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# The Canadian Patent Office

## RECORD

Vol. XIII.—No. 8.

AUGUST, 1885.

{ Price in Canada \$2.50 per An.  
United States - \$2.50 “

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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. 21,945. Box Manufactured from Paper Pulp for Packing Cheese and Carrying Sliver. (*Boîte en Pâte à Papier pour Empaqueter le Fromage et Transporter les Boudins de Laine.*)

Simon X. Cimon, M.P., St. Etienne de la Malbaie, Que., 26th June 1885; 5 years.

*Claim.*—A new article of manufacture consisting of a box for packing cheese and carrying sliver, made of paper pulp pressed and put up in knock-down bunches, and bent and nailed, as described, and provided with a loop at the bottom and handles on the sides, substantially as specified and for the purposes set forth.

#### No. 21,946. Cartridge for Small Arms. (*Cartouche pour Armes Portatives.*)

Livingston Middleditch, (Assignee of Azel S. Lyman), Brooklyn, N. Y., U.S., 30th June, 1885; 5 years.

*Claim.*—1st. A cartridge consisting of a shell charged with a cake of powder made solid, substantially as hereinbefore set forth, said cake of powder being pierced longitudinally by a free unobstructed perforation, as and for the purpose described. 2nd. A cartridge consisting of a shell charged with a cake of powder make solid, substantially as hereinbefore set forth, said cake of powder being pierced longitudinally by a free unobstructed perforation, and being protected from the action of fire upon its outer surface and rear end by said shell, as and for the purpose described.

#### No. 21,947. Cartridge for Ordnance. (*Cartouche de Canon.*)

Livingston Middleditch, (Assignee of Azel S. Lyman), Brooklyn, N. Y., U.S., 30th June, 1885; 5 years.

*Claim.*—1st. A cartridge consisting of a shell charged with a solid cake of powder, having longitudinal holes running through it from end to end, such cake of powder being protected from the action of fire upon its outer surface by said shell, substantially as and for the purpose set forth. 2nd. A cartridge consisting of a shell charged with solid cakes of powder packed in the shell, and extending from end to end of the charge, the cakes of powder being each protected upon their outer surfaces from action of fire, and being also each perforated with one or more longitudinal holes, substantially as and for the purpose set forth. 3rd. A cartridge consisting of a shell charged with a solid cake of powder which is protected upon its outer surface from the action of fire by said shell and is protected at its rear end by the head of said shell, said cake and the head of the shell being perforated by longitudinal holes, substantially as and for the purpose set forth. 4th. A cartridge consisting of a shell charged with a solid cake of powder, perforated by longitudinal holes extending also through the head of the cartridge, the cartridge being provided with a projection extending rearwardly from its head and adapted to bear against the gun, and thereby form an open space back of the head of the cartridge when in the gun, substantially as set forth. 5th. A cartridge consisting of a shell charged with a solid cake of powder, perforated from end to end by longitudinal holes extending also

through the cartridge head, and provided with a firing tube arranged to direct an igniting flame to the front end of the powder cake, substantially as and for the purpose set forth.

#### No. 21,948. Broom Stand. (*Porte-Balai.*)

Charles P. Brandon, Toronto, Ont., 2nd July, 1885; 5 years.

*Claim.*—As a new article of manufacture, a broom or mop stand, or rack, composed of the rectangular frames A and B, having holes e and f made in them, and detachably connected by the screwed ends on posts C and nuts d, substantially as and for the purpose specified.

#### No. 21,949. Process and Machinery for Shaping Boot and Shoe Counters. (*Procédé et Machine pour Former les Contreforts des Chaussures.*)

Louis Cote, St. Hyacinthe, Que., 2nd July, 1885; 5 years.

*Claim.*—1st. The process of shaping counters of boots and shoes, which consists in, first, cutting the material to shape, second, flanging it, third, bringing it to the form of a portion of the periphery or surface of a sphere or spheroid, substantially as described. 2nd. The process of shaping counters of boots and shoes, which consists in, first, cutting the material to shape, second, flanging it, third, bringing it to the form of a portion of the periphery or surface of a sphere or spheroid, and, lastly, giving it an elliptical configuration or shape of the last, substantially as described. 3rd. The combination, in a machine of the former l<sub>3</sub>, mould e<sub>3</sub>, former D, mould E, wheel H and mould J, operated as described, substantially as set forth. 4th. The combination of the mould J, wheel H having axle e<sub>4</sub> and recess b<sub>4</sub>, provided with teeth pinion a<sub>4</sub>, brackets d<sub>4</sub> and e<sub>4</sub>, substantially as described. 5th. The combination of the mould J, wheel H having its centre of revolution axis or axle situated at a distance from the centre of propulsion, substantially as described. 6th. The combination of the mould f<sub>3</sub>, having recess h<sub>3</sub> and extension of recess i<sub>3</sub>, as described, with the cylindrical former l<sub>3</sub>, constructed and operated substantially as described. 7th. The combination of the mould f<sub>3</sub> and former l<sub>3</sub>, constructed as described, substantially as set forth.

#### No. 21,950. Manufacture of Boots. (*Fabrication des Bottes.*)

Horatio G. Charlesworth, Toronto, Ont., 2nd July, 1885; 5 years.

*Claim.*—In the manufacture of boots and shoes, in finishing the outer surface of the shanks by affixing a thin ornamented material A, substantially as shown and described.

#### No. 21,951. Coal Oil Lamp for Heating Smoothing Irons. (*Lampe à Pétrole pour Chauffer les Fers à Repasser.*)

Patrick F. Ratchford, Ont., 2nd July, 1885; 5 years.

*Claim.*—1st. In a smoothing iron heating apparatus, the disks D, D, coupled by the web c, supported over the burners B by the legs b, and the wick tubes C extending up through openings formed in them, and the steady tubes a fixed to them, substantially as and for the purpose described. 2nd. The combination of the shelf bracket E, with the web c, connecting the disks D, as shown and described. 3rd. The combination of the oil vessel A, burners B, wick-tubes C, disks D carrying the steady tubes a, supported by the legs b and connected by the web c, and the shelf bracket E, substantially as herein shown and described.

#### No. 21,952. Automatic Boiler Feeder. (*Alimentateur Automatique de Chaudière à Vapeur.*)

Samuel Haigh, Coquitlam, B.C., 2nd July, 1885; 15 years.

*Claim.*—1st The combination, with the cylinders A, A, having connections to the steam and water spaces of a boiler, and to a water supply and the steam chest C, in the line of the connection to the steam space, and having steam passages leading to the cylinder and

for the exhaust of the valve *d*, the cylinder *E*, piston *i*, connection *k* to the valve *d*, the valve *t*, the floats *B* in the cylinders *A*, the rods *a* and beam *b*, having connection with the valve *t*, substantially as described. 2nd. The combination, with the cylinder *E*, valve *t*, piston *i*, rod *k*, steam chest *C* and valve *d*, of the guide-bar *l*, collars *m* and rubber buffers *n*, substantially as shown and described. 3rd. In a boiler feeder, the combination, with the water cylinders *A*, floats *B*, rods *a*, beam *b*, steam cylinder *E*, piston *i* and rod *k*, of the steam chest *C*, provided with ports *e*, *f*, the valve *d* and connections to a boiler and a water supply, substantially as shown and described. 4th. The combination, with the water cylinder *A*, of the pipe *g* from a water supply pipe *p* to a boiler cross pipes *r*, *r*, and check valves *u*, substantially as shown and described. 5th. In a boiler feeder, the combination of condenser *D*, with the water cylinders *A*, steam chest *C* and valve *d*, substantially as and for the purpose specified. 6th. In a boiler feeder, the pipe *p* connected to the boiler pipe *g*, from a water supply cross pipes *r*, and check valves *u* combined with the water cylinders *A*, substantially as described.

### No. 21,953. Hame. (*Attelle*.)

George H. Bartlett, Sunapee, N.H., U.S., 2nd July, 1885; 5 years.

*Claim*.—1st. The combination, with the neck of the lower start, of the loose sleeve provided with an eye carrying the pole strap ring, as set forth. 2nd. The combination, with the draft bolt, of the sleeve having a rigid washer located above its lower end, substantially as shown, and the lower start having about its neck a loose sleeve provided with an eye carrying the pole strap ring, as set forth. 3rd. The combination, with the hame *A*, of the upper start *B*, the draft-bolt *C*, provided with sleeve *D*, having the rigid washer *H* located above its bottom, and the lower start *B*, having about its neck the loose sleeve *E*, provided with an eye carrying the pole-strap ring, as set forth.

### No. 21,954. Steam Cooker. (*Cuisinière à Vapeur*.)

William F. Strangways, Brantford, Ont., 2nd July, 1885; 5 years.

*Claim*.—1st. A steam cooking boiler *A*, provided with a sloping ledge *a* on its circumference, and a cover *a*, with hinge *a*<sub>5</sub>, and ring *a*<sub>6</sub>, as shown and described and for the purposes set forth. 2nd. A steam cooking boiler *A*, provided with a receiver *a*<sup>2</sup> and aperture *a*<sub>3</sub>, between the receiver and boiler, as shown and described and for the purposes set forth. 3rd. In a steam cooking boiler *A*, constructed as described, the combination of a condenser *B*, with handle *C*, and made to fit the sloping ledge *a* of the boiler, substantially as shown and described, and operating as set forth. 4th. In a steam cooking boiler *A*, constructed as described, the combination of the dishes *a*<sub>7</sub>, *a*<sub>9</sub>, *a*<sub>12</sub>, each of the said dishes supported in the boiler, as specified and shown. 5th. In combination with the dishes *a*<sub>7</sub>, *a*<sub>9</sub>, *a*<sub>12</sub>, and the hooks *B* on the inner top edge of the same, the handle *D* with two or more hooks *d*<sub>1</sub>, for lifting the dishes aforesaid.

### No. 21,955. Buck-Board and Buggy Waggon. (*Wagon Planche et Boghei*.)

Edouard H. Rousseau, Granby, Que., 2nd July, 1885; 5 years.

*Claim*.—1st. The combination, in a buckboard, of the steel springs *B*, *B*, with the bent pieces *a*, *a*, *a*, as shown and described for the purpose set forth. 2nd. The combination, in a buck-board, of the springs *c*, *c*, *c*, provided with the slats *d*, *d*, *d*, with the bent pieces *a*, *a*, *a*, substantially as shown and described for the purpose set forth.

### No. 21,956. Sheaf Lifter for Hay Forks.

(*Monte-Gerbe pour Fourches à Foin*.)

Frank Noble, London, Ont., 2nd July, 1885; 5 years.

*Claim*.—1st. The yoke *A*, having loops or eyes *a*, *a* at each end, in combination therewith, the rope or chain *B*, substantially as and for the purpose shown and described.

### No. 21,957. Waggon Jack. (*Chèvre de Carrosserie*.)

William Morton, Campbellford, Ont., 2nd July, 1885; 5 years.

*Claim*.—As an invention, a lifting jack for waggons or other vehicles, the standard *A*, having notches and bolt holes, as shown, and being bolted or otherwise rigidly fixed to a frame, in combination with the lever *C*, fulcrumed on said standard *A*, and having a pawl *D*, engaging in the ratchet of the said standard, all substantially as shown and for the purposes specified.

### No. 21,958. Power Press. (*Presse d'Emballage*.)

William L. Peters, Ameliasburgh, Ont., 2nd July, 1885; 5 years.

*Claim*.—1st. The vertical rods *A*, *A*, at ends of press, substantially as and for the purpose hereinbefore set forth. 2nd. The self-moving cams *B*, *B* and *F*, *F*, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the fulcrum links *C*, *C* and *E*, *E*, with the lever *D*, *D*, substantially as and for the purpose hereinbefore set forth. 4th. The combination of the levers *D*, *D*, with notches, substantially as and for the purpose hereinbefore set forth.

### No. 21,959. Refrigerator and Refrigerator Car. (*Glacière et Char Frigorifique*.)

Henry C. Goodell, Atchison, Ks., U.S., 2nd July, 1885; 5 years.

*Claim*.—1st. The combination, in a refrigerator or refrigerator car, of the outer wall *e*, intermediate wall *d*, forming an air chamber, the inner wall *d*<sub>1</sub>, suitable linings for said inner wall and wall *d*, and non-conducting fillings between said walls, substantially as described. 2nd. The combination, with the retaining walls, substantially as described, of a filling of lamp-black mixed with mica, or other suitable convenient material, substantially as and for the purposes set forth. 3rd. The ice-box separated into longitudinal compartments by walls *m*, *m*, with the intermediate air passage, and with floors inclined

downward from the centre to the sides, as described. 4th. In a refrigerator or refrigerator car, an ice-box having its bottom sloping downward from the centre to the sides, the central air passage, and the outer walls *u*, *u*, and depending flanges *o*, *o*, substantially as shown and described. 5th. In combination with the box having downwardly sloping floors from the centre to the sides, the walls *u* and the depending flanges *o*, *o*, and the prongs supporting the rods, substantially as described. 6th. The combination, in a refrigerator or refrigerator car, of double walls with suitable spaces between, a cloth or equivalent lining for said wall, and the filling of lamp-black, or mixture of lamp-black with other material, substantially as described. 7th. In a refrigerator or refrigerator car, an ice-box located in the top of the same, said ice-box being divided by two walls *m*, *m*, forming an air passage which opens into the car below and the box above, said box having also openings in its outer sides for the downward flow of the cooled air, substantially as described. 8th. In a refrigerator or refrigerator car, an ice-box located in the top of the same, said box being divided by two walls *m*, *m*, forming an air passage which opens into the car below and ice-box above, by which the warmer air in rising from the car passes through the space between the walls *m*, *m*, flows over said walls and enter the ice-box on each side, substantially as described. 9th. In a refrigerator or refrigerator car, an ice chamber located at the end of the car or compartment, and consisting of a framework constructed of upright walls *S*, *T*, and horizontal floor *U*, of grating form, substantially as herein described. 10th. The combination, with an air chamber, constructed as herein described, of the inclined plate *X*, provided with the gutter *σ*, for receiving the drippings and deflecting the cold air to the interior of the car or compartment, substantially as herein described. 11th. The combination, with the upright posts *s*, *t*, of the horizontal strips *s*<sup>2</sup> and *t*<sup>2</sup>, having their upper and lower edges bevelled, substantially as and for the purpose herein described. 12th. The combination, with the horizontal strips *s*<sup>2</sup> and the deflecting plate *X*, of the inclined plate *s*<sup>2</sup>, substantially as and for the purpose herein described. 13th. The combination, with the horizontal strips *t*<sup>2</sup>, of the upright posts *t*, provided with the grooves *τ*, substantially as and for the purposes herein described. 14th. The combination, with the plate *X* and the stanchions *R*, of the horizontal strips *s*<sup>2</sup>, substantially as and for the purpose herein described. 15th. The combination, with the outer walls of the ice-box, of the upright posts *s* and *t*, and the strips *s*<sup>2</sup> and *t*<sup>2</sup>, forming air passages, substantially as and for the purpose set forth.

### No. 21,960. Lawn Marker.

(*Traceur de Pelouse*.)

Robert B. Reynolds, Stockport, N.Y., U.S., 2nd July, 1885; 5 years.

*Claim*.—The combination, with the liquid tank *a*, mounted on a carrying wheel or wheels *b*, and the belt *e* arranged to run on a carrying wheel, of the guide rollers *d* located on the top of the tank, and the tension and stirring roller *f* arranged to be suspended and carried in the bight of the belt, and to cause the belt to run through the liquid in the tank, substantially as described.

### No. 21,961. Saw Mill. (*Scierie*.)

David F. Milne and James T. Milne, Nassagawega, Ont., 2nd July, 1885; 5 years.

*Claim*.—In a saw-mill, the combination of a saw, a carriage-way provided with carriage moving mechanism and located so as to form a carriage pathway past the saw, a second similarly provided carriage way disposed parallel thereto, one or more log-carriages fitted to move on said carriage-ways, and two or more transfers, located one before and one after the saw, and adapted to shift said carriage or carriages from one carriage-way to the other, substantially as and for the purposes specified.

### No. 21,962. Machine for Hoisting and Conveying. (*Machine pour Hisser et Transporter*.)

Alexander E. Brown, Cleveland, Ohio, U.S., 2nd July, 1885; 5 years.

*Claim*.—1st. In combination with the two piers, a bridge pivoted to the upper portions of both said piers, all substantially as and for the purposes hereinbefore set forth. 2nd. The combination, with the two piers and a bridge pivoted at one end to one of them, of a universal joint coupling connecting the other end of said bridge and the other pier, all substantially as and for the purposes set forth. 3rd. The combination, with the bridge, of one pier resting on a double track, another pier resting on one track only (so that it can be tipped toward or from the pier resting on the double track), and couplings or connections between the bridge and piers, which will permit one of the piers to tip as explained without in the least straining its couplings to the bridge. 4th. In combination with the piers capable of tripping (on a single track), and the bridge pivotally connected to said piers, means for clamping together the piers and the bridge-supporting beam, the whole constructed and operating substantially as hereinbefore set forth.

### No. 21,963. Machine for Hoisting and Conveying. (*Machine pour Hisser et Transporter*.)

Alexander E. Brown, Cleveland, Ohio, U.T., 2nd July, 1885; 5 years.

*Claim*.—1st. In combination with the piers and cable of a cable tramway for hoisting and conveying apparatus, the hinged bridge or apron constructed and arranged as specified, so that, when raised or turned up, the cable is correspondingly bent or turned up and is thus retained in a taut and useful condition for that portion of its length which remains distended between the two piers, substantially as set forth. 2d. In combination with the piers, the cable and the bridge or apron, of a device for holding the cable taut, during and after the upward vibrating movement of the bridge, and operating, as specified, so that, during the upward movement of the bridge, the pull of the cable operate to either impede or render more difficult the said move-

movent of the said bridge. 3rd. In combination with the outer pier, the cable and the bridge, the device O, or its equivalent, capable of being moved out of the way of the carriage D, whenever the bridge may be down, all substantially as hereinbefore set forth. 4th. In combination with the outer pier and cable tramway, a hinged bridge or apron, arranged and operating, as described, to receive the pulling strain of the cable in a direction corresponding substantially with the direction of the length of the bridge, as set forth. 5th. In combination with the piers, the bridge, the main cable C and the counter-balance cable *e*, the device for holding the counter-balance cable, whenever the bridge and main cable may be turned up, so that it will continue to work as well then as when the bridge may be down, all substantially as hereinbefore set forth. 6th. The movable or adjustable counter-balance cable holder device *k*, constructed and operating as specified, so that it may be moved or adjusted out of the way when the counter-balance cable extends in a substantially horizontal direction from the back pier to the outer end of the bridge, and can be set or adjusted to come over and in line with said counter-balance cable for the purpose of holding the latter properly when the said cable and bridge shall be turned up, all as hereinbefore set forth. 7th. In combination with the apron or bridge, weighted hold-down rods, chains or guys, provided with fasteners and having arranged with them guide-sheaves, such as seen at *t*, the whole arranged and operating to render easy the securing of the outer end of the bridge to the hold-fast piers, near the base of the pier, and their release therefrom as occasion may require. 8th. In combination with the base of a pier and the track on which it rests, rollers mounted on vertical axes and adapted to facilitate the adjustment of the pier on its tracks, and at the same time prevent any displacement of the pier from the track side wise of the latter, all as hereinbefore set forth. 9th. In combination with a pier and the track on which it rests, and on which it is designed to be adjusted, a device, substantially such as specified, for distributing the side strain on the track-beam, and at the same time creating a frictional contact which tends to hold the pier in place end wise on the track, the same constructed and operating substantially as hereinbefore set forth. 10th. The said clamping device shown and described for holding the pier down on the track rail consisting essentially of claw-like devices adapted to catch beneath the head of the rail, means for exerting a downward pressure on the rail, and means for easily adjusting the claw-like device toward each other and for holding them in place, all substantially as hereinbefore set forth.

#### No. 21,964. Lamp Case. (*Lanterne*.)

Edward S. Piper, Toronto, Ont., 2nd July, 1885; 5 years.

*Claim*.—1st. As an improved article of manufacture, a cast-metal lamp-case composed of the sides A, bolted together and provided with a top B, and bottom E likewise bolted to the sides A, and the door K hinged to one of the sides A, the sides A and door K being pierced for the insertion of the lenses L, the whole being constructed substantially as and for the purpose specified. 2nd. In a cast metal lamp-case, constructed substantially as described, the combination of a detachable false bottom H, set within the lamp-case so as to leave a space between it and the bottom E, which space is supplied with the outer air through suitable perforations, and discharges the air so admitted into the lamp-case through an opening made in its bottom. 3rd. In a cast metal lamp-case having a perforated bottom, a false bottom H set within the case as specified, and having a hole I made through it, in combination with the lamp J supported above the hole I by the perforated flange *l*, substantially as and for the purpose specified. 4th. In a cast metal lamp-case having its sides pierced for the insertion of the lenses L, the combination of the perforated false sides M fixed to the metal sides, substantially as and for the purpose specified. 5th. In a cast metal lamp-case provided with a top B, having a funnel C, the inverted saucer Q, having lugs *e* and *f* cast on its bottom, in combination with the cap N and bolt R, arranged to detachably connect the parts together, substantially as and for the purpose specified. 6th. The inserted cap saucer Q having the holes *g* made in it, in combination with the plate P, having holes *h* made in it, arranged and operating substantially as and for the purpose specified. 7th. An inverted saucer Q, having holes *g* made in it, in combination with the inverted perforated cup O, substantially as and for the purpose specified. 8th. An inverted saucer Q, having lugs *e* and *f*, and holes *z*, in combination with the plate P having holes *h* made in it, and notches *i*, substantially as and for the purpose specified.

#### No. 21,965. Mosquito-Net Support. (*Support de Moustiquaire*.)

Alfred L. Edwards, New York, N. Y., U.S., 2nd July, 1885; 5 years.

*Claim*.—1st. The herein-described support for mosquito-nets, consisting of brackets A, each composed of two parts *a* and *b* jointed together and provided with a clamp at the joint and the band C attached to and supported by said brackets, substantially in the manner shown. 2nd. In combination with supporting brackets, substantially as described and shown, a flexible band composed of separable sections alternately provided at their ends with slots or eyes and turn-buttons, substantially as and for the purpose set forth. 3rd. The herein-described bracket for mosquito-canopies, consisting of parts *a*, *b*, united by a friction-joint and provided with turn-buttons *f* and *g*, as and for the purpose explained.

#### No. 21,966. Multiple Signal Box for Fire and Police Telegraphs. (*Boîte à Signaux Multiples pour Télégraphes d'Incendie et de Police*.)

Lewis H. McCullough, Richmond, Ind., U.S., 2nd July, 1885; 5 years.

*Claim*.—1st. In a signalling box for fire-alarm telegraphs, the combination of the wheel D, pivoted lever E, rods *r* and *v*, one of which slides in air-tight bearings, and the exhausted tube *m*, whereby dust is prevented from collecting on the contact surfaces and positive contact is made when the circuit controller is operated, substantially as

specified. 2nd. In combination with a signal wheel, adapted to open or close an electric circuit, and suitable gearing therefor, a second signal wheel also adapted to open or close an electric circuit and separate gearing therefor, and a motor for operating either set of gearing. 3rd. The signal wheel D and suitable gearing for operating the same connected with the shaft F, the signal wheels D1 and suitable gearing for operating the same connected with the barrel H, and a motor connected with both shaft and barrel. 4th. The circuit wheel D1 movable along the shaft *v*, and contact lever E, in combination with the screw-threaded shaft *v*1, and the nut or hub L, and the spring *z*, whereby the position of the wheels D1 and the shaft *v*1 may be adjusted.

#### No. 21,967. Electro-Mechanical Gong Striker. (*Gong Electro-Mécanique*.)

Lewis H. McCullough, Richmond, Ind., U.S., 2nd July, 1885; 5 years.

*Claim*.—1st. The combination, with a spring actuated ratchet, a pawl for retaining the same, a spring actuated hammer for removing the pawl, and electro-magnet for releasing the hammer, of independently driven gong striking mechanism connected to the ratchet, and means made operative by the movement of the ratchet for releasing the said mechanism, substantially as set forth. 2nd. In combination, with a spring-actuated ratchet, a pawl for retaining the same, a spring-actuated hammer for removing the pawl, and means for releasing the hammer, of an actuating spring for a gong hammer, a pawl connecting the same with the ratchet, and means made operative by the movement of the ratchet for removing the said pawl, whereby the spring for the gong hammer will be released to strike a blow, substantially as set forth. 3rd. In combination with a spring actuated ratchet wheel, a retaining pawl therefor, and a hammer for removing the same by percussion, a spring connected to the ratchet wheel so as to act against the driving spring and, thereby, cause the ratchet wheel to move against its retaining pawl after release, without shock or jar. 4th. In combination with a spring-actuated ratchet wheel, a pawl for retaining the same, and means for removing the pawl, a second pawl for the same ratchet connected to a retractile spring, and means made operative by the movement of the ratchet for removing the said pawl, and a gong hammer also connected to the said spring, substantially as described, whereby the ratchet wheel is caused to move against the retaining pawl after release, without shock and the hammer is operated. 5th. The shaft *d*2 spring *d*1, arms *d*, *e* and *e*1, pivoted arm *e*2, pin *f* and catch or hook *a*2, in combination with the ratchet wheel T and pawl *g*, whereby on the rotation of the ratchet wheel, after the release of the shaft *d*2 and the consequent release of the ratchet wheel, the parts are restored to operative position, as set forth. 6th. The combination, with an electro-magnet, its armature lever and a catch or hook thereon, of the shaft *d*2, spring *d*1, arms *d*, *e* and *e*1, pivoted arm *e*2 and pin *f*, ratchet wheel T and pawl *g*, whereby, on the passage of an electric current, the shaft *d*2 and the ratchet wheel T are released, and after release are restored to operative position as set forth.

#### No. 21,968. Flying Target. (*Cible Volante*.)

Albert H. Hebbard, Knoxville, Tenn., U.S., 2nd July, 1885; 5 years.

*Claim*.—1st. A flying target consisting of a disk concealed on its lower side, and having flanges on its upper and lower portions to form journals, all substantially as described and for the purpose set forth. 2nd. A flying target consisting of the curved portion D, provided with a journal, in combination with a trap or sender provided with the forked arms B and the curved arm A1, whereby the target is held in said trap by its journals and periphery, and when forced or thrown out receives a spinning axial rotation through the air substantially as described and set forth. 3rd. A flying target consisting of a concave disk having journals E, as specified, in combination with a trap provided with an arm having an inside facing of soft elastic material the outer and inner ends of said arm being straight, the central portion thereof being curved, and a straight bifurcated arm B pivoted to the inner end of the curved arm, substantially as described and for the purpose set forth. 4th. A flying target consisting of a concave disk having journals E, as specified, in combination with a trap provided with an arm having an inside facing of a soft elastic material, the outer and inner ends of said arm being straight, the central part thereof being curved, and a straight bifurcated arm B provided with a rear projection C, said arm being pivoted to the arm A, and a spring pivoted to the arm A, and a spring interposed between said arms, substantially as described and for the purposes set forth.

#### No. 21,969. Combination Tool. (*Combinaison d'Outils*.)

Adon D. Crosby, Cuba, N. Y., U.S., 2nd July, 1885; 5 years.

*Claim*.—The combination tool comprising the two limbs, one having a screw-driver at one end, a tack claw and wrench-jaw at the other end, a serrated or toothed surface upon one edge at said latter end, and a serrated or toothed surface upon its opposite edge intermediately between its ends, the other limb having a serrated or toothed surface upon one edge at one end, a hammer head and a wrench jaw disposed oppositely to each other, and a toothed or serrated corresponding surface of the aforesaid limb, substantially as shown and described.

#### No. 21,970. Dry Closet. (*Latrine*.)

Frederick F. Street, Hartford, Ct., U.S., 2nd July, 1885; 5 years.

*Claim*.—1st. The combination of the discharge chamber, the cover at the top of the said chamber, the disk at the bottom of the said chamber, and an elastic connection from said cover to said disk, whereby the disk is operated from the cover, substantially as described and for the purpose set forth. 2nd. The combination of the discharge chamber *a*, the disk *b*, the lever *d*, the rest *h*, the spring *f*, the rod *e* furnished with the nuts *g* and *i* and the seath *l* furnished with

the arm *k*, all combined and operating together substantially as described. 3rd. The combination of the rod *e*, the nuts *g* and *i*, the spring *f*, the rest *h*, the lever *d* and means for operating the same, substantially as described. 4th. In combination, the discharge chamber, the hinged cover of the same, the swinging disk at the bottom of the same, the elastic connection between the cover and the disk, and the bolt or its equivalent for locking the cover and disk, all substantially as described and for the purpose set forth.

### No. 21,971. Mortising Machine.

(*Machine à Mortaiser.*)

The Square Hole Auger Company, Wooster, Ohio, (Assignee of James Oppenheimer, Shenandoah, Iowa,) U.S., 2nd July, 1885; 5 years.

*Claim.*—1st. In a mortising machine, an oscillating cutter-head, having a cam groove running spirally across one portion of the head, a shaft with a lug or toe, connected and eccentric with the shaft, acting as a cam and operating in the cam-groove of the cutter-head, and so arranged that, by rotating the shaft, an oscillating movement is given to the cutter-head, substantially as set forth. 2nd. In a mortising machine, in combination with a sliding stock, of a cutter head and shaft journaled therein, a cam groove running spirally across the periphery on one said of the cutter-head, a lug or toe connected and eccentric with the shaft for operating in the cam-groove of the cutter-head by means of which an oscillating movement is given to the cutter-head by rotating the shaft, substantially as set forth. 3rd. In a mortising machine, a sliding stock with a cutter head and shaft journaled therein, a cam-groove on the periphery of the cutter head, an engaging lug or cam connected with the shaft for oscillating the cutter, but rotating the shaft, and the parts arranged substantially as indicated, so that the mortising device may be attached to and operated by an ordinary boring machine. 4th. The cutter head having a flat base, a cam formation at the side opposite to the base, combined with a flat cutting-blade having side and end cross segmental cutters, a vertically-operating slide-stock, and a vertically revolving shaft fitted in bearings in said slide-stock, having the lower end terminating in a nose-cam projection adapted to act upon the cam formation of the cutter head, substantially as described, for the purpose specified. 5th. The combination, with the slide-stock B and the cam cutter-head, journaled therein, of a cutter blade having side cutting edges *e*, and projecting end segmental cutters *e'*, secured to said cutter-head, and the vertical revolving shaft C, having a free engaging cam projection with said cutter-head, the said end cross-cutters extending out side of the vertical plane of the said slide-stock substantially as herein described, for the purpose specified. 6th. The slide-stock B, having its lower end rounded at each side and formed with the side clearing shelves or projections, combined with the cam cutter-head, the cutter E and the revolving cam-shaft, cam whereof has a free engagement with the cutter-head cam, for operation substantially as shown and described. 7th. The cutter-head having the cam hollows or steps *d*, and the cutter E, having the side and end cutters, substantially as described, in combination with a driving shaft having a cam projection adapted to engage with said cutter-head, cam-steps, and a stock in which the cutter-head and its operating shaft are mounted in the relation to each other, as described. 8th. An oscillating mortising cutter-head having journal bearings, combined with a cutter having parallel side cutting-edges *e*, and segmental end projections having cutter-teeth *e'*, beveled from their inner sides in opposite directions from the middle of said cutter, substantially as herein set forth, for the purpose specified. 9th. The combination, with an oscillating cutter-head and a shaft adapted to operate said cutter-head by a revolving motion, of a vertically operating stock having side clearing shelves or projections arranged above the oscillating cutter, substantially as described, for the purpose specified. 10th. The combination, with the slide-stock, of an oscillating cutter-head, and a cutter proper having opposite edge cutters and end cutters, the latter being toothed to cut across the grain in the direction of its operation both ways, substantially as described.

### No. 21,972. Hay Elevator and Carrier.

(*Monte-Foin et Charriot.*)

Mathew H. Dowd, Mornington, Ont., and James M. Watson, Luther, Ont., 2nd July, 1885; 5 years.

*Claim.*—1st. The combination of the hay elevator track A, long threaded bolts A<sub>1</sub> passing through the same, and hook B having threaded eye to receive the bolt A<sub>1</sub> and engaging a board B<sub>1</sub> secured to the rafters of a barn. 2nd. The combination of the car C, levers E pivoted thereon, bail F connected to the levers E, catch F fast on the track, stop H adapted to engage said catch, and pulley block I carrying anchor J, adapted to engage the levers E. 3rd. The combination of the car C, the bail F, adapted to slide in guides *f*, and levers E pivoted to the car and connected with the bail F. 4th. The combination of the levers E, and anchor J adapted to be engaged by said levers, pulley block I secured to said anchor and carrying the fork L, and the pulleys D, D<sub>1</sub> and rope K. 5th. The combination of the fork L having at its legs l, pivoted harpoons l<sub>1</sub>, slide M, its legs m, also pivoted to the harpoons l<sub>1</sub>, the clips l<sub>2</sub> connecting fork and slide, the lever N pivoted to the slide M, lock O secured to lever N and embracing bars L and M, and latch P pivoted to said lock, all substantially as described and shown and for the purpose set forth.

### No. 21,973. Brick Machine. (*Machine à Brique.*)

William S. Smith, William P. Smith and Thomas H. Smith, Galt, Ont., 2nd July, 1885; 5 years.

*Claim.*—1st. A brick machine, constructed substantially as herein shown and described, and consisting of a wheel provided with mould openings, a cam-driven pawl for revolving the mould-wheel intermittently, and a series of plungers entering the mould openings from opposite sides of the wheel, and worked by cam-driven levers connected by a bar passing through a central opening in the wheel, whereby the mould-openings will be filled with clay, the clay pressed into bricks, and the pressed bricks discharged from the wheel automatically, as set forth. 2nd. In a brick machine, the wheel S, made

substantially as herein shown and described, with mould openings S<sub>2</sub>, and provided with recesses S<sub>1</sub>, S<sub>2</sub> upon the side parts of its rim, to receive the operating pawl R and the locking-latch r, and having the middle part of its rim V-shaped to engage grooved supporting rollers F, as set forth. 3rd. In a brick machine, the combination, with the mould-wheel S, having rim-recesses S<sub>1</sub>, of the cam J K and its driving mechanism, the sliding plate M, having pin L and bolt Q, and the pawl R, substantially as herein shown and described, whereby the said wheel will be revolved with an intermittent movement by the continuous revolution of the driving mechanism, as set forth. 4th. In a brick machine, the combination, with the mould-wheel S, of the cam h, k and its driving mechanism, the levers f, e, n, connected to the sliding bar C, and the plungers l, m, substantially as herein shown and described, whereby the said plungers will be moved forward and backward intermittently by the continued revolution of the driving mechanism, as set forth. 5th. In a brick machine, the combination, with the feed-hopper V, the mould wheel S and the sliding bar c, the levers e, f, the cam h k and its driving mechanism, of the plunger W, the lever Y and the fulcrum bar Z, substantially as herein shown and described, whereby the feed-plunger will be operated from the mechanism that operates the pressing-plungers, as set forth. 6th. In a brick machine, the combination, with the mould-wheel S, the sliding bar c, connected to the levers e, f, the cam h, k, and its driving mechanism, of the lever o and the plunger p, substantially as herein shown and described, whereby the discharge plunger will be operated from the mechanism that operates the pressing plungers, as set forth. 7th. In a brick machine, the combination, with the mould-wheel S, having rim-recesses S<sub>3</sub>, and the plunger m having pin S, of the latch r, substantially as herein shown and described, whereby the said mould-wheel will be locked in position and released automatically, as set forth. 8th. In a brick machine, the combination, with the mould-wheel S, the pressing plungers l, m, and the frame O, of the guide-rods t, the scrapers u, the rods v, w, the lever pawl and spring x, y, the trip-rod z and the arm-cord, and weight 3 2 1, substantially as herein shown and described, whereby adhering clay will be scraped automatically from the faces of the said mould-wheel and plungers, as set forth.

### No. 21,974. Fifth-Wheel. (*Rond d'Avant-Train.*)

John W. Leete, Meriden, Ct., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. The herein-described fifth wheel, comprising the upper and lower plate working face to face against each other, the lower plate being secured to the axle, and having slots a, b at the front and rear, and bolts consisting of an oblong portion fitting in the slots, and a tapering portion arranged in correspondingly tapered perforations of the upper plates, and nuts for securing the bolts in place, as set forth. 2nd. The herein-described bolt, comprising the head and the body having the oblong main portion, diminished tapered portion, and threaded projection, as set forth.

### No. 21,975. Dump Waggon. (*Tombereau.*)

George M. Wallace, Yuba City, Cal., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. In a dump waggon, the frame A, in combination with the independent bottom boards D pivoted in the frame, and a means for turning said boards on edge to dump the load, substantially as herein described. 2nd. In a dump-waggon, the frame A, in combination with the independent bottom-boards D, pivoted at one edge of their ends in said frame, and the means for turning said boards edgewise, consisting of the oscillating shafts E having cranks e, and rods g connecting said cranks with the other edge of the ends of the boards, the levers F, F<sub>1</sub>, and connecting rod f, all arranged and operating substantially as herein described. 3rd. In a dump waggon, the frame A, having ends C flaring or inclined outwardly, in combination with the pivoted independent bottom boards D, the oscillating shafts E under said flaring ends, the cranks e, connecting rod g, levers F, F<sub>1</sub>, and rod f, substantially as herein described. 4th. In a dump waggon, the frame A, in combination with the pivoted independent bottom boards D, said boards having their adjacent edges bevelled underneath at o and a means for turning said boards edgewise with their bevelled edges up, substantially as and for the purpose herein described. 5th. In a dump waggon, the frame A, and side guard strips m, in combination with the pivoted bottom boards D, substantially as and for the purpose herein described.

### No. 21,976. System of Electric Lighting and Power Distribution. (*Système d'Eclairage Electrique et de Distribution de la Force.*)

Eli T. Starr, Philadelphia, Penn., and William Peyton, Washington, D.C., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line to receive the current of said generator, a series of independent storage batteries electrically connected with said main line, to be charged therefrom, an independent working circuit for each of said independent batteries, and a series of switches by which said batteries may be simultaneously connected in circuit to be charged from the main line and then simultaneously cut out to constitute independent sources of electric supply. 2nd. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line to receive the electric current of said generator, a series of independent storage batteries electrically connected with said main line to be charged therefrom, a working circuit for each of said independent batteries, including electrical apparatus to be operated by the energy of said batteries, and a switch for each of said batteries whereby any one or more of said batteries and the apparatus worked by it may be cut out from the main line for an indefinite period without cutting out the others. 3rd. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line over which the current of said generator is conducted, a series of independent secondary batteries to be charged from said main line, a series of switches, one for each of said batteries, to simultaneously throw said batteries into the circuit of the

charging line, and a single independent line, including electro-magnets, to operate said series of switches. 4th. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line over which the current of said generator is conducted, a series of independent storage batteries to be charged from said main line, a series of switches, one for each of said batteries, to simultaneously throw said batteries into the circuit of the charging line, a single independent line, including electro-magnets to operate said series of switches, and a second series of switches, one for each of said batteries, by which and one or more of said batteries may be cut out from the main line for an indefinite period without cutting out the others, or interfering with their operation. 5th. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a secondary battery to be charged by said generator, an electric lamp to be run directly by the current of said generator, and switch mechanism for determining whether the current of said generator shall flow through the battery or through the lamp. 6th. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a series of independent secondary batteries to be charged by said generator, a series of electric lamps to be run directly by the current of said generator, and switch mechanism for determining whether the current of said generator shall flow through said batteries or through said lamps.

#### No. 21,977. Bolt Nut. (*Ecroû de Boulon.*)

Alonzo Johnson, Springfield, Mass., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. A nut having two parallel straight edge bearing-surfaces on the same side and recessed between the bearings, substantially as set forth. 2nd. A nut having two parallel straight edge bearing surfaces on the same side or face, between which surfaces is an arch-shaped concavity, the curve of which is in the direction in which the rolled grain of the iron runs of which the nut is made, substantially as set forth. 3rd. A nut having two opposite straight edge bearing-surfaces on both its sides, between which surfaces is an arch-shaped concavity extending from edge to edge of the nut, substantially as set forth.

#### No. 21,978. Furnace for the Combustion of Town's Refuse, etc. (*Fourneau pour la Combustion des Déchets, etc., dans les Villes.*)

John E. Stafford and James T. Pearson, Burnley, Eng., 3rd July, 1885; 5 years.

*Claim.*—1st. The construction of furnaces, or destructors, with openings or spaces formed in the flooring of the refuse chamber, that the heated gases may pass directly underneath the refuse matter under treatment, and thence upward amongst the same. 2nd. The various means of escape for the heated gases from the burning fuel to the refuse chamber, as hereinbefore described. 3rd. Causing the waste heat from the refuse chamber to pass between the dome and the lining *e*, substantially as described and set forth. 4th. Causing the waste from one furnace to pass into the next furnace, substantially as described and set forth. 5th. Forming the floor or grating of the refuse chamber of tubing, through which water is caused to circulate for the purpose set forth. 6th. The general arrangement and construction of a furnace with a dome-shaped roof, substantially as described and set forth.

#### No. 21,979. Shoemaker's Iron Last.

(*Forme de Cordonnerie en Fer.*)

James Robertson and John F. Lee, Rochester, N.Y., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. As an improvement in metallic shoemakers' lasts, the combination, with the last having the elliptical recesses in its underside and directly under the shank or hollow part, of the retaining standard formed with a corresponding elliptical top end conforming to the recess in the last, and entirely filling the same, substantially as and for the purposes set forth. 2nd. As an improvement in shoemakers' lasts, the combination of the last having the elliptical recess in its underside and under the shank or hollow part, the cylindrical standard formed with the corresponding elliptical top end conforming to the recess in the last and entirely filling the same, and the base plate formed in a single piece with a central recess receiving the end of the standard and provided with projecting ears forming braces at its edge, substantially as and for the purpose set forth. 3rd. As an improvement in shoemakers' lasts, the combination of the last having the elliptical recess in its underside, the cylindrical standard having its top end conforming to the recess and received by the same and provided with a cylindrical bottom end *b*<sub>2</sub>, with the annular circumferential shoulder *b*<sub>3</sub> above the same, and the base plate having a central recess corresponding to, and receiving the end of the standard, and provided with the ears at its edge by which it is secured in position, substantially as set forth. 4th. The combination, in a shoemaker's last, the last having the elliptical opening in its underside, the standard having a corresponding elliptical top end entirely filling said recess and provided with a bottom portion formed with the annular shoulder and the slots *f*<sub>3</sub>, *f*<sub>3</sub>, the base plate provided with the opening receiving the slotted bottom portion of the standard, and the retaining strap passing through said slots, substantially as set forth. 5th. As an improvement in shoemakers' lasts, the combination, with the bottom portion of the last, of a filling of leather or other suitable material, substantially as and for the purpose set forth. 6th. A shoemaker's last hollowed out at its bottom or sole portion to provide a narrow bead around its edge, and having the space thus formed filled with leather or other suitable material, substantially as and for the purpose set forth.

#### No. 21,980. Automatic Gate.

(*Barrière Automatique.*)

Josian Austin, East Liberty, Ohio, U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. The plate *D*, pivoted at *F*, having the gate post pivot-

ed to the same at *G*, and having teeth *I* to engage with a rack for throwing the gate out of plumb, substantially as shown and described. 2nd. In combination with an automatic trip for operating a drive gate, the plate *D* pivoted at *F*, having the gate post pivoted in the same at *G*, and teeth *I*, squared sides *V*, *V*, and the rack *M*, carrying rolls *L*, as and for the purpose set forth. 3rd. The combination, with the rack *M*, having rollers *L* and the cam plate *D* having teeth *I* and squared sides *V*, *V*, of the rod *X*, slide rod *U*, *V*, stops *W*, *Z*, and levers *T*, as and for the purpose set forth. 4th. The combination, with an automatic drive gate, of the rods *g*, latches *h*, springs *i*, and stops *K* for automatically locking and keeping the gates shut, substantially as shown and described. 5th. In an automatic drive gate, the slamming rest *m* on post *o*, and catch *n* on the gate rail, to lock the gate open, as and for the purpose set forth. 6th. The combination, with crank rod *Q*, rack *M*, plate *D*, gear wheels *R*, *S*, and rod *X*, as and for the purposes set forth. 7th. In a drive gate, the pull rod *X* for throwing the gate, the trip *a*, arms *b*, *c*, *f*, slide rods *U*, *V*, stops *W*, *Z*, and retracting spring *d*, as and for the purposes set forth. 8th. In an automatic drive gate, a double pivoted crank rod to support the gate, and a coiled spring to throw the same, as and for the purpose set forth. 9th. The combination, with the tripping devices, of an automatic gate of the double pivoted crank rod on which the gate is swung, a coiled spring to throw the gate and the rack *M*, and plate *D* to open the same, as and for the purpose set forth.

#### No. 21,981. Screw Plate. (*Filidre à Vis.*)

Frederick D. Butterfield and H. Stewart Haskell, (Assignee of George L. Reese), Derby Line, Vt., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. In combination with the divided die, the adjusting screws and the chambered body of the collet, the cap *b*, for the prevention of tilting of the parts of the die, substantially as described. 2nd. The combination of the divided die *c*, *c*, the adjusting screws *f*, *f*, the main body of the collet chambered to receive said die, and having as an integral part thereof the guide jaws *d*, *d*, *d*, and the cap *b*, covering a part of the face of said die, as and for the purpose specified. 3rd. The combination of the divided reversible die *c*, *c*, the adjusting screws *f*, *f*, the main body of the collet chambered to receive the said die, and having as an integral part thereof the guide jaws *d*, *d*, *d*, and the cap *b*, covering a part of the face of said die, upon which it is screwed down with pressure, and having a depression *i*, in its periphery for easy attachment and removal, substantially as described. 4th. The combination of a collet, a reversible divided die and a cap for holding said die in position, substantially as specified.

#### No. 21,982. Door Mat. (*Paillasson.*)

Henry T. Windt, Toronto, Ont., 3rd July, 1885; 5 years.

*Claim.*—1st. A coiled wire mat, formed substantially as described, and attached to the frame *A*, in combination with the bracing bar or bars *B*, arranged substantially as and for the purpose specified. 2nd. A coiled wire mat, formed substantially as described, and attached to the frame *A*, in combination with a bracing bar or bars *B*, and rod or rods *C*, slipped through the coils as described. 3rd. A coiled wire mat having two of its end secured to the frame *A*, by the coils, as described, in combination with the bars *D*, and *C*, inserted within the coils, as described, and forming hold-fasts for the staples *G*, which are wrapped round the sides of the frame *A* for the purpose of securing the edges of the mat to the side frame, substantially as and for the purpose specified.

#### No. 21,983. Crane. (*Grue.*)

John H. Whiting, Detroit, Mich., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. In an overhead traversing crane, the combination of an endless starting cable running alongside the whole length of the track of the carriage, and with one branch in proximity to the foundry floor, of a cable pulley over which said endless cable passes and by means of which it may be oscillated, and a belt-shifting device operated by the oscillations of the cable pulley, substantially as described. 2nd. In an overhead traversing crane, the combination of a safety stopping-cable running alongside the whole length of the carriage and in proximity to the foundry floor, of a cable pulley to which said rope is secured, and a belt-shifting device operated by the oscillations of the cable pulley, all arranged so that the operation of the cable will positively oscillate the cable pulley into the required positions for stoppage, substantially as described. 3rd. In an overhead crane, the combination of an endless starting cable running the entire distance of the carriage track, and with its lower stretch brought in proximity to the foundry floor, of a cable pulley over which said endless cable passes, and by means of which it may be oscillated, of a stopping cable secured to the cable pulley and placed alongside the starting cable, and of a belt-shifting device operated by the oscillations of the cable pulley, all combined and operating substantially as set forth.

#### No. 21,984. Burglar Alarm.

(*Délateur de Voleur.*)

Alexander Jacobi, St. Clair, Mich., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. In an auto-mechanical burglar alarm having a sliding detent *M*, and operating by the pull of the alarm cord, the combination of the main alarm cord *O*, passing to all the doors and windows to be protected, with the branch alarm cords *P*, secured to the main cord so as to transmit a pull received by any one of them to the main cord, substantially as set forth. 2nd. In an automatic burglar alarm, the sliding detent *M*, in combination with the arm *N*, secured to the hammer rod and provided with the eye *a*, all arranged and operating substantially as described. 3rd. In an auto-mechanical burglar alarm, the vertically-sliding detent *M*, provided with the bend *b*, in combination with the arm *N*, secured to the hammer rod and provided with the eye *a*, all arranged and operating substantially as described. 4th. In a burglar alarm as described, a weight *G*, supported on a platform in proximity to a door or window sash, and connected

to the alarm cord, in combination with a rod S, secured to the door or window sash in proximity to the weight, all arranged substantially as described. 5th. In a burglar alarm operating as described, a weight, supported on a platform in proximity to a door and operating the alarm cord by gravity when pushed off said platform, an arm or rod S, secured to the door and adapted to force the weight off its platform by opening the door, all arranged substantially as described. 6th. In a burglar alarm operating as described, in combination of the weight G, staple K, sliding rod S, and alarm cords P, O, all combined and operating as described.

### No. 21,985. Automatic Barrel Filler.

(*Transvaseur Automatique de Baril.*)

Charles Ward, Toronto, Ont., 3rd July, 1885; 5 years.

*Claim.*—1st. A float G connected to the spindle I, having on arm J fixed to it, in combination with a valve D, arranged to close the pipe C, and attached to a spindle E, having an arm K, arranged to engage with the arm J, substantially as and for the purpose specified. 2nd. A float G, connected to the spindle I, having an arm J on its end, in combination with the spindle E, having an arm K, attached to it, so as to engage with the roller j on the arm J, and a valve D attached to the said spindle, and arranged to close the mouth of the pipe C, substantially as and for the purpose specified. 3rd. A float G, attached to the spindle I, having an arm J attached to it, in combination with the spindle E, having an arm K attached to it to engage with an arm J, and a hammer O, arranged to come in contact with the bell P when the valve D is closed.

### No. 21,986. Folding Table (*Table de Camp.*)

John Danner, Canton, Ohio, U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. In a folding table, the legs B, provided with tenons b on the outside thereof, in combination with the top A, and hinged side rails C provided with mortises C<sub>1</sub>, substantially as and for the purpose described. 2nd. The combination of a table-top A, its cleats A<sub>1</sub> on the underside thereof, with the legs B hinged to the underside of the table top, and hinges b<sub>1</sub> and b<sub>2</sub> of different length, substantially as and for the purpose described. 3rd. In combination with a table top, the side rails C hinged thereto, and provided with mortises C<sub>1</sub> and grooves C<sub>2</sub>, the hinged legs screwed-eyed, and hook rod D, substantially as and for the purpose described. 4th. In combination with a table-top, the side rails C hinged thereto, and morticed castings secured to and projecting from the inner side thereof, with hinged legs having projections b on their outer sides and means for connecting the side rails, substantially as described. 5th. The combination of a table-top A, legs B with tenons b and hinges b<sub>1</sub> and b<sub>2</sub>, side rails C<sub>2</sub> and C<sub>3</sub>, staples d and hooked rod D, substantially as and for the purpose described.

### No. 21,987. Shirt. (*Chemise.*)

William M. Spence, Carson, Nev., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. The improved shirt, herein described, provided with a vertical opening located at one side of the bosom, and a second opening or slit intersecting said first opening near the top of the shirt and severing the neck-band, and buttons and button-holes, located substantially as described. 2nd. The improved shirt herein described, provided at one side of the bosom with a vertical seam or welt having secured thereto buttons, and at the other side of said bosom with a vertical slit or opening, intersected at its top by a second slit or opening arranged at right angles therewith and severing the neck-band, and suitable buttons and button-holes located adjacent to said slit or openings, substantially as set forth.

### No. 21,988. Horse Collar. (*Collier de Cheval.*)

Ebenezer Fisher, Philadelphia, Pa., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. A steel horse collar having its side portions or sections constructed with a thin flange a, which is extended laterally, substantially as described, whereby it forms an elastic or spring bearing for attachment of the draft, as specified. 2nd. In combination with the lateral elastic flange a, of the steel collar section A, the draft hook attached to the same near its edge, as shown and described. 3rd. The combination, with a steel collar section A, having substantially a U-shape in cross section, of a supplemental spring which is interposed between the two flanges a and b of said section, as specified. 4th. The combination, with a steel collar section A, having substantially a U-shaped cross section, of a curved plate spring, which is bolted to the front flange a, and bars with its free end upon the rear flange b, as shown and described. 5th. The combination, with the adjustable piece B, and flanged steel collar section A, arranged to slide one in the other of the fastening bolt, passing through the outer flange a, of said section and through the contiguous edge of said top piece, as shown and described. 6th. The combination, with the collar coupling and neck pad, of the piece B, having its eye on top portion projecting laterally forward so that the bearing on the pad is located nearer its front than its rear side, as shown and described. 7th. The combination with the coupling and neck pad of the hook device and a fastening bolt for securing said parts together, substantially as shown and described. 8th. The check-rein hook and back-strap, hook formed in one piece, as shown and described.

### No. 21,989. Potato Screen. (*Crible à Patates.*)

Javier Joubert, Côte St. Michel, Que., 3rd July, 1885; 5 years.

*Réclame.*—1o. Dans un crible à patates, le tamis K contenu dans la boîte mobile L, avec la boîte B, les tamis D, H, J et Dr, le mécanisme U, X, W, Y, Z, Z<sub>1</sub> et les plans inclinés I, c et F, tel que ci-dessus décrit et pour les fins sus-mentionnées. 2o. Dans un crible à patates, le tamis en bois J, en combinaison avec les tamis D, H, K et c, F, et le bâti A, le mécanisme U, X, W, Y, Z, Z<sub>1</sub>, les plans inclinés I, tionnées. 3o. Dans un crible à patates, le tamis Dr, en combinaison avec les tamis D, H, J et K, et la boîte B, tel que ci-dessus décrit et pour les fins sus-mentionnées. 4o. Dans un crible à patates, la balance

D<sub>1</sub>, G<sub>2</sub>, M, N, O, P, Q, R, S, en combinaison avec les tamis D, H, J, G<sub>1</sub>, K, les boîtes B, L, le réceptacle G, le plan incliné F et le bâti A, tel que ci-dessus décrit et pour les fins sus-mentionnées. 5o. Dans un crible à patates, la combinaison des tamis D, H, J, Dr, K, des boîtes L, B avec les plans inclinés F, I, c, le mécanisme U, X, W, Y, Z, Z<sub>1</sub>, le réceptacle d, b, G et le bâti A, le tout tel que ci-dessus décrit et pour les fins sus-mentionnées.

### No. 21,990. Putting-Out Machine for Tanning Purposes. (*Machine à Nettoyer les Peaux durant le Tannage.*)

William M. Hoffman, Buffalo, N.Y., U.S., 3rd July, 1885; 5 years.

*Claim.*—The combination, in a putting-out machine, of a driving shaft b carrying a gear b<sub>3</sub>, a putting-out cylinder a, supported on a shaft a<sub>3</sub>, journaled in arms a<sub>4</sub>, pivoted to the shaft b, gear b<sub>4</sub> on the shaft a<sub>3</sub> engaging with the gear wheel b<sub>3</sub>, and feed rollers e, et below the cylinder a, and extensible rods e<sub>3</sub>, e<sub>2</sub>, each connected at one end to the arms a<sub>4</sub>, and at the opposite end to the pivoted and counter-weighted foot treadle f, substantially as and for the purposes described.

### No. 21,991. Automatic Time Draft or Damper Regulator for Steam Boiler Furnaces. (*Régulateur Automatique de Régistre Horaire.*)

John Burge, Westfield, Mass., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. An automatic time draft and damper regulator having the plate A, with its projecting port b, with the inclined surface b<sub>1</sub>, and the lever B, pivoted to said plate A, the latch D, the disc F adapted to rotate, and having the notch f, the lever arm E, the connecting rod et, the stop C, the chain or cord a, connecting the lever B with the draft damper or valve K, substantially as and for the purpose hereinbefore set forth. 2nd. In an automatic time draft or damper regulator, the combination with the clock G, of the disc F with the notch f, the lever arm E, the rod et, and the latch D, all substantially as and for the purpose hereinbefore set forth. 3rd. In an automatic time draft and damper regulator, the combination with the latch D, of the lever B, the chain or cord a, the stop C, and the plate A, with its projection b, substantially as and for the purpose hereinbefore set forth.

### No. 21,992. Land-Excavating Machine. (*Machine à Creuser le Sol.*)

James Parker, Hull, Eng., 3rd July, 1885; 5 years.

*Claim.*—1st. The use of digging-tools or picks, having a revolving and reciprocating, or a motion combined of these, for excavating or dredging purposes. 2nd. The use of such digging, delving or breaking off tools for excavating or dredging, mounted upon a frame fitted with a lifting belt or chain of buckets. 3rd. The use of digging-tools or picks in front of the ordinary ladder and buckets of a dregger, so as to fill the buckets by the movement of these tools. 4th. The mounting of moving digging-tools on the lip of an ordinary collecting bucket, so as to fill the same, substantially as described.

### No. 21,993. Paper-Folding Machine. (*Machine à Plier le Papier.*)

Frederick G. Beach, Rochester, N.Y., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. In a paper-folding machine, the combination of a series of folding-flies, with a knife and cylinders, substantially as described, and for the purpose specified. 2nd. In a paper-folding machine, oscillating blades, combined with folding-flies for creasing the sheets preparatory to the operation of folding the same. 3rd. In combination with the folding-flies of a waper-loding machine, a crease or other means for forcing the sheets between the revolving cylinders, substantially as shown and for the purpose specified. 4th. In combination with the folding-flies and knife of a paper-folding machine, means for carrying the sheets below the surface of the paper-folder, substantially as shown.

### No. 21,994. Machine for Carding Cotton, etc. (*Machine à Carder le Coton, etc.*)

William S. Archer, New York, N.Y., U.S., 3rd July, 1885; 5 years.

*Claim.*—1st. A machine for separating cotton waste and other fibrous material, composed of one or more sections, each section consisting of a picker, toothed boards located below the same cylinders located in the rear of said picker, an open work platform or grate for conveying the material from the picker to the cylinders, and mechanism for feeding the material to the picker, substantially as set forth. 2nd. A machine for separating fibre, consisting of two or more sections, each section consisting of a picker roller toothed boards located below the same, cylinders located in the rear of the picker, and a platform for conveying the material from the picker to the cylinders, each picker being somewhat smaller than that located in the section immediately in front of it, substantially as set forth. 3rd. The combination, with a picker, of boards located below the same and provided with teeth slanting in the direction in which the material travels, cylinders located in the rear of the picker, an open-work platform or grate for conveying the material from the picker, substantially as set forth. 4th. In a machine for separating fibre, the combination, with an outer casing or frame, of an endless apron, a feed roller, a small roller located between the apron and said feed roller, substantially as set forth. 5th. The combination with an outer frame or casing, of an endless apron, a feed roller, a small roller located between the latter and said apron, a picker, and toothed boards located below said picker, substantially as set forth. 6th. The combination, with a frame, of an endless apron, a feed roller, a smaller roller situated between the latter and said apron, and a trough secured to the frame in close proximity to the feed roller and provided with a forwardly extending ledge, sub-

stantially as set forth. 7th. The combination, with a frame, of an endless apron, a feed and picker rollers, cylinders formed of wire gauze or its equivalent, a suction blower for drawing air through the latter, and an open platform or grate for conveying the stook from the picker to the cylinder, substantially as set forth. 8th. The combination, with a frame, of an endless apron, a feed and picker roller, toothed boards located below said picker, open work cylinders, a suction blower, for drawing air and dust through the latter, and a lapper, substantially as set forth.

**No. 21,995. Automatic Safety Damper for Chimneys, etc.** (*Régistre Automatique pour Cheminées, etc.*)

Frederick J. Gilman, Cote des Neiges, Que., 3rd July, 1885; 5 years.

*Claim.*—1st. The combination, with a damper plate, having its spindle provided with a spiral or coiled spring, of a fusible band connected directly to such damper plate, and adapted to operate, substantially as described. 2nd. The combination of the pipe A, the damper-plate B, the pin D, spring C, and the fusible strip or band E, all substantially as described.

**No. 21,996. Composition of Matters for a Preservative against the Sting of Insects.** (*Composition de Matières Servant de Préservatif contre les Piqures des Insectes.*)

Revd. C. A. M. Paradis, O.M.I., Maniwaki, Que., 3rd July, 1885; 5 years.

*Réclame.*—Une composition formée d'huile de Castor (risin), ou de toute autre huile grasse et épaisse, d'acide carbolique, de l'essence de citron, d'orange et de bergamotte, et d'une légère teinture de cochenille, dans les proportions et pour les fins décrites.

**No. 21,997. Hay and Grain Elevator and Carrier.** (*Charriot Monte-Foin.*)

Edwin D. Mead, Shortsville, N.Y., U.S., 4th July, 1885; 5 years.

*Claim.*—1st. In a hay and grain loader and unloader, a carrier frame A, provided with rollers D, consisting of separate parts b, c and d, and axle E, whereby the car is adapted to be run on single or double track at will. 2nd. In combination with frame or body of a car or carrier, substantially such as shown, pivoted levers K, provided with hooks at their outer ends, sliding block H, dogs or catches F, provided with operating arms, and trip bar I, carried by block H, and adapted to engage with and move the arms of the dogs or catches, substantially as described and shown. 3rd. In combination with frame B, C, and with levers K, pivoted therein, block H, provided with a laterally-projecting arm having a notch in its upper side, trip bar I hung upon said arm and provided with inclines g, dogs or catches F pivoted in the frame and provided with arms r, and a spring v, adapted and arranged to press the trip bar outward and hold it in engagement with the arms r, as set forth. 4th. In combination with a car frame having stop shoulder f, pivoted dogs F, inclining up and inward toward the middle, but free to be forced apart, substantially as and for the purpose explained. 5th. In combination with car A, having dogs or catches F, shir-pulley block G, having a head or enlargement i to rest upon said dogs and thereby support the block, and the draft-rope M passing through said block G and connected with the sling or load-supporting device below the block, substantially as and for the purpose set forth. 6th. The herein-described shir-pulley block for hay and grain unloaders, carriers, etc., consisting of body G, having nose or hook z, pivoted tongue P and latch O, and frame S, pivoted in the body G, and constructed and arranged substantially as described and shown, whereby it is adapted to clamp the lifting rope, when loaded. 7th. In combination with pulley block G, frame S pivoted therein, provided with arm Si, and pulley T, substantially as and for the purpose explained. 8th. In combination with a car and a pulley block having a pivoted tongue P, a latch O, arranged, substantially as shown, to lock said tongue, and provided with an eye or loop, and a hand rope V, passing through the eye of the latch and through the pulley block and car to a fixed support, whereby the rope is adapted to run freely through said ports when slack, but is caused to actuate the latch and release the tongue when pulled taut. 9th. In combination with a car or carrier provided with locking dogs or catches, a shir-pulley block provided with a flange or projection to be engaged by said locking device, and with a latch, a lifting rope, and a sling attached at one end to the lifting rope and held at the other end by the latch, substantially as described and shown. 10th. A shir-pulley block for carriers, substantially such as herein described, provided with a clamp to bind the lifting rope within the block.

**No. 21,998. Fruit Jar.** (*Jarre à Fruits.*)

Henry L. Becker, Rochester, N.Y., U.S., 4th July, 1885; 5 years.

*Claim.*—1st. In a fruit jar, the combination with the cover B, provided with the circular boss a, of the cap G fitted to the boss and carrying the fastening device, as herein shown and described. 2nd. In a fruit jar, the combination, with a circular boss, a cap fitted over said boss loosely, lugs forming a bearing on said cap, a rocker pivoted to the cap and provided with an inclined slot, and a bail pivoted at the neck of the jar and fitted in the slot, as herein shown and described.

**No. 21,999. Potato Digger.** (*Arrache-Potatoes.*)

William E. Reynolds, Murray, Harbour, P.E.I., 4th July, 1885; 5 years.

*Claim.*—1st. The combination of the draft tongue 5, and adjustable lever 6, whereby the machine can be tilted to regulate the depth of penetration of the shovel, as set forth. 2nd. The combination of the

shovel 4, having slots 12, shaft 13; having radial arms 14, working through the slots, and a suitable driving gear, to break clods of earth, and assist a portion with the potatoes onto the riddle, as set forth. 3rd. The combination with the endless riddle 11, of wipers 21, to shake the riddle with an undulatory motion, as set forth. 4th. The separator 25, composed of a series of screens, hung from the tail of the machine, and agitated by rods 27, pitmans 28, and wheels 29, as set forth, for sorting the potatoes, as set forth.

**No. 22,000. Locomotive Head Lights.**

(*Lampe de Locomotive.*)

George N. Secets, Evansville, Ind., U.S., 4th July, 1885; 15 years.

*Claim.*—1st. The combination, with a door having a projecting neck or barrel screw threaded internally, said barrel being provided at its outer end with a flange, of the locking band or ring screw threaded externally and fitting within said barrel, a lens and a flexible gasket interposed between the outer end of the locking band or ring and the lens, substantially as set forth. 2nd. The combination, with a door for lamp casings, having an outwardly projecting barrel, the latter being provided with a flange, of a locking ring provided with an annular pocket, a flexible gasket seated in said pocket, and the lens, substantially as set forth. 3rd. The combination, with a door provided with the neck C, of a lens fitting in said neck, a band E, gasket F, and springs H, all of the above parts combined and adapted to operate substantially as set forth.

**No. 22,001. Side Bar for Drive Wheels of Locomotives, etc.** (*Barre d'Excentrique pour les Roues Motrices des Locomotives, etc.*)

George N. Secets, Evansville, Ind., U.S., 4th July, 1885; 5 years.

*Claim.*—1st. A side bar for locomotives, composed of two or more metal plates attached to stub ends, and separated from each other by washers, the whole secured together by bolts or rivets, for the purpose herein described.

**No. 22,002. Plumb and Level.**

(*Plomb et Niveau.*)

Addison E. Gardner, Milan, Mich., U.S., 4th July, 1885; 5 years.

*Claim.*—In a combined plumb and level, and in combination, with a dial upon which is marked various degrees of a circle, an index finger hung upon central pivotal points, substantially as and for the purposes described. 2nd. In a combined plumb and level, a ring within which is secured a two-faced annular dial, the opposite faces of which indicate the degrees of a circle, in combination with two crystals, a shaft and bifurcated index finger, the parts being constructed and operating substantially as specified. 3rd. In a combined level and plumb and index finger supported upon a shaft which has its bearings in two crystals secured within such ring, in combination with a dial upon which the degrees of a circle are indicated, substantially as set forth. 4th. The combination of the ring A, dial B, crystal C, shaft D, over-weighted and bifurcated index finger, and a level block having a mortise in its upper face, the parts being constructed, arranged and operating substantially as and for the purposes specified.

**No. 22,003. Fish Trap and Bucket.**

(*Barge et Nasse.*)

George H. McKinney, Stanford, Ks., U.S., 4th July, 1885; 5 years.

*Claim.*—1st. In a combined fish trap and bucket, the body A, forming a single compartment or receptacle, and provided with a reticulated section D attached to the body portion, as shown, in combination with a removable conical section, provided with an end ring adapted to be inserted in the open end of the body portion, substantially as set forth. 2nd. In a combined fish trap and bucket, the combination, with the body A, provided with a reticulated section D, of ring E and inclined ring F carrying a perforated cone G, substantially as and for the purpose set forth. 3rd. The combination, in a combined fish trap and bucket, of the body provided with the reticulated section D, arranged as described, a ring E having an inclined ring F carrying a perforated cone G, loops c having the bail d attached and loop e located at or near the bottom of the device, as and for the purpose set forth.

**No. 22,004. Bit Brace.** (*Vilbrequin.*)

William A. Ives, New Haven, Ct., U.S., 4th July, 1885; 5 years.

*Claim.*—1st. The herein-described improvement in bit-braces, consisting of the solid cylindrical body A, screw-threaded upon its cylindrical surface, the jaws C, C with their elastic tails D, D united to said body in the process of manufacture, whereby said jaws become substantially an integral part of the body, combined with a surrounding sleeve B, internally screw-threaded corresponding to the screw-thread on the body, substantially as described. 2nd. The jaws C, forged with their tails D, D, and with the body A cast thereon, so as to unite with the tail ends of the jaws, substantially as described.

**No. 22,005. Drain Cleaner.** (*Cure-Egout.*)

George W. Immel, Logansport, Ind., U.S., 4th July, 1885; 5 years.

*Claim.*—In a drain-cleaner, the combination, with the handle having diverging metal straps at its lower end with eyes in their lower ends, the clip-guide and the spring-clasp with the set-screw, of the dirt pan having vertical sides, and rear ends hinged to the metal straps at its sides, and the adjusting-rod having its hinged arm connected at its lower end to the rear end of the pan by a pivot-connection, substantially as specified.



**No. 22,006. Self-Feeding Furnace, etc.***(Fourneau, etc., à Alimentation Continue.)*

Stephen T. Bryce, Dayton, Ohio, U.S., 4th July, 1885; 5 years.

*Claim.*—A magazine having an opening provided for admitting a supply of air above the fuel, and constructed with a double wall, the inner wall having openings communicating with the open passage between, whereby a current of air is passed downwardly between the walls of the magazine to the combustion chamber, for the purpose of supplying draught to the fire, of cooling the magazine, of carrying to the fire from the magazine any accumulations of gases or smoke, and for supplying heated oxygen to mix with the hydro-carbons of the fire chamber to produce complete combustion, substantially as described.

**No. 22,007. Horse Collar Fastening.***(Couplière d'Atelles de Collier.)*

Ives P. Hoff, Bainbridge, and Edward L. Bennett, Binghamton, N. Y., U.S., 4th July, 1885; 5 years.

*Claim.*—In a horse collar fastening, the combination, with upper plates D E, D E, provided respectively with a tongue F and a spring catch G, and pivoted lever H for operating it, of lower or base plates C, C and suitable spurs a, a on either the upper or lower plates, and means for fastening said plates on the collar, substantially as and for the purpose hereinbefore set forth.

**No. 22,008. Blind Slat Check.***(Arrête-Lame de Persienne.)*

John Racey, Quebec, Que., 4th July, 1885; 5 years.

*Claim.*—1st. The combination, with the lower rail a and lower slat B of a blind, of the plate D pivoted to rail a and provided with a lip d<sub>2</sub>, and the spring catch F having loop f and secured to the lower slat, substantially as herein set forth. 2nd. The combination, with the rail a, slat B, spring F and plate D, of the stops G, H, substantially as herein set forth. 3rd. As an improved article of manufacture, the slat check plate D, made with a locking lip d<sub>2</sub> and end portion or shoulder d<sub>3</sub>, substantially as herein set forth.

**No. 22,009. Sad Iron. (Fer à Repasser.)**

Thomas Rexford, Eastman, Que., 4th July, 1885; 5 years.

*Claim.*—1st. The hollow reservoir handle E having feed F and provided with faucet G, tube H enclosing pipe I turned into the hollow body of the sad iron, and terminating in a suitable burner, as set forth. 2nd. A sad iron heater, gas generator and burner composed of a tube H containing a metallic packing L and perforated with holes K, an interior tube I<sup>1</sup> out away at the top to expose the holes K, and an exterior wrapping of wire cloth M, the concentric tubes closed solidly at one end and provided at the other end with means for coupling to fuel supply and air tube, as set forth. 3rd. The body A, having the top and bottom thickened at the centre, and graduated towards the edge, to cause uniform distribution of heat, as set forth. 4th. The handle E, provided with a spring lever N having a pin O locking with the body A, as and for the purpose set forth.

**No. 22,010. Wire Fence. (Clôture en Fil de Fer.)**

Charles W. Weld, Southbridge, Mass., U.S., 4th July, 1885; 5 years.

*Claim.*—1st. In a wire fence, the combination of the following instrumentalities, to wit: a post provided with one or more transverse grooves in its side, a wire and a clamp fitted to slide on said post and provided with an arc-shaped or laterally curved jaw, adapted to engage the wire and clamp or bend it when the wire is disposed in the groove, and the jaw of the clamp is forced or driven over the wire, substantially as described. 2nd. In a wire fence, the post A, provided with the groove f and bearing point r, in combination with a clamp fitted to slide on said post and adapted to bend or grip a wire disposed in said groove, substantially as set forth. 3rd. In a wire fence, the clamp B, in combination with the post A, said clamp being provided with the two arc-shaped or laterally curved jaws d, z standing at different angles to the body of the clamp, substantially as and for the purposes specified. 4th. In a wire fence, the clamp B having the laterally curved jaw d, and provided with the flange t having the laterally curved jaws d, z and flange t, substantially as and for the purpose set forth. 5th. In a wire fence, the post A provided with the groove f and bearing point r, the clamp B provided with the curved jaws d, z and flange t, and the wire C, combined and arranged to operate substantially as described. 6th. The improved wire fence, herein described, the same consisting of the posts A, clamp B and wires C, constructed, combined and arranged to operate substantially as set forth.

**No. 22,011. Hay and Grain Elevator and Carrier. (Chariot Monte-Foin.)**

Edwin D. Mead, Shortsville, N.Y., U.S., 4th July, 1885; 5 years.

*Claim.*—1st. In a car or carrier for hay and grain elevators and unloaders, the combination of two pulleys provided with teeth upon their opposite faces, and a lever adapted to force the pulleys together, or to permit them to separate at will, whereby the pulleys may be caused to rotate together as one pulley, or to rotate independently and at different speeds to give additional power when hoisting. 2nd. In a car or carrier for elevating and unloading hay, etc., the combination of a main body, a frame pivoted therein, and provided with two pulleys adapted to be clutched and unclutched to and from each other, a shifting lever adapted to clutch and unclutch said pulleys, and a beam or lever connected with the pivoted frame and with the shifting lever, substantially as shown and described, whereby the frame is held up and the pulleys are locked together until a predetermined weight or strain is brought upon the pulleys, and then frame

is caused to descend, raise the beam or lever and unclutch the pulleys. 3rd. The combination of a car provided with a vertically-movable frame, pulleys mounted in said frame and adapted to be locked together or disconnected, a shifting lever and a pulley block suspended from the car by a rope passing about the pulleys of the car and pulley block, substantially as shown. 4th. In combination with a car provided with pulleys adapted to be coupled or uncoupled and a shifting lever for controlling said pulleys, a pulley block provided with pulleys adapted to be coupled and uncoupled, and with a shifting lever for effecting the coupling and uncoupling of said pulleys and a rope passing about the pulleys of the car and block, substantially as described and shown. 5th. The combination, substantially as set forth, of a car provided with a movable frame, pulleys carried by said frame and adapted to be coupled and uncoupled, a shifting lever for said pulleys, and a beam connected with the frame and shifting lever and adapted to be moved by variation of the weight brought upon the pulleys, a pulley block provided with pulleys adapted to be coupled and uncoupled, a shifting lever for controlling said pulleys, a push bar connected with said lever and adapted to be moved by the load as the latter is drawn up to the block, a hoisting rope passing about the pulleys of the car and block, and a sling or binding rope attached at one end to the hoisting rope and at its other end to the pulley block, whereby the hoisting rope is caused to move through the car and block equally while the rope is being bound or compressed, and then to cause its travel through the block and to have the power of all the pulleys acting independently in lifting the load. 6th. In a car or carrier for hoisting, moving, and discharging hay and grain, the combination of body a, frame E pivoted therein, axle e carried in said pivoted frame, pulleys C, H, mounted upon said axle and formed with teeth f, shifting lever K, and pivoted beam I connected with frame E and shifting lever K, substantially as described and shown. 7th. The combination in a car or carrier, of a main body, frame E pivoted therein and provided with axle e, pulleys G, H, mounted on said axle and provided with teeth f, shifting lever K, lever I connected with frame E and lever K, and guide pulley F gearing with pulley G, for the purpose explained. 8th. In combination with a car or carrier, substantially as described and shown, a guide pulley mounted therein at one side of the hoisting rope pulleys, whereby the draft end of the hoisting rope may be carried beneath the car toward either end thereof, without interfering with the hoisting rope. 9th. In combination with track Q, provided with hooks P, car A provided with yoke M, rod N, pulleys u, and rope Q, 10th. In combination with track Q, provided with hooks P, car A provided with yoke M, pulley block B and hoisting rope C. 11th. In a hoisting apparatus, a pulley block provided with two pulleys adapted to be locked together or released at will, whereby a single or double purchase may be had without changing the arrangement of the hoisting ropes. 12th. In a hoisting apparatus, a pulley block provided with shell p, having inclines v, pulleys R, S, having teeth u, and lever T provided with inclines v, substantially as and for the purpose set forth. 13th. In a hoisting apparatus, a pulley block having its shell p provided with inclines v, pulleys R, S, provided with teeth u, lever T provided with inclines v, and push bar U connected with the lever T and extending below lever to be struck and moved by the load. 14th. The combination in a pulley block, of a pulley having gear teeth, and a movable frame provided with corresponding teeth and with a rose or dog to enter the groove of the pulley, whereby a rope is permitted to pass freely over the pulley in one direction, but is clamped and held by the dog against movement in the opposite direction. 15th. In combination with shell p, and pulley R, movable frame V, said pulley and movable frame being both provided with teeth z, and the frame provided with nose or dog a<sub>1</sub>, substantially as and for the purpose set forth. 16th. In combination with shell p, pulley R and frame V, said frame and pulley both provided with teeth z, and the frame being further provided with dog a<sub>1</sub>, cord u for drawing back the frame V. 17th. In combination with shell p having nose or horn q, and latch r, pulley R and frame V, both provided with teeth z, and the latter provided with dog a<sub>1</sub> and roller e<sub>1</sub>, and cord d<sub>1</sub>, attached to latch r, passing over roller e<sub>1</sub> and through shell p, substantially as and for the purpose explained. 18th. In a hoisting apparatus, the herein-described pulley block consisting of shell p, provided with inclines v, pulleys R, S, provided with teeth u, lever T having inclines v, push bar U, frame V provided with teeth z, to mesh with like teeth on pulley R, and having dog a<sub>1</sub> and roller e<sub>1</sub> and cord d<sub>1</sub>, all substantially as described and shown. 19th. The combination in a car or carrier, provided with pulleys G, H, and shifting lever K, of a guide-pulley F gearing with pulley G, for the purpose explained. 20th. The combination of a car provided with pulleys mounted therein, and adapted to be locked together or disconnected, a shifting lever for connecting and disconnecting said pulleys, and a pulley block suspended from the car by a rope passing about the pulleys of the car and pulley block, substantially as shown.

**No. 22,012. Mowing Machine. (Faucheuse.)**

The Massey Manufacturing Company (Assignee of Mathew Garvin and William J. Clokey), Toronto, Ont., 6th July, 1885; 5 years.

*Claim.*—1st. A cutter bar supported on the shank H of the lever I, in combination with the eye bolt J, supported in suitable bearings on the push bar K, and forming the pivot point on which the cutter-bar is rocked. 2nd. The cutter bar F, secured to the shoe G, which has on arm extending through the loop-bracket L, in combination with the shank H, of the lever I, passing through the loop bracket and a bearing formed in the shoe G, and eye bolt J. 3rd. The push bar K, secured at its upper end to the main frame of the machine and supported at its lower end by the leader wheel so as to carry the cutter bar F, as specified, in combination with the slotted bar P, adjustably connected to the main frame of the machine by the bolt Q. 4th. The push bar K, secured at its upper end to the main frame of the machine, and supported at its lower end by the leader wheel, the cutter-bar F, pivotally connected to the push bar K, and connected to the lever N, by the rod O, in combination with the slotted bar P, adjustably connected to the main frame of the machine by the bolt Q, substantially as and for the purpose specified. 5th. The lifting-lever N, having fixed to its spindle a toothed gear, in combination with the foot-lever R, having a gear formed on it to mesh with the gear on the spindle S.

### No. 22,013. Manufacturing of Saccharine Compounds. (*Fabrication des Compositions Saccharines.*)

Constantin Fallberg, New York, N.Y., U.S., and Adolph List, Leipzig, Germany, 6th July, 1885; 15 years.

*Claim.*—1st. The process of making a new, sweet compound from toluene and other derivatives of coal tar, which consists of the following successive steps: first, converting toluene and the substitution products of benzene and its homologues into toluene-monosulphonic acids by fuming or concentrated sulphuric acid; second, converting the toluene-monosulphonic acids into calcium toluene monosulphonates by chalk or carbonate of lime; third, converting the calcium toluene-monosulphonates by sodium carbonate, or bi-carbonate, or any carbonate of the alkalies into sodium toluene-monosulphonate or any toluene monosulphonate of the alkalies; fourth, evaporating the sodium toluene-monosulphonate in open or vacuum pans, and cooling and drying the same; fifth, converting the dry product into the two isomeric toluene-monosulphochlorides and phosphochloride by the action of phosphor-pentachloride and separation of the resulting solid toluene-monosulphochloride in a centrifugal machine; sixth, converting the liquid toluene-monosulphochloride into the corresponding amid by treatment with caustic or carbonate of ammonia; seventh, treating the amid thus obtained with certain oxidizing agents in an alkaline solution to obtain the salts of the same; and, eighth, separating the pure saccharine compound from its salts by acids, acid salts, etc., substantially as described. 2nd. The process of making a new, sweet compound from toluene and other derivatives of coal-tar, which consists in converting toluene into toluene-sulphonic acid, oxidizing said acid or its salts into sulpholenic acid or its salts, then evaporating the latter and treating it with phosphor-penta-chloride, and caustic or carbonate of ammonia, and finally separating the pure saccharine from the ammonium salt thus obtained, substantially as set forth. 3rd. The regeneration of toluene and the generation at the same time of hydrochloric and sulphurous acids from the solid toluene monosulphochloride by the action of carbon, water, and superheated steam under pressure, substantially as described. 4th. The generation of chlorine for the preparation of phosphor-pentachloride from phosphoroxychloride, bleaching powder (hypochlorite of lime) and water, respectively, hydrochloric and phosphoric acids, or one of them, substantially as set forth. 5th. The saccharine compound, benzoic sulfide, substantially as described. 6th. The saccharine compound, benzoic sulfide, made by the process herein described.

### No. 22,014. Pulley Block. (*Chape de Poulie.*)

Merrill R. Skinner, Hamburg, and Frank L. Bapst, Buffalo, N. Y., U.S., 6th July, 1885; 15 years.

*Claim.*—1st. The combination, with a pulley-block, of a chain catch secured to the casing of the block, and a changeable support, whereby the position of the block can be changed to place the catch in an operative or inoperative position at desire, substantially as set forth. 2nd. In combination with the pulley casing, of a supporting loop B, provided with two bearings *b*<sub>1</sub>, *b*<sub>2</sub>, substantially as set forth. 3rd. The combination, with the pillow casing, provided with depending rear portions *a*<sub>1</sub>, of a catch E attached to said rear portions and a loop B provided with two bearings *b*<sub>1</sub>, *b*<sub>2</sub>, substantially as set forth. 4th. The combination, with the pulley casing, of a chain catch composed of a cross piece E, provided with jaws *e*, *e*, having notches *f* on their under sides, substantially as set forth. 5th. The combination, with the casing, of a pulley block and its pulley or sheave, of a chain catch adjustably secured to the casing, substantially as set forth.

### No. 22,015. Improvements in Corsets, etc.

(*Perfectionnements dans les Corsets, etc.*)

Clinton E. Brush and Seely B. Brush, Toronto, Ont., (Assignees of James F. J. Gunning, New Haven, Ct., U.S.), 7th July, 1885; 5 years.

*Claim.*—1st. The stiffeners B, cut shorter than the section C, and secured in position by the fly A, substantially as and for the purpose specified. 2nd. The stiffeners B, cut shorter than the section C, and secured in position by the fly A, in combination with the cap E, arranged to cover and protect the ends of the stiffeners B, substantially as and for the purpose specified. 3rd. The stiffeners B, cut shorter than the section C, and secured in position by the fly A, in combination with the covering piece D, substantially as and for the purpose specified. 4th. The stiffeners B, cut shorter than the section C, D, and secured in position by the fly A, in combination with the cap E, arranged to cover the ends of the stiffeners B, and the covering piece D arranged to cover the whole, substantially as and for the purpose specified.

### No. 22,016. Air Compressor.

(*Pompe de Compression*)

William T. Fox, Rochester, N.Y., U.S., 7th July, 1885; 5 years.

*Claim.*—1st. In an air compressor, the body composed of two cylindrical sections secured at their inner ends to opposite sides of the head C, the latter being mounted and arranged to oscillate upon trunnions, substantially as described. 2nd. In an air compressor, the combination, with the tilting air chambers B, B<sub>1</sub>, valve-casing E<sub>1</sub>, provided with water passages *e*<sub>1</sub>, *e*<sub>2</sub>, of the valves *e*, *e*<sub>1</sub>, connected by a gear rack *e*<sub>2</sub>, gear segment *e*<sub>3</sub>, mounted upon a stem *f* and a depending weighted arm F, secured to the stem *f*, substantially as set forth. 3rd. In an air compressor, the combination, with the tilting air chambers B, B<sub>1</sub>, of water inlet valves G, G<sub>1</sub>, valve seats *g*<sub>5</sub>, whereby the two valves are opened and closed alternately, substantially as set forth. 4th. The combination, with the tilting air chambers B, B<sub>1</sub>, of a weight J pivoted to the said air chambers, and supporting surfaces whereby the weight is held on one or the other side of the trunnions by which the air chambers are supported, substantially as set forth. 5th. The combination, with the tilting air chambers B, B<sub>1</sub>, of the air inlet passages *h*, *h*<sub>1</sub>, and air valves *i*, *i*<sub>1</sub>, attached to a rocking beam,

whereby said passages are alternately opened and closed, substantially as set forth. 6th. The combination, with the tilting air chambers B, B<sub>1</sub>, of the air inlet passages *h*, *h*<sub>1</sub> and air valves *i*, *i*<sub>1</sub> attached to a rocking beam I, and a weight J whereby such passages are alternately opened and closed, substantially as set forth. 7th. The combination, with the tilting air chambers B, B<sub>1</sub>, of a water inlet valve and a depending weighted arm whereby said valve is shifted, substantially as set forth. 8th. The combination, with the tilting air chambers B, B<sub>1</sub>, of the inwardly opening valve G, valve seat *g*, and guide *g*<sub>6</sub>, and a weighted connecting bar, whereby said valve is shifted, substantially as set forth. 9th. The combination, with the tilting air chambers B, B<sub>1</sub>, of the air valves K<sub>2</sub>, arranged in openings in the chambers B, B<sub>1</sub>, cap K and air conduit *k*, substantially as set forth. 10th. The combination, with the tilting air chambers B, B<sub>1</sub>, of a flexible stop or support D, whereby the movement of the chambers B, B<sub>1</sub> is arrested, substantially as set forth. 11th. The combination, with an air compressor, of the movable counter weighted water discharge trap M, provided with tube *n*, adapted to be opened and closed by the motion of the trap, substantially as set forth. 12th. The combination, with an air compressing apparatus, of the movable counter weighted water discharge trap M, provided with tube *n*, adapted to be operated and closed by the movement of the trap, and a tube or pipe, whereby the compressor and trap are connected, substantially as set forth. 13th. The combination, with the movable trap M, provided with tube *n* and support *m*, of the arm *r* and weight *p*, whereby the opening into the tube *m* is adapted to be closed against the bottom of the trough, substantially as set forth. 14th. The combination, with an air compressing apparatus and the pipe through which the compressed air is delivered, of a water trap in which the water carried by the compressed air is deposited, and means whereby the water is automatically discharged from the trap, substantially as set forth. 15th. The combination, with an air compressing apparatus, of a pressure regulator consisting of the inlet pipe *t*, chamber *t*<sub>2</sub>, tube *u*, provided with a piston U at its lower end, chamber *u*, and adjustable spring *v*, substantially as set forth.

### No. 22,017. Grapple for Lifting Barrels.

(*Jouee pour Soulever les Barils.*)

Anthony Flansbury, Saratoga, N.Y., U.S., 7th July, 1885; 5 years.

*Claim.*—1st. A grapple for lifting and carrying barrels and other objects, consisting of two horizontal and parallel bars, the extremities of which form the handles, and two frames connected thereto and pivoted together, substantially as and for the purposes set forth. 2nd. A grapple for lifting and carrying barrels and other objects, consisting of two horizontal and parallel bars and two frames connected thereto and pivoted together, the lower portion of said frames being curved to correspond in form to the object to be lifted and carried, substantially as and for the purpose specified.

### No. 22,018. Machine for Wringing Clothes.

(*Essoreuse à Linge.*)

Charles F. Smith (Assignee of George D. Armstrong), Belleville, Ont., 7th July, 1885; 5 years.

*Claim.*—1st. The lugs *a*, *a*<sub>1</sub>, having shoulders *e*, upon which the boxes D may rest, substantially as and for the purpose hereinbefore set forth. 2nd. The lugs *a*, *a*<sub>1</sub>, having shoulders, in combination with the boxes D, bearings *d*, clips *c*, and spring C, substantially as and for the purpose hereinbefore set forth.

### No. 22,019. Protected Nitrate of Ammonia for use in Explosive Compounds.

(*Azotate d'Ammoniaque Protégé pour servir dans les Composés Explosibles.*)

Russell S. Penniman, Dover, N.J., U.S., 8th July, 1885; 15 years.

*Claim.*—Nitrate of ammonia in a finely divided, or in a granulated condition, protected against deliquescence by a coating of petroleum or its soft and viscous educts or products, substantially as described.

### No. 22,020. Wire Mat. (*Sommier Elastique*)

Henry T. Windt, Toronto, Ont., 8th July, 1885; 5 years

*Claim.*—1st. A series of helically twisted wires A, coupled together by intertwining with each other, in combination with a series of wires B, correspondingly twisted, but arranged to intertwire with and at right angles to the series of wires A, substantially as and for the purpose specified. 2nd. A series of wires A, each twisted in the form of a right hand helix, and intertwined with each other, in combination with a series of wires B, each twisted in the form of a left-hand helix, and arranged to intertwire with and at right angles to the series of wires A, substantially as and for the purpose specified.

### No 22,021. Hook. (*Crochet.*)

Peter F. Chambard, Fayette, Ohio, U.S., 8th July, 1885; 5 years.

*Claim.*—1st. The hook A, formed at its end with a shoulder extending at right angles to the hook, and an eye or loop formed with said shoulder and projecting rearwardly and inwardly therefrom, so that its opening will be on a line with the hook, and also extending downwardly below the shoulder, as shown and described for the purpose set forth. 2nd. The hook A, formed with a shoulder extending at right angles to said hook, and an eye or loop formed with said shoulder and projecting rearwardly therefrom, so that its opening will be on a line with the hook and extending below the shoulder, as shown, in combination with a bar or link pivoted to the hook, and operating as and for the purpose set forth.

### No. 22,022. Electric Valve for Regulating Temperature, etc. (*Valve Electrique pour Régler la Température, etc.*)

Warren S. Johnson, Whitewater, Wis., U.S., 8th July, 1885; 5 years.

**Claim.**—1st. The combination of a valve serving to control a steam or other passage, an expandible chamber whose movable walls operate said valve when steam, gas or water is admitted to said expandible chamber, and an electric valve adapted to admit steam, gas or water, under pressure, into the expandible chamber, whereby the main valve is operated whenever the electric circuit is closed or opened, substantially as set forth. 2nd. The combination of an expandible chamber and a main valve connected thereto, the former having an inlet and an outlet port controlled by an electric valve, with the armature of an electro-magnet, and the bar or lever of an electric valve, whereby when the electro-magnet operates the bar or lever of said valve, the inlet port is adapted to be opened at the same time that the outlet port is to be closed, substantially as set forth. 3rd. The combination of a valve serving to control a steam or other passage, and adapted to close against and open with the pressure of an expandible chamber, whose movable wall operates said valve when steam, gas or water is admitted to said expandible chamber, and an electric valve adapted to admit steam, gas or water, under pressure, into the expandible chamber, whereby the main valve is operated whenever the electric circuit is closed or opened, substantially as set forth. 4th. The combination of a valve serving to control a steam or other passage, an expandible chamber whose movable wall operates said valve when steam, gas or water is admitted to said chamber, an electric valve consisting of an electro-magnet, its armature, and valves operated by the movement of said armature, whereby the movement of the armature in one direction admits the steam, gas or water to said expandible chamber and prevents its exit therefrom, and operates the main valve in one direction, while a movement of said armature in the opposite direction prevents the admission of steam, gas or water to said expandible chamber, but permits its escape therefrom, whereby the main valve is operated in the opposite direction, substantially as set forth. 5th. In a temperature-regulator, the combination of a valve adapted to close a steam or other passage, an expandible chamber having a flexible wall and a rigid backing, a valve stem having a disk secured to the end opposite the valve, said stem passing through the packing-box of the valve body, and a spring interposed between the packing box and disk surrounding said stem, substantially as set forth.

### No. 22,023. Extension Table. (*Table à Rallonge.*)

Albert E. French, East Tawas, Mich., U.S., 8th July, 1885; 5 years.

**Claim.**—1st. The combination of the middle part A having the ways I, and the end parts C, C, having the sectional extension arms H, each formed of two separate sections, and a means, substantially as described, for shifting one of the said sections out of alignment with the other, to allow the same to be brought to a position alongside of each other, as specified. 2nd. The combination of the way I, having the recesses N in one side thereof, the extensible arm H, a separable section H' and provided with the grooves S, T, Z and inclines, and catch V on one side, and the hooked lever O pivoted in a recess at one side of the said way, and having projections Q, R, adapted to be engaged in turn by said inclines to oscillate the lever and cause its hooked end to shift the section H' by means of the catch V, substantially as shown and described. 3rd. The combination of the middle part A, the end parts C, having the extensible arms H, provided with rack bars on their under surfaces, and the two parallel transverse shafts L supported in said middle part, and having pinions J overlapping each other and gearing said shafts together, and engaging parallel rack bars on the arms H, substantially as shown and described. 4th. The web leaf section formed of boards G having oblique transverse mortises, and the flexible connecting strips H<sub>3</sub> passing through said mortises, substantially as shown and described. 5th. The combination, with the middle part A having guide ways, or passages, and the end parts C, C, of the extensible or sliding arms, each formed of two separate sections having catches for connecting them, whereby said sections are aligned when the table is extended, but are disconnected, and one of them forced laterally when the table is contracted, substantially as shown and described. 6th. The combination of the part A, having ways with lateral recess N, the extensible arms H with grooves S, T, separated by incline U, a separate sliding section H<sub>1</sub> having groove Z, catch V and recess Y, and having levers O pivoted in a recess at one side of said way, and having projections Q, R, adapted to be engaged in turn by said inclines for the purpose of oscillating the lever and causing its hooked end to shift the section H<sub>1</sub> by means of the catch V, substantially as shown and described.

### No. 22,024. Base Burning Steam Boiler.

(*Chaudière à Vapeur de Foyer de Base.*)

Michael E. Herbert, St. Joseph, Mo., U.S., 8th July, 1885; 5 years.

**Claim.**—1st. A base burning steam-boiler having a central fuel magazine through it, extending to and attached to the top of the boiler, with a downwardly projecting annular water-chamber B around it, and a pendant annular water chamber B<sub>2</sub>, at its outer periphery, in combination with the separate annular water chamber C, interposed between the chambers B<sub>1</sub> and B<sub>2</sub> and connected with the same by circulating pipes, substantially as shown and described. 2nd. The combination of boiler B having central magazine H, and annular downwardly projecting chambers B<sub>1</sub>, B<sub>2</sub>, the separate annular chamber C, with pipes K and M, and the brick wall or casing D, as and for the purpose described.

### No. 22,025. Gas Regulator. (*Régulateur à Gaz.*)

William H. Cothren, Farmington, Me., U.S., 8th July, 1885; 5 years.

**Claim.**—1st. A fluid gas-regulator consisting of a case subdivided into three compartments A<sub>1</sub>, A<sub>11</sub>, A<sub>111</sub>, the supply pipe, its floated valve and the siphon drip, substantially as described. 2nd. The combination, in a fluid gas regulator, of a case A, provided with a diaphragm terminating at a passage a<sub>111</sub>, the compartment A<sub>11</sub> having the supply and the delivery pipes and a floating valve therein, and a drip-chamber provided with a siphon and an outlet, substantially as described. 3rd. The combination, in an automatic gas-regulator, of the chambers A<sub>1</sub>, A<sub>11</sub>, and a siphon drip chamber with the supply and delivery pipes, a float and a valve guided by rods

substantially as described. 4th. In a fluid gas-regulator, a case subdivided as described, a supply pipe B, an automatic float-valve a delivery pipe B<sub>1</sub> and a compartment provided with a siphon and outlets, substantially as described. 5th. In a gas regulator having a float valve applied to the delivery-pipe, and two communicating fluid-chambers, an auxiliary chamber provided with a drip or draw-off inverted siphon, the longest limb of which has a horizontal portion, substantially as described. 6th. In a gas-regulator the combination, with the partitioned case A, of a supply pipe, a float, the horizontal guides therefor, the valve and valve-disk, a siphon in chamber A<sub>111</sub> and a delivery pipe, substantially as described. 7th. A fluid gas-regulator consisting of a case A subdivided by partitions a<sub>1</sub>, a<sub>11</sub>, forming three chambers A<sub>1</sub>, A<sub>11</sub>, A<sub>111</sub>, a float having a flat guided valve, a supply and delivery pipe, a drip chamber provided with an inverted siphon and openings E, E<sub>11</sub>, all constructed and adapted to operate substantially in the manner and for the purposes described. 8th. In a fluid gas-regulator, a floating valve and a supply and delivery pipe located between chambers A<sub>1</sub>, A<sub>11</sub>, in combination with a siphon and the outlets of the chamber A<sub>111</sub>, substantially as described.

### No. 22,026. Culinary Pan Ventilator for Cooking Stoves. (*Ventilateur de Caserole pour Poêles de Cuisine.*)

Mary S. Harding, Saint John, N.B., 8th July, 1885; 5 years.

**Claim.**—1st. The culinary pan ventilator A, consisting of a cover having two closed sides, an end and a top, the bottom and one end open, and with or without a damper C, as set forth for the purpose described. 2nd. The culinary ventilator A, consisting of a cover, open at the front end, and having the top front portion B, hinged as set forth for the purpose described.

### No. 22,027. Process and Apparatus for the Manufacture of Gas. (*Procédé et Appareil pour la Fabrication du Gaz.*)

The United States Carbonous Oxide Illuminating Gas Company, (assignee of Robert B. Stapp,) Denver, Col., U.S., 8th July, 1885; 5 years.

**Claim.**—1st. The method, hereinbefore described, of operating the described apparatus, consisting in first generating carbonic oxide gas and passing the same to the reservoir, heating the retorts by the same operation, then shutting off the carbonic oxide gas and admitting hydro-carbon oil to the retorts, generating therefrom a gas, and finally mixing the same with the carbonic oxide gas, all substantially as described. 2nd. The method, hereinbefore described, of operating the described apparatus, consisting in first opening the pipes leading from the lower chamber and supplying air to the fuel for the combustion, and in operating the pump to draw the carbonic oxide gas and force it to the receiver, secondly, in allowing the pump to remain at rest to act as a washer, admitting the hydro-carbon-oil to the retorts while the carbonic oxide gas is shut off and the passage is open between the retorts and the pump, and, finally, in passing the hydro-carbon gas to the holder and mixing it with the carbonic oxide, substantially as described. 3rd. The hereinbefore described apparatus consisting of a closed chamber, provided with a suitable flue and fire pot, a partition at or near the top of the fire pot dividing the said chamber into an upper and lower part, provided with an opening from the upper to the lower chamber, openings into the ash pit to admit air to the grate below the fire pot retorts in the upper chamber, an oil supply pipe connected with said retorts, and suitable pipe leading from the upper and lower chambers to a pipe connecting the suitable apparatus for purifying, mowing and receiving the gases, substantially as described, the combination of two chambers, one adapted to the generation of carbonic oxide gas from the fuel, and the other to the generation of gas from hydro-carbon oil by means of heat from the fuel pipes leading from the two generating chambers to a three way cock, a pipe leading from the three way cock to a pump consisting of an outer fixed and an inner movable part, and a pipe leading from the pump to a suitable receiver, all substantially as described. 4th. In the described apparatus, provided with a furnace and retorts, substantially as described, the combination of two chambers, one adapted to the generation of gas from hydro carbon oil by means of heat from the fuel pipes, leading from the two generating chambers to a three way cock, a pipe leading from the three way cock to a pump consisting of an outer fixed and inner movable part, a pipe leading from the pump to a receiver and a suitable washing apparatus, all substantially as described.

### No. 22,028. Saddle. (*Selle.*)

Myra L. Eckles, Northfield, Minn., U.S., 8th July, 1885; 5 years.

**Claim.**—1st. The combination, with the hinged saddle trees A, A, of the metal fork C, the V-shaped rear seat support D joined to the hinged saddle trees, as described, the rigid oval brace, F, the horn d and the seat E, sustained upon the said brace horn fork and support D, substantially as shown and described. 2nd. The combination, with the saddle having rigid strap attachments B, B<sub>2</sub>, attached to its sides and separated or spaced from each other, of the converging independent straps H, H<sub>1</sub> having buckles and holes in them to render them adjustable in length, a girth secured to such rigid attachments, and a common connection for the two converging ends of the straps H, H<sub>1</sub> and the girth, as shown and described.

### No. 22,029. Rein Holder. (*Accroche-Guide.*)

George O. Teeter, Teeterville, Ont., 8th July, 1885; 5 years.

**Claim.**—1st. In a rein-holder, the combination, with the spring strip A having open loops provided with prongs D, on the ends of the hook K, and the nut J, substantially as herein shown and described. 2nd. A rein-holder consisting of a strip having loops B formed of its ends, each loop having two prongs forming a fork on its free end, substantially as herein shown and described.

**No. 22,030. Cream Raiser. (Boîte à Lait.)**

John Simpson, Streetsville, Ont., 8th July 1885; 5 years.

*Claim*.—1st. In a cream raiser, the can A having a concave bottom and being furnished with a glazed opening E and cream-gauge F, in combination with the cover G having a combined ventilator and strainer *g*, and being secured to said can by means of the catches H. 2nd. In a cream-raiser, the Skinner B having within a valve-chamber, a valve D, operated as shown, in combination with the can A and the hinged indicator *f* of the cream-gauge F, all arranged and operating substantially as described and for the purpose specified.

**No. 22,031. Mitre Frame Cramp.**

(Serre Boîte à Onolet.)

George R. Hammond, Snodland, Eng., 8th July, 1885; 5 years.

*Claim*.—In a mitre frame cramp, the screw A, operated by handle B or other suitable means, nuts C with horns Cr, bars E, sliding sockets F and stop-pieces H, constructed, combined and operating substantially in the manner herein set forth.

**No. 22,032. Weather Boarding Gauge.**

(Jauge de Renvoi d'Eau.)

James Essex, Lancaster, Mo., U.S., 8th July, 1885; 5 years.

*Claim*.—1st. The combination, in a weather board gauge, with the base-strip and gauge-strip vertically adjustable thereon, of an arm pivotally secured to the outer face of the gauge-strip and normally projecting above the same, said arm being adapted to be turned laterally upon its pivot, substantially as and for the purpose set forth. 2nd. The combination in a weather-board gauge, with the base-strip and gauge-strip vertically adjustable thereon, of an arm pivoted to the gauge-strip and comprising an arm portion, projecting below and above the pivot, the arm being reversible upon its pivot to bring either of said arm portions into position, substantially as and for the purpose set forth. 3rd. The combination, in a weather-board gauge, with the base-strip and gauge-strip vertically adjustable thereon, of a disk pivoted to the outer face of the gauge-strip, and carrying arms projecting in opposite directions and adapted to be brought into use when the disk is turned upon its pivot, substantially as and for the purpose set forth. 4th. The combination, in a weather-board gauge, with the base-strip having the retaining-plate and provided with a longitudinal groove in its outer face, of a gauge-strip vertically adjustable thereon, and provided with a spur entering the groove and guiding the said strip during its vertical adjustment, and an arm pivoted to the outer face of the gauge-strip and projecting above and below its pivot, substantially as and for the purpose set forth. 5th. The combination, in a weather-board gauge, with the base-strip having the retaining-plate and provided with a longitudinal groove in its outer face and with the knob at its lower end, of the vertically adjustable gauge-strip having the spur entering said groove to guide the strip during its adjustment, and the disk pivoted upon the face of the gauge-strip and carrying the arm comprising the portions projecting above and below the disk, substantially as and for the purpose set forth.

**No. 22,033. Box Machine.**

(Machine à Faire les Boîtes.)

Jeremiah A. Paige, Warner, N.H., U.S., 8th July, 1885; 5 years.

*Claim*.—1st. In a box machine, a former corresponding approximately in its outlines with the body of the box to be formed and on which the blank is wound, a band for bending the blank around the former, said band consisting of a series of jointed plates having bearing surfaces corresponding obversely with the sides and ends of the former, a drum for taking up or winding the band from the former after the blank is bent, and operative mechanism, substantially as set forth. 2nd. In a box machine, the former L provided with the guard plate Z and nailing or clinch plate I, in combination with the belt T, and the means, substantially as described, for bending the blank around the former and holding the same while being nailed, substantially as specified. 3rd. In a box machine, the link *h*, in combination with the narrow plate U, belt T and former L, said link being detachably jointed to said former to permit the blank to be removed therefrom, substantially as described. 4th. In a box machine, the band T composed of hinged plates and having the links *b* bent, as shown, at *p*, to cause the plate *y* to force the end 16 of the blank down into proper position to be nailed to the end 17, substantially as specified. 5th. In a box machine, the band T provided with the narrow plates U, Y, adapted to press the ends of the blank S down on to the ends of the former, and leave a space between the plates for nailing the ends, in combination with operative mechanism for said former and band, substantially as specified. 6th. In a box machine, the drum R mounted on the shaft Q, in combination with the band T and means for automatically winding said band on to said drum from the former L when the former is released, substantially as set forth. 7th. In a box machine, the former 30 provided with the hinged segments 31 and 32, in combination with the drum 36, means for expanding the segments to increase the diameter of the former, a band for banding the blank around the former and a bail 34 for securing the end of the veneer or blank, substantially as set forth. 8th. In a box machine, the former 30 provided with the bail 34 for securing the end of the veneer and nailing-plate 35, in combination with means for bending the blank around the former and means for expanding the former, substantially as specified. 9th. In a box machine, a former on or around which the blank is wound, a band for bending the blank around the former, a drum for receiving the band from the former, a weight for turning the drum and putting a strain on the band, a shaft and gearing for turning the former and winding the band on to the same, and a ratchet or retaining mechanism for the shaft, combined and arranged to operate substantially as set forth.

**No. 22,034. Device for Stopping Leaks in Lead Pipes. (Appareil pour Arrêter les Fuites d'Eau dans les Tuyaux de Plomb.)**

William H. Robertson, Toronto, Ont., 8th July, 1885; 5 years.

*Claim*.—1st. As a device for stopping leaks in lead pipes, a clamp having elongated cups with sharp cutting-edges, the said edges entering the pipes and effecting a water-tight joint, substantially as shown and for the purpose specified. 2nd. The elongated cups C and D having sharp cutting-edges and notches *b* and *c*, in combination with the clamp A, substantially as shown and for the purpose specified.

**No. 22,035. Apparatus for Annealing and Galvanizing and Coating Wire. (Appareil pour Recuire et Galvaniser le Fil.)**

Ephraim Tucker, jr., Worcester, Mass., U.S., and Hubert B. Ives, Montreal, Que., 8th July, 1885; 5 years.

*Claim*.—1st. In an apparatus for annealing and galvanizing or coating wire, the furnace A, provided with the chambers S, S', R, T, flues a, d, m, U, and grates O, O, constructed and arranged to operate, in combination with the tanks B, B', C, substantially as specified. 2nd. In an apparatus for annealing and galvanizing wire, the wiping box N, consisting of the body F, divided up into chambers *l*, with followers *t*, truss Q, plates *p*, steady pins *r* and spring pins *v*, combined and arranged to operate substantially as herein set forth. 3rd. The improved annealing and galvanizing or coating apparatus herein described, consisting of the furnace A, delivery reel D, tanks B, B', with guides therein, acid and flux tank P, tanks C with guides therein, and wiper or wiping box N and receiving-pulley X, all constructed, combined and operating, substantially as herein set forth. 4th. In combination with an apparatus for annealing, galvanizing or coating and wiping wire, the receiving-reel X, constructed and operating as herein set forth. 5th. In an apparatus for annealing and galvanizing or coating wire, the inclined floor *v*, having the opening or flue *d*, through which the fluid metal may pass, in combination with the inclined floor 20 and spout 22 for receiving and conducting it from the furnace, substantially as set forth. 6th. The combination, with the chamber R, of dampers Z, as and for the purposes set forth. 7th. The combination in an annealing and tempering apparatus, of two combustion chambers extending longitudinally of the furnace on each side thereof, annealing tanks suspended over or into said combustion chamber, an elevated longitudinal central flue in which the products of combustion pass from both said combustion chambers, and a coating tank located over said common central flue, substantially as described.

**No. 22,036. Combined Whip Socket, Oil Can and Wrench. (Porte fouet, Bidon à Huile et Clé à Ecrou Combinés.)**

Cephas L. Bard, San Buenaventura, Cal., U.S., 8th July, 1885; 5 years.

*Claim*.—1st. A whip socket, oil-can, and wrench, connected and secured to one another, to form a combined device, substantially as herein described. 2nd. The combined device, consisting of the whip-socket, the oil-can secured to its bottom, and the wrench secured by one end to the top of the whip-socket, and by the other end to the bottom of the oil-can, substantially as herein described. 3rd. The whip-socket A having an internally threaded base, and the oil-can B having an externally threaded top, adapted to fit the base of the whip-socket, whereby the two are united, substantially as herein described. 4th. The whip-socket A having an internally threaded base, the oil-can B having an externally threaded top, adapted to fit the base of the whip-socket, whereby the two are united, and the annular flange J overlapping and covering the joint between them, substantially as herein described. 5th. The whip-socket A, the oil-can B screwed to its base, and the wrench C, pivoted at its top to the whip-socket, and supporting at its base the oil-can, substantially as herein described. 6th. The whip-socket A, the oil-can B screwed to its base, and having the pin F on its bottom, and the wrench C, having a stock or handle *c* pivoted to the top of the whip-socket, and an arm *e* passing under the oil-can and having a hole *f* into which the pin F of the oil-can fits, substantially as herein described. 7th. The whip-socket A having the band D at its top, the oil-can B screwed to the base of the whip-socket, and having the pin F on its bottom, and the wrench C, having a stock or handle *c* pivoted between the severed projecting ends of band D, and an arm *e* passing under the bottom of the oil-can and provided with a hole *f*, into which the pin F of the oil-can fits, substantially as herein described. 8th. The whip-socket A, oil-can B, and wrench C, having stock or handle *c*, all united as described, in combination with the means by which they are connected with and supported from the dash-board, consisting of the bevel-headed or V-shaped studs H on the dash-board, and the correspondingly bevelled and tapering vertical slots *h*, in the handle of the wrench, into which the studs fit and are secured, substantially as herein described. 9th. The whip-socket A, oil-can B, and wrench C, having stock or handle *c*, all united as described, in combination with the means by which they are connected with and supported by the dash-board, consisting of the bevel-headed or V-shaped studs H, on the dash-board, the correspondingly bevelled and tapering vertical slots *h* in the handle of the wrench, into which the studs fit, and the cam lever I pivoted to the handle, and bearing against one of the studs, substantially as herein described.

**No. 22,037. Saddle Pad. (Panneau de Selle.)**

Stephen S. Jerome, Charles S. Pitkin and Elliott E. Richardson, Kansas, Mo., U.S., 8th July, 1885; 5 years.

*Claim*.—1st. A saddle pad consisting of a series of cloths, removable, connected so that upon the under pad becoming unfitted for use it may be substituted by another of the series, substantially as set forth. 2nd. A saddle pad consisting of a series of cloths or sections constructed of equal quantities of jute and linen, and removably connected together, so that any of the series may be employed. 3rd.

A saddle pad consisting of a series of cloths or sections, having holes or openings, at their forward ends, metal eyes seated in said openings, said metal eyes securing tabs of leather upon the edges of the cloths, and rings connecting the cloths, as set forth.

### No. 22,038. Pop Gun. (*Fusil jouet.*)

Elijah J. B. Whitaker, New York, N.Y., U.S., 9th July, 1885; 5 years.

*Claim.*—1st. A self-charging pop-gun consisting of an open-ended tube, a plunger working in said tube, a plug or stopper adapted to close one end thereof, and a cord or rod coupling the stopper with the plunger and permitting a limited movement of the two, substantially in the manner and for the purpose herein set forth. 2nd. A double-acting self-charging pop-gun consisting of an open-ended tube, a plunger working in said tube, a rod actuating said plunger, and extending out from one end of the tube, a plug or stopper moving upon said rod and adapted to close the end of the tube and to be driven to its seat by an off-set or shoulder on the rod, and a second plug or stopper adapted to close the opposite end of the tube, and which is coupled to the plunger by a cord or rod permitting a limited independent movement of the two, all substantially in the manner and for the purpose herein set forth.

### No. 22,039. Feed Water Purifier.

(*Epurateur de l'Eau d'Alimentation.*)

Philip J. Grau, Philadelphia, Penn., U.S., 9th July, 1885; 5 years.

*Claim.*—1st. A steam boiler, in combination with a feed-water purifier, consisting of two compartments, located one above the other, the upper of said compartments opening into the bottom of the lower compartment by means of a pipe, and being on a level with the water in the boiler, whereby said chamber is partly full of water, a feed-water pipe and a steam pipe to feed water and steam into the upper compartment, and an exit water pipe opening from said lower chamber, near its top, substantially as and for the purpose specified. 2nd. A feed-water purifier consisting of two compartments, located one above the other, the upper of said compartments opening into the bottom of the lower compartment by means of a pipe opening from the upper compartment below the level of the water therein, a feed-water pipe and a steam pipe to feed water and steam into the upper compartment, and an exit water-pipe opening from said lower chamber near its top, substantially as and for the purpose specified. 3rd. A feed-water purifier consisting of two compartments located one above the other, the upper of said compartments opening into the bottom of the lower compartment by means of a pipe, a feed-water pipe and a steam pipe to feed water and steam with the upper compartment, and an exit water-pipe opening from the lower chamber near its top, the said feed-water pipe passing down and up through the hot water in said upper compartment, substantially as and for the purpose specified. 4th. A feed-water purifier, consisting of two compartments, located one above the other, the upper of said compartments opening into the bottom of the lower compartment by means of a pipe below the level of the water therein, a feed-water pipe and a steam pipe opening from the boiler to feed water and steam into the upper compartment, and an exit water-pipe opening from said lower chamber, near its top, said feed-water pipe being provided with means to spray or subdivide the water, substantially as and for the purpose specified. 5th. A feed-water purifier, consisting of two compartments, located one above the other, the upper of said compartments opening into the bottom of the lower compartment by means of a pipe opening from the upper compartment below the level of the hot water therein, a feed-water pipe and a steam pipe to feed water and steam into the upper compartment, and an exit water pipe opening from said lower chamber, near its top, the said feed-water pipe passing down and up through the hot water in said upper compartment, and provided with means to spray said water, substantially as and for the purpose specified. 6th. A feed-water purifier, consisting of two compartments, located one above the other, the upper of said compartments opening into the bottom of the lower compartment by means of a pipe, a feed-water pipe, and a steam pipe to feed water and steam into the upper compartment, and an exit water pipe opening from said lower chamber, near its top, and a blow-off exit from its bottom, substantially as and for the purpose specified. 7th. The combination of the section C, D, pipe E, wholly submerged in the feed-water, steam pipe I, water pipe H, and a feed-water pipe to section C, substantially as and for the purpose specified. 8th. The combination of sections C, D, pipe E, steam pipe I, water pipe H, and a feed-water pipe to section C, consisting of pipes L, L', substantially as and for the purpose specified. 9th. The combination of sections C, D, pipe E, steam pipe I, water pipe H, and a feed-water pipe to section C, consisting of pipes L, L', cap M, and spiders N, substantially as and for the purpose specified. 10th. The combination of section C, D, pipe E, wholly submerged in the feed-water, steam pipe I, water pipe H, blow-off F, G, and a feed-water pipe to section C, substantially as and for the purpose specified. 11th. The combination of sections C, D, pipe E wholly submerged in the feed-water, steam pipe I, water pipe H, steam pipe P, injector or pump R, pipe L, and a feed-water pipe D, section C, substantially as and for the purpose specified. 12th. The combination of sections C, D, pipe E, wholly submerged in the feed-water, steam pipe I, and J, water pipe H, and a feed-water pipe D, section C, substantially as and for the purpose specified. 13th. The combination of sections C, D, pipe E, steam pipe I, water pipe H, and a feed-water pipe D, section C, consisting of pipes L, L', and water-gauge K, substantially as and for the purposes specified. 14th. The combination of sections C, D, pipe E, tubes or apertures e, or their equivalent, steam pipe I, water pipe A, and a feed-water pipe to section C, substantially as and for the purpose specified.

### No. 22,040. Faucet. (*Canule.*)

Eliza U. Scoville, Manlius, N.Y., U.S., 9th July, 1885; 5 years.

*Claim.*—1st. A faucet barrel, provided at its discharge end with a convex face described, from a point back of said face, arms pivoted at said point and rigidly united in front of the convex face, and a

valve removably connected with and carried by the said arms, substantially as described and shown. 2nd. The combination, with a faucet barrel provided at its discharge end with a convex face, of arms hinged to opposite sides of the barrel, and rigidly united in front of the convex face, a valve interposed between the junction of the arms and convex face of the barrel, and a spring applied to the back of the valve, substantially as and for the purpose set forth. 3rd. The combination of the faucet barrel, provided with trunnions back of its discharge end, and having the face of the latter in the form of a segment described from the trunnions, a gate hung on said trunnions and having in front of the face of the faucet-barrel a handle provided with a socket, a valve having a segmental face fitted to the face of the barrel, and provided with a stem entering the socket of the handle, and a spiral spring surrounding said stem and bearing on the end of the socket and back of the valves, substantially as described and shown. 4th. In combination with the faucet-barrel provided with trunnions at opposite sides back of the discharge end, a gate formed of two longitudinal sections clamped together and hung on the trunnions, and formed in front of the discharge end of the faucet with a handle, and with a socket in said handle, a valve provided with a segmental face fitted to the face of the faucet barrel, and having a stem projecting into the socket of the handle, and a spring in the socket to force the valve toward the face of the faucet-barrel, all substantially as described and shown.

### No. 22,041. Mechanical Motor.

(*Moteur Mécanique.*)

Adélaré F. Martel, Montreal, Que., 9th July, 1885; 5 years.

*Claim.*—1st. A rotary motor, composed of annular discs mounted on a shaft, and carrying in grooves or guides across them, weights which are automatically wound up through said grooves, released and fall down at or near the periphery, all substantially as described. 2nd. In a rotary motor, the combination of annular discs having grooves, or guides in which weights slide, cords or like devices passing over sheaves and connecting said weights with drums carried in annular disc, loose gears or spindles of said drums intermeshing with teeth in face of a stationary ring, and intermittently and automatically thrown in and out of clutch with said drums, as and for the purposes described. 3rd. The combination with a drum, to which are fastened the cords attached to the weights, of a gear wheel mounted loosely on its spindle, and intermeshing with the teeth on face of stationary wheel, and a clutch actuated by a pivoted lever working in an uneven groove in the periphery of said stationary ring and operating to throw the loose gear wheel in and out of operation, all substantially as set forth.

### No. 22,042. Machine for Filing Saws.

(*Machine pour Limer les Scies.*)

Samuel C. Rogers, Hamilton, Ont., 9th July, 1885; 5 years.

*Claim.*—1st. The combination of an oscillating frame B, emery wheel or file c, lever D, and the adjustable stops m' and o, substantially as described. 2nd. An oscillating frame B, frame A, emery wheel c, lever D and adjustable stops m' and o, substantially as described. 3rd. The combination of the legs A, frame A, oscillating frame B, emery wheel C, lever D, and adjustable stops m' and o, substantially as described. 4th. The combination of the legs A, oscillating frame B, emery wheel C, slotted arm e, lever D provided with pawl d' and templet m, substantially as described. 5th. The combination of the legs A, frame A, oscillating frame B, emery wheel C, slotted arm e, check L, lever d, and adjustable stops m' and o, substantially as described. 6th. In combination with the legs A and frame A, the oscillating frame B, emery wheel C, slotted arm e, lever D, provided with pawl d' and templet m, substantially as described. 7th. The combination of a concave base F, convex block G, and cone c', substantially as described. 8th. The combination of a slotted arm e, concave base F, convex block z and cone c', substantially as described. 9th. The combination of a lever D, pawl d and templet m, substantially as described. 10th. The combination of a lever support a, lever stop P, lever D, pawl d' and templet m, substantially as described. 11th. The combination of a lever D, pawl d', templet m and oscillating frame B, substantially as described. 12th. The combination of check L, slotted arm e, oscillating frame B, lever D, pawl d, and templet m, substantially as described.

### No. 22,043. Combined Type Setting and Redistributing Machine. (*Machine à Poser et Distribuer les Caractères.*)

William Forrest, Bradford, Ont., 9th July, 1885; 5 years.

*Claim.*—1st. A series of type magazines arranged in rows along the radii of a circle, and supported above a table having a series of holes or stops arranged on its surface along the radii of a circle struck from the same centre as the circle in which the magazines are set, in combination with a frame arranged to carry a type-box or stick, and adjustably pivoted on the centre of the magazine circle, the said type-box frame being provided with mechanism by which the type may be separately discharged from the magazine into the type-box. 2nd. A series of type magazines, A, arranged within a frame B, and pivotally connected by the arm C to the table D, substantially as and for the purpose specified. 3rd. A series of type-magazines, A, each magazine being divided into two parts, and detachably connected together by a band E, rigidly fastened to the ends of one-half, substantially as and for the purpose specified. 4th. A type magazine A, having pivoted on its lower end a plate H, provided with projections h, arranged to extend into the interior of the magazine, and a spring I, to actuate the said plate, so as to hold the lower projection h into the interior of the magazine and the upper projection h, clear of it, in combination with the lever N, pivoted to the frame J, and arranged to actuate the plate H, substantially as and for the purpose specified. 5th. The frame J, adjustably pivoted by means of the sleeve K on the table D, in the centre of the circle on which the rows of type magazines A are set, in combination with the lever N, pivoted on the frame J, and having a knife-edged end S to engage with the plate H, and a

pointer M, fixed to its other end and shaped so that it will fit into any one of the holes or stops, W x, z, which are arranged on the surface of the table D, along the radii of a circle struck from the same centre as that on which the frame J is pivoted, substantially as and for the purpose specified. 6th. A stick or type-box supported on the frame J, and provided with a series of back stops, V, the plunger P, arranged to extend through a hole in the cross-plate L, attached to or forming part of the frame J, the bell-crank O, connected to the plunger P, and pivoted to the frame J, in combination with the pivoted lever N, having the knife-edged end s, and connected to the bell-crank O, the whole being arranged and operating substantially as and for the purpose specified. 7th. In combination with a receiving-stick or type-box, of a series of adjustable back stops V, arranged within the said type-box and operating substantially as and for the purpose specified. 8th. A frame J, arranged to carry a receiving-stick or type-box and having a cross-plate L, attached to the frame J, and forming one side of the type-box, in combination with the reciprocating plunger P, arranged to push the type from the cross-plate L, and a spring P<sub>1</sub>, arranged to hold the type thus pushed away when the plunger leaves it. 9th. A receiving-stick or type-box carried on the frame J, and having on its bottom a ratchet R and pinion s, arranged to mesh with the rack R, and constructed to the spindle S, having a ratchet-wheel y connected to it, in combination with a pivoted crank U, provided with a pawl z, arranged to engage with the ratchet wheel y, substantially as and for the purpose specified. 10th. A pinion x, attached to the spindle S, in combination with the finger T, actuated by a pin a, on the pivoted crank U, substantially as and for the purpose specified. 11th. In a receiving-stick or type-box carried on the adjustable frame J, and arranged to receive the type, substantially as specified, the combination of a rod X, carried in suitable bearings on the marked bar Y, and arranged to engage with the type in the type-box. 12th. A series of type magazines A, bound together, as specified, in combination with a detachable bottom Q, arranged to fit over the band E, and secured thereon, substantially as and for the purpose specified. 13th. A series of holes d, made through the table 4 and arranged in rows along the radii of a circle struck from the same centre as the circle on which the type magazines are set, which magazines are placed below the table 4, so that a particular magazine shall be below each hole v, in combination with a frame arranged to carry a type-box or stick, and adjustably pivoted on the centre of the same circle as the holes d, the said type-box frame being provided with mechanism by which the type may be separately discharged from the type-box through the holes d into the magazines below them, substantially as and for the purpose specified. 14th. A type-box formed by the sides 9 and 10, set at right angles to each other, and an adjustable side 11, in combination with the push bar 13, actuated by the spring 22, and designed to force the row of type in front of it towards the recess 19, beneath which a hole for the discharge of the type is formed. 15th. A type-box having a bottomless recess 19, formed on one side of it immediately in front of the row of type to be discharged, a pair of tongs 16, actuated by the lever 15, and arranged to grasp the first type immediately next to the recess 19, in combination with the spring-plate 20, designed to separate the row of type from the particular type seized by the tongs, substantially as and for the purpose specified. 16th. A pivoted lever 15, attached to the tongs 16, for drawing the type into the bottomless recess 19, in combination with the push-bar 18, operated by the lever 17, which is connected to the lever 15, substantially as and for the purpose specified. 17th. The bevelled lug 23, formed on the end of the push-bar 13, arranged to come in contact with the bevelled lug 24, attached to the spindle 25, in combination with a ratchet pawl 26, attached to the spindle 25, and arranged to engage with the ratchet-rack formed on the end 27, of the bar 12, substantially as and for the purpose specified.

### No. 22,044. Churn. (*Barratte*.)

Joseph Askins, Lima, Ohio, U.S., 9th July, 1885; 5 years.

*Claim*.—1st. In a churn, a cross-bar for securing the cover of the churn and pivoted on the dash-rod, so as to turn laterally, screw-rods secured to the supporting platforms, with nuts for depressing the cross-bar, the latter cut away at the ends to admit of the cross-bar being turned to from its engagement with the fastening rods, substantially as set forth. 2nd. In a churn or cover, arranged with a stuffing box around the dasher-rod, and packing between the cover and container, a cross-bar pivoted to the dasher-rod, suitable devices for depressing the cross-bar, and so arranged that the depression of the cross-bar tightens the packing of the stuffing-box and the packing between the cover and container at one operation, substantially as set forth. 3rd. In a churn or cross-bar pivoted on the dasher-rod, for depressing the cover and compressing the packing connected therewith, screw-rods and nuts for depressing the cross-bar, inclined arranged on the cross-bar and corresponding engaging cam-faces on the nuts, substantially as set forth. 4th. In a churn, the combination with the cross-bar D arranged to embrace the dasher-rod and turn laterally thereon, and cut away at the ends, as shown, plates d, with inclined ribs d<sup>t</sup> of the screw-rods a, a, nuts E with cam-faces for engaging the ribs and lips e<sup>t</sup>, substantially as set forth. 5th. In a churn, the combination with a supporting platform, a churn resting thereon, and suitable devices for holding the churn and attachments in position, of a hand-lever for operating the dasher and arranged diagonal with the platform, substantially as set forth.

### No. 22,045. Washing Machine.

(*Machine à Laver*.)

Christian Martin, Goshen, Ind., U.S., 9th July, 1885; 5 years.

*Claim*.—In a washing machine, the combination of the suds-box A, provided with lugs E, E, the corrugated boards F, F pivoted near the ends of the same, whereby they may rest against the said lugs E, E, the cover G having cleats H, H resting upon the lugs E, E, the oscillating beater L pivoted between the cleats H, H, the lids I, I hinged to the ends of the cover G, and having cleats J, J adapted to confined and hold the pivoted boards F, F against the lugs E, E, cleats K, K at the sides of the lids I, I, and hooks R, R, substantially as and for the purpose hereinbefore set forth.

### No. 22,046. Safety Lamp. (*Lampe de Sûreté*.)

John L. Williams, Shenandoah, Pa., U.S., 9th July, 1885; 5 years.

*Claim*.—1st. The combination, with the base of the lamp, its wick tube and a glass cylinder at the lower part of the lamp, of a wire gauze cylinder extending downward within the said cylinder, a stationary sleeve projecting downward from the upper part of the lamp and a sliding sleeve on the wire gauze cylinder, substantially as herein shown and described. 2nd. The combination, with the base of a lamp, the ring b<sup>5</sup> supported above the same, the glass cylinder between said base and ring and the wire gauze cylinder C, projecting downward through the ring of the ring b<sup>5</sup> supported above the ring b<sup>5</sup>, the sleeve D depending from the ring b<sup>5</sup> and the sliding sleeve E, substantially as herein shown and described. 3rd. The combination, with the base of the lamp, the stationary sleeve D, and the sliding sleeve E, of the ring b<sup>5</sup> supported above the base, and provided with the annular groove c<sup>t</sup> to receive the lower end of the sliding sleeve and the wire gauze cylinder C, projecting through the said ring, substantially as herein shown and described. 4th. The upper sleeve D, with the perforated cap-piece e<sub>3</sub>, in combination with the wire gauze G, arranged to cover the perforation in said cap-piece, a screw-socket adapted to receive said gauze, and the screw gland e<sub>5</sub> for holding said gauze in place and to provide for its removal from the lamp, substantially as specified.

### No. 22,047. Preparation of Ferments.

(*Préparation de Ferments*.)

Morith Blumenthal, Grünau near Berlin, Germany, 9th July, 1885; 15 years.

*Claim*.—1st. The process hereinbefore described, for separating pepsin, chymosin, pancreatin and diastase from the organisms or substances containing the same, by mixing with solutions of these ferments during violent agitation an excess of a salt of an alkali or alkaline earth, (especially common salt) which is soluble in water and in the form of a powder, the mixture being then allowed to stand for several days. 2nd. The process of separating from the raw, strained liquids containing the ferments, the slime and other impurities which render the said liquids difficult to filter or incapable of filtration, by acidifying the same with mineral or strong organic acids until the slime is separated prior to the precipitation of the ferment, in order to obtain a pure solution of ferment which can easily be filtered. 3rd. The process of separating mixtures of pepsin and chymosin obtained from extracts of rumnet and solutions of the precipitate of raw ferment mixture obtained from rumnet solutions by first adding acids to the extract or solution in order to separate the slime, then saturating with the soluble salt of an alkali or alkaline earth (especially common salt) for separating the chymosin, and finally producing from the acid solution supersaturated with salt after neutralization, a precipitate of pepsin in permitting the pepsin to separate by precipitation with indifferent substances. 4th. The process for separating mixtures of pepsin and chymosin obtained from the sediment of raw ferment, by washing the mixtures with diluted acid containing salt, the chymosin remaining behind. 5th. The treatment of raw ferments extracted from the glandular organs, partly by acid or neutral salt solutions with or without preserving media, partly by glycerine, raw precipitates being produced from them; partly by salts, and partly by acids, the precipitates being further treated according to the methods described under sections 1, 11, 111, 1V. 6th. The purification of the ferments which contain slime, or are free from it and are produced from an acid solution, by washing with the concentrated solution of a salt of the alkalies or alkaline earths (especially common salt) which is soluble in water for the purposes of removing acids and adherent matter-lyes.

### No. 22,048. Wood-Working Machine.

(*Machine à Travailler les Bois*.)

Samuel J. Shimer, Milton, Penn., U.S., 9th July, 1885; 5 years.

*Claim*.—1st. The clamping device, herein described, consisting of the separate upper and lower sections f and g, formed with T-shaped bodies and projecting dovetailed clamping jaws, and provided with a clamping screw projected through both sections, substantially as described. 2nd. A cutter head formed with vertical plane sides and concave corners, and vertical T-shaped slots having the fl or back of the slot curved, and the slots wholly within the plane for the sides and without the vertical axis of the heads, substantially as described and for the purpose stated. 3rd. The clamping device, herein described, consisting of the separate upper and lower sections f, and g, formed with T-shaped bodies and projecting dovetailed clamping jaws inclined from horizontality, and provided with a clamping screw projected through both sections, substantially as and for the purpose stated. 4th. The clamping device, herein described, consisting of the separate upper and lower sections formed with T-shaped bodies having curved back faces and projecting dovetailed clamping jaws inclined from horizontality and provided with a clamping screw projected through both sections, substantially as and for the purposes stated. 5th. In combination, a cutter-head with four plane vertical sides and concave corners, and formed with vertical T-shaped slots within the plane of the sides and without the vertical axis of the head, and an adjustable bit clamping device, consisting of separate upper and lower sections formed with T-shaped bodies to set within the vertical slots in the head, and exterior clamping-jaws to hold the bits against the faces of the head, and provided with a clamping-screw projected through both sections within the slots of the head, substantially as described. 6th. In combination, a cutter-head with four plane vertical sides and concave corners, and formed with vertical T-shaped slots within the plane of the sides and without the vertical axis of the head, and an adjustable bit clamping device, consisting of separate upper and lower sections formed with T-shaped bodies to set within the vertical slots in the head, and exterior dovetailed clamping-jaws inclined from horizontality to hold the bits in a clearing position and against the faces of the head, and provided with a clamping-screw projected through both sections within the slots of the head, substantially as and for the purposes stated. 7th. In combination, a cutter-head with four plane vertical

sides and concave corners, and formed with vertical T-shaped slots within the plane of the sides and without the vertical axis of the head, and formed with curved back faces, and an adjustable bit clamping device, consisting of separate upper and lower sections formed with inner side flanges and curved backs to set within the slots and corners of the vertical slots of the head, and exterior dovetailed clamping-claws to hold the bits in position against the faces of the head, and provided with a clamping-screw through both sections set within the slots of the head, substantially as described and for the purpose stated. 8th. A cutter-head, provided with pin holes in the bottom thereof, arranged in the direction of the line of bevel of the cutting-bits, for the reception of gauge-supporting pins, substantially as described and for the purpose stated. 9th. In combination, with a cutter-head formed with pin holes in the bottom thereof and a cutting-bit secured to the head, and a gauge comprised of a shank and a graduated blade set at right angles to each other, and provided with projecting pins fixed in the shank, said pins being arranged to register with and set within the pin holes in the bottom of the cutter-head, substantially as described and for the purpose stated. 10. The cutter-head gauge herein described, consisting of the gauge E<sub>2</sub>, formed of the blade *l*, having graduated measurements indicated thereon, and the shank 2, provided with projecting pins 5, 6, substantially as described.

### No. 22,049. Duplex Steam Engine.

(Machine à Vapeur Double.)

Milan W. Hall, Plainfield, N.J., U.S., 9th July, 1885; 5 years.

*Claim.*—1st. A duplex steam engine consisting of the combination with the cylinder and piston of each engine, of a single steam-actuated valve for each engine, and with steam passages leading from the cylinder of each engine across to the valve-chest of the other engine, arrange and operating substantially as set forth, whereby the valve of each engine is actuated directly by steam taken from the cylinder of the other engine. 2nd. The combination of two steam cylinders, two inclosed steam-actuated valves, steam passages extending each from the cylinder of one engine to the valve of the other, and exhaust passages extending each from the valve of one engine through the valve of the other to the exhaust passages from the cylinder, substantially as set forth. 3rd. The combination of two steam-engines having inclosed steam-actuated valves, with steam passages, each extending from the cylinder of one engine through the valve of that engine to the valve-piston chamber of the other engine, in order to shift the valve of the latter, and exhaust passages leading from each valve-piston chamber to the exhaust, substantially as set forth. 4th. The combination of two steam engines having inclosed steam-actuated valves, with steam passages, each leading from the cylinder of one engine through the valve of that engine to the valve-chest of the other engine, in order to shift the valve of the latter, and exhaust passages, each leading from the valve-chest of one engine through the valve of the other engine to the exhaust, substantially as set forth. 5th. A duplex steam engine wherein the two engines reciprocally control each other by means of steam-actuated valves, constructed with steam passages and exhaust passages extending from opposite sides of the valve-operating piston or plunger of each engine to the cylinder of the other engine in such manner, as described, that the "back-pressure" in the cylinder shall be conducted equally to opposite sides of the valve-operated piston or plunger, and consequently will be balanced and impotent to move the piston or plunger prematurely, all substantially as set forth. 6th. The improved construction of duplex steam-engine, consisting of the cylinders, the steam-chests, and the valves, in combination with a plate G arranged between the steam-chests and the cylinders, with grooves on top and bottom of this plate, forming the several steam passages for actuating the valves, substantially as described.

### No. 22,050. Combined Thill-Coupling and Anti-Rattler for Vehicles. (Armon de Lanière à Compensation.)

Harbert K. Forbes, Columbus, Ohio, U.S., 9th July, 1885; 5 years.

*Claim.*—1st. In a thill-coupling, the clip ears B<sub>1</sub>, B<sub>2</sub>, one of which is screw-threaded, as described, and both provided with projections *b*, in combination with the threaded bolt E, substantially as and for the purposes set forth. 2nd. In a thill-coupling, the combination, with the clip ears one of which is screw-threaded, said ears having the projection *b*, of the pointed bolt E, the metallic piece D, a rubber cushion and transverse supporting plate C, substantially as described and for the purpose set forth.

### No. 22,051. Universal Watch and Jeweller's Tool. (Outil Universel pour Horloger-Bijoutier.)

John Hunter, Kingston, Ont., 9th July, 1885; 5 years.

*Claim.*—1st. The combination of bracket *a*, on frame A, and also frame A, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of nut *n*, tension *o*, screws *m*, disk *i*, screw *r*, spool *e*, guide rollers *d*, *d*, sleeve *j*, collar *h*, collar *g*, spring *l*, box *k*, screw *x*, collar *u*, bit *p*, spindle *f*, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of hanger V, screws R, r, S, centre bracket Z with screws Q, C, slot X, disk Y, thumb nuts H and M, disk K, nut L, nut J, and feed rod J, screw O, guide G, bolt B with *e*, washers *r* with nut *c*, spring D, extension bar *y*, substantially as and for the purpose hereinbefore set forth.

### No. 22,052. Process and Apparatus for the Manufacture of Cellulose and Secondary Products. (Procédé et Appareil pour la Fabrication de la Cellulose et des Produits Secondaires.)

Alexander Mitcheulich, Munden, Germany, 9th July, 1885; 5 years.

*Claim.*—1st. In the process of treating wood, or other vegetable

fibrous material in the manufacture of cellulose, which consists in subjecting the comminuted fibrous material to the action of steam at a temperature of about 100° C, to drive the air out of the fibre cells without discolouring the fibres thereof, substantially as described. 2nd. In the process of treating wood or other fibrous vegetable substances in the manufacture of cellulose, which consists in subjecting the material to the action of a dissolving or digesting agent, first at a gradually increasing and then at a gradually decreasing temperature, the latter varying from about 108° C to 118° C, and inversely to dissolve out the incrustating component parts of the fibres, and completing the operation by eliminating the dissolving or digesting agent, as described. 3rd. In the manufacture of cellulose from fibrous materials, treating the same with a dissolving or digesting agent, consisting of a solution of sulphurous acid, free from polythioic acid salts, substantially as and for the purpose specified. 4th. In the manufacture of cellulose from fibrous vegetable substances, the herein-described process of treatment, which consists in first eliminating the air from the fibre cells of the material by means of steam at or about at the temperature specified, subjecting the so-prepared material to the action of a solution of sulphurous acid at a gradually increasing temperature, varying from about 108° C to about 118° C, testing the solution from time to time by means of ammonia, to ascertain the progress of the reduction, and when found complete gradually reducing the temperature from about 118° C back to about 108° C, and simultaneously therewith driving off the reducing dissolving or digesting solution, as described for the purpose specified. 5th. The herein-described boiler, provided with a lining not affected by the dissolving or digesting solutions employed, and in combination therewith, of steam radiators arranged in series and connected with the source of steam supply, substantially as described for the purpose specified. 6th. The combination, with the boiler casing, of a protective lining composed of lead foil and a resinous adhesive compound, as described. 7th. The combination, with the boiler casing, of a protective lining composed of lead foil connected therewith by means of a resinous or bituminous cement, and a lining of refractory porcelain-like brick, substantially as described for the purpose specified. 8th. The combination, with the boiler and a steam conduit thereof, of the coupling consisting of a metallic flanged tube C, provided with a lead lining and having its outer end formed conical interiorly, the nut N, the packing conus G and the nut N<sub>1</sub>, substantially as described. 9th. The combination, with a coupling C N N<sub>1</sub> G, constructed as described, of the tubular bent muff O, provided with a stop cock and a thermometer, manometer and level indicator contained therein, substantially as and for the purpose specified.

### No. 22,053. Reaper and Mower Knife Sharpener. (Remouleur de Couteau de Faucheuse Moissonneuse.)

Henri Bernir (Co-inventor with Paul Lair), Lotbinière, Que., 13th July, 1885; 5 years.

*Claim.*—1st. In a machine for sharpening the cutters of mowers and reapers, the cam-disk E, secured to the spindle of the driving wheel D, and arranged to operate the bell-crank F by its edge sliding between the pins *c*, *c*, as shown and described. 2nd. The bell-crank F, pivoted to the frame A provided with the pins *c*, *c*, and connected by the link *d*, with the lever G, which is rigidly secured to the rock-shaft H, substantially as set forth. 3rd. The combination of the driving wheel D, cam-disk E, bell-crank F provided with the pins *c*, and connected by the link *d* to the lever G with the rock shaft H, arm *g*, rod *f* and jaws *e*, substantially as shown and described.

### No. 22,054. Elevator. (Ascenseur.)

The Tewksbury Automatic Elevator Company, Middletown, N. Y., (assignee of George C. Tewksbury and Frank M. Reynolds, Newark, N.J.), U.S., 13th July, 1885; 5 years.

*Claim.*—1st. In combination with the mechanism of the elevator, of the shaft A having projections *k*, of the rack sleeve G and collars upon the shaft, as *f* and *g*, set at a distance from the sleeve, and mechanism between said rack sleeve and the shifting bar, substantially as described. 2nd. In combination with the automatic stop apparatus, of an elevator, a rack connection between the shaft which carries the stop projections and the belt shifting bar, said bar having limited movement in relation to the rack, as and for the purpose set forth. 3rd. In an elevator and in combination with automatic stop mechanism, an indicator connected to said mechanism by means of rope *h* or equivalent connection, said indicator being attached to the car and adapted to turn over a graduated scale and adjust the stop mechanism, substantially as described. 4th. The wheel or pulley mounted on a suitable shaft within the car of an elevator and connected by a rope or equivalent device to the automatic stop mechanism, an index finger mounted loosely on the same shaft, and a pawl and ratchet whereby said finger is connected to shaft, substantially as described. 5th. The combination, in an elevator, of the automatic stop mechanism, and a hand mechanism, substantially as described. 6th. In combination with the shifting bar C, the shaft H provided with stops or projections adapted to be brought into line with the moving projections connected to the drum and intermediate gearing, whereby motion of the shaft is communicated to the bar, and with the hand rope and wheel connected to the said bar C, substantially as described. 7th. The combination, in the described elevator, of the shaft H and counter-weight M. 8th. The combination, in the described elevator, of the hand wheel N, the rope and means for connecting the rope with the shifting bar C, substantially as described.

### No. 22,055. Rotary Engine. (Machine Rotatoire.)

John Moffet and Frank A. Lowe, New York, N.Y., U.S., 13th July, 1885; 5 years.

*Claim.*—1st. In a rotary engine, the combination, with a vertically elongated shell or casing having steam inlet and exhaust passages formed in the ends and sides, of stationary cams secured to the inner sides of the casing heads, a shaft passed through the centre of said cams and journaled in the casing heads, a slotted cylinder secured to said shaft and sliding piston-blades supported in said cylinder with

their ends bearing against the cams, substantially as described. 2nd. In a rotary engine, the vertically elongated shell A having an enlarged horizontal diameter forming extended lateral abutments M, M, in combination with a rotary cylinder D provided with sliding piston blades E, E, substantially as described. 3rd. In a rotary engine, the combination, with the fixed camus F, F, and the spiral springs L, L, let into said cams to form for the inner ends of the sliding pistons, substantially as described. 4th. In a rotary engine, the combination with the sliding piston blades E, E, having grooved edges *d* and steam apertures *a*, of the detachable steel packing or bearing strips *c*, *c*, formed with a shank and a rounded head, substantially as described. 5th. In a rotary engine, the combination of the vertically elongated shell A, having steam inlet passages G, F, G, H, and exhaust passages *k*, *k*, *m*, *r*, *t*, *p*, H, the stationary cams F, F, shaft C, cylinder D, and sliding piston blades E, E, substantially as described. 6th. In a rotary engine, the combination of the vertically elongated shell A, having an enlarged horizontal diameter forming lateral abutments M, M, the shaft C, rotary cylinder D provided with radial slots and recessed ends, the fixed cams F, F having yielding bearing plates K, K, and the sliding piston-blades E, E having packing strips *c*, *c*, substantially as described.

### No. 20,056. Road Cart. (Cabrouet.)

A. Sidney Upson, Louis Sloman, Lester E. Rose, Eunice W. Tibbitts and Bernard Lilly (assignee of Thomas O'Brien), Coldwater, Mich., U.S., 13th July, 1885; 5 years.

*Claim.*—1st. The combination, in a two-wheeled cart, of the shaft, the shaft-bar, the seat bars having their forward end pivoted in the top shafts in advance of the shaft bar, a bar spring secured midway top shafts in advance of the shaft bar, and extended under the seat bars, and the crib having opening spring bars secured at their forward ends to set shaft bar and their rear ends to the seat bars, substantially as set forth. 2nd. The combination, with the seat bar having depending lugs and elastic block secured between the lower ends of said lugs, of the spring having its end inverted through between the said elastic block and the seat bar, substantially as set forth. 3rd. The combination of the seat bars, the lugs depending from said bars, the elastic block secured between the lower end of said lugs, and the spring having its lower end inserted between the elastic block and the seat bar, and provided on its outer ends with right-angled ears, substantially as set forth.

### No. 22,057. Automatic Car-Coupling.

(Accouplage Automatique de Chars.)

Herbert M. Sturgis, Stacy B. Rankin and John Rankin, South Charleston, Ohio, U.S., 13th July, 1885; 5 years.

*Claim.*—1st. In a car-coupling, the combination, with a draw-head having an opening to receive a portion of the opposite draw-head of a coupling hook or latch pivoted therein, and consisting of a body portion having an arm or arms provided with a hook or hooks, substantially as set forth. 2nd. In a car-coupling, the combination, with a draw-head divided into an upper and lower portion, as shown, and having a longitudinal opening, as shown, of a coupling hook pivoted in said opening, said coupling hook, consisting of a body portion having two forwardly extending arms provided with hooks, substantially as set forth. 3rd. The combination, with a draw-head divided into an upper and lower portion, as shown, having their forward ends bevelled on their upper and lower sides, and having a longitudinal opening, as shown, of a coupling hook pivoted in said opening, said coupling-hook, consisting of a body portion having two forwardly extending arms provided with hooks, substantially as set forth. 4th. The combination, with a draw-head divided into an upper and lower portion, as shown, having their forward ends bevelled on their upper and lower sides and having a longitudinal opening, of a coupling hook pivoted in said opening, said coupling-hook consisting of a body portion having two forwardly extending arms provided with hooks and a double lever pivotally secured to said hook, substantially as set forth.

### No. 22,058. Match Box. (Boîte à Allumettes.)

Onésime Fréchette, Trois-Rivières, Que., 13th July, 1885; 5 years.

*Réclame.*—Dans les boîtes d'allumettes, la mise en de telle boîtes de pamphlets, cartes d'annonces ou réclames postiches, quelconques comme moyen de colportage d'annonces L la mise en paquets d'allumettes ligaturées par des rondelles de caoutchouc T, ou par des bandes de papier K ou R, ou en tout autre matière qu'en papier L ou par des cartouches S, l'excédant (s) couvrant la partie sablée les recouvrements inextinguible H et imperméable H et imperméable H, ou non tels qu'y collés ou non collés le compartiment L, l'espace K, l'incision L, l'ouverture M et le bloc de bois E tel que sablé ou non, le tout tel que décrit ci-dessus et pour les fins indiqués.

### No. 22,059. Churn. (Baratte.)

James H. Taylor, Westfield, Mass., U.S., 13th July, 1885; 5 years.

*Claim.*—1st. The combination of the churn dasher F, and pieces *t* bevelled at both edges for removing the cream from the walls of the churn and deflecting it towards the centre, with the churn body A having the flanges *d*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the churn body A, composed of the staves *a* and heads *b*, *b*, the staves being grooved at *c* to receive partial thickness of the heads *b*, *b*, with the flanges *d*, substantially as and for the purpose hereinbefore set forth. 3rd. The churn body formed with the flanges *d*, in combination with the castings formed with flanges *e* that brace the flanges *d*, substantially as and for the purpose hereinbefore set forth. 4th. The churn body A having flanges *d*, in combination with the castings *d* formed with curb flanges *e* and handle pieces *e*, substantially as and for the purpose hereinbefore set forth. 5th. The churn body A of the churn, provided with half bands or hoops E, E, formed with lips or projections *p*, *p*, in combination with bolts *h*, levers *i* and pivoted links *i*, arranged for

trussing up the body of the churn, substantially as and for the purpose hereinbefore set forth. 6th. The combination of the iron cleats *s*, *s* with lips or handles therein, with the churn cover rabbeted at both ends to part rest on churn ends and hold the cover level, and part projecting inside of the churn and butting against churn ends to prevent cream from splashing out, substantially as described.

### No. 22,060. Peanut Roaster.

(Torréfacteur de Pistache.)

Louis Rosencranz, Rhinebeck, N.Y., U.S., 13th July, 1885; 5 years.

*Claim.*—1st. The combination, with the heater A, of the drum B and warming-box C, substantially as described. 2nd. In a peanut-roaster, the heater A formed with the opening *c* and collar *d*, and provided with the false bottom *b* having the solid central portion *b*, substantially as and for the purpose set forth. 3rd. The combination, with the heater A, having perforated false bottom *b*, having central solid portion *b*, of the roasting drum B adapted to be revolved in the heater A, substantially as described. 4th. The heater A, provided with the stirrups *f*, in combination with the drum B, formed with the gudgeons *e*, *e*, the gudgeon *e* being screw-tapped to receive the crank or shaft *g*, substantially as described.

### No. 22,061. Wagon Jack.

(Chèvre de Carrosserie.)

Albert H. Fell, Toronto, Ont., 13th July, 1885; 5 years.

*Claim.*—1st. In a lifting wagon jack, the shoes *a*, *b* attached to the standard A, and the strut B respectively, substantially as and for the purpose hereinbefore set forth. 2nd. In a wagon jack, the combination of the standard A and the strut B adapted to be separated at their lower ends more or less, to adjust the height of the device to conform to the height of the axle before being lifted, substantially as and for the purpose hereinbefore set forth. 3rd. In a wagon jack, the combination of the lever C and the strut B, pivoted together and adapted to sustain the weight of the axle, and also to sustain the weight of the axle, and also to sustain the whole device in position by merely bringing said lever C into line with said strut B, or as nearly in line as may effect that purpose, substantially as and for the purpose hereinbefore set forth. 4th. In a wagon jack, the combination of the strut B, with the standard A and the hand lever C, all pivoted together so as to be adapted to lift an axle and sustain themselves in position by merely bringing the hand lever C into line, or nearly into line, with the strut B, substantially as and for the purposes hereinbefore set forth.

### No. 22,062. Vacuum Brake. (Frein à Vide.)

Louis P. Lawrence, Passaic N.J., U.S., 13th July, 1885; 5 years.

*Claim.*—1st. In an air-ejector for vacuum brakes, the body A having an upwardly slanting steam induction channel B<sub>3</sub>, an interior steam expansion chamber B<sub>4</sub>, drip-channels *a*, *a*, and an enlarged air-chamber D, all made integral in one casting, substantially as set forth. 2nd. In an air-ejector for vacuum brakes, an ejector body A having a slanting steam-induction channel B<sub>3</sub>, a steam-expansion chamber B<sub>4</sub>, drip channels *a*, *a*, an air-chamber D, and valve seats *a*, *e* and *f*, all cast integral in one piece, substantially as described. 3rd. In an air-ejector for vacuum brakes, the combination of an ejector-body A having a slanting steam-induction channel B<sub>3</sub>, and a steam-expansion chamber B<sub>4</sub>, with an air-exhaust pipe G and a steam pipe B<sub>5</sub> secured to the expansion chamber, and a steam supply valve arranged at one end of the ejector-body and at some distance below the air exhaust pipe, substantially as set forth. 4th. In an air-ejector for vacuum brakes, the combination of the ejector-body A, having an exhaust pipe A<sub>1</sub> and interior drip-channels *a*, *a*, and a gutter *a* around the raised seat of the air valve, with a drip valve N and discharge pipe N<sub>1</sub> at the lower part of the ejector-body, substantially as set forth. 5th. In an air-ejector for vacuum brakes, the combination of the ejector-body A having a seat *a*, a steam-supply valve B having a forked extension *b*, and an anti-friction roller *b*, and an eccentric F having an exterior lever F<sub>2</sub> for opening or closing the steam-supply valve, substantially as described. 6th. In an air-ejector for vacuum brakes, the combination of an ejector-body A having a valve seat *a*, a steam supply valve B having a forked extension *b* and anti-friction roller *b*, an eccentric F having a shank F, guide cylinder F<sub>3</sub> and lever F<sub>2</sub>, yoke C and set screw J, substantially as set forth. 7th. In an air-ejector for vacuum brakes, the combination of the ejector-body A having a steam-induction channel B<sub>3</sub>, steam supply valve B, an eccentric F for actuating said valve and a recessed valve disk *f* secured to the shank of said eccentric, and fitted to a recessed seat at the lower part of the induction channel B<sub>3</sub>, substantially as described. 8th. In an air-ejector for vacuum brakes, the combination of the ejector-body A having a drip-channel *a*, and a valve seat *f* at the lower end of the same, a drip valve N having a stem *f* guided in the lower end of the shank F<sub>1</sub>, and discharge pipe N<sub>1</sub> provided with a gland H having rests *f*, substantially as specified. 9th. The combination of an ejector-body A, having a steam supply valve B, a steam-induction channel B<sub>3</sub> and a drip channel *a*, an eccentric T actuating the steam valve B, a recessed drip valve *f* secured to the shank of the eccentric, a drip valve N guide *i* by said shank and a discharge pipe N at the lower part of the ejector-body, substantially as specified. 10th. In an air-ejector for vacuum brakes, the combination of an ejector-body A, having an enlarged air-chamber D, with an equilibrium valve D, having a lever D<sub>2</sub> and a spring actuating locking lever D<sub>3</sub> fulcrumed on the lever D<sub>2</sub>, and pressing upon the center of the valve, substantially as set forth. 11th. In an air-ejector for vacuum brakes, the combination of an ejector-body A, having a slanting steam-induction channel B<sub>3</sub>, and an annular steam expansion chamber B<sub>4</sub>, a steam supply valve B at the lower end of the induction channel B<sub>3</sub>, a steam pipe B<sub>5</sub> at the upper end of the expansion chamber in exhaust pipe A<sub>1</sub> at the upper end of the ejector-body, an air-exhaust pipe secured to the lower end of the expansion chamber and passing through the same and the steam pipe, and an air-chamber D having an exhaust valve E and an equilibrium valve D, substantially as set forth. 12th. The combination of the ejector-body A, having a steam induction channel B<sub>3</sub>, and an expan-



sion chamber B, steam pipe B<sub>5</sub>, an air-exhaust pipe G having openings *g*, *g*, a series of suction-cones G<sub>1</sub> attached to the air-exhaust pipe, and a pipe G<sub>2</sub> surrounding the lower part of the air-exhaust pipe, substantially as specified. 13th. The combination of the air-exhaust pipe A, having a steam-induction channel B<sub>3</sub> and an ejector-body A, a steam pipe B<sub>5</sub> and an air-exhaust pipe G, the latter having openings *g*, *g*, suction-cones G<sub>1</sub> and a conically enlarged and contracted end portion G<sub>3</sub>, G<sub>4</sub>, substantially as described. 14th. The combination of a vacuum cylinder applied to the car-bottom, a vertically guided piston having a recessed hub and a guide roller, and a cylinder bottom having guide rollers one at each side of the guide roller of the piston, for the passage of the chain connecting the brake-levers, substantially as and for the purpose set forth. 15th. The combination of the vacuum cylinder A, a vertically-guided piston C having a guide-stem B<sub>1</sub>, a packing ring D applied to the recessed under side of the piston and guide rollers *e*, *e*, *e*, arranged in the hub of the piston, and the bottom of the cylinder and a brake chain E passing over said rollers, substantially as set forth. 16th. The combination of a vacuum cylinder A, a cylinder bottom B having slots *e*<sub>3</sub> and guide rollers *e*<sub>2</sub>, *e*<sub>2</sub>, a vertically-guided piston C having a recessed hub, a guide roller *e*, the slots of the cylinder bottom being in line with the recess of the piston hub, and a brake-chain E passing over the guide rollers *e* and *e*, *e*, *e*, substantially as and for the purpose set forth. 17th. The combination of a vacuum cylinder, a piston having a flaring circumference and a circular recess or seat, and an elastic packing ring having flanges at the inner edge that are sprung into the recess of the piston, substantially as set forth. 18th. A piston for vacuum cylinders of railway-car brakes, having a circular recess or seat and being provided with an elastic packing ring, having flanges at the inner edge that are sprung into the recess of the piston, substantially as described. 19th. The combination, with the air-ejector C and the vacuum cylinder B, both constructed as described, the hose coupling made of two parts E, E<sub>1</sub>, one being a counterpart of the other, adapted to form open communication for the air when coupled together and to automatically close the end-openings when uncoupled, substantially as specified.

### No. 22,063. Copying Machine.

(Machine à Copier.)

William F. McKay, Toronto, Ont., 13th July, 1885; 5 years.

*Claim*.—1st. A sheet of paper covered with a thin coating of gelatine or other suitable material, and fixed to a yielding surface, substantially as and for the purpose specified. 2nd. As an improved copying machine, a roller A having attached to its surface, a sheet of prepared paper C and suitably carried in a frame D, in combination with a roller E arranged to act in connection with the roller C, substantially as and for the purpose specified.

### No. 22,064. Electric Conductor for Wire Fencing. (Conducteur d'Electricité pour Clôtures en Fil de Fer.)

Charles Williamson, Washington, Ks., U.S., 13th July, 1885; 5 years.

*Claim*.—1st. The combination, with a fence wire, of a conductor, and a collecting point having a slot to receive the conductor and catches for holding the fence wire, substantially as and for the purposes specified. 2nd. An electric collecting point having laterally-projecting points, a conductor-slot for receiving a conductor, and a wire groove for receiving a fence wire, substantially as and for the purpose specified. 3rd. The combination, with a fencing wire, of a bifurcated conductor, lateral collecting points for connecting the wire with the conductor, and a grooved point having a driving-head and a socket for the reception of the conductor, substantially as and for the purpose specified. 4th. An electric conducting ground-point, having a driving-head and a socket, substantially as and for the purpose specified.

### No. 22,065. Churn. (Baratte.)

Joseph Bradley, Hamilton, Ont., 13th July, 1885; 5 years.

*Claim*.—1st. The combination of the frame *a* and *a*<sub>1</sub>, the shaft F and the crank H, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the frame *a* and *a*<sub>1</sub>, shaft F, agitators F<sub>1</sub>, crank H, of the pendulum G, fulcrum D, bearing C, handle B and foot attachment B<sub>1</sub>, substantially as and for the purpose hereinbefore set forth.

### No. 22,066. Belt Fastener. (Joint de Courroie.)

Joseph Essig, Larwill, Ind., U.S., 13th July, 1885; 5 years.

*Claim*.—A belt-fastener formed of the T-slotted holders B, B<sub>1</sub> and the H-shaped latch, said parts being relatively constructed and adapted to be used substantially as described.

### No. 22,067. Car - Coupling. (Accouplage de Chars.)

George W. Curtis, Philadelphia, and John Wood, jr., Conshohocken, Penn., U.S., 13th July, 1885; 5 years.

*Claim*.—1st. In a car-coupling, the combination, with a slotted draw-head provided with a stop for the coupling hook, of a spring buffer, a coupling hook provided with an elongated shank or stop arm adapted to abut against the stop, and a chain and crank connection, the arrangement being such that when the crank is thrown back the chain is held taut and the coupling hook sustained in such a position that automatic coupling is impossible, substantially as described. 2nd. In a car-coupling, the combination, with a draw-head having an upper slot and a lower stop for the coupling hook, of a spring buffer and a pivoted coupling hook entered within the upper slot of the draw-head and adapted to abut against the stop, substantially as described. 3rd. In a car-coupling, the combination, with a draw-head having an upper slot, a lower slot and a coupling stop, of a spring buffer, a pivoted hook entered within the upper slot

of the draw-head and provided with an elongated shank playing within said lower slot, and adapted to abut against the stop, and a chain and crank connection, the arrangement being such that when the crank is thrown back the chain is held taut and the coupling hook sustained in such position that automatic coupling is impossible, substantially as described. 4th. The draw-head A having a hollow throat or interior A<sub>1</sub>, and provided with pivot slots *a*<sup>x</sup>, *a*<sup>x</sup> extending forward to its mouth, substantially as and for the purposes set forth. 5th. The draw-head A having a hollow throat or interior A<sub>1</sub> and upper slot *a* and pivot slots *a*<sup>x</sup>, *a*<sup>x</sup> extending forward to its mouth, in combination with a coupling hook B provided with lateral pivot pins *b*, *b* adapted to the pivot slots, and with a spring buffer D provided with ears *d*<sup>x</sup>, *d*<sup>x</sup> also adapted to the pivot slots, substantially as and for the purposes set forth. 6th. The draw-head A having a hollow throat or interior A<sub>1</sub>, provided with pivot slots *a*<sup>x</sup>, *a*<sup>x</sup>, an upper slot *a*, and notches *a*<sub>5</sub>, *a*<sub>5</sub>, substantially as shown and described and for the purposes specified. 7th. The draw-head A having a hollow throat or interior A<sub>1</sub>, provided with pivot slots *a*<sup>x</sup>, *a*<sup>x</sup>, an upper slot *a*, and notches *a*<sub>5</sub>, *a*<sub>5</sub>, in combination with the coupling hook B, provided with pivot pins *b*, *b*, and with spring buffer D, substantially as described and for the purposes specified. 8th. In combination, the draw-head, the coupling hook, the chain, the crank, and the car provided with bearing for the crank and with the inclined channel for the chain, substantially as and for the purposes set forth. 9th. As an article of manufacture, a draw-head, having the upper slot *a*, the lower slot *a*<sub>1</sub>, the pivot slots *a*<sup>x</sup>, *a*<sup>x</sup>, ten pivot notches *a*<sub>5</sub>, *a*<sub>5</sub>, and the stop *a*<sub>2</sub>, substantially as described.

### No. 22,068. Shirt Lace. (Lacet de Chemise.)

William F. Gallt, Port Byron, N.Y., U.S., 13th July, 1885; 5 years.

*Claim*.—As a new article of manufacture, a lacing for shirts, made from cord, consisting of the opposite loops *b*, *b* and connecting lengths *d*, *d*, extending from one pair of loops to the next, as herein shown and described.

### No. 22,069. Steam and Water Locomotive Ash Pan Cleaner. (Cure-Cendrier à Vapeur et Eau de Locomotive.)

Adolphus Davis, Montreal, Que., 13th July, 1885; 5 years.

*Claim*.—1st. In a locomotive ash pan cleaner, the door M, having the trap F, both made to be operated from the cab of the engine, for the purpose hereinbefore set forth. 2nd. In a locomotive ash pan, the water and steam pipe D, provided with the cock K, as shown and described, for the purpose hereinbefore set forth. 3rd. In combination with perforated water and steam pipes in rear of a locomotive ash pan, of the door M, and trap F, as shown and described for the purpose hereinbefore set forth.

### No. 22,070. Refrigerator. (Glacière.)

Charles Cavanagh, Cleveland, Ohio, U.S., 14th July, 1885; 5 years.

*Claim*.—In a refrigerating apparatus, the removable frame N, constructed to have an air space around it when placed in the case A, having a series of inclined ridges to support ice, and covered with caps K, and the intermediate gutters, all supported on the joists G<sub>1</sub>, having on them the piers H, covered with hoods L provided with channels *c*, *c*, whereby the water from the melted ice and condensed moisture will all be conducted to the side channels and waste pipe, constructed so as to retain any desired quantity of water, all constructed substantially as and for the purpose described.

### No. 22,071. Flat Roof for Buildings. (Comble Plat pour Bâtisses.)

Howard Williams, Toronto, Ont., 14th July, 1885; 5 years.

*Claim*.—1st. The combination of slate, laid in cement spread on boards, forming a flat surface, as a roof covering for buildings, as set forth. 2nd. The combination of slate laid on boards, with one or more plies of tarred, or other roofing paper, between the board and the slates, as a covering for buildings with flat surfaces, as set forth. 3rd. The combination of slate laid in cement, spread on one or more plies of felt also embedded in a cement, composed of the ingredients specified and for the purposes set forth.

### No. 22,072. Electric Telephone. (Téléphone Electrique.)

Charles E. Allen, Adams, Mass., U.S., 14th July, 1885; 5 years.

*Claim*.—1st. The combination, with the diaphragm and a body or mass of conducting material in a loose pulverized or granulated state, of a connecting piece touching the diaphragm and the mass or body, and a spring to cause the connecting piece to promptly follow the diaphragm and release its pressure upon the mass. 2nd. The combination, with the diaphragm connecting or contact piece and retracting spring provided with an adjusting screw, of the mass or body of conducting material in a loose pulverized or granulated state. 3rd. The combination, with the mass of pulverized or granulated conducting material, vibrating platinum plate provided with a post for connection with the diaphragm, and a spring for throwing the platinum plate away from the mass, said post and spring being provided with a platinum covered portions where they touch each other to aid in varying the working strength of the current, as set forth. 4th. The combination, with the diaphragm contact piece and retracting spring, of the mass of pulverized or granulated conducting material, the adjusting plug C<sub>2</sub>, C<sub>1</sub> provided with the platinum top and the threaded metal sleeve D, as set forth. 5th. A case for transmitters, consisting of the body A having the longitudinal central opening, with the screw-threaded sleeve D extending beyond the end of the body, and the cap A<sub>1</sub> for screwing upon the sleeve and covering the parts, in combination with the diaphragm and electrodes, as set forth. 6th. The combination, with the diaphragm, of a transmitter of metallic electrode contact pieces, making electrical contact with

each other independent of the diaphragm contact as those formed by the end of the spring and pin on the post, and a carbon electrode, as set forth. 7th. The combination, with the diaphragm and resistance devices, of the collector and resonator Y having the tube *u* and the contractor X, substantially as and for the purpose set forth.

### No. 22,073. Gas Governor. (*Régulateur à Gaz.*)

James Stott, London, Eng., 14th July, 1885; 5 years.

*Claim.*—1st. So constructing and arranging a valve partition D that it may be moved over from one passage within a gas regulator as to reverse the flow of gas through the same, to enable the regulator to be available for up or down flow of gas to burners, as described with reference to Figs. 1 and 2 of the annexed drawings. 2nd. In connection with a reversible valve gas regulator, a branch or pipe N by which gas can be caused to enter the regulator for a down flow or for an up flow to burners, as described and shown in Figs. 1 and 2 of the annexed drawings. 3rd. Fitting two valves G, F, on the central stem of a gas regulator, said valves being in separate chambers, as shown at Figs. 1, 2 and 3 of the annexed drawings, to equilibrate the flow and prevent jumping under varying pressures.

### No. 22,074. Saw. (*Scie.*)

Alexander Bertram, Toronto, Ont., 14th July, 1885; 5 years.

*Claim.*—A series of mortise or ploughing teeth B, shaped substantially as shown, and separated by two or more chisel-shaped teeth A, shaped and operating substantially as and for the purpose described.

### No. 22,075. Sewing Machine.

(*Machine à Coudre.*)

The Empress Sewing Machine Company, Toronto, Ont. (Assignee of Charles A. Dearborn), New York, N.Y., U.S., 14th July, 1885; 5 years.

*Claim.*—1st. In a sewing machine, the combination, with a vibrating lever arm *g* and reciprocating bar *i*, of the articulating joint connecting the same, consisting of the cylindrical eye 5 and split expansible spherical stud or projection 6, substantially as shown and described. 2nd. The combination, with the arm *p* and bar *i*, of the cylindrical eye 5, split spherical stud 6 and expanding screw 7, substantially as and for the purpose set forth. 3rd. In a sewing machine, the combination, with a rotary cranked driving shaft *c* and *a*, vibrating shuttle-lever *k*, of a link connecting the two with the stud 10 and free spherical ring 12, arranged and operating substantially as herein set forth. 4th. In a sewing machine, the combination, with a rotary driving shaft and a reciprocating feed bar, of an oblique sliding crank or cam pin *u* projecting from the end of the shaft, engaged rotatively therewith and adjustable in and out therein, and arranged to revolve against a bearing face on the feed-bar, whereby an adjustable stroke of the feed-bar is obtained, substantially as set forth. 5th. The combination, in a sewing machine, with a rotary driving shaft and a reciprocating feed-bar, of the oblique sliding crank pin *u*, arranged in the end of the shaft and revolving against a projection on the feed-bar, with a manipulating device to slide the said pin *u* in or out, substantially as and for the purpose set forth. 6th. The combination, with the driving shaft *c* and feed-bar *r* having bearing face 22, of the oblique sliding crank pin *u* engaged in one end of the shaft, projecting spring *u'* and adjustable lever *v* *u'*, arranged and operating substantially as and for the purpose set forth. 7th. The combination, with the rotary driving shaft *c* and the feed-bar *r* with bearing faces 21, 22, of the eccentric *t*, oblique sliding crank pin *u* and retracting spring *j*, substantially as shown and described. 8th. In a sewing machine, the combination, with adjustable feed mechanism, of an adjusting or manipulating lever *p* and a graduated arc *o* over which the same is movable, substantially as shown and described. 9th. In a sewing machine, the combination, with the bed-plate and shuttle-race, of a swinging plate or plates pivoted at or near the shuttle-race and arranged to partly revolve or swing on their pivots in a horizontal plane to uncover or cover the shuttle-race, substantially as herein shown and described. 10th. In a sewing machine, the combination, with a pivoted swinging-plate or cover on the shuttle-race, of a pivotal stud and a tightening spring arranged to exert a constantly frictional pressure on the pivotal end of the plate to retain it in the opened or closed positions into which it may be swung, substantially as set forth. 11th. In a sewing machine, the combination, with the bed-plate and shuttle-race therein, of the swinging-plate P, pivotal stud *r*, and tightening spring *o*, substantially as and for the purpose set forth. 12th. In a sewing machine having a rotary driving shaft beneath the bed-plate and a slotted spool stand 36 mounted on the top of the overhanging arm at the back end thereof, the combination with the cam or eccentric 41 on the driving-shaft, of the cranked rock-shaft 40 actuated thereby and rising vertically at the back of the arm with its upper end provided with the vibrating take-up arm 39 working in the slot of the spool stand, substantially as herein set forth. 13th. In a sewing machine, the combination, with the bed-plate and a rotary driving shaft *c* beneath the same, and the overhanging arm having the spool platform 37 and slotted spool-stand 36 arm 41, cranked rock-shaft 40, spring 42 and take-up arm 39, arranged and operating substantially as and for the purpose set forth. 14th. In a sewing machine, the combination, with a presser foot bar having a cylindrical or rod like termination, of a presser-foot having a semi-tubular shank arranged to embrace the end of said bar with a circumferential slot to admit the clamp-screws, substantially as shown and described. 15th. In a sewing machine, a presser-foot provided with the guide 33, 34, arranged and operating substantially as and for the purpose set forth.

### No. 22,076. Machine for Excavating Snow.

(*Machine pour Enlever la Neige.*)

Danthus P. Bier, Henry E. Rolph and Henry M. Burchard, Marshall, Minn., U.S., 14th July, 1885; 5 years.

*Claim.*—1st. In a snow-clearing machine, the combination, with the rotating cutting-out drum A in front, of the raised adjustable deflector in rear of the upper portion thereof, substantially as specified. 2nd. In a snow-clearing machine, an elevated adjustable deflector

having roller bearings engaging a C-shaped track having a hinged end portion in rear, and devices for lowering said portion when the deflector is adjusted thereon, substantially as specified. 3rd. In a snow-clearing machine, the combination, with the rotating cutting-out drum A in front, of the raised adjustable deflector in rear of the upper portion thereof, and supported on rails, the car or receptacle having the centrally hinged bottom sections, and the swinging side, substantially as specified.

### No. 22,077. Lacing for Corsets, Gloves, &c.

(*Ligature pour Corsets, Gants, &c.*)

Abram S. Mann and Elbert B. Mann (assignees of Charles F. Spencer), Rochester, N.Y., U.S., 14th July, 1885; 5 years.

*Claim.*—1st. In a lacing, the combination, with a corset or other analogous article to be laced, of a set of single-bearings placed on one side of the opening, a set of double bearing placed on the other side, the two being directly opposite, and a cord attached to one side passing around one of the double bearings, thence around the single bearing, thence back around the other double bearing, thence along the side of the opening to the next double bearings, and in the same manner around the remaining bearings, whereby the lacing extends at right angles across the opening, as specified. 2nd. In a lacing, the combination, with a corset or other analogous article, of a set of single bearings placed on one side of the opening, a set of double bearings placed on the other side, the two being directly opposite, and two cords, one attached at the top and the other at the bottom passing around the bearings at right angles to the opening, as described, the free ends of the cords meeting intermediately and extending outward in opposite directions, as and for the purpose specified. 3rd. In a lacing, the combination, with a corset or other analogous article provided with double flaps at its lacing edges, of a bearing consisting of a shaft, a roller on the shaft located inside the flaps, two washers on the shaft on opposite sides of the roller also located inside the flaps, two washers on the shaft outside of the flaps, serving to attach the bearing to the flaps, and a lacing cord passing from side to side around the rollers, substantially as set forth. 4th. In a lacing, the roller bearings herein described, consisting of the shaft *c* provided with shoulders, the roller *d* resting and turning freely on the shaft, the washers *f, f*, resting on the reduced ends of the shaft and forming guides for the roller, and the outside washers *g, g*, for attaching the bearing to the flaps, as shown and described and for the purpose specified.

### No. 22,078. Manufacture of Hollow Ware

from Sheet Metal. (*Fabrication des Ustensiles Creux en Tôle.*)

Charles B. Taylor, San Francisco, Cal., U.S., (Assignee of Clement Kind, Addington, New Zealand), 14th July, 1885; 5 years.

*Claim.*—The method of manufacturing sheet metal hollow ware, such as cans, pails, etc., consisting of first forming a flange on the edge of the top or bottom, substantially as described, and then in any suitable dies turning the edge of the sides over said flange, substantially as and for the purpose specified.

### No. 22,079. Sulky Plough. (*Charrue à Sidje.*)

Byron B. McVay and James Allison, (Assignees of Robert E. Linham), Mansfield, Ohio, U.S., 14th July, 1885; 5 years.

*Claim.*—1st. In a plough having a tongue-joint, the combination of a fixed rack, a rotary disk-rack connected with the tongue joint, and an independent lever having dogs to engage with the fixed and rotary disk rack, substantially as described. 2nd. In a sulky-plough, the combination of a plough beam, and a tongue connected by a double pivot-joint which permits vertical and lateral play between the parts, a rack lever and pawl for adjusting and controlling the vertical movement of the parts, and a spring bolt for locking the tongue against lateral vibration, substantially as and for the purposes specified. 3rd. The tongue joint for sulky-ploughs having vertical beam-flanges, horizontal tongue flanges, and a spring locking-bolt, substantially as and for the purposes specified. 4th. In a sulky-plough, the combination, with the plough beam and the tongue connected by a joint having a verticle and horizontal pivot motion, of a rack lever and pawl, and a spring bolt for controlling the connections between the plough-beam and tongue, and a horizontally adjustable clevis-bracket having the wheel-caster attached thereto, substantially as and for the purposes specified. 5th. The combination, with a bracket clevis having a vertical pivot connection which permits of lateral adjustment of the bracket-clevis having a vertical pivot-connection which permits of lateral adjustment of the bracket on the beam, of a caster-wheel secured thereto and movable therewith, substantially as and for the purposes specified. 6th. The combination, with the plough and its beam, of a bracket pivoted on the beam, a rack secured to the outer end of the bracket, an elbow lever having a wheel spindle and pivoted on the bracket or rack, a lever and pawl for adjusting the elbow lever and braces which permit a limited play of the rack and outer end of the bracket, substantially as and for the purposes specified. 7th. The elbow-lever for sulky-ploughs, having uniform sides and a centrally arranged dog or pawl, whereby the same can be used for the land-wheel of either right or left hand ploughs, substantially as and for the purposes specified. 8th. In a sulky-plough, the combination, with the adjustable land-wheel and its pivoted bracket, of the brace adjustably connected with the plough-beam or standrad, substantially as and for the purposes specified. 9th. The combination, with a plough-standard, a land-side having a projection or lug on its inner face, and a furrow-wheel arranged between the same, of a stud or axle reduced and threaded at one end for attachment to the standard, and bored at the opposite end to receive the pin or lug on the landside, substantially as and for the purposes specified.

### No. 22,080 Waggon Brake Lock.

(*Arrête-Frein de Wagon.*)

Alexander Dougherty, Samuel T. Lockhart and John C. Lubker, Vallonia, Ind., U.S., 14th July, 1885; 5 years.

*Claim.*—In a waggon brake, the combination of a bent lever A A, plate B, notched arc B<sup>1</sup> having the braces *b<sup>1</sup>*, *b<sup>2</sup>*, pawl C having extensions I I, i, link E, lever D, spring e, rod F, plate L and pivot bolts and nuts a, G, b, *b<sup>1</sup>* and *d*, adapted to enter holes *b*, *d* and G, all constructed and connected substantially as herein set forth.

**No. 22,081. Waterproof Covering for Roofs, etc.** (*Composition Imperméable pour les Toitures, etc.*)

Alfred Ford and Jacob A. Archer, London, Eng., 14th July 1885; 5 years.

*Claim.*—The manufacture of an improved material, applicable as a waterproof covering for roofs and other like purposes, by coating wire gauze, substantially in the manner and for the purposes, herein before described.

**No. 22,082. Telephone.** (*Téléphone.*)

James H. Rogers, New York, N.Y., U.S., 15th July, 1885; 5 years.

*Claim.*—1st. In combination with the horizontal diaphragm of the telephone transmitter, connected to a battery and forming one pole of an electric circuit, as described, the flattened plate or button lying loosely and simply by its own weight upon the diaphragm, and connected to a line wire and forming the opposite pole of said circuit, as set forth. 2nd. In a telephone transmitter, the combination of a horizontal diaphragm, forming one pole of an electric circuit, with a flattened plate or button, forming the opposite pole, and resting on the diaphragm adapted to receive sound vibrations therefrom, as described, the said plate having a quantity of mercury in its upper part, and a connection with a line wire consisting of a dipping needle, substantially as set forth. 3rd. In a telephone transmitter, the combination of a horizontal diaphragm, the enclosing case, trumpet mouth-piece, the flattened contact plate or button resting on the sensitive diaphragm, as described, the said plate or button being provided with a cavity in its top adapted to receive mercury, and the superimposed dome provided with a dipping needle and a regulating screw all substantially as and for the purposes set forth. 4th. In combination with the horizontal diaphragm, forming one pole of an electric circuit, and the contact plate or button provided with mercury in its upper portion, as described, the superimposed dome F, having a screw S, connected to a line wire, and having a needle N, as and for the purposes set forth.

**No. 22,083. Pump Valve.** (*Soupage de Pompe.*)

William L. McKenzie and Thomas Kelly, Petrolia, Ont., 15th July, 1885; 5 years.

*Claim.*—The vulcanised rubber a, metal cylinder pistons B, B, in combination with the hollow spindles A, A, substantially as and for the purposes hereinbefore set forth.

**No. 22,084. Screw.** (*Via.*)

Mary A. Ihrig, Springfield, Ohio, U.S., 15th July, 1885; 5 years.

*Claim.*—1st. As a new article of manufacture, a screw, the head of which is of greater diameter than the screw threaded shank and has a series of upwardly projecting barbs or points, substantially as described. 2nd. As a new article of manufacture, a screw the head of which is square, and has two or more V-shaped grooves formed in the face thereof, to thereby form pyramidal points, substantially as described. 3rd. A screw the head of which is square and has two transverse V-shaped grooves cut in the face thereof, the length and greatest breadth of the grooves being equal, or nearly so, to the width of the screw head, to thereby form four pyramidal points one at each corner of the screw-head, substantially as and for the purpose described.

**No. 22,085. Ladder Section, Step Ladder and Staging Combined.** (*Section d'Echelle, Echelle à Queue et Echaffaudage Combinés.*)

Renben L. Hitchcock, Cornwall, Ont., 15th July, 1885; 5 years.

*Claim.*—1st. As a new article of manufacture, a ladder section, constructed of two converging sides having slots C at the ends and connected by bars D, the bar at top having round ends D<sup>1</sup> projecting from the sides, and provided with shoes B secured by bolts B<sup>1</sup> to protect the ends of the section, as set forth for the purpose described. 2nd. The combination, with the ladder sections, of the metallic bails G having hooks H, I, whereby the sections are prevented from spreading at the foot, and one of the bails G adapted to hold a pail suspendedly, as set forth.

**No. 22,086. Ferment.** (*Ferment.*)

Mritz Polumenthal, Gruman Near Berlin, Germany, 15th July 1885; 15 years.

*Claim.*—An extract from runnet, consisting of chymosin which is free from pepsin and soluble clear and free from slims, in combination with an indifferent and preserving substance, salt sugar or the like, in a dry or dissolved form.

**No. 22,087. Paving Block or Brick.**

(*Bloc ou Brique de Pavé.*)

Thomas A. Huguenin, Charleston, S.C., U.S., 15th July, 1885; 5 years.

*Claim.*—1st. The herein described compound consisting of coal tar, bitumen, pine-gum and alum, combined in substantially the manner and proportions and for the purpose stated. 2nd. A brick or block cured by mimerion in a mixture of coal tar bitumen pipe-gum and alum, substantially as described.

**No. 22,088. Metal Picket and Fence.**

(*Pieu et Clôture Métalliques.*)

Russel G. Olmsted, Hamilton, Ont., 15th July 1885; 5 years.

*Claim.*—1st. In a metal fence picket, the ornamental metal top B, constructed with the hole C, shoulder a and socket d, the metal bottom D, constructed with opening E shoulder b and socket c, in combination with the gas pipe A to which they are secured, substantially as specified. 2nd. In a metal fence, the combination of the metal picket A B D, constructed substantially as shown and described, with the top and bottom gas-pipe rails F, G.

**No. 22,089. Brush Making Machine.**

(*Machine à faire les Brosses.*)

Edward L. Fenuty, Halifax, N.S., 15th July 1885; 5 years.

*Claim.*—1st. In a brush making machine, substantially as described, the combination of the following instrumentalities and operative mechanism therefor, to wit: a pattern device for determining the location of the tuft holes in the blank, a device for moving the blank laterally in respect to the pattern boring and tufting devices, a boring device for boring the tuft holes, a feeding device for feeding the brestles hair or fibre to the tufting device, a tufting device for inserting the brestles hair of fibre in the tuft holes, a device for adjusting the black vertically in respect to the tufting device, a device for connecting the boring device and tufting device with the pattern device in such a manner that they may be conjointly operated, a device for adjusting the boring device, horizontally in respect to the pattern device, and a shipping device for automatically stopping the operations of the tufting and boring devices, substantially as set forth. 2nd. In a brush making machine, the combination, substantially as set forth, of the following instrumentalities, to wit: a pattern device for determining the location of the tuft holes in the blank, a device for moving the blank laterally in respect to the pattern boring and tufting devices, a boring device for boring the tuft-holes, a feeding device for feeding the brestles hair or fibre to the tufting device, a tufting device for inserting the brestles hair or fibre in the tuft holes, a feeding device for feeding the wire to the tufting device, a cutting device for cutting off the securing wire, a device for adjusting the blanks vertically in respect to the tufting device, a device for connecting the boring device and tufting device with the pattern device in such a manner that they may be conjointly operated, a device for adjusting the boring devices horizontally in respect to the pattern device, and a shipping device for automatically stopping the operation of the tufting and boring devices. 3rd. The combination, substantially as set forth, of feeding rolls one of which is provided with grooves and holes, whereby it is adapted to serve as a pattern device, means for adjusting the pressure of said rolls, means for operating said rolls means for moving said rolls laterally, and means for arresting the lateral movement of the rolls at the desired points. 4th. In a brush making machine, substantially as described, the pattern wheel D provided with the longitudinal grooves M, circumferential grooves N, holes a and blank side 56, substantially as set forth. 5th. The combination, substantially as set forth of feed rolls, means for adjusting the same vertically and laterally a boring device and a tufting device. 6th. The combination, substantially as set forth, of rolls one of which is provided with grooves and holes whereby it is adapted to serve as a pattern roll, means for moving said rolls laterally, means for arresting the lateral motion of said rolls in accordance with the pattern holes, a boring device and a tufting device. 7th. The combination, substantially as set forth, of a tufting socket, means for moving said socket vertically in respect to the bed of the machine, a plunger and means for operating the latter. 8th. The combination, substantially as set forth in a brush machine, of a feeding device, a pattern device a tufting socket, a plunger therefor and a wire feeding device, said plunges being provided with cutting edges adapted to sever the wire. 9th. The combination, substantially as set forth, of a pattern device, a boring device a tufting device and a bristle feeding device having a roller provided with teeth inclined reversely to the revolution, of the same. 10th. The combination, substantially as set forth, of a boring device, a tufting device and a feeding device for feeding the blanks to the boring, and tufting devices consisting of the rollers D, E, bed F, lever G and operative mechanism therefor. 11th. In a brush making machine, substantially as described, a pattern device for determining the location of the tufting holes in the blank, consisting of the roller D, bar K, levers G, L and operative mechanism therefor, combined and operating substantially as set forth. 12th. In a brush making machine, substantially as described, a device for moving the blank laterally in respect to the pattern, boring and tufting devices consisting of the bed F, bars O, P, racks Q, shaft S, pinions R, wheel T and operating mechanism there for, said elements being combined and operating substantially as described. 13th. The combination, substantially as set forth, of a pattern device, a tufting device, an intermediate boring device, and means for horizontally adjusting said boring device relative to said pattern and tufting devices. 14th. In a brush making machine, substantially as described, a feeding device for feeding the brestles hair or fibres to the tufting device, consisting of the hopper A, roller s, rocking shafts j, fingers k, bars k, crank l, bar m, spring n, rod z, lever 3, bar 6, disks p and operative mechanism therefor, all combined and operating substantially as set forth. 15th. The combination, substantially as set forth, of a tufting tube, a clutch lever 8 for feeding wire to said tube, a lever 11 for actuating said clutch lever, a cam for moving the actuating lever and a spring for restoring said levers to their normal positions. 16th. The combination, substantially as set forth, of a tufting tube mechanism for feeding bristles to said tube, a wire-feeding mechanism, a die within said tube and a plunger for cutting off and inserting the wires. 17th. In a brush making machine, substantially as described, a tufting device for inserting the bristles hair or fibre in the tufting holes, consisting of the vertical tube or socket 17, plunger 16, cross-head 19, rods 20, cross-bar 5, pitmans z, disks p and operative mechanism therefor, all combined and operating substantially as set forth. 18th. In a brush making machine, substantially as described, a device for adjusting the blank vertically in reference to the tufting device, consisting of the slide U screws 22 nuts 23, slides P, bars O and bed F, the parts

being combined and arranged substantially as described. 19th. In a brush making machine, substantially such as described, a device for connecting the boring device and tufting device with the pattern device in such a manner that they may be operated in unison, consisting of the rocker, shaft 25, pitman 26, lever L, pitman 27, lever *g*, arm 28, clutch 29, pulley C, shaft B and operative mechanism, the parts being combined and arranged to operate substantially as described. 20th. In a brush making machine, substantially such as described, the combination of a pattern device, a tufting device and a device for adjusting the boring device horizontally in respect to the pattern device, consisting of the rods 30, cranks 31 screws 32 and frame 34, substantially as described. 21st. In a brush making machine, substantially as described, a shipping device for stopping the operations of the boring and tufting devices, consisting of the lever 35 having the stud 41, bar 39 having slots 40 and 42, lever L, shaft 25, pitmans 26 and 27, lever *g*, clutch 29 and disk *p* having the cam 38 and operating substantially as set forth. 22nd. In a brush making machine, substantially such as described, the tufting socket 17 provided, with the slot 68, formed partially in the cross-head 19 and partially in the body of the socket 17 to receive the edge of the plunger 16 and end of the wire 61, substantially as set forth. 23rd. In a brush making machine, substantially such as described, the treadle 69, in combination with the lever 35 and bar 39 having the slots 41 and 42, substantially as and for the purpose specified.

**No. 22,090. Electric Cut-out for Loops in which Incandescent, or other Electric Lamps, Motors and Appliances are Attached.** (*Interrup-tour Electrique pour les Anneaux dans les quels les Lampes Incandescentes ou autres, les Moteurs et les appareils Electriques sont At-tachés.*)

William M. Thomas and the Grand Rapids Electric Light and Power Company, Grand Rapids, Mich., U.S., 15th July, 1885; 10 years.

*Claim.*—1st. The combination, substantially as set forth, of the main circuit, the double wound helix in which the electric current from the main line is normally divided, the loop circuit, a series of lamps or other electrical appliances contained in the loop conductors for conveying one branch or division of the current to a given number of the lamps or other appliances, conductors for conveying the other division of the current to the remaining appliances, and a shunt circuit, substantially such as described, whereby the entire current is shunted and cut out from all the appliances whenever a disturbance or disarrangement occurs in one branch of the loop circuit. 2nd. The combination, substantially as set forth, of the main circuit, the double-wound helix in which the electric current from the main line is normally divided, the core of the helix, its armature, the loop-circuit, an electrical connection between the loop and the main line, an electrical conductor joined to one branch of the circuit between the helix and the loop and to the core, and an electrical connection between the armature and the main line, whereby the entire current will normally pass into the loop, but will be shunted and cut out from the loop whenever a disturbance or disarrangement occurs therein.

**No. 22,091. Improvements in Making Nails.** (*Perfectionnements dans la Fabrication des Clous.*)

The Russell and Erwin Manufacturing Company, New Britain (Assignee of Horace K. Jones, Hartford), Ct., U.S., 16th July, 1885; 5 years.

*Claim.*—1st. The within described nail stock, consisting of a continuous metallic rod or wire, having formed on its periphery throughout its entire length, for the purpose specified, a spiral rib whose upper face is approximately at right angles to the longitudinal centre of said rod or wire. 2nd. A headed and pointed round wire nail, having a shank spirally barbed throughout its length, substantially as described. 3rd. A headed round wire nail, having a shank spirally barbed throughout its length, and an angular point, substantially as described.

**No. 22,092. Improvements in Making Nails.** (*Perfectionnements dans la Fabrication des Clous.*)

The Russell and Erwin Manufacturing Company, New Britain (Assignee of Horace K. Jones, Hartford, Ct.), 16th July, 1885; 5 years.

*Claim.*—1st. The within described "nail stock," consisting of a continuous metallic rod or wire having its periphery throughout its entire length formed with barbs arranged concentric with said rod or wire, the upper face of each of said barbs being approximately at right angles to the line of wire, all for the object specified. 2nd. As a new article of manufacture, a suitably headed and pointed drive nail, whose body portion is formed with a series of concentric barbs or cones, the end of said barbs or cones which confronts the head of the nail being approximately at right angles to the longitudinal centre of said body, substantially as described and for the purpose specified.

**No. 22,093. Apparatus for Raising Water, etc.** (*Appareil pour Elever l'Eau, etc.*)

Cuthbert Burnett, Hartlepool, Eng., 16th July, 1885; 5 years.

*Claim.*—1st. In pumps, the employment of a piston or diaphragm, in combination with a steam admission valve or valves, whereby the steam is admitted in such quantity that at any desired point before or on the completion of the stroke the pressure of the steam will fall to or below the pressure of the column of water in the rising main, when a portion or jet of same will return through the injection port, the said jet being controlled when desired either by the piston or otherwise, and so effect the condensation, all substantially as herein-

before described and illustrated with reference to the accompanying drawings. 2nd. In pumps, the employment of shifting valves for admitting a regulated or measured quantity of air during the stroke or at or near the completion of same, in combination with the steam admission valves, all substantially as described and illustrated with reference to the accompanying drawings. 3rd. In pumps, the employment of steam snifting valves, whereby steam is admitted instead of air for destroying the vacuum, in combination with the piston open to the atmosphere, all substantially as described and illustrated particularly with reference to Figs. 20, 22, 30 and 31 of the accompanying drawings. 4th. In combination, with a single acting pump body consisting of a base having a suction valve and injection pipe, its head consisting of a cylinder, piston, steam valves, an attachment with a snifting valve and steam way, of an air vessel provided at its base with a delivery valve and injection pipe, substantially as set forth. 5th. The general combination and arrangement of single and double acting pumps, together with the valves and mode of operating same, all substantially as hereinbefore described and illustrated with reference to the accompanying drawings.

**No. 22,094. Druggist's Sieve.**

(*Couloire de Droguiste.*)

Eliza E. Scott, Hamilton, Ont., 16th July, 1885; 5 years.

*Claim.*—1st. In a sifter, the cradle C consisting of the end disks secured together by perforated sheet metal bands *a*, and provided with spindles D, D, and crank handle E, substantially as specified. 2nd. In a sifter, the cylindrical revolving sifter G made to fit in the cradle C, and formed in two parts hinged together and provided with tongue and groove-ends *b*, *b*, a catch *c*, handles *d*, *d*, buttons *e*, *e*, and crank E, all constructed and arranged substantially as and for the purpose specified. 3rd. In a sifter, the combination of the cradle C and the sifter G, substantially as specified. 4th. In a sifter, in combination with the box A, cradle C and shifter G, of the sliding bottom H, as and for the purpose specified. 5th. In a sifter, the combination of the box A, B, cradle C, sifter G, crank E, spindles D, D, all constructed substantially as and for the purpose specified.

**No. 22,095. Self-Binding Harvester.**

(*Moissonneuse-Lieuse.*)

A Harris, Son & Co. (Assignees of John Harris and Josiah Lucas), Brantford, Ont., 16th July, 1885; reissue

*Claim.*—1st. In a self-binding harvester, the binding table A hinged at one side to the main frame, and provided with the usual binding attachments, and carrying the knoter mechanism, in combination with the brackets C, C<sub>1</sub>, the former pivotally connected with the table and supporting the inner side thereof, the latter rigidly connected with the main frame and serving as supports for the outer end of the said table when in a normal position, the parts being constructed, arranged and operating substantially as and for the purpose specified. 2nd. In combination with the rods D, D<sub>1</sub> supporting the binding-table, its attachments and the knoter mechanism, the brackets C, C<sub>1</sub>, the former having the frame rod D of of the binding table sleeved thereon, and the latter rigidly connected to the main frame to receive and support the rod D<sub>1</sub> when binding table is in a normal position, as and for the purposes set forth. 3rd. In a self-binding harvester, in which the binding table is hinged to the elevator frame, below an independent table secured to the elevator frame, and extending from the binder table to the conveying apron, one or more bolts being arranged to hold down the independent table, in combination with springs, as specified, so as to permit a slight upward movement of the independent table during the folding up of the binding table. 4th. In a self-binding harvester, in which the frame carrying the binding mechanism is hinged to the harvester, the divided packer-shaft, one portion thereof carried by the harvester, and the other portion carried by the hinged binder frame, a socket formed in the end of that portion of the packer-shaft carried by the harvester, in combination with a spring attached to that portion of the shaft on the harvester, and arranged to engage with the portion on the binder frame, substantially as and for the purpose specified. 5th. In a self-binding harvester, in which the frame carrying the binding mechanism is hinged to the main frame of the harvester, and adapted to be folded up to reduce the width of the harvester, the brackets C, C<sub>1</sub>, arranged to support the said frame in its normal position, in combination with an arm pivoted on the bottom of the binder-frame, and arranged to support the frame when folded up, substantially as described. 6th. In a self-binding harvester, the feeding-table B, the brackets C, C<sub>1</sub> rigidly attached to the main frame, the rods D, D<sub>1</sub> carrying the binding-table, its attachments and the knoter mechanism, the rod D pivotally mounted within the brackets C<sub>1</sub> to permit the folding of the parts carried thereby, in combination with a cranked lever to impart a longitudinal movement to said rod, as and for the purpose set forth. 7th. In a self-binding harvester, one or more fingers attached rigidly to the main binder-shaft which operates the knoter and carries the ejecter finger, for the purpose of retaining loose grain while the sheaf is being formed.

**No. 22,096. Fastener for Paper, etc.**

(*Oeillet à Papier, etc.*)

Edward W. Ball, Worcester, Mass., U.S., and William J. Reid, London, Ont., 16th July, 1885; 5 years.

*Claim.*—As an improved article of manufacture, a metal paper fastener consisting of two wings B, B<sub>1</sub> and fastening-finger C, wings B and B<sub>1</sub> standing at right angles to each other, and fastening-finger C standing at right angles to wing B<sub>1</sub> and parallel to plain wing B, substantially as and for the purposes set forth.

**No. 22,097. Winding Coils used in Telephone Circuits.** (*Enroulage des Bobines employées dans les Circuits des Téléphones.*)

Silvanus P. Thompson, Bristol, and Philip Jolin, Redland, Eng., 16th July, 1885; 5 years.

*Claim.*—1st. The combination, with a telephone transmitter, of a divided circuit, one branch of which is connected to the transmitter and the other branch of which has a coil of low resistance and high co-efficient of self-induction, substantially as specified. 2nd. An induction coil having a primary wire composed of two or more separate branches, wound or constructed so that the current passing along the same will be divided into two parts, each of which will neutralize the action of the other, substantially as specified. 3rd. The combination, with a telephone and its circuit, of an induction coil whose primary wire is composed of two branches or divisions, including reversely wound or connected helices, along which electricity may circulate in reverse directions, substantially as specified.

### No. 22,098. Machine for Turfing Fabrics.

(*Machine pour Epingler les Tissus.*)

Mathew F. Connett, Jr., and Martin L. Connett, Springfield, Ill., U.S., 16th July, 1885; 5 years.

*Claim.*—1st. In a machine or apparatus for turfing fabrics, in combination with the needle for carrying the yarn down through the fabric, means, substantially as described, moving in the same direction with the needle, adapted to hold the yarn at a point between the needle and the loop last formed, so that such loop shall not be pulled out by the movement of the needle, substantially as shown and described. 2nd. In combination with the needle adapted to carry the yarn through the fabric to form loops, the supplemental needle adapted to impale and hold the yarn between the needle and the last-formed loop as the needle passes through the fabric, substantially as and for the purpose described. 3rd. In combination with the tubular needle for turfing fabrics, having the yarn fed through it, the supplemental needle carried with the tubular one and adapted to impale the yarn between the loop last formed and such tubular needle, substantially as and for the purpose described. 4th. In a machine or apparatus for turfing fabrics, a needle for carrying the yarn through the fabric in combination with the impaling needle, arranged parallel to the other and travelling in the same direction with it, substantially as shown and described. 5th. In combination with the hollow needle-bar adapted to allow of the passage and feed of the yarn or thread down through it, the hollow needle attached to the bar, having its bore connecting with or forming a continuation of the bore of the needle-bar, and at its lower end cut away at an angle to form a penetrating point, substantially as and for the purpose described. 6th. The hollow needle-bar, provided at its lower end with a slot, substantially at right angles to its axis, in combination with the hollow needle provided with the flange adapted to fit the slot in the needle-bar, substantially as shown and described. 7th. The hollow needle-bar, provided at or near its lower end with a slot, substantially at right angles to its axis, and open at one side of the bar, and the needle having at its upper end a flange adapted to fit in such slot and be flush with the outside of the bar, in combination with the tubular sheath surrounding the bar, substantially as shown and described. 8th. In combination with the tubular sheath, provided with the longitudinal slot, the needle-bar within the sheath, provided with a lug extending into the slot, the needle carried by the bar, having the lug extending out through the slot in the sheath, and the stop-sleeve around the latter, substantially as and for the purpose described. 9th. In combination with the slotted sheath and the needle carried by the bar within the sheath, and provided with a lug projecting through the slot, the rotary sleeve on the sheath, cut away to form steps of different heights for engagement of the lug on the needle, to limit the movement of the latter, substantially as and for the purpose described. 10th. In a machine or apparatus for turfing fabrics, in combination with the needle, means for regulating its throw, consisting of a lug or stud on the needle and an adjustable stop for engaging the substantially as and for the purpose described. 11th. In combination with the needle, the lug thereon provided with a projection or lip inclined on its inner side, and a fixed lug or stop on the machine, adapted to be struck and engaged by the lip and lug at the lower end of the stroke of the needle, substantially as and for the purpose described. 12th. In combination with the needle-bar, the needle carried thereby, so as to be capable of a swinging motion thereon, a spring attached to the needle and bearing against the inclined face of a lug on the bar, and adapted to keep the needle normally in one position, and the inclined lip or projection carried by the needle, adapted to come in contact with and ride over the upper edge of the sleeve on the needle-bar sheath as the needle approaches the lower end of its throw, substantially as and for the purpose described. 14th. In combination with the slotted needle-bar sheath, the needle having a lug projecting out through the slot in the sheath, and the stop sleeve on the lower end of said sheath, provided with a longitudinal slot adapted by rotation of the sleeve to be brought into coincidence with the slot in the sheath, to allow the needle to be removed, substantially as and for the purpose described.

### No. 22,099. Watchmaker and Jeweller's Combined Spectacles and Eyeglass. (*Lunettes et Lorgnette Combinées pour Horloger-Bijoutier.*)

Granville H. Hull, LaFayette, Ind., U.S., 16th July, 1885; 5 years.

*Claim.*—1st. The combination, with a pair of spectacles, of an eyeglass E secured to the spectacle frame by means of a bracket or arm B, in such a manner as to be readily thrown in front of the spectacle lenses and away at will of operator, substantially as described and specified. 2nd. The combination, with a pair of spectacles *a*, of an eyeglass E, a bracket or arm B, secured to the joint S of the spectacle frame and supporting the eyeglass E, the spectacle frame S, the bracket B and the eyeglass E being connected together in such a manner as to allow the eyeglass to be thrown in front of the spectacle lenses and away from them, substantially as described and specified.

### No. 22,100. Automatic Cut-out for Incandescent Electric Lamps. (*Interrupteur Automatique pour Lampes Electriques Automatiques.*)

William M. Thomas and The Grand Rapids Electric Light and Power Company, Grand Rapids, Mich., U.S., 16th July, 1884; 10 years.

*Claim.*—1st. The combination of the differentially wound magnet, its cut-out armature, circuit connections, and the carbon or incandescent material or filament arranged in sections, each of which is included in a branch of the circuit. 2nd. The combination, in an electric lamp, of the incandescent material, independent sections or portions of which are each included in a branch of the circuit, circuit connections, and an automatic cut-out for short circuiting the lamp, whenever either portion of the incandescent material is fractured. 3rd. The combination, in an electric lamp, of the M-shaped carbon, the three electrical connections therewith, and the automatic cut-out.

### No. 22,101. Windlass. (*Guindeau.*)

Frederick W. Thompon, Maitland, N.S., 16th July, 1885; 5 years.

*Claim.*—1st. The combination, in a windlass, and with its shaft and a loose grab or purchase wheel thereon, having a projecting rim flange, of brake shoes fitted for movement to and from the said flange, substantially as herein set forth. 2nd. The combination, in a windlass and with its shaft B, of a grab G loose thereon, and having a rim flange *g*, the brake shoes O fitted for movement to and from said flange, screw-shafts *n*, pinions N, on shafts *n*, and the adjusting gear wheel P, substantially as herein set forth. 3rd. The combination, in a windlass and with its shaft and a loose grab thereon having a projecting rim flange, of a drive wheel, a friction driving band on said wheel, and brake shoes fitted on the drive wheel so as to move to and from the flange on the grab, substantially as herein set forth. 4th. In a windlass, the combination, with the shaft B and a grab G loose thereon, and having a rim flange *g*, of a band wheel H, fixed to shaft B, brake shoes O, fitted to wheel H and adapted to said flange *g*, pinions N on shafts *n* supported in hub *h* of wheel H and threaded into shoes O, a disk wheel P having a gear R meshing with pinions N, and a friction driving band encircling wheel H, substantially as herein set forth. 5th. The combination, in a windlass, of the shaft B, grab G loose on shaft B and having flanges *g*, wheels H, driving bands I on wheels H, brake shoes O adapted to flanges *g*, screw shafts *n*, pinions N on said shafts, a gear wheel P meshing with pinions N, links J connected to and guiding L, blocks K, rods L and brakes M, *m*, all constructed and adapted for operation, substantially as herein set forth. 6th. In a windlass, the drive wheel H, made with a peripheral groove to receive the driving band I, and with face projections *h* adapted to support and guide the brake shoes O, substantially as herein set forth. 7th. In a windlass, the combination, with the shaft B, grab G and a friction brake mechanism, substantially as described, connecting said wheels to the drive wheels H, of the hold-back bands V, substantially as herein set forth.

### No. 22,102. Tubing and Printing Paper Bags. (*Fabrication et Impression des Sacs en Papier.*)

Andrew J. Boynton, Malden, Mass., U.S., 18th July, 1885; 5 years.

*Claim.*—1st. The combination of a mechanism, substantially as described 1, by which a web of paper is pasted, folded, and pressed flat, with two opposing revolving cylinders 2 and 3, one of said cylinders having upon it a bent type form 4, impinging upon the periphery of the other cylinder, and one of said cylinders receiving from the tubing mechanism a completed flattened tube, printing at, and cutting it into bag lengths, substantially as described. 2nd. The combination, with the cutting cylinders 2 and 3, of a drag wheel *g*, adapted to regulate the registering of the knife *k* and groove *kl* in the cutting cylinders, substantially as described.

### No. 22,103. Electrotype Block.

(*Bloc Stéréotype.*)

Patrick Gleeson, Chicago, Ill., U.S., 18th July, 1885; 5 years.

*Claim.*—1st. The electrotype or stereotype plate *a* and block *b* of about equal area, whereof the edges of the plate *a* are bevelled upward and inward, as shown, and hooks *d* formed of the upper edges of the plates *c*, fitting upon said bevelled edges of the plate *a*, and provided with mechanism, substantially as described, which will automatically bring the hooks *d* into their proper position by the action of the locking mechanism of a form in the chase, substantially as specified. 2nd. An electrotype and stereotype plate *a*, with upwardly and inwardly bevelled edges, and block *b* provided with binders *h*, having grooves *g* and clamps *e*, *e*, having claws *d* fitting upon said bevelled edges of the plate *a*, and with tongues *f*, fitting into grooves *g*, substantially as specified.

### No. 22,104. Sand Band for Vehicle Axles.

(*Garde-Sable pour Essieux de Voitures.*)

Frank S. Rolph, Waterbury, Vt., U.S., 18th July, 1885; 5 years.

*Claim.*—1st. The combination of the axle-spindle A, having shoulder *a*, the axle-box E, washer D, nut C, having an internal annular projection or collar *c*, and the packing ring *c*, adapted to bear within the back plate of the hub, substantially as described. 2nd. The combination of the axle-spindle A, provided with shoulder *a*, the disk *b*, the nut C, having an internal annular projection *c*, a suitable packing clamped between said nut and disk, the axle-box E and the washer D, substantially as described.

### No. 22,105. Filter. (*Filtre.*)

Jules Mallié, Paris, France, 18th July, 1885; 15 years.

*Claim.*—1st. A filter, constructed as herein described, and provided with an air chamber containing air under pressure, in contact with the water, whereby the water becomes saturated with air, as described. 2nd. In a filter, constructed as herein described, the combination, with the downward extension of the cover, of a valve arranged and operated for cutting off the flow in case of accident to the filter, as described. 3rd. The combination of packing rings of compressible material, with grooves or corrugations formed in the upper part of the filter, and upon the adjacent faces of the ring and cover for ensuring a perfectly water-tight closure, as described.

**No. 22,106. Improvements in Anaesthetics.**  
(*Perfectionnements dans l'Anesthésie.*)

Uriel K. Mayo, Boston, Mass., U.S., 18th July, 1885; 5 years.

*Claim.*—1st. An anaesthetic composition, substantially as described, for use in surgical operations, etc., consisting of nitrous oxide gas and the vapour of alcoholic tincture of hops, stramonium, and valerian, in or about in the proportions specified. 2nd. An anaesthetic compound, consisting of nitrous oxide gas and the vapour of an alcoholic tincture of hops, stramonium and skull-cap, in or about in the proportions specified. 3rd. An anaesthetic compound, substantially as described, consisting of nitrous oxide gas and the vapour of an alcoholic tincture of hops, lady's-slipper and valerian, in or about the proportions specified. 4th. An anaesthetic compound, substantially as described, consisting of nitrous oxide gas and the vapour of an alcoholic tincture of hops, lady's-slipper, valerian and skull-cap, in or about in the proportions specified.

**No. 22,107. Roller Holder for Photographic Films.**  
(*Porte-Rouleau pour Ecrans Photographiques.*)

The Eastman Dry Plate and Film Company (Assignee of Willis A. Bannister and Louis H. Bannister), Rochester, N.Y., U.S., 18th July, 1885; 5 years.

*Claim.*—1st. The combination, in a roller-holder, of the measuring roll G and attachable spindle *c* passing through the wall of the holder and carrying the indicator *e*, substantially as described. 2nd. The combination, in a roller holder, of the measuring roll G, detachable spindle *c*, indicator *e*, casing *p*, and transparent plate *f*, substantially as described. 3rd. In a roller-holder for exposing photographic films, and in combination with the enclosing case and rollers, the removable end or side supporting the corresponding ends of the rollers, substantially as described. 4th. The combination, in a roller-holder, of the measuring rolls G, removable end I, spindle C, and indicator *e*, substantially as described. 5th. The combination, in a roller-holder, with one of the film-carrying rolls, of a friction pad or brake arranged to act on the reverse or unsensitized side of the film, substantially as described. 6th. The combination, in a roller-holder, of the film-carrying rolls D and E, friction pieces J and K, and springs *b*, substantially as described. 7th. The combination, in a roller-holder, with the film-carrying rolls, of a measure roll provided with a series of film-perforating devices arranged longitudinally of the roll, and the latter having its circumference equal to the length of the film required for a single exposure, substantially as described. 8th. The combination, in a roller-holder, of the film-receiving roller E, provided with mechanism which prevents its reverse motion, and the film-carrying roller D, having connected therewith the spring *x* arranged to operate as a film-straining device, substantially as described. 9th. The combination, in a roller-holder, of the removable film-carrying roller D, sliding spindle *c*, and spring *r*, substantially as described. 10th. The combination, with the film-receiving roller E, provided with ratchet *h* and spring-pawl *u*, of the film-carrying roller D, provided with spring *x*, the outer end of which revolves against a friction resistance, substantially as described. 11th. In combination with the enclosing case and the measuring roller contained therein, the removable end piece carrying the indicator, the latter when the said end piece is applied to the case being brought into operative connection with said measuring roller, substantially as described. 12th. The combination, with the roller D, of the spring *x*, collar *z* and ratchet M, the inner end of said spring engaging notches in the collar *z*, and the outer end resting in frictional contact with the teeth of ratchet M, substantially as described. 13th. The combination, with the roller D, of the spindle *c*, collar *z*, spring *x* and a frictional piece M attached to the holder, substantially as described. 14th. The combination, with the roller D, of the sliding spindle *c* and the collar *z* and spring *x*, arranged within a suitable recess in the wall of the holder, substantially as described. 15th. The combination, with the roller E, of the sliding spindle *s* and ratchet *h*, provided with a spring pawl and arranged within a recess in the wall of the holder, substantially as described. 16th. In a roller-holder for exposing photographic film, the combination, with the winding and unwinding rollers located in the inclosing case and provided at one end with fixed bearings therein, of the removable side or end piece, and the devices mounted thereon for engaging the ends of the said rollers and affording bearings for the latter, substantially as described. 17th. In combination with the supporting frame of a roller holder, a rotary tension device independently mounted or supported upon said frame, and a spool upon which the film is wound detachably applied to said tension device, substantially as described. 18th. In a roller-holder for photographic films, the combination with the frame, of the spindle supported therein and provided with means for engaging the end of the spool, and a yielding tension device intermediate the said spindle and the frame, substantially as described, whereby the spool can be removed or applied to the tension device and spindle at will. 19th. In a roller-holder, such as described, wherein the film supply is wound upon a spool and drawn therefrom at intervals to expose a limited surface and in combination with said spool, a longitudinally adjustable spindle provided with means for engaging the end of the removable spool, and a yielding tension device applied to said spindle, substantially as described.

**No. 22,108. Sugar Sap Evaporator.**  
(*Appareil Evaporatoire de l'Eau Saccharine.*)

Arlington I. Farnam, Sutton, Que., 18th July, 1885; 5 years.

*Claim.*—The combination of the triangular round or square return fire flues D, with a corrugated bottom in the sap evaporating compartment B, and the sap heating compartment E, with its supplemental heating chamber G and its opening H for cleaning purposes, together with the arrangement of the syrup compartment F, as described, with an evaporator, substantially as and for the purpose hereinbefore set forth.

**No. 22,109. Process for Cutting Files.**

(*Procédé pour Tailler les Limes.*)

Crawford M. Fairbanks, Lincoln, R.I., U.S., 18th July, 1885; 5 years.

*Claim.*—The process of cutting flat files, herein described, consisting in first preparing and cutting the edges only, and subsequently preparing and cutting the sides, as and for the purposes specified.

**No. 22,110. Riding Saddle.** (*Selle.*)

Theodore J. Wint, Leavenworth, Ks., U.S., 18th July, 1885; 5 years.

*Claim.*—1st. A saddle, having side bars hinged together at the pommel and cantle, by curved arms forming an arc of a circle and that slide in a line with each other, to enable the side bars to be adjusted to any requisite angle, the pivotal point or axis being on a line with the upper edges of the bearing surfaces of the side bars, and means for clamping the curved arms together, substantially as set forth. 2nd. The combination of the side bars B, and the curved arms A forming an arc of a circle, and adapted to work in a line with each other and adjust the side bars, substantially as described.

**No. 22,111. Treating Yarn, Hemp, etc., for the Manufacture of Cordage.**  
(*Traitement du Fil, Chanvre, etc., pour la Fabrication du Cordage.*)

Moses H. Day, Roxbury, Mass., U.S., 18th July, 1885; 5 years.

*Claim.*—1st. As a new article of manufacture used in the preparation, manufacture and treatment of yarn, hemp, and other materials employed in the manufacture of cordage, rope, and cables in their various forms, the within-described compound, consisting substantially of two per cent. of cotton seed oil, and ninety-eight per cent. of tar, as set forth. The within-described process of treating yarn, hemp and other materials used in the manufacture of cordage and rope in their various forms, the same consisting in saturating the said material with a compound of, substantially two per cent. of cotton seed oil, and ninety-eight per cent. of tar, as set forth.

**No. 22,112. Force and Drain Faucet.**

(*Pompe à Transvaser.*)

Albert J. Weatherhead, Cleveland, Ohio., U.S., 18th July, 1885; 5 years.

*Claim.*—The combination with faucet F, consisting of the tube or barrel B, having open end with tapering bore, and provided with discharge *b*, and the tube C having tapering end fitted to fill said tapering bore, and having opening *e* registering with said discharge *b*, of handle H, the inner end projecting through barrel B, and held by the ring *c* and spring *e*, and provided with the crank D connected to and operating the piston of the pump P, substantially as described and for the purpose specified.

**No. 22,113. Friction Device for Printing Press Flyer.**  
(*Appareil à Friction pour Volant de Presse d'Imprimerie.*)

Lewis W. Hyde, Brooklyn, and Albert H. Seaman, New York, U.S., 18th July, 1885; 5 years.

*Claim.*—1st. The printing press flyer B, consisting of a series of fingers or bars framed together, and provided with series of rollers C having points or projections D around their faces, and arranged with their axis transverse to the fingers, substantially as shown and described. 2nd. In combination with flyer B of a printing press, friction rollers C arranged with their axis transverse to the bars of the flyer, and their surface provided with points or projections, substantially as shown and described. 3rd. The combination of cross-bar E attached to the bars of a printing press flyer, rod F adjustably connected to bar E, as at G, forked rods H adjustably connected to rod F, as at I, and rollers C pivoted within the forked end of rods H, substantially as shown and described.

**No. 22,114. Railroad Car Spring.**

(*Ressort de Char de Chemin de Fer.*)

Charles T. Schoen and Charles Scott, Philadelphia, Pa., U.S., 20th July, 1885; 15 years.

*Claim.*—1st. A graduated bolster spring for railroad cars, composed of a group of spirally-coiled bars placed side by side, and in which the spiral (or spirals) having the greatest bearing and carrying capacity is not acted on by the load till after the other and weaker spirals of the group have been brought into action, and in which all the spirals under a given pressure shall become solid at the same time, all substantially as set forth. 2nd. The combination, in a spring for a vehicle, of a number of spirals A and B situated separately in position, as described, and further arranged, as described, whereby a portion of the spirals come into action only after the other portion of spirals have been compressed the desired amount, the whole constructed, arranged and operating substantially as described. 3rd. The combination, in a spring for a vehicle, of a number of spirals A and B situated separately in position, as described, and further arranged, as described, whereby a portion of the spirals come into action only after the other portion of them have been compressed the desired amount, and further arranged so that all the spirals will come to a solid at the same time as shown, the whole constructed and arranged as described, substantially as and for the purposes set forth. 4th. The combination, in a graduated vehicle spring, of the lower

plate D having flange D<sub>r</sub>, spirals A and B, upper plate C having flange C<sub>r</sub>, the whole substantially as described. 5th. The combination, in a graduated vehicle spring, of the lower plate D having flange D<sub>r</sub> and projections e, f, spirals A and B and plate C having flange C<sub>r</sub> and projections e and f, the whole substantially as described.

**No. 22,115. Wire Netting Machine.**  
(*Machine à faire du Treillis en Fil de Fer.*)

Hiram S. Combs, Detroit, Mich., U.S., 20th July, 1885; 5 years.

*Claim.*—1st. In a wire netting machine, the combination, with one or more bobbins, each provided with a gear upon each end, of the arm H, substantially as described. 2nd. The combination, in a wire-netting machine, of two sets of slides E, E<sub>1</sub>, E<sub>2</sub>, E<sub>3</sub>, and two sets of rack-bars, D and D<sub>r</sub>, I and I<sub>1</sub> adapted to mesh with divided gears upon the bobbins, substantially as and for the purpose described. 3rd. The combination, with a series of bobbins having divided gears, of the sets of slides provided with two sets of rack bars adapted to mesh with said gears, said slides connected by eveners, substantially as described. 4th. The combination, with a series of bobbins having divided gears, of two sets of slides provided with two sets of rack bars adapted to meet with said gears, said slides connected by eveners, and in connection therewith mechanism for suitably holding said slides as the rack-bars are reciprocated, substantially as described. 5th. The combination, with the sets of slides E, E<sub>1</sub>, E<sub>2</sub>, E<sub>3</sub>, connected by eveners mounted upon a shaft H<sub>2</sub>, of an additional evener K mounted upon said shaft, and in connection therewith suitable locking arms J, J<sub>1</sub>, substantially as described. 6th. The combination, with a series of bobbins having divided gears, of two sets of slides, two sets of rack-bars adapted to mesh with said gears, said slides connected by eveners mounted upon a shaft, an additional evener K mounted upon said shaft, and a connection therewith, suitable locking arms, substantially as and for the purpose described. 7th. The combination, with a series of bobbins having divided gears upon each end, of two sets of slides E, E<sub>1</sub>, E<sub>2</sub>, E<sub>3</sub>, said slides, each provided with a rack-bar adapted to mesh with said gears upon opposite sides, and means for suitably holding said slides in a given position while the wire is twisted, substantially as described. 8th. In a wire-netting machine provided with a series of bobbins, having divided gears on each end, the slides E and E<sub>2</sub> located at one end of said bobbins, the slides E, E<sub>3</sub> at the opposite ends, said slides connected by eveners H and H<sub>1</sub>, mounted upon shaft H<sub>2</sub>, and one of the slides at the top and bottom of the bobbins provided with a slot e, the head-blocks adapted to slide in said slots, and the rack bars connected with said blocks, substantially as described. 9th. The combination, with a series of bobbins having divided gears, of two sets of slides forming the bearings of the divided gears, two sets of rack bars adapted to mesh with said gears, and in connection therewith the gears I and I<sub>1</sub> suitably mounted upon a shaft, and adapted to mesh with said rack bars, substantially as described. 10th. The combination, with two sets of slides E, E<sub>1</sub> and E<sub>2</sub>, E<sub>3</sub>, of the eveners H and H<sub>1</sub> mounted upon a shaft, said shaft provided with an evener K, mechanism for holding said slides from being reciprocated, while the wire is twisted, and in connection therewith gears I and I<sub>1</sub>, and rack bars with which said gears mesh, substantially as described. 11th. In a wire netting machine, provided with a series of bobbins having divided gears, the slides E and E<sub>2</sub> located at the upper end of said bobbins, the slides E<sub>1</sub> and E<sub>3</sub> located at the lower end of said bobbins, said slides forming the bearings of the bobbins and connected to eveners, and each provided with a rack-bar, one of said slides at the top and bottom provided with a slot e, and in connection therewith the rods C and C<sub>r</sub>, provided with suitable cross-heads secured to the rack-bars D and D<sub>r</sub>, the construction being such that said rack-bars may be caused to travel the length of the slot, and the slides to be then reciprocated, substantially as described. 12th. In a wire netting machine, the gear Q<sub>1</sub> mounted upon a suitable shaft, said shaft provided with two or more hubs, and the forks q<sub>1</sub>, carrying spools R, having bearings in said hubs, said bearings provided with cranks q<sub>2</sub> suitably secured upon a wheel S, said wheel having its bearings at a distance from the shaft of crank q<sub>2</sub> corresponding to the length of said crank, all constructed and arranged substantially as and for the purpose described. 13th. In a wire-netting machine, consisting of the combination, with a frame and suitable driving-gear, of a series of bobbins provided with half-gears at the ends of the bobbins, two sets of slides forming the bearings of said gears, said slides provided with two sets of rack-bars, mechanism for reciprocating said rack-bars and slides, mechanism for holding the slides while the rack-bars are partially reciprocated, and in connection therewith suitable mechanism for twisting two or more strands, the construction being such that as the slides are reciprocated the half-gears will be interchanged and the warp and the woof of the selvage be suitably netted together by the rotation of the bobbins, substantially as described. 14th. The combination, with a suitable frame, of a series of bobbins provided with half-gears at the ends of the bobbins, two sets of slides forming the bearings of said bobbins, said slides provided with rack-bars adapted to mesh with said divided gears at the top and bottom of the spindles, and in connection therewith suitable mechanism for reciprocating said slides and rack-bars, substantially as described.

**No. 22,116. Counter Scale.** (*Balance de Comptoir.*)

Jacob Ball, Waterloo, Ont., 20th July, 1885; 5 years.

*Claim.*—1st. The combination, with the weight beam B, of a scale, of the series of suspended weigh plates F, loosely connected together, whereby one or more will be lifted by the load tilting the scale beam, and the weight indicated on a dial by a pointer, as set forth. 2nd. The combination, with the scale beam B, having a series of weigh plates F loosely connected and hung thereto, of the weight R suspended therefrom, and means for raising the weight when not required, whereby the weight, when lowered, will increase the weighing capacity of the scale, as set forth.

**No. 22,117. Machine for Drawing and Spinning Hemp, etc.** (*Machines à Etirer et Filer le Chanvre, etc.*)

John Good, Brooklyn, N.Y., U.S., 20th July, 1885; 5 years.

*Claim.* 1st. The combination, with a spindle and flyer, and means for driving them, of a nipper through which a sliver may be passed, and which is attached to and adapted to rotate with the spindle and flyer, substantially as and for the purpose herein described. 2nd. The combination, with a non-rotating nipper through which the sliver is to be passed or drawn, of a spindle and flyer, means for driving them, and a second nipper attached to and adapted to rotate with the spindle and flyer, substantially as and for the purpose herein described. 3rd. The combination, with a non-rotary nipper through which the sliver is to be passed or drawn, and a stationary support upon which the sliver is to be passed or drawn, of a spindle and flyer, means for driving them, and a second nipper attached to and adapted to rotate with the spindle and flyer, substantially as and for the purpose herein described. 4th. The combination, with a non-rotary nipper through which the sliver is to be passed or drawn, of a spindle and flyer, means for driving them, and a second nipper attached to and adapted to rotate with the spindle and flyer, and forming the extremity thereof, substantially as and for the purpose herein described. 5th. The combination, with a non-rotary nipper through which the sliver is to be passed or drawn, and which has its jaws at its rearmost extremity from which the sliver issues, of a spindle and flyer, and means for rotating them, and a second nipper attached to the spindle and flyer to rotate therewith, and having its fixed and movable jaws at its forward end in close proximity to the jaws of the non-rotary nipper, substantially as and for the purpose herein described. 6th. The combination, with a non-rotary nipper and flyer, and means for driving them, and a second nipper having the jaws at the forward end, and having a pivotal connection with the flyer, whereby its forward end is made self-adjusting, substantially as and for the purpose herein described. 7th. The combination, with the nipper stock G<sup>\*</sup> having the transverse and longitudinal notches  $\rho^6$ ,  $\rho^7$  of the movable jaw  $\rho^8$  entering the stock  $\rho^9$ , and the spring  $\rho^{11}$ , pivotally connected with the stock at one end and at the other end bearing on said movable jaw, substantially as herein described. 8th. The combination, with the nipper stock G<sup>\*</sup>, having the transverse and longitudinal notches  $\rho^6$ ,  $\rho^7$ , of the movable jaw and its shank  $\rho^8$ , the arm  $\rho^9$  pivotally connected at its ends with the stock and at the other end bearing on the movable jaw, substantially as herein described. 9th. The combination, with the trumpet-mouth  $\eta$  having the jaw-holder  $\eta^1$  at its delivery aperture, of the fixed jaw  $\eta^2$ , secured in said holder, the movable jaw  $\eta^3$  pivoted in the fixed jaw, the lever  $\eta^9$  bearing on said movable jaw, a spring acting upon said lever, and a support for said spring, all substantially as herein described.

**No. 22,118. Machine for Drawing and Spinning Hemp, etc.** (*Machine à Etirer et Filer le Chanvre, etc.*)

John Good, Brooklyn, N.Y., U.S., 20th July, 1885; 5 years.

*Claim.*—1st. The combination, with two or more spindles and fliers, arranged one above another, and means for driving them, of a catenary series of upright bars, each having laterally projecting arms or brackets arranged one above another, and provided with gill-pins, for presenting two or more slivers to the spindles, and means for operating said series of bars, substantially as herein described. 2nd. The combination, with two vertical tiers of spindles and fliers, arranged side by side, a common driving shaft and mechanism operated by said shaft, for driving the spindles and fliers of both tiers, of two catenary series of upright bars, provided with laterally projecting brackets armed with gill-pins, and mechanism for operating said two series of bars, substantially as herein described. 3rd. The combination, with two or more spindles and fliers, arranged one above another, and means for driving said spindles and fliers, of a catenary series of upright bars armed with gill-pins, endless chains connecting said bars, and arranged to operate in horizontal planes, and upright shafts, and chains or sprocket-wheels, and means of operating the said wheels to give motion to said chains and bars, substantially as herein described. 4th. The combination, with two or more spindles and fliers, arranged one above another, and means for driving said spindles and fliers, of a series of upright bars armed with gill-pins, endless chains connecting said bars, and in which said bars are movable vertically, means for driving said chains and bars, and a track or way for the lower ends of said bars in their direct or forward movement, having at one end an incline for lifting said bars to raise their pins into the slivers, and at the other end a drop permitting said bars to fall in order to withdraw their pins from the slivers, substantially as herein described. 5th. The combination, with two or more spindles or fliers, arranged one above another, and means for driving them, of a series of upright bars armed with gill-pins, endless chains connecting said bars, and in which said bars are movable vertically, means for operating said chains, the direct and return tracks or ways  $h^3$ ,  $h^4$ , the former provided with the upward incline  $h^{3*}$  at one end and the drop  $h^3$  at the other end, substantially as herein described. 6th. The combination, with two or more spindles and fliers, arranged one above the other, and means for driving them, of a series of upright bars armed with gill-pins, endless chains connecting said bars, and in which the bars are movable vertically, means for operating said chains, the track or way  $h^3$ , comprising the incline  $h^{3*}$  at one end and the drop  $h^3$  at the other end, and the upper guide  $h^2$  comprising the inclined cam-like portion  $h^{2*}$ , substantially as herein described. 7th. The combination, with two or more spindles and fliers, arranged one above another, and means for driving them, of a series of upright bars with gill-pins, and provided at their lower ends with horizontally-extending toes or cam-like portions, endless chains arranged in horizontal planes and connecting said bars, means for operating said chains and bars, and a track or way receiving the toes or cam-like portions on the said bars, and serving to prevent the turning of the bars during their direct movement, substantially as herein described. 8th. The combination, with two or more spindles and fliers, arranged one above another, and means for driving them, of a series of upright bars armed with gill-pins, endless chains connecting said bars, and composed of links  $h^{1*}$ , having male and female eyes fitted to each other and open at the sides to enable them to be slipped laterally on said bars, means for operating said chains, and tracks or ways supporting the lower ends

of said bars, substantially as herein described. 9th. The combination, with two or more spindles and fliers, arranged one above another, and means for driving them, of a series of upright bars armed with gill-pins, endless chains connecting said bars and arranged to work in horizontal planes, upright shafts and chain wheels for supporting and operating said chains, means of giving motion to said upright shafts and supporting rails for the chains between said chain wheels, substantially as herein described. 10th. The combination, with spindles and fliers, arranged in upper and lower groups, forming two vertical tiers, means for driving the spindles, pulleys on the fliers, a driving shaft and pulley for the fliers, and two belts, one passing around the pulley on the driving-shaft and the pulleys of the upper group of fliers, and the other passing around the pulley on said shaft and the pulley of the lower group of fliers, of two catenary series of upright bars armed with gill-pins, and means for operating the two series of bars to present slivers to the spindles and fliers in the two vertical tiers, substantially as herein described. 11th. The combination, with a spindle stand, composed of upright frames and longitudinal rails or stretchers, two vertical tiers of spindles and fliers journaled in said stand, and means for driving the spindles and fliers, of a chain stand, also composed of end standards and longitudinal rails or stretchers, two series of upright bars armed with gill-pins, and endless chains connecting said bars, both arranged and supported in said chain stand, means for operating said series of bars, and their chains and braces connecting the spindle stand and chain stand, substantially as herein described.

**No. 22,119. Spindle and Flier used in Spinning Rope Yarns, etc.** (*Broche et Volant employés dans le Filage des Fils à Cordage, etc.*)

John Good, Brooklyn, N.Y., U.S., 20th July, 1885; 5 years.

*Claim.*—1st. The combination, with a spindle and flier and means for driving them, of a ring-traveller having bearings fitted to slide along the longitudinal rods or side bars of the flier, and interposed springs for permitting them to yield outward or away from each other, a yarn-guide upon the traveller, and mechanism for reciprocating said traveller along the flier, substantially as herein described. 2nd. The combination, with a spindle and flier comprising parallel rods or longitudinal stretchers, and means for driving them, of a divided or sectional traveller fitted to slide upon said rods or stretchers, and provided with a yarn-guide, and means for reciprocating said traveller along the rods or stretchers of the fliers, substantially as herein described. 3rd. The combination, with a spindle, a flier comprising parallel rods or stretchers and means for driving them, of a ring traveller fitted to slide upon said rods or stretchers, provided with a yarn guide and composed of sections, springs opposing a yielding resistance to the spreading of the sections, and means for reciprocating the traveller along said rods or stretchers, substantially as herein described. 4th. The combination, with a spindle, a flier comprising rods  $A_2$ , and means for driving the spindle and flier, of the ring traveller  $E$ , composed of sections generally provided with sockets  $g$ , and ears  $g_1$ , bolts  $g_2$  and springs interposed between the bolts or nuts and lugs or ears, a traverse guide on the traveller, and means for reciprocating the traveller along said rods  $A_2$ , substantially as herein described. 5th. The combination, with a flier, a spindle extending through the flier and having bearings in opposite ends of the flier and spindle, of a bobbin coupling consisting of a sleeve fitting the spindle, and made of a length to fill the flier beyond the space required for a bobbin, and provided with a radial arm for engagement with a bobbin, and a locking-bolt whereby the sleeve is connected with the spindle, the said coupling serving to lock the bobbin to the spindle to prevent lengthwise movement of the bobbin and lengthwise movement of the spindle, substantially as herein described. 6th. The combination of the spindle  $B$ , the flier having the hollow journal  $a$  receiving the spindle through it, the pulley  $c$  fast on said journal, the pulley  $c_1$  loose on said journal and locked to the spindle by ears or lugs, and notches  $c_2$   $c_3$ , the bobbin-coupling  $C$ , the pin or catch  $b_2$  serving to lock said coupling to the spindle, to lock the spindle against longitudinal movement, and to hold the spindle-driving pulley  $c_1$  on the flier journal  $a$ , a traveller movable lengthwise of the flier and provided with a yarn-guide, and means for reciprocating said traveller, substantially as herein described. 7th. The combination, with a spindle and flier, and means for driving them, of a capstan head  $D$ , a capstan barrel having its axis transverse to the axis of the spindle, and means for rotating said barrel, and the separate or guard-plate  $f$ , secured in fixed position to the capstan-head  $D$ , and constructed and arranged as described, and serving to separate the yarn on the barrel from the portion of yarn passing on to the barrel, substantially as herein described. 8th. The combination, with two or more spindles and fliers arranged parallel with each other, and means for driving them, of travellers, each provided with a yarn-guide and movable lengthwise of the several fliers, a traverse screw parallel with said spindles, connections through which the said travellers are reciprocated along their respective fliers by the operation of the traverse screw, and means for rotating said screw, substantially as herein described. 9th. The combination, of a group of parallel spindles and fliers, and means for driving them, of ring travellers movable along said fliers, and each provided with a yarn-guide or guide-rod arranged centrally in the group of spindles and fliers and parallel therewith, a circular rotary head on said guide-rod with which said travellers are engaged, and means for reciprocating said head and through said head the travellers of the several fliers, substantially as herein described. 10th. The combination, with a traverse screw and means for rotating it, of a carriage movable along said screw by its rotation, two circular heads connected with said carriage, and guides parallel with said screw, and along which said heads are reciprocated by the movement of said carriage, two or more spindles and fliers arranged adjacent to and parallel with each of said guides, means for driving said spindles and fliers, and travellers movable lengthwise of the fliers, and each provided with a yarn guide, the two or more travellers on the fliers, which are adjacent to each guide engaging with the head upon that guide, substantially as herein described.

**No. 22,120. Machine for Rolling Metals and Dies therefor.** (*Machine à Laminer les Métaux et Etampe pour cet objet.*)

George F. Simonds, Fitchburg, Mass., U.S., 21st July, 1885; 5 years.

*Claim.*—1st. A fixed bearing bed or frame, provided with grooves to support a movable platen, and a vertically-adjustable moving frame, provided with grooves to sustain a movable platen, in combination with the platens  $B, F$ , constructed substantially as and for the purpose set forth. 2nd. The yoke  $E$ , provided with grooves or recesses  $12, 12'$ , in combination with the vertically adjustable carriage  $E$ , provided with overlapping plates  $e, e'$ , and platen  $F$ , substantially as and for the purpose described. 3rd. In a metal rolling machine, two oppositely reciprocating platens  $B, F$ , provided with central longitudinal rack bars, in combination with a stationary supporting frame, a movable supporting frame, and two axle  $d$ ,  $d'$  carrying central pinions  $e_1, e_1'$ , and rollers  $10, 11, 13$  and  $14$ , all constructed, arranged and operated as set forth. 4th. The platens  $B, F$  and their operating mechanism, and the carriage  $E$ , provided with pillow block  $k$ , in combination with the yoke  $D$  and screw  $D_1$ , all constructed, arranged and operated as described. 5th. Dies, adapted to form metal articles circular in cross-sectional area, with the working parts raised upon a plane surface, and provided with forming surfaces running in line with the movement of the die, to give the shape required, and diverging, reducing and spreading surfaces, to force the metal laterally, substantially as described. 6th. Dies, adapted to form metal articles circular in cross-sectional area, having forming surfaces to give the shape required, and reducing and spreading surfaces to force the metal laterally, provided with corrugations or irregularities to engage the mass of metal and insure its rotation, substantially as set forth. 7th. Dies for making articles of circular cross-sectional area, substantially as described, having the general conformation of their working faces relieved, as shown, for the purpose set forth. 8th. Dies for making articles of circular cross-sectional area, having cross grooves, corrugations or irregularities  $d_1, n_1$ , partially crossing the spreading and reducing faces, substantially as described. 9th. In combination with a rolling and forging machine, substantially as described, the extensible standards,  $40, 41$ , provided with rollers or sheaves  $42$ , substantially as set forth. 10th. The method of making irregular metallic articles, circular in cross-sectional area, consisting in shaping them at one operation, and subsequently smoothing the surface and condensing the metal as it cools, the heated blanks and articles, during the operation, being rotated on their stationary axis, substantially as described. 11th. Irregular wrought metallic forgings circular in cross-sectional area, condensed, smoothed and finished in lines circumferential to their axis, as set forth.

**No. 21,121. Bar for Securing Doors and Shutters.** (*Barre pour fermeture de Porte et de Contrevent.*)

Charles H. Knauer, Thornixville, Penn., U.S., 21st July, 1885; 5 years.

*Claim.*—1st. The combination of a swinging or pivoted locking-bar, with keepers of different heights, the bar being adapted to have both a swinging, sliding and rising and falling movement, substantially as shown. 2nd. The combination of the pivoted locking-bar, which is pivoted upon the door, or door's frame or window frame, with a keeper which is secured to the door or shutter, and by means of which the locking-bar is carried back and forth, substantially as shown. 3rd. The combination, with the pivoted locking bar, of suitable keepers, and a lock provided with a bolt, which engages with a suitable catch upon the locking-bar, for the purpose of locking the bar in position, substantially as set forth. 4th. The combination of the pivoted locking-bar, having a catch extension, or other device formed upon its lower edge, with the keepers of different heights, and a lock provided with a hook-bolt which engages with the catch upon the lower edge of the locking bolt, substantially as shown.

**No. 22,122. Rotary Motor Actuated by Elastic Fluid Pressure, as a Pump.** (*Moteur Rotatoire mu par la Pression d'un Fluide Élastique, pouvant aussi servir de Pompe.*)

The Honourable Charles A. Parsons, Gateshead-on-Tyne, Eng., 21st July, 1885; 5 years.

*Claim.*—1st. An inner cylinder, having parallel rows of projecting blades on the periphery thereof, each row being in plane perpendicular to the axis of the cylinder, and each blade being inclined to the axis of the cylinder, and an outer hollow cylinder enclosing said inner cylinder and concentric therewith, one of said cylinders being a rotary one, said outer cylinder being provided on its inner surface with parallel rows of inwardly projecting blades, each row being in a plane perpendicular to the axis of the cylinder, and each blade being inclined to the axis of the cylinder, and in a direction opposite to the inclination of the blades on the inner cylinder, the rows of blades on the two cylinders being so related that they intermesh, in combination with fluid inlet and discharge passage located at opposite ends of said cylinder, substantially as set forth, whereby the current of the fluid is between the two cylinders in a direction parallel, or substantially parallel with the common axis of the cylinders. 2nd. A single inner shaft or cylinder, having two distinct sets of parallel rows of projecting blades on the periphery thereof, each row being in a plane perpendicular to the axis of the cylinder, and a hollow outer cylinder enclosing said inner cylinder and concentric therewith, one of said cylinders being a rotary one, said outer cylinder having on its inner two distinct sets of parallel rows of inwardly projecting blades, each row being in a plane perpendicular to the axis of the cylinder, and each blade being inclined to the axis of the cylinder in a direction opposite to the inclination of the blades on the inner cylinder, and the rows of blades on the two cylinders being so related that they intermesh in combination with a fluid inlet pas-



sage located centrally in relation to the length of the cylinders, and between the two sets of blades on the cylinders, and fluid discharge passages at the opposite ends of said cylinders, substantially as set forth, whereby the current of the fluid is from the centre in opposite directions to the two ends of the cylinders, thereby balancing the end pressure of the cylinders. 3rd. In a compound motor, the rotating cylinders provided with the sets of fixed blades, increasing in depth by sets from the entrance of the actuating fluid, and set at a greater angle at said entrance than at the exhaust, in combination with the casing provided with the blades inclined in opposite direction to the blades on the rotating cylinders, substantially as and for the purpose described. 4th. In a motor, the combination of a hollow cylinder or cylinders furnished with blades on its or their interior, a moving cylinder or cylinders having external blades, and mounted on a shaft to rotate within said hollow cylinder or cylinders, and bearings for said shaft having slight lateral play or elasticity, combined with frictional resistance to such play in such a manner as to enable the moving cylinder or cylinders to rotate about its or their centre of gravity or principal axis, instead of its or their geometrical centre or axis (if the centre of gravity and geometrical centre be nearly coincident) and to cause the vibration to which the cylinder or cylinders may be subjected to be damped or modified, substantially as described. 5th. In a motor, the combination of a hollow cylinder or cylinders furnished with blades on its or their interior, a moving cylinder or cylinders having external blades, a shaft on which said moving cylinder or cylinders is or are mounted, and elastic bearings, each comprising a bush and friction rings or washers pressed tightly together by a spring or springs in such a manner that the bush is capable of slight lateral movement, resisted and controlled by the friction rings or washers, as described and illustrated for the purpose specified. 6th. In a motor, wherein a moving cylinder or cylinders, carrying blades on its or their interior, is or are mounted on a shaft to rotate within a hollow cylinder or cylinders, also furnished with blades, the use of a centrifugal or screw pump, mounted directly upon the motor shaft for forcing lubricant or cooling fluid to the parts to be lubricated or cooled, substantially as described. 7th. In a motor, wherein a moving cylinder or cylinders, carrying blades on its or their exterior, is or are mounted on a shaft to rotate within a hollow cylinder or cylinders, also furnished with blades wherein a pump that will not lift is employed to circulate lubricant or cooling fluid, the use of a suction fan to raise the level of such lubricant or cooling fluid in the return or suction pipe or chamber, and enable the circulating pump to start and to keep in action, substantially as described. 8th. In a motor, wherein a moving cylinder or cylinders, carrying blades on its or their exterior, is or are mounted on a shaft to rotate within a hollow cylinder or cylinders, also furnished with blades, a regulator for regulating the speed of the motor, comprising suction fan mounted on the motor shaft, a diaphragm, a throttle valve with spindle connected to said diaphragm, and a spring, the arrangement being such that by the action of said fan said diaphragm is caused to operate in one direction, in opposition to said spring in such a way as to open or close or alter the position of throttle valve, as described, for the purpose specified. 9th. A motor (or pump) comprising two compound or built up cylinders with blades *b, b1, b2*, a casing *c*, blades *f, f1, f2* fixed within said casing, central inlet *g*, exhaust passages *h, h1*, shaft *i*, bushes *t*, metal rings or washers *k, k1*, spiral springs *l*, nuts *m, m1*, drain passages *o, o1*, ejector or steam nozzle *p*, exhaust pipe *q*, chamber *r*, pump *r1*, pipes *r2, r3, r4*, junction piece *r5*, fan *t* with holes *u, u1*, cavity *v*, a diaphragm rod *w2*, arm *w3*, spindle *w4*, collar or nut *ves*, spring *wo* and graduated tap *w1*, all substantially as described and illustrated. 10th. A pumping engine, comprising a single shaft with cylinder *a* and fans or blades *b, b1, b2*, and surrounding cylinder or case *c*, with fans or blades *f, f1, f2*, and inlet and outlet for actuating fluid, and on the same shaft another cylinder *a* with fans or blades *b, b1, b2*, surrounded by an enclosing cylinder or case *c*, with fans or blades *f, f1, f2*, inlet and outlet, the arrangement being such that by means of actuating fluid admitted between the first-named cylinder *a* and its enclosing case or cylinder *c*, said shaft is rotated, thus causing the secondly-mentioned cylinder *a* with its blades *b, b1, b2*, to rotate within its enclosing cylinder or case *c* and act as a pump, substantially as described.

### No. 22,123. Microphone. (*Microphone.*)

Kazimir S. Dembinski, Brussels, Belgium, 21st July, 1885; 5 years.

*Claim.*—1st. A telephone comprising three or four horse-shoe magnets B, the extremity of whose branches cross each other alternately, about twenty millimetres and which are connected with two soft iron rods E, each bearing a bobbin F, round which fine wire is wound in the same direction, in combination with a diaphragm N of tin plate or ferrotypic close to the bobbins F, a wooden box bearing an ear trumpet Q, or a flexible tube provided with an ear trumpet, and line circuit, arranged substantially as described. 2nd. In a telephone, in combination with bobbins F a brass ring K bearing the diaphragm, and the four pressure screws L, L, M, M, arranged, substantially as described, for determining the distance of the diaphragm from the bobbins. 3rd. A telephone formed of a tube widened at both ends, and containing a straight magnet terminated by two thinner parts of soft iron each bearing a coil wound with fine wire; near each of these coils a diaphragm of tin plate or ferrotypic, and a flexible tube or tubes terminating with a funnel, for the purpose above referred to. 4th. A bell consisting of a commutator of eight laminae as above described, an induction coil combined with an ordinary magnet-bell consisting of oscillating armature, such as described and represented. 5th. An induction coil consisting of a primary wire, of an uneven number of helices (or at least three) without insulating bonds between the helices, and of a secondary wire separated from the latter by a sheet of letter paper, the number of helices of the secondary wire being a multiple of the number of helices of the primary wire, each of these wires entering on one side of the coil and taking exit on the opposite side, substantially as set forth. 6th. In an induction coil, primary and secondary wires L, and B passing through the cheeks of the coil, so as to avoid the wire from knotting itself, the entry and exit of the wires on the two opposite sides of the coil being set forth, consisting of an induction coil, one or more vibrating drawers comprising longitudinal and transverse carbons 12, 13, and

vibrating strings 16, the whole arranged in a box bearing also vibrating strings 16, and acting as do each of the drawers as boxes of resonance. 8th. In combination with a microphone box having desk top as shown, vibrating cords arranged upon the bottom of said box, and one or more drawers or frames supported above said cords each drawer containing microphone devices and vibrating cords, substantially as and for the purpose set forth. 9th. In combination with drawers in a microphonic, longitudinal and transverse carbons or platinum rods joined by means of semi-circular recesses cut into the former and in which the latter lie loosely. 10th. In combination with drawers forming resonance boxes, the lids thereof carrying series of vibrating strings, each of which gives a different note corresponding to the complete or partial scale. 11th. In combination with a resonant box for microphones, a layer of petroleum lamp black or other form of carbon applied for the purpose of increasing the resonance. 12th. In combination with a resonant box for microphones, metallic vibrating strings arranged spirally, substantially as and for the purpose set forth. 13th. The use, in the described apparatus, of one or more induction coils formed of a wire of one millimetre, and of a wire of one-twelfth of a millimetre of diameter. 14th. In combination with a resonance box in a microphone, one or more steel combs arranged therein, capable of giving all the notes of the chromatic scale, substantially as set forth.

### No. 22,124. Bolting Cloth and Means of Manufacturing the same. (*Etamine et Moyens de la Fabriquer.*)

Silas O. Brigham, New York, N.Y., U.S., 21st July, 1885; 5 years.

*Claim.*—1st. The herein described method of cementing a binding cloth C to a bolting or sifting fabric A, which consists essentially in placing the said parts in their relative positions with a suitable cementing material between, and then subjecting the same to compression between coincident flat or substantially flat surfaces, in such manner as to exert a substantially uniform pressure thereon over more or less considerable areas thereof, substantially as and for the purpose herein set forth. 2nd. As a new article of manufacture, flatly compressed binding cloth C, layer B of india rubber or equivalent material, and sifting cloth or fabric A, the whole arranged and united substantially in the manner and for the purpose herein set forth.

### No. 22,125. Grain Binding Harvester.

(*Moissonneuse Lieuse.*)

The Toledo Mower and Reaper Company, (Assignee of John S. Davis,) Toledo, Ohio, U.S., 21st July, 1885; 5 years.

*Claim.*—1st. The combination of the binder frame sills having upturned ends, and the brace bar by which the inner sill is stiffened, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the binder-frame sills having upturned ends, and the inclined brace connecting the upturned front end and horizontal portion of the outer sill, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the main frame, the rigidly united grain-platform frame, finger-beam, and binder-frame having pointed connection with the main frame, and at its rear, and the castu wheel at the rear of the binder frame, substantially as and for the purpose hereinbefore set forth. 4th. The combination of the driving wheel, the main frame, the rigidly united grain platform, finger beam, and binder frame having pointed connection with the main frame at its rear, and the caster wheel at the rear of the binder frame following directly in the path of the driving wheel, substantially as and for the purpose set forth. 5th. The combination, substantially as hereinbefore set forth, of the main frame, the freely pivoted tongue, the rigidly united binder frame, grain-platform frame, and finger beam having pointed connection with the main frame at its rear the castu-wheel supporting connection with the main frame at its rear, and means for vertically adjusting the grain platform frame, binder frame and finger beam, by rocking them about their pointed connection with the main frame and rendering them rigid therewith against toward flexure, for the purpose described. 6th. The combination of the main frame, its rearwardly projecting arms, the racks secured to said arms, the binder frame having jointed connection with the main frame arms in rear of the racks, the pinions engaging the racks, their shaft supported by the binder frame, and means for turning and dogging the shaft, substantially as and for the purpose hereinbefore set forth. 7th. The combination of the main frame, the rearwardly projecting arms the racks secured to said arms, the rigidly united binder frame and finger beam having jointed connection with the main frame arms, their shaft supported by the binder frame, the ratchet on the shaft, the dogging pawl, and the lever with its pawl, for actuating the ratchet, substantially as and for the purpose hereinbefore set forth. 8th. The combination of the binder frame sills upturned at their front ends, the main frame with the rearwardly-projecting arms with which the sills have pivoted connection, the adjusting shaft, its ratchet, the dogging-pawl and the inclined brace by which the end of the outer sill is relieved of strain by the thrust of the dogging-pawl, substantially as and for the purpose hereinbefore set forth. 9th. The combination, substantially as hereinbefore set forth, of the driving-wheel, the axle, the rocking main frame, the freely-pivoted tongue, the binder frame having jointed connection at its front directly with the main frame at its rear, the caster wheel supporting the rear end of the binder frame, and adjusting mechanism by which to rock the binder frame about its jointed connections with the main frame and render it rigid therewith against downward flexure while leaving it free to flex upward, for the purpose described. 10th. The combination, substantially as hereinbefore set forth, of the rocking main frame, the binder-frame having pointed connection at front with the rear of the main frame, adjusting mechanism for raising and lowering the binder frame at front and rendering it rigid with the main frame against downward flexure, the caster wheel at the rear of the binder frame, and means for vertically adjusting the binder frame, at rear, for the purpose described. 11th. The combination, substantially as hereinbefore set forth, of the main frame, the rigidly united finger beam, platform frame, and binder frame at its rear, adjusting mechanism for working the finger beam,

platform frame, and binder frame about their jointed connection with the main frame and rendering them rigid therewith against downward flexure, and means for supporting and vertically adjusting the binder frame at rear, for the purpose described. 12th. The combination of the binder frame sills having upturned rear ends, the guide way bracket plates, the caster wheel support having guide ribs and racks, the pinions engaging the racks, their shaft, the ratchet thereon, and its dogging pawl substantially as and for the purpose hereinbefore set forth.

**No. 22,126. Machine for Extracting and Saving the Gold in Pulverized Ores and Auriferous Sands or Gravels.** (*Machine pour Extraire et Sauver l'Or des Minerais Pulvérisés et des Sables ou Graviers.*)

Jacob L. Hayward, Framingham, Mass., Thomas C. Simonton and Thomas C. Simonton, Jr., Paterson N.X., 21st July, 1885; 5 years.

*Claim.*—1st. In a tank, the bottom or bottoms or valley A, in combination with the supply pipe B, false bottom C and conveyor K, to run through the entire length of the valley, having spaces between the sides of each valley, and the supply pipe B, to admit of the free discharge of mercury as may pass through the longitudinal spaces c, c, into the true bottom A beneath, substantially as and for the purposes hereinbefore set forth. 2nd. In a tank, the false sides T, T, to run the whole length of the tank, so as to divide the tank into two valleys, in combination with false bottoms C, C, supply pipes B, rock shafts E, arms F and fingers G having a common bottom A beneath, supplied with conveyor K, stop cock U, steam jet pump W and pipe X substantially as and for the purposes hereinbefore set forth. 3rd. The supply pipes B, with orifices or jets D on their upper surface, running lengthwise through the tank near the bottom thereof, substantially as and for the purposes hereinbefore set forth. 4th. The false bottom C, so arranged as to leave longitudinal spaces or openings c, c between its outer edges and the sides or valleys of the tank, in combination with the tank 2, substantially as and for the purpose hereinbefore set forth. 5th. The conveyor K, in combination with false bottom C, supply pipe B, orifices D and true bottom H, substantially as and for the purposes hereinbefore set forth. 6th. The rock shaft E, arms F and fingers G, in combination with tank 2, supply pipe B, orifices or jets D and false bottom C, substantially as and for the purposes hereinbefore set forth. 7th. The combination of the bearings of the friction wheels S resting on springs N, the projections M on the trunnions of the cylinder 1, cylinders 1 and tank 2, substantially as and for the purposes hereinbefore set forth. 8th. The steam jet pump W, pipe X, stop cock U, in combination with the true bottom A and conveyor K, substantially as and for the purposes set forth. 9th. The combination of tank 2, cylinder 1, tailing tank P, opening o, bottom A false bottom C, pipe B, orifices D, conveyor K, rock shaft E, arms F fingers G, settling tank O, provided with arms a, a, substantially as and for the purposes hereinbefore set forth.

**No. 22,127. Carriage Top.** (*Couverture de Voiture.*)

William McConnell and Albert Fell, (Assignees of Benson Simmons,) Laconia, N.Y., U.S., 21st July, 1885; 5 years.

*Claim.*—1st. The combination, with a carriage top, of a hood or covering attached to the back of the same, and provided with flaps which may be connected to the sides of the bows, substantially as set forth. 2nd. The combination, with a carriage-seat, the back of which is provided with uprights connected by a transverse brace, of the folding top connected pivotally to the side rails of the seat, and a hood or cap secured to the upper edge of the said brace and having flaps adapted to be connected to the sides of the said bows, substantially as set forth.

**No. 22,128. Mechanism for Actuating Grain Binders.** (*Mécanisme de Liense à Grain.*)

The Toledo Mower and Reaper Company, (Assignee of John S. Davis,) Toledo, Ohio, U.S., 22nd July, 1885; 5 years.

*Claim.*—1st. The combination of the main gear, its clutch mechanism, the thrust bar provided with the stop shoulder, and the guide bracket against which the shoulder acts to limit the inward movement of the thrust bar, substantially as hereinbefore set forth. 2nd. The combination, substantially as hereinbefore set forth, of the thrust bar, the clutch mechanism of the main gear provided with the long edge rib acting upon the thrust-bar, for the purposes described. 3rd. The combination, substantially as hereinbefore set forth, of the thrust bar, the gear provided with the long edge rib acting on the thrust bar, and the locking and tripping lever of the clutch mechanism of the main gear acted upon by the thrust bar, for the purpose described. 4th. The combination of the main gear, its tubular stud shaft provided with the notched flange, the frame having the guide way recess and the seat against which the flange of the stud shaft bears, and the securing bolts and nuts, substantially as and for the purposes hereinbefore set forth. 5th. The combination, substantially as hereinbefore set forth, of the main gear the spring actuated lever by which the gear is positively locked when in its operative position, and the thrust bar for said tripping lever, for the purpose described. 6th. The combination of intermittently actuated main gear having the notch in its rim and the shoulder at the side thereof and the spring actuated locking and tripping lever, substantially as and for the purpose hereinbefore set forth. 7th. The combination, substantially as hereinbefore set forth, of the main gear, its clutch bolt, the controller by which the clutch bolt is positively held when at rest and positively projected and retracted, and the locking and tripping lever which positively holds the main gear when in its operative position and actuates the controller of the clutch-bolt, for the purpose described. 8th. The combination of the main gear, the clutch-bolt provided with the pin passing through a slot in the main gear, and the sliding controller provided with the curved ribs for acting on the pin of the clutch bolt, substantially as and for the purpose hereinbefore set forth. 9th. The sliding controller for the clutch

bolt, provided with the curved rib R and the shorter curved rib, R<sub>1</sub>, inclined at its end, substantially as and for the purpose hereinbefore set forth. 10th. The combination of the compressor rock shaft, the main gear and its attachments, by which the rock shaft is yieldingly actuated, substantially as and for the purpose hereinbefore set forth. 11th. The combination, with the main gear, of the cam ended rib provided with the spring, substantially as and for the purpose hereinbefore set forth.

**No. 22,129. Wire Twisting Machine.** (*Machine à Tordre le Fil de Fer.*)

Himan Frank, Alexander Elkan and Bernard Laude, New York, N.Y., U.S., 22nd July, 1885; 5 years.

*Claim.*—1st. In a wire twisting machine, the combination, with a rotating wire carrier, and means, substantially as described, for causing it to periodically change its direction of rotation, of a reciprocating feeding device, constructed and operated to draw the wires through the revolving head, which said head is revolving in both directions, as set forth. 2nd. In a wire twisting machine having a revolving head constructed to twist the strands in opposite directions in the adjacent sections of the twisted band, the combination therewith of a reciprocating feeding device provided with a stud which passes between the strands in close proximity to the revolving head of the machine, whereby eyes are formed in the twisted wires at the junctures of the opposite twists, substantially as set forth. 3rd. A feeding device for drawing the strands of wire through the revolving head of a wire twisting machine, composed of the following elements in combination: a sliding block, a bent lever arm pivoted thereto, and provided with a stud at its gripping end, two stops in the block, between which the lower end of the arm plays, and actuating mechanism connected to the lower end of the arm, by which the arm is caused to rock on its pivot, and then, with the block, is reciprocated, substantially as and for the purpose set forth. 4th. The combination, with a revolving head constructed to carry two or more wire stands in separate passages formed through it, and means for causing said head to periodically change its direction of rotation, of a holding and feeding device opposite one end of it, to hold and feed the strands forward as they are twisted, and a guide opposite the other end of the head at sufficient distance therefrom, so that the strands are not injuriously affected by the reverse twists imparted to them between it and the head, as the head revolves in the opposite directions, substantially as set forth. 5th. In a machine for making twisted wire bands having eyes formed therein by outward bends of the strands, of which it is composed, and having the twist in opposite directions on the opposite sides of each eye, the combination of a revolving head, a reciprocating feeding device provided with a holding stud to form the eyes and operating mechanism, substantially as described, whereby the head is rotated in one direction, while the feeding and holding device is moved to draw the wire strands through it, is brought to rest and stops while the feeding device moves back for a fresh grip, and is then rotated in the opposite direction as the feeding device again acts to draw the strands through it, and is then brought to rest while the feeding device again moves back for a fresh grip, and so on. 6th. In a wire twisting machine, in combination, the revolving head a, a<sub>1</sub>, a<sub>2</sub>, the sliding block j, the bent arm l, l<sub>1</sub>, pivoted thereto, the stud m in the arm l<sub>1</sub>, and the stop pins l<sub>1</sub> and j<sub>2</sub>, substantially as set forth. 7th. In a feeding device for wire twisting machines, in combination, the sliding block j, the stop pins j<sub>1</sub>, j<sub>2</sub>, the bent arms l, l<sub>1</sub>, the stud m, and the stripping plate p, substantially as set forth. 8th. In a wire twisting machine, in combination, the revolving head, a, a<sub>1</sub>, a<sub>2</sub>, the ring guide q opposite the entrance end of the head, and the reciprocating feeding device j, l, l<sub>1</sub>, m, opposite the other end, and mechanism, substantially as described, for actuating the revolving head and feeding device in unison, as set forth. 9th. In a combination, the revolving head a, a<sub>1</sub>, a<sub>2</sub>, the bevel wheel c and d, the pinion e, the segmental gear f, provided with the stud j<sub>3</sub>, the crank pin g, of the wheel g<sub>1</sub> on the main shaft h, and the connecting rod j<sub>2</sub> slotted at one end, substantially as and for the purpose set forth. 10th. In combination, the sliding block j, provided with the stop pins j<sub>1</sub>, j<sub>2</sub>, the bent arm l, l<sub>1</sub>, provided with the stud m, the link n<sub>1</sub>, the slotted lever n, and the crank pin o on the shaft of wheel g<sub>1</sub>, driven by the wheel g<sub>1</sub> of the main shaft h, substantially as and for the purpose set forth. 11th. In combination, the revolving head a, a<sub>1</sub>, a<sub>2</sub>, the bevel wheels c and d, the pinion e, the segmental gear f, provided with the stud j<sub>3</sub>, the crank pin g, of the wheel g<sub>1</sub> on the main shaft h, the connecting rod j<sub>2</sub>, slotted at one end, the sliding block j, provided with stop pins j<sub>1</sub>, j<sub>2</sub>, the bent arm l, l<sub>1</sub> provided with the stud m, the link n<sub>1</sub>, the slotted lever n, the crank pin o on the shaft of wheel g<sub>1</sub> of the main shaft h, substantially as and for the purpose set forth.

**No. 22,130. Neck Scarf.** (*Fichu.*)

James F. Babcock and William H. Bradford, Bangor, Me., U.S., 22nd July, 1885; 5 years.

*Claim.*—1st. A scarf or tie for neck-wear, having a vertically reversible front, both the upper and lower ends of the front surface of said scarf being so formed that either of said ends, as desired, may be exposed to view as a neck scarf, each of said ends of the back side or surface of said scarf being provided with a shield or plate to which the means of fastening said scarf around the neck may be attached and secured. 2nd. In a scarf for neck wear, the combination of the vertically reversible front A, B, shield a, plater C, C<sub>1</sub> and elastic loop D, D. 3rd. In a scarf for neck-wear, the separate detachable neck-band E, E, provided with a suitable means of attachment to and detachment from the scarf. 4th. In a scarf for neck-wear, the separate detachable neck-band E, E, provided with a suitable means for attachment to and detachment from the scarf, in combination with a shield or plate C adapted to be connected with said neck-band and pin or spike S. 5th. In a scarf for neck-wear, the combination of the vertically reversible front A, B, separate detachable neck-band E, E, provided with a suitable means for attachment to, and detachment from, the scarf, shields or plates C, C, adapted to be connected with said neck-bands and pins a, spikes S, S. 6th. In a scarf for neck-wear, the combination of the vertically reversible front A, B, separate detachable neck-band E, E, provided with a suitable means

for attachment to, and detachment from, the scarf, shielder or plater C, C, adapted to be connected with said neck-band, pins or spikes S, S, and elastic loop D, D, all as shown and described, and substantially as and for the purpose specified.

### No. 22,131. Treadle Power. (*Moteur à Marche.*)

James F. Dyer, Atlanta, Ga., U.S., 22nd July, 1885; 5 years.

*Claim.*—1st. The combination, as herein described, of a treadle C, with a double crank shaft or axle B, and an oscillating bar D pivoted to the same treadle C, and its other end pivoted to the pitman G, whereby when power or weight is applied to the treadle C, and through its attached pitman G, power is communicated to the shaft or axle B, the same power or weight on said treadle C causes power to be applied to the said shaft or axle B in another direction, and at a time when the main pitman C is on, and while it is passing the dead centres, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of a treadle or power lever C, a double crank-shaft or axle B, with the cranks in different planes, whereby one of the said cranks is made to lead the other, and connecting rods or bars connecting said cranks to the treadle C, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of a secondary pitman on the crank of the shaft or axle B, with the oscillating bar F and treadle C, substantially as and for the purpose hereinbefore set forth. 4th. The combination of an oscillating bar F, constructed and pivoted as described, with a secondary pitman pivoted thereto and attached to a secondary crank on the main shaft B, said crank b<sub>1</sub> being either opposite side of the main crank p, or at any convenient angle therewith, substantially as and for the purpose hereinbefore set forth.

### No. 22,132. Hand Tool for Forming Beads or Mouldings. (*Outil à Main pour Former les Perles ou Moulures.*)

William C. Hibbard, Montreal, Que. (Assignee of Lawrence V. Poole and Orlando E. Williams, Windsor, Vt., U. S.), 23rd July, 1885; 5 years.

*Claim.*—The combination, in a hand beading tool, of a stock or handle having a longitudinal groove forming therein, a similarly grooved plate secured to the stock, a cutter plate and cutter disk resting successively above such plate, arranged to be slid along the tool and fixed at any desired point, and a stationary guide attached to the stock, all as set forth.

### No. 22,133. Steam Engine Governor.

(*Gouverneur de Machine à Vapeur.*)

The Atlas Engine Works (Assignees of Mathew R. Moore), Indianapolis, Ind., U.S., 23rd July, 1885; 5 years.

*Claim.*—1st. The steam engine governor described, having a heavy dead-wheel A, unnumbered by the transmission of power, mounted loosely on the shaft C, in combination with a shifting eccentric D, and operating mechanism, arranged substantially as described, so as to cause the advance of the dead wheel by its momentum, and the drag by its inertia to shift the eccentric, substantially as herein specified. 2nd. In a steam engine governor, the loosely mounted dead wheel A, with connections, as d<sub>1</sub>, A<sub>4</sub>, A<sub>5</sub>, for shifting the point of cut off by the inertia, in combination with weights B and means, as l, for urging such weights forward, so as to govern the speed by the joint influence of sudden changes and centrifugal force, as herein specified. 3rd. In a steam engine governor having a shifting eccentric, and provisions, substantially as specified, for adjusting the point of cut off by the changes in speed, the arms C<sub>1</sub> on the shaft C in combination with each other, and with provisions, as D<sub>2</sub>, A<sub>4</sub>, D<sub>3</sub>, A<sub>5</sub>, for shifting the eccentric in a curved path, substantially as herein specified. 4th. In a steam engine governor, an unloaded dead wheel weights B and links E arranged to allow of reversing, as herein specified. 5th. In a steam engine governor, a dead wheel A, shaft C, brake P and links E, in combination with each other and with a fixed. 6th. A steam engine governor, having a shifting eccentric D, means as C<sub>1</sub>, D<sub>1</sub>, D<sub>4</sub>, for causing the eccentric to turn with the shaft, and independent means offering friction, as D<sub>2</sub>, A<sub>4</sub>, D<sub>3</sub>, A<sub>5</sub>, for changing the eccentricity of the eccentric, combined and arranged as shown, so that the eccentric shall be held by friction at some points, and, by the resistance of the valve, be urged alternately into positions of greater and less eccentricity at other points, all substantially as herein specified. 7th. In a steam engine governor, the loose unloaded or dead wheel A and connected shifting eccentric D, in combination with the loose hub R, with arms R<sub>1</sub> and means, as w, r, z, W, S, for urging the dead wheel forward or backward, substantially as and for the purposes herein specified. 8th. The brake P and means for operating it, in combination with the loose wheel, means, as S, T, R, R<sub>1</sub>, for hastening or retarding the latter, springs I, weights B and suitable connections to each other and to shifting valve gear, of a steam engine, all arranged for joint operation, substantially as herein specified.

### No. 22,134. Pianoforte. (*Piano.*)

Frederic A. R. Gunther, Toronto, Ont., 23rd July, 1885; 5 years.

*Claim.*—A pianoforte scale, having lower base strings A, B, higher base and tenor strings E, N, and middle note and treble strings H, I, arranged substantially as described, in connection with a sounding-board D, damped or out off at a, b and c.

### No. 22,135. Elevator. (*Ascenseur.*)

The Tewksbury Automatic Elevator Company, Middletown, N. Y., (Assignee of Frank M. Reynolds and George C. Tewksbury, Newark, N. J.), U.S., 24th July, 1885; 5 years.

*Claim.*—1st. The combination, with the valve, of a hydraulic elevator, mechanism provided with a series of studs adapted to be brought into line with the moving stud upon or carried by the elevator piston, whereby the valve is automatically moved, substantially as described. 2nd. In combination with the valve, the shaft G adapted to be rocked by the rope K, and carrying studs adapted to be brought into line with, and moving by, the stud carried by the elevator piston, substantially as described. 3rd. The combination of the shaft, with means for rocking it and with its studs, and means for causing the piston to move the shaft by contact with the studs, and a rack having limited movement upon the shaft and connected to the stem of the valve, substantially as described. 4th. In an elevator, and in combination, an automatic device for arresting the impelling mechanism, capable of being set at any given floor, to arrest at any given floor, and means, substantially as described, within reach of the attendant upon the car, whereby the impelling mechanism may be operated to stop or start by the attendant, substantially as described. 5th. The combination, with the described automatic arresting mechanism, of a rope adapted to set the studs for arresting the car at any given floor, and the index finger and plate L, substantially as described. 6th. The combination of the cylinder A, pulleys B, B<sub>1</sub>, stud H, shaft G, studs h, rack F and connections with the valve stem, and means for rotating the shaft G, substantially as described.

### No. 22,136. Elbow for Stove-Pipe.

(*Coude de Tuyau de Poêle.*)

The Adjustable Elbow & Damper Co., Nashua, N. H. (Assignee of Alonzo W. Cram, Haverhill, Mass.), U. S., 24th July, 1885; 5 years.

*Claim.*—1st. An elbow for stove pipes, consisting of a cylinder, in combination with movable heads, having openings for the ends of the stove pipes, whereby the openings can be brought in any desired relation to each other, substantially as shown. 2nd. In an elbow for stove pipes, the combination of the cylinder, the two revolving heads provided with openings for the stove pipes, and a means for holding the heads in place upon the cylinder, substantially as described. 3rd. The combination of the cylinder, the two revolving heads, the pivotal bolt, and a spring which is placed upon the bolt in between the two heads, substantially as set forth. 4th. The combination of the cylinder, the revolving heads applied thereto, and provided with openings for the stove pipes and means for holding the heads in position on the cylinder, and a damper which is applied to one of the heads, substantially as specified. 5th. An elbow for stove pipes, consisting of a cylinder having an opening for the end of the stove-pipe, substantially as described. 6th. In an elbow for stove pipes, the combination of the two revolving heads, each of which has an opening through it for the end of the stove pipe, and which heads can be revolved so as to vary the relation of the holes to each other, substantially as set forth. 7th. An elbow for stove pipes, having openings upon opposite sides to receive the ends of the two parts of the pipe, the openings being made adjustable in relation to each other, so that the two ends of the two parts of the pipe can be moved into and out of line with each other, substantially as specified.

### No. 22,137. Washing Machine.

(*Machine à Laver.*)

James Graham and John P. Hunt, London, Ont., 23th July, 1885; 5 years.

*Claim.*—The combination of the cog segment F, arms G, G, shaft E, bearings D, D, cog pinion H, shaft I, frame J and fingers K, K, with the corrugated reservoir B provided with steam tight cover A, substantially as shown and described and for the purpose specified.

### No. 22,138. Gear Moulding Machine.

(*Machine à Mouler les Engrenages.*)

Peter L. Simpson, Minneapolis, Minn., U. S., 23th July, 1885; 5 years.

*Claim.*—1st. In a gear moulding machine, a stationary bed or socket A, supporting a central standard B, to the upper portion of which, and above the moulding bed, is secured an index cylinder C, a horizontal arm D, adapted to turn around said central standard B beneath the index cylinder C, and carrying adjustable devices for supporting a tooth block S, and a vertical bar G connecting the horizontal bar D with the index cylinder C, as set forth. 2nd. In a gear moulding machine, an index cylinder C, mounted on a central support or standard B above the casting bed, a swinging arm D, carrying the tooth forming devices, secured to the central support B, between the index cylinder C, and the casting bed, and a projecting arm G connecting the swinging arm D with the index cylinder C, substantially as and for the purpose hereinbefore set forth. 3rd. In a gear moulding machine, an index cylinder C mounted on a central support or standard B, above the casting bed, a swinging arm D, carrying the tooth-forming devices, secured to the central support or standard B, between the index cylinder C and the casting bed, an upwardly projecting arm G connecting the swinging arm D with the index cylinder C, in combination with the slide K, tooth plate R and adjusting devices, substantially as and for the purpose hereinbefore set forth. 4th. In a gear moulding machine, a plate R carrying the tooth block S, provided with an adjustable screw bolt Y, and a guide rod O, both of which pass through an adjustable slide K, a bevel gear wheel T, adapted to work on the adjusting screw N, and mesh with a similar wheel U mounted in bearings on the adjustable slide K, whereby the tooth block S is rendered vertically adjustable, substantially as and for the purpose hereinbefore set forth. 5th. In a gear moulding machine, the combination of the arm D, screw-shaft P and slide K, carrying the tooth-forming devices, with the bifurcated arm A<sub>1</sub> adjustably connected to arm D and adapted to straddle the tooth block S, substantially as and for the purpose hereinbefore set forth.

**No. 22,139. Combined Scrubbing Brush Holder and Mop, with Floor Scraper and Mop Cloth Wringer Attached.** (*Brosse à Frotter et Manche de Torchon Combinés, avec Grattoir à Parquet et Essoreuse de Torchon Attachés.*)

Burrowes Raymond, Toronto, Ont., 27th July, 1885; 5 years.

*Claim.*—1st. A mop-stick A, having a head B fixed to its end claws a, formed on the said head, and the roller C journalled in it, in combination with the head D, hinged to the head B, claws b being formed on the said head, and a roller F journalled thereon, the whole being operated substantially as and for the purpose specified. 2nd. A head D pivoted on the head B, which is attached to the stick A, a scraper E fixed to the head D, in combination with the rod G attached to the head D, and provided with a locking device, substantially as and for the purpose specified. 3rd. A head D pivoted to the head B, and actuated by a rod G, in combination with a head H, arranged to hold the cloth I, and provided with an eccentric lock M, substantially as and for the purpose specified.

**No. 22,140. Implement for Cooling and Straining Mixed Beverages.** (*Appareil pour Refroidir et Couler les Boissons Mélangées.*)

William C Haslage, Pittsburgh, Pa., U.S., 28th July, 1885; 5 years.

*Claim.*—1st. The combination, in an implement for cooling and straining mixed beverages, of a vessel or goblet, a cover or lid having a strainer and a tubular projecting neck above the strainer, and a cap or stopper to fit upon or within the open end of the neck for closing the same and covering the strainer, substantially as described. 2nd. The combination, in an implement for cooling and straining mixed beverages, of a vessel or goblet, a cover or lid therefor, having a strainer and a tubular pouring neck above the strainer, and a hinged cap to fit upon the open end of the neck for closing the same and covering the strainer, substantially as described. 3rd. The combination, in an implement for cooling and straining mixed beverages, of a vessel or goblet, a hinged cover or lid having a strainer, and a cap hinged to the neck for closing the same and covering the strainer, substantially as described.

**No. 22,141. Sulky Plough and Attachment.**

(*Charrue à Siège et Accessoire.*)

John M. Peregrine, Jamestown (Assignee of Osmond H. Field, Kiantone); N.Y., U.S., 28th July, 1885; 5 years.

*Claim.*—1st. In a plough, the combination, with the axle A, tongue B attached to the same, and beam C, provided with rear projection c, (said tongue and beam being connected at the front end of the latter by a vertically adjusting joint,) of the cylinder c<sub>3</sub>, levers G and H, rod I provided with spring i, pin s<sub>1</sub>, lever s<sub>2</sub>, and connecting chain or cord s<sub>3</sub>, substantially as specified. 2nd. In a plough, the combination, with the axle A, and tongue B secured thereto, of the arm N, having slotted cross head n<sub>2</sub>, plough beam C, with pin n<sub>1</sub> link c<sub>8</sub>, and head-block E having the rear projection, as shown and set forth. 3rd. In a plough, the combination, with a tongue and axle, of the sleeve m, adapted to be laterally adjusted upon the said axle, the standard M, having its lower end provided with the inclined bearing, the gauge-wheel m<sub>1</sub>, arranged thereon, and the upper portion of the said standard passing through the sleeve, whereby the gauge-wheel may be allowed to rise and pass over obstructions, substantially as specified.

**No. 22,142. Composition of Matter to be used as a Liniment for the Cure of Sciatica, Neuralgia, Gout, Inflammatory Rheumatism, etc.**

(*Composition de Matières pour Servir de Liniment pour Guérir la Sciaticque, la Névralgie, la Goutte, le Rhumatisme Inflammatoire, etc.*)

Stephen J. Lancaster, Petrolia, Ont., 29th July, 1885; 5 years.

*Claim.*—A compound, composed of capsicum, of dried prince's pine, otherwise known as pipsissewa, of camphor gum, of oil of origanum, and of oil of wintergreen, substantially in the proportions and for the purposes set forth.

**No. 22,143. Door Hanging.** (*Penture de Porte.*)

Charles W. Emerson, Charlestown, Mass., U.S., 29th July, 1885; 5 years.

*Claim.*—1st. The combination, with a door B, of the hangers G, G, the sliding bar E, the grooved rollers D, the separate or sectional bars F, F, and the track C, provided with a central guide, all as and for the purpose specified. 2nd. The combination, with a door B, of the bar E, provided with the tongue e, the rollers D, bar C, hangers G, rod I and brackets H, substantially as shown and described. 3rd. The combination, with the door B, bevelled on both vertical edges, of the hangers G, the swivel rod I, h, whereby the bevelled edges of the door are caused to fit in the bevelled sides a, a of the door-way when closed, and swing out of the same when opened. 4th. The combination, with the door B, of the adjusting device P, i, and the swivel rod I, a, as and for the purpose set forth. 5th. The combination, with the door B, of the hangers G, bar E, grooved rollers D, the bars F, each made in two parts longitudinally, and the bars C, provided with a tongue, as and for the purpose set forth. 6th. The brackets c, secured to the wall A, for supporting the track C, substantially as shown and described.

**No. 22,144. Tag Fastener.** (*Attache-Étiquette.*)

Clark R. Crane, Morrice, Mich., U.S., 29th July, 1885; 5 years.

*Claim.*—The combination of the tag A, perforated at c, c<sub>1</sub>, with the strengthening strip B, perforated to correspond with the perforations, aforesaid, folded over the edge of said tag, and secured in place by adhesive material, and the wire D, passed through the lower perforation e, and crossed on the upper perforation c<sub>1</sub>, and terminating in attaching ends, substantially as specified.

**No. 22,145. Fruit Jar.** (*Jarre à Fruits.*)

Moning R. Gannaway, Unionville, Tenn., U.S., 29th July, 1885; 5 years.

*Claim.*—1st. A jar, having seats for two caps, and channels for the reception of a sealing agent, as set forth. 2nd. The combination, with a jar having the usual mouth or opening and stopper to fit the same, of an inner and outer flanged cover, and channels for the reception of a sealing agent, as set forth. 3rd. The jar A, having flange B, provided on its upper edge with a circumferential groove, and also having the circumferential seat b, in combination with flanged covers to fit said groove and seat, and to leave a space for the introduction of a sealing agent, substantially as set forth.

**No. 22,146. Gearing for Farm Waggon.**

(*Train de Wagon de Ferme.*)

James Nicol, Eramosa, Ont., 29th July, 1885; 5 years.

*Claim.*—1st. The connection of the back hounds E, with bar F on the bottom of the waggon box H, so as to dispense with a reach to connect the front and hind axles and without lessening the strength of the waggon connections. 2nd. The combination of the circular plates A and B, and the king bolt D, together with the front hounds C, substantially as and for the purpose hereinbefore set forth.

**No. 22,147. Thill Loop or Holdback.**

(*Ragot de Limonière.*)

Alexander C. Davison, Jefferson, Mo., U.S., 29th July, 1885; 5 years.

*Claim.*—1st. The thill loop A, consisting of a metallic core, provided at its lower end with an anti-friction roller H, and a bolt c, on which it turns, and inner covering f, and outer covering G passing around the core, and securing the buckle I to the top of the core, and the loop D to the bottom of the core, substantially as and for the purpose hereinbefore set forth.

**No. 22,148. Grain Sacking and Weighing Attachment for Thrashing Machines.** (*Machine à Ensacher et Peser les Grains pour Machines à Battre.*)

William H. Barber, Ward, Ohio, U.S., 29th July, 1885; 5 years.

*Claim.*—1st. The combination, with the branched chute or spout valve having the arm provided with jointed branches, of the studs secured to the block fastened to the valve rod, and the platform suspending rod of the weighing scale, said rod having a stud or pin acting upon one or the other of the branches of the said arm, substantially as and for the purpose set forth. 2nd. The stud q on the platform suspending rod, and branched shifting arms on the valve pivot, combined with said valve branched spout, substantially as described. 3rd. The branched shifting arm s, having inclines u and joints v in its arms, in combination with the reversing valve p in the branched spout and the platform suspending rod h, of the weighing scale having the stud pin q, substantially as described. 4th. The brace m<sub>1</sub>, rigidly fastened to the machine frame and having eyes e<sub>2</sub> and the guide studs f<sub>2</sub> attached to the platform e, in combination with the weighing scale, suspending crane and bag holding hoppers, substantially as described.

**No. 22,149. Tramway.** (*Chemin à Ornière.*)

Alexander E. Brown, Cleveland, Ohio, U.S., 29th July, 1885; 5 years.

*Claim.*—1st. An elevated tramway composed of tubular sections coupled together and arranged in spans, suitably supported by piers, substantially as and for the purposes set forth. 2nd. In a tubular tramway or elevated railway, the combination with the tubular spans, of coupling and supporting metallic stands formed or provided with core-like devices which enter and are secured to the adjacent ends of the tubular spans, and which are securely mounted on the tops of the road piers, substantially as and for the purposes set forth. 3rd. In combination with the tubular rails or railway sections, the metallic stands secured to the piers, adapted to support the adjacent ends of said tubular railway sections, and made curved in vertical profile to correspond substantially with the natural bend of the track, all substantially as hereinbefore set forth. 4th. In a tubular elevated tramway, metallic supporting-stands adapted to support the adjacent ends of the tubular spans, as specified, and combined with supporting bearing boxes secured to the tops of piers, and turning freely within said bearing-boxes, substantially as and for the purposes herein set forth.

**No. 22,150. Permanent Fire-Escape.**

(*Sauveteur d'Incendie Fixe.*)

John L. MacDonald, Shakopee, Minn., U.S., 29th July, 1885; 5 years.

*Claim.*—1st. A permanent fire-escape for buildings, consisting of a fire-proof shaft, having one wall in common with the building, its exposed walls made of uniform style and material with the building, and provided with inlets in its outer wall containing a stairway and having no direct communication with the interior of the building, and a balcony (one or more) extending from a window or other opening in the wall of the building to an inlet of the shaft. 2nd. The combination, substantially as set forth, of a building, a fire-proof

shaft, having one wall in common with said building, and its exposed walls of corresponding style and material with those of the building, and containing a stairway, a series of inlets into the shaft through its outer wall, said shaft having no direct communication with the interior of the building, and a series of balconies extending from windows or openings in the walls of the building to those of the shaft, substantially as and for the purpose set forth. 3rd. The combination, substantially as herein set forth, of a building A, a fire-proof shaft C built within the same, and having no direct communication with the interior of said building, a stairway D in said shaft, doors F in the outer wall of the shaft, and balconies L extending from openings in the walls of the building to doors F, as shown. 4th. In combination with a building and fire-proof shaft therein containing a stairway, outwardly-opening doors H at the bottom of said shaft, and a counterbalanced floor G adapted to engage and hold the doors in their closed position when the floor is elevated, substantially as set forth. 5th. In combination with doors H provided with stud a, yielding floor G provided with recess b, substantially as and for the purpose explained. 6th. In combination with a building, a fire-proof shaft containing means of ascent and descent, built within said building, having no direct communication with the interior thereof, but having outlets through the outer wall of the building, substantially as and for the purpose specified.

### No. 22,151. Telephone. (*Téléphone.*)

Harry P. Pratt, Chicago, Ill., U.S., 29th July, 1885; 5 years.

*Claim*.—1st. In an instrument for receiving sound, speech or signals, a non-polarized plate or diaphragm, made of iron or other suitable substance, in combination with a coil or coils of wire without a core, substantially as described and for the purposes set forth. 2nd. In an instrument for receiving sounds, speech or signals, the combination of the case A, the ear-piece B, the coil C without a core, and the non-polarized plate D, made of iron or other suitable substance, all arranged, constructed and operated substantially as described and for the purpose set forth. 3rd. In an instrument for receiving sounds or signals, the combination of the case A, the ear-piece B, the coil C without a core, the non-polarized plate D, made of iron or other suitable substance, and the plate E, constructed substantially as described and for the purpose set forth. 4th. In a telephone, the combination of the case A, the non-polarized plate D, made of iron or other suitable substance, and one or more coils without a core or cores, substantially as described and for the purpose specified. 5th. In an instrument for receiving sounds, speech, or signals, a coil or coils without a core or cores, in combination with one or more non-polarized plates or diaphragms made of iron or other suitable substance, placed between said coil or coils, and the ear-piece, substantially as described and for the purpose set forth. 6th. In a telephone receiving instrument, the combination of the case A, ear-piece B, non-polarized diaphragms or plates, coil C, support F, binding-posts g and h, substantially as described and for the purpose set forth.

### No. 22,152. Dryer. (*Sécherie.*)

George W. Sharer, Terre Haute, Ind., U.S., 30th July, 1885; 5 years.

*Claim*.—1st. In a drier, the combination of a drying chamber having an inlet and outlet for air between its ends, a furnace having a flue which forms part of the bottom of the drying chamber, and an air passage above the furnace, its upper wall forming a continuation of the bottom of the drying chamber, and having its outlet within said drying chamber, substantially as described. 2nd. In a drier, the combination of a drying chamber, having an inlet and an outlet for air between its ends which are provided with doors, a furnace having a flue, part of which is deflected below the bottom to form opening D<sub>1</sub>, and the remainder forming the bottom of said drying chamber, and an air passage above the furnace and having its upper wall overlapping the deflected part of the flue to form a continuation of the bottom of said drying chamber, provided with a track for bridging said opening D<sub>2</sub>, substantially as described. 3rd. In a drier, a drying-chamber having door A<sub>5</sub> at one end, door A<sub>6</sub> at the other, intermediate door A<sub>7</sub>, and the opening D<sub>1</sub> in the bottom of the drying chamber, substantially as described. 4th. In a drier, the combination of a drying chamber, having hollow side walls forming flues A<sub>1</sub>, opening D<sub>2</sub> and passage A<sub>8</sub>, of a series of flues forming the bottom of said drying chamber, the outer ones of which are connected with the flue space in the hollow walls of said drying chamber, substantially as described. 5th. In a drier, the combination of several drying chambers separated from each other by a thin partition, and each having doors A<sub>5</sub>, A<sub>6</sub>, and A<sub>7</sub>, and passage A<sub>8</sub>, a breaching having a separate passage for the several drying chambers, and a chimney with which the breaching communicates, substantially as described. 6th. In a drier, the combination of a drying chamber having a flue in its bottom and provided with doors A<sub>5</sub>, A<sub>6</sub>, and A<sub>7</sub>, and passage A<sub>8</sub>, a flue A<sub>9</sub>, connected with said passage, a chimney divided into two parts by a vertical partition, one part connected with said flue A<sub>9</sub> and a breaching connected with passage A<sub>8</sub> and the other part of the chimney, substantially as described. 7th. In a drier, the combination of a furnace having a distributing vault and flues opening into said vault, and the tops of said furnace and vault provided with tile, and an air passage located above said tile, substantially as described.

### No. 22,153. Machine for Hoisting and Conveying. (*Ascenseur Porte-Charge.*)

Alexander E. Brown, Cleveland, Ohio, U.S., 30th July, 1885; 5 years.

*Claim*.—A bridge tramway, having the track stringers or beams for the carriage of the conveying machine suspended directly from the top cross-beams and located high up within the structure, the latter being open below, so that the bucket of the carrying machine may rise and fall anywhere within the length of the bridge, all substantially as hereinbefore set forth.

### No. 22,154. Thill Coupling.

(*Armon de Limonière.*)

James L. Downing, Richmond, Ill., U.S., 30th July, 1885; 5 years.

*Claim*.—1st. In a thill-coupling, the yoke D, having ears d, in com-

ination with the spring F, secured upon pin or bolt d<sub>1</sub>, and cylinder E, substantially as shown and described. 2nd. In a thill-coupling, the cylinder E, having ears e, and flanged extensions f, in combination with the yoke D, having ears d and spring F, substantially as shown and described. 3rd. In a thill-coupling, the cylinder E, having ears e, flanged extensions f and spring f<sub>2</sub>, substantially as shown and described. 4th. In a thill-coupling, the yoke passed between the arms of the shackle having ears, in combination with the cylinder having flanged extensions and an elastic plate or spring, substantially as shown and described.

### No. 22,155. Apparatus for Facilitating the Inhalation of Medicated Vapour.

(*Appareil pour Faciliter l'Inhalation de la Vapeur Médicinale.*)

Cornelius B. Harness, London, Eng., 30th July, 1885; 5 years.

*Claim*.—The above described improved apparatus having the handles d, d, screwed into the tube a and provided with valves, and means for operating the same, substantially as and for the purpose set forth.

### No. 22,156. Rowlock. (*Toletière.*)

Obadiah B. Fenner, Oakland, Cal., U.S., 30th July, 1885; 5 years.

*Claim*.—1st. The herein-described rowlock, consisting of the socket plate A, a<sub>1</sub>, having the plate or face A<sub>3</sub>, the socket A<sub>5</sub> and the hinged plate D, with the holding socket E<sub>3</sub>, in which a rowlock with a shank as g, is confined, while being free to slide and turn, substantially as and for the purpose hereinbefore set forth. 2nd. The socket plate A, adapted to be secured to the gunwale of a boat, and having the flat plate or surface A<sub>3</sub>, and the long socket A<sub>5</sub>, and provided with lugs c, c, at one side, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, with the socket plate A, having the flat surface A<sub>3</sub> and the long socket A<sub>5</sub> below it, of the hinged plate D, with holding socket d<sub>3</sub> for the shank g, of a rowlock, substantially as and for the purposes hereinbefore set forth. 4th. The combination, with the socket plate A, a<sub>1</sub>, having the surface A<sub>3</sub> over the socket A<sub>5</sub>, of the rowlock as G, attached to the socket plate by the hinged connection D, but having free sliding and rotating movements in its connection, and the locking pin e applied to operate with relation to the socket A<sub>5</sub>, substantially as and for the purpose hereinbefore set forth.

### No. 22,157. Spindle and Flier for Spinning Hemp, etc. (*Broche et Ailette pour Filer le Chanvre, etc.*)

John Good, Brooklyn, N.Y., U.S., 30th July, 1885; 5 years.

*Claim*.—1st. The combination, with a spindle and flier, and means for driving the flier, of a pulley through which motion is to be transmitted to the spindle, a driving pulley, a slipping driving belt passing around said pulleys, and a tightening pulley and gearing for producing a varying tension in the slipping driving-belt, substantially as and for the purpose herein described. 2nd. The combination, with a spindle and flier, means for driving the flier, and a pulley locked to spindle, of a driving pulley, a slipping driving-belt passing around said pulleys, and a tightening pulley and gearing for producing a varying tension in said slipping driving-belt, substantially as and for the purpose herein described. 3rd. The combination, with a spindle stand, a number or group of parallel spindles and fliers journaled therein, and means for driving the fliers, of pulleys locked to the spindles, a driving-pulley, a slipping driving-belt passing around the spindle-pulleys and the driving-pulley, and a tightening pulley and gearing for providing a varying tension in said slipping driving-belt, substantially as and for the purpose herein described. 4th. The combination, with a spindle-stand, upper and lower groups of parallel spindles and fliers journaled therein, means for driving the fliers, and a driving-pulley between the groups of spindles and fliers, of pulleys locked to the spindles, two slipping driving-belts, each passing around the driving pulley and the spindle-pulleys in a group, and tightening pulleys and gearing for producing a varying tension in said slipping driving belts, substantially as and for the purpose herein described. 5th. The combination, with a spindle and flier, means for driving the flier, a pulley through which motion is transmitted to the spindle, and a driving-pulley, of a belt passing around the said pulleys, a movable tension pulley, means for moving said tension pulley, and an indicator for showing the degree of tension on the belt and the fulness of the bobbin, substantially as herein described. 6th. The combination, with a number of parallel spindles and fliers, means for driving the fliers, pulleys locked to the spindles, and a driving pulley, of a belt passing around said pulleys, a tension pulley applied to the belt a drum or windlass and means for rotating it, and flexible connections, whereby said tension pulley is moved by the rotation of the drum to increase the tension of said belt, substantially as herein described. 7th. The combination, with a number of parallel spindles and fliers, means for driving the fliers, pulleys locked to the spindles, a driving pulley and a movable tension pulley, of a belt passing around said pulleys, a drum or windlass and means for rotating it, flexible connections through which said tension pulley is moved by the drum or windlass, and a tell-tale, or indicator, through which said flexible connections act, substantially as herein described. 8th. The combination, with a number of spindles and fliers, means for driving the fliers, pulleys locked to the spindles, a driving-pulley and a single traverse screw, and mechanism operated thereby to produce the traverse necessary in winding bobbins, of a belt passing around the said pulleys, and mechanism operated by the said traverse screw for producing a varying tension in said belt, substantially as herein described.

### No. 22,158. Oiling Apparatus for Car Axle Boxes. (*Appareil à Huiler pour Boîtes à Graisse.*)

Dosithé Duprat, Ste. Scholastique, Que., 31st July, 1885; 5 years.

*Claim.*—1st. The herein shown and described oiler support, consisting of the hollow standards B, B, having the springs *e* secured *d*, and the base C having the wing *c* hinged to it by the pivot rod *d*, substantially as and for the purpose set forth. 2nd. The combination of the oiling roller A, sliding boxes *a* and springs *b* with the hollow standards B, base C and wing *c* hinged thereto by the pivot rod *d*, substantially as shown and described. 3rd. The combination of the above described axle oiling mechanism with the axle box of a railway car.

### No. 22,159. Railway Switch.

(*Aiguille de Chemin de Fer.*)

Marion Wallick and Henry A. Heist, East Germantown, Ind., U.S., 31st July, 1885; 5 years.

*Claim.*—In a switch, the combination, with a stationary frog-section provided with a spring-pressed cap, and a movable frog section adapted to swing over the main rail and rest on the said stationary frog-section and main rail, of a sliding main track section connected with the movable frog section whereby either section operates the other, substantially as set forth.

### No. 22,160. Means for Purifying Water by Aeration. (*Moyens de Purifier l'Eau par l'Aériorification.*)

The United States Pure Water Supply Company (Assignee of Rudolph d'Heureux), New York, N.Y., U.S., 31st July, 1885; 5 years.

*Claim.*—1st. A system of pipes in connection with pumps or other means of forcing air, and thereby purifying water, which consists in placing the stationary apparatus described near the place of inlet of the water into the reservoir and close to the flow thereof, and capable of being adjusted at a practically uniform level, so that the water becomes saturated with the oxygen of the air uniformly in its course from the inlet into the reservoir, substantially as and for the purposes set forth. 2nd. The float or floats C, system of perforated pipes M and means F, E, D, for supplying air thereto, in combination with each other and with connecting means J arranged for joint operation, as herein specified. 3rd. The buoys, in combination with the system of perforated pipes M suspended to the floats C, means for supplying air to the latter, and means for raising and lowering the system by adjusting it relatively to the float or floats C, substantially as herein specified.

### No. 22,161. Steam Boiler Cleaner.

(*Nettoyeur de Chaudière à Vapeur.*)

John T. Copps, Springfield (Assignee of Robert Stewart, Pittsfield), Ill., U.S., 31st July, 1885; 5 years.

*Claim.*—1st. In combination with a steam boiler, of a pipe C situated near the bottom thereof and provided with short tubes A having shaft bevelled ends *d*, and a valve B, all of the above parts combined and adapted to operate as described. 2nd. In combination with a steam boiler, of a pipe C situated near the bottom thereof, and provided with a series of short tubes A having sharp bevelled ends *d*, the said pipe C being greater in cross section than the sum of the areas of the cross sections of the short tubes, substantially as set forth.

### No. 22,162. Packing Box. (*Boîte d'Emballage.*)

Oscar Place and Lewis W. Hyde, Brooklyn, New York, N. Y., U.S., 5 years.

*Claim.*—1st. A packing case provided with sides A extending beyond the ends B, and having against each end face B within the extending sides, the frame composed of vertical bars or cleats C, C, and cross cleat D, the vertical bars extending above the sides, as at C<sub>1</sub>, and stopping above the lower edge of the sides, as at C<sub>2</sub>, for the purpose set forth. 2nd. In combination with a case having sides A, the cleats or bars C extending upwards, as at C<sub>1</sub>, and admitting of the space C<sub>2</sub> at the bottom of the case, essentially as shown and described.

### No. 22,163. Lead and Crayon Holder.

(*Porte Plombagine et Crayon.*)

The Eagle Pencil Company (Assignee of Claes W. Boman), New York, N.Y., U.S., 31st July, 1885; 5 years.

*Claim.*—1st. The combination, with the longitudinally movable stop-gauge jaws, having end openings or enlargements, and an intermediate contracted or narrowed portion, of the split or collapsible nozzle provided with projections adapted to enter said openings, and to operate in connection with the jaws during the longitudinal movement of the latter, substantially as and for the purposes hereinbefore set forth. 2nd. The sheath or case, the pressure cap and the retracting spring, in combination with the longitudinally movable stop-gauge, jaws and enlargements or openings, and an intervening contracted or narrowed portion, and the split or collapsible lead tube or nozzle, fast to the case or sheath, and provided with projections adapted to enter said openings and to operate in connection with said jaws, substantially in the manner and for the purposes hereinbefore set forth.

### No. 22,164. Lead and Crayon Holder.

(*Porte Plombagine et Crayon.*)

The Eagle Pencil Company, (Assignee of Claes W. Boman), New York, N.Y., U.S., 31st July, 1885; 5 years.

*Claim.*—1st. The combination of the sheath or handle, the lead tube or receptacle and collapsible nozzle from which the lead protrudes when in use, and the stop-gauge jaws longitudinally movable with reference to said nozzle, arranged and operating substantially as described, to limit the extent to which the lead can protrude from the pencil and in accordance with the direction of their movement cause said nozzle to clamp or release the protruded lead, substantially as

hereinbefore set forth. 2nd. The combination of the sheath or handle, the lead tube and collapsible nozzle, the stop-gauge jaws longitudinally movable with reference to said nozzle, arranged and operating substantially both to limit the extent to which the lead can protrude, and to cause the nozzle to clamp or release the lead, the pressure cap and the retracting spring, substantially as and for the purposes hereinbefore set forth. 3rd. The combination, substantially as hereinbefore set forth, with the sheath or handle and the lead tube or receiver, having a split front end or nozzle normally open for the free passage of the lead, of longitudinally movable stop-gauge jaws normally closed upon said nozzle, and constructed and arranged when pushed forward beyond said nozzle, to relieve the latter from pressure and permit it to open for the free passage of the lead, and also to limit the extent to which the released lead can drop from the pencil, substantially as and for the purposes set forth. 4th. The longitudinally movable stop-gauge jaws recessed to permit the expansion of the lead nozzle or tube, the sheath or handle, the lead tube attached to said handle and enclosed or surrounded by the stop-gauge jaws, the pressure cap and the retracting spring, these parts being combined and arranged for joint operation, substantially as and for the purposes hereinbefore set forth. 5th. In a lead and crayon holder, the combination, with a lead tube or receiver terminating at its front end in clamping jaws, of a longitudinally movable stop-gauge arranged and operating to limit the extent to which the loose lead in the said tube can drop from the pencil, and according to the direction of its movement, to cause said clamping jaws to close upon or release the lead, substantially as and for the purposes hereinbefore set forth.

### No. 22,165. Coloured Slate Pencil.

(*Crayon d'Ardoise de Couleur.*)

The Eagle Pencil Company, (Assignee of Samuel Krans), New York, N.Y., U.S., 31st July, 1885; 5 years.

*Claim.*—As a new manufacture, a coloured slate pencil made from a composition of talc or soapstone, potter's clay and colouring matter of the character hereinbefore specified, moulded, dried and baked, substantially as hereinbefore set forth, the marks made by said pencil being in colour, i.e. red, blue, green etc. as contradistinguished from the white or nearly white mark of the ordinary soapstone pencil.

### No. 22,166. Coloured Pencil Lead.

(*Crayon de Plombagine de Couleur.*)

The Eagle Pencil Company, (Assignee of Samuel Krans), New York, N.Y., U.S., 31st July, 1885; 5 years.

*Claim.*—1st. The process of manufacturing coloured pencil leads consisting in, first, making a composition consisting essentially of colouring matter of the character hereinbefore specified, talc or soapstone and potter's clay, taken in substantially the proportions stated, then moulding said composition into the form required for the pencil lead, then drying the moulded article and baking it in the manner prescribed and finally boiling the baked article in fat or oil, substantially as set forth. 2nd. A coloured pencil lead made from a composition consisting essentially of talc or soapstone, potter's clay and colouring matter of the character hereinbefore specified, moulded, dried backed and finally boiled in fat or oil, substantially as hereinbefore set forth.

### No. 22,167. Refrigerator. (*Glacière.*)

Joseph F. Hanrahan, and James Gordon, Ottawa, Ont., 31st July, 1885; 5 years.

*Claim.*—1st. In a refrigerator, the ice chamber B having vertical scantlings I, N, planks F, floor G and planks L at the bottom, whereby air passages H, I, M and O, are formed at the sides and bottom of the chamber, to supply the refrigerating chamber with cold air, as described. 2nd. The combination, in an ice chamber B having the wing wall C, scantlings I, N, plank F, floor G and planks L, of two or more pipes P, Q, at the top, whereby an outward circulation of heated air through one or more pipes, produces an inward circulation of fresh air through the other pipe or pipes, for renewing the air in the ice and refrigerating chambers, as set forth. 3rd. The combination of the ice and refrigerating chambers connected by passage S, and the refrigerating chamber A having a secondary ceiling T, forming an air passage U, discharging into passage S, as set forth, to prevent air in any portion of the refrigerating chamber from becoming stagnant.

### No. 22,168. Music Leaf Holder.

(*Arrête-Feuille de Musique.*)

Joseph Frampton, Willis, Texas U.S., 31st July, 1885; 5 years.

*Claim.*—1st. In a music leaf holder, the elastic cord *d*, the tension arms C, C, the spiral springs *e*, *e*, all substantially as and for the purpose hereinbefore set forth. 2nd. In a music leaf holder, the combination, with the music rest A, of the tension arms C, C, the frictional spiral springs *e*, *e*, the cord *d*, substantially as and for the purpose hereinbefore set forth. 3rd. In a music leaf holder, the combination, with the rest A, of the plates *a*, *a*, acting as washers between said rest A, and the tension arms C, C, substantially as and for the purpose hereinbefore set forth.

### No. 22,169. Mechanism for Cleaning Textile Fabrics. (*Appareil pour Nettoyer les Tissus.*)

Robert Patrick, Jr. and George Godfrey, Galt, Ont., 31st July, 1885; 5 years.

*Claim.*—1st. A tank, open at the bottom, but air tight as to the top and sides, and partitioned into compartments, as shown, the said inner tank, and being partly filled with either of the solvents mentioned, substantially as shown, and for the purpose specified. 2nd. An inner tank, as described, connected by pipes to an evaporator and condenser, whereby a continuous serpentine stream of the solvent is

kept up, as shown, and described and for the purpose specified. 3rd. An inner tank, as described, having in it a number of rollers fitted with sprockets, in combination with the squeezing rollers situated in the outer tank, fitted with sprockets, and driven by the gear as described, and for the purpose specified. 4th. The squeezing rollers above the tank fitted with sprockets, in combination with the wiper adjacent thereto, substantially as shown, and for the purpose specified. 5th. The rollers on the outside of the tank, in combination with the aforesaid squeezing rollers, and small rollers within the inner tank, the whole being drawn by the gear, as described and for the purpose specified. 6th. The inner tank E, fitted with rollers B, in

combination with the squeezing rollers D and G, wiper H and exterior rollers M, etc., the whole being situated in and around an outer tank A, substantially as shown and for the purpose specified. 7th. As a process of cleansing textile fabrics, wool etc, etc., by the use of a solvent, contained in a tank of the construction as described and in which a constant serpentine circulation of the solvent is maintained, by means of the evaporator and condenser:—the material being immersed in such water and solvent, and carried through succession compartments in the tank, and squeezed partly dry, the refuse being drawn off, and the cloth delivered clean, substantially as described.

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

407. L. W. MURCH, 2nd 5 years of No. 11,603, from the 4th day of August, 1885. Improvements on Retary Churns, 4th July, 1885.
408. C. B. HUTCHINS, 2nd 5 years of No. 13,504, from the 1st day of October, 1886. Improvements on Refrigerator Cars, 6th July, 1885.
409. D. HOIT and A. MIDDLETON, 2nd 5 years of No. 11,475, from the 10th day of July, 1880. Improvements in Draw Bars for Railroad Cars. 10th July, 1885.
410. J. C. SCHAFFER, 2nd 5 years of No. 11,504, from the 15th day of July, 1885. Improvements on Bottle Stoppers, 11th July, 1885.
411. J. W. GROVER, 3rd 5 years of No. 5,112, from the 26th day of August, 1885. Improvements on Spring Washers and Apparatus for Manufacturing the Same, 11th July, 1885.
412. J. STEVENS, 2nd 5 years of No. 11,539, from the 24th day of July, 1885. Improvements on Grinding Mills and on the Process of Reducing Grain to Flour, 11th July, 1885.
413. J. STEVENS, 2nd 5 years of No. 11,543, from the 24th day of July, 1885. Improvements on Mills for Grinding and Reducing Wheat and other Grain, 11th July, 1885.
414. J. STEVENS, 2nd 5 years of No. 11,629, from the 11th day of August, 1885. Improvements on Machines for Grinding and Reducing Grain and other Materials, 11th July, 1885.
415. J. STEVENS, 2nd 5 years of No. 11,668, from the 26th day of August, 1885. Improvements on Machines for Grinding and Reducing Grain and other Materials, 11th July, 1885.
416. M. J. ALLEN and W. E. BRADLEY, 2nd 5 years of No. 11,553, from the 24th day of July, 1885. Improvements on the Process of Making Whiskey, 13th July, 1885.
417. R. McLAUGHLIN, 2nd 5 years of No. 11,774, from the 17th day of September, 1885. Improvements on a Machine for Spring Attachment Fastenings for Carriage Springs, 13th July, 1885.
418. J. LYNCH, 2nd 5 years of No. 17,120, from the 2nd day of July, 1888. Improvements on Lumber Dryers, 13th July, 1885.
419. P. COUGHLIN, 2nd 5 years of No. 11,507, from the 19th day of July, 1885. Improvements on Fence Posts, 15th July, 1885.
420. A. CARY and E. A. MOEN, 2nd 5 years of No. 11,525, from the 21st day of July, 1885. Improvements on Machines for Barbing Wire Fences, 15th July, 1885.
421. D. KNOWLTON, 2nd 5 years of No. 11,516, from the 19th day of July, 1885. Improvements on Spring Bed Bottoms, 18th July, 1885.
422. S. DAY (Assignee), 2nd 5 years of No. 11,514, from the 19th day of July, 1885. Improvements on Waggon Racks, 18th July, 1885.
423. L. A. WATSON (Assignee), 2nd 5 years of No. 11,510, from the 19th day of July, 1885. Improvements on Feather Dusters, 18th July, 1885.
424. A. J. LOCKIE, M. J. HURD and T. H. TITUS, 2nd 5 years of No. 11,519, from the 19th day of July, 1885. Improvements on Pads for Horses' Hoofs, 18th July, 1885.
425. E. CARD, 2nd 5 years of No. 11,522, from the 21st day of July, 1885. Improvements on Grates, 18th July, 1885.
426. J. A. ROUSE, 2nd 5 years of No. 11,523, from the 21st day of July, 1885. Improvements on Horse Power Links, 18th July, 1885.
427. D. ABREY, 2nd 5 years of No. 11,602, from the 4th day of August, 1885. Improvements on Running Machinery and in the Mechanical Movement Thereof, 18th July, 1885.
428. G. T. SMITH (Assignee), 2nd 5 years of No. 17,563, from the 1st day of September, 1888. Improvements on Dust Collectors, 18th July, 1885.
429. J. WHELAN, 2nd and 3rd 5 years of No. 21,940, from the 21st day of June, 1890. Improvements in machines for Sowing Grass Seed and other Seeds, 18th July, 1885.
430. F. VAN RYSSELBERGHE, 2nd and 3rd, 5 years of No. 15,363, from the 25th day of August, 1887. Improvements on Telegraphic and Telephonic Apparatus, 22nd July, 1885.
431. F. VAN RYSSELBERGHE, 2nd and 3rd 5 years of No. 18,547, from the 24th day of January, 1889. Improvements in and relating to Telegraphic and Telephonic Apparatus, 22nd July, 1885.
432. R. MYLINS, 2nd 5 years of No. 11,553, from the 28th day of July, 1885. Ornamental Fountain 24th July.
433. W. E. CORNELL, 2nd 5 years of No. 11,572, from the 30th day of July, 1885. Improvements on Postal Paper, 29th July, 1885.
434. W. ROBINSON, 2nd 5 years of No. 11,607, from the 4th day of August, 1885. Improvements in Electric Signalling Apparatus for Railways, 29th July, 1885.
435. F. DODGE, B. J. DENTON and J. M. HART, 3rd 5 years of No. 5,028, from the 30th day of July, 1885. Improvements on Machinery used in the Manufacture of Peat, 30th July, 1885.
436. T. E. NICHOLS, 2nd 5 years of No. 11,604, from the 4th day of August, 1885. Improvements on Harrows, 31st July, 1885.

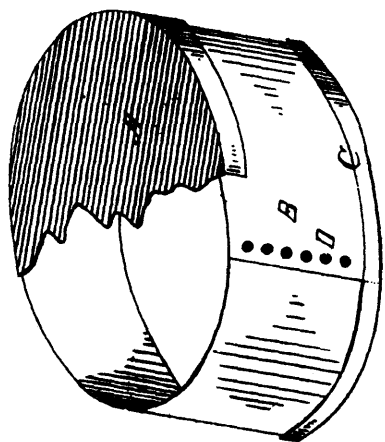
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CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

Vol. XIII.

AUGUST, 1888.

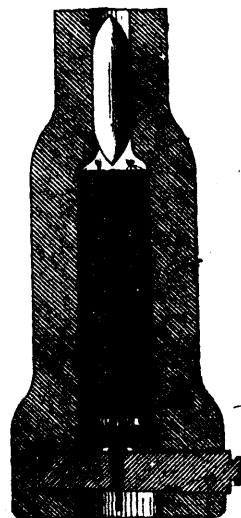
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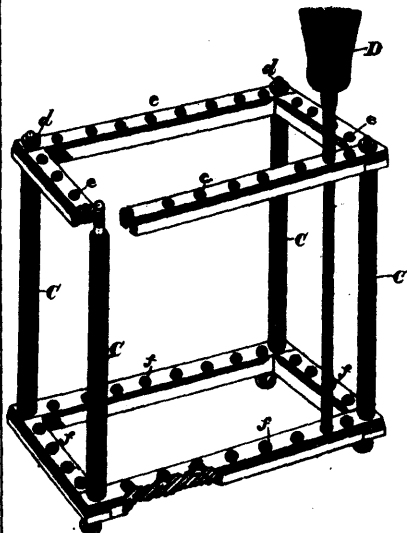
21945 Cimon's Box for Packing Cheese, etc.



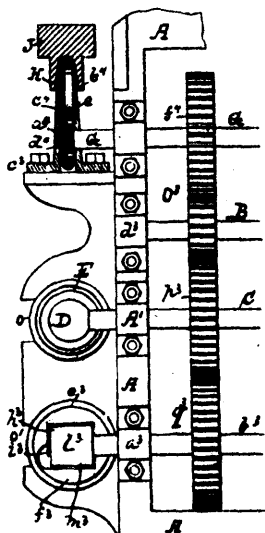
21946 Lyman's Cartridge for Small Arms.



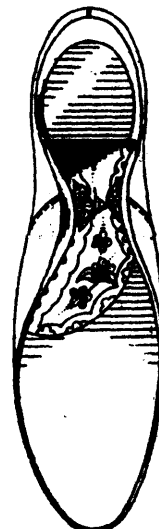
21947 Lyman's Cartridge for Ordnance.



21948 Brandon's Broom Stand.

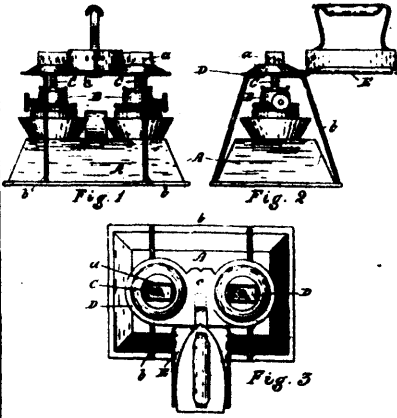


21949 Coté's Machinery for Shaping Boot and Shoe Counters.

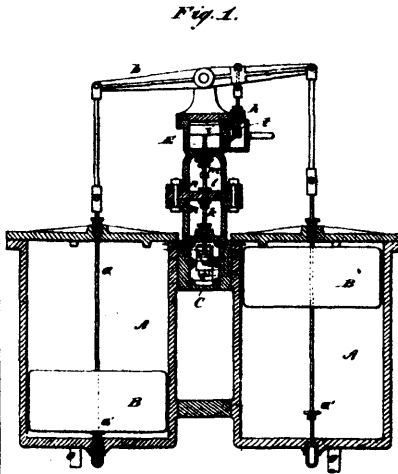


21950 Charlesworth's Boot.

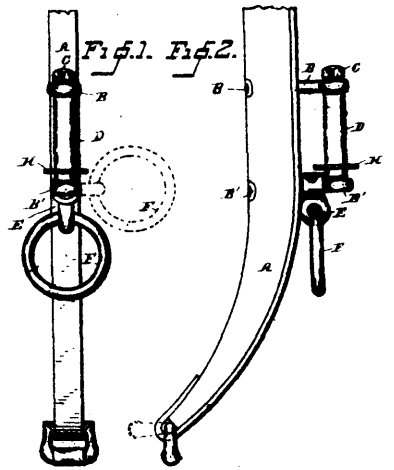




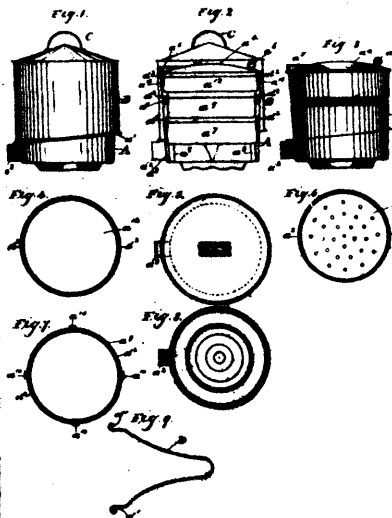
21951 Hatchford's Coal Oil Lamp for Heating Smoothing Irons.



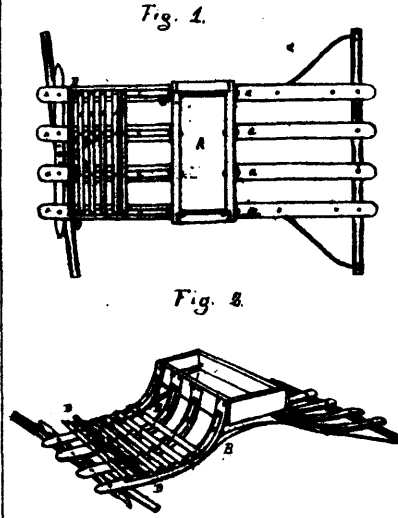
21952 Halgh's Automatic Boiler Feeder.



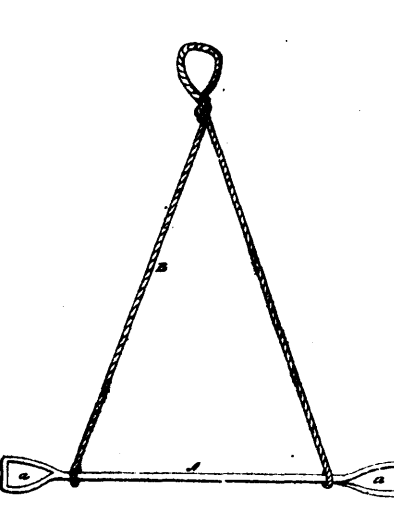
21953 Bartlett's Hame.



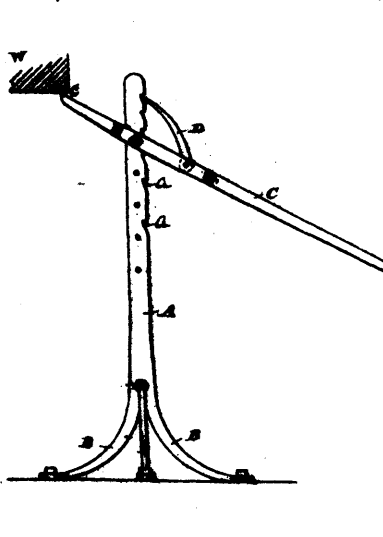
21954 Strangway's Steam Cooker.



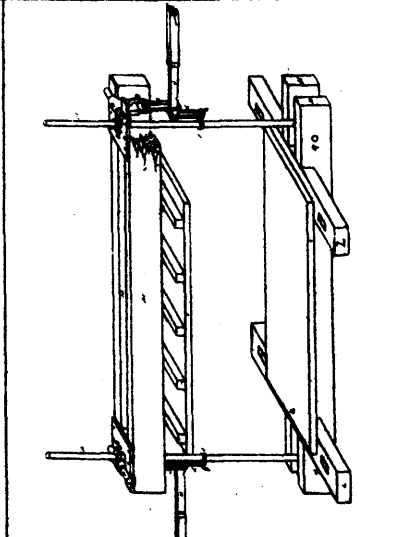
21955 Rousseau's Buck Board and Buggy Waggon.



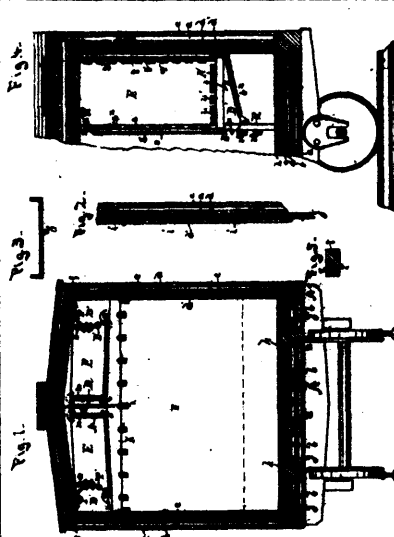
21956 Noble's Sheaf Lifter for Hay Forks.



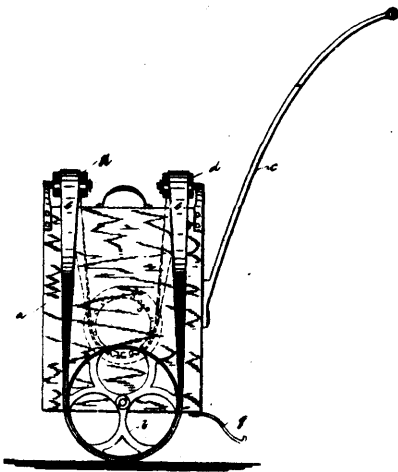
21967 Hartman's Waggon Jack.



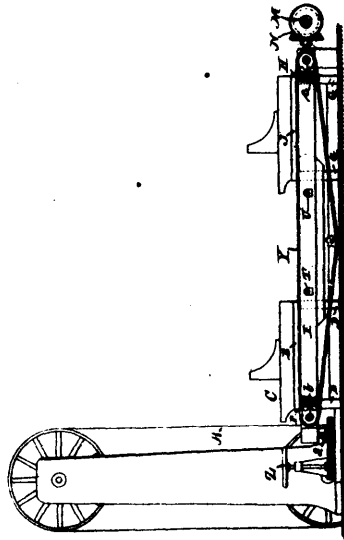
21968 Peter's Power Press.



21959 Goodell's Refrigerator and Refrigerator Car.



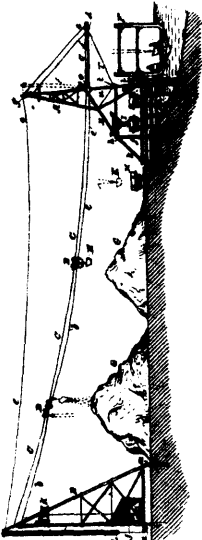
21960 Reynolds' Lawn Marker.



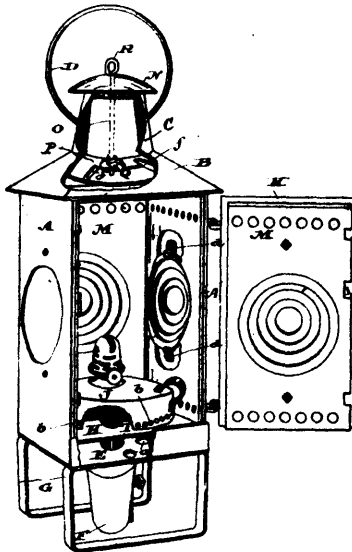
21961 Milne's Saw Mill.



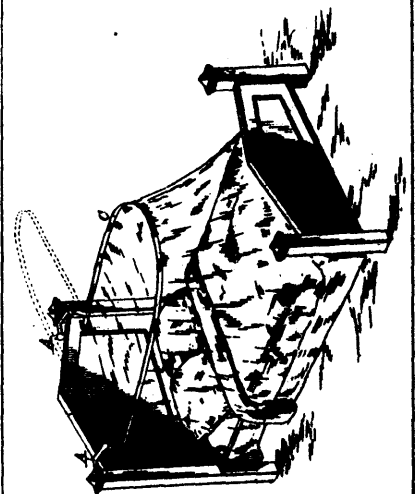
21962 Brown's Machine for Hoisting and Conveying.



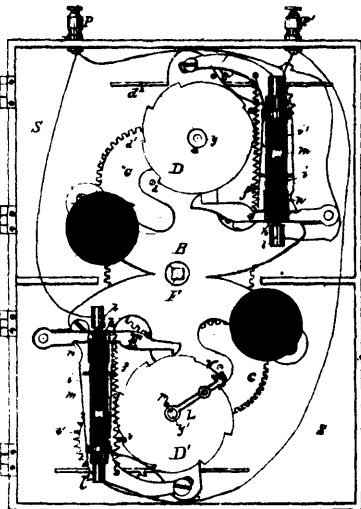
21963 Brown's Machine for Hoisting and Conveying.



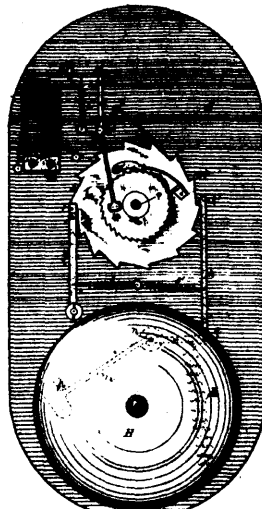
21964 Piper's Lamp Case.



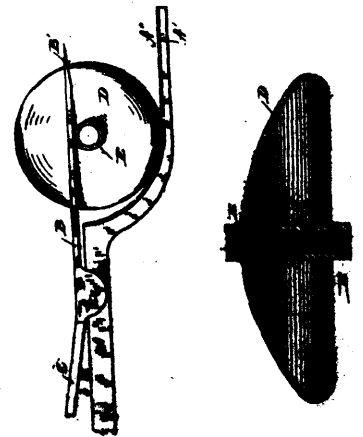
21965 Edward's Mosquito-Net Support.



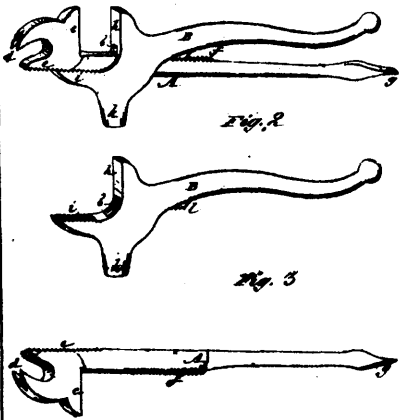
21966 McCullough's Multiple Signal Box.



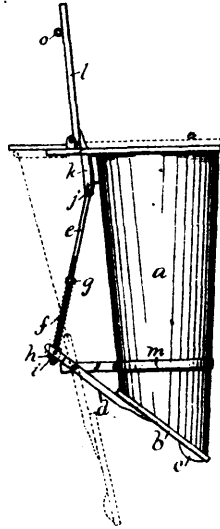
21967 McCullough's Electro Mechanical Gong Striker.



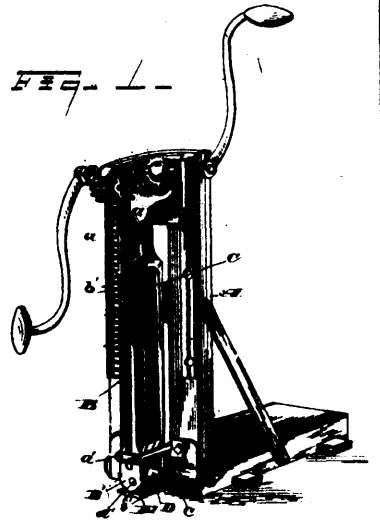
21968 Robinson's Flying Target.



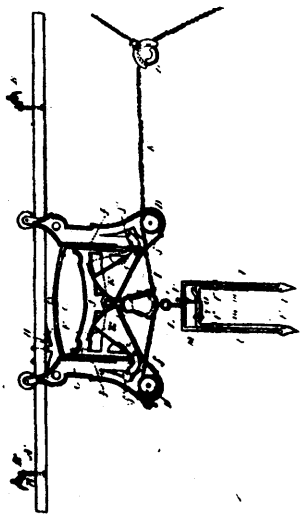
21869 Crosby's Combination Tool.



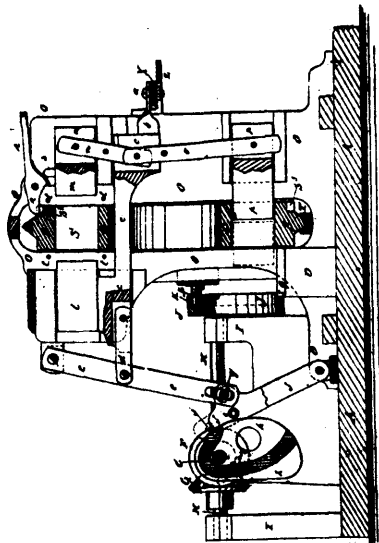
21870 Street's Dry Closet.



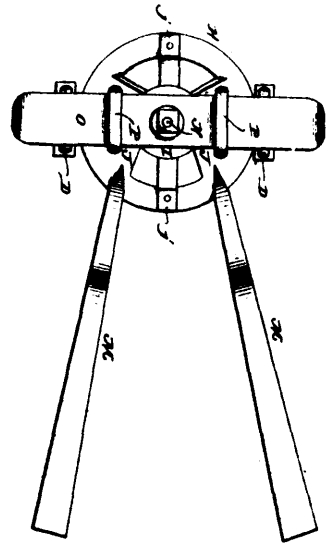
21871 Oppenheimer's Mortising Machine.



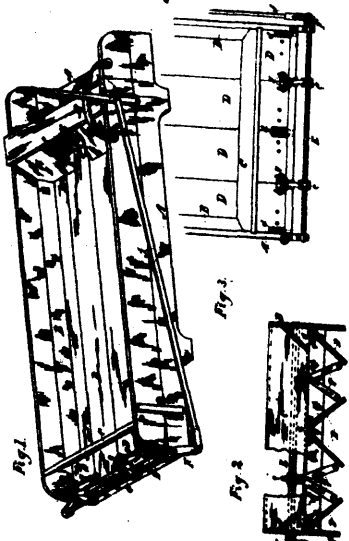
21872 Dowd's Hay Elevator and Carrier.



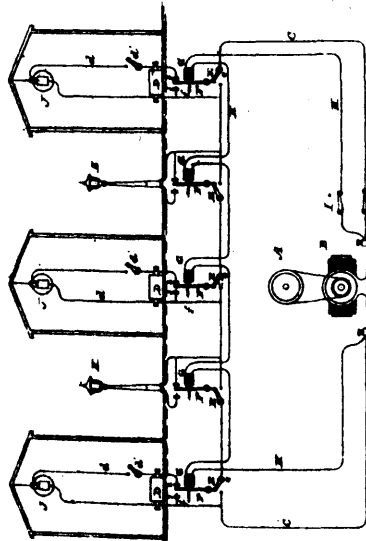
21873 Smith's Brick Machine.



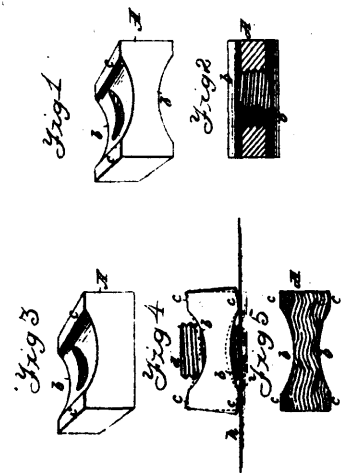
21874 Leete's Fifth Wheel.



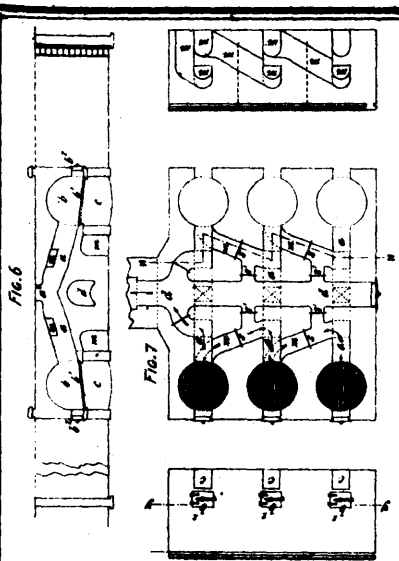
21875 Wallace's Dump Wagon.



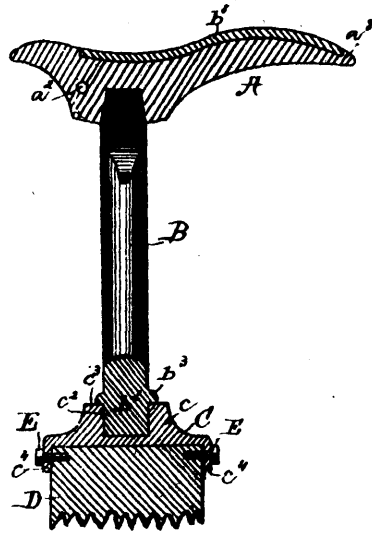
31876 Starr & Peyton's System of Electric Lighting, etc.



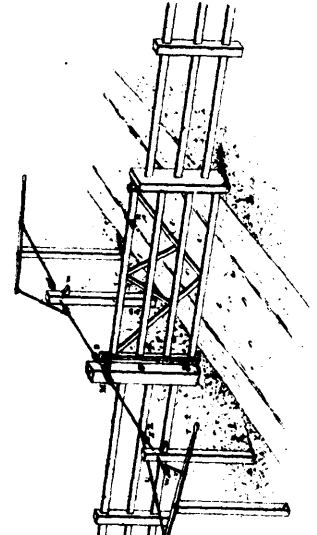
21877 Johnson's Bolt Nut.



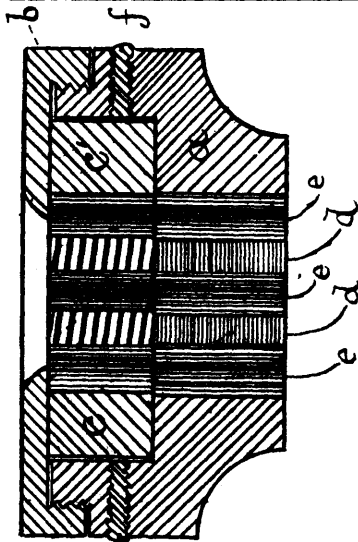
21978 Stafford & Pearson's Furnace for the Combustion of Town's Refuse, etc.



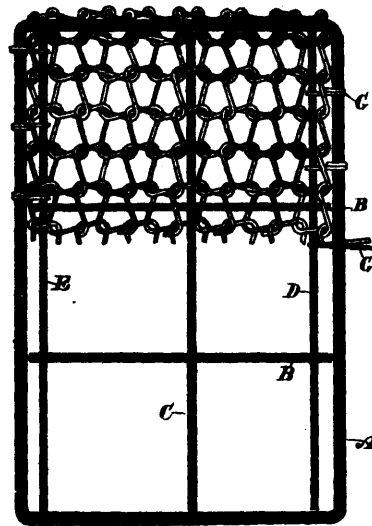
21979 Robertson & Tobin's Iron Last.



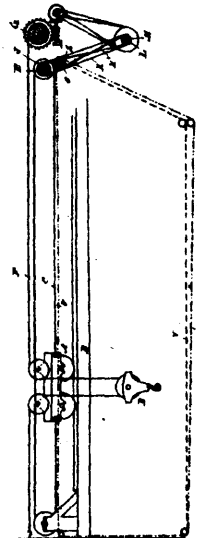
21980 Austin's Automatic Gate.



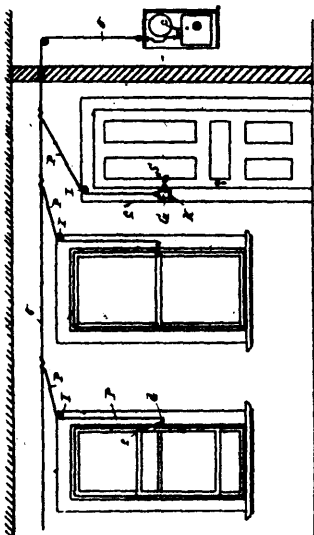
21981 Reece's Screw Plate.



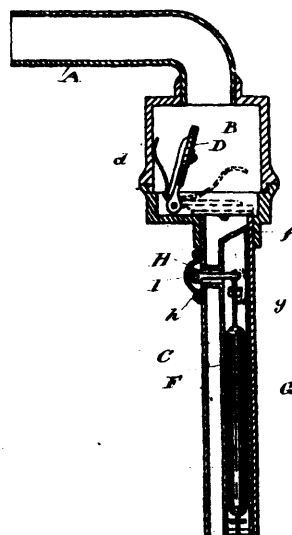
21982 Windt's Door Mat.



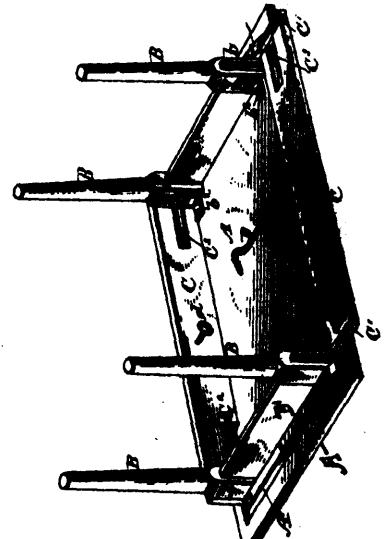
21983 Whiting's Crane.



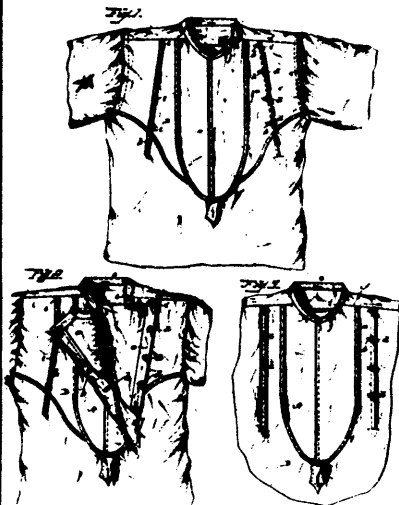
21984 Jacobi's Burglar Alarm.



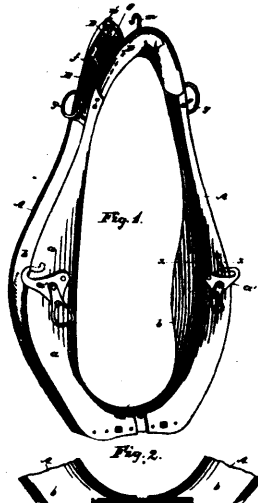
21985 Ward's Automatic Barrel Filler.



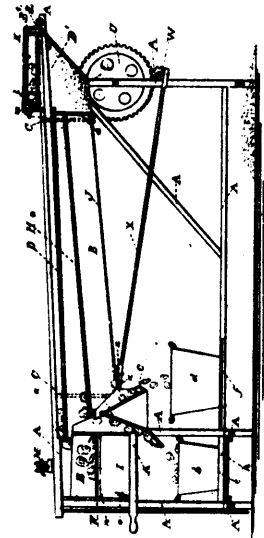
21986 Danner's Folding Table.



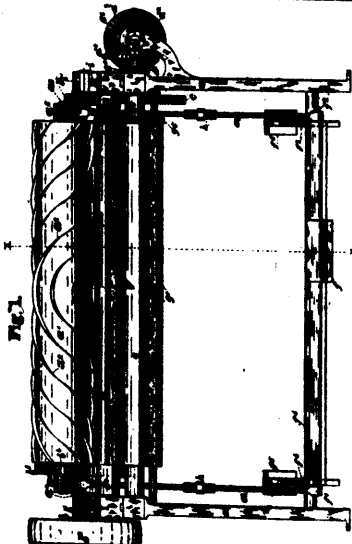
21987 Spence's Shirt.



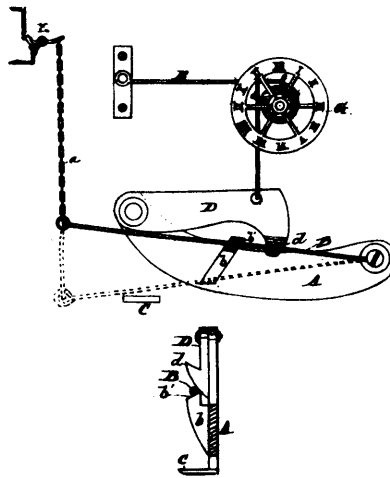
21988 Fisher's Horse Collar.



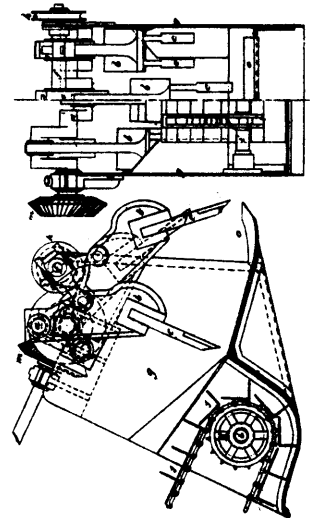
21989 Joubert's Potatoe Screen.



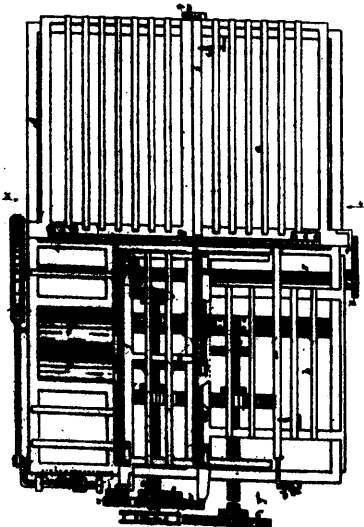
21990 Hoffman's Putting-Out Machine for Tanning purposes.



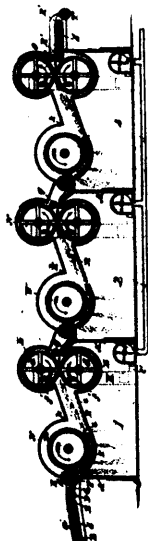
21991 Burge's Automatic Time Draft or Damper Regulator.



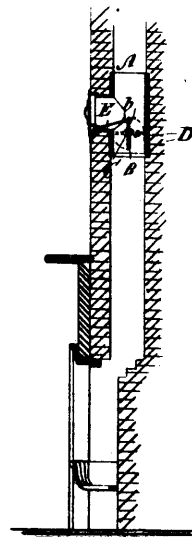
21992 Parker's Land Excavating Machine.



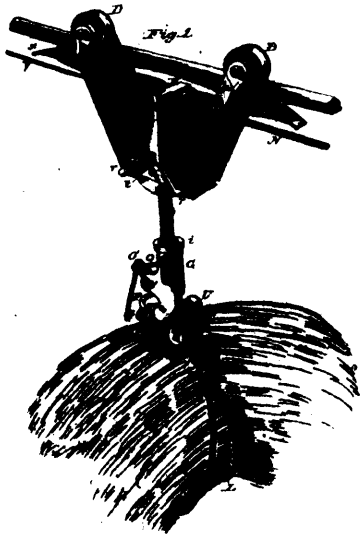
21993 Beach's Paper-Folding Machine.



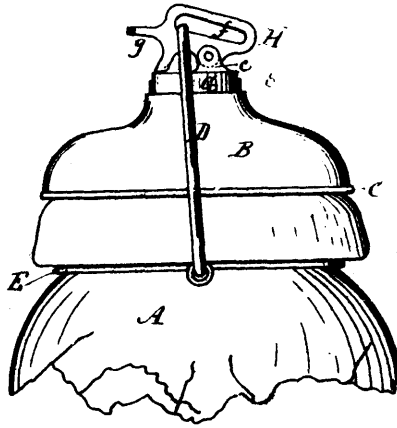
21994 Archer's Carding Machine.



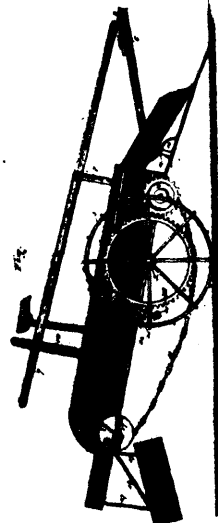
21995 Gilman's Automatic Safety Damper.



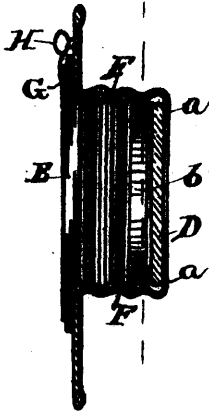
21997 Mead's Hay and Grain Elevator.



21998 Becker's Fruit Jar.



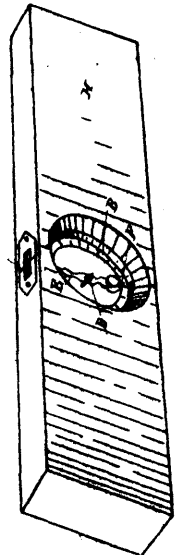
21999 Reynolds' Potatoe Digger.



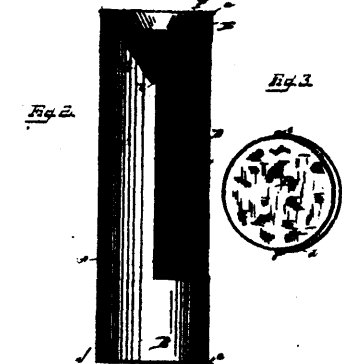
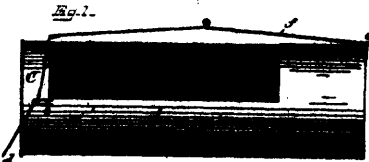
22000 Soeets' Locomotive Head Light.



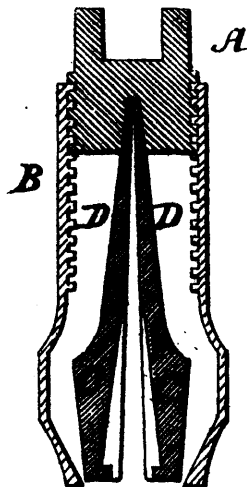
22001 Soeets' Side Bar for Locomotives, etc.



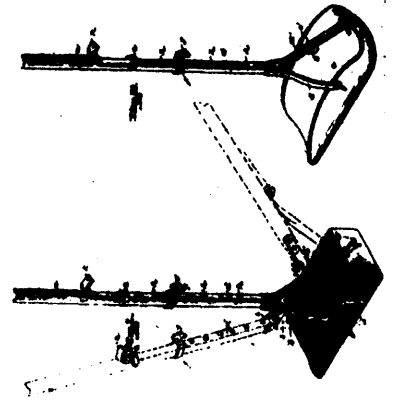
22002 Gardner's Plumb and Level.



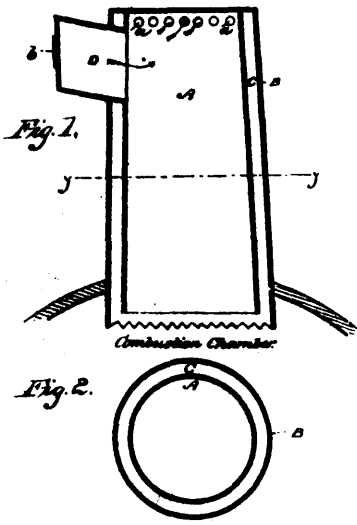
22003 McKinneys' Fish Trap and Bucket.



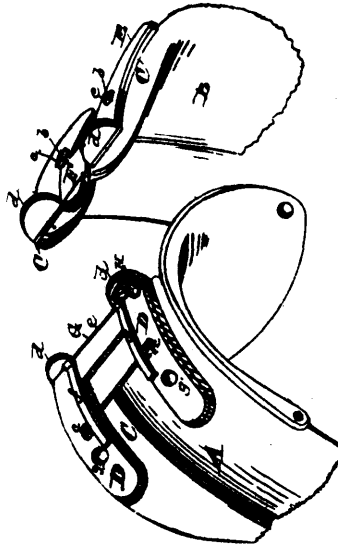
22004 Ives' Bit Brace.



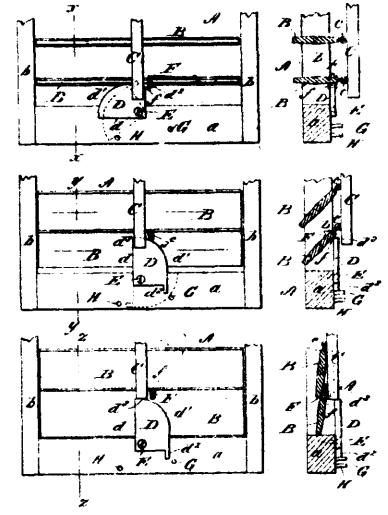
22005 Immel's Drain Cleaner.



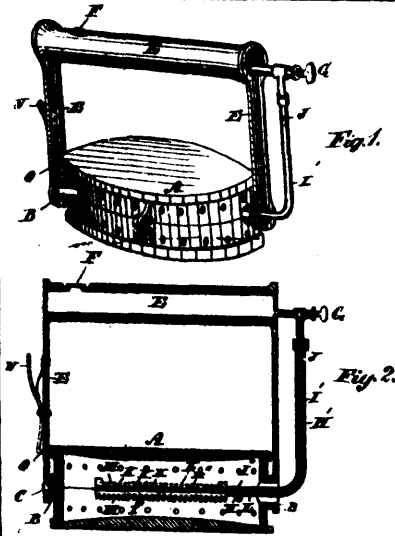
22006 Bryce's Self-feeding Furnace, etc.



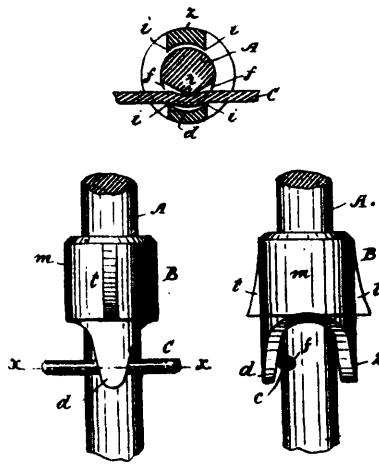
22007 Hoff's Horse Collar Fastening.



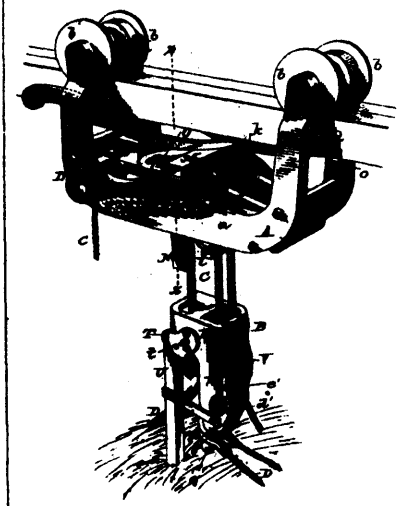
22008 Racey's Blind Slat Check



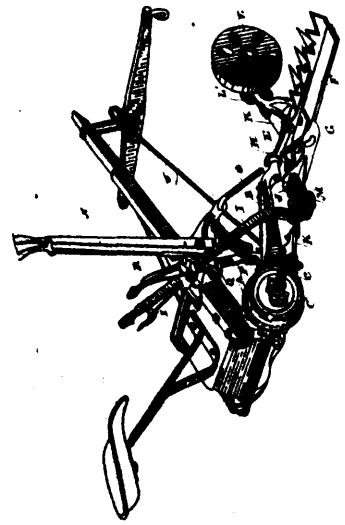
22009 Hexford's Sad Iron.



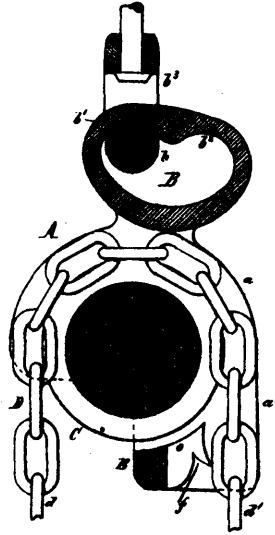
22010 Weld's Wire Fences.



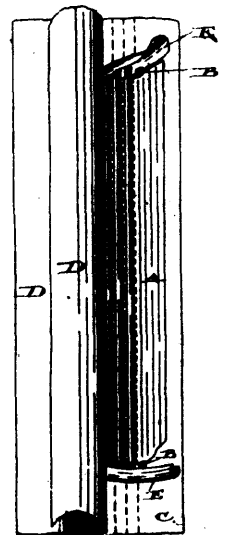
22011 Mead's Hay and Grain Elevator.



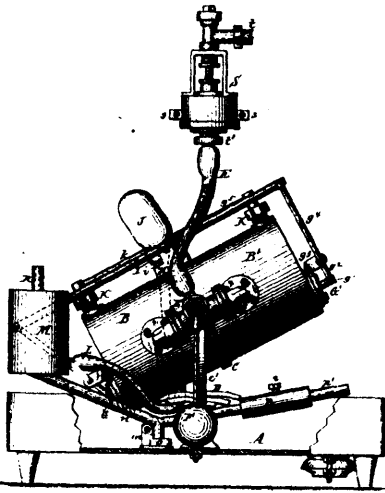
22012 Garvin & Clokey's Mowing Machine.



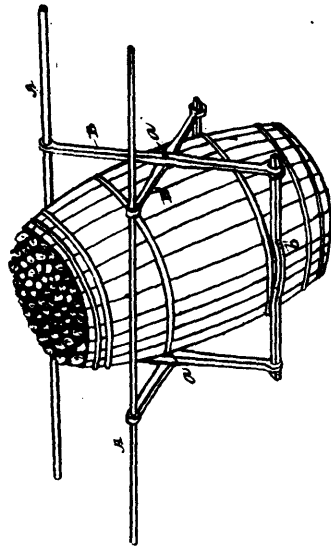
22014 Skinner's Pulley Block.



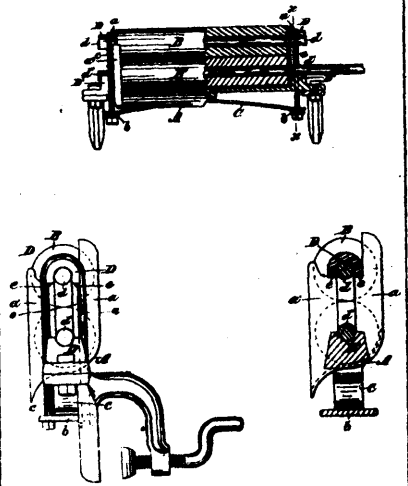
22015 Brush's Corset, etc.



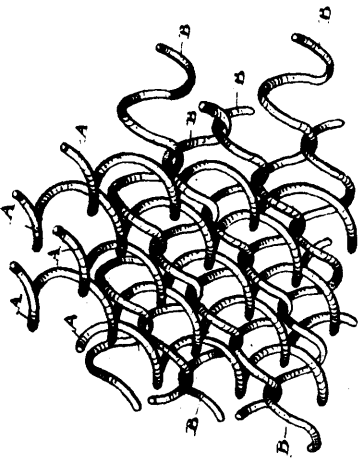
22016 Fox's Air Compressor.



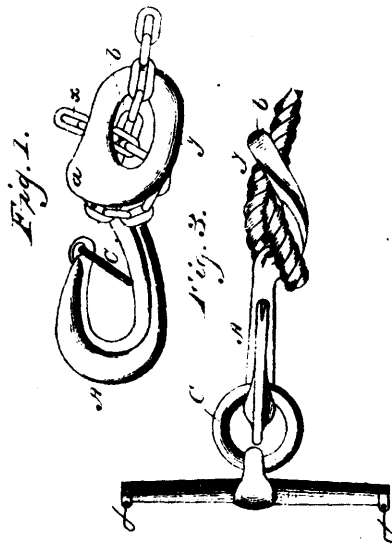
22017 Flansburg's Grapple for Barrels



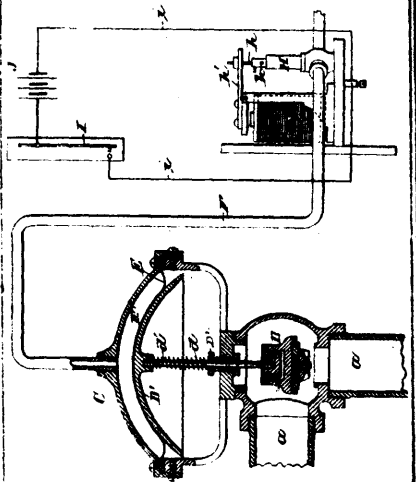
22018 Armstrong's Machine for Wringing Clothes.



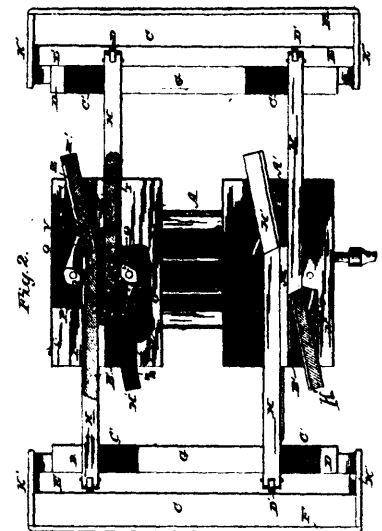
22020 Windt's Wire Mat.



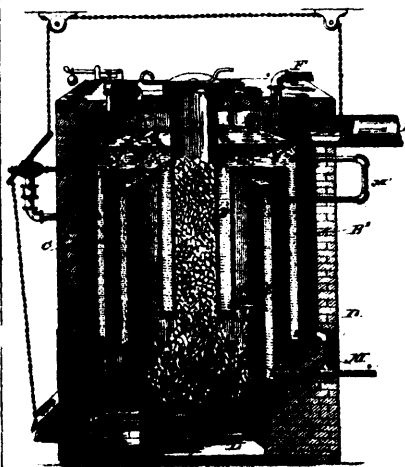
22021 Chambard's Hook.



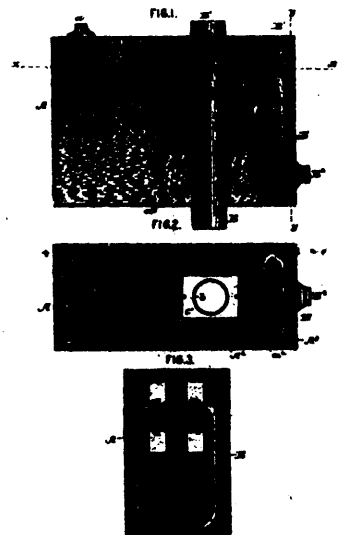
22022 Johnson's Electric Valve for Regulating Temperature.



22023 French's Extension Table.

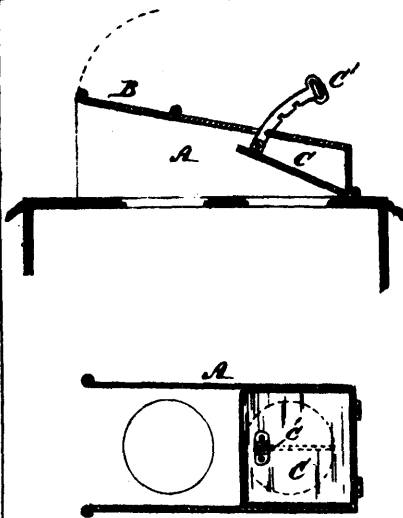


22024 Herbert's Base Burning Steam Boiler.

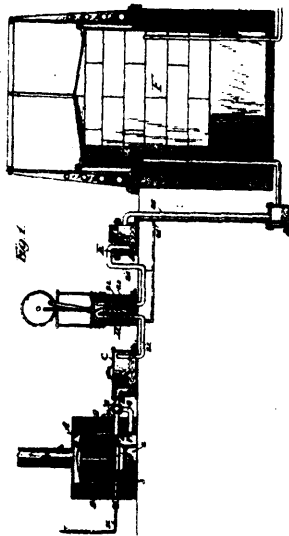


22025 Cothren's Gas Regulator.

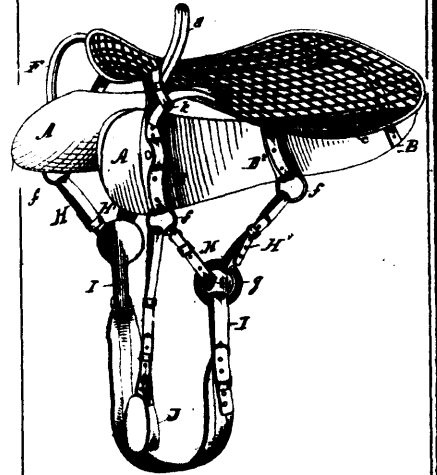




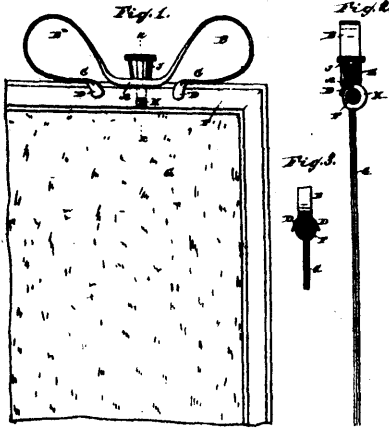
22026 Harding's Culinary Pan Ventilator for Cooking Stoves.



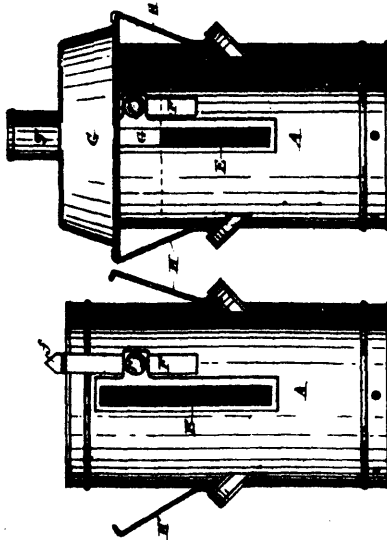
22027 Stapp's Apparatus for the Manufacture of Gas.



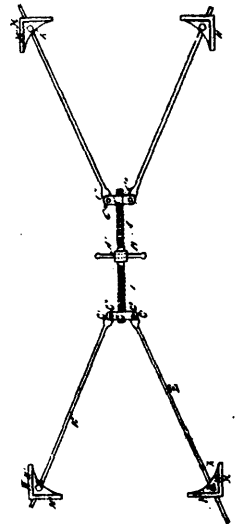
22028 Eckles' Saddle.



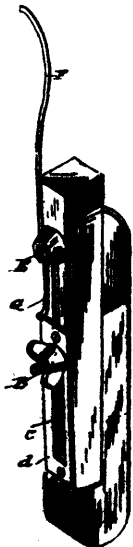
22029 Teeter's Rein Holder.



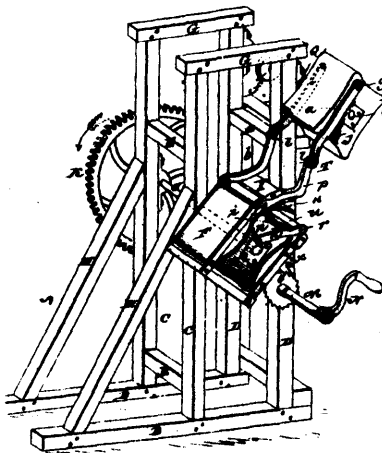
22030 Simpson's Cream Raiser.



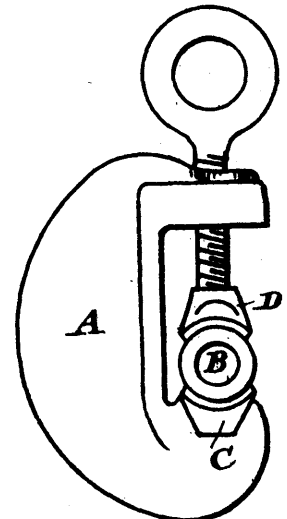
22031 Hammond's Mitre Frame Cramp.



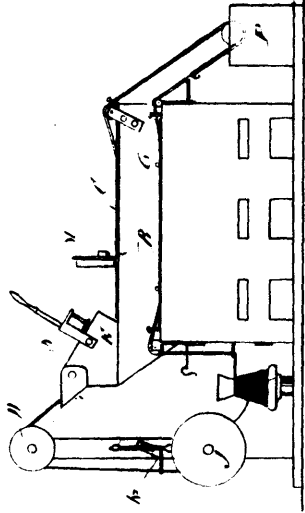
22032 Essex's Weather Boarding Gauge



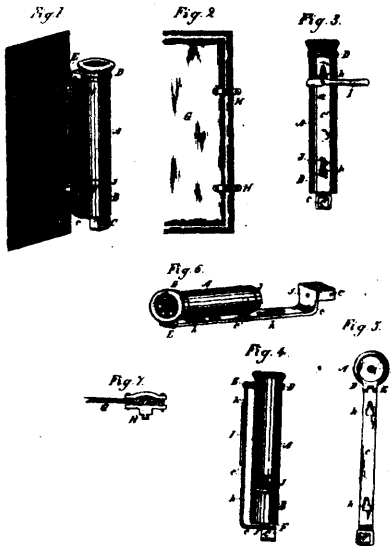
22033 Paige's Box Machine.



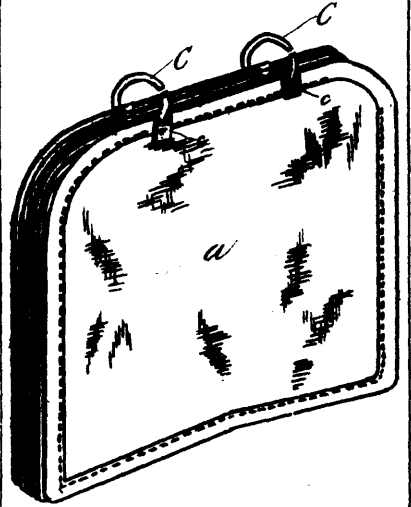
22034 Roberston's Device for Stopping Leaks in Lead Pipes.



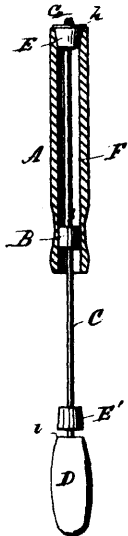
22035 Tucker's Apparatus for Annealing and Galvanizing Wire.



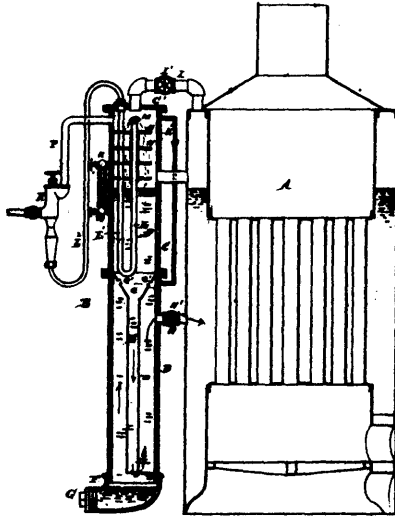
22036 Bard's Whip-Socket, Oil-Can and Wrench.



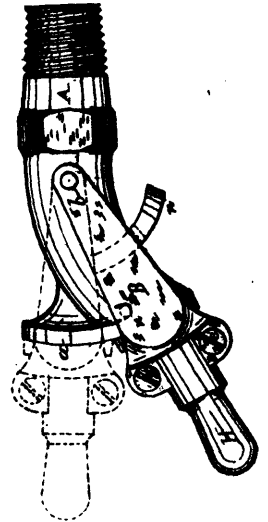
22037 Jerome & Pitkin's Saddle Pad.



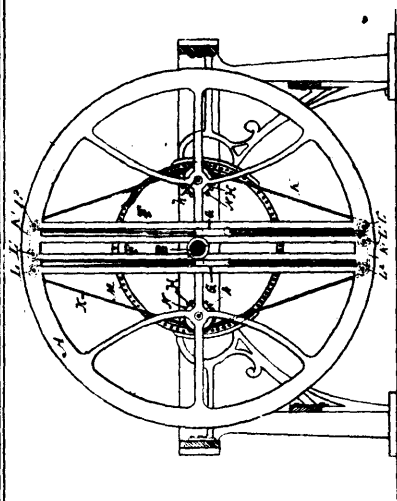
22038 Whitaker's Pop Gun.



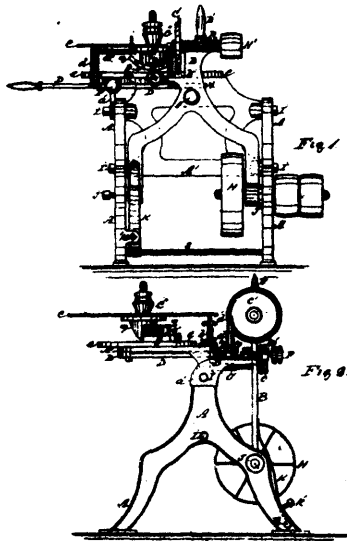
22039 Grau's Feed Water Purifier.



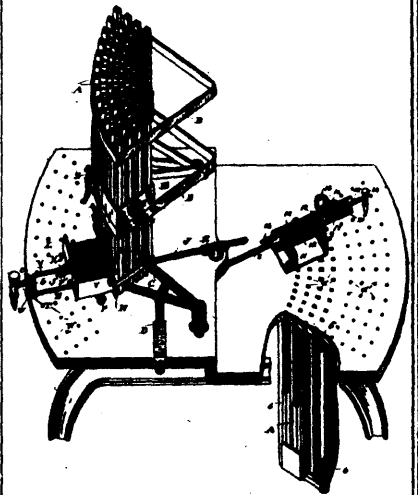
22040 Sooville's Faucet.



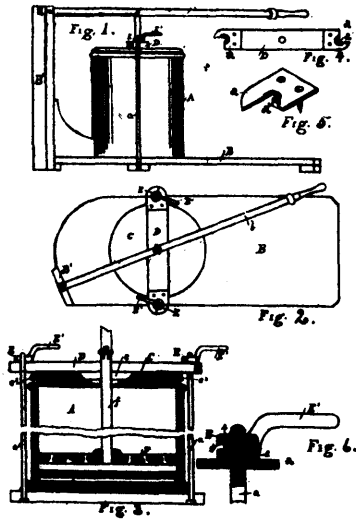
22041 Martel's Motor.



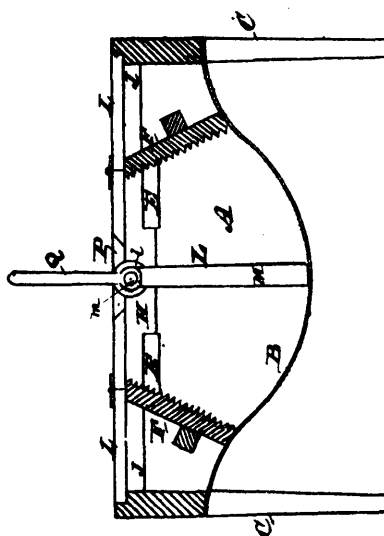
22042 Boger's Machine for Filling Saws.



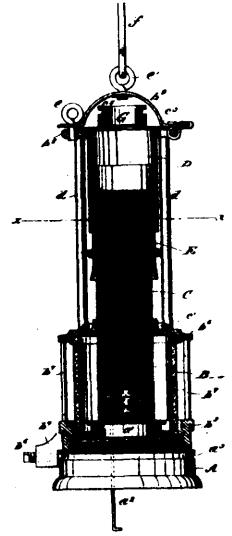
22043 Forrest's Type-Setting and Redistributing Machine.



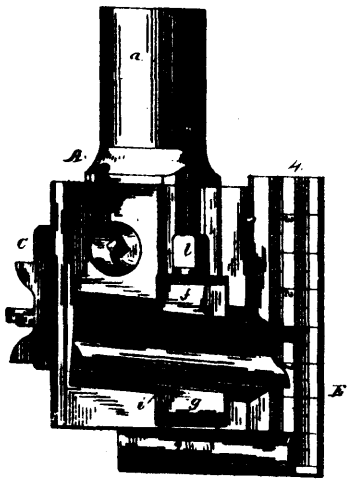
22044 Askins' Churn.



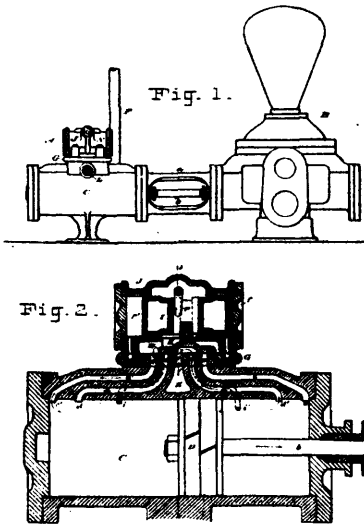
22045 Martin's Washing Machine.



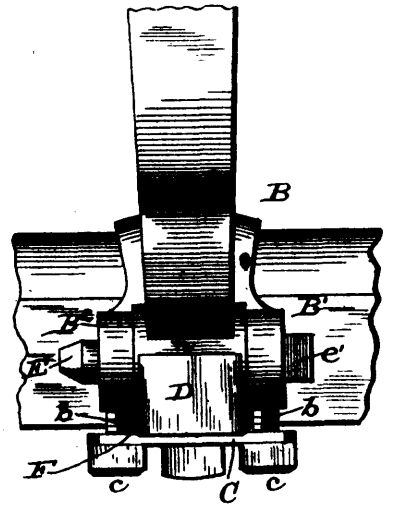
22046 Williams' Safety Lamp.



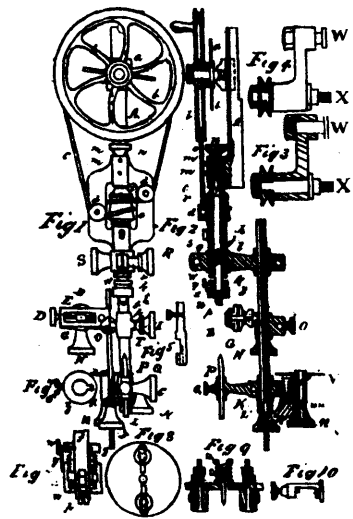
22048 Shimer's Wood Working Machine.



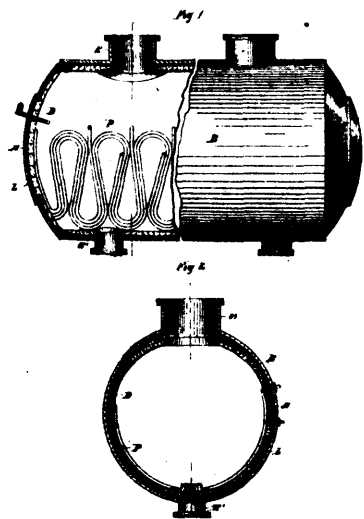
22049 Hall's Duplex Steam Engine.



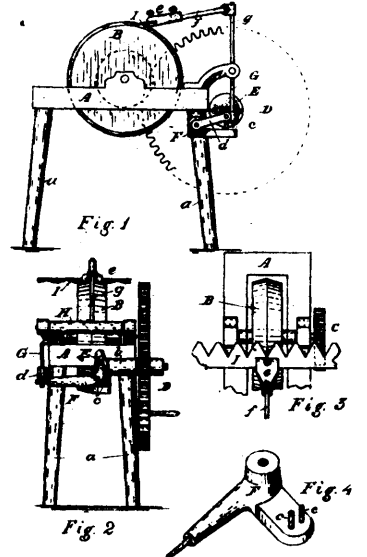
22050 Forbis' Thill Coupling and Anti-Rattler for Vehicles.



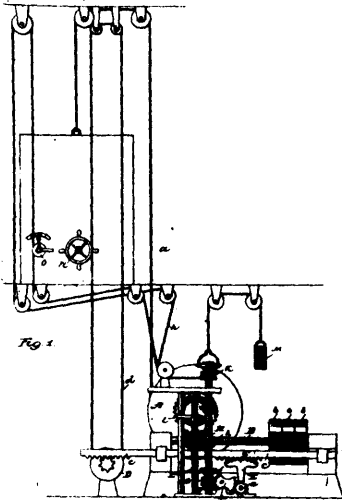
22051 Hunter's Universal Watch and Jeweller's Tool.



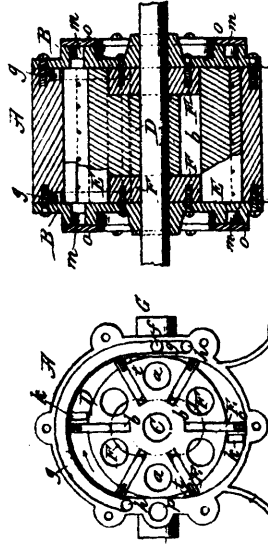
22052 Mitscherlich's Apparatus for the Manufacture of Cellulose, etc.



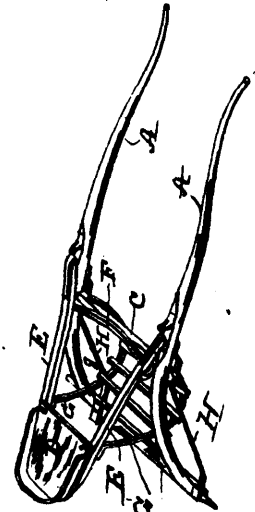
22053 Lalr's Reaper and Mower Knife Sharpener.



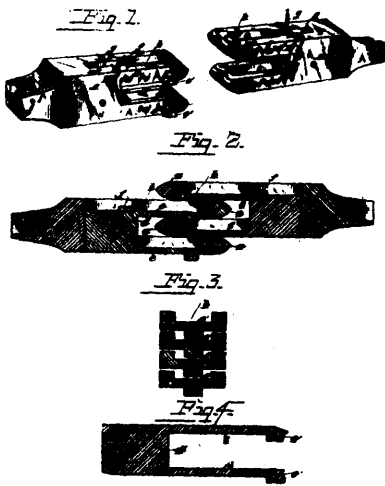
22054 Tewksbury & Reynolds' Elevator.



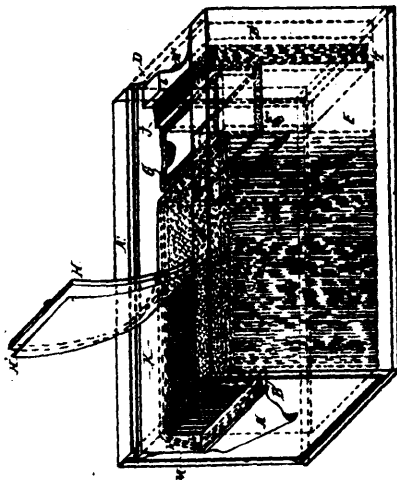
22055 Moffet's Rotary Engine.



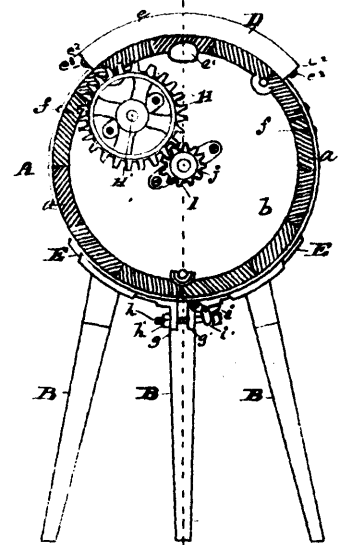
22058 O'Brien's Road Cart.



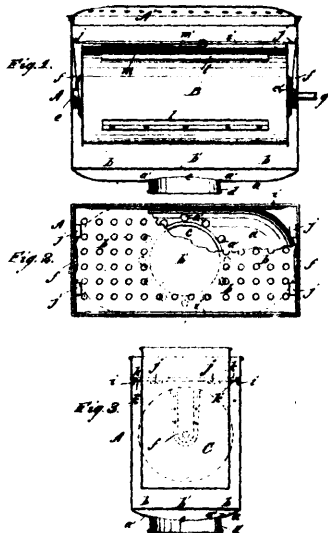
22057 Sturgis' Automatic Car Coupling.



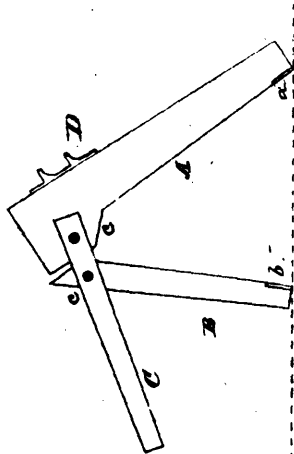
22058 Fréchette's Match Box.



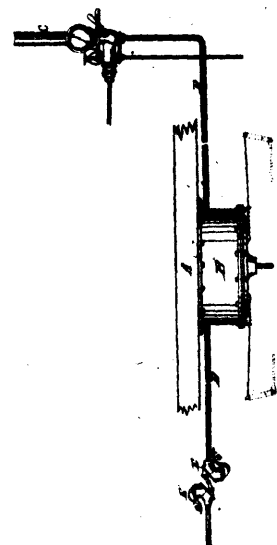
22059 Taylor's Churn.



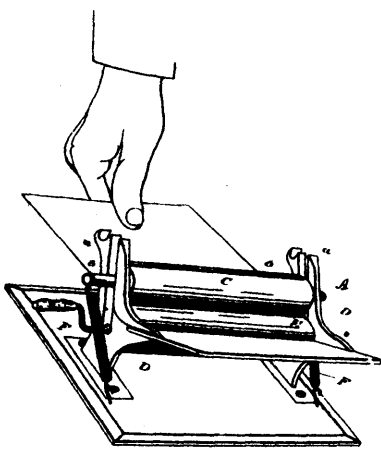
22060 Rosenkrans's Peanut Roaster.



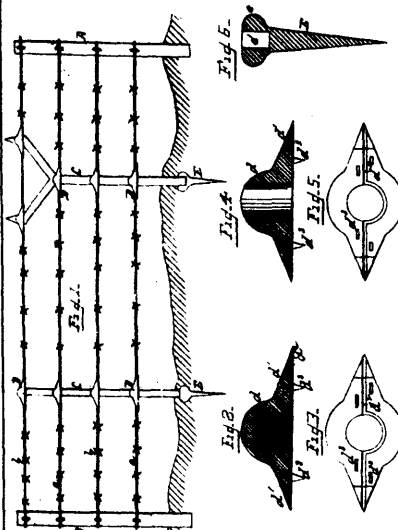
22061 Fell's Wagon Jack.



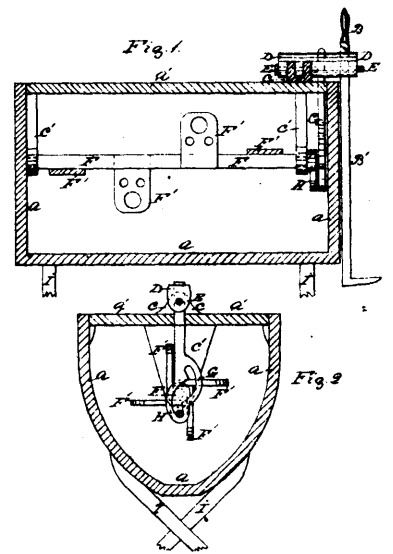
22062 Lawrence's Vacuum Brake.



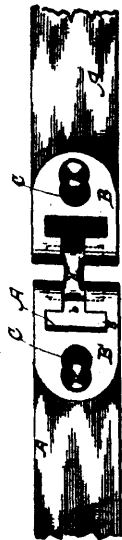
22063 McKay's Copying Machine



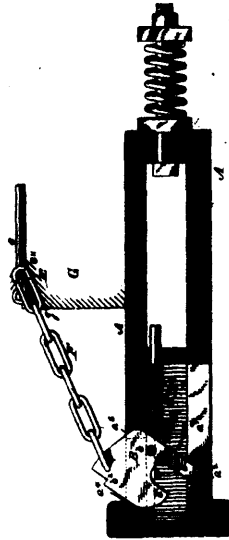
22064 Williamson's Electric Conductor for Wire Fencing.



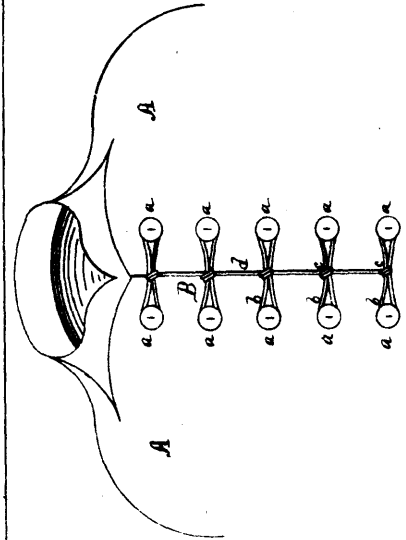
22065 Bradley's Churn.



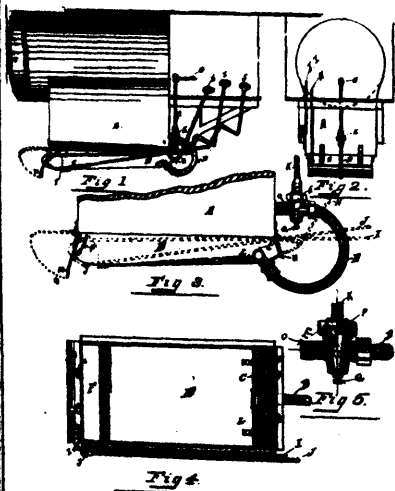
22066 Esq's Belt Fastener.



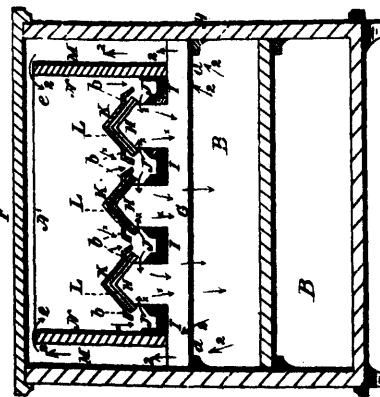
22067 Curtis & Wood's Car-Coupling



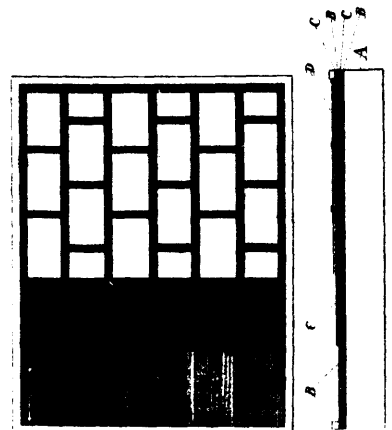
22068 Galt's Shirt Lace.



22069 Davis' Ash Fan Cleaner.

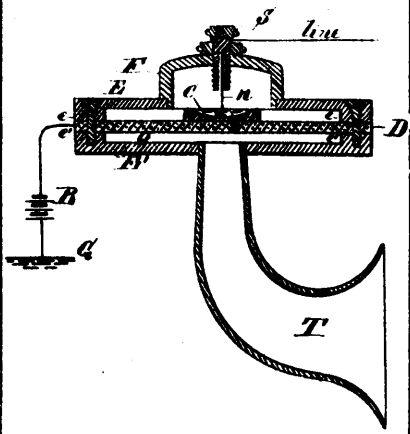


22070 Cavanagh's Refrigerator.

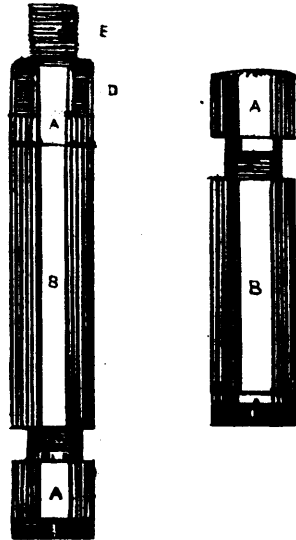


22071 Williams' Flat Roof for Buildings.

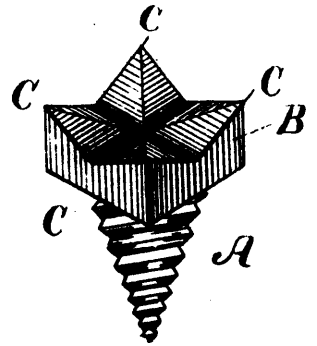




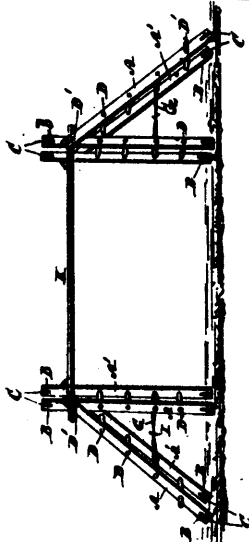
22082 Rogers' Telephone.



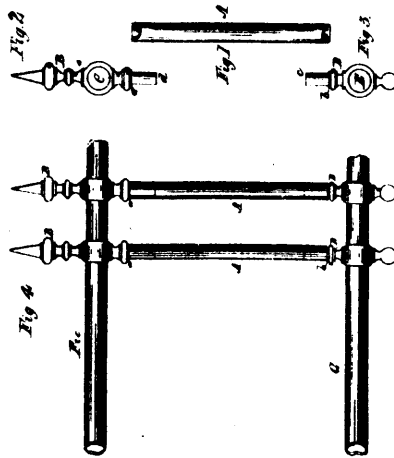
22083 McKenzie & Kelly's Pump Valve.



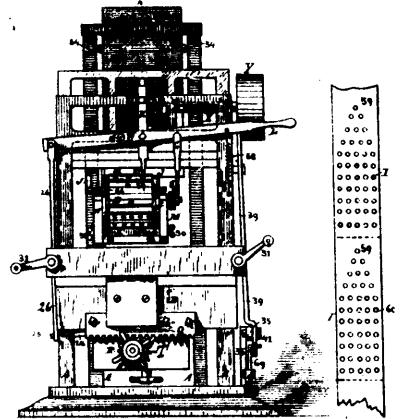
22084 Ehrig's Screw.



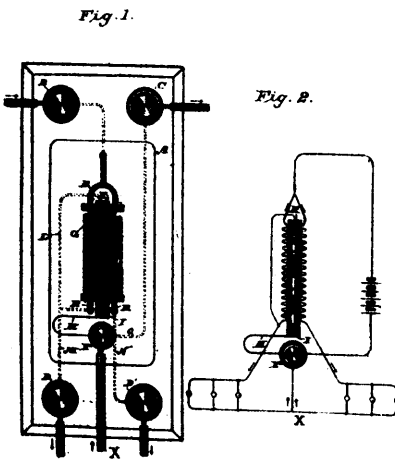
22085 Hitchcocks' Ladder Section, Step-Ladder and Staging.



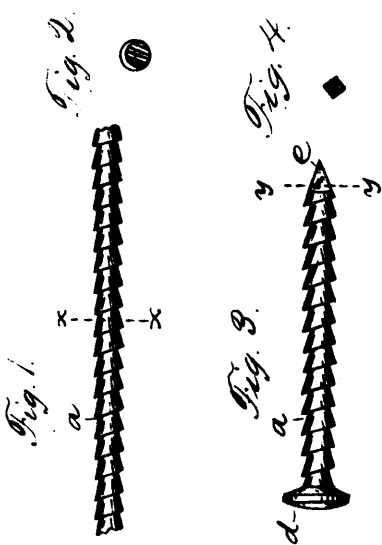
22088 Olmsted's Metal Picket and Fence.



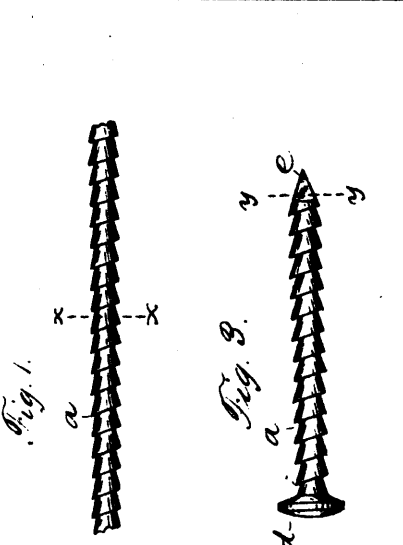
22089 Fenerty's Brush Making Machine.



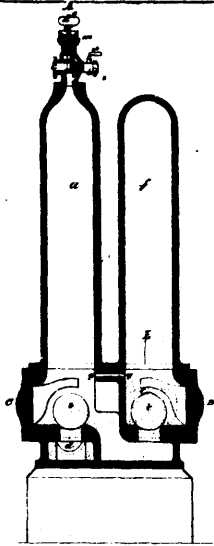
22090 Thomas' Electric Cut-Out for Lamps and Motors.



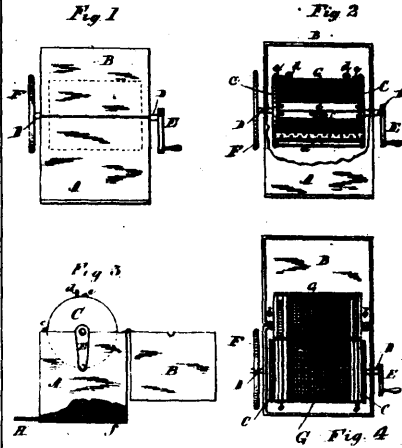
22091 Jones' Improvements in Making Nails.



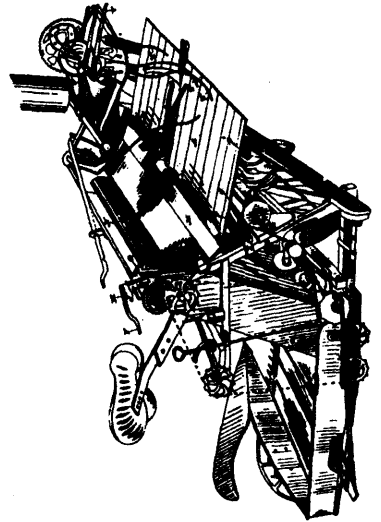
22092 Jones' Improvements in Making Nails.



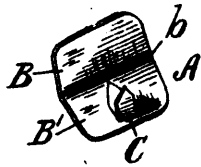
22093 Burnett's Apparatus for Raising Water, etc.



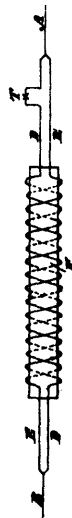
22094 Scott's Druggist's Sieve.



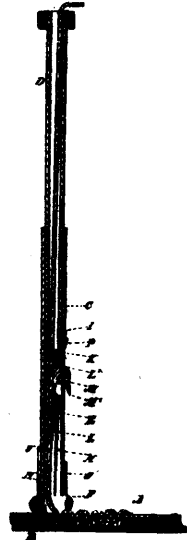
22095 Harris & Lucas' Self-Binding Harvester.



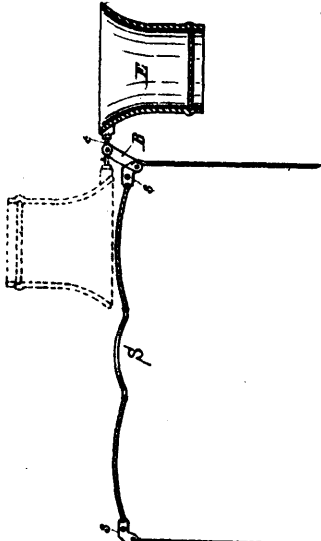
22096 Ball's Fastener for Paper, etc.



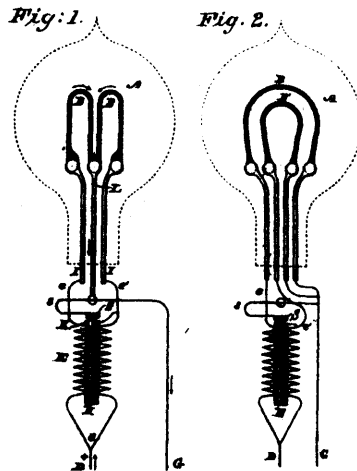
22097 Thompson & Jolin's Winding Coil for Telephone Circuits.



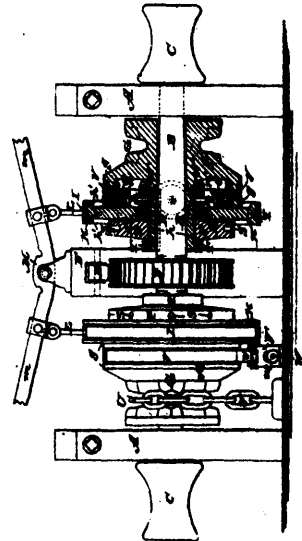
22098 Connett's Machine for Turling Fabrics.



22099 Hull's Watchmaker and Jeweller's Spectacles and Eye-Glasses.

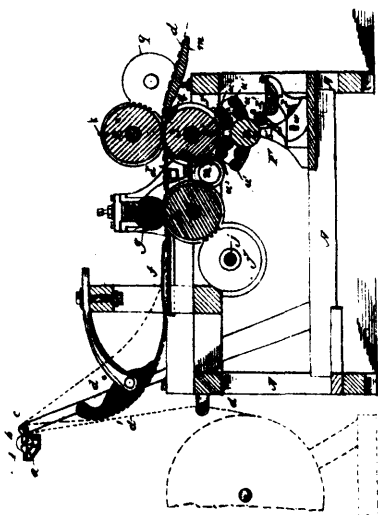


22100 Thomas' Cut-Out for Incandescent Electric Lamps.



22101 Thomson's Windlass.





21102 Boynton's Improvements in Tubing and Printing Paper Bags,

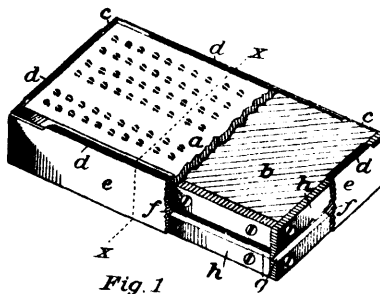


Fig. 1

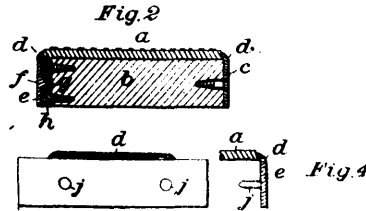


Fig. 2



Fig. 4

22103 Gleeson's Electrotype Blocks.

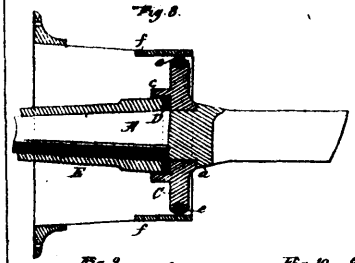


Fig. 8

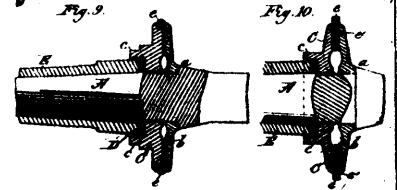


Fig. 9

Fig. 10

22104 Rolph's Sand Band for Vehicle Axles.

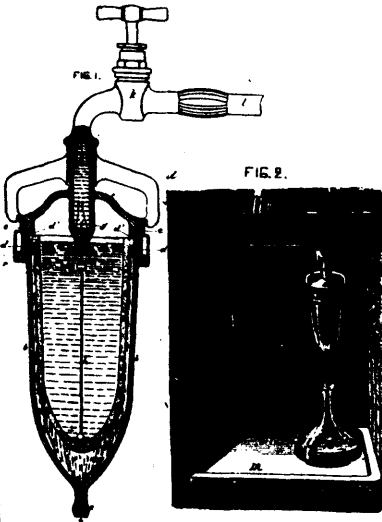
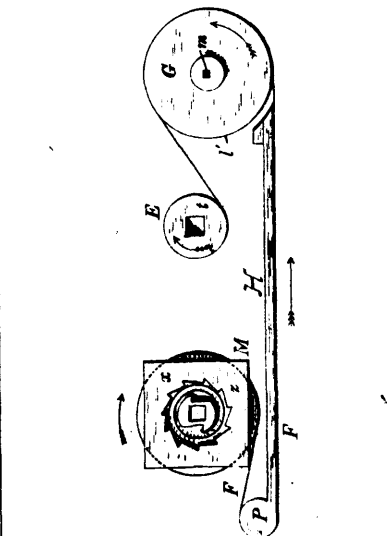


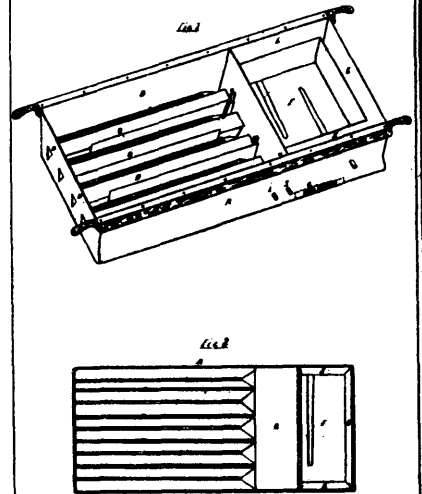
FIG. 1.

FIG. 2.

22105 Mallie's Filter.



22107 Bannister's Roller Holder for Photographic Films.



22108 Farnam's Sugar Sap Evaporator.

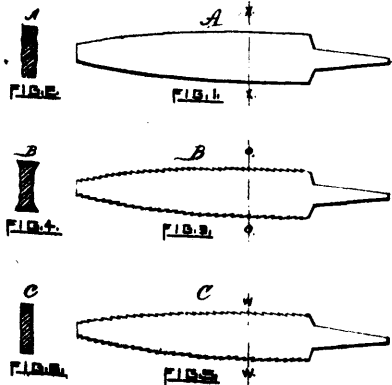


FIG. 1.

FIG. 2.

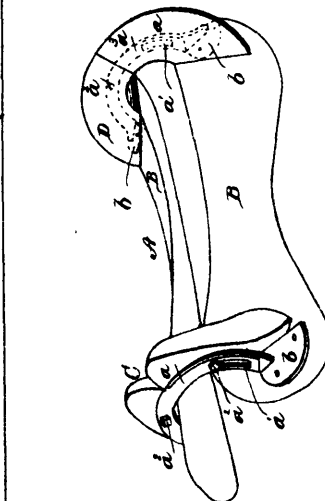
FIG. 3.

FIG. 4.

FIG. 5.

FIG. 6.

22109 Fairbank's Process of Cutting Files.



22110 Wint's Riding Saddle.

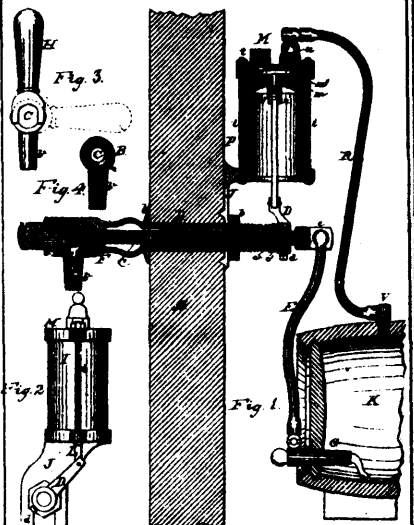
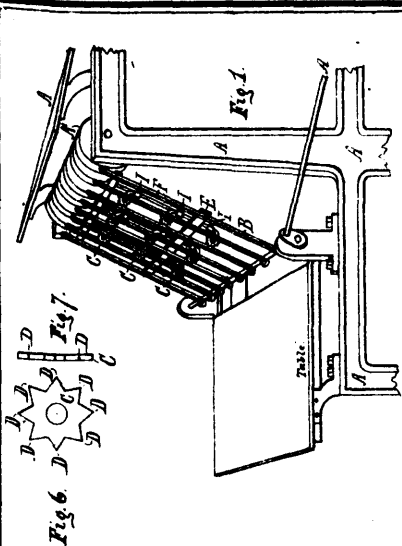


Fig. 3.

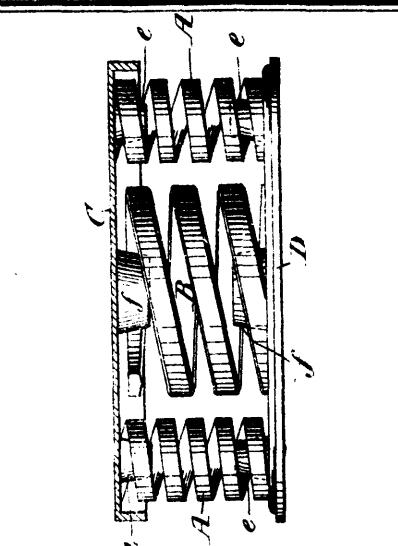
Fig. 2.

Fig. 1.

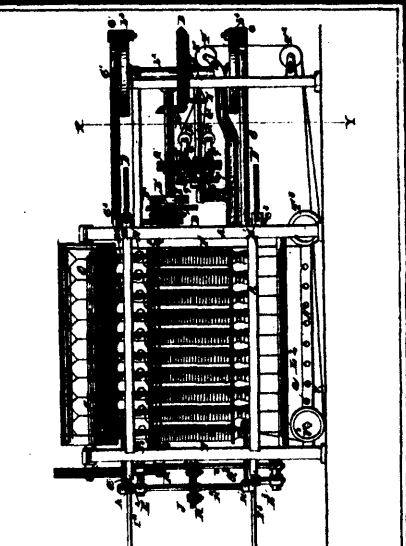
22112 Whitehead's Force and Drain Faucet.



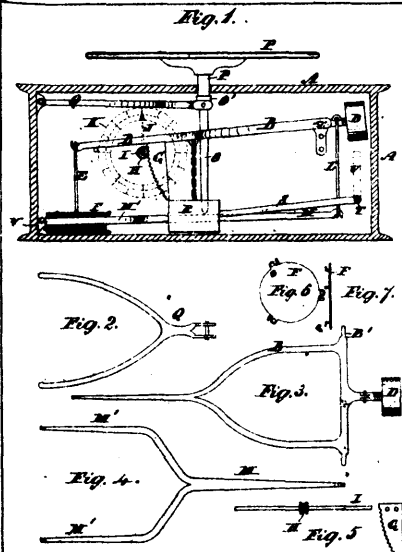
22113 Hyde and Seaman's Friction Device for Printing Press Flyers.



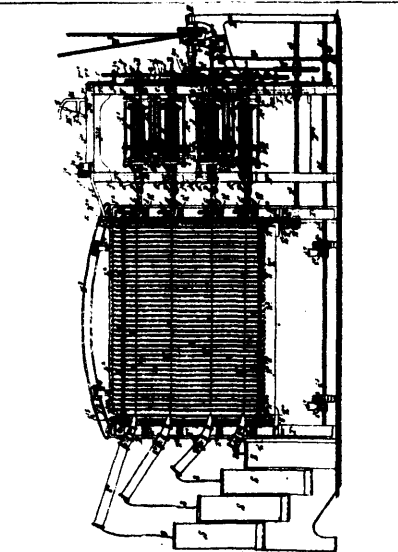
22114 Schoen & Scott's Railroad Car-Spring



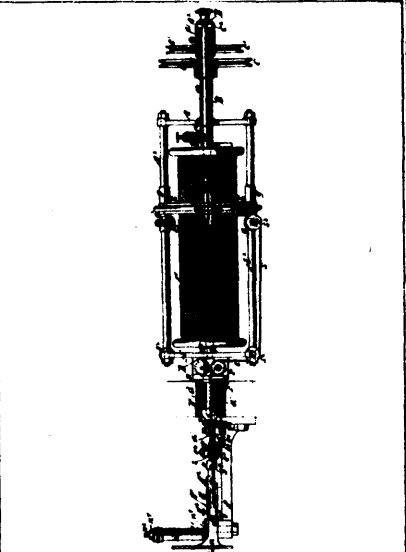
22115 Comb's Wire Netting Machine.



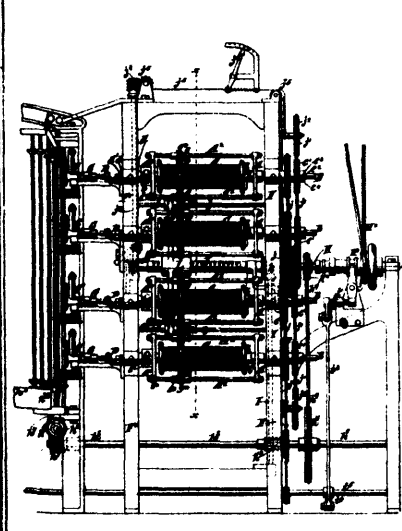
22116 Ball's Counter Scales.



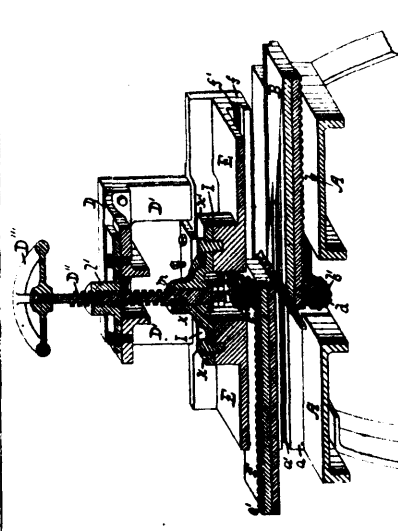
22117 Good's Machine for Drawing and Spinning Hemp, etc.



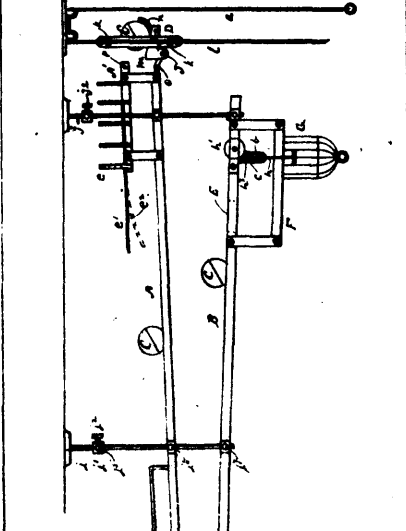
22118 Good's Machine for Drawing and Spinning Hemp, etc.



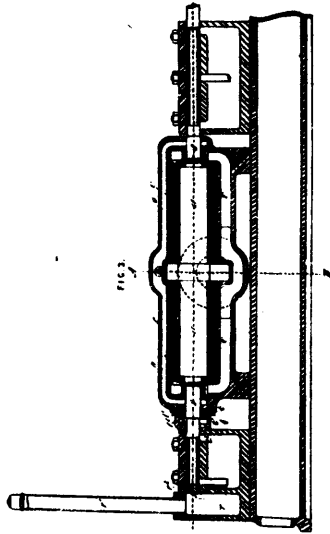
22119 Good's Spindle and Flier used in Spinning.



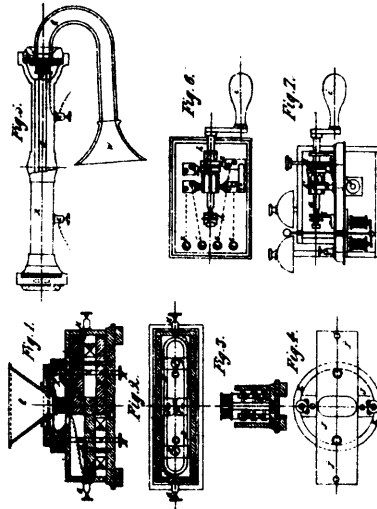
22120 Simond's Machine for Rolling Metal and Dies Therefor.



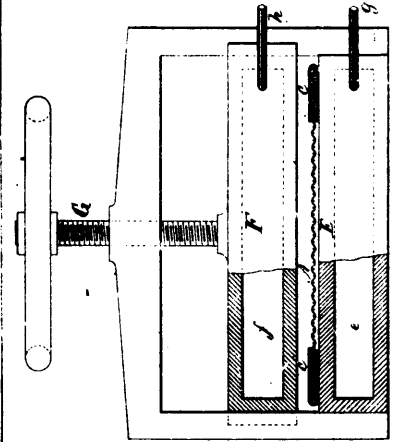
22121 Knauer's Bar for Securing Doors.



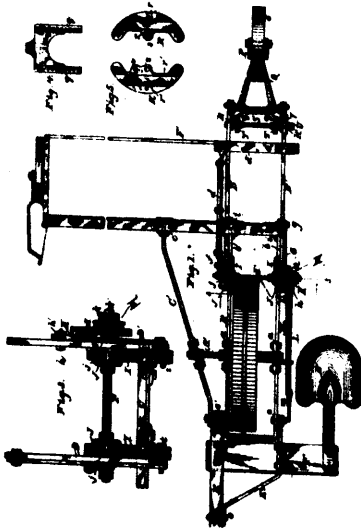
22122 Parson's Rotary Motor.



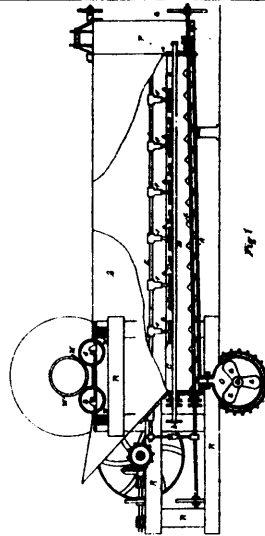
22123 Dembinski's Microphone.



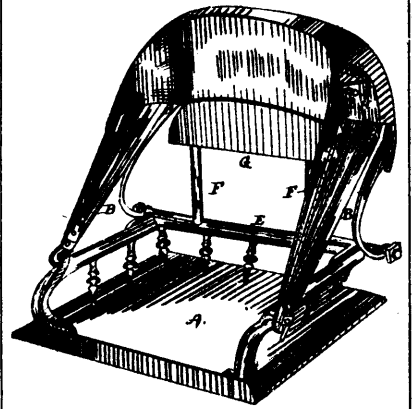
22124 Brigham's Bolting Cloth.



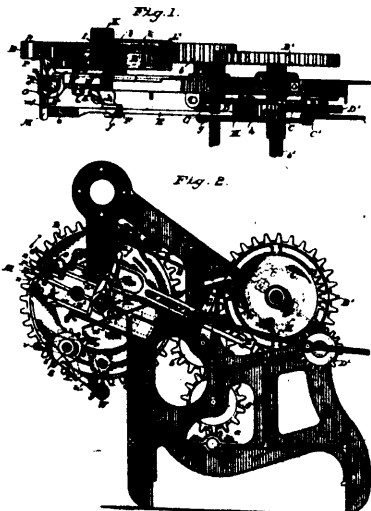
22125 Davis' Grain Binding Harvester.



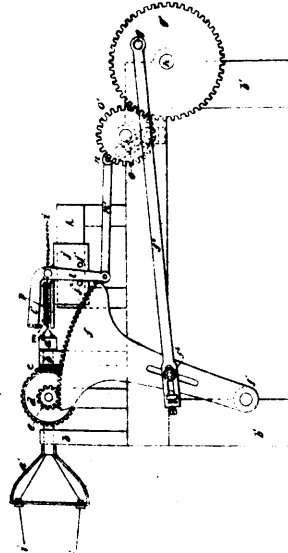
22126 Howard's Machine for Extracting and Saving the Gold in Pulverized Ores, etc.



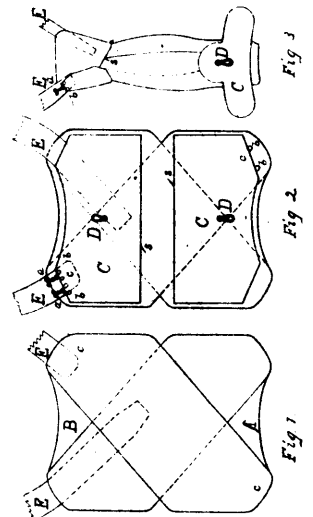
22127 Simmon's Carriage Top.



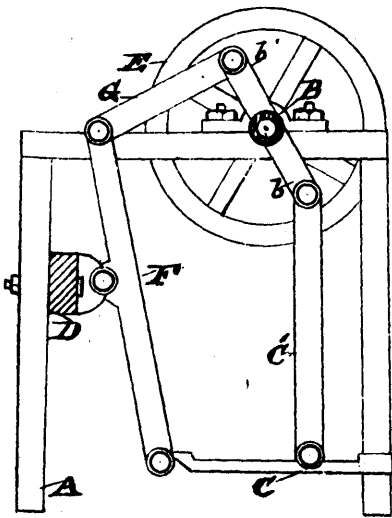
22128 Davis' Mechanism for Actuating Grain Binders.



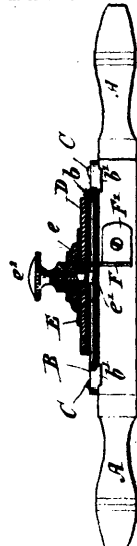
22129 Frank's Wire Twisting Machine.



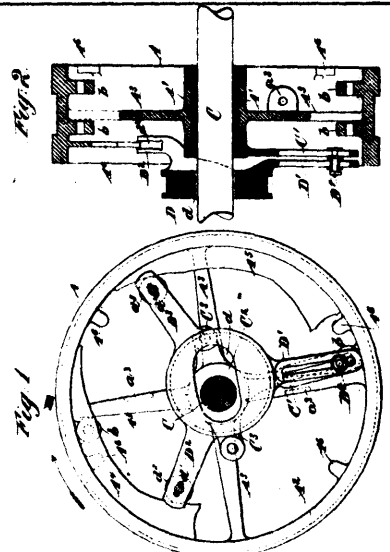
22130 Babcock's Neck Scarf.



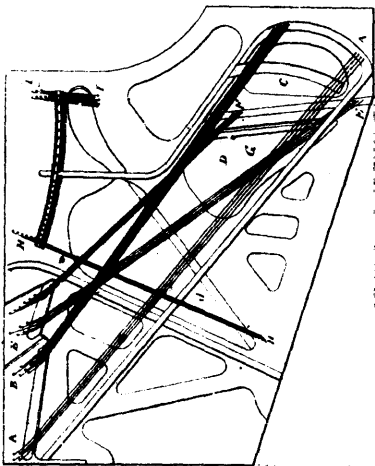
22131 Dyer's Treadle Power.



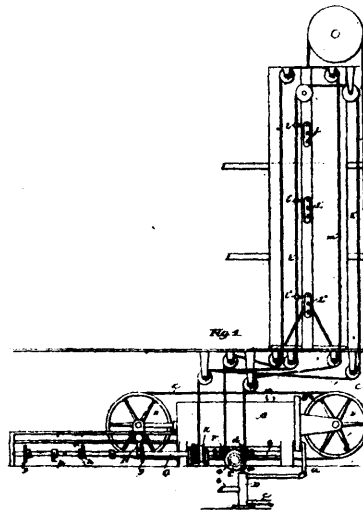
22132 Pool and Williams' Hand Tool for Forming Beadings or Mouldings.



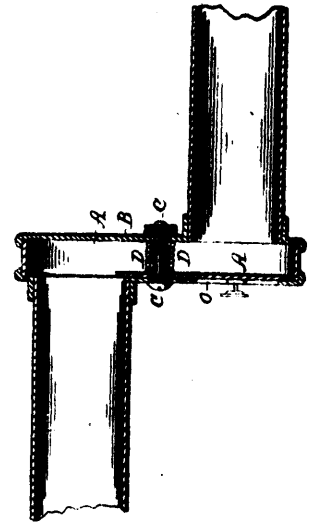
22133 Moore's Steam Engine Governor.



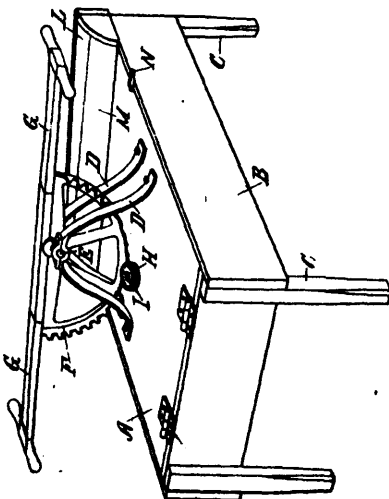
22134 Gunther's Pianoforte.



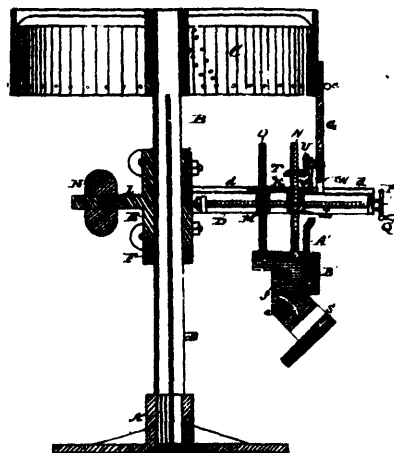
22135 Reynolds & Tewksbury's Elevator.



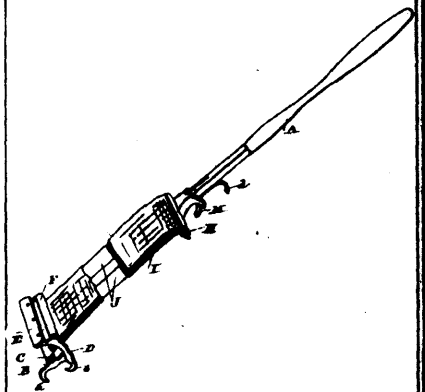
22136 Cram's Elbow for Stove Pipes.



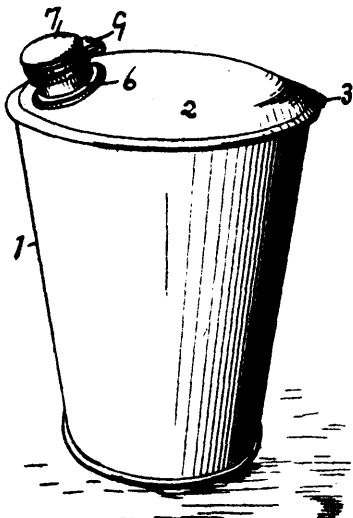
22137 Graham & Hunt's Washing Machine.



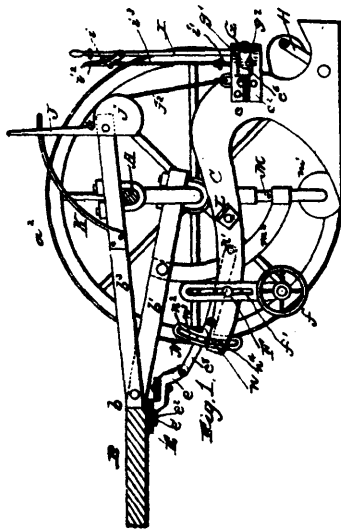
22138 Simpson's Gear Moulding Machine.



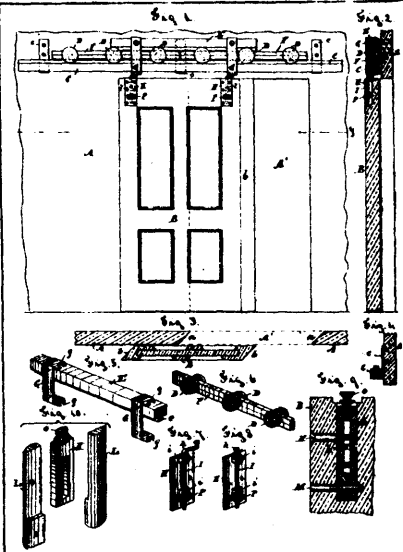
22139 Raymond's Combined Scrubbing Brush-Holder and Mop with Floor Scraper and Mop Cloth Wringer attached.



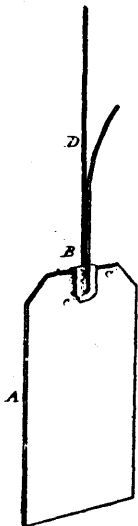
22140 Haslage's Implement for Cooling and Straining Mixed Beverages.



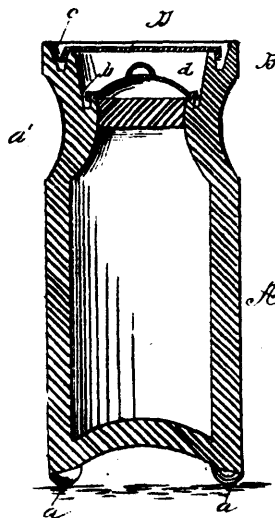
22141 Field's Sulky Plough and Attachment.



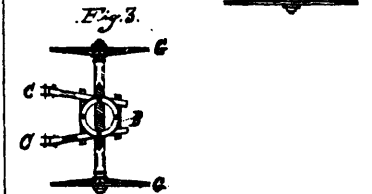
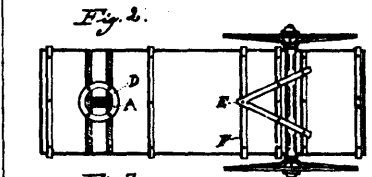
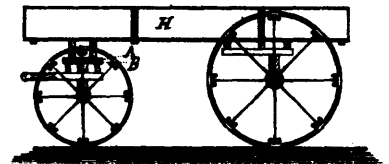
22143 Emerson's Hanging Door.



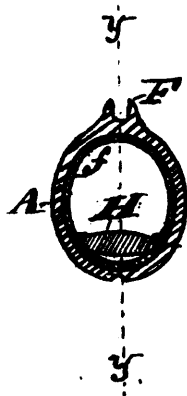
22144 Crane's Tag Fastener.



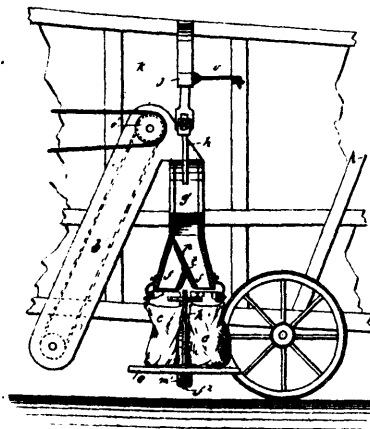
22145 Gannaway's Fruit Jar.



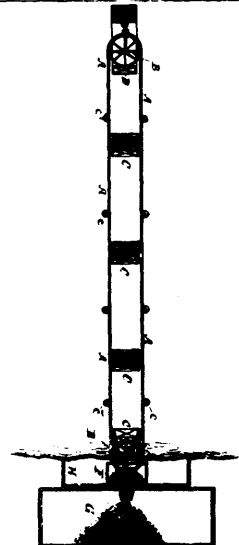
22146 Nicol's Gearing for Farm Waggon.



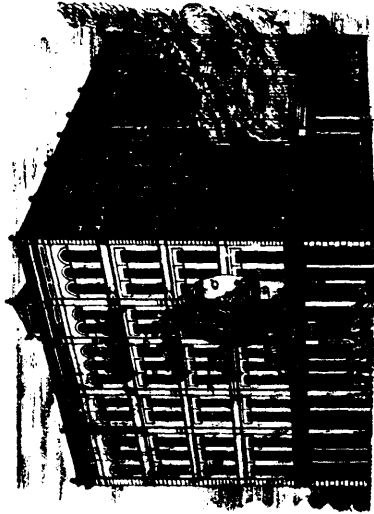
22147 Davison's Thill Loop or Holdback.



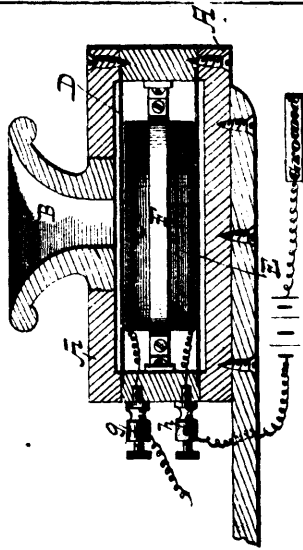
22148 Barber's Grain Sacking and Weighing Attachment for Threshing Machines.



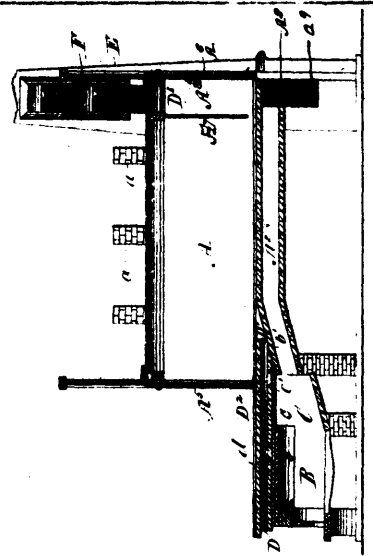
22149 Brown's Tramway.



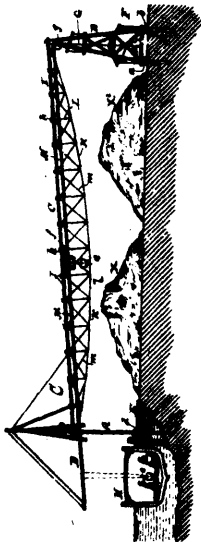
22150 MacDonal's Permanent Fire Escape.



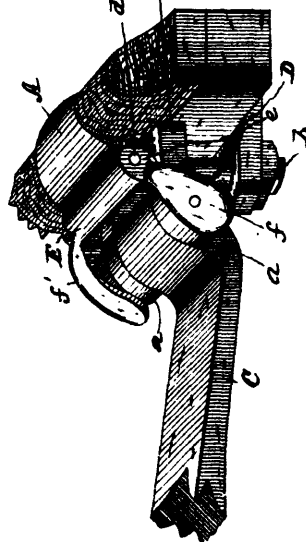
22151 Pratt's Telephone.



22152 Sharer's Drier.



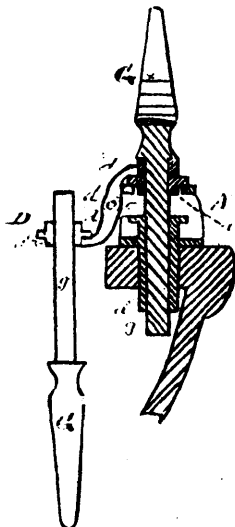
22153 Brown's Machine for Hoisting and Conveying.



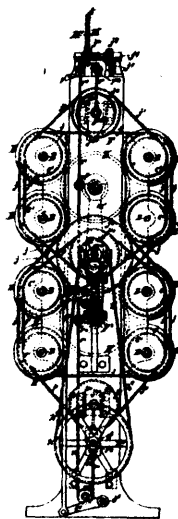
22154 Downing's Thill Coupling.



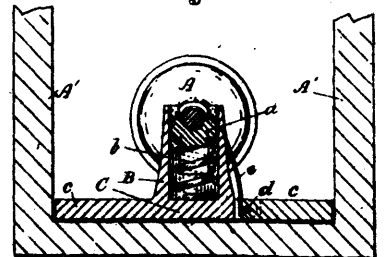
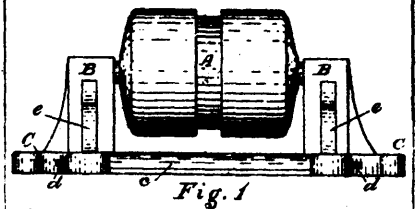
22155 Harness' Apparatus for Facilitating the Inhalation of Medicated Vapour.



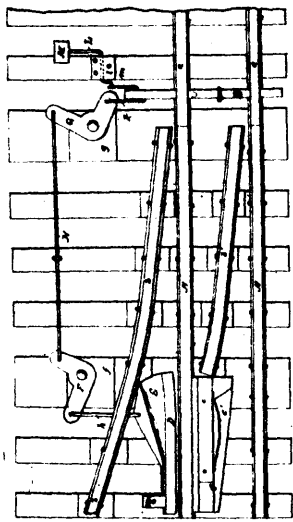
22156 Fenner's Rowlock.



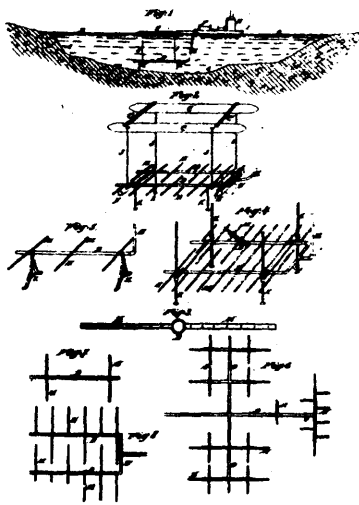
22157 Good's Spindle and Flier for Spinning Hemp, etc.



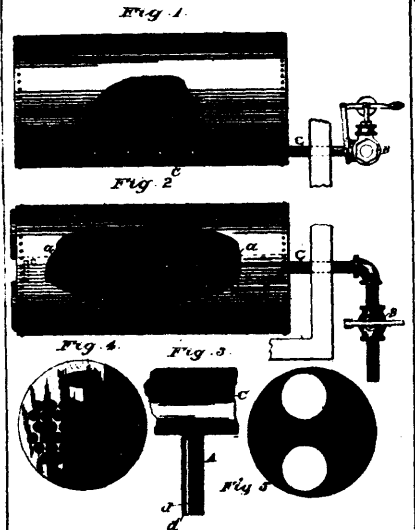
22158 Duprat's Oiling Apparatus for Car Axle Boxes.



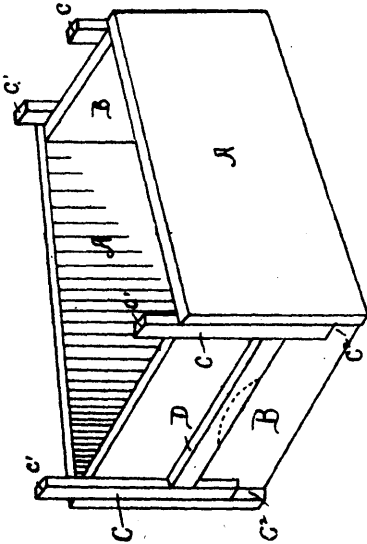
22159 Wallick's Railway Switch.



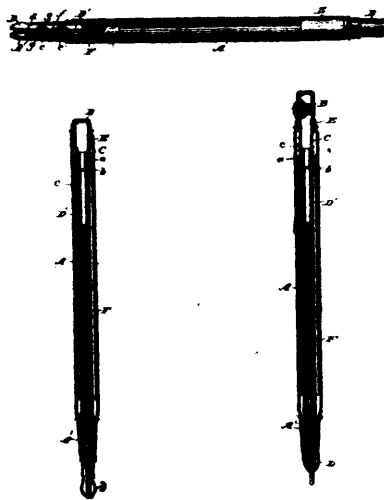
22160 D'Heureux's Means for Purifying Water by Aeration.



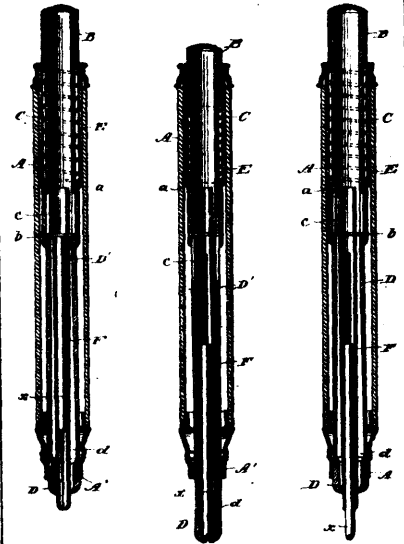
22161 Stewart's Steam Boiler Cleaner.



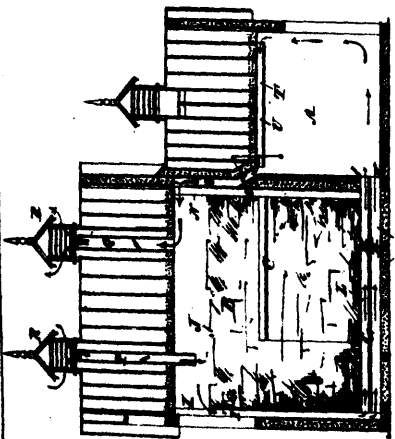
22162 Place's Packing Box.



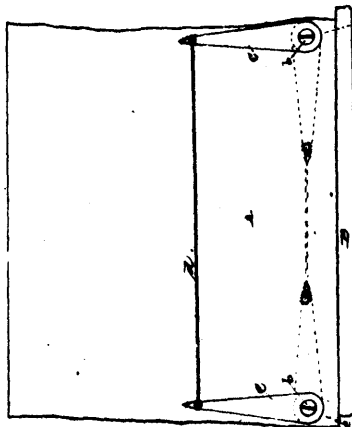
22163 Boman's Lead and Crayon Holder.



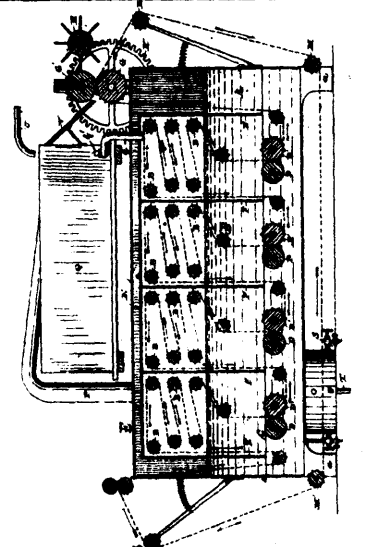
22164 Boman's Lead and Crayon Holder.



22167 Hanrahan's Refrigerator.



22168 Frampton's Music Leaf Holder.



22169 Patrick & Godfrey's Mechanism for Cleaning Textile Fabrics.





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