form, and a device, as shaft C engaging with said guide, the said fabric holder being capable of being turned and secured in different positions relatively to the pattern, whereby provision is afforded for producing the design of the pattern in different positions on the fabric, substantially as described. 7th. The combination, with a fabric holder, provided with means for holding a fabric extended, of converging arms or hangers B^2, extending from the outer portions of the fabric holder and composed of rigid material, a hub or sleeve B^3, with which the upper ends of said arms or hangers are connected, an upright shaft C on which said hub may be turned, and a sewing machine for operating on said fabric, whereby the entire portion of the fabric within the holder is exposed to the operation of the needle, and whereby provision is afforded for turning the fabric, substantially as described. 8th. The combination, with a fabric holder provided with means for holding a fabric extended, of converging arms or hangers B^2 carrying said holder, a hub or sleeve B^3 with which the upper ends of said arms or hanger are connected, and an upwright shaft C on which said hub or sleeve may be raised and lowered, means for holding said hub or sleeve in different positions vertically on said shaft, and a sewing machine for operating on a fabric held in said holder, substantially as described. 9th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, and pattern mechanism connected with said supports for controlling their movements, and consisting of a pattern comprising a series of guides in pattern form successively inclosing or surrounding each other, and a device, as shaft C, for engaging with said guides, substantially as described. 10th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, and pattern mechanism connected with said supports for controlling their movements, and consisting of a pattern comprising a series of guides in pattern form arranged about a common centre, and a device, as shaft C, for engaging with said guides, substantially as described. 11th. In a quilting machine, the combination, with a fabric holder, and a sewing machine, of movable supports for the fabric holder, a pattern mechanism for controlling the movements of said supports, and a fabric holder consisting of a pattern comprising a guide in pattern form arranged in a plane parallel with the fabric holder, and having its centre approximately in line with the needle of the sewing machine, and a device, as shaft C, connected with the movable supports and engaging with said guide, substantially as described. 12th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, a pattern comprising a guide in pattern form arranged above the sewing machine, and a device, as shaft C, connected with said supports and engaging with the pattern guide for controlling the movements of said supports, substantially as described, 13th. In a quilting machine, the combination, with a fabric holder, and a sewing machine, of movable supports for one of said parts, a pattern comprising a guide in pattern form arranged above the sewing machine, and said movable supports, and a device, as shaft C, connected with said supports, and engaging with the pattern guide for controlling the movement of said supports, substantially as described. 14th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports providing for change in the relative position of said parts, and pattern mechanism connected with said supports for controlling their movements, and consisting of a track in pattern form, and a positively operating device, as wheel f^4, engaging with the pattern track, whereby the change in relative position between the pattern track and the engaging device will be produced by the operation of the engaging device on the track, substantially as described. 15th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, consisting of two carriages,

one mounted upon the other, and movable in directions transverse to each other, the first carriage being capable of free movement in order to permit a universal movement of the second carriage, and pattern mechanism connected with the second carriage for controlling the movements of said carriages, and consisting of a track in pattern form and a positively operating device as wheel *f*4, engaging with the pattern track, whereby the change in relative position between the pattern track and engaging device will be produced by the operation of the engaging device on the track, substantially as described. 16th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for the fabric holder, and pattern mechanism connected with said supports for controlling the movements of the fabric holder, and consisting of a track in pattern form, and a positively operating device, as wheel *f*4, engaging therewith, whereby the changes in relative position between the pattern track and engaging device will be produced by the operation of the engaging device on the track, substantially as described. 17th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, and a pattern mechanism for controlling the movements of said supports consisting of a track in pattern form, and a positively operating device, as wheel *f*4, connected with said supports and engaging with said track, the movement of the engaging device along the pattern track being produced by its positive operation upon said track, substantially as described. 18th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, and a pattern mechanism connected with said supports for controlling their movements, and consisting of a toothed rack in pattern form, and a pinion engaging therewith, and having a positive rotary motion, substantially as described. 19th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for said fabric holder, and pattern mechanism connected with said supports for controlling the movement of said fabric holder and supports, and consisting of a toothed rack in pattern form and a pinion engaging therewith, and having a positive rotary motion, substantially as described. 20th. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, a pattern compressing a track in pattern form, a wheel connected with said movable supports and gearing with the pattern track, and an endless belt for rotating said wheel, whereby the movements of said wheel and supports are produced by the engagement of said wheel with the pattern track, substantially as described. 21st. In a quilting machine, the combination, with two carriages, one mounted on the other and movable in directions transverse to each other, the first being capable of free movement to permit the universal movement of the second carriage, of a fabric holder supported by the second carriage, a sewing machine for operating on a fabric secured in said holder pattern, mechanism consisting of a track in pattern form, and a device, as shaft C, connected with the said second carriage and provided with a positively rotating wheel gearing with said pattern track, substantially as described. 22nd. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, and a pattern mechanism connected with said supports for controlling their movements, and consisting of a track in pattern form, a guide adjacent thereto, a device, as shaft C, engaging with said guide, and a positively rotated wheel connected with said device and gearing with said track, substantially as described. 23rd. In a quilting machine, the combination, with a fabric holder and a sewing machine, of movable supports for one of said parts, and a pattern mechanism for controlling the movements of said supports consisting of a track in pattern form, a guide adjacent thereto, a device, as shaft C, connected with said movable supports and engaging with the pattern guide, and a positively operating device, as wheel *f*4, carried by said shaft, and sewing to move said shaft, and said movable supports by its engagement with the pattern track, substantially as described. 24th. In a quilting machine, the combination, with a fabric holder having at its outer portions arms composed of rigid material, and a sewing machine for operating on a fabric held in said holder, of movable supports for the fabric holder, whereby the entire portion of the fabric within the holder is left exposed for the operation of the needle as the fabric holder is moved, substantially as described. 25th. In a quilting machine, the combination, with a fabric holder having at its outward portions upwardly converging arms or hangers composed of rigid material, and a sewing machine for operating on the fabric held in said holder, of movable supports for one of said parts, whereby the entire portion of the fabric within the holder is left exposed for the operation of the needle, substantially as described. 26th. The combination, with a sewing machine, of a fabric holder B1, the carriages E, E1 and tracks or ways for the said carriage E, the shaft C, whereby the said fabric holder is supported and which is movable vertically in said carriage E1, the pattern consisting of the rack *f* and guide *f*1, the wheel *f*4 and pulley *f*3, loose upon said shaft, the endless belt or chain G, and the spring *f*5, supporting said shaft and adapted to yield to permit the disengagement of said shaft from said guide *f*1, substantially as described. 27th. The combination, with a sewing machine, of the carriages E, E1, the shafts C, the fabric holder B1 supported by said shaft, the pattern consisting of the rack *f* and guide *f*1, the pulley *f*3, and wheel *f*4, the endless band or chain G, the weighted pulley *h* hung in said band or chain, the upright shaft H, and the pulley *j*, and the guide pulleys *i*, *i*1, all substantially as described. 28th. The combination of the carriage E, E1, the shaft C, the fabric holder B1 supported by said shaft, the pattern consisting of a rack *f* and the guide *f*1, the pulley and wheel *f*3, *f*4, the endless chain or band G, the upright shaft H and its driving pulley *j*, and the sewing machine geared with said upright shaft H, substantially as described.

No. 21,171. Sprinkler and Atomizer.

(*Arrosoir Pulvérisateur d'Eau.*)

Moses Goldman, Pittsfield, Mass., U.S., 26th February, 1885; 5 years.

Claim.—1st. In combination with the holder, provided with a ring, the compressible hollow ball seated in said ring, and provided underneath the same with a ledge or shoulder, substantially as and for the purpose set forth. 2nd. The tank A1, in combination with the elastic vessel C and plunger D, all constructed to operate substantially as and for the purpose set forth.

No. 21,172. Pulley and Drum for Driving Purposes. (*Poulie et Treuil de Grue pour mettre en Mouvement.*)

James Shepherd, Manchester, Eng., 26th February, 1885; 5 years.

Claim.—A pulley or drum having its face or periphery perforated, spaced, grooved or fluted, to form exit passages for the air that is taken in between the outer face of the pulley, and the strap or band when running.

No. 21,173. Sap Spout. (*Bec de Sucrerie.*)

George S. Wood and Thomas A. Bodoin, Cowansville, Que., 26th February, 1885; 5 years.

Claim.—The combination of a tapering reversable tubular sap spout A, with its tapering holders C, C, and their hooks B, B, and the bucket hook D placed on the middle of the spout A, with a sap spout, substantially as and for the purpose set forth.

No. 21,174. Purifying Water.

(*Epuration de l'Eau.*)

William Tweeddale, Topeka, Ks., U.S., 26th February, 1885; 5 years.

Claim.—1st. The combination of the tank A and its compartments *a*1, *a*2, *a*3, with the water agitator B, the discharge pipes C1 and D, the waste pipe E, the floating filters F1, F2, F3 and heater G, all constructed, arranged and operating substantially as set forth. 2nd. The process of eliminating carbonates and sulphates from water, consisting in introducing and thoroughly mixing with a quantity of water sufficient milk of lime to make an over saturated solution of lime water, which, after precipitation, is inducted into the water to be treated, which, having already been highly heated, is thoroughly agitated and allowed more or less time to settle, when carbonate of soda is added, the water being kept highly heated and the mixture again agitated and allowed to settle, substantially as hereinbefore described.

No. 21,175. Scales. (*Balance.*)

William R. Morse, Chester, Ohio, U.S., 26th February, 1885; 5 years.

Claim.—A scale, consisting of a standard supporting scale, beams projecting on each side of the fulcrum point, said beams being graduated from the butt toward the free end, and provided with movable weights and pendent counter poises, and a platform supported at one side, the fulcrum, the whole device giving the gross weight of a contained article, and then by replacing the package only the net weight of the said article without mental calculation, substantially as and for the purposes set forth.

No. 21,176. Method of, and Apparatus for Sinking Shafts, etc. (*Méthode et Appareil de Creusage des Puits, etc.*)

Friedrich H. Poetsch, Aschersleben, Prussia, 27th February, 1885; 5 years.

Claim.—1st. The method of perforating strata of quicksand or other water bearing strata, which consists in freezing a portion of said strata by artificial means, and then proceeding with the perforating operation through said frozen portion, substantially as set forth. 2nd. The method described, of sinking shafts and making excavations in quicksand and other water-bearing strata, which consists in driving freezing pipes through said strata, next freezing a portion of said strata by circulating a refrigerating medium through said pipes, and then proceeding with the excavating operations through or within the frozen strata, substantially as set forth. 3rd. An apparatus for freezing quicksand or other water bearing strata, consisting of a series of freezing pipes driven through said strata, and of means for circulating a refrigerating medium through said pipes, substantially as set forth. 4th. An apparatus for freezing quicksand and other water-bearing strata, consisting of a series of freezing pipes driven through said strata, means for supplying a freezing medium to said pipes, and means for returning it from the same to the source of supply, substantially as described. 5th. The combination of a series of exterior pipes, closed at the ends and driven through water-bearing or other strata, a series of pipes within said exterior pipes and open at the ends, and means for circulating a freezing medium through said pipes, substantially as and for the purpose specified. 6th. The combination of a series of exterior pipes, closed at their ends, and driven through water-bearing or other strata, a series of pipes within said exterior pipes and open at their ends, means for supplying a refrigerating medium to the interior piges and means and appliances for returning said medium from the exterior pipes to the source of supply, substantially as described. 7th. The combination of a series of exterior pipes, driven through water-bearing or other strata and closed at the ends, a series of pipes within said exterior pipes and open at the ends, manifolds connected to the exterior pipes, a receiving pipe connected to the exterior pipes, means whereby a refrigerating medium is supplied to said manifolds, and means whereby said medium is returned from the receiving pipe to the source of supply, substantially as set forth.

No. 21,177. Shirt. (*Chemise.*)

Frédéric E. A. Gautier, Winnipeg, Man., 27th February, 1885; 5 years.

Claim.—1st. In a shirt provided with a turn down collar, the tongue C attached to or formed on the collar, and having the button-hole *a* formed in it to take over the button *c* attached to the shirt, as shown and described. 2nd. A shirt collar, having the tongue C, provided with the button-hole *a*, substantially as and for the purpose set forth. 3rd. In a shirt collar, the combination of the tongue C having the

button-hole *a*, with the button-holes *b*, *b*, formed in said collar near its front corners, substantially as shown and described.

No. 21,178. Manufacture of Packs or Bags for Holding and Conveying Wool. (*Fabrication des Enveloppes ou Sacs pour Envelopper et Transporter la Laine.*)

Peter S. Swan, Calcutta, India, 27th February, 1885; 5 years.

Claim.—Improved "packs" or bags for holding and conveying wool wherein the cloth composing such "packs" or bags is rendered "hairless" on either its interior or on both its interior and exterior surfaces, substantially as set forth, 2nd. Rendering "packs" or bags for holding and conveying wool "hairless" on their interior surfaces, or on both their interior and exterior surfaces, by treating them to either cropping or singing, substantially as set forth. 3rd. Rendering "packs" or bags for holding and conveying wool "hairless" on their interior surface, or on both their interior and exterior surfaces, by treating them, or the cloth of which they are made, to both cropping and singing, in combination, substantially as set forth. 4th. Rendering "packs" or bags for holding and conveying wool "hairless" on their interior surfaces, or on both their interior and exterior surfaces, by treating them, or the cloth of which they are made, with size or starch, or gum, or with any glutinous, or adhesive substance, so as to lay the fibres of the jute or analagous material, substantially as set forth. 5th. Rendering "packs" or bags for holding and conveying wool "hairless" on their interior surfaces, or on both their interior and exterior surfaces, by treating them to either cropping or singing, combined with the further treatment by size, or starch, or gum, or any other glutinous or adhesive substance, substantially as set forth. 6th. Rendering "packs" or bags for holding and conveying wool "hairless" on their interior, or on both their interior and exterior surfaces, by treating them to both cropping and singing, combined with the further treatment by size, or starch, or gum, or by an equivalent glutinous or adhesive substance, substantially as set forth. 7th. Improved "packs" or bags for holding and conveying wool, wherein the cloth is treated, substantially as set forth and claimed in the preceding claiming clauses, but combined with which there is the further feature of the cut edges, and sewing being turned to the outside of the said "packs" or bags, substantially as hereinbefore set forth. and shown by the accompanying drawings. 8th. In the manufacture of "packs" or bags for holding and conveying the wool, the turning of the cut edges of the said "packs" or bags to the exterior thereof, substantially as and for the purposes set forth, with reference to Fig. 1 (sheets 1 and 2) and Figs. 3 and 2 respectively of sheets 2 and 3 of the accompanying drawings. 9th. In the manufacture of "packs" or bags for holding and conveying wool, the turning of the cut edges of the said "packs" or bags to the interior thereof, substantially as and for the purposes set forth with reference to Figs. 2 and 4 (sheet 2) and Fig. 2 (sheet 3) of the accompanying drawing. 10th. In the manufacture of "packs" or bags for holding or conveying wool, the treating of the warp yarn alone, or both the warp and the weft yarns, by singing alone, or by singing in combination with sizing, starching, or treating with other glutinous substances, substantially as and for the purposes set forth. 11th. Rendering the interior of "packs" or bags for holding and conveying wool hairless, by coating them with pulp, so as to impregnate the body of the cloth, and form a lining of paper on the interior of said "packs" or bags.

No. 21,179. Watch Case. (*Boîte de Montre.*)

Charles K. Giles, Chicago, Ill., U.S., 27th February, 1885; 5 years.

Claim.—1st. A circular band adapted to receive the movement of a watch, and provided with threaded sections at each edge, in combination with a bezel provided with a screw-thread, and a back plate also provided with a screw-thread, whereby both bezel and back plate are removably attached to the band by their threaded sections, substantially as and for the purposes set forth. 2nd. A band A, adapted to receive the movement of the watch, and provided with screw threads *a* and *a*2 on its respective edges, in combination with a screw threaded bezel B, a screw-threaded back plate E and an independent centre F, substantially and for the purposes set forth. 3rd. The circular band adapted to receive the movement of a watch, and threaded as described, in combination with the screw-threaded bezel, the screw threaded back cap, the screw-threaded back plate and the independent centre fitted to the exterior of the band, all constructed and operating substantially as and for the purpose set forth.

No. 21,180. Carrier for Eggs, etc. (*Boîte pour les Oeufs, etc.*)

Walter S. Miller, Montreal, Que., 27th February, 1885; 5 years.

Claim.—1st. The combinaton of the sections A, provided with openings C and portions L, R, and I, with sections B provided with Tends H, the whole constructed and arranged substantially as described and shown for the purposes set forth. 2nd. The combination of the outer sections of as egg, etc., carrier, provided with openings and folding parts, as described, to interlock with openings or recesses cut near the ends of the intermediate sections, substantially as and for the purposes set forth.

No. 21,181. Lock. (*Serrure.*)

Alvan B. Ewing, Lewisburg, Tenn., U.S., 27th February, 1885; 5 years.

Claim.—1st. The combination, with the lock bolt, of slotted elastic locking plates lying upon the bolt plate and engaging with lugs or detents formed thereon, substantially as dessribed. 2nd. The combination, with the lock bolt having a plate provided with lugs or detents, of independent slotted elastic plates, one lying within and flush with the other, and operating conjointly to prevent the shooting of the bolt without raising said plate, substantially as described. 3rd. The combination, with the look bolt having lugs or detents, of slotted spring plates normally engaging therewith, and a lug upon the knob spindle, said lug normally lying over and upon the ends of said plates and preventing them from rising without operating the knob, substantially as described. 4th. The combination, with a lock bolt having detents, of slotted spring plates engaging therewith and locking the bolt, and a plate adjustable horizontally upon said plates by means of a key spindle, and adapted to lock them from being raised out of engagement with the detents of the bolt, substantially as described. 5th. The combination, with the lock bolt having detents, as described, of the spring plates engaging therewith, the knob spindle having a locking lug overlapping said plates, the spring latch actuated by a dog upon said spindle, a trigger engaging with said latch plate, and means for operating said trigger, substantially as described. 6th. The combination, with the lock bolt having the detents or lugs, as set forth, of the independent spring plates 11 and 12, the latter lying within and flush with the former, and the former having lateral depressed portions 16, substantially as described. 7th. The combination, with the slide plate actuating the pivoted trigger, of the crosshead projecting above the casing, and the hinged stop mounted upon said casing.

No. 21,182. Device for Displaying Textile Fabrics. (*Monire pour Etoffes.*)

Alexander A. Murphy, Montreal, Que., 27th February, 1885; 5 years.

Claim.—1st. A dress form or "puff," formed of pieces of board attached together and folded into shape. 2nd. A form for displaying dress goods and other fabrics, consisting of two triangular pieces folded vertically in upon each other, four triangular pieces forming the sides, and two triangular pieces forming the top and bottom, all secured together substantially as described. 3rd. A blank for a dress "puff" or form, having a central square divided diagonally, triangular pieces, the bases of which are secured to the sides of such square, and end triangles the sides of which are attached to the side triangles and the apices touch the angles of the square, substantially as shown and set forth.

No. 21,183. Process for Treating Copper Matt. (*Procédé de Traitement de la Matte de Cuivre.*)

John L. Crooke and Robert Crooke, New York, N. Y., U. S., 27th February, 1885; 5 years.

Claim.—1st. In the art of treating copper regulus, the process consisting in first bringing a quantity of lead to a state of incipient redness, then combining therewith a quantity of ground argentiferous copper malt by agitation, and thereby bringing the mass to a temperature producing dull redness without fusing the matt, and then tapping off the freed lead for further treatment, substantially as described. 2nd. In the art of treating copper regulus, the process consisting in, first, bringing a quantity of lead to a state of incipient redness, then combining therewith a quantity of ground argentiferous copper matt by agitation, and thereby bringing the mass to a temperature producing dull redness without fusing the malt, then tapping off the freed lead, then, again, combining the quantity of lead with the malt, again agitating the mass until brought to a state of dull redness, and tapping off the freed lead, substantially as described. 3rd. In the art of treating copper regulus, the process of separating the excess of lead from the charge resulting from the removal of silver, gold, antimony and arsenic from copper matt by combining lead therewith, rabbling the mass and drawing off the freed lead, the same consisting in rabbling into the mass at high temperature a quantity of coal, whereby the greater portion of lead contained in the matt is reduced and the matt melted, substantially as described. 4th. The process of treating copper regulus for the recovery of copper, the same consisting in combining a small per cent. of lead with the regulus, then roasting the same while subjected to a blast and under agitation at a temperature slightly less than that at which copper melts, substantially as described. 5th. The process of refining copper regulus combined with lead, substantially as described, the same consisting in scorifying the mass by subjecting the same to a bast until it becomes metallic, then adding silica thereto, and then subjecting the stock to a temperature producing copper fusion until the melted copper ceases to boil, substantially as described. 6th. In the art of treating copper regulus, the process consisting of the following steps: In first bringing a quantity of lead to a state of incipient redness, and combining therewith a quantity of ground argentiferous copper matt by agitation and heat at a temperature that will not fuse the matt, then, after removing the freed lead, rabbling into the mass a quantity of coal while the whole is subjected to a melting temperature less than that at which copper melts, then scorifying the mass by subjecting it to a blast until it becomes metallic, then adding silica thereto, and subjecting the mass to a heat producing copper fusion until he melted copper ceases to boil, substantially as described.

No. 21,184. Rotary Steam Engine. (*Machine à Vapeur Rotatoire.*)

Adna Wildern, Vienna, Ont., 28th February, 1885; 5 years.

Claim.—1st. The cylindrical cores A, A1, provided with the grooves J, J, and K, K respectively, in combination with the cylinder D, provided with the inlet steam ports H, H and exhaust steam ports I, I, substantially as shown and described and for the purpose specified. 2nd. The combination and arrangement of the cylindrical cores A, A1, pistons E, E1 and cylinder D, substantially as shown and described and for the purpose specified. 3rd. The combination of the cylinder D, shafts B, B1, and adjustable bokes C, C, with the cylindrical cores A, A1 revolving on each other, forming a steam-tight joint, and an abutment for the steam at their junctions, substantially as shown and described.

No. 21,185. Pipe Wrench. (*Clé à Tuyau.*)

James F. Guthrie, Somerville, Mass., U. S., 28th February, 1885; 5 years.

Claim.—1st. In a pipe wrench, in combination with a jaw D, a jaw C arranged to bear and slide upon an inclined surface *a* across the

body portion of the wrench, and provided with an arm g, substantially as and for the purposes specified. 2nd. In a pipe wrench, in combination with a jaw D, a jaw C arranged to bear and slide upon an inclined surface a across the body portion of the wrench, and secured thereto by an extension H having its outer end enlarged in cross-section and engaged with a socket g, substantially as and for the purpose specified.

No. 21,186. Hydraulic Rivetting Machine.

(Machine à River Hydraulique.)

William R. Webster, Athens, Penn,, U. S., 28th February, 1885 ; 5 years.

Claim.—1st. The combination of the cylinders A, D and E, plungers C and F and snap H, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the spring I, and sleeve M, substantially as and for the purposes hereinbefore set forth.

No. 21,187. Hay Elevator and Carrier.

(Charriot Monte-foin.)

Abner J. Burbank, Harvard, Ill., U.S., 28th February, 1885 ; 5 years.

Claim.—1st. The weighted lever g, having stop o, curved arm m, and catch y, in combination with dog i, having arm x, prong t, and notches p, w, and with the fork head q, and stud n, substantially as described. 2nd. The lever a_1, having curved arm m, and stud y, in combination with lever g, having stop o, and with dog i, having arm x, prong t, and notches p, w, also with fork head q, and stud b_1, substantially as described. 3rd. The combination of dog i, having arm x, prong t, and notches p, w, lever g having stop o, and the fixed cleat u, with the fork head q, substantially as described. 4th. The lever a_1, and stud b_1, in combination with lever g, dog i, and the fork head q, the lever g having the arm m, and catch y, and provided with the stud n, and the connected lever a_1, also having an arm m, and catch y, and being provided with a stud b_1, the said levers and studs being arranged in different planes, whereby the carriage may be worked in opposite directions without interference of the said levers and studs, substantially as described.

No. 21,188. Liquid Meter.

(Compteur à Liquides)

Edwin Patham, Balmain, near Sidney, N.S.W., 28th February, 1885 ; 5 years.

Claim.—1st. An improved liquid meter, so constructed that the filling of one of two equal stationary chambers or measures will float or lift the lower end of a lever upwards, causing said lever to oscillate and reverse the supply and discharge valves of each such chamber or measure respectively, substantially as herein described and explained. 2nd. The combination and arrangement of the chambers B and B_1, within the air-tight vessel A, with an oscillating lever C, for opening and closing valves, cocks or entrances to such chambers, and mechanism for recording the movements of such lever, substantially as herein described and explained and as illustrated in the drawings. 3rd. The hollow oscillating lever in which is hermetically sealed a small quantity of water, mercury or other fluid, and whether or not provided with air vessels or floats, substantially as herein described and explained. 4th. The combination and arrangement of the air-tight discharging vessel F, having discharging check valve F_3, and communicating pipe F_5, with the air-tight receiving-vessel A, substantially as herein described and explained and as illustrated in the drawings.

No. 21,189. Bridle Bit. (*Mors de Bride.*)

John M. French, Chelsea, and George B. Fisher, Midway, (Assignees of John R. Broth, Midway, and Martin L. Andrews, Melrose,) Mass., U.S., 28th February, 1885 ; 5 years.

Claim.—1st. A bridle bit composed of hooks adapted for insertion between the cheeks and teeth of a horse and provided with means for attachment to the bridle, as set forth. 2nd. The combination with the bridle of two hooks secured thereto, said hooks being adapted for insertion between the cheeks and teeth of a horse. 3rd. The improved bridle bit formed of the curved jaw-bar B, and the right angular hooks A, A, constructed in one rigid piece therewith and projecting parallel to each other at a right angle, or nearly so, to said bar, as shown and described. 4th. A bridle bit composed of two hooked fingers formed to enter an animal's mouth between the cheeks and jaws, and connected by a rigid cross-bar, formed to extend under the lower jaw, as set forth.

No. 21,190. Car-Coupling.

(Accouplage de Wagons.)

John L. Lloyd and John S. Temple, Streator, Ill., U.S., 28th February, 1885 ; 5 years.

Claim.—1st. The combination in a car-coupling, of the draw-bar d, yoke-bar o, draw-bolt n, buffer spring m, and washers t, the yoke being connected to the draw-bar by the shoulders p, and bolt q, and the bolt n, being extended through the bar v, and secured by nut x, substantially as described. 2nd. The draw-bolt connected to the plate d_1 by a square shank y, and secured by the nut x, having a lock-plate z, held to the plate d_1, and also fastened to it by a screw or screws, substantially as described. 3rd. The link b, having a slot increasing in width from the rear to the front end thereof, to adapt it for self coupling on a curved track. 4th. The combination with the draw-bar d, buffer spring m, and bolts n, of the flat bent bar o, connected by shoulders p, with said draw-bar d, the fastening bolt o, passing through the rear end of the draw-bar in front of the head of bolt n, and the washers t, t, arranged at the head and back end of said bar, whereby the buffer spring m, and bolt n, are secured, as described.

No. 21,191. Clevis. (*Volée.*)

Edgar E. Moss and Scott Swigart, (Assignees of Louden Jacquish,) Maple Rapids, Mich., U.S., 28th February, 1885 ; 5 years.

Claim.—In combination with the clevis A, provided with a perforated end B_1, having a lip C formed thereon, the pin D, having a slotted collar D_1, substantially as shown and for the purpose set forth.

No. 21,192. Churn Power. (*Moteur de Baratte.*)

William Sparling, Ottawa, and John Sparling, Orillia, Ont., 28th February, 1885 ; 5 years.

Claim.—The combination of the base A, post B, coiled spring or springs D, and levers E, the coiled spring or springs connecting the end of the lever with the post, as set forth.

No. 21,193. Harrow. (*Herse.*)

John W. Scott, Listowel, (Assignee of David W. Carter, Carrington, D.T., U.S.,) 28th February, 1885 ; 5 years.

Claim.—1st. A cam wheel, shaped substantially as E, and fastened to the axle A, in combination with mechanism arranged to convert the rotary movement to the front and rear harrows, substantially as and for the purpose specified 2nd. A cam wheel E, fastened to the axle A, in combination with the lever H, pivoted to the tail extension piece D, and provided with rods at its front and rear ends to connect the front and rear pair of harrows F, and respectively to the front and rear ends of the lever, substantially as and for the purpose specified. 3rd. A lever H, pivoted to the tail of extension piece D, and having rods I extending from its rear end to the cranks formed on the end of the rod J, which connects the rear pair of harrows together, in combination with the rods L, connected at their lower ends to the cranks formed on the rod K, and at their upper ends to the front end of the lever, substantially as and for the purpose specified. 4th. A rectangular frame B, surrounding the cam wheel E, and journalled on the shaft A, the pole C fastened to the front end of the rectangular frame, the tail or extension piece D, fastened to the rear end of the rectangular frame, substantially on a line with the pole, in combination with the diagonal bracing N, extending from the tail or extension piece D, to a bearing box fitted on each end of the shaft A, and thence diagonally to the tongue C, forming a support for the said box, substantially as and for the purpose specified.

No. 21,194. Hay Elevator and Carrier.

(Chariot Monte-Foin.)

Robert A. Morris and Nels Carlson, Janesville, Wis., U.S., 28th February, 1885 ; 5 years.

Claim.—1st. The combination, with the carriage B, having a flaring opening J, and provided with wheels C, C, of the cams K, L, and tripper M, to retain the horn I, of the tackle block H, when carrying the load, and be released by cam plate E, to discharge the load, as set forth. 2nd. The combination of the cam K, having arms 2, 3, 4, cam L having bearing faces 5, 6, and tripper M, pivoted to cam L, as described.

No. 21,195. Machine for Crushing Ore.

(Machine à Broyer le Minerai.)

Jacob C. Wiswell, Medford, Mass., U.S., 28th February, 1885 ; 5 years.

Claim.—1st. A crushing roller adapted to travel in a circular path and having the inner crushing face 2, which is a cone frustum having its apex in the centre of the circular path in which the rolls travel, and the outer crushing face 3, which presents in cross section, the arc of a circle having the described radius, combined with the bed or trough formed to present in cross section the exact converse of the cross section of the roller, whereby an extended bearing between the roller and bed is afforded and the roller is enabled to travel easily and with the minimum of friction, as set forth. 2nd. The combination of a series of crushing rollers having V-shaped peripheries, and horizontal shafts on which said rollers are mounted, with a carriage in which said shafts are journalled at their outer bearing points, a vertical shaft in which the inner ends of said horizontal shafts are journalled, springs which are interposed between said carriage and said horizontal shafts, and a stationary bed having a circular V-shaped groove in which said rollers travel, substantially as set forth.

No. 21,196. Boot and Shoe Heel Making Machine. (*Machine à Faire les Talons des Chaussures.*)

The Mansell Heel Machine Company, Boston, Mass., U.S., (Assignee of Edward H. Parks, Providence, R.I.,) U.S., 28th February, 1885 ; 5 years.

Claim.—1st. A horizontal rotary table carrying cutter dies, in combination with mechanism for holding the table in a fixed position and mechanism for starting it at the will of the operator, and with a vertically reciprocating block acting in conjunction with the dies, substantially as described. 2nd. A horizontal rotary table having two cutting dies or sets of dies, a vertically reciprocating block, acting in conjunction with the die mechanism for rotating the table, automatically arresting mechanism, and starting mechanism, substantially as described. 3rd. A cutting die, a vertically reciprocating block acting in connection therewith, and in reciprocating pasting mechanism adapted to move under the block, and deposit or apply the paste after the cutting of such lift, substantially as described. 4th. A revolving table carrying cutting dies or sets of dies, automatic stopping mechanism, starting mechanism, a vertically reciprocating block, reciprocating pasting mechanism, and discharging mechanism, substantially as described. 5th. A revolving table carrying cutting dies, or series of dies, automatic stopping mechanism, slanting mechanism, reciprocating pasting device, blank discharging devices,

a press and an arm adapted to move the blank and block from the portion of the die to the said press, substantially as described. 6th. The innner and outer dies, in combination with their respective die holders and annular flanges or rings having inclines reversed in position to incline on the die holders, substantially as described. 7th. In combination with the reciprocating block and dies, the guard arm, and mechanism for moving the same in the described relation to said block, substantially as set forth. 8th. The revolving table carrying dies in the described relation to a reciprocating block, and provided with holes to receive a locking pin connected by levers to a spring clutch forming connection between the driving power and the table all substantially as set forth. 9th. The press piston, in combination with the cleaning plunger, the toggle joint having projection 6 6, and the spring, all substantially as described.

No. 21,197. Oil Lamp. *(Lampe à Huile.)*

Marmaduke Mathews, Toronto, Ont., 28th February, 1885; 5 years.

Claim.—1st. A pipe B, having a horizontal section between the vertical section leading to the reservoir and the vertical section leading to thedischarge *d*, in order to hold mercury, so as to form a cut-off between the reservoir and discharge in the event of the article being tipped. 2nd. In a lamp in which the wick-tube is fed with oil or other burning fluid from a pipe extending vertically within it, the combination of a cap G, suspended over the top end of the oil pipe so located, and forming an air compression chamber, substantially as and for the purpose specified. 3rd. In a lamp in which the oil or burning fluid flows from a reservoir to the burner, an oil pipe B, having a horizontal section between the vertical section leading to the reservoir and the vertical section leading to the burner, in order to hold mercury, *d*, so as to form a cut-off between the oil reservoir and burner in the event of the lamp tipping, substantially as specified. 4th. A spherically-shaped reservoir C, provided with an adjustably loaded handle D, and journalled within a hermetically sealed casing A, substantially as and for the purpose specified.

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

328. De L. KENNEDY and J. H. RAYMOND, 2nd and 3rd 5 years of No. 10,928, from the 17th day of February, 1885. Improvements on Metal Punches. 2nd February, 1885.

329. J. HOOVER, 2nd and 3rd 5 years of No. 11,084, from the 3rd day of April, 1885. Improvements on Machines for Skelping Iron. 10th February, 1885.

330. J. H. WILHELM and G. W. ANDREWS, 2nd 5 years of No. 10,984, from the 4th day of March, 1885. Improvements on Ore Washing and Amalgamating Machines. 14th February, 1885.

331. The J. W. MANN Manufacturing Co'y. (Assignee) 2nd 5 years of No. 10,922, from the 14th day of February, 1885. Improvements on Seeding Machines, 14th February, 1885.

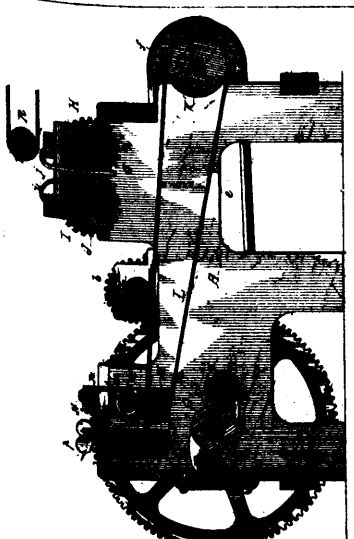
332. F. J. TALBOT, 2nd 5 years of No. 11,033, from the 16th day of March, 1885. Improvements on and Relating to Screw, Bolts and their Nuts and other Articles with Screw-Threaded Holes. 24th February, 1885.

THE

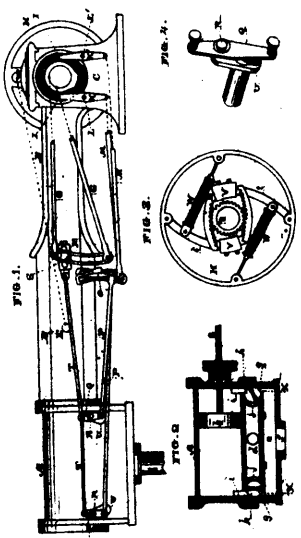
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

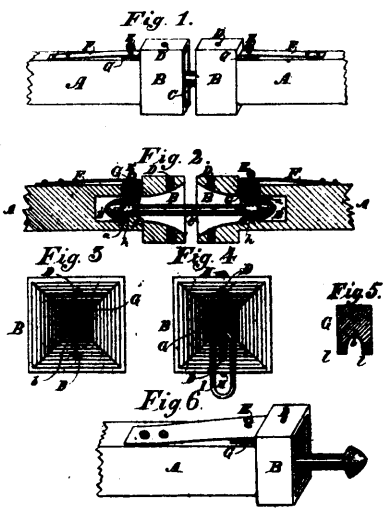
Vol. XIII. MARCH, 1885. No. 3.



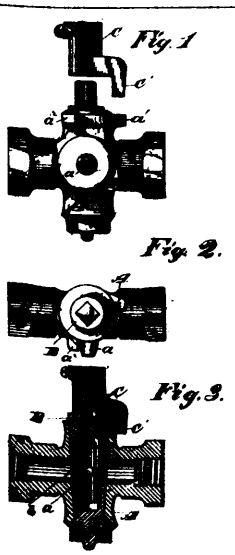
21053 Coburn's Means for Cutting and Dressing Rags, &c., for Paper Stock.



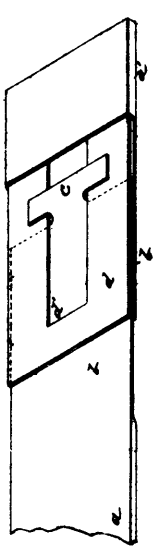
21054 Pitchford's Non-Detaching Automatic Cut-Off for Steam Engines.



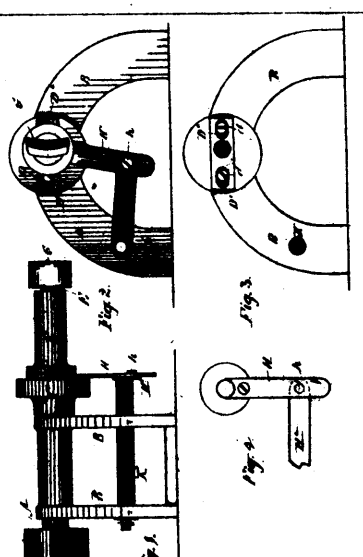
21055 Thomas & Roberts' Car-Couplings.



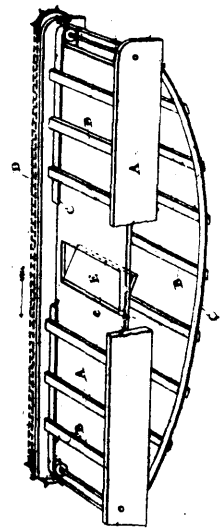
21056 Kennedy's Stop and Waste Cock.



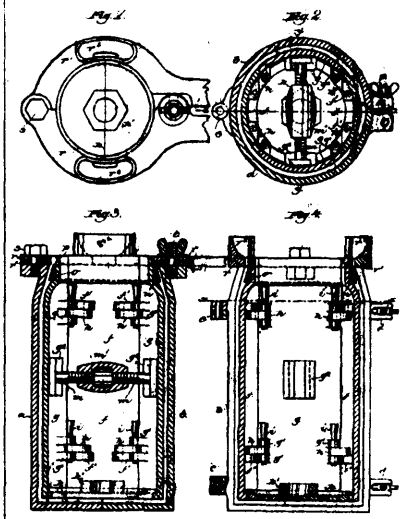
21057 Gross' Extension File.



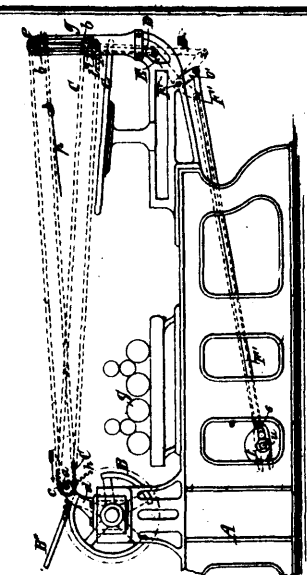
21058 Spencer's Burnishing Apparatus for Boots and Shoes.



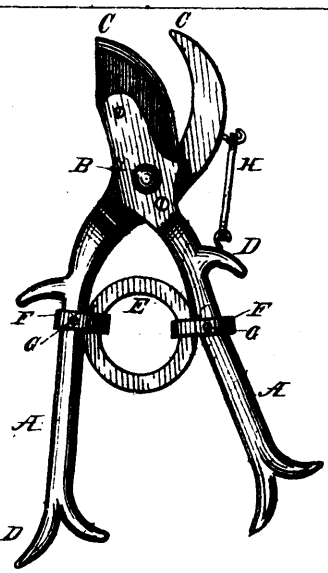
21059 Bessey's Threshing Machine.



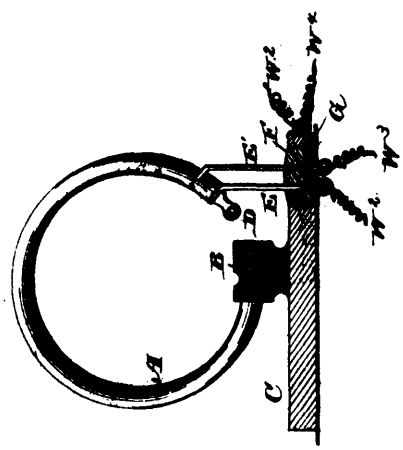
21060 Copithorn's Mold for the Manufacture of Drum Traps for Plumbing Purposes.



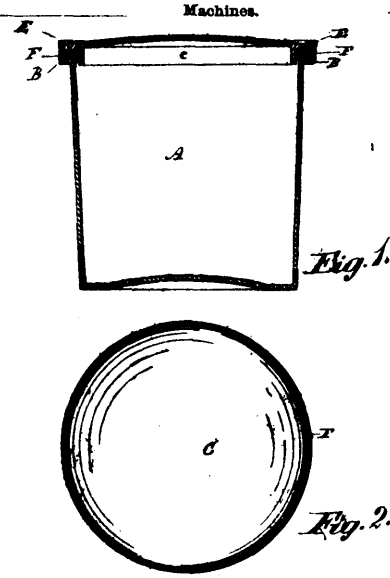
21061 Cottell's Delivery Apparatus for Printing Machines.



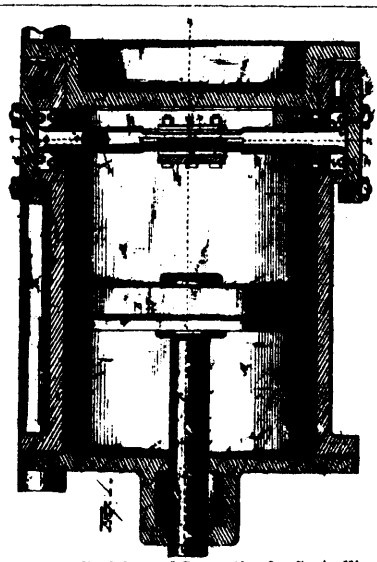
21062 Eubach's Pruning Shears.



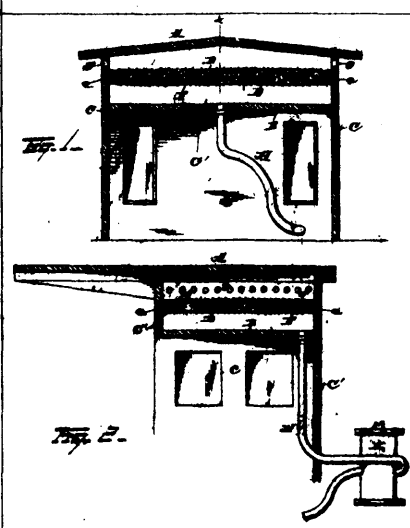
21063 Rider's Thermostat.



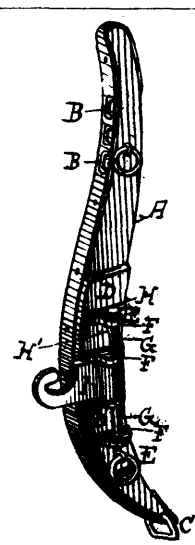
21064 Beach's Preserving Jar.



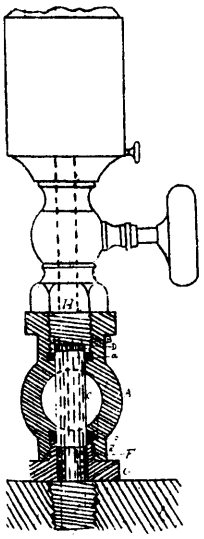
21065 Flad's Valve and Connection for Controlling Air Brakes on Railway Cars.



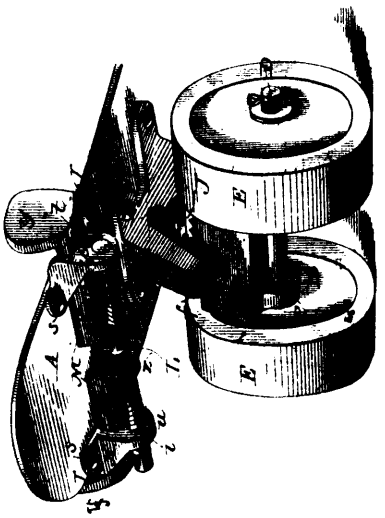
21066 Flad's Air Filter.



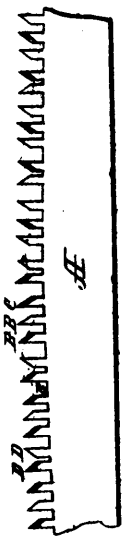
21067 Winstead's Hame.



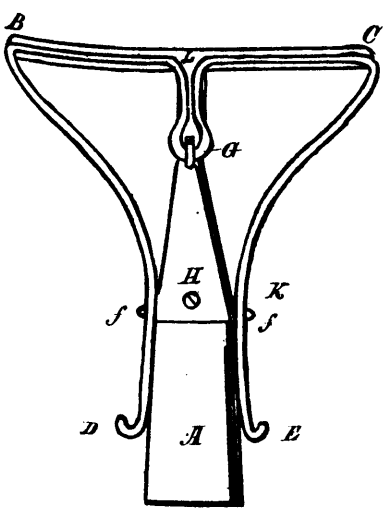
21068 Bailey's Lubricator.



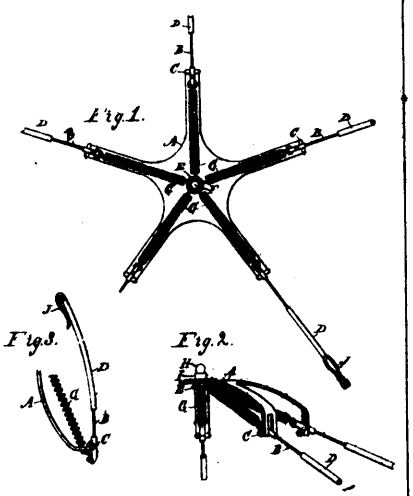
21069 Henley's Roller Skate.



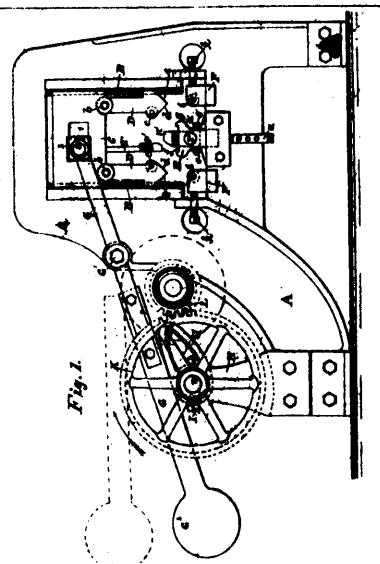
21070 Wills' Cross-Cut Saw.



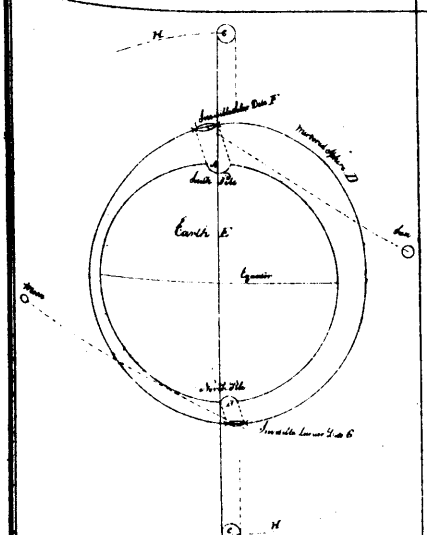
21071 McLellan's Mop Holder.



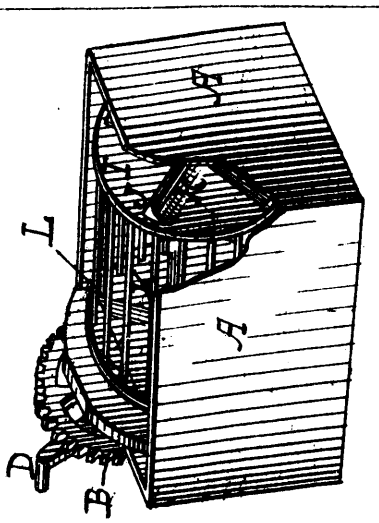
21072 Helbig's Hat Protector.



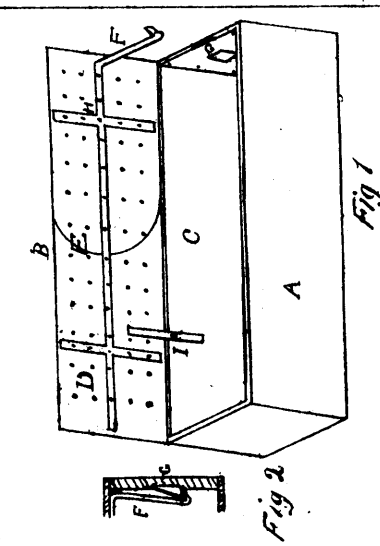
21073 Sebold's Machine for Bending Shanks of Handles for Sad Irons.



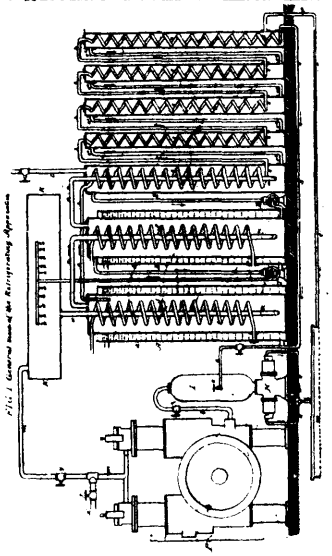
21074 Hoover's Astronomical Instrument.



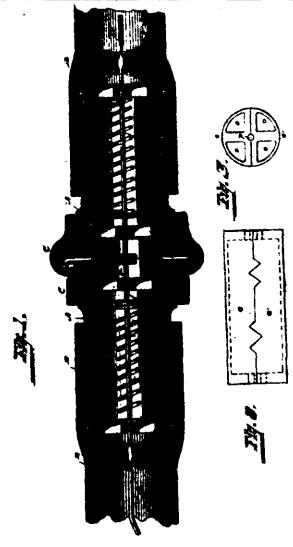
21075 Taylor & Merrill's Churn.



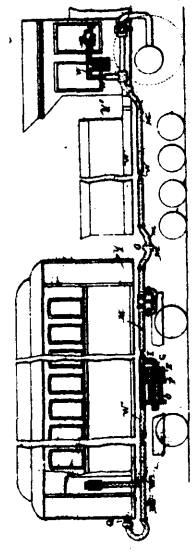
21076 Corbett's Burial Vault.



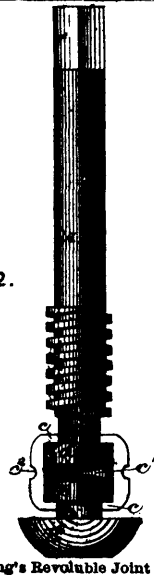
21077 Condict & Rose's Refrigerator.



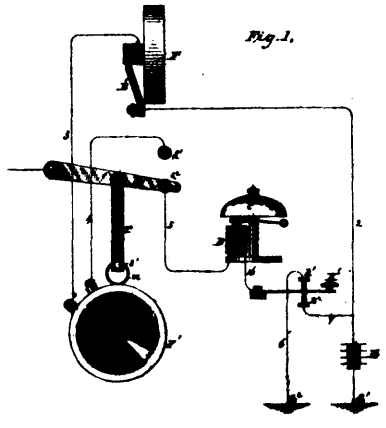
21078 Flad's Electrical Conductors in Pipe Couplings in Air Brakes.



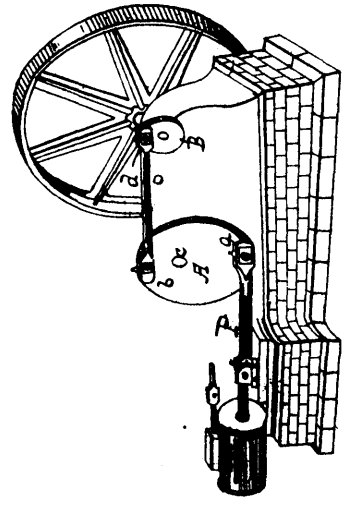
21079 Flad's Railway Air Brake.



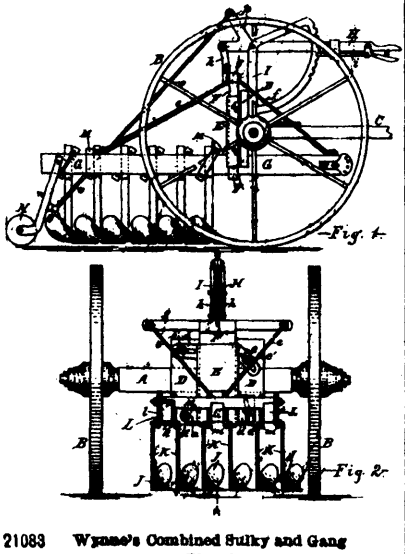
21080 Blessing's Revoluble Joint for Screw Valve Stems.



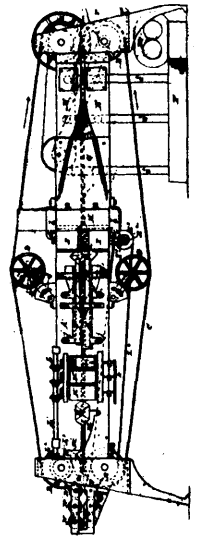
21081 Taylor's Telephone Apparatus.



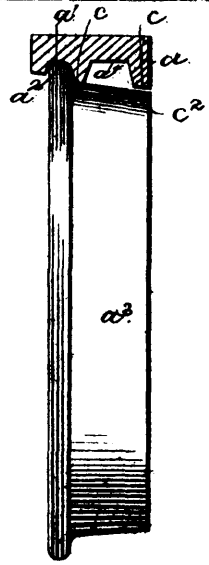
21082 Barton & Davis' Steam Engine.



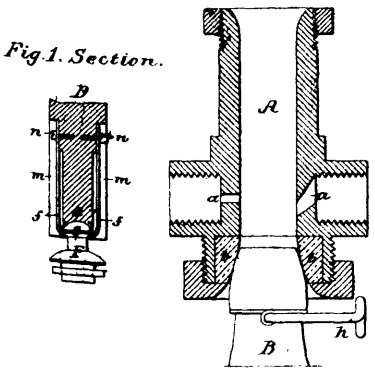
21083 Wynne's Combined Sulky and Gang Plough.



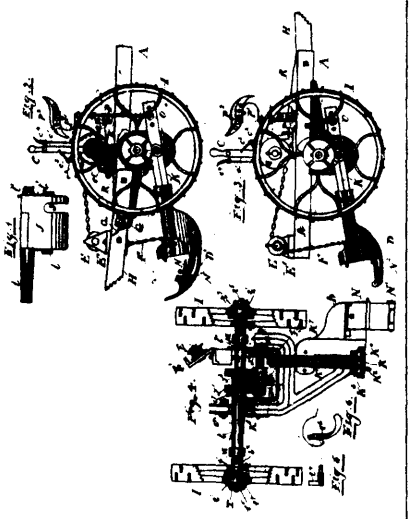
21084 Purvis' Paper Bag Machine.



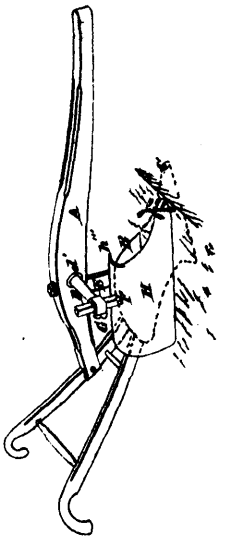
21085 Ross' Brake Shoe.



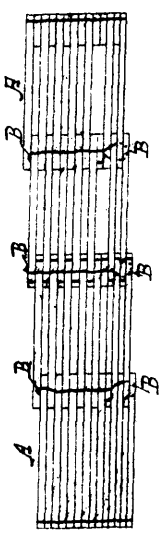
21088 Lloyd's Bottle Filling Machine.



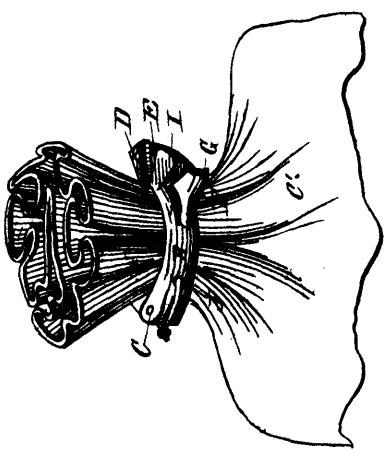
21089 Beatty's Mowing Machine.



21090 Witt's Plant Fender and Erector for Ploughs.

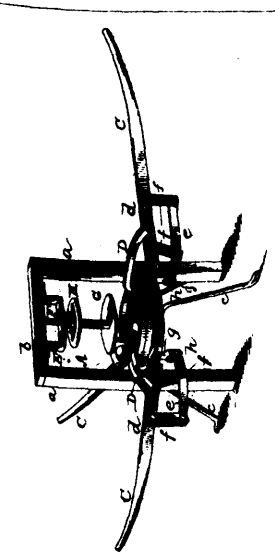


21091 Weld's Lock for Rail Fences.

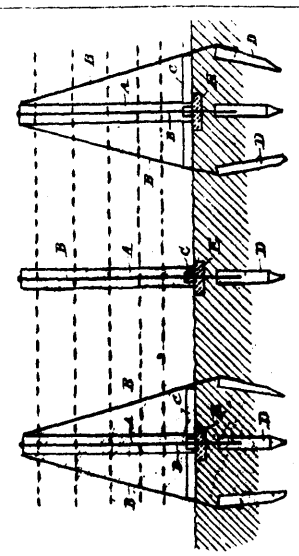


21092 Collins' Bag and Sack Fastener.

21093 Gerhardt's Safety Truck Appliance for Railway Cars.



21094 Jones' Tire Setter.



21095 Donahy's Post and Wire Fence.

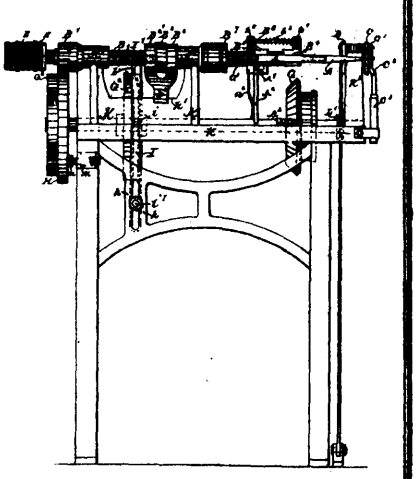
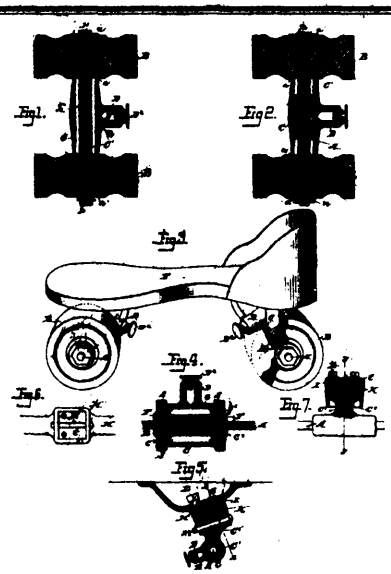
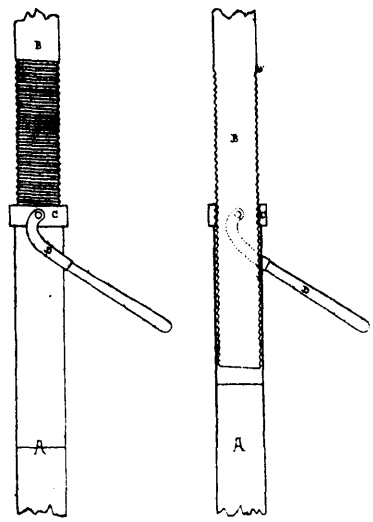


Fig. 1.

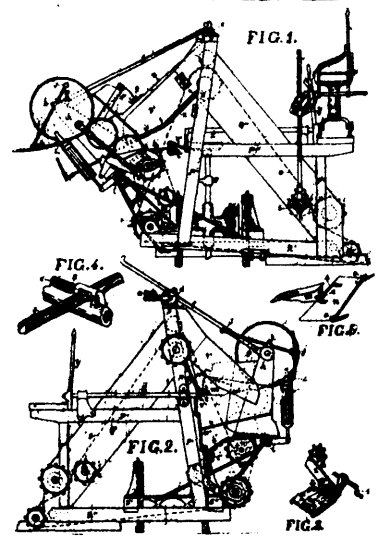
21096 Carpenter's Machine for Wiring the Corks in Bottles.



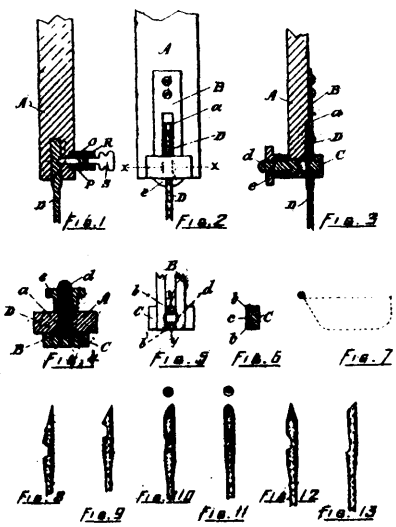
21097 **Evans' Roller Skates.**



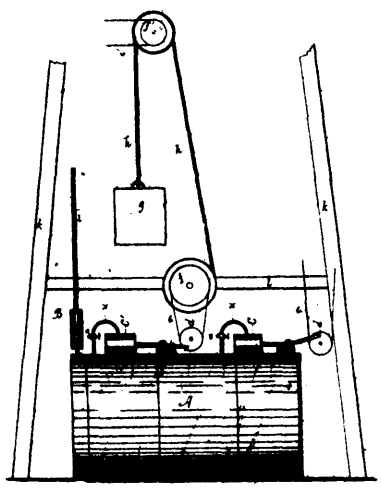
21098 **Lewis' Tent Pole.**



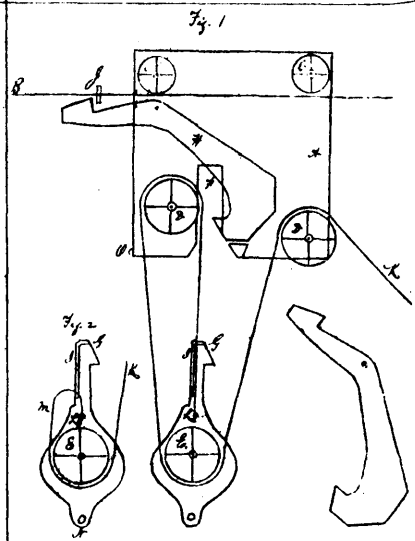
21099 **McLeod's Self-Binding Harvester.**



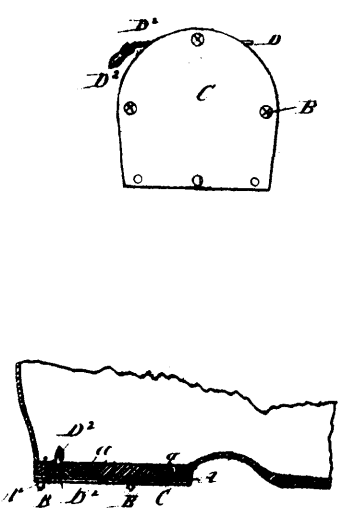
21100 **Simkins' Sewing Machine Needle and Clamp Therefor.**



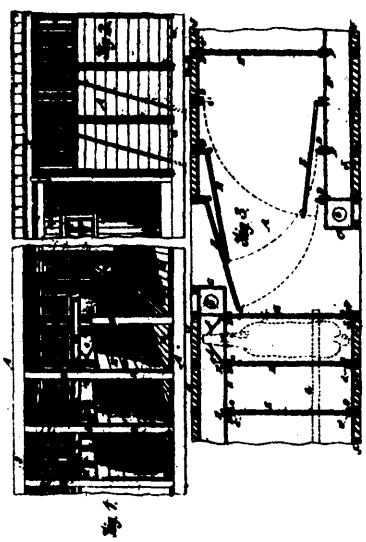
21101 **Callander's Air Motor.**



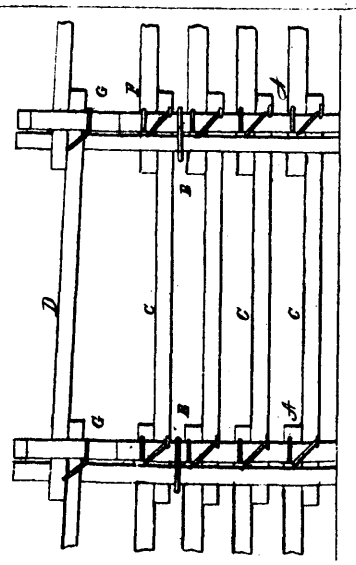
21102 **Ham's Machine for Unloading Hay and Grain.**



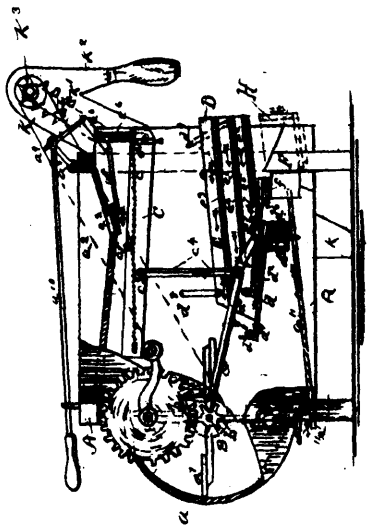
21103 **Pagé & Goulliloud's Ice Creeper.**



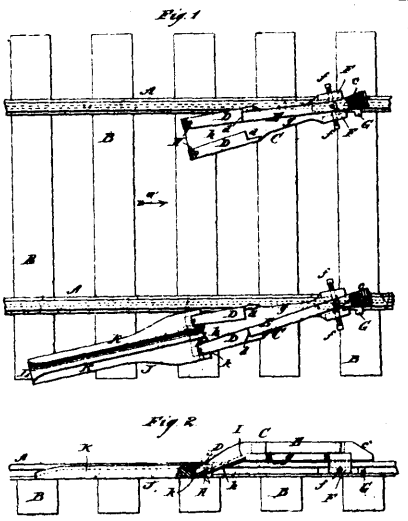
21104 **Smith & Arm's Stock Car.**



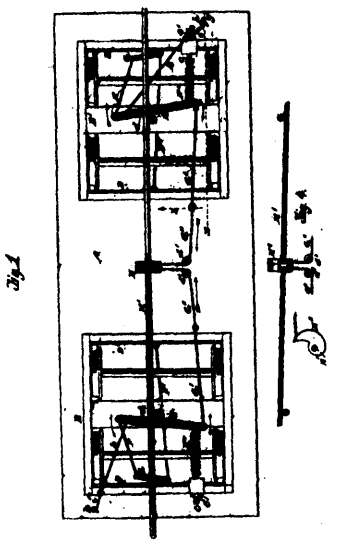
21105 **Grove's Fence.**



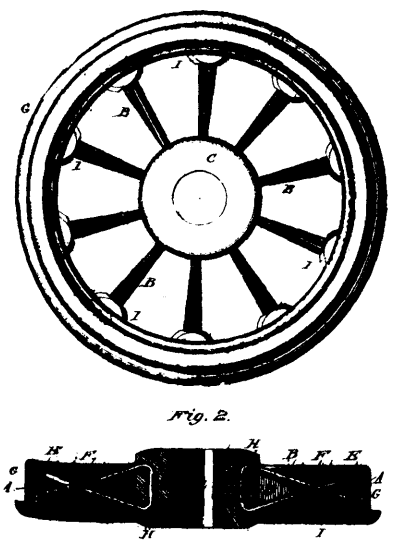
21106 Mansfield's Fanning Mill.



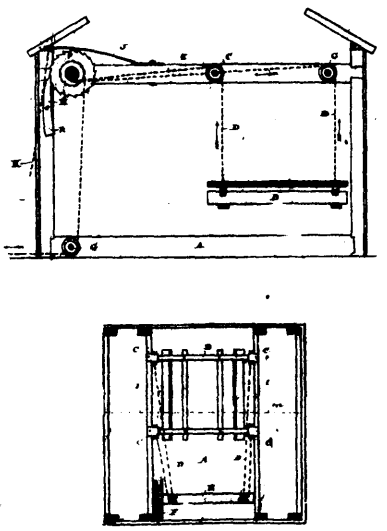
21107 Jones' Car Replacer.



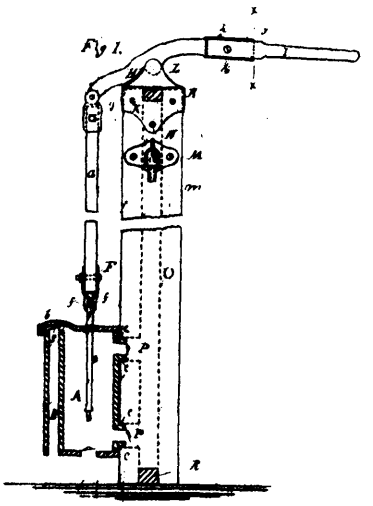
21108 Ames' Automatic Brake for Railway Cars.



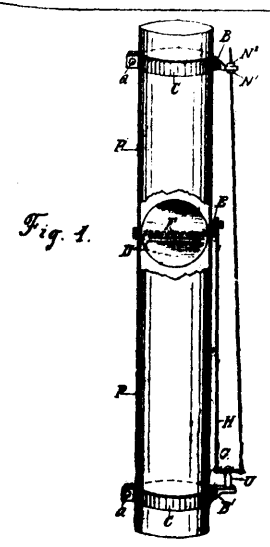
21109 Lafontaine's Car Wheel.



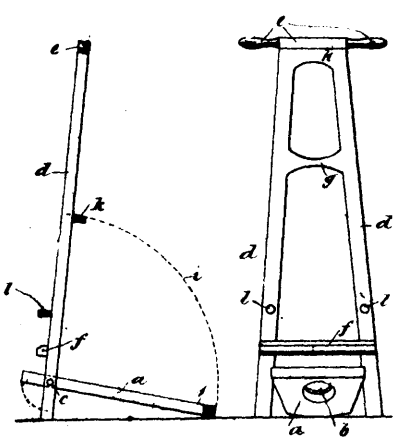
21110 Tomlin's Elevator for Farm Produce.



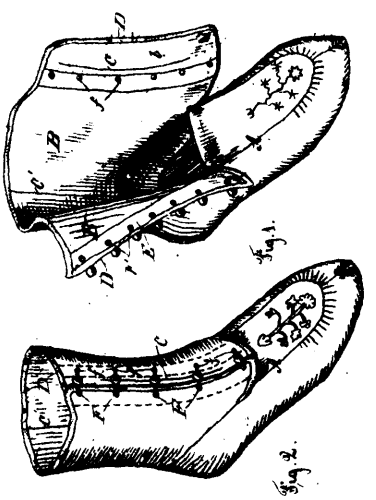
21111 Bickford's Force Pump.



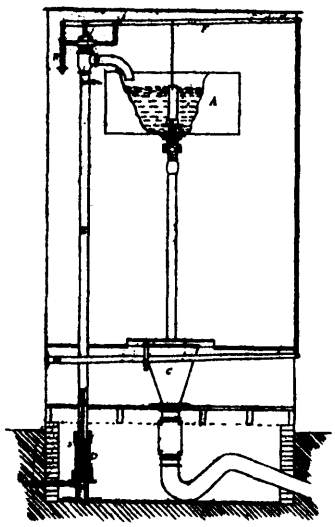
21112 Cosgrave's Damper for Regulating the Draft in Stove and Furnace Pipes.



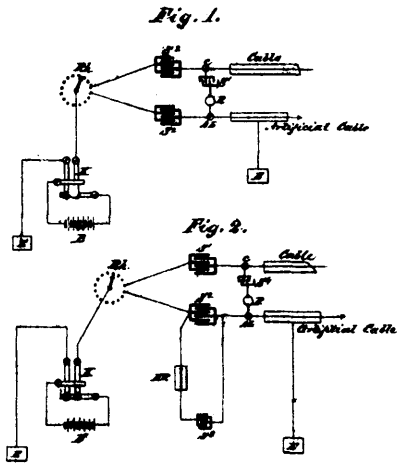
21113 Townsend's Appliances for Taking Boots off the Feet, and Putting on the Same.



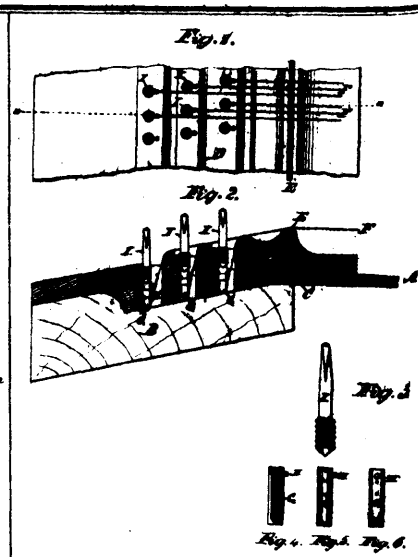
21114 Siegel's Moccasin.



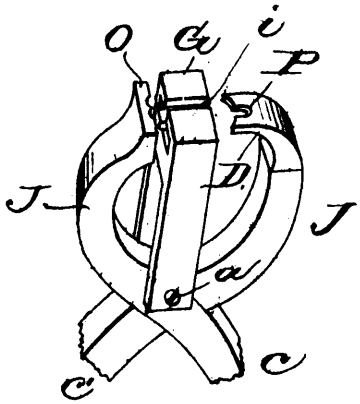
21115 Macdonald's Water Closet.



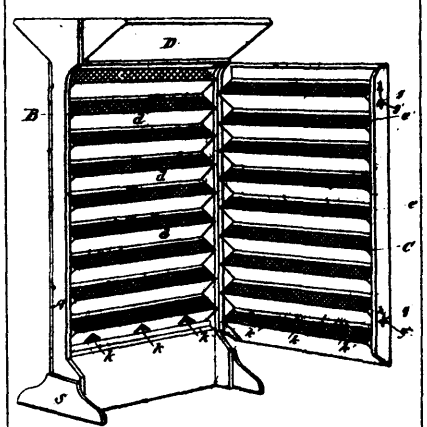
21117 Muirhead's Duplex Telegraph.



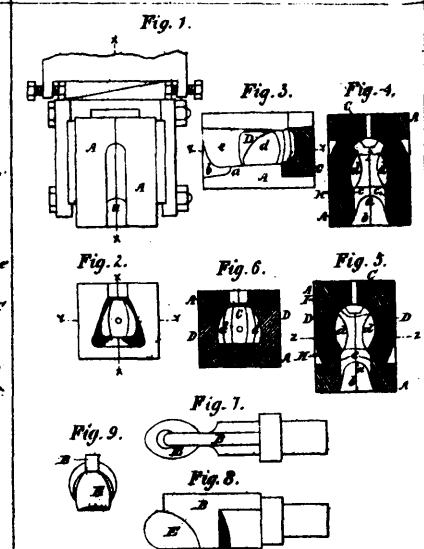
21118 McMillan's Stringing Pianos.



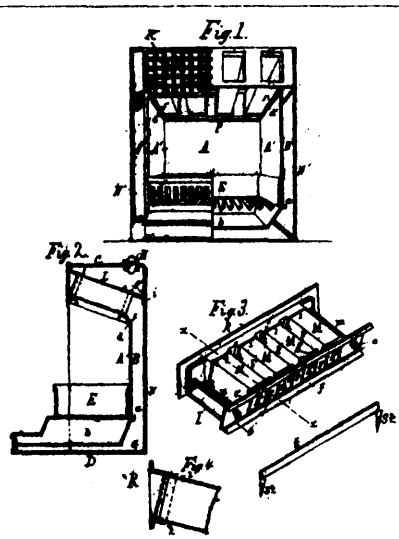
21119 Eggleston's Setting Instrument for Attaching Buttons to Leather, etc.



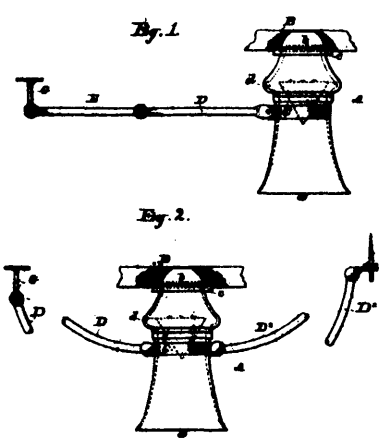
21120 Mouck's Grain Separator.



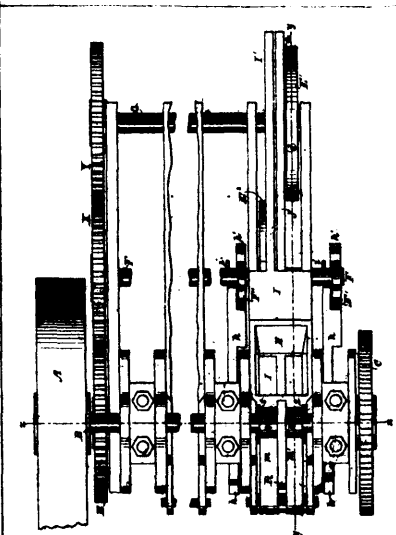
21121 Kieffer's Die and Form for Heel Counters.



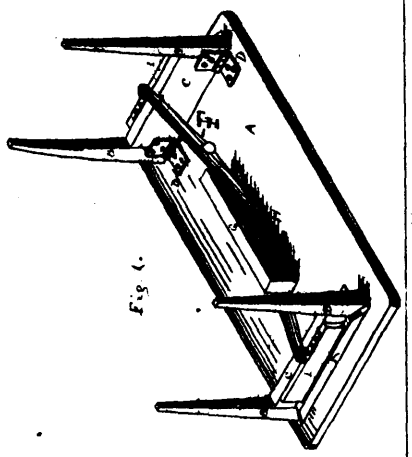
21122 Peck's Fire-place and Open Grate.



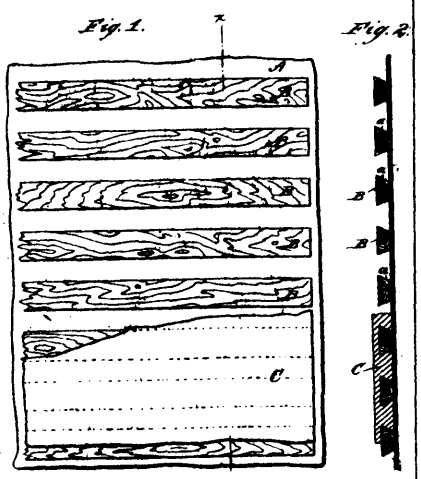
21123 Lister's Telephone Trumpet.



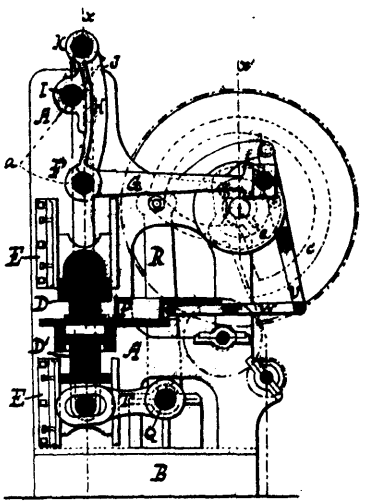
21124 Hinsdale's Brick Machine.



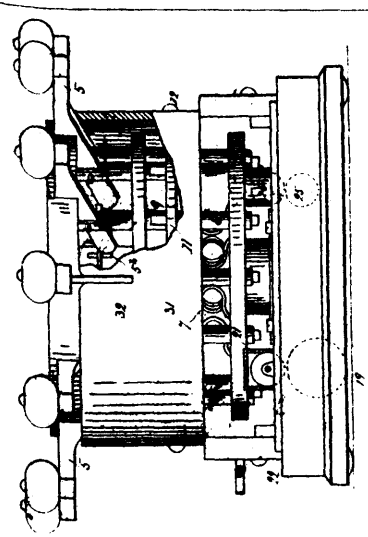
21125 Hinsman's Table.



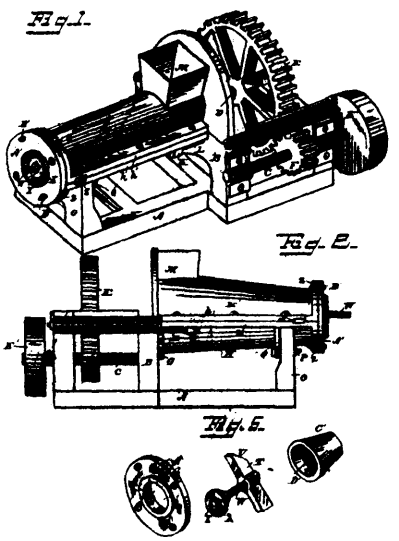
21126 Morrison's Lath.



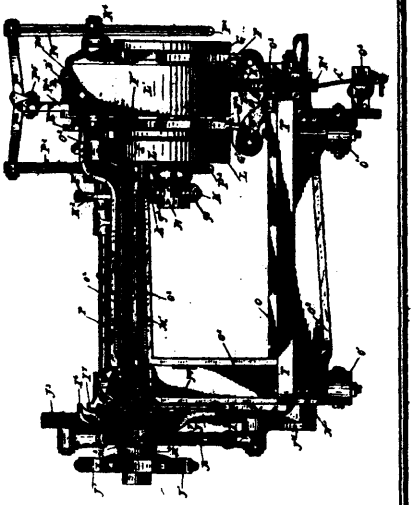
21127 Andrus' Machine for Making Bricks.



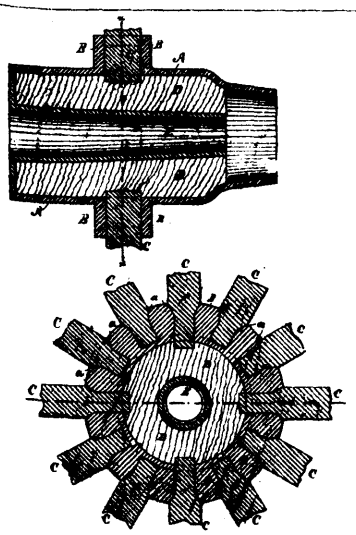
21128 Williams' Check Punching Machine.



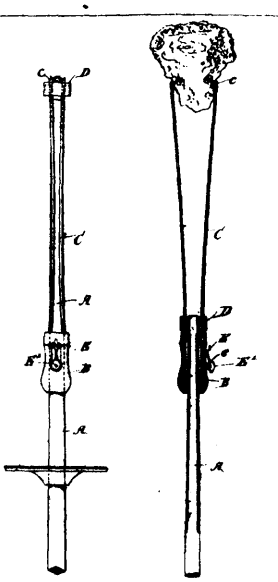
21129 Kells' Tile Machine.



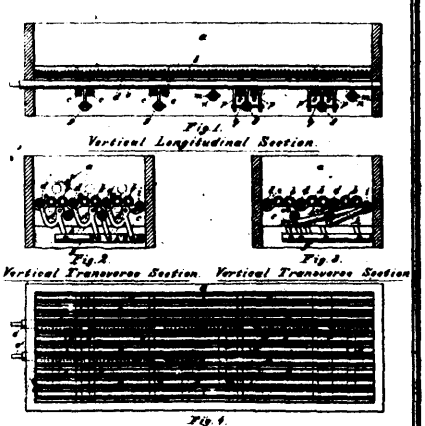
21130 Holmes' Grain Binder.



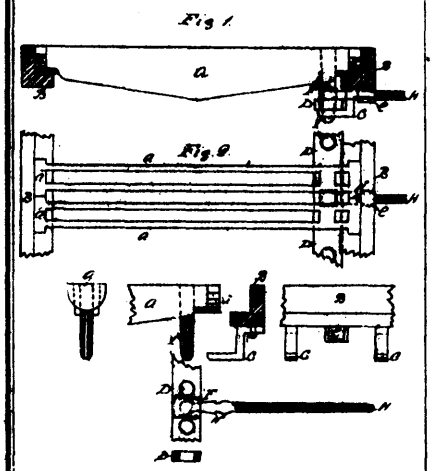
21131 Circle's Vehicle Hub.



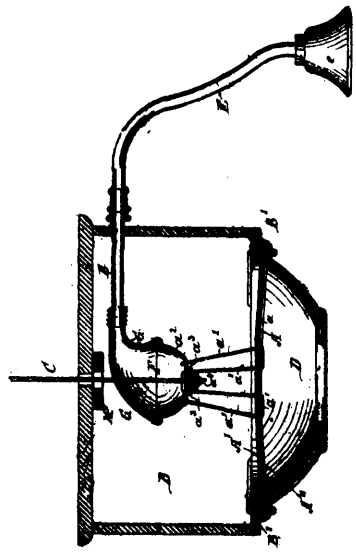
21132 Wyatt's Grappling or Holding Device.



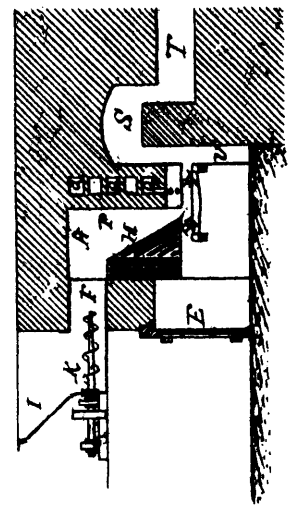
21133 Swallow's Locomotive Grate.



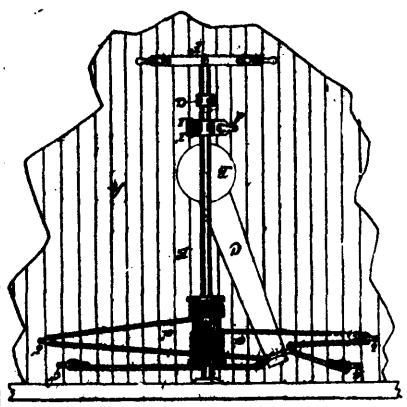
21134 Elliott's Shaking Grate Bars for Boilers or Furnaces.



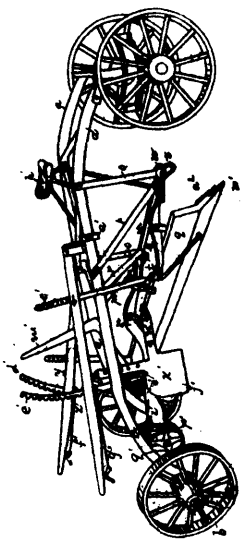
21135 Shaver's Mechanical Telephone.



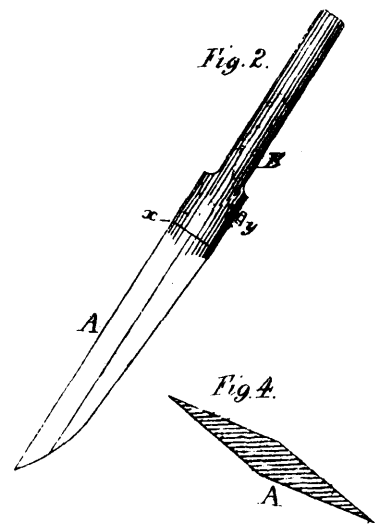
21136 Godillot's Furnace for Burning Small, Moist, or Liquid Fuel.



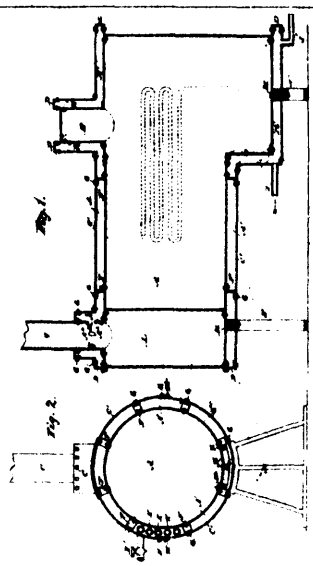
21137 Dole's Becket Clamp for Steering Wheels.



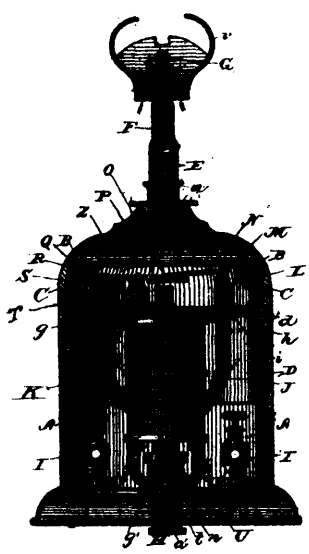
21138 Lamborn's Road Scraper.



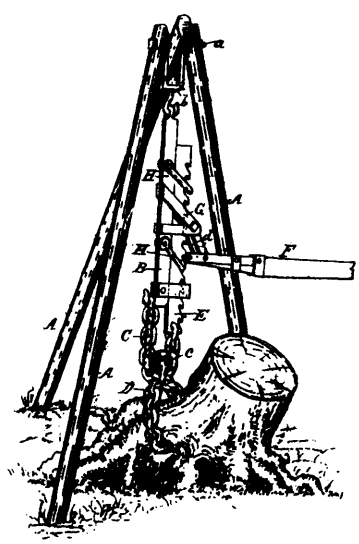
21139 Sargeant's Plough Coulter.



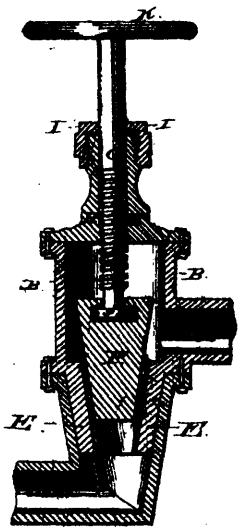
21140 Ells' Steam Boiler.



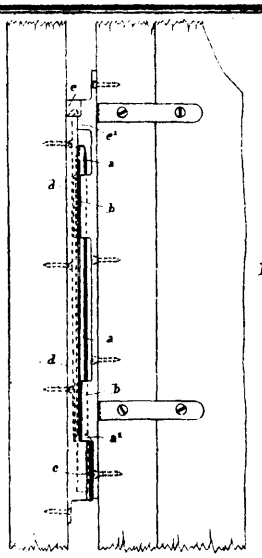
21141 Jenkins' Electro-Magnetic Gas Lighter.



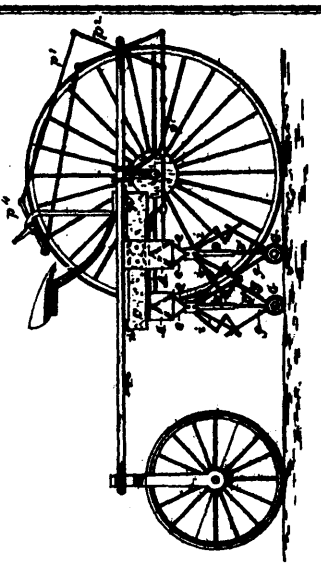
21142 Brown's Stump Extractor.



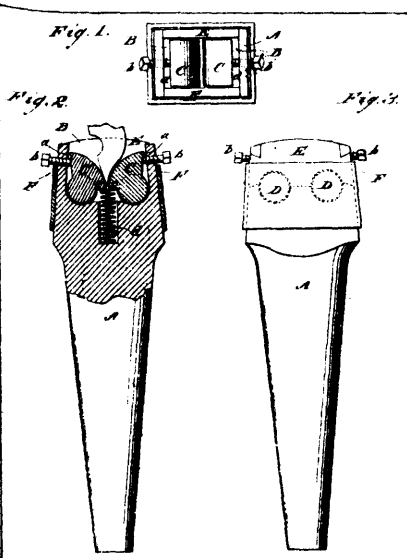
21143 Rappold's Stop-Valve.



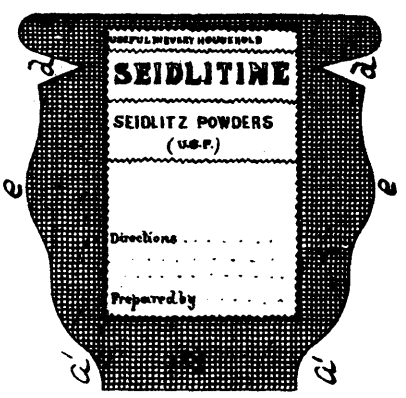
21144 Frampton's Means of Hanging the Rudders of Row Boats, &c.



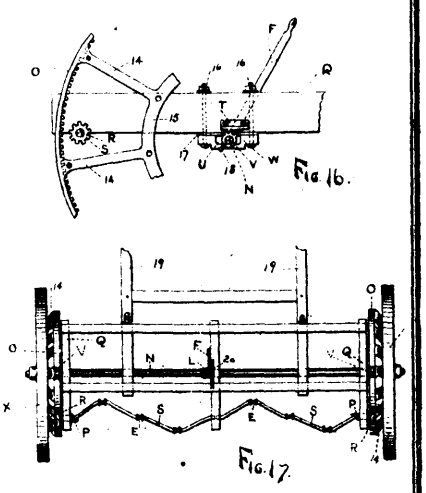
21145 Moore's Mechanism for Propelling Vehicles.



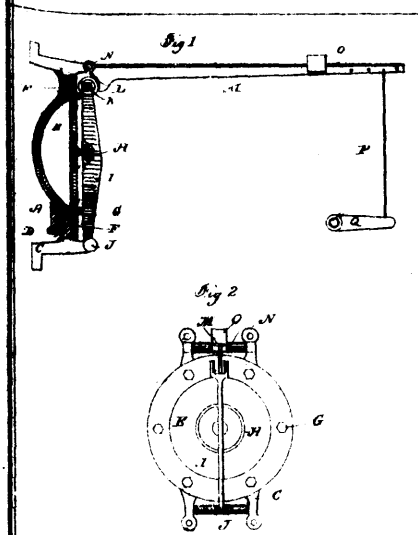
21146 Young's Saw Swage.



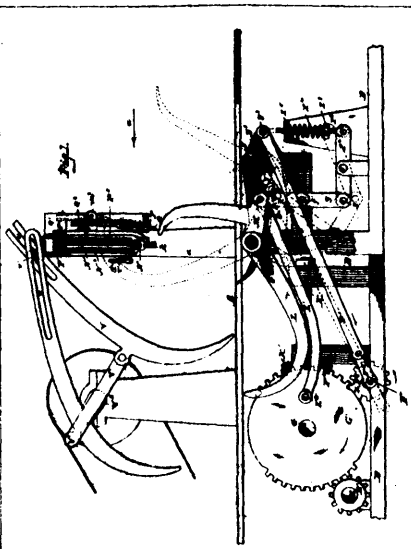
21147 Dick's Paper Wrapper for Packages.



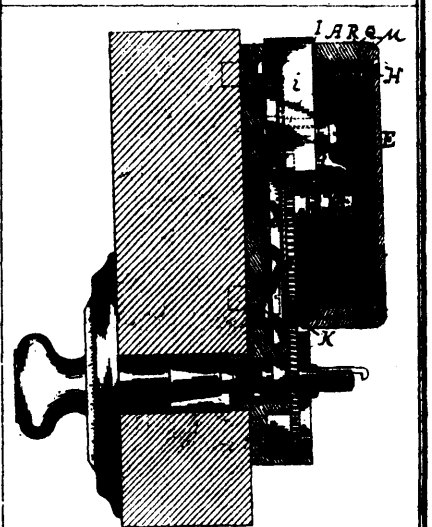
21148 Tripp's Hay Tedder.



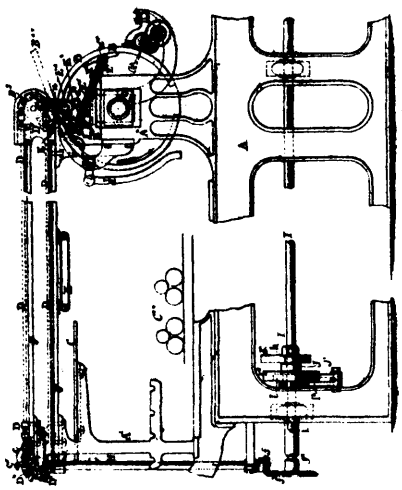
21149 House & Dimond's Automatic Damper Regulator.



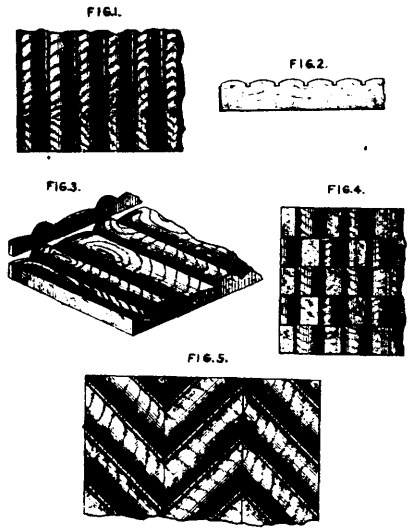
21150 Maddin's Harvester.



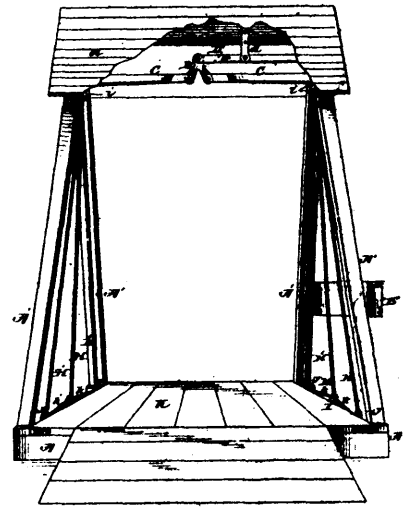
21151 Stockwell's Dial, or Combination Lock.



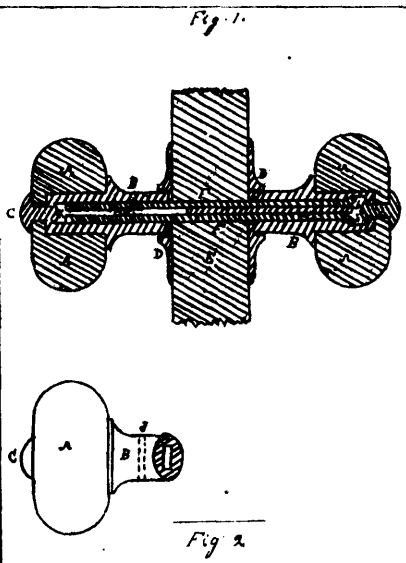
21152 Cottrell's Printing Press.



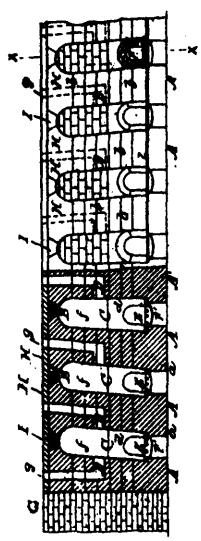
21153 Mankey's Wood Working.



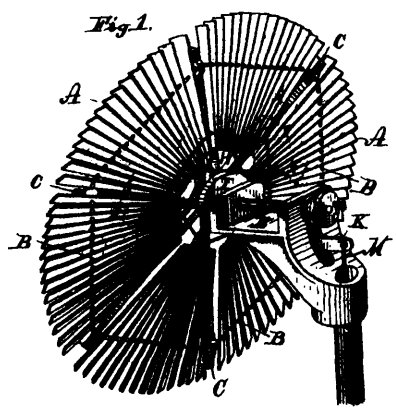
21154 Lombard's Scales.



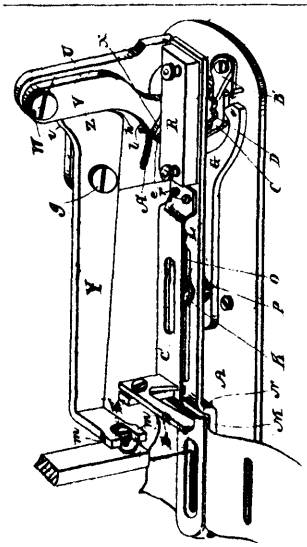
21155 Gonne's Door Knob Attachments.



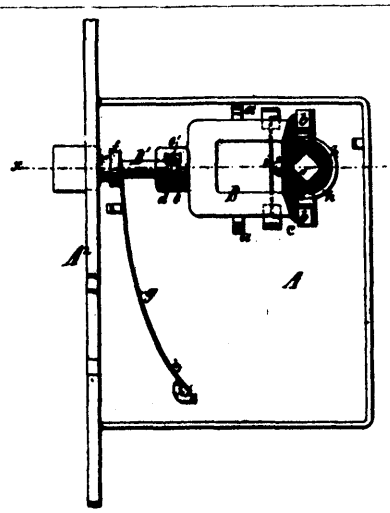
21156 Underhill's Brick Kiln.



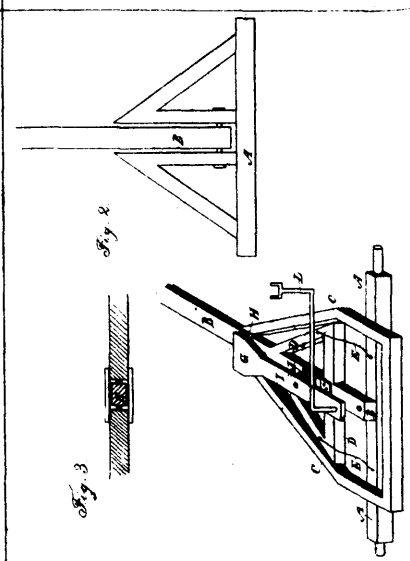
21157 Cramer's Wind Engine.



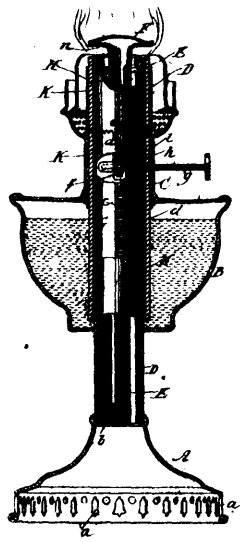
21158 Smith & Williamson's Button Hole Attachments for Sewing Machines.



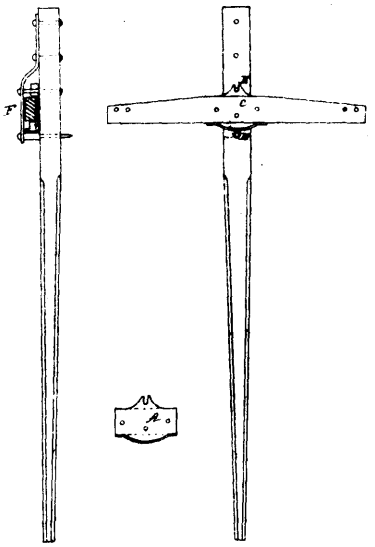
21159 Fitzgerald's Reversible Latch.



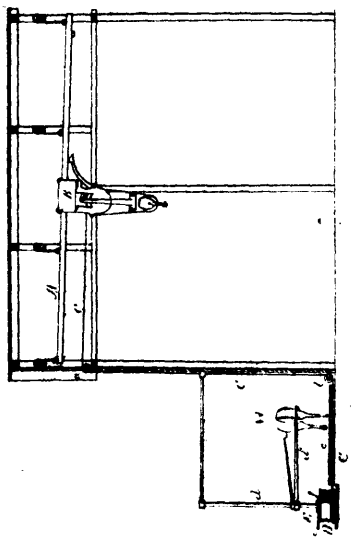
21160 Dawson's Vehicle.



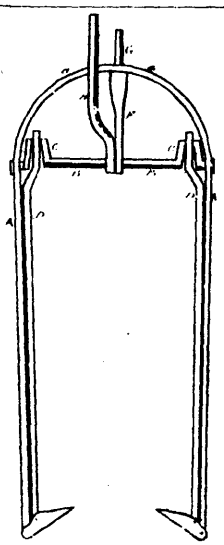
21161 Geiss' Lamp.



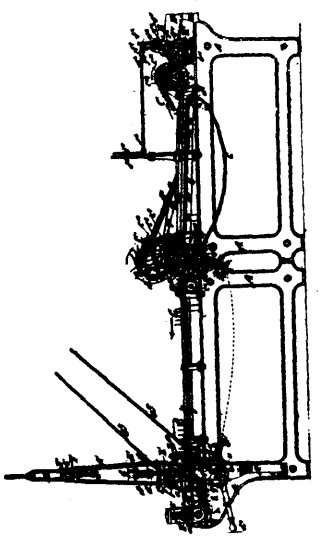
21162 McKenzie's Doubletree.



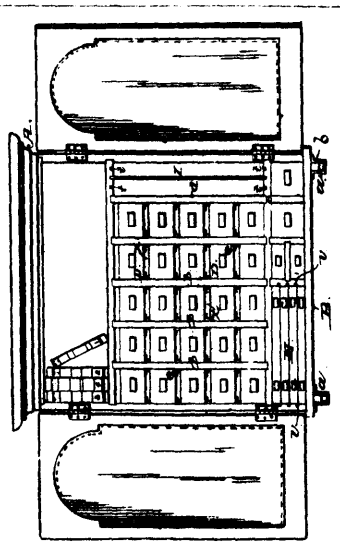
21163 Porter's Device for Operating Hay Carriers.



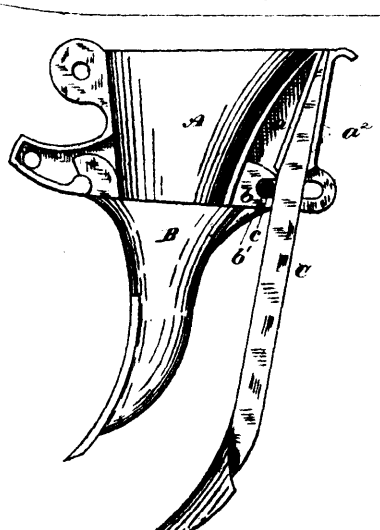
21164 Buchanan & Neely's Hay Fork.



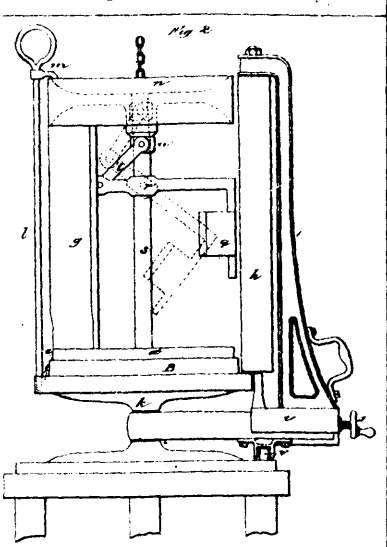
21165 Good's Machine for Spreading and Drawing Hemp and other Fibrous Materials.



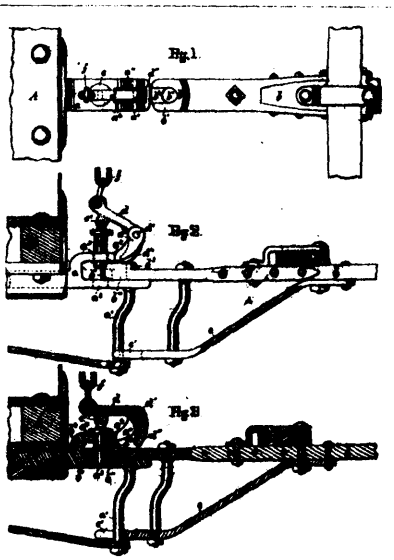
21166 Baker's Book and File Case.



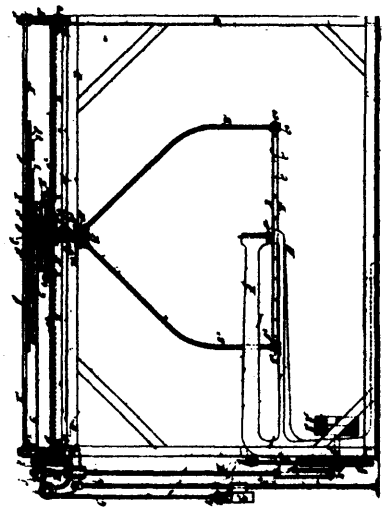
21167 Galloway's Sowing Machine.



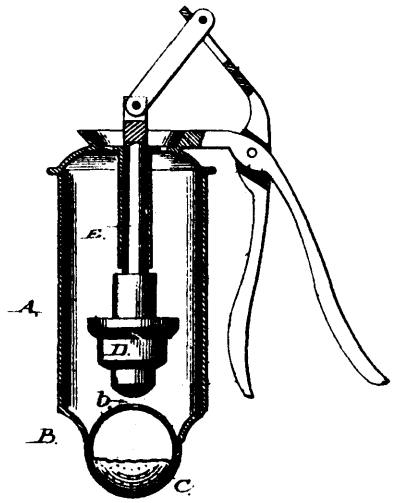
21168 Andrew's Barrels and Apparatus for their Manufacture.



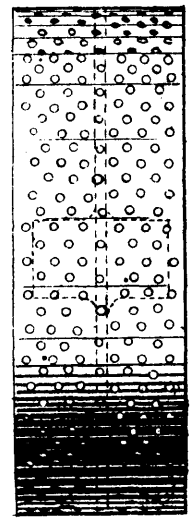
21169 Akarman's Automatic Pole or Evener Coupler for Horse Cars.



21170 Palmer's machine for Sewing or Quilting Fabrics.

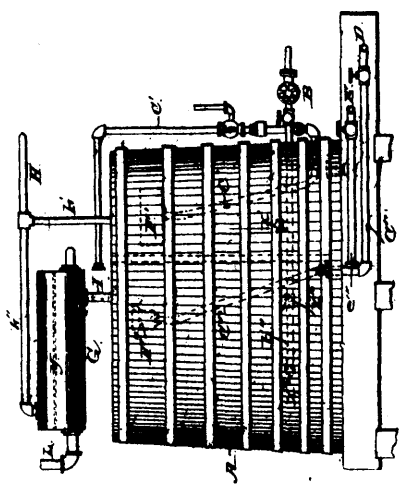


21171 Goldman's Sprinkler and Atomizer.

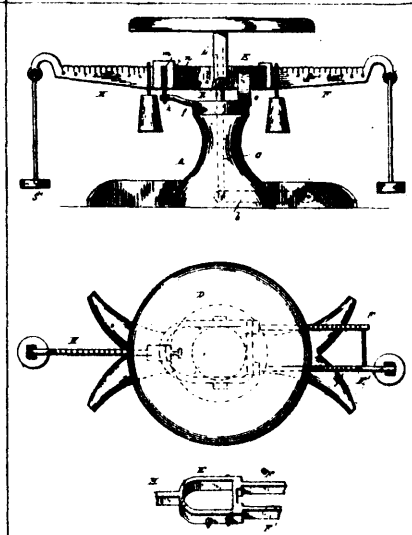


21172 Shepherd's Pulley and Drum for Driving Purposes.

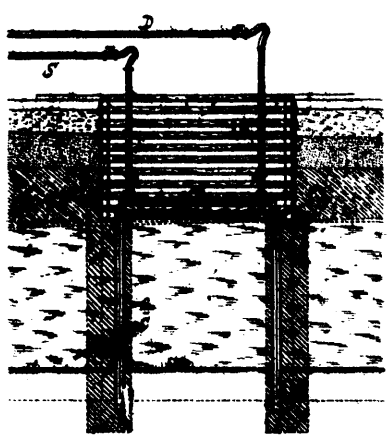
21173 Wood & Bodoin's Sap Spout.



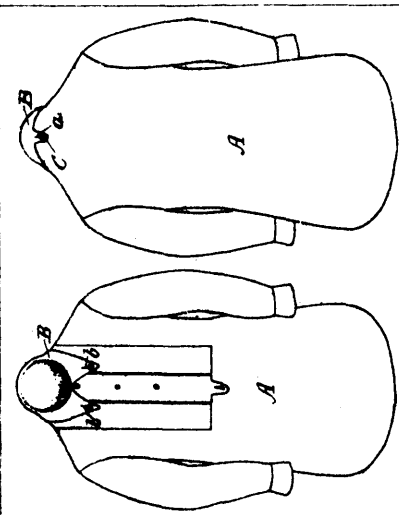
21174 Tweedale's Purifying Water.



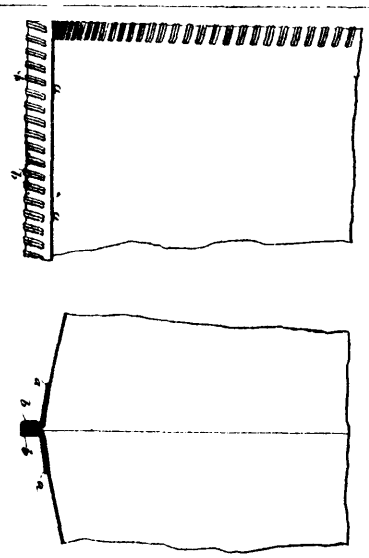
21175 Morse's Scales.



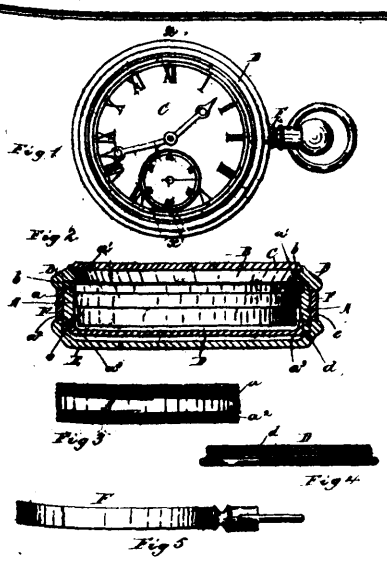
21176 Poetsch's Apparatus for Sinking Shafts Through Quicksand, &c.



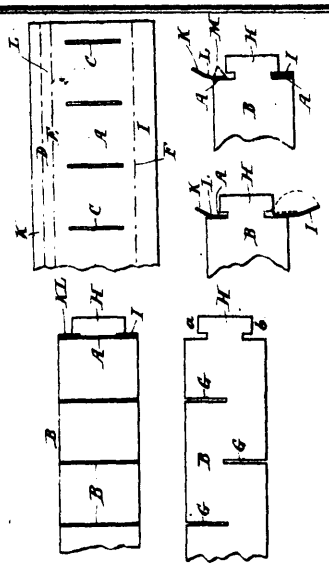
21177 Gautier's Shirt.



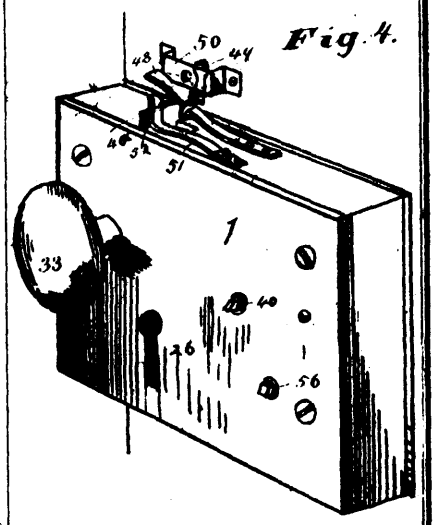
21178 Swan's Pack or Bag for Wool.



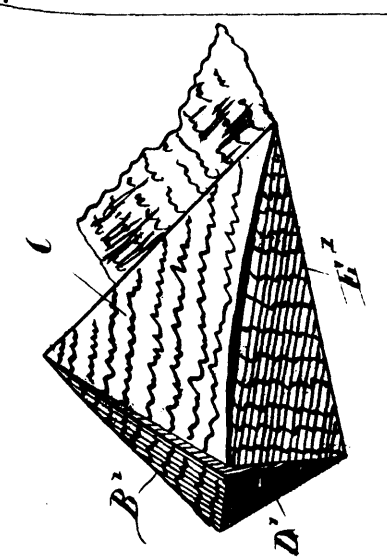
21179 Giles' Watch Case.



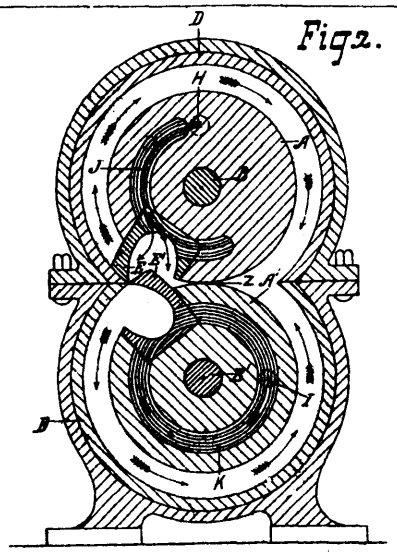
21180 Miller's Egg-Carrier.



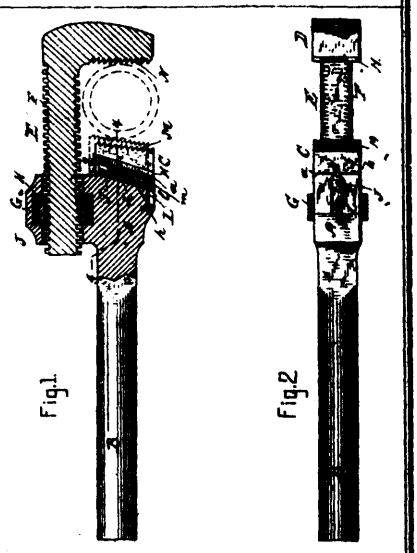
21181 Ewing's Lock.



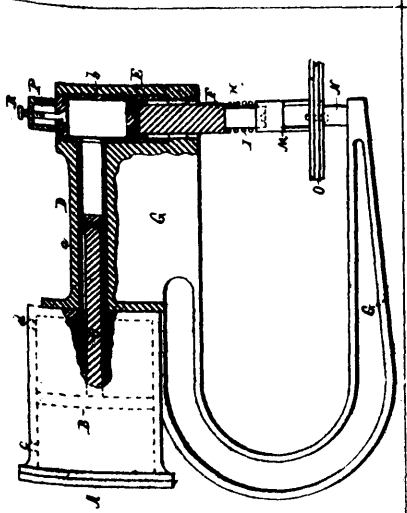
21182 Murphy's Device for Displaying Textile Fabrics.



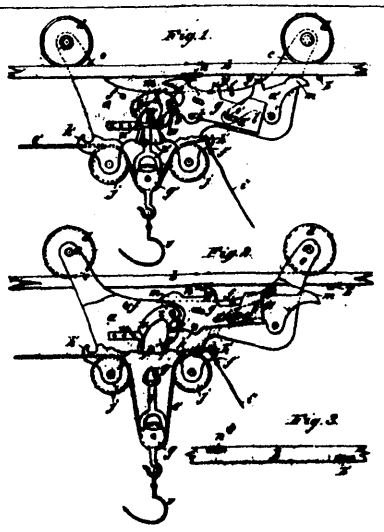
21184 Wildern's Rotary Steam Engine.



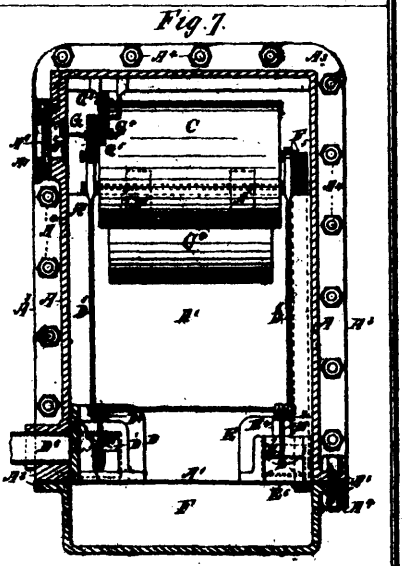
21185 Guthrie's Pipe Wrench.



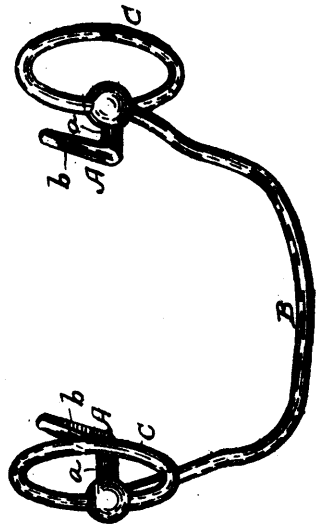
21186 Webster's Hydraulic Riveting Machine.



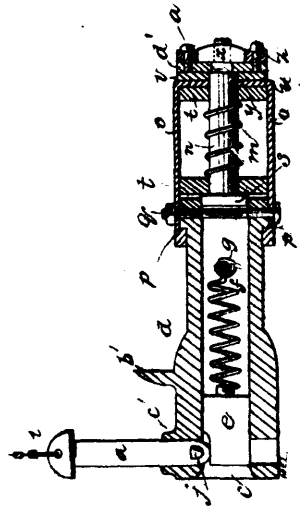
21187 Burbank's Hay Elevator and Carrier.



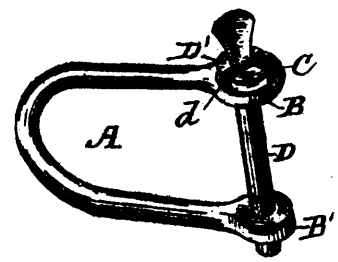
21188 Tatham's liquid Meter.



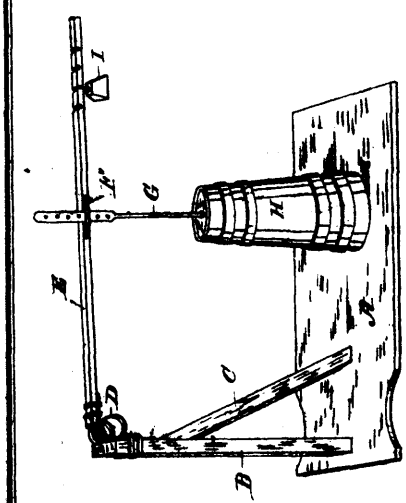
21189 Brott & Andrews' Bridle Bit.



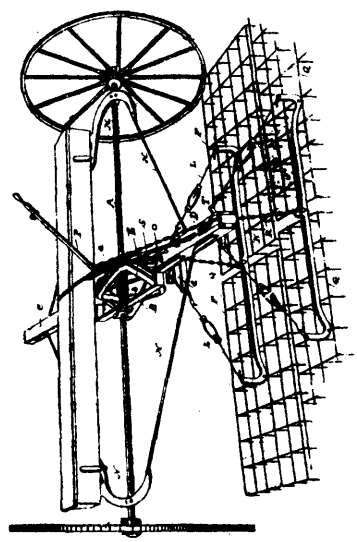
21190 Lloyd's Car-Coupling.



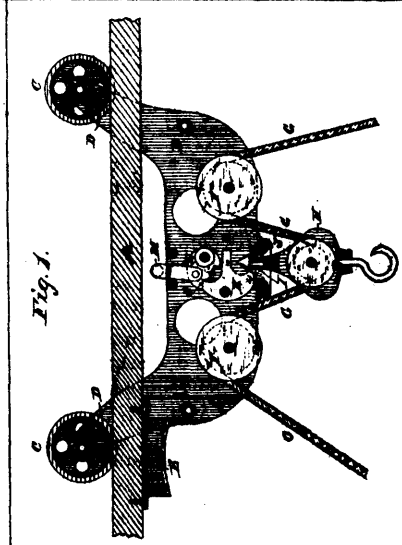
21191 Jaquish's Clevis.



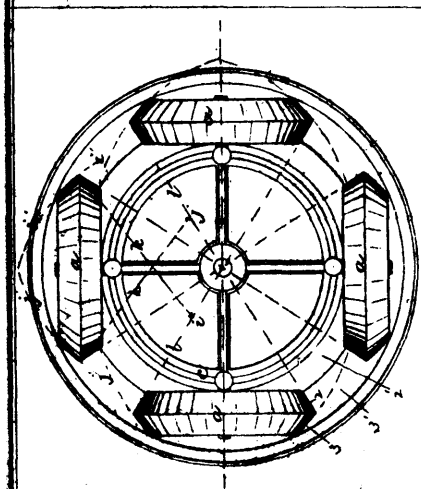
21192 Sparling's Churn Power.



21193 Carter's Harrow.



21194 Morris' Hay Elevator and Carrier.



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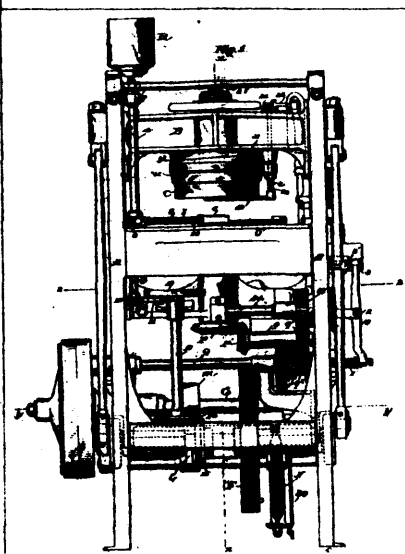

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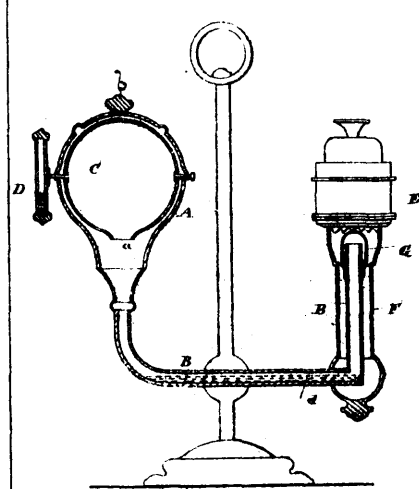

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