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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. 23,066. Time Controlling and Correcting System (*Manière de Contrôler et Régler les Chromomètres.*)

William F. Gardner, Washington, D.C., U.S., 4th January, 1886, 5 years.

Claim.—1st. In a time controlling and correcting system, a controlled clock in an observatory or other main line circuit provided with a magnet and armature lever, as described, to actuate the controlling mechanism, said lever acting upon contact springs in a local circuit of a series of clocks in such manner as to form a transmitting clock of such controlled clocks, and thereby automatically and simultaneously control the clock or clocks in the local circuit, substantially as and for the purpose set forth. 2nd. In a time controlling and correcting system, a controlled clock, the movement of which is not actuated by electric impulse, said clock having a magnet in a controlling circuit, the armature of said magnet operating a cam actuating bar in said controlled clocks, and contact springs for closing a circuit in a series of local controlled clocks, whereby the first controlled clock becomes a transmitting clock for the series, substantially as and for the purpose set forth. 3rd. In a controlled clock, as described, the combination, with a magnet B and its armature lever arranged to actuate the controlling mechanism, of contact springs secured to an insulating bar in such a manner that the said springs will be brought into contact when the magnet is energized to complete a circuit to one or more secondary controlled clocks, as and for the purpose set forth. 4th. In a time controlling system, a controlled clock provided with a cam actuating bar made in sections adjustably secured to each other, substantially as and for the purpose set forth. 5th. In a time controlling system, a clock provided with a vertical and adjustable cam actuating bar, said bar having two pins or arms to receive the free end of the armature lever, substantially as and for the purpose set forth. 6th. In a time controlling system, a clock having a vertical cam actuating bar made in two or more sections, and slotted to receive guide and adjusting screws, as set forth. 7th. In a time controlling system, a clock having a cam actuating bar provided with detachable push points, as and for the purpose set forth. 8th. In a time controlling system, a clock having a cam actuating bar provided with push points, the ends of which simultaneously strike two separate points on the cams, substantially as set forth. 9th. In a time controlling system, a clock having a cam actuating bar, said bar having circular or rectangular projections I₂ within which the cams move when acted by the push points, as set forth. 10th. In a time controlling system, a clock provided with a cam actuating bar and push points, each point having a flat edge L and points o, n, as and for the purpose set forth. 11th. In a time controlling system, a clock provided with cams F, H, having a projection lip or ledge L, as and for the purpose set forth. 12th. In a time controlling system, a clock, the hands arbors of which are provided with adjustable friction springs, as and for the purpose set forth. 13th. In a time controlling system, a clock, the seconds hand arbor of which is provided with the adjustable spring II having slot m, in combination with the flat plate M having the pin n, as and for the purpose set forth. 14th. In a time controlling system, a clock the minutes hand arbors of which is provided with an adjustable spiral friction spring s as described. 15th. In a clock, in a time controlling system, the hands arbors provided with screw-threaded ends, a nut and adjustable friction springs of the movable hands sleeves moved forward and backward by said nut, whereby the adjust-

ment of the springs or the arbors is effected, substantially as and for the purpose set forth. 16th. In a time controlling and correcting system, the combination, with an independent clock movements of a cam actuating bar, the magnet B and its armature lever, the insulating bar C and contact springs in the path of the armature lever, substantially as and for the purpose set forth.

No. 23,067. Surgical Chair.

(*Chaise de Chirurgie.*)

Arnon P. Gould and Herbert R. Spencer, Canton, Ohio, U.S., 4th January, 1886; 5 years.

Claim.—1st. In a surgical chair, the combination, with a supporting frame, of a back-section pivotally secured to the supporting-frame, a seat-section pivotally secured to the back-section and to the supporting-frame, and a rock-shaft connected with the seat, and back rest for changing their relative positions. 2nd. The combination, with a supporting frame provided with arm rests, of a back-section pivotally secured to the rear portion of the supporting-frame, a seat section located normally below the side arms and connected with the back section, swinging arms connecting the seat-section to the supporting-frame, and devices for swinging the seat and back-sections into the same horizontal plane on a level with the arm-rests, substantially as set forth. 3rd. The combination, with the supporting-frame and the back-frame pivotally secured thereto, of a seat-section swinging-arms connecting said seat to the supporting-frame, a shaft and a rocking-frame connected with the back-frame and operated by the shaft, substantially as set forth. 4th. The combination, with the seat-section secured to the supporting-frame at its front by a pair of swinging-arms, of a pair of jointed arms also connecting the seat-section and the supporting-frame, and a foot rest section hinged to the seat-section and provided with arms adapted to engage the said jointed connection, whereby the forward and upward motion of the seat-section tends to elevate the foot rest section into the same plane with the seat-section, substantially as set forth. 5th. The combination, with the seat and back sections pivotally secured to the supporting-frame, of an auxiliary rocking-frame secured to the seat-section and to the lower end of the back-section, a rock-shaft secured to the seat-section and having an engagement with the rocking frame and means for imparting a rotary motion to the rock-shaft and thereby adjusting the seat and back sections, substantially as set forth. 6th. The combination, with the seat and back sections pivotally secured to the supporting-frame and to each other, of a rock-shaft, a handle or crank for operating said shaft, a rocking-frame for throwing the said sections into the desired angular adjustments relatively to each other, and means for locking the sections in any desired adjustment, substantially as set forth. 7th. The combination, with a supporting-frame, a seat and back section pivotally connected to the frame, a rocking-frame connected to the seat, and a rock-shaft for operating said rocking-frame, of a spring-actuated located beneath the seat-section and adapted to automatically lock the rocking-frame in elevated apartment, substantially as set forth. 8th. The combination, with the seat and back sections, of a rocking-frame connecting the two, and a rock-shaft journaled in bearings on the lower side of the seat and adapted to transmit motion to the rocking-frame, substantially as set forth. 9th. In a chair, of the character herein specified, the combination of the stirrups arranged for adjustment in perpendicular or horizontal direction, substantially as shown and described. 10th. The combination, with a chair of the character herein specified, of the head-rest P held in position by crotch-frame Q secured to the supporting arm p p and socket-joint q, the threaded stem q, eye-bolt r, stem q, sliding bar o, ball o₂, disk o₃, stem q, sliding bar u, spring arms f, lugs p, slotted links f₂, in all respects substantially as set forth and described. 11th. The combination, with the supporting-frame with the supporting-frame, of a seat-section pivotally secured at its front to the supporting-frame by swing arms, and at its rear end pivotally secured to the supporting-frame by swinging bars, substantially as described.

No. 23,068. Watch and Clock.

(*Montre et Horloge.*)

Heinrich E. Hambroch, Hamburg, Germany, 4th January, 1886; 5 years.

Claim.—1st. In clocks and watches, the combination of the wheel

work with a cylindrical or conical spiral spring excessively twisted by winding up, substantially as set forth. 2nd. In clocks and watches, the combination of the wheel work with a cylindrical or conical spring compressed by winding up, substantially as specified.

No. 23,069. Ladder. (Echelle.)

Eugene E. Fox and George McDormand, Somerville, Mass., U. S., 4th January, 1886; 5 years.

Claim.—1st. In an extensible ladder, the pivoted hook D, provided with the cam f and lever E, in combination with the sections F, A and means for raising section B, substantially as described. 2nd. In an extensible ladder, the pin B, in combination with the hook D for preventing the latch or lever E from dropping too low, substantially as set forth. 3rd. In an extensible ladder, the combination of the following instrumentalities, to wit: two sections, each provided with a sheave and rungs, and adapted to slide on the other, a cord passing over the sheaves for raising and lowering one of the sections, and a gravity hook pivoted to a rung of one of the sections and adapted to engage the rungs of the other section, said hook being provided with a lever or latch for closing its mouth, and a cam for throwing it outwardly to enable it to pass upwardly over the rungs of the section to which it is not pivoted, substantially as described. 4th. The improved extensible ladder herein described, the same consisting of the section A provided with the rungs x and sheave z, the section B provided with the rungs x and sheave d, the hook D provided with the cam f and lever E and the cord C, constructed, combined and arranged to operate, substantially as set forth. 5th. In an extensible ladder, the lever E extended beyond the end of the hook D, whereby said lever is enabled to engage the rungs of section A and upon the hook as it passes upwardly over said rungs, substantially as described.

No. 23,070. Combined Filter and Cooler.

(Filtre-Fontaine.)

John C. Jovett, Buffalo, N.Y., U.S., 4th January, 1886; 5 years.

Claim.—1st. In a combined filter and cooler, an independent shell for said filter, in combination with the filtering-vessel and a narrow band permanently affixed to said filtering-vessel, said band forming a continuation of the independent shell as and for the object stated. 2nd. In a combined filter and cooler, an oblong gravel-cup II having perforated partitions I, a perforated receiving-cup J and a sponge-cup L, said sponge-cup being located with reference to the gravel-cup, substantially as and for the purpose indicated. 3rd. In a filter, the combination, with the gravel-cup, of a sediment compartment P having draw-off faucet h, as and for the purpose specified. 4th. The combination, with the vessel E having the perforated bottom G, and the diaphragm F of the oblong gravel-cup II having the perforated partition I, the perforated bottom z, apartment P and faucet h and the filter-strata, substantially as and for the object mentioned. 5th. The combination, with the gravel-cup II having the perforated bottom, of a filling consisting of a layer of cheese-cloth and a sponge, as and for the purpose indicated. 6th. The combination, in a filter, of the shell E having perforated bottom G and diaphragm F, the gravel-cup II with perforations d, and the laterally projecting collar R, as specified.

No. 23,071. Apparatus designed to Facilitate the Process of Covering Pills with Plastic Coatings. (Appareil pour Faciliter le Procédé pour Couvrir les Pilules de Corps Plastiques.)

Edgar L. Patch, Boston, Mass., U.S., 4th January, 1886; 5 years.

Claim.—1st. In an apparatus for pill-coating, the circular drying-disks A, provided interiorly with radial automatic clutches D, confining displaceable bars F, carrying impaling-points N, substantially as and for the purpose set forth. 2nd. In an apparatus for pill-coating, the combination, with the drying-disks A, A, of separable impaling bars F, rigidly confining a series of impaling-needles N, said needles extending in a direction radially from the axis, as specified. 3rd. In an apparatus for pill-coating, the combination of the separable impaling-bars F, with a series of extending needles N, secured rigidly in transverse slots k by short holding-wires O and capping T, for the purpose set forth. 4th. In combination with the impaling-bars F, the dipping-handle provided with U-shaped and reflected spring-arms W and V, as described. 5th. In an apparatus for pill-coating, a dividing and separating tray a, in combination with a detachable serrated dividing plane or floor h, sustaining a series of conical depressions j, for the accurate impalement on the same dividing-plane of every size of pill, as herein specified. 6th. In an apparatus for pill-coating, the combination of the transverse partition d, with a dividing-plane h provided with continuous serrated raceways i terminating in conical depressed pockets j, substantially as shown. 7th. In an apparatus for pill-coating, the combination, with the inclined floor h, of the aggregate devices k, l, m acting in conjunction with the depressions n in the under side of said incline h, to depress or raise the pockets j bringing them in juxtaposition with the impaling-points N, for the purpose set forth. 8th. In combination with a dividing and separating tray a, the transverse partition d having guides f, f, and stops g, g, guiding and arresting the descent of the impaling-bars F, substantially as herein specified. 9th. In combination with the transverse partition d, the end guides j, j and stops g, g, for the purpose described. 10th. In an apparatus for pill-coating, the combination, with the drying disks A, of a separable impaling-bar F embracing the tongued vertically-channelled side M, the tongued and recessed bar R provided with transverse P, tongue Q and grooved capping-piece T, all uniting to sustain a series of impaling-needles N, substantially as specified.

No. 23,072. Chimney Cowl.

(Capuchon de Cheminée.)

Albert T. Putnam, and Henry L. Wineman (Assignees of Thomas J. Bradbeer), Detroit, Mich., U.S., 11th January, 1886; 5 years.

Claim.—1st. The flue A provided with deflecting flange D secured to said flue, the deflecting frustum E secured to said standards above the flange D, the frustum F secured to the standards above the frustum E, inverted frustum G secured to the bottom of frustum E and the cone C of smaller diameter than said flue and supported by said standards, substantially as described. 2nd. The improved chimney cowl herein described, consisting of the flue A, standards B, cone, cap C, of smaller diameter than said flue and supported by said standards, deflecting frustums E, F, inverted frustum G secured to the bottom of said frustum E, and having opening frustum H secured to the frustum G, and upper frustum J rigidly secured to the outer ends of the standards B, all arranged and operating as and for the purpose specified.

No. 23,073. Spring Hinge. (Penture à Ressort.)

Siméon Cosky, Sorel, Que., 4th January, 1886, 5 years.

Réclame.—La combinaison nouvelle du ressort on spirales à fonctions multiples, tel qu'embrassé et fixé dans la cartouche G3, conjointement avec la douille fixe D et douille mobile E, les susdites douilles telles que composées des parties D, D1, D2, f d et a' et E, E1, E2, f et a et l'équivalent s. Le gond, A tel que composé des parties tête A en pans érou g1 A1, A2, A3, z et A4. La rondelle x et la cavité y, la noix G en pans érou g2, le tout tel que décrit et pour les fins indiquées.

No. 23,074. Metal Roofing. (Toiture Méallique.)

The National Sheet Metal Roofing Company (Assignee of John Walter), Nashville, Tenn., U.S., 4th January, 1886; 5 years.

Claim.—1st. The combination of layers of sheet metal plates A, in such manner that the seams G between the plates of an upper layer shall coincide with and form an extension, of a central corrugation I formed in the plates of the next lower layer, substantially as set forth and shown. 2nd. The combination of layers of sheet metal plates A in such manner that the seams G between the plates of an upper layer shall coincide with and form extensions of central corrugations I, formed on the plates of the next lower layer and the central corrugations J of said upper plates shall overlap the seams G of said lower plates, substantially as described and shown.

No. 23,075. Electro-Magnetic Stop Mechanism for Automatically Arresting the Motion of a Knitting Machine. (Mécanisme Electro-Magnétique d'Arrêt Automatique pour Machine à Tricot.)

Andrew M. Newlands, Preston, and Adam Warnock, Galt, Ont., 4th January, 1886; 5 years.

Claim.—1st. In a knitting machine, having one pole of an electro-magnet permanently connected to it, the armature of the said magnet when not in contact with it being designed to hold rigidly a series of levers, by which the belt-shifter or stop-lever of the machine is held while the machine is in operation, the combination of mechanism, substantially as described, by which the breaking of a thread shall put the other pole of the magnet into circuit for the purpose of attracting the armature towards its magnet and thereby relieve the belt-shifter or stop-lever, so that it shall stop the machine, substantially as specified. 2nd. In a knitting machine having one pole of an electro-magnet permanently connected to it, the armature of the said magnet when not in contact with it being designed to hold rigidly a series of levers by which the belt shifter or stop-lever of the machine is held while the machine is in operation, the combination of mechanism substantially as described, by which a hole occurring in the work shall put the other pole of the magnet into circuit, for the purpose of attracting the armature towards the magnet and thereby relieve the belt-shifter or stop-lever, so that it shall stop the machine, substantially as specified. 3rd. In a knitting machine, having one pole of an electro-magnet permanently connected to it, the armature of the said magnet when not in contact with it being designed to hold rigidly a series of levers by which the belt shifter or stop-lever of the machine is held while the machine is in operation, the combination of mechanism, substantially as described, by which the accumulation of fluff, or anything else, which would interfere with the working of the needles, shall put the other pole of the magnet into circuit for the purpose of attracting the armature towards its magnet and thereby relieve the belt-shifter or stop lever, so that it shall stop the machine, substantially as specified. 4th. An electro-magnet B connected by the wire A to a battery and to the frame of the knitting machine by the wire C, in combination with the wire D leading from the battery and communicating with cups of mercury insulated from the frame of the machine, but arranged to receive communicating points connected to the frame of the machine and designed to complete the circuit and thereby magnetize the electro-magnet B, substantially as specified. 5th. The armature E designed to support the lever G, which, when thus supported, holds the lever H in rigid contact with the head i, which is connected to the belt-shifter or stop-lever J, the spring K, for actuating the said lever, in combination with mechanism by which the electro-magnet B is magnetized, so as to attract its armature E and withdraw the support from the lever G, substantially as and for the purpose specified. 6th. The armature E designed to support the lever N fitting below the notched lever M, which holds the spring hammer L, as specified, in combination with mechanism by which the electro-magnet B is magnetized, so as to attract its armature E and withdraw the support from the lever N, causing the said lever N to raise the notched lever M clear of the spring hammer L, causing the same to knock the lever G clear of the notch e, thereby releasing the belt-shifter or stop-lever J, substantially as and for the purpose specified. 7th. The lever Q, pivoted on the thread-guide of a knitting-machine connected to an electro-magnet, the said lever Q being supported by the thread P above the insulated cup R containing mercury, so that the breaking of the thread P shall cause the lever Q to drop into the mercury, in combination with the wire D arranged to connect the battery of electro-magnet with the cup of mercury, substantially as

and for the purpose specified. 8th In a knitting machine, having an electro-magnet permanently connected to its frame, the spring wire *g* connected to the said frame, in combination with the wire *D* leading from the battery of the electro-magnet and insulated from the frame of the machine, substantially as and for the purpose specified. 9th. In a knitting-machine, having an electro-magnet permanently connected to its frame, and a cup *R* containing mercury and insulated from the frame of the machine, but connecting with the wire *D*, as specified, the pointed lever *T* pivoted on the sliding plate *U* and having a notch *t* to fit over the stud *J*, a spring *K* for actuating the lever *T*, as specified, in combination with the spring, as designed, to hold the point of the lever *T* against the work to work so that, in the event of the said point falling into a hole in the work, the wire *t*, which is connected to the sliding plate *U* is thrown into the mercury in the cup *R*, substantially as and for the purpose specified. 10th. In a knitting machine having an electro-magnet permanently connected to its frame, and a cup *R* containing mercury and insulated from the frame of the machine, but connecting with the wire *D*, as specified, the burr *X* attached to the sliding-plate *U*, actuated by a spring *O* and connected to a wire *t* designed to fall into the mercury contained in the cup *R*, substantially as and for the purpose specified.

No. 23,076. Revolving Book Case.

(*Bibliothèque Tournante.*)

George V. Nauert, Cincinnati, Ohio, U. S., 5th January, 1886; 5 years.

Claim.—1st. A revolving book case body consisting of a series of shelves *E*, the interposed vertical partitions constituting a square central "well" *L* surrounded by four rectangular compartments *G*, and the vertical tie-rods or bolts *K* concealed in the well corners and holding the said shelves and partitions rigidly together, in the manner explained. 2nd. In a revolving book-case, the rotatable body consisting of a series of shelves *E*, the interposed quadruplex partitions *F*, which constitutes a square well *L*, surrounded by four similar rectangular compartments *G*, and enclosing and concealing the tie-rod, or bolts *K*, as and for the purpose set forth. 3rd. A revolving or rotatable book-case, composed of a series of separable shelves *E*, with interposed quadruplex partitions *F*, constituting a square well *L* surrounded by four rectangular compartments *G*, held together and in place by vertical tie-bolts *K* concealed in the angles of said well, substantially as set forth. 4th. In a revolving book-case, the body consisting of a series of shelves *E*, interposed quadruplex partitions *F*, bolts *K*, by which the shelves and partitions are locked together, and the metallic notched guards *H* supporting the edges of the shelves in the manner designated. 5th. In a revolving book-case, the superimposed leaf *O*, so hinged to the top shelf as to be available as a desk or book-rest, and fitting in a nearly air-tight recess in the top shelf in the closed position, substantially as set forth. 6th. In a revolving book-case, the superimposed leaf *O*, so hinged to the top shelf as to be available, as a book-rest, in combination with the spring prop *R* adapted to occupy one or other indentations of a rack *Q* on said leaf, as and for the purposes set forth.

No. 23,077. Sash Fastener. (*Arrête-Croisée.*)

John I. Baringer, Waterford, N. Y., U. S., 5th January, 1886; 5 years.

Claim.—1st. In a combined sash holder and lock, the casing, in combination with a rod journaled therein and having both a longitudinal and a rotary movement, a locking bolt arranged on the rod and actuated by the longitudinal movement thereof, and a second locking-bolt independent of the rod and operated by the partial turning of the same, as set forth. 2nd. In a combined sash lock and holder, the combination, with a casing, of a rod having a bolt mounted thereon, and a spring on said rod between the bolt and casing, said rod having an endwise movement, substantially as set forth. 3rd. In a combined sash lock and holder, the combination, with a casing, of a rod having a bearing therein, a bolt on said rod, a pinion mounted on a squared portion of the rod, and a bolt having bearings in the sides of the casing and a series of teeth to engage the pinion, substantially as set forth. 4th. In a combined sash-holder and lock, the combination, with a casing, of a threaded rod mounted therein and adapted to be moved endwise, a bolt on said rod and a spiral spring bearing against said bolt, a pinion mounted on a squared portion of the shaft, pins bearing against the sides of the pinion, a bolt having a series of teeth to engage the pinion and a spring bearing against said bolt, substantially as set forth.

No. 23,078. Burial Case. (*Cercueil.*)

Arthur S. Lovott, Erie, Pa., U. S., 5th January, 1886; 5 years.

Claim.—1st. The combination, in a burial casket, or coffin, or recesses in the corners, sides, or ends of such casket, or coffin, with glass or other transparent fronts or covers therefor, substantially as and for the purpose set forth. 2nd. The combination, in a burial casket, or coffin, or recesses in the corners, sides, or ends of such casket, or coffin, with mirror linings therefor, substantially as and for the purpose set forth. 3rd. The combination, in a burial casket, or coffin, or recesses in the corners, sides, or ends of such casket, with mirror linings and glass or other transparent fronts or covers therefor, substantially as and for the purpose set forth.

No. 23,079. Window Frame.

(*Châssis de Fenêtre.*)

Samuel F. Peters, London, Ont., 5th January, 1886; 5 years.

Claim.—The frame *a*, with its sill *b* and stops *c* and *d*, in which the winter sash, or summer fly-screen and the outside venetian blinds are made to operate, substantially as shown and described and for the purposes specified.

No. 23,080. Car Wheel. (*Roue de Char.*)

James Munton, Maywood, Ill., U. S., 5th January, 1886; 5 years.

Claim.—1st. The combination of centro *A*, provided with projecting rims *a* and *a'*, annular groove *a* and recesses *a*², with tire *B* having annular grooves *b*⁴ and *b*⁵ and rim *b*⁶ interlocking with said rims and grooves on said centro, and provided with lips *b*³ fitting in said recesses *a*², substantially as specified. 2nd. The combination of cast-iron centro *A*, with steel tire *B*, said centro and tire being provided with interlocking annular rims and grooves, said centro *A* having also recesses *a*² and said tire *B* having projecting web *b*², portions of which are turned down into said recesses *a*², substantially as specified.

No. 23,081. Composition Mastic for Covering Roofs, Telegraph Wires, &c. (*Composition Mastique pour Couvrir les Toits, les Fils Télégraphiques, &c.*)

Andrew Derrom, Paterson, N. J., U. S., 5th January, 1886; 5 years.

Claim.—The composition of hard bituminous deposit, and purified soft Venezuela bitumen, in the proportions specified.

No. 23,082. Burglar Proof Safe. (*Coffre-Fort.*)

J. and J. Taylor, (assignees of Thomas West,) Toronto, Ont., 5th January, 1886; 5 years.

Claim.—1st. A safe, or vault, with its corner or corners formed by an angle iron *A* having a head *b*, formed as specified, to receive the plates *E* and *F* which are rivetted or otherwise secured to the angle iron *A*, substantially as and for the purpose specified. 2nd. A safe or vault, with its corner or corners formed by a flanged plate *E* butting against the plate *F*, the two plates being secured together by the strip or batton *G* which is rivetted or otherwise fastened to them, substantially as and for the purpose specified. 3rd. A safe or vault with two corners of one end formed by a flanged plate *E* butting against the plate *F* and protected by the strip of batton *G*, and the other two corners of same end formed by the angle iron *A* having a head *b* to receive the plates *E*, *C* substantially as and for the purpose specified.

No. 23,083. Agricultural Fork.

(*Fourche d'Agriculture.*)

John F. Allen, Martinsdale, Montana, U. S., 5th January, 1886; 5 years.

Claim.—1st. The herein described agricultural fork, provided with the hollow sleeve or ferrule *B* having slot *a* and the handle *C*, provided with a corresponding slot *d*, the metallic blocks *b* and wedge *D*, substantially as and for the purpose specified. 2nd. In an agricultural fork, the hollow sleeve or ferrule *B* provided with the slot *a*, in combination with the handle *C* having metallic straps *c* and slot *d*, metallic blocks *b* having projections *b*¹ and wedge *D*, substantially as and for the purpose specified.

No. 23,084. Steam Cooker.

(*Cuisinière à Vapeur.*)

Henry West, Listowel, Ont., 5th January, 1886; 5 years.

Claim.—1st. A steam cooker, constructed as herein shown and described, and consisting of the combination of the sections *A* and *B* and cover *F*, with steam-tight joints on which sections *A* and *B* inwardly projecting ledges or flanges *C*, *C'*, are formed, perforated plates *D*, pit bottom *E*, hook *G*, pan *I* and pan *I* formed with stops *K*, *K'*, and partitions *J*, *J'*, tube *L* provided with partition *N* and opening *O*, opening *S* in section *B* of cooker, and bail valve *M*, substantially as shown and described and for the purpose specified. 2nd. A steam cooker, constructed as herein shown and described, and consisting of the combination of the sections *A* and *B*, and cover *F*, with steam-tight joints on which sections *A* and *B* inwardly projecting ledges or flanges *C*, *C'*, are formed, perforated plates *D*, pit bottom *E*, hook *G*, pan *I*, and pan *I* formed with stops *K*, *K'* and partitions *J*, *J'*, tube *L*, opening *S* in lower end of section *B*, and steam whistle *R* in which is formed opening *S'*, substantially as shown and described and for the purpose set forth.

No. 23,085. Means for Converting Flour into Dough. (*Moyens pour Convertir la Farine en Pâte.*)

Perry F. Smith, Boston, Mass., U. S., 7th January, 1886; 5 years.

Claim.—1st. The combination of the hopper and its agitator, having mechanism for revolving it, as described, with four or other suitable number of atomizers arranged immediately below the outlet of such hopper, and provided with means of forcing air through their vents and of supplying water thereto, whereby when the hopper is charged with flour and such flour is stirred by the agitator and caused to fall in a divided state from the hopper, the particles of such flour shall be subjected to downward currents of air and spray or vapor thrown upon them by the atomizers, all being so as to cause such particles on falling together to be reduced to a spongy mass or dough, as set forth. 2nd. The mode or process, substantially as described, of treating flour for converting it into a spongy mass or dough such consisting in forcibly separating the particles asunder, and causing them in a divided state or cloud to pass or fall through the air, and whiloso passing or falling discharges upon them air and vapor or spray in a manner to moisten them and cause them when coming or falling together to adhere to each other and the mass to be permeated with air.

No. 23,086. Tobacco-Cutting Machine.*(Hache - Tabac)*

Thomas H. Ashbury, Philadelphia, Pa., U.S., 7th January, 1886; 5 years.

Claim.—1st. The combination of the frame B constructed for attachment to the frame A of a tobacco-cutting machine, with a perforated fixed blade *e* fitted to the frame B, a movable perforated blade *a*, a spring *F* acting thereon and devices, substantially as described, by which the said movable blade *a* may be operated, as set forth. 2nd. The combination of a frame B adapted to the frame A of a tobacco-cutting machine, a perforated blade *e* adapted to the recessed edge of an opening *f* in said frame B, a movable perforated blade *a* having a head *D*, a spring *a* and a spring *F* interposed between the said head *D* and the frame B, all substantially as described.

No. 23,087. Cash and Parcel Carrier.*(Caisse à Monnaie et Paquets)*

William S. Lamson, Lowell, Mass. (assignee of Milton Clark, New York, N.Y.), Co-inventor with James I. Cowley, Baltimore, Md., U.S., 7th January, 1886; 5 years.

Claim.—1st. A yielding gate, in combination with the wheel and frame of the carrier, substantially as described. 2nd. The combination, with the car-body partly surrounding the under periphery of the wheels, whereby a space is formed to permit passage of the track of the gate and their connecting-spring, substantially as described. 3rd. The combination, with the car-body, or frame, of the guard, the gates *f* and their connecting-spring, substantially as described. 4th. The combination, with the car-body, constructed as described, of the gates *f* having a shoulder, their connecting-spring, and the guard having a shoulder or stop formed at each end, whereby said gates are prevented from having too great an upward and inward movement, substantially as described.

No. 23,088. Process of Making and Fastening Flexible Lacings.*(Procédé pour Faire et Attacher les Cordons Flexibles)*

Henry Heard and Herbert C. Heard, Cardiff, Eng., 7th January, 1886; 5 years.

Claim.—1st. As a new article of manufacture a flexible and composite metallic wire lace, substantially as described. 2nd. In combination with a flexible and composite metallic wire lace for connecting the adjacent edges of flexible material, or materials, a metallic tag at one or both ends of the same, consisting of the ends of the several wires, and the solder or metal uniting the same together. 3rd. In combination with a flexible and composite metallic wire lace for connecting the adjacent edges of flexible material, or materials, a fastener for holding the terminal end of such lace tight, and consisting of a plate or eye to which the other end of the lace is to be fastened, and pins or eyes between or through which the terminal end can be threaded, and there held, substantially as hereinbefore described.

No. 23,089. Manufacture of Laced Boots.*(Fabrication des Bottines Lacées)*

Andrew Lennon, Montreal, Que., 7th January, 1886; 5 years.

Claim.—1st. In a laced boot, the upper of which is formed of a single piece, the boot tongue formed out of such piece, as and for the purposes described. 2nd. The combination of the blank A from which tongue B is cut, and pieces C, C, all as and for the purposes described. 3rd. The combination of the blank A, tongue B cut from same, inside facings C, C and outside facings D, D, all as herein set forth.

No. 23,090. Carving Machine.*(Machine à Sculpter.)*

Franklin Holland, Grand Rapids, Mich., U.S., 7th January, 1886; 5 years.

Claim.—1st. In a carving or ornamenting machine, the combination of a horizontal supporting arm having an annular groove in its under side, a yoke provided with an annular flange working in the arm-groove, and with vertical adjusting clamp-bolts to hold the said yoke in desired adjustment, and a spindle adapted to be rotated in box bearings of the yoke, substantially as and for the purpose set forth. 2nd. In a carving or ornamenting machine, the combination of the frame A having horizontal supporting-arm A₁, with annular slot *a*, *a* on the under side and central circular opening A₂, the swinging yoke B having annular flange *b*, *b*, adjusting clamp-bolts *b₁*, *b₁*, and bearing-boxes B₁ with caps *b₂*, *b₂*, step *b₃*, step-screw *b₃* for adjusting the spindle, and the spindle carrying the pulley C₁ and its centre *c* with cutter *c*, substantially as shown and described.

No. 23,091. Harrow. (Hersc.)

Frederick Nishwitz, Millington, N.J., U.S., 7th January, 1886; 15 years.

Claim.—1st. The combination, substantially as set forth, in Figs. 1 and 2, of the tongue or draft frame, the vibrating crusher or gang bar, the vibrating cutter or gang bar in rear of the crusher, and the vibrating seat support or coupling, whereby the gangs may flex to conform to undulations of the ground. 2nd. The combination, substantially as set forth, of the tongue or frame, the crusher or gang bar, its hinge connection with the frame, the vibrating cutter-bar, the fulcrum or pivot on which it vibrates, and the hinge connection between the bars. 3rd. The combination, substantially as set forth, in Figs. 1 and 2 of the tongue or frame, the crusher or gang bar, its hinge connection with the frame, the cutter bar, the pivot or hinge connection between the bars, and the fulcrum or pivot of the cutter-

bar, in rear of the hinge connection. 4th. The combination, substantially as set forth, of the tongue or frame, the crusher or gang-bar its hinge connection between the bars, and a seat standard or coupling pivoted on the frame and supported on the cutter-bar by pivoted rods in rear of its hinge connection. 5th. The combination, substantially as set forth, in Figs. 1 and 2, of the tongue or frame, the crusher or gang-bar, its hinge connection with the frame, the cutter-bar, the hinge connection between the bars, a seat seat standard or coupling pivoted on the frame and supported on the cutter-bar by pivoted rods in rear of its hinge connection and a lever for vibrating the gangs. 6th. The trailing or dragging harrow-tooth herein described, which is formed with a flat end for attachment to the gang-bar and is then twisted and curved relatively to the draft-line to present a curved dragging cutting-edge to the soil, the cutting-blade of the tooth extending rearwardly in substantially the same general plane with the flat surface of attachment. 7th. The combination of a crusher-bar with a series or gang of curved trailing harrow-teeth having flat surfaces for attachment, and secured on the under face of the bar, the flat surfaces extending rearwardly beyond the bar, substantially as set forth. 8th. The combination, substantially as set forth, of a pole or tongue, a crusher-bar secured thereto, and having an upwardly-inclined crushing-face for operating upon the soil, and a series of disintegrating faces or spurs secured on the inclined crushing-face of the bar, so as to give it a ribbed surface and projecting rearwardly beyond the face of the bar, the spurs being arranged with small open-spaces between them to constitute an open slotted comb-like crusher. 9th. The combination, as substantially as set forth, of the tongue or draft frame, the vibrating gang-bar or crushed hinged thereto, the vibrating cutter or gang bar in rear of the crusher and hinged thereto an adjusting lever on the frame and a connection between the cutter-bar and lever. 10th. The herein described, harrow, illustrated in Figs. 5 and 6, consisting essentially solely of a tongue, a single transverse gang-bar, connected to the tongue and also constituting a crusher-bar and curved trailing harrow-teeth carried by the bar, substantially as set forth. 11th. The combination, substantially as set forth, of a draft frame or tongue, a single transverse gang-bar in rear thereof and hinged thereto, so as to rise and fall in rear of the tongue or frame, harrow teeth carried by said bar and a lever for raising and lowering or swinging the bar on its hinge to vary its relation bodily to the frame and ground. 12th. The trailing harrow-tooth herein described and illustrated in Fig. 6, having a continuous curved cutting-edge, and two opposing cutting faces which press upon the soil in opposite directions relatively to the draft and insure the rectilinear motion of the machine. 13th. The combination of a draft frame or tongue, a transverse bar and a series of harrow-teeth, each of which is sinusoidally or reversely curved relatively to the draft-line, substantially as and for the purpose set forth. 14th. The combination, substantially as set forth in Figs. 7 and 8, of the tongue or frame, the upwardly-inclined leveller or crusher-bar rigidly secured thereto, the transverse gang-bar in rear of the leveller and hinged thereto harrow-teeth on the gang-bar and the driver's seat supported directly on the gang-bar. 15th. The combination, substantially as set forth, of the tongue or frame, the leveller or crusher rigidly secured thereto, the gang-bar or harrow-frame carrying harrowing devices in rear of the leveller, a driver's seat pivoted on the tongue or frame and supported on the gang-bar mechanism for adjusting the gang-bar and leveller relatively to each other and a detent for holding them in their adjusted position. 16th. The combination, substantially as set forth, of the frame or tongue, the leveller or crusher rigidly secured thereto, the gang-bar hinged in rear of the crusher, and a pivoted coupling which also serves as a seat-support between the gang-bar and frame, and which permits the frame and crusher gang-bar and coupling to flex vertically to vary their relation to each other. 17th. The combination, substantially as set forth in Figs. 12 and 13, of the coupling-frame, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, connecting mechanism between the gang-bars and frame and a lever for varying the relation of the gangs to the frame and to the soil. 18th. The combination of the coupling-frame, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, harrowing devices on the gang-bar and frame and a lever on the frame connected by links with the pivoted brace and forward gang-bar or crusher for adjusting the gangs, substantially as set forth. 19th. The combination, substantially as set forth, of the frame, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, the coupling-brace between the rear gang bar and frame, a lever on the frame, a connection between the lever and forward gang-bar or crusher, and a link connection between the lever and coupling-brace, which can be adjusted on the brace to raise or lower the forward gang-bar or crusher relatively to the rear one. 20th. The combination of a frame or tongue, the forward gang-bar or crusher and the rear gang-bar, both hinged thereto, harrowing devices on the bars and mechanism for adjusting the forward bar independently of the rear one to vary its relation to the soil, substantially as set forth. 21st. The longitudinally open slotted curved trailing or dragging harrow-tooth herein described. 22nd. In a drag harrow, the combination, substantially as set forth, of the front transverse gang bar harrow teeth thereon, the rear transverse gang-bar and harrow teeth thereon, the rear bar being supported above the earth and on a higher plane than the front bar to afford a large area of discharge for the earth cut up by the first gang of teeth, as set forth. 23rd. The herein described rolled steel harrow-tooth, which is hollow-rolled to a cutting-edge, as set forth. 24th. The combination, of a frame opposing seats or gangs of harrow-teeth or earth-treating implements disposed on the opposite sides of the draft-line, an independent stationary draft-connection in the draft-line and a laterally shifting tongue, for the purpose set forth. 25th. The combination of two agricultural machines, each having a transverse frame or gang-bar carrying earth-treating teeth or devices, a draft connection and a pole or tongue, the parallel coupling bars or planks pivotally connected with each machine and the pivoted rod uniting the ends of the poles, substantially as and for the purpose set forth.

No. 23,092. Harrow. (Hersc.)

Frederick Nishwitz, Millington, N. Y., U. S., 7th January, 1886; 5 years.

Claim.—1st. The combination of a pole or tongue, a frame or axle to which the tongue is connected, a carrying wheel which supports one side of the frame, a harrow which supports the other and a draft-connection on the harrow-beam, substantially as set forth. 2nd. The combination of a frame, a carrying wheel supporting one side of the frame, and a harrow supporting the other, the harrow being connected with the side or end of the frame at or about its middle, and having harrowing teeth or implements arranged in a gang normally, substantially parallel with the axle of the machine, as set forth. 3rd. The combination of a frame, a pole attached thereto, a carrying-wheel at one side of the frame, a harrow at the other, a pivotal connection between the harrow and frame which permits the harrow to rock vertically in line with the draft, and a lever for raising and lowering or rocking the harrow-beam relatively to the frame, substantially as set forth. 4th. The combination of a frame, a pole or tongue attached thereto, a carrying-wheel at one side of the frame, a harrow at the other and a hinge connection between the frame and harrow, which permits the latter to rock freely transversely to the line of draft to conform to undulations of the ground when the machine is in operation, substantially as set forth. 5th. The combination of a pole or tongue, a frame, a carrying-wheel at one side of the frame, a harrow at the other, a pivotal connection between the frame and harrow, which permits the latter to rock vertically in line with the draft, a lever for locking it and a hinge-connection which permits the harrow to rock transversely to the line of the draft to conform to undulations of the ground, substantially as set forth. 6th. The combination of a pole or tongue, a sulky-frame, a carrying-wheel which supports one side of the frame or axle of the machine, a harrow which supports the other, a seat on the frame and mechanism for adjusting the seat laterally to bring the weight of the driver more or less on the harrow, substantially as set forth. 7th. The combination of the frame, the axle rocking in bearings on the frame, the carrying-wheel at one end of the axle, the downwardly-projecting arm at the other, the bearing or supporting plate in which said arm has its bearing and the hinge-connection between the plate and harrow, substantially as set forth. 8th. The trailing or dragging harrow-tooth herein described, having the two cutters or teeth, the trailing upper or main one which extends downwardly and backwardly and is curved outwardly from the line of draft, and the trailing shorter spur or cutter which also extends downwardly and backwardly and is curved outwardly from the line of draft reversely to the other portion of the tooth. 9th. The combination, substantially as set forth, of the sulky frame, the harrow connected with the sulky frame by means of a rearwardly-projecting standard or seat support on the harrow, a transverse gang or gangs of trailing cutting teeth carried by the harrow, a lever for rocking the gangs to vary their angular relation to the soil independently of the tongue of the sulky-frame, and with a movement independent of the tongue of the machine, and a driver's seat mounted on the sulky frame. 10th. The combination, substantially as set forth, of the sulky-frame, the harrow connected therewith by means of a standard or seat-support, the hinged transverse gang-bars supporting rods which support the sulky-frame on the hinged gang bars, a lever for rocking the gangs to vary their angular relation to the soil, a driver's seat mounted on the sulky-frame and means for shifting the seat laterally to vary the weight upon the gangs. 11th. The combination, substantially as set forth, of the sulky frame, the harrow flexibly connected therewith and having a draft pole or tongue, and hinged gang-bars carrying trailing teeth, supporting-rods which support one end of the sulky-frame on the gang-bar or bars, and a lever for rocking the gang-bars to vary the angular relation of the teeth to the soil. 12th. The combination, substantially as set forth, of the one-wheeled sulky-frame, the harrow flexibly connected with the end of the sulky-frame transverse gangs of trailing cutting teeth, a lever for varying the angular relation of the teeth to the soil, a tongue and mechanism uniting the gang bars and the tongue, so as to permit the angle of the pole to be varied relatively to the gang frame. 13th. The combination, substantially as set forth, of a draft pole or tongue, a gang-bar or bars arranged transversely to the line of draft trailing cutting teeth carried by the gang-bar or bars, means for elevating or depressing the teeth to vary their angular relation to the soil, and mechanism connecting the draft-pole and gang-bar, so as to permit the angle of the pole relatively to the gang-bars to be varied. 14th. The combination, substantially as set forth, of the gang-bar, the draft stub secured thereto, the pole or tongue pivoted on the draft-stub, so that its angle to the line of draft may vary and the lever for elevating or depressing the cutting teeth to vary their angular relation to the soil. 15th. The combination of the forward gang-bar, the draft stub secured thereto, the curved plate bolted to the rear end of the draft stub, the skeleton or bifurcated tongue pivoted on the forward end of the gang-bar, so as to straddle the draft stub, and mechanism for clamping the tongue to the curved plate secured on the draft stub so as to hold it at any desired angle. 16th. The tooth socket, substantially as described, formed with a longitudinal socket on its under face for the reception of the tooth, a socket on its upper face for the reception of a washer, a brace lip or extension, which sustains the tooth against strain, and a bolt-hole. 17th. The combination, substantially as set forth, of a gang-bar, a series of socket pieces with recesses on their under sides for the reception of the teeth, transverse sockets on their upper faces for the reception of the gang-bar or bar-washer, which extends lengthwise of the gang-bar rearwardly, projecting extensions which brace the teeth against strains and means for clamping the teeth socket pieces, washer and gang-bar together. 18th. The combination, substantially as set forth, of the tongue, the forward gang-bar hinged thereto, the rear gang-bar hinged to the forward gang-bar, a rearwardly-projecting standard mounted on the tongue or draft-pole, supporting rods extending from the rearwardly-projecting standard to supports carried by the rear gang-bar, and means for adjusting such supports to cause them to project more or less from the front edge of the rear gang-bar.

No. 23,093. Shaving Mug. (*Pot à Barbic.*)

Thomas Maylor, Oak Harbor, T.W., U.S., 7th January, 1886, 5 years.

Claim.—1st. In a shaving mug, the combination, with a lamp, of a water cup adapted to be held on the same and a lather-cup pivoted on the water cup, substantially as herein shown and described. 2nd. In a shaving mug, the combination, with the cylinder A having a

horizontal partition C forming a cup D, of the lamp H and the lather cup F pivoted on the top of the cylinder A, substantially as herein shown and described. 3rd. In a shaving mug, the combination, with the cylinder A having a horizontal partition C and apertures E below it, of the lamp H and the lather cup F pivoted on the cylinder A, substantially as herein shown and described. 4th. In a shaving mug, the combination, with the cylinder A, of the lather cup F pivoted on the same and of the lamp H provided with the spring catches K and L, substantially as herein shown and described.

No. 23,094. Method of Producing a Crape-like, or Similar Effects, in Women Fabrics. (*Mode de Fabrication de l'imitation le Cripe et autres effets Semblables.*)

Edwin Wilson, George W. Wilson and John Felt, Manchester, Eng., 7th January, 1886; 5 years.

Claim.—The method of producing a crape like, or similar effect, in women fabrics, which consists in employing for the woff two kinds of hard twisted yarn having respectively right and left hand twist, in equal amounts in given lengths alone, or in combination with other equal or occasional picks of suitable soft yarn, and in employing for the warp any suitable kind of yarn ordinarily used, substantially as hereinbefore set forth and described.

No. 23,095. Mode of Rafting Logs, etc., for Deep Water Towing. (*Mode de Mise en Radeau des Billots, etc., pour le Touage en Eau profonde.*)

Hugh R. Robertson, St. John, N.B., 7th January, 1885, 5 years.

Claim.—1st. The combination of a structure, or raft, composed of a large number of logs, or pieces of timber, or lumber, both in cross section and in length, forming a continuous bundle of practically parallel pieces, in which the jointing is thoroughly broken, and of a cylindrical or approximately cylindrical form, with girths or encircling chains set at frequent intervals in its length, as described. 2nd. The combination of a structure, or raft, composed of a large number of logs, or pieces of timber, or lumber, both in cross section and in length, forming a continuous bundle of practically parallel pieces in which the jointing is thoroughly broken, and of a cylindrical or approximately cylindrical form, with girths or encircling chains set in grooves scribed or cut into the outer pieces at frequent intervals in the length of the raft, as described. 3rd. The combination of a structure, or raft, composed of a large number of logs, or pieces of timber, or lumber both in cross section and in length, forming a continuous bundle of practically parallel pieces, in which the jointing is thoroughly broken and of a cylindrical or approximately cylindrical form, with girths or encircling chains set at frequent intervals in its length, and with the end of the outer pieces where they abut one on another haled or scarfed together and fastened with treenails. 4th. The combination of a structure, or raft, composed of a large number of logs, or pieces of timber, or lumber, both in cross section and in length, forming a continuous bundle of practically parallel pieces, in which the jointing is thoroughly broken, and of a cylindrical or approximately cylindrical form, with girths or encircling chains set at frequent intervals in its length, and with wedges lying across and interlaced among the pieces of lumber forming the raft in various directions, as described. 5th. The combination of a raft composed of a number of pieces of lumber, both in cross section and in length, forming a continuous bundle of practically parallel pieces, in which the jointing is thoroughly broken, and the whole bound together with encircling chains at frequent intervals into a cylindrical or approximately cylindrical form, with a longitudinal chain or cable running through the raft or along the sides thereof and fastened thereto, as and for the purposes described. 6th. The combination of a raft composed of a number of pieces of lumber, both in cross section and in length, forming a continuous bundle of practically parallel pieces, in which the jointing is thoroughly broken, and the whole bound together with encircling chains at frequent intervals into a cylindrical or approximately cylindrical form, with a longitudinal chain or cable or several such running through the raft or along the sides thereof, and with radial or cross chains or cables running in or through the raft at intervals corresponding with the encircling chains, and attached thereto or to the longitudinal chain or chains, all as and for the purpose described.

No. 23,096. Axe. (*Hachc.*)

William C. Kelly, Louisville, Ky., U.S., 7th January, 1886, 5 years.

Claim.—1st. As a new article of manufacture, an axe having its blade tapering from the point towards the cutting edge and also outwardly towards the back and front edges from the lines drawn from a to f, to make the said back and front edges of practically uniform thickness and producing shoulders, c, substantially as shown and described. 2nd. An axe having the back and front edges of its said portion of practically uniform thickness, from the points of juncture with the cutting edge to the shaft or butt, substantially as and for the purpose set forth.

No. 23,097. Car-Coupling.

(*Accouplage de Chars.*)

Richard Randolph, Baltimore, Md., U.S., 7th January, 1886, 5 years.

Claim.—1st. The shoulders at the lower end of the pin, in combination with the contraction at the upper end of the pin-hole and at the back end of the link, for the purpose of preventing the pin from being drawn upward entirely through either the back end of the link or the casting. 2nd. The combination of the attachment A, with the link working in the slotted edge, as described, for the purpose of preventing the link being drawn entirely from the casting. 3rd. The elastic arrangement inside of the tube T of the attachments, consisting of the two pistons p, p, forced apart by the spring s between

them, and retained by the caps *r*, *s*, so as to produce a friction at the ends of the attachment against the sides of the casting, for the purpose of affording a certain amount of resistance to either the vertical deflection or backward movement of the link. 4th. The combination of the vertical lever *l* and the horizontal rod *r*, with the head of the draw-bolt, in such a manner that the rod is pushed forward by the lever when the casting through which it passes is drawn forward with respect to the draw-bolt to which the lever is attached, and pushed by the contrary movement, for the purposes of clamping the pin with the front end of the rod by the forward position of the casting, and of releasing when the same is pushed back to the extent of the play, provided with the casting and the follower *F*, in contact with the buffer spring by means of the small screw *f* in the follower and the corresponding groove in the draw bolt, as described.

No. 23,098. Water Regulator for Windmills. (*Régulateur d'Eau pour Grues Hydrauliques.*)

Anson M. Otis, York, Nev., U. S., 7th January, 1886; 5 years.

Claim.—1st. The combination, with a pivoted lever, of a tank suspended from one end of the same, a weight on the other end, a rod on said lever for throwing the pumping mechanism, such for example as a windmill out of gear, a tube for conducting water into the suspended tank, a stationary tank, a tube for conducting the water from the suspended tank into the stationary tank, and an automatically-operating valve for closing the end of the tube within the stationary tank when said tank is filled, substantially as herein shown and described. 2nd. The combination, with a pump and a pivoted lever having one end weighted of a tank suspended from the other end of the lever, mechanism connected with the lever for throwing the pumping device out of gear, a stationary tank, a tube for conducting the water from the suspended tank into the stationary tank, which tube projects into the stationary tank, an angle lever pivoted on the stationary tank, a valve on the end of said lever for closing the end of the tube in the stationary tank, a box or small tank on the upper end of the angle-lever, and a flexible tube connecting said box or small tank, with the bottom of the stationary tank, substantially as herein shown, and described. 3rd. The combination, with the tank *N*, of an inlet pipe, a valve for closing it, an angle-lever to which the valve is secured, a tank *K* on the outer end of the lever, and a flexible tube connecting the tanks *N* and *R*, substantially as herein shown and described.

No. 23,099. Machine for Separating Dust from Air. (*Machine à Séparer la Poussière de l'Air.*)

Ernest Kuehno, Chicago, Ill., U.S., 7th January, 1886; 5 years.

Claim.—1st. In machines for separating dust from air, the exterior rotating case *A* lined with fabric *a*, or alternately lined with strip of fabric *a* and brushes *b*, which will hold the dust brought in contact therewith and prevent the air from passing outward, in combination with a stationary conveyor *J*, blast chamber, *G*, dead air chamber *K* and rotary conveyor *M*, as and for the purposes hereinbefore specified. 2nd. The combination of the rotating case *A*, lined substantially as specified, with the blast chamber *G* and the conveyor *J* for separating the dust from the air, and the chamber *K*, brush *N*, trough *L* and conveyor *M* for removing the dust from the machine, substantially as hereinbefore specified. 3rd. The conveyor *J*, combined with the exterior rotating case, lined as specified, for retaining the dust deflected onto it, and the brush *N* for removing the dust from the lining, as and for the purpose hereinbefore set forth.

No. 23,100. Oil Stove. (*Poêle à Huile.*)

Charles T. Ham, Rochester, N.Y., U.S., 7th January, 1886; 5 years.

Claim.—1st. The combination, in a lamp-stove, of a wick-burner and burner cone, a close air-chamber arranged below the burner, and communicating with the underside of the burner-cone and supplying air thereto, and an elevated perforated air-chamber adapted to contain a body of air, and which surmounts the air inlet opening of the closed air-chamber, and permits the entrance of air only through its perforations, substantially as set forth. 2nd. The combination in a lamp-stove, of a wick-burner and burner-cone, a closed air-chamber communicating with the under side of the burner-cone and supplying air thereto, a perforated air-chamber which surmounts the air-inlet opening of the closed air-chamber and permits the entrance of air only through its perforations, and a deflector arranged within said perforated air-chamber and adapted to direct the air toward the air-inlet opening of the closed air-chamber, substantially as set forth. 3rd. The combination, with a wick-burner *a* and burner-cone *c* of the closed air-chamber *B* having an air-inlet opening *f*, a perforated chamber *F* provided with a top plate *g* and a bolt *h*, whereby the chamber *F* is secured to the chamber *B*, substantially as set forth. 4th. The combination, with the flame chamber *D* having a flanged bottom plate *C*, of the air-chamber *B* provided on its upper side with a flange *j* and lug *k*, between which the rear edge of the flanged bottom plate *C* is confined, substantially as set forth. 5th. The combination, with the base and the movable top portion of a lamp-stove, of supporting-bars secured respectively to the base and top portion, and made adjustable with reference to each other, whereby the rear end of the top portion of the stove is supported in its normal position when the supporting-bars are engaged with each other and permitted to drop when said bars are disconnected, substantially as set forth. 6th. The combination, with the base and the movable top portion of a lamp-stove, of a supporting-bar *E* secured to the top portion, and a supporting-bar *M* attached adjustably to the base, substantially as set forth. 7th. The combination, with the base and the movable top portion of a lamp-stove, of a supporting-bar *L* secured to the top portion, and a supporting-bar *M* provided with a slotted foot *N* attached to the base by a screw *n*, and a socket *m* in which the lower end of the bar *L* is held, substantially as set forth.

No. 23,101. Wind Wheel. (*Moulin à Vent.*)

John T. Eden, Odell, Neb., U.S., 7th January, 1886; 5 years.

Claim.—1st. The combination, in a wind wheel, of the sails pivoted between their ends, and having one end or arm heavier than the other, the vane plates pivoted to the vane-rod, a counter-balance and connections between the counter-balance, the sail and vane plates, whereby an outward movement of the heavy arm by a centrifugal force will effect an elevation of the counter-balance, substantially as set forth. 2nd. The combination of the hollow shaft, the wheel secured on the shaft and having its sails pivoted between their ends, and made heavier at one end than at the other, a toothed pinion journaled to the wind-wheel, bars secured to the sails and having rack teeth geared with the toothed pinion, a sliding rod operating through the hollow shaft and provided at its outer end with rack teeth geared with the toothed pinion wheels on the framing geared with the sliding rod, a counter-balance and the wheels on the framing, substantially as set forth. 3rd. The combination of the pivoted sails, having one arm heavier than the other, the bars secured to such sails and having rack teeth on its inner portion, a pinion journaled on the wheel and meshed by the rack bar, the sliding rod, a toothed wheel on the framing geared with said rod, a counter-balance and a rack bar, or bar connected to the counter-balance and geared with the toothed wheel on the framing, substantially as set forth. 4th. The combination of the wind-wheel having the pivoted sails, the toothed pinion journaled on the wheel, the bar secured to the sails and having rack teeth geared with the toothed pinion, the sliding bar having racks geared with the toothed pinion, the wheels *D* journaled on the framing of the mill, and connected with the inner end of the sliding rod *P* connected with the wheels *D* and having the plate *B* on their lower ends, and the counter-balance having uprights *S* provided near their upper ends with slots *s* fitted over the edge of the plate *P*, substantially as set forth. 5th. The combination of the wind-wheel, the wheel *B*, the rods *J* connected with the sails of the wind-wheel and geared with such wheels *D*, the bars *P* connected with the wheels *D* and having a plate *P*, the counter-balance *C* having uprights *S* formed with slots *s* fitted over the plate *P* and the cord *T*, substantially as set forth.

No. 23,102. Duplex Time Ticket.

(*Billet de Temps en Double.*)

William W. Currie, Smith's Falls, Ont., 7th January, 1886; 5 years.

Claim.—A duplex time ticket arranged with the various tables of figures and headings, substantially as herein described and shown, consisting of an original and duplicate ticket, printed on one sheet of paper, and folded so as to register, as and for the purpose herein set forth.

No. 23,103. Sash Frame, Holder and Casing for Carriages, Cars, etc. (*Cadre de Chassis, Arrête-Croisette et Cage de Chassis pour Voitures, Chars, etc.*)

Albert Ayers, Rahway, N.J., U.S., 7th January, 1886; 5 years.

Claim.—The combination, with a frame or casing *A*, having a curved groove *F* provided with a throw-over *G* in the bottom of its throw-over sash-groove *B*, of a sash-frame *D* provided with spring friction holders *E* sliding in the said grooves *F*, substantially as herein shown and described, whereby the sash will be kept from rattling and rubbing and will be held securely in any position, as set forth.

No. 23,104. Self-Holding Pulley Block.

(*Chape de Poulie à Suspension Automatique.*)

Charles Allen, Woodstock, Ont., 7th January, 1886; 5 years.

Claim.—1st. A grooved pulley *D*, in combination with a ratchet wheel *F* and rope *G*, to one end of which a weight is attached, or power applied for operating a pawl and beam, substantially as set forth. 2nd. A beam *H*, in combination with a pawl or click *T* and spring *L*, for operating a rope clutch, substantially as set forth. 3rd. A rope clutch *K* pivoted on a beam *H*, and operated to hold the rope and weight attached to one end thereof at any required elevation, substantially as set forth. 4th. A lever *M*, in combination with a connecting bar *o* and cord or strap *P*, for operating a beam to which a rope clutch is attached, to remove the whole or part of the pressure of the rope clutch from off the rope, substantially as set forth. 5th. A beam *H*, in combination with a pawl or click *I*, and spring *L* for operating said pawl, so that the latter will always remain engaged with the teeth of a ratchet wheel, substantially as set forth. 6th. In a pulley block, the pulley *D*, ratchet wheel *F* and rope *G*, in combination with the pawl *I*, beam *H*, spring *L* and rope clutch *K*, substantially as shown and described and for the purpose specified. 7th. In a pulley block, the pulley *D*, ratchet wheel *F*, rope *G*, pawl *I*, beam *H*, spring *L* and rope clutch *K*, in combination with a lever *M*, connecting bar *o* and cord or strap *P*, substantially as shown and described and for the purpose specified.

No. 23,105. Stop and Lock for Pawl and Ratchet Mechanism. (*Arrêt et Enrayure pour Mécanisme d'Encliquetage.*)

John N. Williams, Stapleton, N.Y., U.S., 7th January, 1886; 5 years.

Claim.—1st. In combination with a ratchet, and a pawl adapted to operate the same, a stop or projection arranged to engage the said pawl at the desired limit of its stroke, substantially as set forth. 2nd. In combination with a ratchet, and its operating pawl, an adjustable stop for limiting the stroke of said pawl, substantially as set forth. 3rd. In combination, a pawl and ratchet mechanism, a stop or projection terminating at a point near the periphery of the ratchet, for simultaneously stopping the pawl and locking the ratchet. 4th. The combination of the pawl, the ratchet wheel, and the standard having an adjustable extension, as set forth.

No. 23,106. Washing Machine.*(Machine à Laver.)*

Alexander Stuart, Jr., Hamilton, Ont., 7th January, 1886, 5 years.

Claim.—1st. In a washing machine, the combination of a tub A, a vertical stationary shaft C, with its bearings, a revolving dasher F operated by gear wheels and a lever hauler substantially as specified. 2nd. In a washing machine the combination of the shafts C, I, bevel gear G attached to dasher F and gear wheel H attached to shaft I, and the collar B on shaft C, substantially as and for the purpose specified. 3rd. In a washing machine, the combination of the collar D, shaft C, brace B and nut E, shaft I, nut J, substantially as and for the purpose specified.

No. 23,107. Combined Last and Jack.*(Forme et Tire-Forme Combinés.)*

Henry Stockman, Philadelphia, Pa., U. S., 7th January, 1886, 6 years.

Claim.—1st. A last holding jack having a base secured to a suitable support, a sub-base hinged directly or indirectly to said base, and means, substantially as described, for holding said sub-base at different angles with relation to its base, as and for the purpose set forth. 2nd. In a last holding jack, and in combination, a base secured to a suitable support, a sub-base hinged directly or indirectly to said base, a holding bar connected to the sub-base and extending through the base, and a locking bar, substantially as described. 3rd. In a last holding jack, a base secured to a suitable support, a sub-base hinged directly or indirectly thereto, and a holding bar, in combination with a jack body having a plane of motion at right angles to the plane of motion of the sub-base, substantially as described. 4th. In a last holding jack, and in combination, a base secured to a suitable support, a sub-base hinged thereto, a holding bar, a securing bar and a jack body having last receiving standards, and means, substantially as described, for securing it to the sub-base, as and for the purpose set forth. 5th. In a last holding jack, a base, a sub-base, a hinge connecting said base and sub-base, a holding bar connected to the sub-base and a locking rod journaled in the base, in combination with the jack having last receiving standards and securing lever, substantially as described. 6th. A last holding jack having standards for receiving and holding the last, combined with a base having a pivot pin, which is received centrally in the base of the jack upon which said base may be revolved at will, substantially as described. 7th. The combination, with an adjustable base, as B, and means for locking it in any desired position, of a jack pivoted to such base and having standards to receive and hold the last, as set forth. 8th. The combination, with an adjustable base, as B, and with a jack, as D, pivoted to said base, whereby independent adjustments on planes at right angles to each other is obtained, of means, substantially as described, for locking the base at any desired point of adjustment, and means for locking the jack to the base, as set forth. 9th. The combination, with the base A having guides a_1 and a slot a_2 , of the hinged sub-base B having central aperture b_1 and guide b_2 , the segmental bar C, pin C₁ and last supporting jack, as set forth. 10th. The combination, with the hinged sub-base B and jack D having rotary movement thereon, and a cam face, as d , of an adjustable bar, as C, lever nut, as F, having corresponding cams f , as set forth. 11th. In a last jack, as described, the combination, with the lever, as H, and a last holding device having last pin, as i , a threaded bolt and thumb nut for moving and holding the lever, as set forth. 12th. The combination, with the jack D having independent adjustment on planes at right angles to each other, of removable interchangeable devices, as L, M, H, L, and locking screws, as k , m , as set forth. 13th. The combination, with the jack D having standards D₁, D₂ and ribs N₁, of the frame, the rest M, lever H, holder I and set screws, as and for the purpose set forth. 14th. In a boot and shoe last, the combination, with the last proper, of its supporting jack comprising the toe and heel supports having a holding dog or tennon, and pin which respectively engage the lower end of the last, and a groove or mortice in the body or said last, substantially as and for the purpose set forth. 15th. In a boot and shoe last, the combination, with the last proper, of the pivotally secured supporting jack comprising the standards D₁, D₂, having mortice and tennon connection with the last, the toe holding dog with its screws, and means for holding said last at different angles, substantially as and for the purpose set forth. 16th. In combination with a supporting jack, the boot and shoe last having the sliding partial sole and heel extension of dovetail form in cross section, a portion of its length fitted in a corresponding groove in the sole of the last, and having pendant arm or post fitting in a groove of the last body, substantially as and for the purpose set forth. 17th. In combination with a supporting jack, the boot and shoe last having in its sole a dovetailed groove and having the extensible partial sole and heel part of a dovetailed form in cross section a portion of its length, and having a binding screw in said dovetailed portion, and at its heel end a post or pendant arm entering a groove in the last body, substantially as and for the purpose set forth. 18th. The boot and shoe last having the extensible partial sole and heel part, substantially as and for the purpose set forth.

No. 23,108. Paper Folding Machine.*(Machine à Plier le Papier.)*

Wellington Dowling, Erie, Pa., U. S., 7th January, 1886, 5 years.

Claim.—1st. In a paper-folding machine, the combination, substantially as set forth, of a stop for limiting the forward movement of an incoming sheet, and a stop for preventing the said sheet from rebounding from the said front stop. 2nd. In a paper-folding machine, the combination, substantially as set forth, of an adjustable stop for limiting the forward movement of an incoming sheet, an adjustable stop for preventing the said sheet from rebounding from the said front stop, and adjustable side guides which control the position of the sheet relative to the folding rollers. 3rd. In a paper-folding machine, the combination, substantially as set forth, of an adjustable front stop, an adjustable back stop, and means, substantially as shown, for actuating both of said stops simultaneously. 4th.

In a paper-folding machine, the combination, substantially as set forth, of an adjustable front stop, an adjustable back stop, adjustable side guides, and means, substantially as shown, for actuating all of said stops and guides simultaneously. 5th. In a paper-folding machine the combination, substantially as set forth, of a ljustable front stop, adjustable side guides, and means, substantially as shown, for actuating said guides and stops simultaneously. 6th. In a paper-folding machine, the combination, substantially as set forth, of the adjustable stops F and G, the rack toothed arms F₁ and G₁, the pinion H₁, the crank arm I and the dial I. 7th. In a paper-folding machine, the combination, substantially as set forth, of the adjustable front stops F and G, the adjustable side guides E and E, the rack toothed arms F, F₁, E and E₁, and the pinions H and H₁. 8th. In a paper-folding machine, the combination, substantially as set forth, of the adjustable front stops F and N, the adjustable side guides E, E, the rack toothed arms F, F₁, L, E, the pinions H and H₁, and H and H₁, the crank arms I and I, the dials I and I with the equally spaced and numbered stops i , i . 9th. In a paper-folding machine, the combination, substantially as set forth, of the adjustable front stops F and F, the adjustable side guides E and E, the rack toothed arms F, F₁, E, E, the pinions H and H₁, the crank arm I and the indicating scales J and J, J₁ and J₁.

No. 23,109. Convertible Skate.*(Patin Convertible.)*

John Lapp, Honeoye Falls, N. Y., U. S., 7th January, 1886, 5 years.

Claim.—1st. The combination, in a convertible roller and ice skate, and with the front and rear roller frames C and elastic cushions E, arranged substantially as described, of the runners F, G, constructed with connected opposite pairs of runner blades f , f , g , g , and pivot rods r , r , adapted to the lugs c of the roller frame C, and connected by a spring J, substantially as herein set forth. 2nd. The skate runners, constructed with front and rear runners F, G, consisting of blades f , f , g , g , tied together by rods r , r , and having pivot pins p , p , and said runners F, G being connected by a spring J, substantially as herein set forth. 3rd. The skate runners, constructed with front and rear runners F, G, consisting of blades f , f , g , g , tied together by rods r , r , and having angular lower edges l , and the pivot pins p , p , and said runners F, G being connected by a spring J, substantially as herein set forth. 4th. The combination, with the pivoted rear runner G, of a tie connected to the forward end of the runner, and passing over a rod or bar held to the skate foot-piece, substantially as herein set forth. 5th. The combination, with a bar, or rod, on the skate foot-piece, and the rear runner G, of a tie K in the ball form extending over the foot-piece bar, and connecting with the forward end of the runner, substantially as set forth.

No. 23,110. Device for Feeding Clover Hul- lers and Thrashing Machines.*(Appareil pour Alimenter les Machines à Egrener le Trèfle et à Battre.)*

Merriek E. Perring, Berrien Springs, Mich., U. S., 7th January, 1886, 5 years.

Claim.—1st. The combination, with the revolving feed cylinder, of a series of rake teeth mounted eccentrically on a shaft, journaled in the ends of the cylinder, substantially as set forth. 2nd. The combination, with the revolving feed cylinder, of a set of feed teeth mounted eccentrically, a shaft journaled within the bearings of the feed cylinder and adapted to advance and recede through perforations of bars, a slot or slots in the cylinder casing as the cylinder revolves, substantially as set forth. 3rd. The combination, with the revolving feed cylinder journaled on hollow trunnions, and a set of feed teeth mounted eccentrically on a shaft journaled within the hollow trunnions, of a regulator secured on one end of the shaft and adapted to lock the shaft in different rotary adjustments, substantially as set forth. 4th. The combination, with the revolving feed cylinder and the set of rake teeth, eccentrically mounted on a shaft journaled at the centers of the ends of the cylinder of a sector secured on the end of the shaft and means for securing the sector in different rotary adjustments, substantially as set forth. 5th. The combination, with the revolving feed cylinder journaled on hollow trunnions, of a set of feed teeth loosely mounted on a crank shaft journaled within the hollow trunnions, and means for locking the crank shaft in different rotary adjustments, substantially as set forth. 6th. The combination, with a set of feed teeth adapted to advance through the feed cylinder casing at the feed side of the hopper, and to withdraw within the cylinder casing as they approach the threshing cylinder, of a regulator secured to the feed teeth shaft and adapted to determine the outward thrust of the feed teeth at their point of contact with the hay or grain, substantially as set forth.

No. 23,111. Skate Roller. (Roulette de Patin.)

Charles Dalton and Edward J. Dalton, Oshkosh, Wis., U. S., 7th January, 1886, 5 years.

Claim.—1st. In a wheel for roller skates, the combination, of a wearing-disc plates located on opposite sides of said disc, and an exteriorly threaded bushing having an annular flange, or ring, at one end, adapted to engage one of the plates and having its threaded portion engaging the wearing-disc and opposite plate, as set forth. 2nd. In a wheel for roller skates, the combination of the wearing-disc comprising one or more discs of leather cemented together and having a turned or rounded bearing edge and a threaded bearing, a clamp plate D fitted against one face of the disc, a metallic bushing C having a flange or rim at one end adapted to clamp the plate D, and an exteriorly-threaded portion engaging the disc aperture, and a clamp-plate E having a threaded collar adapted to engage the threaded bushing all arranged and adapted to serve, as set forth.

No. 23,112. Stone-Cutter's Chisel.*(Ciseau de Tailleur de Pierre.)*

Thomas Woods, Nicholasville, Ky., U. S., 7th January, 1886, 5 years.

Claim.—1st. In a stone-cutter's chisel, the combination, with a cutting-bit or tool C, of a wooden incensing handle, or stock A, said bit being adapted to be protruded from said stock and successively sharpened by suitably cutting away the lower end of the stock, substantially as set forth. 2nd. In a stone-cutter's chisel, the combination, with bit C and incensing stock A made of wood, or other similar material, of the battering-pin D driven into place in the upper part of the bore of said stock immediately above bit C, substantially as herein set forth. 3rd. In a stone-cutter's chisel, the combination, with bit C and the wooden incensing handle or stock A, of the ferrules B, substantially as herein set forth. 4th. The combination, in a stone-cutter's chisel, of the bit C wooden incensing stock or handle A, battering pin D driven into place at the head of said stock in the bore thereof immediately above the bit C and the ferrules B, substantially as herein set forth.

No. 23,113. Machine for Spreading and Drawing Hemp, Flax, etc. (*Machine à Étendre et Tirer le Chanvre, le Lin, etc.*)

John Good, Brooklyn, N.Y., U.S., 7th January, 1886; 5 years.

Claim.—1st. The combination of two catenary series of gill-pins two interposed drawing-heads, one set of delivery-rolls common to both series of gill-pins, and both drawing-heads and gearing and driving mechanism, substantially as herein described, whereby said series of gill-pin and drawing-heads are caused to run in opposite directions and towards each other, and the delivery rolls are caused to deliver in a single sliver all the fibers received by the two drawing-heads from the two series of gill-pins, substantially as herein described. 2nd. The combination of two catenary series of gill-pins, two drawing-heads interposed between said series, one set of delivery-rolls common to both of said drawing-heads, a condenser common to both drawing-heads interposed between said heads and delivery-rolls and gearing and driving mechanism, substantially as herein described, for driving the said series of gill-pins and drawing-heads in opposite directions and driving said delivery-rolls, substantially as and for the purpose herein set forth. 3rd. The combination of two catenary series of gill-pins, two interposed drawing-heads each comprising two drawing-rolls, an extension-roll and an endless belt running on one of said drawing-rolls, and on the extension-roll the two endless belts being parallel and near together, and mechanism, substantially as herein described, for driving said series of pins in opposite directions and for driving the said rolls to cause the contiguous parts of said belts to run in the same direction, and for the purpose herein set forth. 4th. The combination, with two catenary series of gill-pins and two interposed drawing-heads each comprising two drawing-rolls, an extension-roll and an endless belt running on one of said drawing-rolls and on the extension roll, driving mechanism for driving the said pins and rolls, and means, substantially as herein described, of adjusting said belts as near together as may be desirable, as herein set forth.

No. 23,114. Middlings Purifier.
(*Epurateur des Gruaux.*)

William Klostermann, Young America, Minn., U.S., 7th January, 1886; 5 years.

Claim.—1st. In a middlings purifier, the combination, with a rotary drum provided with elevator strips on its inner surface, of the box E, the vibrating section G above it and the peaked top J above the vibrating section, the box Et, the section G and the top J being within the drum, substantially as shown. 2nd. In a middling purifier, the combination, with a rotary drum provided with elevator strips on its inner surface, of the box Et having inclined partitions E2 provided with slots E3, and of the peaked top J above the box Et, substantially as shown. 3rd. The combination, with a rotary drum D having elevator strips on its inner surface, of the box Et, the peaked top J, the pivoted partitions K in the same and the rod or shaft L provided with the cams L for adjusting the upper ends of the partitions K a greater or less distance from each other, substantially as shown. 4th. The combination, with a rotary drum having elevator strips on its inner surface, of the box Et, the vibrating section G having outwardly and upwardly inclined flanges G1, the peaked top J, the pivoted partitions K and the shaft L carrying the cams L, substantially as shown. 5th. The combination, with a rotary drum having elevator strips on its inner surface, of the box Et having slotted partitions E2, the vibrating section G, the peaked top J having partitions K, the air-conducting tube N connected with the peaked top, the air-conducting tubes M connected with the box Et and means for producing an air current, substantially as shown. 6th. The combination, with a rotary drum having elevator strips on its inner surface, of the box Et, the vibrating section G, the peaked top J, the links L2 connecting the vibrating sections with the ends of the peaked top and of the angle lever I for vibrating the section G, substantially as shown. 7th. The combination, with a rotary drum, of a fixed middlings distributing box within the drum, and wings supported within the said distributing box, substantially as shown. 8th. The combination, with a rotary drum, of a fixed middlings distributing box within the same, and of a series of ribs or riffler on the upper surface of the top of the distributing box, substantially as shown. 9th. The combination, with a rotary drum, of a fixed middlings distributing box within the same, and of a series of adjustable ribs or riffler on the upper surface of the said distributing box, substantially as shown. 10th. The combination, with a rotary drum, of a fixed middlings distributing box within the same, of a series of adjustable ribs or riffler on the upper surface of the top of the said distributing box, and of means for adjusting the inclination of the said ribs, substantially as shown. 11th. The combination, with a rotary drum, of a middlings distributing box in the same, a series of ribs having their lower ends pivoted on the upper surface of the peaked top of the distributing box, and a sliding piece on the top of the said box pivoted to their upper ends, substantially as shown. 12th. The combination, with an elevator drum, of a middlings distributing box held in the same, which distributing box is provided with an air channel connected with blower fan, and of one or more

screens W, the part of the box above the screens W being connected with the suction fan, substantially as shown. 13th. The elevator drum D, provided with openings h covered with bolting cloth, metal plates p, secured at one edge to the longitudinal ribs or bars of the drum, and of the hinged gates h between the apertured sides and the plates p, substantially as shown. 4th. The combination, with an elevator drum, of a middlings distributing box, the rocking shafts U, in the said box, the winch U1 on the same, the angle or elbow levers U2, connected by the bar U3, and a bar connecting one of the said elbow levers with a revolving disk or crank arm, substantially as shown.

No. 23,115. Railway Track Switch.

(*Aiguille de Chemin de Fer.*)

Fliesh P Rowel (assignee of Seth Curdin,) Louisville, Ky., U.S., 8th January, 1886; 5 years.

Claim.—1st. In a railroad switch, a frog, or carrier rail, having its web adapted to bear upon the tread of the main rail at the point where the former crosses the latter, substantially as described. 2nd. In a railroad switch, a frog, or carrier rail, having its web adapted to bear upon the tread of the main rail, and its bottom flange to rest blocks placed upon the ties at the side of said main rail, at the point where the frog or carrier rail crosses the main rail, substantially as described. 3rd. In a railroad switch, substantially as described, the combination, with the frog rails and switch rails, of a rock shaft formed in two parts and connected with said movable parts, and means for operating such shaft parts simultaneously or independently, as and for the purpose set forth. 4th. The combination with the frog rails and connections and with the switch rails and connections, of the rock shaft formed in two parts arranged upon continuous ends in such proximity to each other as to operate together or separately, as described, as set forth. 5th. The combination, with the movable parts described, and with the two part rock shaft F, F1, and connections of the levers A and A1, and coupling means, all arranged and operating as and for the purpose set forth. 6th. In a railroad switch, as described, the combination, with a main rail A, of a pivoted trip rail E having its web split horizontally and the tread bent laterally to provide inclines in two opposite directions, the said bent portion lying above the plane of the main rail and presenting an oval contact surface in all directions, as set forth. 7th. In a switch, the combination, with the movable parts and with operating cranks, of a strap engaging the crank and a rod connecting said strap with the part to be removed, and secured adjustably to the strap by jam nuts embracing opposite sides, as set forth. 8th. The combination, with the cranks and movable rails of a switch, of the strap H bent to embrace the crank and receiving blocks h with lugs h1, the threaded rods passing through both straps and blocks and secured by adjustable jam nuts h2, as set forth. 9th. In a railroad switch, a movable carrier or frog rail, as D, having a portion of its web and base flanges swaged by a die to correspond with the surface of the main rail against which it bears, and having its web deflected to rest against and upon the head of the main rail, and its head to rest fairly on said main rail, as set forth. 10th. The combination, with the rail A1, of the frog D and D1, swaged as shown, to form recesses D2 and D3 respectively, which match closely against the main rail, and having portions of their webs and heads to rest above and upon the tread of the main rail, as set forth. 11th. In a railroad switch, and in combination with the switch rails C, C1, a signal N pivoted in a case N1, and connected by a rod and bell crank lever with said switch rails and their operating shaft, substantially as described. 12th. In a railroad switch, the combination of the switch rails C, C1, with a signal N pivoted in a case N1 having a receptacle for a lamp, fixed reflectors sides, and movable coloured slides to cover said reflectors and to be operated simultaneously with the signal N by the movement of the switch rails, substantially as described.

No. 23,116. Snow Scraper. (*Pelle à Neige.*)

George A. Birch, East Greenbush, and The Wheeler and Melick Company, Albany, N.Y., U.S., 8th January, 1886; 5 years.

Claim.—1st. In a snow-scraper, the combination, with a face-board A, a pole D hinged to said face-board and provided with a lever E, which is adapted to lock the face-board in an annular position, and a roller frame F hinged to the face-board, as described, of the cleaners C pivoted to the end pieces a, as and for the purpose specified. 2nd. In a snow-scraper, the combination, with the face-board A, of runners B connected to said face-board, as and for the purpose specified. 3rd. In a snow-scraper, the combination of a face-board in an annular position, and to overturn the same, as herein specified.

No. 23,117. Boot. (*Botte.*)

James F. Shaw and Joseph M. Quivey, Jackson, Mich., U.S., 8th January, 1886; 5 years.

Claim.—1st. As an improved article of manufacture, a boot consisting of a felt knit or wool foot piece, provided with a leg portion projected above the instep portion, and a leg proper or protector of leather or analogous material fitted over the leg portion of the foot piece and secured thereto, said leg or protector being extended in front down over the vamp of the foot piece to a point over the instep thereof, substantially as described and for the purposes specified. 2nd. The combination, with the felt knit or wool foot piece having a leg portion of the leg proper, or protector of leather or analogous material fitted over the leg of the foot piece, and having its back portion depending approximately to the base of the heel of the foot piece, substantially as set forth.

No. 23,118. Grate for Furnaces, Stoves, etc.
(*Grille de Fourneau, Poêle, etc.*)

Stephen Morris and Edward W. Fournier (Assignees of Lewis Passmore), Philadelphia, Penn., U.S., 8th January, 1886; 5 years.

Claim.—1st. A grate for furnaces, stoves, etc., made in sections, which meet each other in radial planes, and are supported at their peripheral edges by the rim of a partially-revolving bed plate, and

at the centre by a hub of the same, and are held in the rim by hooks which project from their under sides at their peripheries, and at their inner ends by means of a centre pin and washer beneath its head, substantially as described. 2nd. A grate, having sections F, which meet each other at radial edges, in combination with the bed-plate E having a rim c and hub d, the sections being provided with hooks e, e, on their underside, which lock them at their peripheries to the rim c, and being firmly secured at their inner ends to the hub d by means of the pin g and washer h, substantially as described. 3rd. The grate-bed E, having a rim c provided with lugs J upon which the sections F are seated at their peripheries, whereby to form spaces k between the rim and the sections for the passage of cold air, substantially as and for the purpose set forth. 4th. The connecting rod G, jointed at its middle, in combination with the lever H and the arm m of the grate bed-plate E, the arm having broad, flat parallel surfaces and the connecting rod cheeks o, v, between which the arm is firmly fitted, substantially as and for the purpose set forth. 5th. The lever H having a stop slot p, whereby as the lower edge of the connecting rod G is brought to bear on the bottom of the slot in the forward movement of the lever, in shaking the grate the movement of the latter is arrested to prevent it dumping, substantially as described.

No. 23,119. Telegraphy. (Telegraphic.)

Thomas A. Edison, Menlo Park, N. Y., U.S., 11th January, 1886; 5 years.

Claim—1st. In telegraphs, the combination, with two or more sets of Morse telegraph instruments, consisting each of an ordinary relay and a signalling key, a source of electrical energy for operating the same, and shunt circuits to keep the line constantly closed at the signalling keys, of two or more other sets of telegraph instruments, each composed of a Morse signal transmitter having a separate source of electrical energy and throwing momentary and sharply defined impulses upon the line, and a diaphragm sounder responding to such momentary impulses, whereby two sets of Morse signals can be transmitted and received simultaneously without interference, substantially as set forth. 2nd. In telegraphs, the combination, with two or more sets of Morse telegraph instruments, consisting each of an ordinary relay and a signalling key, a source of electrical energy for operating the same and shunt circuits to keep the line constantly closed at the signalling keys, of two or more other sets of telegraph instruments, each composed of a Morse signal transmitter, having a separate source of electrical energy and throwing momentary and sharply defined impulses upon the line, and a diaphragm sounder responding to such momentary impulses and located in a shunt from the line, whereby the sets of Morse signals can be transmitted and received simultaneously without interference, substantially as set forth. 3rd. In telegraphs, the combination, with a telegraph line, Morse telegraph instruments, consisting of relays and signalling keys, and a source of electrical energy for operating the same, of an induction coil having its secondary circuit in connection with the line, a separate source of electrical energy, and a Morse signal transmitting device in the primary circuit of such coil, and a diaphragm sounder responding to the induction impulses, substantially as set forth. 4th. In a system of Morse telegraphy, the combination, with a telegraph line and Morse instruments, a diaphragm sounder and a signal transmitter transmitting momentary and sharply defined waves producing alternately varying signals at the diaphragm sounder, substantially as set forth. 5th. In a system of Morse telegraphy, the combination for the transmission and reception of Morse signals of a telegraph line, an induction coil having secondary connected with the line, a Morse signal transmitter in primary producing alternately varying signals in secondary, and a diaphragm sounder receiving the induced impulses, substantially as set forth. 6th. The combination, with a telegraph line Morse telegraph instruments, and a source of electrical energy for operating the same, of an induction coil having secondary connected with the line, a Morse signal transmitter in primary, producing alternately varying signals in secondary, and a diaphragm sounder receiving the induced impulses, substantially as set forth. 7th. The combination, with a telegraph line, of a diaphragm sounder responding to induced impulses, a transmitting induction coil having secondary connected with line, a battery in primary circuit and a key controlling said primary circuit, said key being arranged to open the primary circuit in the down stroke, substantially as set forth. 8th. In telegraphs, the combination, with two or more sets of Morse telegraph instruments, consisting each of an ordinary relay and a signalling key, a source of electrical energy for operating the same, and shunt circuits to keep the line constantly closed at the signalling keys, of two or more other sets of telegraph instruments, each composed of a Morse signal transmitter having a separate source of electrical energy and throwing momentary and sharply defined waves upon the line, and a diaphragm sounder responding to such momentary impulses and located in a condenser circuit connected with such line, whereby two sets of Morse signals can be transmitted and received simultaneously without interference, substantially as set forth. 9th. The combination, with a telegraph line and Morse telegraph instruments, of condensers located in shunts around the Morse keys, and diaphragm sounders connected in condenser circuits with said line, the key condensers being of greater capacity than the sounder condensers, and the relative capacity of the condensers being such that the disturbance of the diaphragm sounders by the regular Morse signals is prevented, substantially as set forth. 10th. The combination, with a telegraph line, of a diaphragm sounder receiving Morse signals produced by momentary and sharply defined waves resistance in line around which said diaphragm sounder is shunted, and a condenser in said shunt circuit, substantially as set forth. 11th. The combination, with a telegraph line, of a diaphragm sounder receiving Morse signals produced by momentary and sharply defined waves, an electro-magnet resistance in line around which said diaphragm sounder is shunted, and a condenser in said shunt circuit, substantially as set forth. 12th. The combination, with a telegraph line, of a number of sets of instruments directly in the line circuit, each set consisting of an ordinary relay and signalling key, and a condenser shunting both the relay and key, and several sets of other and independent instruments connected with or in said line, consisting of a transmitting device for sending momentary

and sharply defined waves, a diaphragm sounder shunted around a resistance or magnet in the line and a condenser in said shunt circuit substantially as set forth.

No. 23,120. Telegraphy. (Telegraphic.)

Thomas A. Edison, Menlo Park, N. J. U. S., 11th January, 1886; 5 years.

Claims.—1st. In a system of Morse telegraphy, the combination, with ordinary Morse telegraph instruments shunted to keep the line constantly closed, to momentary and sharply defined waves of diaphragm sounders, and transmitters transmitting Morse signals electrically by throwing upon the line for each signal, a large number of momentary and sharply defined waves which do not work the Morse relays, but are responded to by the diaphragm sounders, substantially as set forth. 2nd. In a system of Morse telegraphy, the combination, with a diaphragm sounder of a transmitter consisting of a circuit breaker and a controlling key, the former being constructed to make and break circuit rapidly, a large number of times for each movement of the controlling key, substantially as set forth. 3rd. In a system of Morse telegraphy, the combination, with a diaphragm sounder of a transmitter consisting of a circuit breaker and a controlling key, the former being constructed to make and break circuit rapidly a large number of times for each movement of the controlling key, and means for retarding the movement of the transmitter in one direction, so as to vary alternate signals, substantially as set forth. 4th. In a system of Morse telegraphy, the combination, with a diaphragm sounder of a transmitter composed of a revolving circuit controller, and a shunt around the same controlled by a key, substantially as set forth. 5th. In a system of Morse telegraphy, the combination, with a diaphragm sounder of an induction coil with secondary in line, and a transmitter in the primary of such coil consisting of a circuit breaker, and a controlling key, the former being constructed to make and break such primary circuit rapidly a large number of times for each movement of the controlling key, substantially as set forth. 6th. In a system of Morse telegraphy, the combination, with ordinary Morse telegraph instruments shunted to keep the line constantly closed to momentary and sharply defined waves, of a transmitter of such waves and a diaphragm sounder responding to such waves and connected inductively with the line, substantially as set forth.

No. 23,121. Telegraphy. (Telegraphic.)

Thomas A. Edison, Menlo Park, N. J. U. S., 11th January, 1886; 5 years.

Claim.—1st. In a system of Morse telegraphy, the combination, with a telegraph line of terminal and way stations, each of such stations having a Morse signal transmitter changing the strength of the line current, and a Morse signal transmitter reversing the line current without changing its strength, and receiving instruments at each station responding separately to such transmitters, substantially as set forth. 2nd. In a system of Morse telegraphy, the combination, with a telegraph line of terminal and way stations, each of such stations having as receiving instrument a polarized relay and a non-polarized relay and two Morse signal transmitting instruments at each terminal and way station acting one to change the strength of the line current, and the other to reverse such line current, substantially as set forth. 3rd. In a system of Morse telegraphy, the combination, with a telegraph line of terminal and way stations, a main line battery constantly in circuit, a local battery at each station having double the power of the main battery, said local battery being normally out of circuit, and a key for each of such local batteries throwing the local battery into circuit reverse to the main battery, whereby the line current can be reversed at a terminal or way station without changing its strength, substantially as set forth. 4th. In a system of Morse telegraphy, the combination, with a telegraph line, of a main line battery constantly in circuit terminal and way stations, each provided with a local battery of double the power of the main battery normally out of circuit, a key at each station throwing the local battery into and out of circuit reverse to the main battery, thus reversing the line current without changing its strength, a key at each station varying the strength of the line current without regard to its polarity and polarized and non-polarized relays, substantially as set forth. 5th. In a system of Morse telegraphy, the combination, with a telegraph line, of a main line battery constantly in circuit terminal and way stations, each provided with a local battery of double the power of the main battery normally out of circuit, a key at each station throwing the local battery into and out of circuit reverse to the main battery, thus reversing the line current without changing its strength, a key at each station varying the strength of the line current without regard to its polarity by throwing resistance into and out of the line and polarized and non-polarized relays, substantially as set forth.

No. 23,122. Roller Mill. (Moulin à Cylindres.)

Oscar A. Byrns and Rush Winslow (Administrators to the Estate of Benjamin T. Rogers), Appleton, Wis., U. S., 11th January, 1886; 5 years.

Claim.—1st. In a roller mill, the combination of an upright hollow standard provided with external supports upon which the rolls B, B are mounted, and with internal conduits K, L, O, which conduct away the product of said rolls B, B, and casing N, substantially as and for the purposes set forth. 2nd. In a roller mill, the combination of a central hollow standard composed of the posts A, A, connected and braced by cross plates V, V, with rolls B, B mounted thereon in pairs, substantially as and for the purposes set forth. 3rd. The combination, in a roller mill, of a central hollow supporting standard, with transverse shafts D, D passing through and secured in said central standard rolls B, B mounted in pairs upon said shafts D, and mechanism for driving said rolls, substantially as and for the purposes set forth. 4th. The combination, in a roller mill, of a central upright supporting standard A, A, detachable cross shafts, V, D passing through and secured in said central supporting standard, boxes a, a provided with transverse sleeves fitting and adjustable upon the

shafts D, D, rolls B, B mounted in said boxes upon the protruding ends of shafts D, and mechanism for adjusting the distance between each pair of rolls, substantially as and for the purposes set forth.

55h. The combination, in a roller mill, of a hollow central supporting standard, the rolls B, B mounted in pairs in suitable supports on the sides of said hollow standard, the casing N, N divided into compartments for each pair of rolls, pipes K, L and G, inclosed within said hollow standard for conducting away the product of work of the upper set of rolls, feeding devices and mechanism for driving and adjusting the rolls, substantially as and for the purposes set forth.

56. In a roller mill, the combination of a central supporting standard, transverse rods or shafts D, D, rolls B, B mounted in pairs upon the protruding ends of said shaft D, boxes a, a, provided with sleeves for the reception of said supporting shafts D, D, levers C, C mounted upon shafts D between each pair of boxes a, a, eye bolts e, e pivoted to said levers C and hand screws F, F, whereby said rolls are adjusted in position, substantially as and for the purposes set forth.

57. The combination, in a roller mill, of the central standard or support transverse shafts D, D, rolls B, B mounted in pairs upon the protruding ends of said shafts D, boxes a, a, provided with transverse screws to receive shafts D, bars d, d, to which are secured the ends of shafts D between the outer boxes, and the upright bars d, d and the mechanism for adjusting the space between each pair of rolls, substantially as and for the purposes set forth.

58. In a roller mill, the combination of the central hollow supporting standard A, rolls B, B mounted in pairs on each side of said standard, feed rollers r, r, the casing N, hoppers formed by the walls of said casing, and the inclined partitions p, h and r, the section h hinged to section g and supported by spring k, screw and adjusting nut l, substantially as and for the purposes set forth.

59. The combination, in a roller mill, of the central hollow supporting standards A, A, rolls B, B externally mounted upon said standard pulleys M, M, fixed upon the shafts of the outer rolls on one side of the machine, pulleys m, m fixed upon the shafts of the inner rolls on the opposite side of the machine, driving pulleys W, W upon shaft Y, idlers R, R and X and belts m, m, substantially as and for the purposes hereinbefore set forth.

No. 23,123 Comb Attachment for Scissors for Cutting Hair. (*Mandire d'Attacher le Peigne aux Sciseaux des Perruquiers.*)

Annie E Inman, St. Louis, Mo. (Assignee of Dan. M. Marshall, New York, N.Y.), U.S., 11th January, 1886; 5 years.

Claim.—The combination, with the scissors blade, having screw-threaded apertures near its opposite ends, of the thumb screws C passed through said apertures, and the comb E having apertures in its back, in which apertures the lower ends of the screws are swiveled, as shown at C, substantially as set forth.

No. 23,124. Cartridge Decapper, Recapper and Reloader. (*Machine à Refaire les Cartouches.*)

Solomon McNeill and Obadiah H. Denise, Burlington, Iowa, U.S., 11th January, 1886; 5 years.

Claim.—1st. In a cartridge implement, a ramrod having a self-adjusting piston head, substantially as and for the purpose herein set forth. 2nd. In a ramrod for a cartridge implement, the self-adjusting piston head D, hinged as at H, in any suitable manner to rod O, substantially as and for the purpose herein set forth. 3rd. In a cartridge implement spring L, in combination with handle C and ramrod O, substantially as and for the purpose herein set forth. 4th. In a cartridge implement, a shell chamber provided with a wad guide, in combination with handle C and ramrod O, substantially as and for the purpose herein set forth.

No. 23,125. Churn. (*Baratte.*)

Edmund Neff and Joseph Peart, (assignees of Joseph Bradley,) Hamilton, Ont., 11th January, 1886; 5 years.

Claim.—1st. The combination of the box churn A, provided with cross bars c, and the springs c attached thereto, the lower ends of which are fastened to a base B for oscillating the churn A, substantially as and for the purpose hereinbefore set forth. 2nd. In an oscillating churn, the combination of the base with springs c, the box A provided with cross bars c also slotted holes D, covers E provided with pivots E and the centre cover E', substantially as and for the purpose hereinbefore set forth.

No. 22,126. Pump. (*Pompe.*)

George F. Beebe, South Bethlehem, Pa., U.S., 11th January, 1886; 5 years.

Claim.—1st. A pump valve consisting of a metallic body, and a cushion of rubber fitting the bore of the valve seat, and provided with a lateral annular flange at its top portion, projecting some little distance over the upper surface of the valve seat and beyond the metal body, substantially as described. 2nd. In a pump, the combination, with an intermediate section having an enlarged chamber provided with an upper cylindrical neck, of a top pipe or cap having a slot to receive the operation lever or handle, a tube connected with the lower end of the cap and suspended in the said chamber, and a plunger operating in said tube, substantially as described. 3rd. In a pump, the combination, with a cap piece having a hinged lid, of a tube connected with the lower end of said cap piece and suspended in the pump chamber, a plunger working in said tube, and an operating lever or handle adjustably fulcrumed in said cap piece, substantially as described. 4th. In a pump, the combination of a valve casing, a conical metallic valve body, a rubber cushion on said valve body, a guide rod passed through said valve body and cushion and having a stop at one end, in a bridge in which said guide rod works, substantially as described. 5th. In a pump, a lifting valve comprising a plunger cage, an annular bottom plate having inward projecting lugs, a middle plate engaged with the cage rubber and leather packing between said plates and an elastic ball, substantially as described.

No. 23,127. Coffee Roaster.

(*Torrificateur à Café.*)

William H. Bruning, Madison, Ind., U.S., 11th January, 1886; 5 years.

Claim.—1st. A rotating coffee roasting, or drying cylinder, open at both ends, and having a hopper at each end, and divided into three sections K₁, K₂ and L, the section K₁ provided with spiral conveyer flanges l₁, l₂ and l₃, and section K₂ provided with spiral-flange conveyers l₄, all conveying inwardly, and section L having the spiral flanges j, j, arranged to agitate and distribute the coffee, whereby the coffee may be conveyed through section K₁ or K₂, or through both, simultaneously held in section L by the action of the spiral flanges in sections K₁ and K₂, until sufficiently dried or roasted, and discharged at both ends by the action of flanges j, j, l₁, l₂, l₃, and l₄ when the direction is reversed, as described. 2nd. A rotating coffee roasting and drying cylinder, having the breechings q₁ and q₂ surrounding and inclosing the entire ends of the cylinder, and extending above and below the cylinder, whereby the steam and smoke given off by the material in process of roasting or drying, will be conducted through the upper portion and pipe continuations into a flue or chimney, and the coffee or other material will be discharged from the cylinder into the lower portion and spouted wherever desired, substantially as specified. 3rd. The combination of a rotating coffee-roasting cylinder, the stationary breechings q₁, q₂ having doors w₁, w₂, w₃, w₄, the hopper-bottoms p, p, the spouting-tubes v, v and the receptacle Z, whereby the smoke from the discharged hot coffee may be prevented from entering the room, and be carried into a flue or chimney E through the tubes and breechings, as shown and described. 4th. An imperforate rotating coffee-roasting or drying cylinder, having one or both ends entirely open for the discharge of both the coffee and the smoke, or steam, at the same opening, and having located in or near said opening spiral flanges for retaining the coffee at the will of the operator without interfering with the escape of the smoke or steam, substantially as specified. 5th. An open-ended roasting or drying cylinder provided with spiral conveyers leading from both open ends toward the middle, and arranged to retain the coffee or other material within the cylinder until the direction of rotation has been reversed, as described. 6th. An imperforate rotating coffee roasting, or drying, cylinder, having unclosable and non-adjustable openings at one or both ends for the automatic discharge of the material within the cylinder when rotated in a given direction, and having located in or near said openings spiral conveyers arranged to convey to or from said openings according to the direction of rotation, substantially as shown and described. 7th. A coffee-roasting cylinder, divided into two sections k, i, the section k provided with spiral flanges l, and the section i having the spiral flange j, in combination with the shaft n having the spiral flange m, whereby the coffee may be conveyed through section k, held and roasted in section i and discharged, as described. 8th. The combination, with a roasting-cylinder having the spiral flanges l, and the shaft n having the flange m, of the hopper having the bottom p arranged at the end of said cylinder, as shown and described. 9th. An open-ended roasting cylinder provided with a spiral conveyer leading from one end toward the middle, and with spiral flanges adapted to prevent the escape therefrom of the coffee, or other article, until the cylinder's direction of rotation has been reversed, as described.

No. 23,128. Stump Extractor. (*Arrache-Souche.*)

Samuel Allen, Allenwood, Ont., 11th January, 1886; 5 years.

Claim.—1st. The notched bar C fitting into the frame D, which is suspended by the links b and d to the hook E, in combination with the levers H connected to the frame D by the links I. 2nd. The frame D suspended from the hook E, a link G pivoted to the said frame and provided with a pin c to engage with the notches a, in combination with the pivoted links I arranged to support the levers H, the ends of which are designed to engage with the notches a, substantially as and for the purpose specified.

No. 23,129. Railway Car Axle Box.

(*Boîte à Graisse de Char de Chemin de Fer.*)

Norman W. Cuttor, Cleveland, Ohio, U.S., 11th January, 1885; 5 years.

Claim.—1st. In a car axle box of the class provided with anti-friction rollers, in combination with the said box, a continuous circumferential lining consisting of any suitable metal, provided thereby a smooth uniform bearing surface for the entire circumferential surface of the rollers, substantially as described, and for the purpose specified. 2nd. In a car axle box, in combination with said box and anti-friction rollers and lining therein, the adjusting ribs I and J respectively located at each end of the box, for the purpose specified and substantially as described. 3rd. For cars, an axle box having at its under side, and in open relation with the interior of said box, a waste receptacle K, as and for the purpose specified. 4th. Of the herein described car axle box, the removable end plate provided with a central boss adapted to receive the end thrust of the axle, substantially as described. 5th. For cars, the combination of the axle box A continuous circumferential lining and rollers a, ribs I and J, detachable end plate provided with a boss c and waste receptacle, all constructed and arranged in the manner substantially as described and for the purpose specified.

No. 23,130. Double Action Hay Car.

(*Monte-Foin à Double Action.*)

Joseph Drader, London, Ont., 11th January, 1886; 5 years.

Claim.—1st. In a double action hay car, the double latch D, Dr, shaped substantially as shown, the two parts being hinged or joined by slotted joint e at their inner and smaller ends, and pivoted separately near said joint, substantially as shown and described and for the purpose set forth. 2nd. The projecting lugs or guards G, G on inside of arms, of a hay car at each end for preventing the car from rising beyond a certain limit, substantially as shown and described.

No. 23,131. Steam Heating Apparatus.*(Calorifère à Vapeur.)*

Peter H. Inman, Highland Park, Ill., U.S., 11th January, 1886, 5 years.

Claim.—1st. In a steam heating apparatus, a pressure equalizing pipe communicating with valves, and also in communication with steam distributing pipes, substantially as specified, for the purpose of thereby rendering the action of said feed valves automatic. 2nd. The combination, substantially as specified, in a steam-heating apparatus, of the coil B located in the heater, and in communication with the steam distributing pipes and heater radiators, the water supply pipe G, the stop-cock H located in the pipe G and the automatic valve E also located in the pipe G, and communicating with the pipe E, and arranged between the latter pipe and the cock H, for the purposes specified. 3rd. The combination, substantially as described, in a steam-heating apparatus, of the coil B located in the heater, and in communication with the steam distributing pipes and the heat radiators, the water supply pipe G, the stop-cock H located in the pipe G and in communication with the pipe B and arranged between the latter pipe and the cock H, and the drip-pipe I entering the steam distributing pipe and also entering the valve E and having therein a shut off or cock J, for the purposes set forth.

No. 23,132. Wagon. *(Wagon.)*

Benjamin C. Shaw, Racine, Wis., U.S., 11th January, 1886, 5 years.

Claim.—1st. The portable shifting tonguo P, t, having a recess on the under side to receive the stop lug s and center bar C b, stop lug S L, loop band l b, socket band S b, all combined substantially as described. 2nd. The center bar C b, provided with loop-band l b, socket band S b, under loop staples L s, L s, draw-bar D b and draw-bolt D b t, all combined substantially as described. 3rd. The leader-hook L h, the rigid forked center draft-rods D r, attached to the center bar C b, portable tonguo P t and the front gearing of a wagon, all combined substantially as described. 4th. The portable tonguo P t, center bar C b, draft bar D b, draft rod D r and eyebars, in combination with links l and hooks h, substantially as described. 5th. The pivot rod P r r, center bar C b, the two connected by joint 3, the rear hounds f s and g, stop band M b and set screw, all combined substantially as described.

No. 23,133. Steam Boiler Low Water Alarm.*(Indicateur d'Eau à Sonnerie pour Chaudières à Vapeur.)*

Alexander Kerr, Richard Costigan and William Keys, Montreal Que., 11th January, 1886; 5 years.

Claim.—1st. In the construction of alarms for steam boilers, the float, arranged as described, and provided with an upper chamber open to the pressure that is in the space in which the float is situated, the said float being also provided with a valve, in combination with a cylinder, or water column, having a valve seat and a passage to a sounding device, the whole substantially as described. 2nd. The combination of the cylinder B, having valve seat I and sounding device H connected therewith, as shown and described, in connection with a steam boiler, as shown and described, with float D having chamber P open to the pressure within the cylinder B, the whole substantially as described.

No. 23,134. Apparatus for Shaping Heated Glass.*(Appareil pour Façonner le Verre Chauffé.)*

Frank Wright and Matthew W. W. Mackie, London, Eng., 11th January, 1886; 5 years.

Claim.—For shaping heated glass, the use of apparatus wherein two tubular mandrils provided with chucks to receive glass rods or tubes, and with pipes supplying their interiors with compressed air are caused to revolve simultaneously, while the head stocks carrying the chucks can be moved nearer together or farther apart in a bed, on which is fitted an intermediate blow pipe slide, arranged and operating substantially as herein described.

No. 23,135. Cut-off Valve for Steam Engines.*(Soupape de Détenue pour Machines à Vapeur.)*

John P. Ammons, San Francisco, Cal., U. S., 11th January, 1886; 5 years.

Claim.—1st. The combination of a rotary main valve and a cut-off valve, both closed at one end and fitting concentrically within one another, with a steam chest having inlet and outlet ports arranged on the same side, as specified. 2nd. The combination of a rotary main valve and a cut-off valve, both closed at one end and provided with inlet and outlet ports, as shown, with a steam chest, as set forth. 3rd. The combination of a rotary main valve and a cut-off valve, both closed at the reduced end, and provided with inlet and outlet ports, as shown, said main valve having an elongation through which the valve stem of the cut-off valve passes, with a steam chest, all arranged for operation, as specified. 4th. The combination of a rotary valve and a cut-off valve, constructed as shown, and the said main valve provided with an elongation through which the valve stem of the cut-off valve passes, and both fitting concentrically into each other, and into a steam chest with the collars O, O, as set forth. 5th. A rotary main valve and a cut-off valve fitting concentrically into each other, and into a steam chest, said valves having ports K, K¹ and F, H and a passage I, in combination with a steam chest having inlet passage C and exhaust passage D, both arranged on the same side, and said valves provided with means for operating them, as specified. 6th. The combination of a rotary cut-off valve G and a main valve E, both closed at the reduced end and fitting concentrically into each other and into a steam chest, all provided with ports and passages, as shown, and having an extension H through which a sleeve M passes for the valve stem N, and arranged for operation as and for the purposes specified.

No. 23,136. Stretcher for Felt Boots, Shoes and Stockings.*(Forme Brisée pour Bottes, Souliers et Bas de Feutre.)*

Hugo Kranz and Henry Aletter (Assignees of William A. Young), Berlin, Ont., 11th January, 1886; 5 years.

Claim.—1st. A stretcher for felt boots and the like articles, consisting of the leg sections A and B, collapsibly connected by link A¹, the foot section composed of the pieces C, D and E, collapsibly connected to the leg sections above the instep by a lever G, and a sliding pivot joint at the heel, the toe pieces C and D hinged together at the toe and the heel piece E, slidingly connected with the sole piece D. 2nd. The combination of the sections A and B, link A¹ pivoted thereto, upper foot plate C having lever C¹, which is pivoted to A and C, sole piece D pivoted to C at the toe, heel piece E sliding in a bed formed by lips d¹ on the sole piece, and slidingly hinged to the leg section B at the heel by a pin working in an elongated slot in the bracket or staple e. 3rd. The combination of the front leg section A, stretching jacket A¹¹ slidingly connected thereto, rear leg section B having socket B¹ for handle B¹¹ and stretching jacket B¹¹, link A connecting said sections and link A¹¹ pivoted to link A and jacket A¹¹. 4th. The combination of the top foot piece C, lever C¹, front leg section A hinged thereto, and rear leg section B hinged to the end of lever C¹ at one-fourth the length of the stretcher from the stretcher from the heel. 5th. The combination of the top foot piece C, front sole piece D, pivot joint at the toe heel, piece E slidingly connected with D, bracket or staple e having elongated slot to receive slidingly a pin d¹ in the brackets b¹, all substantially as shown and described and as for the purpose set forth.

No. 23,137. Apparatus for Indicating the Load Placed on Railway Cars.*(Appareil pour Indiquer la charge placée dans un Char de Chemin de Fer.)*

David H. Warren and James Baylis, Montreal, Que., 11th January, 1886; 5 years.

Claim.—The combination of the body of the car A, truck frame C, bolster D, springs E, bracket F, needle bar or lever G and graduated scale I, the whole constructed and arranged substantially as and for the purposes set forth.

No. 23,138. Amalgamating Apparatus for Ores, etc.*(Appareil à Amalgamer les Minerais, etc.)*

Adam Miller, London, Eng., 11th January, 1886; 5 years.

Claim.—1st. The construction of amalgamating apparatus, consisting of a vertical U-shaped vessel, or chamber, A, B, charged with mercury, or other liquid amalgamating metal, into the upper end of one limb of which vessel the ore or material to be operated upon enters, and in which it is caused to descend by the action of revolving helical blades E, so as to issue at bottom into the second limb of the vessel, also charged with mercury, or other metal, in which the material is caused to ascend transverse grids G, H, being provided in the vessel for dividing and distributing the material as it descends and ascends, so as to bring it into intimate contact with the mercury, substantially as herein described. 2nd. In combination with amalgamating apparatus, constructed and operated as set forth in the preceding claim, the use of a plunger, or equivalent device, for forcing the material from the charging hopper into the amalgamating vessels, substantially as herein described. 3rd. In amalgamating apparatus, the combination of the vessels A and B, with grids G, H, shafts C, D, blades E, F, hopper M and charging device L, arranged and operating substantially as herein described, with reference to the drawings.

No. 23,139. Amalgamating Apparatus for Ores, etc.*(Appareil à Amalgamer les Minerais, etc.)*

Adam Miller, London, Eng., 11th January, 1886; 5 years.

Claim.—Amalgamating apparatus, consisting of the conentric vessels A and B, charged with mercury, or other amalgamating material, in combination with grids G, shaft C and screw blades F, the pulverized material containing the precious metal, being first made to descend through the central vessel A and grids G, by the action of the screw blades F, and then to ascend in the outer vessel B, substantially as herein described.

No. 23,140. Machine and Contrivance for Cleaning Steam Boilers.*(Machine à Nettoyer les Chaudières à Vapeur.)*

James Millar and George Feeny, Amabel, Ont., 11th January, 1886; 5 years.

Claim.—The combination, with a steam boiler, of the brush H, projectors I, arm K, huzgo L, traveller A, packing box C and fastner for handle M and N, all constituted and operated substantially as described.

No. 23,141. Apparatus for Embalming.*(Appareil pour Embaumer.)*

Arthur S. Lovett, William T. Baker and Andrew K. McMullan, for the Eric Embalming Company, Eric, Penn., U.S., 11th January, 1886; 5 years.

Claim.—1st. In a treating case for embalming dead bodies, a hinged supporting frame provided with a wicker bed adapted to receive and support the dead body, and a gas tight bottom under said wicker bed, substantially as shown, hinged together near the centre thereof, said hinged joint being provided with packing adapted to prevent the escape of air or gas there from, in combination with a flexible gas-tight

cover, having a frame around the lower edge thereof, hinged together near the centre thereof, substantially as shown, and packing between said cover frame and supporting frame, and means for clamping said frame together and thereby forming a gas tight joint between them, substantially as and for the purpose set forth. 2nd. In a treating case for embalming dead bodies, the combination of the hinged supporting frame A, A', provided with the wicker bed F, F', G, the gas tight bottom D, D' and the packing E in the joint, between the parts A, A' and D, D', with the flexible packing Q, the hinged cover frame N, N', the adjustable clamps S, T, F, and the flexible cover M, substantially as and for the purpose set forth. 3rd. In a treating case for embalming dead bodies, the combination of the flexible gas tight cover M, provided with the hinged frame N, N', substantially as shown, the flexible packing Q and the hinged supporting frame A, A', provided with a wicker bed F, F', adjustable wicker head rest G, a gas tight bottom D, D', packing E and folding legs C, C', substantially as shown, with double acting bellows I, substantially as and for the purpose set forth. 4th. The combination, in a treating case for embalming dead bodies, of a hinged frame attached to the flexible cover of said case, with the cover supports P, P', and their braces P', P', hinged to the said frame, substantially as and for the purpose set forth. 5th. The combination, in a treating case for embalming dead bodies, of the following elements: a flexible gas tight cover adapted to be clamped to, or removed from the bottom of the case, a gas tight bottom provided with a wicker bed adapted to support the body while being treated, and a double-acting bellows attached to the underside of the bottom of the case, adapted to be adjusted to pump air or gas into, or remove the same from the case, substantially as and for the purpose set forth.

No. 23,142. Incrustation Preventive in Steam Boilers. (*Préventif contre l'Incrustation dans les Chaudières à Vapeur.*)

Hjacintho Girard, Dubuque, Iowa, U. S., 11th January, 1886: 5 years.

Claim.—The process of removing or preventing incrustation in steam boilers, which consists in distilling malt sprouts and adding the resultant liquor to the water in the boiler, substantially in the manner and proportions described.

No. 23,143. Skid for Raising and Lowering Heavy Bodies. (*Monte-Charge.*)

Joseph M. Dowes, Oswego, N. Y., U. S., 12th January, 1886: 5 years.

Claim.—1st. In a skid, the combination, with the grooved tracks of a carriage engaging with the grooves therein, a cord or rope for operating the carriage, levers provided with handles, and braces pivoted thereto and to the carriage, said braces having removable stakes, substantially as and for the purpose set forth. 2nd. In a skid, the combination, with the carriage thereof, of pivoted braces and pivoted levers having at their lower ends rollers, substantially as and for the purpose specified. 3rd. A skid consisting of grooved tracks, a carriage having grooved side bars, pivoted braces provided with removable stakes, and pivoted levers having rollers at their ends, substantially as and for the purposes specified.

No. 23,144. Cross-Cut Saw. (*Scie de Travers.*)

John J. Parker, Atkin, Minn., U. S., 12th January, 1886: 5 years.

Claim.—1st. A cross-cut saw having severing teeth and planer teeth arranged in alternate groups of two, and boring each approximately to same area of material the front edges of the planes being arranged parallel with adjacent edges of the screws, and the lock edges arranged but slightly divergent from a horizontal, as set forth. 2nd. In a cross-cut saw, the dust or storing recess D, formed in the body of the saw by continuing the parallel edges c and c', and lock edges of the screws, as and for the purposes set forth. 3rd. The cross-cut saw described, having the severing teeth B, B' and planer teeth C, C' arranged in alternate groups of two, all the teeth having the same area of material with straight edges, and the planes arranged with them, front edges parallel with the lock edges of adjacent screws, the said edges being carried back to form shaving chamber D, as set forth.

No. 23,145. Square for Carpenter's Use. (*Équerre de Charpentier.*)

William F. Seargeant, Mineshall, Mo., U. S., 14th January, 1886: 15 years.

Claim.—1st. A square in which the stock is provided with a slot as C of which the upper face is at right angles to the face of the stock, substantially as described and for the purpose set forth. 2nd. As a new article of manufacture, a square formed with a slotted stock, and a graduated blade having a miter bevel at its end, substantially as described. 3rd. As a new article of manufacture, a square formed with a slotted stock and a graduated blade having a miter bevel at its end, and provided with an elongated hole, as i, substantially as described.

No. 23,146. Repairing Last. (*Forme de Sauter.*)

James Barke, Springfield, Mass., U. S., 12th January, 1886: 5 years.

Claim. 1st. A repairing last having two foot pieces a, b, and having the heel and shank portion formed to bear against the heel and shank on the inside of a shoe, the heel portion c being extended, substantially as shown. 2nd. A repairing-last, formed of a single casting having two foot pieces, each provided with the heel extension p and united by a connecting part e, substantially as shown. 3rd. A repairing last formed of two foot pieces having the extension p, substantially as shown.

No. 23,147. Mechanical Oiler. (*Graisseur Mécanique.*)

Henry P. Humphroy, Lowell, Mass., U. S., 12th January, 1886: 5 years.

Claim.—1st. A journal-box provided with an oil-hole with overflow channel, one or more, and drip-receivers, an oil-reservoir and an oil-passage connecting the end drip-receivers with the oil-reservoir, as and for the purpose specified. 2nd. The combination of the journal box having an oil-reservoir, a mechanical oiler and means, substantially as described, for securing said oiler to said box, as and for the purpose specified. 3rd. The combination of the journal-box and means, substantially as described, for adjustably securing said oiler to said box, as and for the purpose specified. 4th. The combination of the journal-box having an oil-reservoir and a mechanical oiler, the bracket provided with forked bearings, the U-shaped strap and nuts, as and for the purpose specified. 5th. The combination of the pump, the bracket having a hole to admit said pump, and having a slot leading from said hole to the end of said bracket and the screw, said bracket having projecting guides and a projecting fulcrum, and the lever turning on said fulcrum, as and for the purpose specified.

No. 23,148. Self-Regulating Windmill. (*Moulin à Vent à Régulateur.*)

Andrew W. Lano, Jamesville, Cal., U. S., 12th January, 1886: 5 years.

Claim.—1st. In a wind-mill, the combination, with the movable blades and spider connected and revolving therewith, of the collar described consisting of the two parts forming the eye and arms, one part being the complement of the other on each side, and bolted together over the sleeve of the spider, and the wind-board having connections to the collar by means of arms or rods, as described, and clamp nuts placed over the ends of said rods to hold them in the collar and afford ready means for adjusting the rods, as set forth. 2nd. In a wind mill, the combination, with the movable blades and spider connected and revolving with said blades, and connection consisting of loops or rings, as described, which encircle the spokes and short connecting rods, a collar moving longitudinally with said spider but held circularly immovable of the wind-board, as described, and connections from said collar to the wind-board, as set forth. 3rd. The combination, with the framing of the foot pieces described, secured to the bottom of the uprights, each foot piece having bevelled ends and stakes driven, the soil over said bevelled ends, and stakes driven at right angles to said bevelled ends and extended pass the upright, and provided with cross strips or connecting pieces, as set forth.

No. 23,149. Device for the Construction of Locks. (*Appareil de Fabrication des Serures.*)

William R. Burrage, Toronto, Ont., 12th January, 1886: 5 years.

Claim.—1st. In the ordinary form of a rim or case lock, the weighted lever B, in combination with the bolt C, with the wicks J, J', the pin D and the spindle hole E, substantially as set forth and for the purposes specified. 2nd. The detached lever F, the standard L, lock catch G, pins H and K, in combination with the bolt C having bevelled end M and lever B, substantially as set forth and for the purpose aforesaid. 3rd. The bolt C with wicks J, J' and shoulders P, P', and bevelled end M, and its reversible set n, in combination with the lever B, catch G and small lever F, substantially as and for the purposes hereinbefore set forth.

No. 23,150. Machine for Swaging Saw Teeth. (*Machine à Étamer les Dents des Scies.*)

John Orr, Paduca, Ky., U. S., 12th January, 1886: 15 years.

Claim.—1st. In a machine for swaging saw teeth, the revolving upright shaft D, having the revolving eccentric F secured to its upper end, and revolving in table B, in combination with the adjustable anvil L, substantially as and for the purpose described. 2nd. In a machine for swaging saw-teeth, the adjusting wedge A and block L, in combination with the sliding anvil L, substantially as and for the purpose described. 3rd. In a machine for swaging saw-teeth, the combination of the revolving half-circle cam G, sliding bar M, pivoted clamping lever H having screw h, and adjustable pin I, with the roughened face steel plate L in table B, substantially as and for the purpose described. 4th. In a machine for swaging saw-teeth, the combination of the upright revolving and removable short shaft E having the eccentric F thereon, with the upright revolving shaft D, substantially as and for the purpose described.

No. 23,151. Lag Iron for Horse Powers. (*Ferrure de Pavé Sans fin pour Manèges.*)

Henry Moody, Terrebonne, Que., 12th January, 1886: 5 years.

Claim.—1st. In combination with the lag irons of a horse power, a stiff back piece of greater width than same and rivetted thereto through each cog, as and for the purposes herein set forth. 2nd. The combination of the lag iron A, back piece B, secured thereto by rivets between each cog, and thread C resting on back piece and secured thereto by two or more screws, bolts or rivets, all as herein set forth.

No. 23,152. Coal Scuttle. (*Seau à Charbon.*)

Laurence Doyle, Toronto, Ont., 12th January, 1886: 5 years.

Claim.—1st. A coal scuttle provided with an adjustable bottom D, arranged substantially as and for the purpose specified. 2nd. A coal scuttle having a base C connected to its body A, in combination with the adjustable bottom D inserted into the slot b and recess a, substantially as and for the purpose specified. 3rd. A coal scuttle having its body A connected to a base C, a cover B, in combination with the

adjustable bottom D inserted into the slot *b* and recess *a*, substantially as and for the purpose specified.

No. 23,153. Boiler Cleaning Apparatus.

(Appareil de Nettoyage des Chaudières.)

William Ord, Cleveland, Ohio, U.S., 12th January, 1856. 5 years.

Claim.—1st. In a boiler cleaner, a tilting scraper pivoted as shown, and located inside of a steam boiler, and operated by an inflexible rod extending outside of the boiler, substantially as set forth. 2nd. A reversible tilting scraper located inside of a steam boiler, and operated by an inflexible rod extending outside of the boiler, and so arranged that sediment may be scraped toward either end of the boiler according to the position of the scraper, substantially as set forth. 3rd. The combination, with a scraper located inside a steam-boiler and operated by a rod extending outside of the boiler, of a hollow bolt for securing the hand-hole plate and so arranged that the hole in the bolt furnishes a passageway for the scraper rod, substantially as set forth. 4th. In a boiler cleaner, the combination, with the bolt *b* provided with an enlarged tapering opening or seat *b'*, of the part D adapted to engage the seat *b'*, substantially as set forth. 5th. In a boiler cleaner, the combination, with the hollow bolt *b*, tube *E*, and the part *c* and *c'*, substantially as set forth.

No. 23,154. Mechanical Oiler for Bearings.

(Graisseur Mécanique pour Coussinets.)

Henry P Humphrey, Lowell, Mass., U.S., 12th January, 1856. 5 years.

Claim.—1st. The combination of an oil-pump levers, connecting-rod and means, substantially as described, for supporting the same and the wiper, and means, substantially as described, for rotating the same, as and for the purpose specified. 2nd. The combination, with the pump and means, substantially as described, for operating the same, of means, substantially as described, for regulating the length of the stroke of the pump, as and for the purpose specified. 3rd. The combination of the pump, the levers, the rod connecting said levers, and means, substantially as described, for operating said levers, and means, substantially as described, for varying the length of said connecting-rod, as and for the purpose specified. 4th. The combination of the pump, the levers, the rod connecting said levers and provided with screw-thread, and the nut turning on said rod, and means, substantially as described, for operating said levers, as and for the purpose specified. 5th. The combination of the pump, the levers, the lower lever having turned down edges, the rod connecting said levers and provided with a screw-thread and the nut, and means, substantially as described, for operating said levers, as and for the purpose specified. 6th. The combination of the drip-pan and a mechanical oiler, and the strap adjustable in length and adapted to support said drip-pan and oiler, as and for the purpose specified. 7th. The combination of the drip-pan and the mechanical oiler, and the strap formed in two parts, one of which is slotted and the other of which is provided with threaded hole and the screw-bolt, as and for the purpose specified.

No. 23,155. Portable Fencing Machine.

(Machine à Clôture Portative.)

Jacob Middaugh and Charles M. Wilcox, 12th January, 1850. 5 years.

Claim.—1st. A portable machine for constructing wire and picket fences, comprising a frame-bar mounted upon a single wheel or caster, and having a series of twisting-wheels geared together, and adapted to be operated by means of a spur-wheel meshing with one of the said twisting-wheels, substantially as and for the purpose set forth. 2nd. In a portable machine for constructing wire and picket fences, the combination, with a frame-bar having a series of tubular spindles, of a series of twisting-wheels. 3rd. In a portable fencing machine, the combination, with a frame-bar having tubular spindles, of the twisting-wheels mounted upon the same, and provided at their front ends with cross-bars having perforations or orifices, from which slits extend to the edges of the said bars, substantially as and for the purpose set forth. 4th. In a portable fencing machine, the combination of a frame-bar, a series of twisting-wheels mounted on the same and geared together, and a step arranged near the lower end of the said frame-bar, for the purpose of supporting the balance or pickets while being operated upon, substantially as set forth. 5th. A portable fencing machine, the combination of a frame-bar having a series of twisting-wheels, and provided with forwardly-extending horizontally-slotted arms, with gauge-plates secured adjustably to the said arms and provided with laterally extending fingers, substantially as and for the purpose set forth. 6th. In a portable fencing machine, the combination of a frame-bar having a series of twisting-wheels, and provided with forwardly-extending arms having laterally extending lugs, with a rock shaft mounted in the said lugs, and having a suitable handle and a pair of arms connected by a frame-bar, substantially as and for the purpose set forth. 7th. In a portable fencing machine, the herein described frame-bar having a series of perforations and tubular spindles, the twisting-wheels mounted upon the same and geared together, a spur-wheel mounted upon a crank-shaft and meshing with one of the twisting-wheels, a step at the lower end of the said frame-bar, arms extending forwardly from the said frame-bar and having adjustable gauge-plates, and lugs supporting a pivoted tightening frame, and a wheel or caster at the lower end of said frame-bar, all arranged and operating substantially in the manner and for the purpose herein shown and specified. 8th. In a portable fencing machine, the combination, with the twisting apparatus, constructed substantially as described, of a tension-bar provided at its upper and lower ends with swiveled plates connected by a rope or chain, whereby the said tension bar may be connected securely to a fixed point during operation, substantially as and for the purpose set forth. 9th. In a portable fencing machine, the herein described tension-bar having a series of screw-threaded perforations countersunk at their outer ends, smaller orifices adjoining the said perforations and terminating in the countersinks of the latter, conical washers fitting in the said countersinks, set screws working in

the screw-threaded perforations, and coiled springs interposed between the washers and the heads of the set-screws, substantially as and for the purpose set forth. 10th. A portable fencing machine, comprising a twisting device having a series of twisting-wheels mounted upon tubular spindles and constructed and meshed together, as described, a supporting-step, an adjustable gauge, and a pivoted tightening frame, and a tension-bar having countersunk perforations, conical washers, rifles for the passage of the fence-wires, tightening screws and springs bearing against the washers, all constructed, combined and operating substantially in the manner and for the purposes herein shown and specified. 11th. In a portable fence machine, the combination, with a fixed post and a vertical series of horizontal wires leading from a tension post, and secured to said fixed post, of a series of movable twistars geared together and operating on the wires between the post and the tension device, substantially as set forth. 12th. In a portable fence machine, the combination, with a series of spools or coils of wire, of a tension bar secured at a fixed point during operation, and provided with adjustable tensions for controlling the movement of said wires, a fixed post to which the wires are attached in pairs, and a frame having a series of twisting-wheels geared together, moving along said wires and guided thereby, substantially as set forth. 13th. In a wire fence machine, the combination of a fixed post, wire reels or spools, the movable twister having a series of twisting heads geared together, the tension bar fixed during operation, and the wires passing from the spools or coils, first through the tension device and thence in pairs through the twisting heads, and secured in pairs to the post, substantially as shown. 14th. A twisting head for fence machines, consisting, substantially as before set forth, of a tubular spindle, a twisting-wheel mounted to turn thereon, and a wire holder upon the face of the twisting-wheel, having open wire holding notches or depressions arranged in pairs at different distances from the axial centre of said wheel. 15th. A twisting-wheel for fence machines, consisting of a tubular spindle, a twisting-wheel mounted to rotate thereon, and a wire holder upon the face of the twisting-wheels having two or more wire holding notches or devices, substantially as set forth. 16th. In a portable fence machine, the step or stop arranged to support the picket while being woven into position, substantially as set forth.

No. 23,156. Knife Polisher.

(Polissoir de Coutellerie.)

John R. Riley, Toronto, Ont., 12th January, 1856. 5 years.

Claim.—In a knife cleaner or polisher, board A, in combination with piece of carpet, woolen or cotton material B, holding flap B, shoulder piece C, hanging strap E and holders G, substantially as and for the purpose hereinbefore set forth.

No. 23,157. Apparatus and Method for the Utilization of Latent Heat for Generating a Motor for Operating Machinery.

(Appareil et Mode d'Utilisation de la Chaleur Latente pour Produire un Moteur pour faire Fonctionner la Machinerie.)

William S. Colwell, Pittsburgh, Pa., U. S., 12th January, 1856; 15 years.

Claim.—1st. In a bi-sulphide of carbon engine, the process hereinbefore described, viz.: evolving steam from water, and utilizing the latent heat thereof by causing steam to travel circuitously over the exterior, and through the tubes in the interior of the boiler charged with liquid bi-sulphide of carbon, and thereby transmit said latent heat to said bi-sulphide of carbon, for evolving a vapor therefrom for a motor. 2nd. In a bi-sulphide of carbon engine, the process hereinbefore described, viz.: evolving steam from water and utilizing the latent heat thereof by causing said steam to travel circuitously over the exterior, and through the tubes in the interior of the boiler charged with liquid bi-sulphide of carbon, and thereby transmit said latent heat to said bi-sulphide of carbon, for evolving a vapor therefrom for a motor, and continuously heating said vapor in its passage from said boiler, and until it has performed its office upon the piston of the engine, as and for the purpose set forth. 3rd. In a bi-sulphide carbon engine, the process hereinbefore described, viz.: evolving steam from water and utilizing the latent heat thereof by causing said steam to travel circuitously over the exterior, and through the tubes in the interior of the boiler charged with liquid bi-sulphide of carbon, and thereby transmit said latent heat to said bi-sulphide of carbon, and continuously heating said vapor in its passage from said boiler, and until it has performed its office upon the piston of the engine, and condensing said vapor after being exhausted from said engine, and subsequently heating the product thereof by vapor exhausted from said engine, as and for the purpose set forth. 4th. In a bi-sulphide of carbon engine, the process hereinbefore described, viz.: evolving steam from water and utilizing the latent heat thereof by causing said steam to travel circuitously over the exterior, and through the tubes in the interior of the boiler charged with liquid bi-sulphide of carbon, and thereby transmit said latent heat to said bi-sulphide of carbon, and continuously heating said vapor in its passage from said boiler and until it has performed its office upon the piston of the engine, and condensing said vapor after being exhausted from said engine, and subsequently heating the product thereof by vapor exhausted from said engine, and forcing saturated vapor evolved from said condensed product into said boiler through the medium of a pump, and a volume of heated liquid bi-sulphide of carbon, for the purpose set forth. 5th. In a bi-sulphide of carbon engine, the combination of a heater for heating a liquid product obtained from the vapor exhausted from the engine, a pump and vapor generator, substantially as herein described and for the purposes set forth. 6th. In a bi-sulphide of carbon engine, the combination of a boiler or steam generator, a heater for evolving the bi-sulphide of carbon, a heater, condenser and a pump, whereby the vapor exhausted from the engine may be returned to said boiler or generator, substantially as herein described and for the purpose set

set forth. 7th. In a bi-sulphide of carbon engine, a boiler or generator for evolving liquid bi-sulphide of carbon into a vapor, said boiler or generator surrounded with a case divided into two compartments *f*, communicating with each other through the medium of tubes passing through said boiler, and communicating with the circulating chamber *o*, substantially as herein described and for the purpose set forth. 8th. In a bi-sulphide of carbon engine, a boiler or generator for evolving liquid bi-sulphide of carbon into a vapor, said boiler or generator surrounded with a case divided into two compartments communicating with each other through the medium of tubes passing through said boiler, a receiving and circulating chamber and a perforated pipe *r*, substantially as herein described and for the purpose set forth. 9th. In a bi-sulphide of carbon engine, an apparatus for lubricating with plumbago the valves, valve seats, cylinder, piston and rods connected therewith by the pressure of vapor of bi-sulphide of carbon being applied to the upper surface of the plumbago, for forcing it into the valve chamber or chambers and cylinder of the engine, substantially as herein described and for the purpose set forth. 10th. In a bi-sulphide of carbon engine, an apparatus for lubricating with plumbago the valves, valve seats, cylinder, piston and rods connected therewith, said apparatus consisting of a hopper communicating with a receiving and distributing chamber, which communicates with the vapor generator and the valve chamber or chambers and the cylinder of the engine, substantially as and for the purpose set forth. 11th. In a bi-sulphide of carbon engine, the apparatus *j* for lubricating with plumbago the valves, valve seats, cylinder, piston and rods connected therewith, said apparatus consisting of a hopper *1*, receiving and distributing chamber *2* and pipes *3*, *4* and *7* furnished with valves, substantially as and for the purpose set forth. 12th. In a bi-sulphide of carbon engine, the union or combination of plumbago and vapor of bi-sulphide of carbon, for a lubricant for the valves, valve seat, cylinder, piston and the rods connected therewith, substantially as and for the purpose set forth. 13th. The combination of a bi-sulphide of carbon engine with a steam main or its branches of a heating apparatus for a city or town, substantially as herein described and for the purpose set forth. 14th. The combination of the apparatus or engine hereinbefore described, with a steam main or its branches of a heating apparatus for a city or town, substantially as herein described and for the purpose set forth. 15th. The combination of the regulating valve *B*, *C*, boiler *E* for evolving the bi-sulphide of carbon, and a heat supplying apparatus, substantially as herein described and for the purpose set forth. 16th. The method hereinbefore described, for automatically conveying heat from a generator to, or into a chamber containing bi-sulphide of carbon in quantity sufficient for evolving it into a vapor for a motor, as and for the purpose set forth. 17th. In an apparatus for evolving bi-sulphide of carbon into a vapor for a motor the cooling chamber having its walls coated with tin, or its equivalent, as and for the purpose set forth. 18th. Bi-sulphide of carbon, evolved into a vapor for a motor, and conveyed to the piston of an engine through the medium of a pipe enclosed in a casing, and surrounding said pipe with an inflammable liquid or vapor, substantially as herein described and for the purpose set forth. 19th. The cylinder of a bi-sulphide of carbon engine and its valve chamber or chambers communicating with the chamber *f*, which surrounds the boiler *E*, substantially as herein described and for the purpose set forth. 20th. In combination with the apparatus or engine hereinbefore described, the method of applying heat to the bi-sulphide of carbon, so that a given temperature will be imparted to it, and a determined volume and pressure of vapor obtained for a motor, as and for the purpose set forth. 21st. In combination with the apparatus or engine hereinbefore described, the method for applying heat to bi-sulphide of carbon that a given volume and pressure of vapor will be obtained for a motor, and not increased nor diminished by augmenting the quantity of the bi-sulphide of carbon in the boiler *E*, as and for the purpose set forth. 22nd. In the apparatus or engine hereinbefore described, the boiler *E* having one or more heat receiving and distributing chambers, regulating valve or valves and a dry pipe *l*, as and for the purpose set forth. 23rd. In the apparatus or engine hereinbefore described, the boiler *E* enclosed in a casing *k* and having one or more heat receiving and distributing chambers, regulating valve or valves and surrounded with an inflammable liquid or vapor as and for the purpose set forth. 24th. In the apparatus hereinbefore described, the combination of the boiler *E*, one or more heat receiving and distributing chambers, regulating valve or valves, safety valve and an indicator gauge, as and for the purpose set forth.

No. 23,158. Slashed Metallic Screening.

(*Tamis Métalliques à Crévés.*)

John F. Golding and Joseph S. Salisbury, Chicago, Ill., U. S., 13th January, 1886; 5 years.

Claim.—As a new article of manufacture, screening formed of metal slashed and expanded, or slashed, and having the strands bent and set to form and maintain meshes, substantially as set forth.

No. 23,159. Fire-Escape. (*Sauveteur d'Incendie.*)

Horace F. Newmeyer, Macungie, Pa., U. S., 13th January, 1886, 5 years.

Claim.—1st. In a fire-escape, the combination, with a casing having a hinged door and means for locking and releasing the door, of a pulley journaled in the casing, an endless folding ladder passing over said pulley, and an inclined support for the ladder adjacent to the door, substantially as herein shown and described. 2nd. In a fire-escape, the combination, with the case *A* and its door *A'*, provided with a catch, of an electro-magnet in said case, a latch pivoted in the case, and a lever engaging the said latch and the armature of the electro-magnet, substantially as shown and described. 3rd. In a fire-escape, the combination, with the case *A* provided with a door *A'* held closed by a spring-actuated latch, and which latch is held locked by a lever engaging with the armature of an electro-magnet of a spring-pressed reel mounted loosely on a shaft in said case to bear against the door *A'*, substantially as shown and described. 4th. In a fire-escape, the endless folding ladder *B*, the pulley *B'*, the sliding frame *C*, the sleeve *B''*, the pin *B'''*, the shaft *D* having a slot *D'* and the spring *D''*, in combination with the casing *A*, the door *A'*,

means for holding and releasing the door, and the platform *T*, substantially as shown and described. 5th. In a fire-escape, the endless folding ladder *B*, the pulley *B'*, the sleeve *B''*, the pin *B'''*, the sliding frame *C* having a notch *C'*, the lever *C''*, the arm *C'''*, the shaft *D* having the recess *D'*, and the spring *D''*, in combination with the casing *A*, the door *A'*, means for holding and releasing the door, the platform *T*, the lever *F'* and the arm *F''*, substantially as shown and described. 6th. In a fire-escape, the casing *A*, the door *A'* and means for holding and releasing the door, the endless folding ladder *B*, the pulley *B'*, the sleeve *B''*, the pin *B'''*, the sliding frame *C*, the shaft *D*, the spring *D''* and the pinion *D'''*, in combination with the gear wheel *E'* of the clock-work *E* having the escapement, substantially as shown and described. 7th. In a fire-escape, the casing *A*, the ladder *B*, the door *A'* and the catch *G*, in combination with the latch *G'*, the lever *H*, the springs *H'* and *H''*, the lever *K*, the arm *K'*, the L-shaped lever *L*, the lever *L'*, the arm *L''* and the lever *J*, substantially as shown and described. 8th. In a fire-escape, the casing *A*, the ladder *B*, the door *A'* and the catch *G*, in combination with the latch *G'*, the lever *H*, the springs *H'*, *H''*, the lever *I*, the armature lever *J* and the electro-magnets *J'*, substantially as shown and described. 9th. In a fire-escape, the casing *A*, the ladder *B*, the door *A'*, the catch *G*, the latch *G'*, the lever *H*, the springs *H'* and *H''*, the lever *I* and the armature lever *J*, in combination with the electro-magnet *J'*, the battery *M*, the wires *N*, the push buttons *P* and the alarm bells *O*, substantially as shown and described. 10th. In a fire-escape, the casing *A*, the door *A'*, the catch *G*, the ladder *B*, the pulley *B'*, the sleeve *B''*, the pin *B'''*, the shaft *D* having the recess *D'*, the pinion *D''*, the gear wheel *E'* of the clock-work *E* having an escapement, the sliding frame *C*, the spring *D''*, the platform *T*, the lever *F'* and the arm *F''*, in combination with the latch *G'*, the lever *H*, the springs *H'* and *H''*, the lever *K*, the arm *K'*, the lever *I*, the armature lever *J*, electro-magnets *J'*, the battery *M*, the wires *N*, the alarm bells *O* and the push-buttons *P*, substantially as shown and described.

No. 23,160. Sash Fastener. (*Arrête-Croisée.*)

Martin Bourke, Youngstown, Ohio, U. S., 13th January, 1886, 5 years.

Claim.—1st. A sash-fastener consisting of a su table casing, a sliding bolt working in guides therein and slotted in the direction of its movement, a square pin passing through the case and the slot in the bolt to limit its movement and prevent oscillatory motion thereof, and a grooved cam engaging with the bolt and terminating in a lever having a fish-tail thumb-piece, the parts being constructed, arranged and operating substantially as and for the purposes set forth. 2nd. In a sash-fastener, the combination, with a bar adapted for attachment to a window frame and provided with two vertical rows of double ratchet teeth set at equal distances apart leaving square recesses between them, each tooth being reversely inclined of a bolt provided with similarly formed teeth, and spaces operated by a pivoted grooved cam engaging with the flanged end of the bolt, substantially as and for the purpose set forth.

No. 23,161. Combination Tool.

(*Outil à Combinaison*)

Martin Bourke, Youngstown, Ohio, U. S., 13th January, 1886, 5 years.

Claim.—A combination-tool, consisting of the pivoted levers terminating at one end in cutting-blades, one of which has a perforation through it to receive the end of wire while being cut, said levers having loops for the fingers and formed with serrations immediately in the rear of its pivotal connection, to serve as a pipe-wrench and nut-cracker, substantially as and for the purpose set forth.

No. 23,162. Belt Fastener.

(*Joint de Courroie.*)

Henry Creagan and Dominick Barrett, Ottawa, Ont., 13th January, 1886; 5 years.

Claim.—The combination, in a belt fastener, of the threaded bolt *A*, provided with smooth head *B*, and the hollow nut *E* having a head *D*, provided with projections *G*, the whole constructed as shown and described for the purposes set forth.

No. 23,163. Stock Watering Trough.

(*Breuvoir d'Étable.*)

Thaddeus W. Boies, Deloit, Ks., U. S., 13th January, 1886; 5 years.

Claim.—1st. In a stock watering trough, the combination, with the trough *A*, *B*, the hinged cover *K*, the recessed sills *R* and the stationary platform *Q*, of the crank-rod *M* attached to the said hinged cover *K*, the bent connecting rods *N* pivoted to the arms of the said crank-rod *M*, the platform *O* attached to the said connecting-rods, and the pivoted rods *P* connecting the movable and stationary platforms, substantially as herein shown and described, whereby the said hinged cover will be raised by the weight of an animal stepping upon the said movable platform, as set forth. 2nd. In a stock watering trough, the combination, with the compartments *A* having its walls recessed and provided with the cover *K* and the recessed partition *C*, of the removable rack consisting of the plate *T* and the bars *U*, the upper one being tenson on its ends, substantially as herein shown and described. 3rd. In a stock watering trough, the combination, with a receptacle having a hinged cover, of a vertically movable platform and intermediate mechanism for opening and closing the cover of the receptacle by the up and down movement of the platform, substantially as and for the purpose set forth. 4th. A watering trough for stock consisting of two compartments, one of the compartments having a hinged cover, a float in one of the said compartments for automatically opening and closing the supply pipe projecting into the compartment, a vertically movable platform and means for opening and closing the cover of the compartment, whereby provision is made for automatically supplying water to the trough and opening and closing the cover of the same, as set forth.

No. 23,164. Feed Trough. (*Auge d'Étable.*)

George Lanig, LaSalle, Ill., U.S., 13th January, 1886, 5 years.

Claim.—1st. The combination, with the pivoted trough, of the partitions E extending to within short distances from one side of the trough, and of the slides G between the ends of the partitions and the side of the trough, substantially as herein shown and described. 2nd. The combination, with the pivoted trough A, of the transverse slats F, the partitions E and the slides G between the slats, substantially as herein shown and described.

No. 23,165. Apparatus for Grinding Quartz, etc. (*Appareil pour Broyer le Quartz, etc.*)

Richard Morris, Beechfield, and James Wood, West Stockwith, Eng., 13th January, 1886; 5 years.

Claim.—1st. In mills or apparatus for grinding or reducing hard or brittle substances, and having in combination a ring and roller situated in the interior thereof, between which the substances are ground, or reduced, and the employment of springs and screws, or levers, by which the degree of pressure of the grinding or reducing surfaces can be regulated, substantially as hereinbefore described. 2nd. In mills or apparatus for grinding or reducing hard or brittle substances, and having in combination a ring and roller situated in the interior thereof, between which the substances are ground, or reduced, the employment of means for rotating the said ring from the external periphery thereof, substantially as hereinbefore described. 3rd. The arrangement and in combination of parts constituting the self-contained and complete apparatus for grinding or reducing other hard or brittle substances, substantially as hereinbefore described and illustrated in the accompanying drawings.

No. 23,166. Envelope. (*Enveloppe.*)

Hugh Thompson, Waterdown, Ont., 13th January, 1886; 5 years.

Claim.—An envelope having its end B, separated from the main body A by a line of perforations a, substantially as and for the purpose specified.

No. 23,167. Sash Fastener. (*Arrête-Croisee.*)

Edward de Gruchy, Acton Vale, Que., 13th January, 1886, 5 years.

Claim.—The combination of the circular disk A having a square faced edge or rim eccentrically disposed, hub B with eye b thereon, and having the face, or faces, of said hub projecting beyond the face or faces of the disk, and the handle C disposed in that part of the disk where the distance between the rim and the hub is greatest, substantially as shown and described and for the purpose set forth.

No. 23,168. Buggy Seat. (*Siège de Voiture.*)

Jeremiah H. Moran, London, Ont., 13th January, 1886; 5 years.

Claim.—1st. The iron frames A, as a support for a buggy seat, shaped substantially as shown, and hinged at bottom by clips B and nuts D to floor of buggy, as shown and specified. 2nd. An extension seat for buggies, consisting of central portion F and wings or additions E E, hinged to the central portion or sliding thereon, substantially as shown and specified.

No. 23,169. Loose Pulley for Shafts.(*Poulie Folle pour Arbres.*)

John McCaffrey, Lawrence, Mass., U. S., 13th January, 1886, 5 years.

Claim.—A loose pulley, provided with an oiling chamber, furnished on its inner surface with ribs, or projections, and encompassing its hub eye and opening therein, such chamber having one or more lateral inducts, and a tapering guide and an annular flange arranged therewith, all being substantially as set forth.

No. 23,170. Window Sash Holder.(*Arrête-Croisée.*)

Albert Ayers, Rahway, N.J., U.S., 13th January, 1886; 5 years.

Claim.—In window sash holders, the combination, with the socket G, the plug J and the spiral spring K, of the screw L, substantially as herein shown and described, whereby the said plug will be held securely in place and can be readily detached, as set forth.

No. 23,171. Churn Power.(*Moteur de Baratte.*)

William S. Sexton, Port Perry, Ont., 13th January, 1886, 5 years.

Claim.—1st. The hand levers E pivoted on the implement, and arranged to give rotary motion to a vertical churn dasher, by the belt f attached to said levers, and passing around a spool D, attached to the spindle of the dasher. 2nd. The vertical churn dasher spindle C, provided with the sloping arms g, supported by the recessed key e, which passes through a slot in the spindle C, and lies in a groove in the top of the spool D, and rotated by the belt f which is attached to the working hand levers E. 3rd. The combination of the vertical churn dasher spindle C, journaled in the bottom a, and top piece c and the spool D with the belt f, and the hand levers E pivoted to the lower part of the implement, substantially as shown and for the purpose set forth.

No. 23,172. Telemeter. (*Télemètre.*)

Charles L. Clarke, New York, N. Y., U. S., 13th January, 1886; 5 years.

Claim.—1st. The combination, substantially as hereinbefore set forth, of a battery, a circuit-closing point, for automatically completing a circuit for said battery, means for automatically complet-

ing a second or shunt circuit around said point, when the first named circuit is completed, one or more electro-magnets included in the circuit of the battery, an indicating device operated through the instrumentality of said electro-magnet or magnets, a third circuit, the connections of which are completed by circuit-closing points controlled by said electro-magnets when they are vitalized, and a device for interrupting the connections of said battery operated by currents traversing said third circuit. 2nd. The combination, substantially as hereinbefore set forth, of a circuit-closing and a contact point, a battery, a circuit for the same, the connections of which are completed by said points, means for completing a circuit around said points, an electro-magnet for separating said points, one or more indicating devices, electro-magnets included in said circuits for operating said indicating devices, a third circuit for said battery, the connections of which are completed by the armature levers of said electro-magnets when they have been vitalized, and a circuit interrupting device operated by currents traversing said third circuit. 3rd. The combination, substantially as hereinbefore set forth, of a circuit-closing point, means for moving the same in either one of two directions, two contact-points against the one or the other of which it is caused to impinge according to the direction of its movement, a battery, two lines leading from said contact-point respectively and connected with the battery, whereby the current of the latter is completed through one or the other of the lines, accordingly as contact is made with one or the other contact-point, electro-magnetic devices included in said lines respectively, a third line leading from said battery and a circuit-closing point for completing the connections of said third line at various places, which points are under the control of said electro-magnetic devices, whereby a current traversing either of the first named lines, and actuating the corresponding electro-magnetic devices will serve to complete the connections of the third line. 4th. The combination, substantially as hereinbefore set forth, of a battery, two lines, means for completing a circuit for either of said lines, electro-magnetic devices included in said lines respectively, means for completing the circuit connections of either of said lines and thereby operating the corresponding electro-magnetic devices, a third main line, the connections of which are normally interrupted at various points, means, substantially as described, for completing the connections of said third line at such points by the operation of all of said electro-magnetic devices contained in either of the first named lines, and a circuit-interrupting device for severing the connections of both of said lines when the last named connections have been completed. 5th. The combination, substantially as hereinbefore set forth, of a battery, a conductor leading therefrom, a circuit-controlling device for completing the connections of the same, two or more electro-magnets included in the circuit thus completed, their armatures and armature-levers, contact-points carried upon said levers, contact points respectively applied to said points, a second conductor leading from said battery, one of said contact-points, a conductor leading from the corresponding contact stop to a second of said contact-points, and so on throughout the series, whereby a circuit of said second conductor is completed when all of said electro-magnets have been vitalized and their armature levers have responded, an electro-magnet included in the circuit of the second conductor, and a contact stop and contact point caused to temporarily separate from each other when the last named electro-magnet is vitalized, through which point and stop the primary circuit of said battery is normally established. 6th. The combination, substantially as hereinbefore set forth, with a circuit-closing point, and means for moving the same in either of two directions of a battery, two lines through the one or other of which a circuit is completed by said point, and means for interrupting the normal connections of either of said lines, when the circuit through the other line is completed. 7th. The combination, substantially as hereinbefore set forth, with a movable circuit-closing point and two contact-points, a battery, two lines respectively leading from said contact-points, two interrupting devices, one being included in each of said lines, and means, substantially as described, for operating each interrupting device by currents traversing the other line. 8th. The combination, substantially as hereinbefore set forth, with a movable circuit-closing point and two contact-points of a battery, two lines respectively leading to said contact-points, an interrupting device included in each line, two shunt circuits respectively applied to said contact-points, two electro-magnets, one or the other of which is vitalized by the contact of said circuit-closing point, whereby the interrupting device of the other line is actuated, and the connections of the corresponding shunt circuit are subsequently completed. 9th. The combination, substantially as hereinbefore set forth, of a circuit-closing point responding to variations in temperature, or other changes, a second circuit-closing point, an electrical apparatus for causing said second point to move synchronously with the movements of the first point, a contact point capable of being placed in any required position relative to said second point, means, substantially as described, for permitting said contact point to be moved forward by the movements of said second point, a battery, the connections of which are completed through the second circuit-closing point and the contact-point, and a signalling device included in the circuit of said battery. 10th. The combination, substantially as hereinbefore set forth, of a circuit-closing point responding to variations in temperature, pressure, or other changes, an indicating arm electrical devices for causing the same to register the position of the circuit-closing point, two circuit-closing and registering arms, respectively applied to the opposite sides of said indicating arm, a local battery, the connections of which are completed by the contact of said indicating arm with either of said registering arms, a signalling device included in the circuit of said battery, and means, substantially as described, whereby either of said registering arms may be normally placed in a given position and be advanced therefrom by the movements of said indicating arm, while maintaining the circuit of said battery complete. 11th. The combination, substantially as hereinbefore set forth, with an indicating arm, means for moving the same step by step, and a movable contact arm, of a contact point consisting of a platinum plate secured to said contact arm and projecting into the path of said indicating arm, a battery having one pole connected with said indicating arm and the other pole connected with the contact-arm, and a yielding frictional connection between said contact arm and its support, whereby it may be advanced by the normal movements of the

indicating arm and the circuit connections of said battery maintained complete. 12th. The combination, substantially as hereinbefore set forth, of a device responding to variations in pressure, temperature, or other changes, an indicating device and electrically operated devices for causing said indicating device to register the movements of the first-named device, and a device for indicating the failure of said devices to operate, which consists of an electro-magnet, its armature and armature lever, a dash-pot for preventing said armature from responding to the normal magnetism of said electro-magnet, but permits a retarded movement of the same, and a visual, or other indicating device operated by said armature when it has responded. 13th. The combination, substantially as hereinbefore set forth, with a movable circuit-controlling device, an indicating device, a battery and electro-magnetic devices for operating the latter correlatively with the movements of the former, of an alarm device for indicating the failure of said electro-magnetic devices to operate, consisting of an electro-magnet, a circuit through which it is completed when said circuit-controlling device is operated, its armature, means for causing said armature to respond slowly, and an indicating device operated when said armature has responded. 14th. In a device for indicating changes in pressure, temperature, time, or the equivalent, a star wheel, a pawl for actuating the same having faces forming an angle less than the re-entrant angle of the teeth of the wheel, and so organized as to advance the wheel nearly the distance corresponding to a tooth during its forward movement and to be withdrawn without causing a retrograde movement, and a retaining pawl for completing the forward movement, substantially as described. 15th. The combination, substantially as hereinbefore set forth, in an indicating device, of the star-wheel *N*, the pawl *n* having the faces *n* and *n*2, the latter of which is approximately in the line of movement of the pawl, while the former is approximately perpendicular to the face *n*2 of the tooth adjacent to the pawl. 16th. The combination, substantially as hereinbefore set forth, in an apparatus for indicating changes in temperature, pressure, etc., of an arm responding to such changes, means for moving the same step by step in response to the changes, a flexible yielding contact arm for the same, and means, substantially such as described, whereby the latter may be moved by said arm without being thrown out of contact therewith. 17th. The combination, substantially as hereinbefore set forth, in an apparatus for indicating changes in temperature, pressure, etc., of an arm responding by a step by step motion to such changes, a contact-arm applied thereto and serving to register the extreme movement of said arm by being advanced by the latter, an alarm device and a battery, the connections of which are completed through said alarm device by the contact of said arm with said contact arm. 18th. The combination, substantially as hereinbefore set forth, in an apparatus for indicating changes in temperature, pressure, etc., of a circuit-closing device operating to complete the connections of either of two circuits, an interrupting device for each of said circuits, each of which is operated by the completion of the other circuit, and a yielding contact constituting the interrupting point of each of said interrupting devices. 19th. The combination, substantially as hereinbefore set forth, in a telemeter system, with a circuit-closing device for completing the connections of either of two circuits, of an interrupting device for each circuit, each of which is operated by the completion of the other circuit, a device for completing a shunt circuit around the points through which each of said circuits are completed, and means for causing the shunt circuit to be formed after the interrupting device of the other circuit has been operated. 20th. The combination, substantially as hereinbefore set forth, with a series of teeth, of two driving pawls acting in opposite directions upon the same, the one pawl acting to move said series through a distance less than the space of a single tooth in one direction, and the other pawl to move said series an equal distance in the opposite direction, and a locking pawl serving to move said series the remaining distance, represented by a tooth when either driving pawl has acted. 21st. In a telemeter system, the combination, substantially as hereinbefore set forth, of a battery, a main line, one or more electro-magnets included therein, a circuit-closing and a contact point for completing the connections of said battery through said main line, an indicating arm, means for advancing said arm synchronously with said circuit-closing point, a second line, the connections of which are completed by the operation of said electro-magnets and a device for interrupting the connections of said battery which device is operated by currents traversing the connections of said second line. 22nd. The hereinbefore described method of controlling the connections of electric circuits, for operating one electrical instrument correspondingly with the movements of another, which consists in completing a circuit connection at one point, thereby causing the connections of a shunt circuit to be automatically completed at a second point around the first named point interrupting the circuit through the first-named point temporarily, interrupting the circuit at a third point, and causing the connections of the circuit to be interrupted at the second point before it is again closed at the third point. 23rd. The hereinbefore described method of controlling the connections of an electric circuit, for operating one electrical instrument correlatively with the movements of another, which consists in completing the connections of the same at one point, thereby automatically causing a circuit to be established around that point at a second point, then interrupting the connections at the first-named point temporarily, interrupting the connections at a third point, and subsequently interrupting the circuit at the second point. 24th. The hereinbefore described method of controlling the circuit connections of a battery, for the purpose of operating one instrument correlatively with the movements of another, which consists in completing a circuit for the battery at a given point, subsequently causing a second circuit to be automatically completed around that point interrupting the first-named circuit, and finally interrupting the second circuit at a third point.

No. 23,173. Broom Holder. (*Porte-Balai*)

Oscar Ludwig, Evanston, Wyoming, U. S., 13th January, 1886; 5 years.

Claim.—1st. In a broom holder, the independent holding arms formed of a single piece of wire, attached at or near its middle point to the holder back, substantially as shown and described. 2nd. In a

broom holder, in combination with the back, or main portion, the independent holder arms, formed of the ends of a single piece of wire, attached at or near its middle portion to the back, substantially as shown and described. 3rd. In combination with the back or main portion of a broom holder, the series of independent holder arms on each side of the face, formed of a single piece of wire, attached at or near its middle portion to the back, substantially as and for the purpose described. 4th. In combination, with the main portion or back of a broom holder, the holders attached to said main portion on opposite sides of its face, which consists each of a single piece of wire bent at its middle portion into a U-shape, parallel with and attached to the back or main portion, of the holder, and having its ends bent to extend over the holder back to receive and hold the broom head, substantially as shown and described. 5th. In a broom holder, the back provided on each side with a pair of wide pendant holding arms formed of the ends of a single piece of wire, which has its middle portion bent into a U-shape, parallel with and fastened to the back and at its lower end with a support for the broom head, at or near its attachment to the handle, consisting of the substantially horizontal arms formed of the ends of a single piece of wire, which has its middle portion bent to form a U parallel with and fastened to the holder back, substantially as shown and described.

No. 23,174. Anchor. (*Ancre*.)

Joseph T. Williams, Easton, Pa., U. S., 13th January, 1886; 15 years.

Claim.—1st. An anchor having a shank with a bifurcated crown, and ears on the latter, flukes with cars, a bolt passing through the ears, and a double arch shape yoke, which is formed integral with the flukes, substantially as and for the purpose set forth. 2nd. In an anchor, a yoke connecting the flukes formed integral therewith, and having its external face rounded, as at *a*, substantially as and for the purpose set forth. 3rd. In an anchor, a yoke connecting the flukes formed integral therewith, and having its external face rounded, as at *a*, the front or top face broadened, as at *b*, and angular, as at *c*, substantially as and for the purpose set forth. 4th. An anchor having a shank, flukes pivoted thereto, a bolt connecting the shank and flukes, and fastening devices for the bolt consisting of the nut or cap and keys, substantially as and for the purpose set forth. 5th. An anchor, having a shank *A*, with bifurcated crown *E*, flukes *B* pivoted thereto, yoke *C* connecting said flukes and an independent bolt *D*, said bolt connecting the flukes with the bifurcated crown of the shank, said yoke and both flukes being integral, and said yoke having its external face rounded, as at *a*, substantially as and for the purpose set forth.

No. 23,175. Device for Milking Cows and Straining and Cooling Milk. (*Appareil pour Traire les Vaches et Couler et Refroidir le Lait*.)

Guy S. Frazey, Jersey, N.J., U.S., 13th January, 1886; 5 years.

Claim.—1st. The spherical tubes, or bulbs *D* having openings *g*, *h* and necks *f*. 2nd. The combination, with the tubes, or bulbs *D* having openings *g*, *h* and necks *f*, of a milk-receiver adapted to receive the lower ends or necks of said tubes, or bulbs, and support them in operative position. 3rd. The combination, with the tubes or bulbs, *D*, of the strainer *B* having tubes *C*, strainers *C*, *A*, and eccentrically mounted cup valve *b*. 4th. A milk pail cover having an upwardly-extending notched rim provided with a tube, a ventilating cap, and a rotatable perforated disk. 5th. A milk pail cover having upwardly and downwardly depending flanges *1* and *2*, and a strip of suitable stout material *n*, extending across the top of said flange *1*. 6th. The pan *F* having loops on the inner face thereof, in combination with a milk pail, provided with suitable means for supporting said pan within the same. 7th. The combination of a pan *F* having loops *r*, flat face *p*, and orifice *q*, and a pail *A* adapted to support said pan therein. 8th. The pail *A* having a flange or rim *O*, window *k*, a cover having a ventilating perforated pivoted opening provided with a perforated cap and a disk, and the pan *F* having loops *r*, a flat face orifice and windows. 9th. The box *G* having a sectional lid *H*, ice boxes connected with said lid portion, and having perforated bottoms and caps, *v* covers *J*, and a suitable overflow in the side of the box for the escape of waste water. 10th. The box *G* having ice boxes *I*, tubes *X*, gutters *v*, strips *t*, tube *L*, and a water entrance and exit at one end of said box. 11th. A milk pail provided with a cover having suitable overflow openings, the box *G* having a sectional lid *H*, and ice boxes connected with said lid, and having perforated bottoms and a waste overflow. 12th. A milk pail provided with a cover having suitable overflow openings, and the box *G* having tubes *x*, gutters *v*, strips *t*, tube *L* and a water entrance and exit at one end.

No. 23,176. Wire Fencing and Machinery for Manufacturing the same. (*Clôture en Fil de Fer et Appareil pour la Fabriquer*.)

Frederick W. Brampton, Birmingham, Eng., 14th January, 1886; 5 years.

Claim.—1st. The improvements in solid fencing wire worked into a spiral or corrugation, substantially as herein set forth. 2nd. The improved machinery for making the wire by which a friction wheel or die, or its equivalent, travels round the axis of the wire, as it is fed or drawn forward, substantially as herein set forth.

No. 23,177. Bracket for Supporting Electric Wires. (*Console pour Supporter les Fils Electriques*.)

John Newson and Walter A. O. Morsom, Charlottetown, P.E.I., 14th January, 1886; 5 years.

Claim.—The bracket, with the tapering plug, substantially as and for the purpose hereinbefore set forth.

No. 23,178. Combined School Desk and Seat. (*Pupitre-Siège d'École.*)

W. Stahlshmidt & Co., (assignees of William Stahlshmidt and Jacob H. Mickler,) Preston, Ont., 14th January, 1886; 5 years.

Claim.—1st. In a school desk, the combination of a seat D hinged to a frame, provided with a leg A extending outwardly, so that the centre of gravity, when the pupil is seated, shall fall considerably inside of the leg A, substantially as and for the purpose specified. 2nd. A stop-hinge composed of an annular flange fitted over the hub *f*, in combination with the leg A formed on the annular flange *a*, and designed to butt against the shoulders *s*, substantially as and for the purposes specified. 3rd. The folding-desk B connected to the arms E, which are pivoted on the arms G, provided with a stop-hinge, as specified, in combination with a tongue *e* and groove *d*, arranged substantially as and for the purpose specified. 4th. The folding-desk B, supported on the arms E and provided with a ledge *f*, in combination with an elastic band *o*, arranged substantially as and for the purpose specified.

No. 23,179. Truss. (*Bandage Herniaire.*)

Caleb Noxon, Bloomfield, Ont., 14th January, 1886; 5 years.

Claim.—The combination of wires, as represented, by A securely soldered and otherwise fastened together, as at B and K, forming a flat and flexible band or spring, substantially as and for the purpose hereinbefore set forth.

No. 23,180. Box Strap. (*Courroie Porte-Botte.*)

Human Frank and Albert F. Hochstadter, New York, N.Y., U.S., 14th January, 1886; 5 years.

Claim.—1st. A box strap composed of a metal band, having longitudinal stiffening ridges along its edges, substantially as and for the purpose set forth. 2nd. A box strap composed of a metal band, provided with longitudinal stiffening ridges, and having its extreme edges bent or formed to project beyond its under side, substantially as and for the purpose set forth. 3rd. A metal box strap composed of a thin central web, and longitudinal ridges raised above the top of the web along its edges, substantially as and for the purpose set forth. 4th. A metal box strap composed of a thin central web, and longitudinal ridges raised above the top of the web along its edges, and having indentations formed at intervals in the central web, substantially as and for the purpose set forth.

No. 23,181. Circular Saw Table.

(*Table de Scie Ronde.*)

The Glen Cove Machine Company, (assignee of Henry Gray,) Brooklyn, N.Y., U.S., 14th January, 1886; 5 years.

Claim.—1st. The combination, with a saw-arbor and bearings therefor movable to expose or shield the saw, of a shaft and handle, whereby it may be turned, arms extending from said shaft and connected with the arbor bearings, a notched disk loose on said shaft, and a locking device on the said handle engaging with said disk, and a worm and worm wheel, whereby the said disk and its locked handle may be turned or adjusted, substantially as herein described. 2nd. The combination, with a saw-arbor and a swiveling frame E pivoted at its rear end and carrying said arbor, of a shaft or pivot *f* provided with arms *f*₁ and a connection *f*₂, whereby said arms are connected with the free end of the frame E, a lever or handle *f*₃ on the shaft or pivot *f*, and by which the frame with the saw-arbor may be raised and lowered, and locking devices, substantially as described, for holding the lever or handle *f*₃ in different positions to which it is adjusted, all substantially as herein set forth. 3rd. The combination, with the swiveling frame E pivoted at its rear end, and the saw-arbor *a* carried thereby, of the shaft *f* and its lever or handle *f*₁, arms *f*₂ fast on said shaft, and a connection *f*₂ between said arms and the free end of said frame E, the worm-wheel, and notched disk *g*, *p*, the worm *h* engaging with the wheel *g* for turning it and said disk, and the locking bar *i* carried by the lever or handle *f*₁ and engaging with the notched disk *g*, all substantially as herein described.

No. 23,182. Pulley and Belt Shipper for Machinery. (*Poulie et Appareil d'Embrayage pour Machinerie.*)

The Glen Cove Machine Company, (assignee of William H. Gray,) Brooklyn, N.Y., U.S., 14th January, 1886; 5 years.

Claim.—1st. The combination, with a pair of reversely-set stepped cone pulleys, and a belt driven from one to the other of them, of a belt-shipper consisting of a bar having shipper-fork at its opposite ends engaging the belt, a zigzag or serpentine guide to which the belt shipper is fitted, and a hand lever connected with the belt-shipper and serving to move the same along said serpentine or zigzag guide, whereby in moving the belt-shipper one end and fork will be moved in advance of the other, in order to shift the belt from a step of one cone-pulley onto a step smaller in diameter, before it is shifted from a step of the other cone-pulley onto a step larger in diameter, substantially as herein described. 2nd. A pair of reversely-set stepped cone-pulleys having inclined or bevel shoulders joining their steps, in combination with a belt driving from one to other of them, a belt-shipper and a hand-lever for operating the belt-shipper, substantially as and for the purpose herein described.

No. 23,183. Fastening for Cutter Heads, etc.

(*Ferrure de Porte-Lames, etc.*)

The Glen Cove Machine Company, (assignee of William H. Gray,) Brooklyn, N.Y., U.S., 14th January, 1886; 5 years.

Claim.—1st. The combination, with a shaft and a head, or hub, to be secured thereon, of a saddle in the head or hub movable toward and from the shaft, and having an inclined or bevelled outer face, and a screw inserted through the end of the head or hub in a direc-

tion lengthwise of the shaft and at an angle to the saddle, and having its inner end conical or tapered to operate with a wedge-like action upon the inclined or bevelled outer face of the saddle, substantially as herein described. 2nd. The combination, with a shaft and a head, or hub, having in it a sideway or socket extending transversely to the shaft, of a plug or saddle fitting said sideway and having an inclined or bevelled outer face, and a screw inserted through the end of the head, or hub, in a direction lengthwise of the shaft and at an angle to the saddle, and having its inner end conical or tapered, to operate with a wedge-like action upon the inclined or bevelled outer face of the plug or saddle, substantially as and for the purpose herein described. 3rd. The combination, with a head or hub B having a transverse sideway *a* and an inwardly projecting flange, or stop *e*₂, at the inner end thereof, of an outwardly projecting flange, or stop *e*₁, at its outer end inclined or bevelled at its inner end of reduced diameter, so as to project through the flange, or stop *e*₂, and a screw E having its end tapered to operate with a wedge-like action on the inclined or bevelled outer end of the plug, or saddle, and arranged at an angle thereto, substantially as herein described.

No. 23,184. Machine for Burnishing the Soles of Boots and Shoes. (*Machine à Brunir les Semelles des Chaussures.*)

The Beandry Edge Setting and Heel Burnishing Machine Company, Manchester, N. H. (Assignee of Zotique Baudry, Lynn, Mass.), U.S., 14th January, 1886; 5 years.

Claim.—1st. The combination, with a tool for burnishing the edges of boot and shoe soles, constructed and arranged substantially as described, to be rotated by bolts and pulleys, of a pulley arranged to move forward and backward between two driving pulleys, adapted to be revolved in reverse directions by means of a cross-belt. 2nd. The combination, with the pulleys F and G, and J and L, said pulleys J and G being arranged to revolve in opposite directions, of a pulley M connected to the burnisher-tool by bolts for operation thereof, and carried by a swiveling frame P, provided with means for operating said frame, for the purpose specified. 3rd. The combination, with the pulleys F and G, and J and L, said pulleys G and J being connected by a cross belt H, of a pulley M connected to the burnisher-tool by bolts for operation thereof, carried by a swiveling frame P, operated by an arm V₂, or W₂, substantially as and for the purpose specified. 4th. A tool for burnishing the edges of boot and shoe soles, provided with an arm Q₂ arranged to slide and rest on a supporting-arm *t*₂ of the frame A, substantially as and for the purpose described. 5th. The combination, with pulleys G and J arranged to revolve in reverse directions, of a pulley M connected to the burnisher-tool by bolts for operation thereof, carried by a swiveling frame P having an arm V₂ for operating the same, weighted at its end, substantially as and for the purpose specified. 6th. In a burnisher tool, a head H₂ rigidly attached to one end of a rod G₂, detachably secured in a tubular shaft C₂, said shaft being adapted to be rotated, substantially as and for the purpose specified. 7th. The combination, with a burnisher-tool, having a swiveling collar *m*₂ and arm Q₂ attached thereto, of an arm *t*₂ of the frame on which said arm Q₂ can slide and rest, substantially as and for the purpose specified. 8th. A tool for burnishing the edges of boot and shoe soles, provided with an arm Q₂ arranged to slide on a supporting arm *t*₂, of the frame A having a concave projection *v*₂, substantially as and for the purpose specified.

No. 23,185. Combined Stove Shelf, Heater and Damper. (*Tablette, Chauffelette et Clé de Poêle Combinées.*)

John Oliver and Major Wooldridge, Palmerston, Ont. (Assignees of John J. Reader, Delavan, Wis., U.S.), 14th January, 1886; 5 years.

Claim.—A drum A placed on a pipe B, and having placed within it the concave disc C, in combination with the damper D located in the pipe B, between the holes *a* and *b*.

No. 23,186. Fire-Proof Safe. (*Coffre-Fort.*)

J. & J. Taylor (Assignees of Thomas West and Daniel Cox), Toronto, Ont., 14th January, 1886; 5 years.

Claim.—A safe or vault door, having an angle-plate E securely fastened to it and designed to fit into a recess formed in the plate F attached to the jamb, substantially as and for the purpose specified.

No. 23,187. Toboggan. (*Tabaganne.*)

James Paton and Albert T. Lane, Montreal, Que., 14th January, 1886; 5 years.

Claim.—1st. The combination, with a toboggan formed of thin boards, of three projecting strips running along the underside of the toboggan its whole length, all as herein set forth. 2nd. In a toboggan, the combination, with the longitudinal, of cross-bars secured thereto by screws passing up through slots in same, as and for the purposes set forth. 3rd. The combination, with the side rods of a toboggan, of leather handles twisted round and having end loops through which such side rods pass, all as herein set forth. 4th. In combination with a toboggan, a plate hinged to the rear end thereof, and operating, when turned over by a handle or crank, as a brake, all as herein described. 5th. The cushion of a toboggan secured thereto by rings passing over the rear ends of the side rods, and a strap passing through a ring attached to the front cross-bar to hold front end in place, all as herein described.

No. 23,188. Steam Trap. (*Trappe de Vapeur.*)

William A. Faskett, New Haven, Ct., U.S., 14th January, 1886; 5 years.

Claim.—1st. A steam trap, provided with a water chamber box, or case, having a removable end, head, or side, and a valve seat and valve connected to such removable portion, to permit the ready re-

removal from and placing in position within the case of said valve-seat and valve, and the ready inspection and repair of the interior. 2nd. A steam trap, having a water chamber, or case, provided with a removable end, head, or side, having a discharge opening, and a valve seat and valve connected with said removable portion. 3rd. In a steam trap, the case A having closed end D and removable head G, said removable head having an inwardly-extending hollow boss I, valve-seat connected with said boss I, compression block or valve K pivoted to said seat and a float connected with said valve, whereby said valve, seat valve and float are attached to the removable head and rendered capable of being withdrawn from the case by said head G on its removal from the case. 4th. In a steam trap, the case A having closed end D and removable head G, a valve-seat connected to said removable head, a valve pivotally connected to said seat and a float connected with said valve. 5th. The steam trap herein described, consisting of case A, having inlet B, outlet C and flange F, removable head G provided with flanges F; and inwardly extending hollow boss I, the valve-seat connected with said boss, compression block, or valve K, rod L and float M.

No. 23,189. Process for Preparing Blasting Cartridges. (*Procédé pour Préparer les Cartouches de Mines.*)

The Rand Rock Powder Company, of New Jersey Assignee of Silas R. Divine, Lock Sheldrake, Addison C Rand, New York, N. Y., U. S., 15th January, 1886; 5 years.

Claim.—The improved process for preparing blasting cartridges, containing an explosive compound composed of a solid ingredient, such as chlorate of potash, and a liquid ingredient, such as "dead-oil," or nitro-benzole, or equivalent fluid, which consists in submerging the solid ingredient contained in a cartridge case of cloth, paper, or other porous material in a bath of the liquid ingredient, for a certain predetermined length of time relatively to the diameter of the cartridge, then removing the cartridge from said bath, and then allowing the absorbed liquid to become equally distributed throughout the cartridge, substantially as and for the purpose specified.

No. 23,190. Blasting Cartridge and Process and Composition for Preparing the Same. (*Cartouche de Mine et Procédé et Composition pour la Préparer.*)

The Rand Rock Powder Company, of New Jersey (Assignee of Silas R. Divine, Lock Sheldrake, N. Y.), U. S., 15th January, 1886; 5 years.

Claim.—1st. The herein described process for uniting the solid ingredient, such as chlorate of potash, and the liquid ingredient, such as dead-oil or other fluid hydro-carbon, to form an explosive in the form of a cartridge, which consists in first saturating the solid ingredient contained in a porous cartridge-case or envelope, with a mixture composed of the said liquid ingredient and a volatile fluid, the said constituents of said mixture being in the relative proportions named, then removing the cartridge from the mixture, and finally allowing the absorbed volatile fluid to evaporate and escape from the cartridge, as and for the purpose specified. 2nd. The composition of matter herein described for use in preparing blasting cartridges, containing an explosive compound of a solid and a liquid ingredient, as named, which consists of the liquid ingredient, such as "dead-oil," a volatile fluid such as bisulphide of carbon and sulphur in a fine powder in solution, substantially in the proportions as and for the purpose specified. 3rd. The herein-described improved blasting cartridge, consisting of a porous cartridge-case, or envelope containing the solid ingredient of the explosive, such as chlorate of potash, which, together with said case or envelope, is impregnated with the liquid ingredient of the explosive, and with sulphur in a fine powder distributed throughout the web or most mass of the cartridge, as and for the purpose specified. 4th. A blasting cartridge, consisting of a porous case or envelope containing the solid ingredient of the explosive, such as chlorate of potash, which, together with said case or envelope, is impregnated with the liquid ingredient, as stated, and having sulphur in a fine powder adherent to and more or less filling the interstices of said case or envelope, as and for the purpose set forth.

No. 23,191. Toboggan. (*Tabaganne.*)

Edouard Morrin, St. John, Que., 15th January, 1886; 5 years.

Claim.—1st. A toboggan having two or more parallel runners E, raised upon or alternating with the slats A and longitudinal therewith, as set forth. 2nd. A toboggan, having two or more parallel runners E, raised upon or alternating with the slats A, and continued around the hood B, or fastened thereto, as set forth. 3rd. A toboggan, having the raves D, continued within the hood B and secured thereto, as set forth. 4th. A toboggan, having the slats A of different thickness connected by cleats C, whereby runners E are produced on the underside, as set forth.

No. 23,192. Paddle Wheel. (*Roue à Palettes.*)

Alfred T. Elford, San Francisco, Cal., U. S., 15th January, 1886; 5 years.

Claim.—1st. The paddle-wheels A and B, having paddles set diagonally across the face, for the purpose of preventing the agitation of the water, constructed and operated substantially as and for the purposes set forth. 2nd. The paddles C and D, sharpened at the ends and rounded on the edges, for the purpose of avoiding friction in passing through the water, constructed and operated substantially as and for the purposes set forth. 3rd. The paddles C and D, set diagonally across the face of the wheel, to form an extra bracing and give elasticity to the wheel.

No. 23,193. Step Ladder. (*Echelle de Tapissier.*)

Charles S. Richard, Grand Rapids, Mich., U. S., 15th January, 1886; 5 years.

Claim.—1st. The combination of the standards, of ladder section A, and the castings H, F, G, H, as adjusted and fastened to unite the two sections A and C of the ladder, as shown in Fig. 4, which castings are constructed by the respective lugs F H, F H, forming the ferrules, or grooves B, B, through which the standards of ladder-section A pass in connection with the openings G, G, which receive the respective ends of the standards of ladder section C, and form one piece of metal in one casting with the standards of ladder-section C, substantially as described. 2nd. The shoe-casting D, e, e, as adjusted and fastened at the base of the standards of ladder section A, forming hook D and resting on rounds d, d, whereby the ladder is secured to any given extension, which casting forms a single piece of strap metal, substantially as described.

No. 23,194. Journal Bearing for Car Axles.

(*Coussinet de Fusée d'Essieu de Char.*)

Solomon T. Stroeter, New York, N. Y., U. S., 15th January, 1886; 5 years.

Claim.—1st. A journal bearing composed of a hard metal shell B, provided with the dovetailed ends a and a', and the dovetailed sides c and c', and the inwardly projecting ribs e and e, in combination with soft metal filling the cavity, as described and specified. 2nd. A journal bearing composed of a hard metal shell B, provided with the dovetailed ends and sides, as described, the cross-rib e, which is provided with the dovetail or lips n, for holding the soft metal in position, in combination with a soft metal filling the cavity, all as described, specified and shown. 3rd. A journal bearing, composed of the shell B, of the shape and form as herein shown and described, made of a metal consisting of seven parts copper and one part tin, in combination with a soft metal which consists of four parts lead and one part antimony, filling the cavity, all as and for the purpose described.

No. 23,195. Horse Shoes. (*Fer à Cheval.*)

William H. Pearce, Keppel, Ont., 15th January, 1886; 5 years.

Claim.—A horse-shoe having a bevelled bottom extending from the inner edge a to its outer edge b, heel calks C, formed as described, and suitable nail holes, substantially as and for the purpose specified.

No. 23,196. Anti-Friction Roller Bearing.

(*Coussinet de Tourillon à Anti-Friction.*)

Ezra B. Lake, Camden, N. J., U. S., 15th January, 1886; 5 years.

Claim.—1st. In a roller bearing, the combination of a box or casing, rolls which form the bearings for a central shaft or spindle, separator rolls located between the bearing rolls, and two rings, one at either end of the bearing rolls and between the latter and the heads of the casing, substantially as shown and described. 2nd. An anti friction roller bearing, consisting of a box or case A, having heads B, B, with central flanged openings b, b, rollers D, D, having bearing journals d, d, separator rollers E, E occupying position between said journals, and rings F encircling the separator rollers, maintaining the latter in position, and forming rolling dividers between said separator rollers and the wall of the box, or casing substantially as shown and described and for the purpose set forth.

No. 23,197. Ship's Hull and Propeller.

(*Coque et Propulseur de Vaisseau.*)

Zachariah Oram, Philadelphia, Pa., U. S., 15th January, 1886; 5 years.

Claim.—1st. The combination of a vessel having concavities forward of the midship section and below the water-line, with two or more screw-propellers having an oblique downward and outward thrust located wholly or partially in such concavities, and rotated separately and independently by motors having a driving-shaft in common with each propeller, substantially as and for the purpose set forth. 2nd. The combination of a vessel having concavities in the hull forward of the midship section and below the water-line, adapted to receive and guide the currents of water to and from screw-propellers located wholly, or partially, therein, with the screw-propellers having a downward and outward direction of thrust toward the stern of the vessel, and susceptible of independent rotation, substantially as and for the purpose set forth. 3rd. The combination of independent engines susceptible of varying and adjustable regulation of speed and direction of motion relatively to each other, with propellers located in cavities of a vessel forward of the midship section, and having a downward and outward rearward thrust, as and for the purpose set forth. 4th. The combination, in a vessel adapted to sail in either direction of its length of keel, of two or more sets of screw-propellers having their axes inclined outwardly and downwardly toward the midship section of the vessel, located wholly or partially in concavities, substantially as and for the purpose set forth. 5th. In a vessel having two or more hulls combined in parallel position, the combination of a series of two or more independent engines with screw propellers having their axes inclined outwardly and downwardly toward the midship portion, such propellers located in or partially within cavities formed in said hulls aft of the bows and forward of the midship section. 6th. In a vessel propelled by power internally applied, the combination of screw-propellers located forward of the midship section, with projections in the form of zones or segments of prolate spheroids, surrounded by receding curved surfaces, substantially as shown and described.

No. 23,198. Running Gear for Sleighs and Cutters. (*Châssis de Traineau.*)

John B. Armstrong, Guelph, Ont., 15th January, 1886; 5 years.

Claim.—1st. In a sleigh, or cutter gear, runners composed of steel of sufficiently high grade to receive a spring temper, said runners tempered after they have been fashioned into shape. 2nd. A sleigh

or cutter gear in which the essential parts are composed of steel of sufficiently high grade to receive a spring temper, said parts being tempered after they have been fashioned into their respective shapes, substantially as and for the purpose specified. 3rd. In a sleigh or cutter gear, the benches A set on edge and extending across to connect the runners, substantially as and for the purpose specified. 4th. In a sleigh or cutter gear, the benches A set on edge and extending across the gear, in combination with the knees B, each set with its wide surface across the runners C, to which they are rigidly fastened substantially as and for the purpose specified. 5th. In a sleigh or cutter gear, the combination, with the runner, of a perpendicular knee secured to the runner near the commencement of its curve or scroll, substantially as and for the purpose specified.

No. 23,199. Grain Cleaning Machine.

(Machine à Nettoyer les Grains.)

Alexander Laidlaw, Orillia, Ont., 15th January, 1886; 5 years.

Claim.—1st. In a barley cleaning machine, constructed with a stationary cylindrical casing, preferably of sheet metal, secured in a horizontal position to the upper cross-bars of the frame of the machine, with flanged metallic ends enclosing the ends of the casing, one of the ends provided with a movable pane for getting convenient access to the interior of the casing, an octagonal shaft with knives thereon, which revolve among the barley when placed therein and cleans the same by the removal of the awns or beards and dust therefrom and brightens the grain, as specified and described. 2nd. In a barley cleaning machine, composed of the frame A, casing D, octagonal shaft *ds*, with knives *ds*, the combination of the fan E, hopper with opening *ds*, suction pipe *es* with enlarged end covering the opening *ds*, in casing D, and forming a connection with the fan E, the vertical spout *et*, with slide gate *et*, throttle valve *es* and agitator *et*, the screens F, A and chute *fs*, the shaft G, with pulley *gs*, *gs*, the cam *gs* and shaker *gs*, the whole constructed and arranged and operating as set forth.

No. 23,200. Oil Compound.

(Composition Oligineuse.)

Adam Schmitt, New Orleans, L.A., U.S., 15th January, 1886; 5 years.

Claim.—A compound, consisting of oils, known ordinarily as cotton seed and codfish oil, in combination with a solution of rubber (caoutchouc), cocoanut, pomegranate-rind, and an aromatic, substantially as and for the purpose specified.

No. 23,201. Watch Case. (Boîte de Montre.)

Robert J. Quigley, Toronto, Ont., 15th January, 1886; 5 years.

Claim.—1st. A compound dust-band and centre, in which the portion forming the dust-band is substantially flush with each side of the movement, while the outer portion forming the ring on which the snaps are made is merely a narrow strip A, substantially in the centre of the band B, as and for the purpose specified. 2nd. A dust-band B, made of base metal and having secured to it a narrow ring A of the same material as the outer case, and only sufficiently wide to permit the formation of the snaps *a*, and the adjustment of the hinges.

No. 23,202. Hoop Planer Knife.

(Outil de Raboteuse des Cercles.)

Elijah Windsor, Oil City, Ont., 15th January, 1886; 5 years.

Claim.—1st. A planer knife having lips E and bevelled edges C, substantially as shown and for the purpose set forth. 2nd. In a planer knife, the combination of lips E and recess D, substantially as and for the purpose set forth. 3rd. In a planer knife, the combination of lips E, bevelled edges C and recess D, substantially as and for the purpose hereinbefore set forth.

No. 23,203. Fire-Escape. (Sauveteur d'Incendie.)

John Dittrick, Perth, Ont., 15th January, 1886; 5 years.

Claim.—1st. The drum D, provided with pawl I and attached to shaft B, the fan G and gear wheel F placed loosely on the shaft E, the gear wheel F being provided with the ratchet F¹, the fan with gear-wheel *gs*, in combination with the shaft C and gear-wheels K, J, secured thereon, meshing respectively with the gear wheels F and *gs*, substantially as and for the purpose set forth. 2nd. The combination, with the supporting-frame A and the drum D, journaled therein and adapted to have the rope E wound thereon, of the frame L pivoted to the frame and having a locked upper end, the roller J journaled in the forks of the said frame, arm J¹, foot piece K and spring, substantially as herein shown and described. 3rd. In combination with the shaft B carrying drum D, gear-wheel F, fan G and pulley *gs*, the crank A having stop-joint H, as and for the purpose set forth.

No. 23,204. Culinary and Agricultural Boiler. (Autoclave de Cuisine et d'Agriculture.)

Charles Fawcett, Sockville, N.B., 15th January, 1886; 5 years.

Claim.—As an improved article of manufacture, a boiler, cauldron pot or kettle having a flange 2, rim 3 and spout or lip 4 cast integral with the peripheral edge, as set forth for the purpose described.

No. 23,205. Car-Coupling. (Attelage de Chars.)

Christmas Rivett and Robert L. Macfarlane, Almonte, Ont., 15th January, 1886; 5 years.

Claim.—1st. The combination, with the drawhead having a slot 3, of the gravitating hook 4 and pin 5 passing therethrough and through the sides of the drawhead, for coupling a link, as set forth. 2nd. The combination, with the hook 4, of the chain 8, rock-shaft 10 hav-

ing arm 9, chain 12, lever 13, button 14 and rope 15, for uncoupling from either the top or sides of the car, as set forth. 3rd. The combination, with the drawhead having groove 19 within its mouth, as set forth, of the U-shaped yoke 18 sliding therein, and means for raising the yoke to lift a link to the required height in coupling, as set forth. 4th. The combination, with the drawhead 4 having a longitudinal slot 3 and internal groove 19, of the hook 4 and U-shaped yoke 18 for seizing and lifting a link 7, as set forth. 5th. The combination, with the drawhead, of the U-shaped yoke 18, chains 20, 21 and rock-shaft 24 provided with arms 22, 23, for the purpose described.

No. 23,206. Combination of Materials for the Manufacture of Household Furniture. (Combinaison de Matériaux pour la Fabrication des Meubles.)

Edward W. Haight, Woodstock, Ont., 15th January, 1886; 5 years.

Claim.—1st. The combination of the horn arms B, the horn legs B with the wooden frame-work C, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the core F, the horns B, B, screws E, bolts D with the wooden frame work C.

No. 28,207. Bolt-Making Device.

(Appareil pour Faire les Boulons.)

Elam A. Oliver, Bellefonte, Wis., U.S., 15th January, 1886; 5 years.

Claim.—1st. The combination, with the stationary limb N and the pivoted limb H of the parts D connected with the limb H, as described, and the lever A pivoted to parts D and provided with the locking flange C, as set forth. 2nd. The combination, with the upright limbs N and H, having the jaws K and M and the shears R, and R, of a guide placed upon one limb having a lower horizontal portion S, serving as guide for the other limb, and an upright portion S extending up beside the shears to prevent twisting of the metal being cut, as set forth. 3rd. The combination of the lever A and parts D provided with the anti-friction roller E, with fixed limb N, and the pivoted limb H provided with the slot *gs* in its lower end, in which the roller F, works and the jaws K and M, substantially as set forth. 4th. The combination, with the levers A and D, fixed limb N and the pivoted limb H, of the spring I and jaws B and M, said spring being secured to a fixed part at one end, and to the pivot of parts D and H at the other, as set forth.

No. 23,208. Machine for Making Moulds for Castings. (Machine à faire les Moules de Coulage.)

Matthew R. Moore, Indianapolis, Ind., U.S., 15th January, 1886; 5 years.

Claim.—1st. The combination, with a platen, of two or more flexible diaphragms, containing a fluid adapted to expand and yield independently and to serve with a flask and pattern, as herein specified. 2nd. In a machine for making moulds for castings, the combination, with a platen, of two or more flexible diaphragms adapted to yield independently, connections for leading a fluid to each, and means, as the reducers O, for independently adjusting the pressure in each, as herein specified. 3rd. The construction of the series of air-bags G1, G2, each with means as the open-work webs D1, for restraining the lateral expansion, so as to allow the several bags to lie adjacent and cover the whole surface of the platen and be filled with fluid at different pressures without crowding each other, all substantially as herein specified. 4th. In a machine for making moulds for castings, one or more flexible pressers G1, G2, with provisions for subjecting the same to a fluid pressure, arranged to press the sand in one direction, in combination with suitable means for pressing the sand in the opposite direction, and with provisions for introducing flasks and patterns in the space between, as herein specified. 5th. In a machine for making moulds for castings, one or more flexible pressers G1, G2, carried on the balanced movable platen D, with means for applying fluid pressure to act in one direction, in combination with one or more flexible pressers G1, G2, with means for applying fluid pressure to act in a direction opposite to the first named, and with provisions for introducing flasks and patterns in the space between, as herein specified. 6th. In an apparatus for making moulds for castings, the silhouette-plate L, pattern-box L and provisions for moving it, in combination with the stool or stools I arranged to support a portion, or portions, as herein specified. 7th. In a machine for making moulds for castings, the pattern-box described, having the two silhouette-plates L3, L4, and two movable patterns, or sets of patterns R, S, in combination with each other and with connections, as *rs*, *rs*, and operating means, as *rs*, for forcing them outward and withdrawing them, as herein specified. 8th. In an apparatus for making moulds for castings, the pattern-box L, silhouette-plate L3 and pattern R, in combination with links *rs*, and with the shaft *rs* having projections *rs*, arranged to serve both as cams to support the pattern and *rs* levers to operate the links, all substantially as herein specified. 9th. In an apparatus for making moulds for castings, a pattern-box L turning on a center J supported on the frame, in combination with the two flasks A, A*, and with one or more diaphragms, or air-bags, arranged to be distended from below, and with one or more diaphragms or air-bags carried on a platen G, turning on a hinge K arranged to be distended from above, and with suitable connections for supplying air or other fluid under pressure to both series of diaphragms, all combined and arranged for joint operation substantially as herein specified.

No. 23,209. Feed Mechanism for Wood Planing Machines. (Appareil d'Alimentation des Machines à Raboter le Bois.)

The Glen Cove Machine Company, (assignee of William H. Gray), Brooklyn N.Y., U.S., 15th January, 1886; 5 years.

Claim.—1st. The combination, with the feed-pinion shaft and

driving-shaft of a wood-planing machine, of a shaft E and pulley E₁, a belt H for driving the upper cutter-head, passing over and driving the pulley E₁, two reversely set cones or conical drums, and a belt and bolt support for transmitting a variable speed, from one to the other of them, and belt-gearing for driving one cone from the shaft E, and for driving the feed-pinion shaft from the other cone, substantially as herein described. 2nd. The combination, with the shaft E, the feed-pinion shaft D₂ and the two cones F, F₁, with their connecting-belt and shipper, of the driving shaft H and the pulleys *s*, *t* loose thereon, belts connecting the pulleys *s*, *t* with the driven cone F₁ and the shaft D₂, and belt-gearing for operating the driving-cone F, all substantially as herein described. 3rd. The combination, with the driving-shaft and feed-pinion shaft of a wood-planing machine, of a pair of reversely set cones or conical drums with their connecting-belt and shipper-belt gearing for operating the driving cones, belt-gearing for transmitting motion from the driven cone to the said feed-pinion shaft, and movable boxes for one of said cones, whereby the belt-gearing may be slackened to suspend feeding, substantially as herein described. 4th. The combination, with the pairs of cones F, F₁, with their connecting-belt and shipper, of a swinging frame for the cone F, a belt for driving said cone and which is slackened by the swinging movement of the said frame, and belt-gearing for transmitting motion from the cone F₁ to the feed-pinion shaft of the machine, substantially as herein described. 5th. The combination, with the cones F, F₁, bearings for the cone F₁ and belt-gearing for transmitting motion from the cone F₁ of the swinging frame F² for the cone, F and levers and connections for swinging said frame, a belt *h* for operating the cone F, and a belt support or rest *h*₁ for the belt *h*, substantially as herein described.

No. 23,210. Wood-Planing Machine.

(Machine à Raboter le Bois.)

The Glen Cove Machine Company, (assignee of William H. Gray and Alfred B. Hutchinson,) Brooklyn, N.Y., U.S., 16th January, 1886; 5 years.

Claim.—1st. In a wood-planing machine, the combination, with a platen-plate and an upper cutter-head and its journal boxes above the platen-plate, of a presser bar and pockets or housings wherein said bar may be adjusted vertically, and a cross-bar independent of the presser bar extending across the machine above the platen-plate, and connecting the pockets or housings and journal boxes, substantially as herein described. 2nd. The combination, with the platen-plate B² and upper cutter-head and journal-boxes C, C₁, of a presser-bar D² and a cross-bar D connecting the journal-boxes C₁ and provided with pockets or housings *c*, wherein the ends of the presser-bar are adjustable vertically and which are kept in line by the cross-bar D, substantially as here in described. 3rd. The combination, with the side cutter head of a wood-planing machine, of a chip-breaker (movable toward and from the work, a weight and connections through which the weight produces, a variable pressure of the chip-breaker upon the lumber, such pressure being decreased as the thickness of the cut increases, substantially as herein described. 4th. The combination, with a side cutter-head F₁, a head-plate F₂ below the same and a chip-breaker H pivoted at *h*₁ and movable on the head-plate toward and from the work, of the weight *W* and levers I₁, I₂, and rod *r* through which the chip breaker is pressed again the work with a force which decreases as the thickness of the cut increases, substantially as herein described. 5th. The combination, with side cutter-spindle F² and head-plate F₃ of a wood-planing machine, of a frame F₄, wherein the spindle is journaled and which supports the head-plate F₃, a cross-bar G supporting the frame F₄ and along which said frame is movable, and slotted plates *g*₁ in which the ends of the bar G are supported, and which are bolted to the side frames of the machine, and screws *g*₂, whereby said slotted plates with the bar G and parts supported thereby may be adjusted vertically to compensate for wear of the head-plate F₃, substantially as herein described. 6th. In a wood-planing machine, the combination, with a side cutter-head and a side or edge guide I, extending lengthwise of the machine, of a chip-breaker H² having a slotted connection with said guide, whereby provision is afforded for the adjustment of the chip-breaker in a direction lengthwise of the machine relatively to the cutter-head and guide, substantially as herein described. 7th. In a wood-planing machine, the combination, with the driving and driven feed-shafts K, L arranged parallel with each other near the front end of the machine and their reversely set conical friction wheels, arranged as described, the wheels on the shaft K being fast thereon, and the wheels on the shaft L being connected in pairs and having a sliding connection with the shaft L, of a belt and pulleys for driving the shaft K, levers at the front end of the machine, connections through which the pairs of sliding friction-wheels are moved in one or other direction by the movement of said levers, the counter-shaft E₂ and feed rolls geared therewith, and a belt and pulleys for transmitting a variable rotary motion from the shaft L to the shaft E₂, substantially as herein described.

No 23,211. Wood-Planing Machine.

(Machine à Raboter le Bois.)

The Glen Cove Machine Company, (assignee of James F. Welch, Alfred B. Hutchinson and William H. Gray,) Brooklyn, N.Y., U.S., 16th January, 1886; 5 years.

Claim.—1st. The combination, with the under cutter-head, its boxes and side-frames, and a presser above the cutter-head, of an end girth pivoted at one end to swing outward, and a bar or mouth-piece independent of the swinging girth and presser, and supported by the cutter-head boxes, substantially as herein described. 2nd. The combination, with the under cutter-head, its boxes and side frames, and a presser above the cutter-head, of an end girth pivoted at one end to swing outward, a table movable with, and pivoted to the girth so as to swing independent thereof, and a bar or mouth-piece independent of the swinging girth, table and presser supported by the cutter-head boxes, substantially as herein described. 3rd. The combination, with the under cutter-head and its boxes, of a bar-holder pivoted to one box to swing outward and having a detachable connection with the other box, and a bar or mouth-piece adjustable in, and carried by

the swinging bar-holder, substantially as herein described. 4th. The combination, with the lower cutter-head and its boxes C, of the bar-holder B₂ constructed with pockets or housings *c*, the plate or piece E₂ with which one end of the bar-holder has a slotted connection, and which is pivoted to one of said boxes C, at *c*₂, a detachable connection between the other end of said bar-holder and the other box C, and the bar E adjustable in the pockets or housings *c*, all substantially as herein described. 5th. The combination, with the under cutter-head, its boxes and the side-frames of an end girth pivoted at one end to swing outward, a bar-holder also pivoted at one end to swing outward independently of the girth, and a bar or mouth-piece carried by the swinging bar-holder and also independent of the girth, substantially as herein described. 6th. The combination, with the under cutter-head, its boxes and the side-frames, of a bar-holder pivoted at one end to swing outward and carrying a bar on mouth-piece, a girth independent of the bar or mouth-piece, and a top platen or presser hinged at one end to swing upward and outward, substantially as herein described. 7th. The combination, with under cutter-head, its boxes and the side-frames, of an end girth pivoted at one end to swing outward, a bar or mouth-piece supported by the cutter-head boxes and independently of the girth, and a top platen or presser hinged at one end to swing upward and outward, substantially as herein described. 8th. The combination, with the under cutter-head, its boxes and the side-frames, of an end girth pivoted at one end to swing outward, a bar-holder also pivoted at one end to swing outward independently of the girth, a bar or mouth-piece carried by said bar-holder independently of the girth and a top platen or presser hinged at one end to swing upward and outward, substantially as herein described.

No. 23,212. Barrel and Barrel Head Attaching Device. (Baril et Appareil pour Assujétir les Fonds de Barils.)

Adelbert L. Johnson, Kalamazoo, and Andrew W. Johnson, Blackberry, Ill., U.S., 16th January, 1886; 5 years.

Claim.—1st. The combination, with a barrel or other vessel, provided with a flange in the end having an elongated opening by said flange, of a head of larger area than said opening, and of a size to bear against the inside of the flange, a screw-threaded stud projecting from the head, elastic supporting arms pivoted to said stud, their free ends being adapted to bear against the outside of the flange, and a nut or equivalent, on the free end of the stud, for increasing the pressure of the supporting arms, substantially as set forth. 2nd. The combination, with a barrel or other analogous vessel, having an elongated opening, of an elongated cover or head, of larger area than said opening, and adapted to fit against the inside of the boundary of said opening, a stud projecting from the cover, one or more elastic arms pivotally mounted on said stud, and a nut or equivalent connecting the end of said stud, for bringing a pressure on the supporting arms, substantially as set forth. 3rd. The combination, with a barrel having an elongated opening, and a cover of larger area than the opening, and adapted to rest against the inside surface of the boundary of said opening, one or more elastic supporting arms pivotally connecting the cover, and stops to limit the rotation or swing of the arms, substantially as set forth. 4th. The combination of a barrel having a flange bounding an elongated opening, and grooved at each end, a head adapted to fit against the inner surface of the flange, and provided with the pivotal stud and the end stud, elastic supporting arms and pressure nut, substantially as set forth. 5th. A barrel or other vessel, having an elongated entrance opening, in combination with a cover to said opening of a larger area, adapted to fit against the inner surface of the boundary of the opening, and one or more elastic supporting arms pivotally connected with the cover, the free ends of the arm or arms being adapted to engage the outer surface of the boundary of the entrance opening, substantially as set forth.

No. 23,213. Trunk Catch. (Fermeture de Coffre.)

Thomas L. Myers, Mont Clair, and E. W. Goble, Newark, N.J., U.S., 16th January, 1886; 5 years.

Claim.—1st. In a trunk-fastening device, the combination of the lid-plate having a locking shoulder, a trunk-plate having rabbated edges *b*₂, *b*₄, a pivoted locking-latch carried by said trunk-plate, and springs D seated in the rabbated edges of a trunk-plate and adapted to keep the locking plate in contact with the lid-plate, as set forth. 2nd. In a trunk-fastening device, the combination, with the skeleton shaped trunk-plate having a notch *c*, a spring actuated locking latch pivoted within the side bars of the trunk-plate and normally depressed flush therewith, a lid-plate having a bevelled locking shoulder with which the locking latch engages, and a V-shaped projecting lug *h*₂ adapted to fit in the notch *c* of the trunk plate, as set forth. 3rd. In trunk-fastening device, the combination, with the skeleton shaped trunk plate having bearings *f*₁ and rabbated edges *b*₂, *b*₄, springs D seated in said rabbated edges, a locking latch E having lugs seated in the bearings *f*₁ and normally depressed within the trunk plate by the said springs, and a lid plate having a projecting bevelled locking shoulder *h*₁, whereby, when the lid descends, the locking shoulder will automatically engage the pivoted locking latch, which lies within the plane of the lid and trunk plates when the said plates are locked together, as set forth.

No. 23,214. Mode of Supplying Air to the Combustion Chambers of Furnaces. (Mode d'Alimentation d'Air des Chambres de Combustion des Fourneaux.)

Samuel J. Davenport, Albany, N.Y., U.S., 16th January, 1886; 5 years.

Claim.—1st. In furnaces of boilers or heaters, the combination, with the combustion chamber, smoke-stack, or pipe, and flue, or flues, communicating from the former to the latter, of inlet pipe *c*, heating pipe *z* and perforated discharge pipe *d*, arranged in continuity so that pipe *c* will introduce air from outside the furnace to heating pipes, which latter will discharge the heated air into the

perforated discharge pipe *d*, while the said discharge pipe will distribute the heated air in numerous small streams within the combustion chamber, substantially as and for the purposes set forth. 2nd. In boilers or heaters, the combination, with the combustion chamber, smoke pipe and flue, or flues, leading from the former to the latter, of two or more sets of the connected pipes or tubes *e*, *z* and perforated discharge pipes *d*, so arranged in relation with saw combustion chamber and smoke pipe and each other that air will be taken from the outside of the boiler, or heater, and be gradually heated in its passage to discharge pipes *d*, and be distributed in numerous small streams from said discharge pipes, substantially as and for the purpose set forth.

No. 23,215. Fuggy top. (*Couverture de Voiture.*)

Edward Carroll and Patrick Ryan, Guilph, Ont., 16th January, 1886; 5 years.

Claim.—1st. In a vehicle, the combination, with the seat-box provided with side arms, of a top-supporting frame pivoted to each side of the seat-box, between the sides of the box and the said arms, substantially as described. 2nd. In a vehicle, the combination, with the seat-box *A*, provided with the side arms *B* and the wearing plates *E*, of the top-supporting frame consisting of the bar *F*, the arms *H* and connected rods *r*, the sliding block *K*, the pivot bolts *q* and nuts *u*, substantially as described. 3rd. In a vehicle, the combination, with the seat-box *A*, provided with the side arms *B*, the wear plates *E* and the projecting supports *v*, of the top-supporting frame consisting of the bar *F* provided with the arms *s*, the arms *H* having braces *h* and the connecting rods *r*, the sliding blocks *K*, the pivot bolts *q* and the stop *n*, substantially as herein shown and described.

No. 23,216. Cant-Hook. (*Renard.*)

Thomas W. Cassidy, Bangor, Me., U. S., 16th January, 1886; 5 years.

Claim.—1st. A cant hook having its handle and hook holding socket piece provided with one or more spiral ribs arranged within it, and to operate with the handle, as set forth. 2nd. The handle and hook holding socket piece, provided with ears, as described, for supporting the hook, and inclined upward at its top relatively to them and the handle, as set forth. 3rd. The combination, with the cant hook, of the guard spring *E* arranged between the ears of its socket piece, and the handle and hook, substantially as represented.

No. 23,217. Nailing Hammer. (*Marteau.*)

Emmet Horton, Dundee, N.Y., U.S., 16th January, 1886; 5 years.

Claim.—1st. A portable hand nailing hammer, comprising the following elements in combination, viz: a receptacle for carrying nails, a hammer head below the same, an inclined duct or guide communicating with the receptacle, a nail holder adjacent to the hammer head opening into said duct or guide, and a handle portion at right angles or thereabout to, and in rear of the head, substantially as set forth. 2nd. In a nailing hammer provided with a handle in angular relation with its head, a raised nail box or receptacle, and an inclined guide or duct, for conveying the nails from said receptacle to the forward portion of the hammer, the nail box or receptacle *D*, of curvilinear marginal configuration, provided on its interior with an outer mainly curved way *U*, for passage of the nails through it from the interior of the box, substantially as specified. 3rd. The divider *R*, in combination with the nail box or receptacle *D*, of the hammer, and the partition *F* forming the inner wall, of a curved outer way, or passage *G*, within the box, essentially as described. 4th. A portable hand nailing hammer in which are combined a receptacle for carrying nails, duct or guide communicating with an opening in the same, a hammer head secured below the receptacle, a nail setter adjacent to said hammer head, and a nail holder below the same adapted to receive the nails, one at a time, therefrom under the nail setter, and a handle portion secured at right angles or thereabouts to the hammer head and setter, substantially as set forth. 5th. In combination, receptacle *D* of curvilinear marginal configuration, provided on its interior with an outer mainly curved way *G*, and partition *F* forming the inner wall of said curved way or passage *G*, within the box, essentially as described. 6th. The curved way or nail passage *G*, of the box made adjustable at its mouth end relatively to the outer wall of the box, essentially as described. 7th. The curved nail box *D* of the hammer, having in its interior an outer curved way *U* for passage of the nails, provided with a stop, or regulator *I*, for separating and restricting the passage of the nails through said way, or channel, substantially as specified. 8th. The nail holding box *D*, of the hammer having a slot *e* in its base, and provided with a raised stop *J* at foot of said slot, in combination with the slotted inclined nail guide or duct *E*, substantially as and for the purpose specified. 9th. The slotted nail guide or duct *E*, having its one side adjustable relatively to the other, in combination with the elastic blocks, *s*, *z*, or springs *z*, and screws *t*, essentially as described. 10th. In a hand nailing hammer in which the nails are passed from a raised box or receptacle by the working or using of the hammer, the combined nail cut-off and separating-hook *S*, provided with a hook end or piece *h*, and a cut-off lip *l*, substantially as and for the purpose specified. 11th. In a hand nailing hammer in which the nails are passed from a raised box or receptacle, by the working or using of the hammer, the combined cut-off separating hook and nail setter *S* provided with trigger *J*, thumb piece *l* and nail setter *h*, substantially as set forth. 12th. The combined nail cut-off, nail setter and separating hook *S* of the hammer having its hook piece *h* made adjustable in or out, in combination with the inclined nail guide or duct *E*, having slot *h* through it, and *o* beneath it, for operation in relation with each other, essentially as specified. 13th. The combination of the trigger *J* of the hammer with the pivoted combined nail cut-off, nail setter and separating hook *S*, and the inclined nail guide or duct *E*, substantially as described. 14th. In combination, curved portion of clevis *S* and frame *B* correspondingly curved to form a channel of way *o*, between them, when closed together, substantially as described. 15th. The pivoted pendant clamp *K*, controlled by a spring, as described, in combination with the head *C*, essentially as specified. 16th.

The combination of the spring actuated trigger *J*, with the spring actuated pendant clamp *K* and the hammer head *C*, the adjacent faces of the hammer head and clamp being correspondingly grooved to receive a nail, essentially as specified. 17th. The combination, with the handle and head of the hammer, of the spring actuated trigger and combined cut-off, nail setter and separating hook *S*, the inclined nail guide or duct *E*, and the spring actuated clamp *K*, essentially as specified. 18th. The combination, with the handle *A*, frame *B* and hammer head *C*, of the nail setter *h* adjacent to the hammer head, and the spring nail holding clamp *K* and trigger *J*, or *z*, for operating the nail holder, substantially as set forth. 19th. The grooved and slotted railway or guide *B*, made adjustably laterally in relation with the slotted channel or way *G*, and beneath it, substantially as described. 20th. In a nailing machine, the slotted nail guides adjustable towards and from each other, to contract or expand the nail slot, substantially as set forth. 21st. In combination, clamp *K* having adjusting screw *J* and spring tension arm *4*, spring *r* and spring actuated trigger *J*, substantially as described. 22nd. In a hammer, the combination, with the hammer head, of an independent spring actuated nail clamp adjacent to a vertical side of the hammer, substantially as set forth. 23rd. In a hammer, the combination of nail setter *h* and adjusting screw *u*, whereby adjustment of clamp *h* from hammer head *C* is made to receive different sized nails between said clamp and hammer head. 24th. In a hammer, the combination, with the hammer head, of a spring actuated nail setter *h* and groove *d*, substantially as shown and described. 25th. In combination, box, or receptacle *D*, partition *F* and springs *c*, *c*, secured to the sides of the box, substantially as set forth.

No. 23,218. Car Brake. (*Frein de Char.*)

Luther K. Jewett, Fitchburg, Mass., U. S., 16th January, 1886; 5 years.

Claim.—1st. The car-axle having track-wheels, and the independent brake-wheels secured on the said axle, the said brake-wheels consisting each of a hub, hollow or tubular spokes and a grooved felly or rim, combined with brake-shoes adapted to be applied to the brake-wheels, substantially as described. 2nd. A truck-frame, a car-axle having track wheels and bars rigidly secured to the said truck, combined with independent grooved brake-wheels secured on the axles near each end, and just within the track-wheels, shoe-straps pivoted at their lower ends to the bars *e* and at their upper ends to a brake-bar, and provided with segmental brake-shoes detachably connected with the shoe-straps and wedge-shape in cross-section to fit the groove in the brake-wheels, and mechanism for operating the said brake-shoes, substantially as and for the purposes set forth. 3rd. A car-axle having truck-wheels, and provided with two independent brake-wheels applied thereto between the track-wheels and contiguous thereto, each of said brake-wheels consisting of a hub, spokes and periphery or felly, combined with a truck-frame bars *e* secured thereto, shoe-straps pivoted to the bars and provided with brake-shoes, the latter being adapted to be applied to the brake-wheels, and with mechanism for operating the brake-shoes, substantially as and for the purposes set forth. 4th. The car-axle having track-wheels, grooved brake-wheels secured on the axles between the track-wheels and contiguous thereto, as specified, combined with curved wrought-metal shoe-straps having transverse grooves or recesses, in their outer surfaces, and brake-shoes, wedge-shape in cross-section, provided with lugs and a apted to be detachably connected with the shoe-straps, and bolts to secure the straps and shoes together, said bolts occupying the recesses in said straps, substantially as described. 5th. A car-axle having track-wheels, and provided with independent brake-wheels secured thereon, bars *e* brake-shoes to embrace the brake-wheels, the levers *g* and rods to connect them with the brake-shoes, and spring-armed levers *g* to move the levers *g*, combined with stops for the levers *g*, to operate substantially as described. 6th. A truck-frame having bars *e* rigidly secured thereto, and provided with a pair of car axles having track wheels, combined with brake-wheels secured on the car-axles, shoe-straps having brake-shoes and pivoted at one end to the bar *e*, levers *g* pivoted to the truck-frame, connecting rods *f*, *f*, and mechanism for operating the levers *g*, to apply the brakes, substantially as described. 7th. A truck-frame having bars *e*, rigidly secured thereto, and provided with a pair of car-axles having track-wheels, combined with brake-wheel secured on the car-axles, shoe-straps having brake-shoes and pivoted at one end to the bars *e*, brake-bars *e*, *e*, secured to the remaining or upper ends of the shoe-straps, levers *g* fulcrumed between their ends to the truck-frame, rods *f*, *f*, to connect the brake-bars *e*, *e* with the levers *g*, one on either side of their fulcra, and means for operating the levers *g* to apply the brakes, substantially as described. 8th. In a car brake apparatus, an axle, an independent brake-wheel, a brake-shoe and mechanism to operate the said brake-shoe, the said mechanism containing spring-armed levers *g*, substantially as described, and stops for the same, whereby the maximum friction or pressure of the brake-shoe against the brake-wheels is limited, substantially as described. 9th. In a car-brake mechanism, levers *g*, having spring-arms, brake shoes and intermediate links and levers to operate the brake-shoes, and stops to regulate the movement of the said levers *g*, combined with a rod provided with a turn-buckle, or right and left-threaded nut, substantially as described, to enable the ready adjustment of the parts as the brake-shoe and wheels become worn, as set forth.

No. 23,219. Gas Burner. (*Bec à Gaz.*)

Walter M. Jackson, New York, N. Y., U. S., 16th January, 1886; 5 years.

Claim.—1st. In a gas burning regulator, the combination, with a shell provided with a gas tip, of a flexible diaphragm dividing the shell into upper and lower gas chambers, valve connected with the diaphragm and adapted to regulate the passage of gas into the lower gas chamber, the valve stem connection being provided with an opening or openings of less capacity than the gas exit opening in the tip of the burner, for regulating the position of the valve by the differential pressure of gas in the two gas chambers, substantially as set forth.

No. 23,220. Screw Cutting Mechanism.*(Machine à Fileter les Vis.)*

William E. Molhorn and Samuel S. Caughoy, Erie, Penn., U.S., 16th January, 1886; 5 years.

Claim.—In combination, the operation handle C, B, provided with pawl mechanism B₂, C₂, C₃, the sleeve A, recessed as shown, and provided with die E, the sleeve F having the flange f, the sleeve G, detachable sleeve H and hinged plate D, all constructed and arranged to operate as set forth.

No. 23,221. Pipe Cutting Mechanism.*(Machine à Couper les Tuyaux)*

William E. Molhorn and Samuel S. Caughoy, Erie, Penn., U.S., 16th January, 1886; 5 years.

Claim.—The hinged jaws A, A', provided with movable bearing-piece H, cutter K and latch mechanism B, C, and the operating handle E, E', F, provided with pawl G, G', and arranged to operate substantially as specified for the purpose set forth.

No. 23,222. Apparatus for the Manufacture of Illuminating Gas. (Appareil à Gaz d'Éclairage.)

Theodore Ayers (Assignee of Frederic Egner), St. Louis, Mo., U.S., 16th January, 1886; 5 years.

Claim.—In combination with a generator, retorts, exhauster, hydraulic seal and regulating valves, all in regular sequence, as described, the fixing-chambers N, N', etc., as shown and described.

No. 23,223. Fire Extinguisher.*(Extincteur d'Incendie.)*

James Sangster, Buffalo, N.Y., W. S. and Luke Fisher, Toronto, Ont., 16th January, 1886; 5 years.

Claim.—1st. An automatic fire extinguisher, consisting of a glass vessel for holding the alkaline solution, a thin glass vessel having a charge of acid in the ystalized form, a small charge of explosive material having a portion of packing material on each side of it to separate it from the acid and cement, and a fuse communicating with the explosive material, the whole being securely connected together, substantially as and for the purposes described. 2nd. In a portable fire extinguisher, the combination of the alkaline vessel, the acid and the explosive material vessel, and a rubber or elastic packing ring, for the purposes described.

No. 23,224. Seeding Machine.*(Semoir Mécanique.)*

J. O. Wisnor, Son & Co. (Assignees of James S. Heath), Brantford, Ont., 16th January, 1886; 5 years.

Claim.—1st. In a seeding machine, a tubular frame A made in a continuous piece, in combination with a tubular bar F arranged to brace the frame A, substantially as shown. 2nd. In a seeding machine, a tubular frame A made in a continuous piece, the brackets B and C clipped to the said frame as indicated, in combination with the axle E and tubular bar F, arranged substantially as shown. 3rd. In a seeding machine, the bracket H clipped upon and secured to the axle E and tubular bar F, and arranged to form a support for the end of the tongue I, substantially as and for the purpose specified. 4th. In a seeding machine, the bracket J rigidly secured to the frame A, and having holes a and b through which the tubular rollers K pass, in combination with the tongue I rigidly secured to the said bracket J, substantially as and for the purpose specified. 5th. In a seeding machine the bracket J, shaped substantially as shown, to fit upon and be secured to the frame A, rollers K and tongue I, in combination with the draft ring, substantially as and for the purpose specified. 6th. In a seeding machine, the tubular rollers K journaled at their ends in the bracket L, in combination with the bracket J arranged to form a support for the centre of the roller K, substantially as and for the purpose specified. 7th. The nut-holder P, inserted into a tube and holding the nut S, in combination with the bolt R, substantially as and for the purpose specified.

No. 23,225. Shroud for Human Corpses.*(Linceul.)*

James D. Marston, Englewood, and George Clapp, Oak Park, Ill., U.S., 18th January, 1886; 5 years.

Claim.—1st. An air-tight shroud to receive a human body, said shroud being provided near one end with a side opening adapted to be hermetically closed, substantially as described. 2nd. An air-tight shroud or bag, to receive a human body, said shroud having an opening adapted to be hermetically closed, and having an inspection glass or pawl hermetically fitted into the shroud, and through which the face of the body may be seen, substantially as described. 3rd. An air-tight shroud or bag, to receive a human body, said shroud being provided with an opening adapted to be hermetically closed, and with an inspection glass or panel, and having a suitable support within the shroud, to hold the glass above the face of the body, substantially as described. 4th. An air-tight shroud or bag, to receive a human body, said bag being provided with an opening adapted to be hermetically closed, and with a supporting frame adapted to hold the shroud out of contact with the face of the corpse enclosed therein, and to be removed from the bag to permit the same to be packed into small compass, substantially as described.

No. 23,226. Fruit Jar. (Pot à Fruits.)

Samuel L. Leemis, Wright's Station, Cal., U.S., 18th January, 1886; 5 years.

Claim.—The combination, with the jar A having a collar B and channel B', and the cover C, provided with a transverse depression D, of the clamp E having downward and inward projecting ribs for engaging the lower edge of the collar, and the overlapping wedges F, F', the lower wedge being secured from lateral displacement, and the upper wedge resting in the transverse depression of the cover, substantially as described.

No. 23,227. Mainspring Winder for Watches*(Enrouleur de Grand Ressort pour Montres.)*

Albert F. Robbins, Orange, Mass., U.S., 18th January, 1885; 5 years.

Claim.—1st. In a mainspring winder, the combination, with a supporting frame having a shaft journaled therein, of a removable barrel and a disk adapted to be moved to force the spring from said barrel, substantially as set forth. 2nd. In a mainspring winder, the combination, with a supporting frame having a shaft journaled therein, said shaft having a countersunk end and a pin, as shown, of a removable barrel having a notch, and a disk having a nib to fit the same, substantially as set forth. 3rd. In a mainspring winder, the combination, with a supporting frame having a shaft journaled therein, said shaft having a countersunk end and a pin, as shown, of a removable barrel having an integral sleeve, a sleeve fitting within the same, and a disk on the end of said last mentioned sleeve, as set forth. 4th. In a mainspring winder, the combination, with a supporting frame having a shaft journaled therein, said shaft having a countersunk end and a pin, as shown, of a removable barrel having a notch and an integral sleeve, a sleeve fitting within the same, a disk on the end of said last-mentioned sleeve, which is also provided at its other end with a flange, said disk having a nib and an adjustable collar on the shaft, substantially as set forth.

No. 23,228. Sheet Conveyor for Folding Machines. (Alimentateur pour Machines à Plier le Papier.)

Richard T. Brown, Erie, Penn., U.S., 18th January, 1886; 5 years.

Claim.—1st. In a sheet conveyor for connecting a printing press and a folding machine, the combination, substantially as described, of a table which spans the space between said machines, and two sets of conveyor-rolls between which the sheets pass connected with said table, and arranged relatively as set forth, the second or high sets is operated at a slower speed than the first, for the purposes mentioned. 2nd. In a sheet conveyor for connecting a printing press with a folding machine, the combination, substantially as described, of the table C having notches and slots, as described, the shafts D and D', the rollers E and E', the shafts F and F', with rollers f and f', and the bridges G and G' holding the guides g, g', g', etc.

NO. 23,229. Collar and Cuff.*(Faux-Col et Poignet.)*

George N. March, Watertown, Mass., U.S., 18th January, 1886; 5 years.

Claim.—1st. As an improved article of manufacture, a paper, or cloth-faced paper collar, or cuff, provided with a longitudinal indentation, or crease, on each side, said indentations or creases being arranged in parallelism with each other and disposed at or near the junction of the body and flap, said collar, or cuff, being also provided with a longitudinal crease, or indentation, disposed approximately in parallelism with, but at a distance from said first named creases, or indentations, and adapted to form or assist in forming an ornamental or "tape-edge" to the collar, substantially as described. 2nd. A new article of manufacture, a paper, or cloth-faced paper collar, having a band, or body A, and a flap B and creased, or indented, substantially as described. 3rd. In a collar, of the character described, the crease, or indentation f, substantially as and for the purpose specified. 4th. As a new article of manufacture, a paper, or cloth-faced paper cuff, having a body A and flap B, and creased or indented substantially as described. 5th. In a cuff of the character described, the crease or indentation f, substantially as and for the purpose specified.

NO. 23,230. Tucking Attachment for Sewing Machines. (Machine à Coudre faisant les Plis.)

Eugène Bouillon, New Orleans, La., U.S., 18th January, 1886; 5 years.

Claim.—The combination of the looped plate a, provided with adjustable plate C having a point or arm k, as described, and the adjustable plate g with its pivoted guide bar O provided with point M, substantially as and for the purpose set forth.

NO. 23,231. Slat Attaching Device for Elevator Belts. (Manière de Poser les Barres aux Tabliers sans fin.)

David Maxwell, Paris, Ont., 18th January, 1886; 5 years.

Claim.—1st. In a slat attaching mechanism, of the character specified, the combination of the tension device applied to the web, and a roll or movable anvil, provided with slat carrying and spacing devices, substantially as described. 2nd. The combination, with devices for holding and straightening the web, of a movable anvil, or roll, having slat engaging devices for positioning the slats and feeding the web, substantially as described. 3rd. The combination, to form a slat attaching mechanism for elevator belts, or aprons, of a tension device for application to the web, a slat carrier and spacer over which the web is drawn, and a table to receive the slats and fastening devices supported in rear and at about the level of the upper surface of the slat carrier, substantially as described. 4th. In combination with the tension device for application to the web, the rotary anvil provided with slat carrying devices, and a brake, or

detent, and actuating devices, substantially as described. 5th. In combination with the movable roll, or anvil, the notched heads, or flanges, detachably secured to said anvil, substantially as and for the purpose described. 6th. In a machine such as specified, and as a means for spacing the slats and feeding the web, a movable roll, or anvil, provided with engaging shoulders, or projections, to receive the slats and hold them beneath the web, while the fastenings are applied, and when the roll, or anvil, is moved forward, to draw the web through the medium of the previously secured slat, substantially as described. 7th. In combination with the web, or roll, of canvas, or other flexible material, the straightening roller, inclined rest and superimposed bar, or roll, applied to the web, in rear of the feeding and slat applying devices, substantially as described. 8th. In combination with the slat receiving and spacing roll, or anvil, supported in bearings in front of the uprights, the table secured to the said uprights with its front edge behind, but at about the level of the upper surface of the roll, or anvil, and the tension and guiding devices applied to the web, the latter being conducted beneath the table and onto the surface of the roll, or anvil, substantially as described. 9th. An organized machine for applying slats to a web of canvas, or other flexible material consisting of the following elements, in combination, a frame, bearings for the roll of canvas, a tension and straightening device applied to the web, a movable, or endless roll, or anvil, having slat spaces and engaging devices, a brake, or detent, applied to the said roll or anvil, and devices for moving the latter at intervals to draw the web from the roll and bring the slats in position for the application of the fastening devices, substantially as described.

NO. 23,232. Arrangement for Steering Vessels. (*Arrangement pour Gouverner les Vaisseaux.*)

John I. Thornycroft, Chiswick, Eng., 18th January, 1886; 5 years.

Claim.—1st. A navigable vessel, comprising an external hollow, or recess, at the under part of the stern, a propeller, or propellers, entering partly into said hollow, or recess, and a rudder arranged at one side of said propeller, or propellers, substantially as described. 2nd. A navigable vessel comprising an external hollow, or recess, at the under part of the stern, a propeller, or propellers, entering partly into said hollow, or recess, and a rudder arranged at one side of said propeller, or propellers, said rudder being constructed of the curved form shown in the drawings, substantially as described. 3rd. A navigable vessel, comprising an external hollow, or recess, at the under part of the stern, a propeller, or propellers, entering partly into said hollow or recess, and a rudder arranged at one side of said propeller, or propellers, the arrangement being such that the axis about which the rudder turns is inclined to a vertical plane coincident with the longitudinal centre line of the vessel, so as to admit of the parts being compactly arranged, substantially as described. 4th. The combination comprising the vessel 1, with external hollow, or recess 2, screw propeller 3, rudder 4, with inclined head 5, stuffing box 6, gear 7 and 8, shaft 9 and wheel 10, all constructed, arranged and operating as hereinbefore described, with reference to and shown in the drawings.

No 23,233. Amalgamator for Ores, etc. (*Amalgamateur pour Minerais, etc.*)

Edward Pike, Salt Lake City, Utah, U.S., 18th January, 1886; 5 years.

Claim.—1st. The combination, with the flume, or sluice box A, having a series of openings at distances apart in its bottom, of the closed fixed lower quicksilver boxes C, arranged to close said openings, and having a reverse inclination to the sluice box, the bottom plates E within said lower boxes of reverse inclination to the bottom of the sluice box, and an upper perforated plate, or thereabout, with the plate E and arranged to form or leave an outlet c at its raised end, in communication with the sluice box, substantially as specified. 2nd. The combination of the rounded riffles B, with the inclined sluice box, or flume A, having openings at distances apart in its bottom, the fixed quicksilver receptacles, or boxes C, having their bottom inclined in a reverse direction to that of the sluice box, the fixed lower solid plates E and the upper perforated plates D, essentially as described. 3rd. The compound upper perforated plates B, composed of upper and lower insulated plates a, d, the lower one of which is an electrical plate connected with the positive pole, the lower insulated electrical plate E connected with the negative pole, the fixed boxes C and the sluice box A having openings closed by said boxes C, substantially as and for the purpose herein set forth.

No. 23,234. Carrier Attachment for Folding Machines. (*Alimentateur pour Machines à Plier le Papier.*)

Richard T. Brown, Erie, Pa., U.S., 18th January, 1886; 5 years.

Claim.—In a sheet-carrier attachment for folding machines, the combination, in the frame of said carrier, of the parts B, B and C, the hinges e joining the parts B, B together, in a manner substantially as shown, whereby the two parts will fold with their under sides together, the hinges C, C, joining the lower part B to the part C, in a manner substantially as shown, whereby the parts B, B will fold over onto the part C, substantially as set forth.

No. 23,235. Collar and Cuff. (*Faux Col et Poignet.*)

Emil Kipper, Adams, Mass., U.S., 18th January, 1886; 5 years.

Claim.—1st. A collar or cuff of pyroxyline compound having a clean cut and smooth outer edge, and a hem formed by a strip separate from the body material and cemented thereto, substantially as described. 2nd. A collar or cuff composed of a sheet of a pyroxyline compound having a clean cut and smooth outer edge, and a hem formed by a strip of a pyroxyline compound separate from the sheet and cemented thereto, with the smooth outer edges of the strip and the sheets in coincidence or approximately so, substantially as described.

scribed. 3rd. A collar or cuff of pyroxyline compound having a hem formed by a strip of a pyroxyline compound, separate from the body material and cemented thereto, said hem having end pieces or extensions which overlap and strengthen the button holes, the edges of the collar or cuff, and the strip being in coincidence or approximately so, substantially as described.

No. 23,236. Device for Lowering Coffins.

(*Appareil pour Abaisser les Cercueils.*)

William H. Johnston, North Fairfield, Ohio, U.S., 19th January 1886; 5 years.

Claim.—1st. In devices for lowering coffins, the combination, with a flexible cord provided with a hook and hand rests, of an eye secured to the coffin and adapted to receive the hook, substantially as set forth. 2nd. In devices for lowering coffins, the combination, with a flexible cord, provided with a hook at one end, a wrist loop at the other end and hand rests at intervals on the cord, of an eye secured to the coffin, and adapted to loosely receive the hook, substantially as set forth. 3rd. In devices for lowering coffins, the combination, with a flexible cord, provided with a hook and hand rests, of an eye formed by passing the ends of a wire loop through the side, or end of the coffin, and secured by clinching the ends of said loop, substantially as set forth. 4th. A device for lowering coffins consisting of a flexible cord, provided with a hook at one end, a wrist loop at the other end, and blocks embracing the cords at intervals secured in their positions by pins, or rivets passing through the blocks and cord, and an eye formed by a wire loop, the ends of which are clinched on the inside of the coffin, substantially as set forth.

No. 23,237. Breech-Loading Fire-Arm.

(*Arme à Feu Chargeant par la Culasse.*)

Charles G. Harston, Toronto, Ont., 19th January, 1886; 5 years.

Claim.—1st. In a breech loading fire-arm, the combination, with an actuating lever, of the falling breech block C containing a striker, or needle, and having double recess E, in which the end of said lever works, substantially as and for the purpose specified. 2nd. The actuating lever F having its shorter arm rounded and grooved at its end, in combination with the breech block C, having double recess E and needle D, substantially as and for the purpose described. 3rd. The lock plate, or gram G, constructed as described, and placed underneath the breech, in combination with the extractor M, lever F, pivot pin G, hammer K and flat main spring L, substantially as specified. 4th. In a breech loading fire-arm, the combination, with the bottom lock plate G having lugs G', the barrel and falling breech block of the loose extractor M, arranged to operate as set forth.

No. 23,238. Scarf Fastener. (*Agrafe de Cravate.*)

Robert B. Helliwell, Philadelphia, Penn., U.S., 19th January, 1886; 5 years.

Claim.—1st. In a scarf fastener, the combination, with a stud adapted to be received in the neck band of a shirt, passing through the button holes of the collar and provided with a catch on one end thereof, of an apertured plate secured to the scarf and provided with a spring acted bolt for engaging the catch of the stud, substantially as herein shown and described. 2nd. In a scarf fastener, the combination of the stud D, provided with a catch I, apertured plate C provided with a hook b, the bolt d having the hook j, and the spring g, substantially as herein shown and described. 3rd. In a scarf fastener, the combination of the stud D, provided with a catch I, the apertured plate C, provided with the hook b, the bolt d, turned of a strip of metal returned upon itself, and bent to form the hook j, the spring g and the handle u, substantially as herein shown and described. 4th. In a scarf fastener, the combination of the stud D, provided with the catch I, the apertured and offset plate C, the bolt d received in the offset plate and provided with an angled end entering the aperture of the plate C, and the handle u received in the eye of the bolt d, substantially as herein specified. 5th. In a scarf fastener, the combination of the stud D provided with the catch I, the apertured plate C having the hook b, the bolt d, provided with the hook j, and recessed stiffening plate B, substantially as herein specified.

No. 23,239. Inhaler. (*Inhalateur.*)

Henry D. Cushman, Three Rivers, Mich., U.S., 19th January, 1886; 5 years.

Claim.—1st. An improved inhaler, consisting of a tube open at both ends for use (preferably having stoppers for closing it when not in use), and having a body of solid medicament held within it, and provided with one or more artificial air passages, substantially as and for the purpose set forth. 2nd. The combination, with an inhaling tube A, of the hollow or open stoppers B, covered with perforated or reticulated fabric, substantially as set forth. 3rd. The combination, with an inhaling tube A, of the hollow or open stoppers B, covered with reticulated fabric, and the spiral or the like mouth separator in the body of the tube, substantially as set forth. 4th. The combination of an inhaling tube, open at both ends for use (having stoppers for closing it when not in use), and having a body of loose crystalline substance, or medicament, in its middle, through which air will pass, held in place by open stoppers B, which will also permit the passage of air, substantially as set forth.

No. 23,240. Micro-Audiphone.

(*Micro-Audiphone.*)

Frank M. Blodgett, New York, N. Y., U.S., 19th January, 1886; 5 years.

Claim.—1st. In a device for assisting the hearing, the combination, with the tube that enters the ear orifice, of a thin membrane, or diaphragm placed at one side of the tube, substantially as described. 2nd. As a new article of manufacture, the micro-audiphone A, formed of thin material and shaped to fit the human ear, and formed

with the tube *a*, to one side of which is secured the thin diaphragm, or membrane *d*, substantially as and for the purpose set forth. 3rd. The micro-telephone *A*, formed with cavities *b*, *c* and tube *a*, and a chamber *d*, in combination with the diaphragm *d* and thimble *e*, formed with the orifice *e'* to expose the diaphragm *d*, substantially as and for the purposes set forth.

No. 23,241. Tank. (*Réservoir.*)

Christian Olson and Arno Bohr, Chicago, Ill., U.S., 20th January, 1886; 5 years.

Claim.—1st. A stove for tanks, having a portion of its surface cut away, to afford one or more longitudinal grooves, as and for the purpose set forth. 2nd. In a tank, the combination of the hoops *B* and staves *A*, provided with vertical longitudinal grooves *t*, formed by cutting away from the surfaces of the staves, substantially as described and for the purpose set forth.

No. 23,242. Paper Bag Machine.

(*Machine à Sacs de Papier.*)

Robert Kilgour and Joseph Kilgour, Toronto, Ont. (Assignees of William A. Lorenz and William H. Honiss, Hartford, Ct., U.S.), 20th January, 1886; 15 years.

Claim.—1st. A former for making tuckered paper tubing, constructed substantially as described, and combined with pneumatic mechanism, substantially as described, for forcing the walls of the tubing into substantial conformity with the shape of the former. 2nd. The combination of the hollow former 41, having the outward opening 52 and the inward openings 62 and 63, with mechanism for drawing air from the interior of the former. 3rd. The combination of a former having a rectangular part, corresponding in cross section with the untucked paper tube formed thereon, with the rolls 42 and 43, for guiding the paper to the former and for defining the two lower corners of the rectangular untucked paper tube, all substantially as described. 4th. The combination of a former, having a rectangular part corresponding in cross section with the untucked paper tube formed thereon, with the inclined apron 40 joined to the former, and with the rolls 42 and 43 for guiding the paper from the apron to the former and for defining the two lower corners of the rectangular untucked paper tube, all substantially as described. 5th. The combination of the roller 24, the two slides 20 and 21, the two racks 18 and 19, the shaft 23 and the two pinions 23 and 25, substantially as described. 6th. The combination of the roller 45, the head 46, the bolt 49 and the spring 50, substantially as described. 7th. The combination of the carriage 80, operated by the connecting rod 95, the crank 100 and the gear 102, with the presser plate 83, operated by the connecting rod 113, the cam 117 and the spring 115, substantially as described. 8th. The combination of the carriage 80, the switch cams 124, the springs 125 and the tuck arms 65 and 86, substantially as described. 9th. The combination of the finger 136 and the shaft 137, with tuckings, substantially as described, with the carriage 80, reciprocating substantially as described, all operating to deliver the forward end of the diamond to the cylinder 141, substantially as described. 10th. The combination of the punching blade 174 and the rocking box 172, both operating together to flatten the fold at the line *r, r*, substantially as described. 11th. The combination of the cylinder 141, the feeder 187, the hook 188, the spring 189 and the arm 189, all operating together in such a way as that, when the point of the feeder enters one of the recesses 191, the said mechanism will stop the machine by shifting the bolt to the loose pulley 72 through intermediate mechanism, substantially as described.

No. 23,243. Suspending Device for Lamps, etc. (*Appareil de Suspension pour Lampes, etc.*)

The Ansonia Brass and Copper Company, of Connecticut, and Wolcott A. Hull, New York, N. Y. (Assignees of Charles H. Lyman, Ansonia, Ct.), U.S., 20th January, 1886; 5 years.

Claim.—1st. In a suspending device for a lamp, or other article, the combination of an arbor, a non-rotary frame upon the arbor, a rotary drum upon the arbor, one or more cords, or chains, wound upon the drum, a counter-balance spring acting in conjunction with the drum, and one or more guides upon the frame over which the one or more cords, or chains, pass to the lamp or other article to be suspended, the drum and frame being provided, one with a cylinder or cylindrical portion, and the other with a brake band surrounding the cylinder and connected at one end with an unyielding support, and at the other end with a yielding support, substantially as specified. 2nd. In a suspending device for a lamp, or other article, the combination of an arbor, a non-rotary frame upon the arbor, a rotary drum upon the arbor, one or more cords, or chains, wound upon the drum, a counter-balance spring acting in conjunction with the drum, and one or more guides upon the frame, over which the one or more cords, or chains, pass to the lamp, or other article to be suspended, the drum and frame being provided, one with a cylinder or cylindrical portion, and the other with a brake band surrounding the cylinder, and connected at one end with an unyielding support, and at the other end with a yielding support, consisting of a spring interposed between this end of the brake band and the part with which it is connected, substantially as specified. 3rd. In a suspending device for a lamp, or other article, the combination of an arbor, a non-rotary frame upon the arbor, a rotary drum upon the arbor, one or more cords, or chains, wound upon the drum, a counter-balance spring acting in conjunction with the drum, and one or more guides upon the frame, over which the one or more cords, or chains, pass to the lamp, or other article to be suspended, the drum and frame being provided, one with a cylinder or cylindrical portion, and the other with a brake band surrounding the cylinder, and connected at one end with an unyielding support, and at the other end with a yielding support, consisting of a spring interposed between this end of the brake band and the part to which it is connected, and a nut for varying the resistance of the spring, substantially as specified.

No. 23,244. Device for Suspending Lamps, etc. (*Appareil de Suspension des Lampes, etc.*)

The Ansonia Brass and Copper Company, of Connecticut, and Wolcott A. Hull, New York, N. Y. (Assignees of Charles H. Lyman, Ansonia, Ct.), U.S., 20th January, 1886; 5 years.

Claim.—1st. In a suspending device for a lamp, or other article, the combination of a drum, a vertically arranged arbor to which the drum is fitted, and a friction brake provided with a guide, a cord or chain wound upon the drum passing around the guide, and adapted to suspend a lamp, or other article, substantially as specified, whereby the weight of the suspended article will cause the brake to act upon the drum. 2nd. In a suspending device for a lamp, or other article, the combination of a drum, an arbor to which the drum is fitted, a friction brake provided with a guide and acting against one end of the drum, and a cord or chain wound upon the drum passing around the guide and adapted to suspend a lamp, or other article, substantially as specified, whereby the weight of the suspended article will apply the brake to the end of the drum. 3rd. In a suspending device for a lamp, or other article, the combination of a drum, an arbor to which the drum is fitted, a friction brake and a frame movable in the direction of the length of the arbor and provided with guides for cords or chains wound upon the drum, substantially as specified, whereby, while the article attached to the cords or chains is being lowered, the cords or chains will force the drum and friction brake together, and while the article attached to the cords or chains is being raised, the brake is released and the drum may rotate freely to rewind the cords or chains. 4th. In a suspending device for a lamp or other article, the combination of a drum, an arbor to which the drum is fitted, a friction brake, a frame movable in the direction of the length of the arbor, and provided with guides for cords or chains wound upon the drum, and a spring for moving the friction brake and drum apart, substantially as specified, whereby, when the article attached to the cords or chains is being lowered, the cords or chains will force the drum and friction brake together, and the said spring will release the drum from the action of the friction brake, when the cords or chains are relaxed.

No. 23,245. Manufacture of Chloroform and Acetic Acid or Acetates. (*Fabrication du Chloroforme et de l'Acide Acétique ou Acétate.*)

Gustavus Michaelis and William T. Mayer, Albany, N. Y., U.S., 20th January, 1886; 5 years.

Claim.—1st. The process of producing chloroform and valuable residual products, consisting in subjecting crude acetates to dry distillation at high temperatures, to remove the fluid products therefrom, then subjecting such fluid products to the action of a hypochlorite, condensing the chloroform obtained therefrom, and purifying the residual products of the dry distillation, substantially as described. 2nd. The production of chloroform from the liquid products resulting from the decomposition of crude acetates at high temperatures, by subjecting said liquid products to the action of a hypochlorite, and removing the chloroform by distillation, substantially as described. 3rd. The process of treating crude acetates, said process consisting in separating out the chloroform yielding agents by distilling the crude acetate at a high temperature, and leaving a residue suitable for conversion into acetic acid or purified acetates, substantially as described.

No. 23,246. Combined Latch and Lock.

(*Loquet et Serrure Combines.*)

Charles W. Millard (Assignee of Samuel Ehrman), Conneville, Pa., U.S., 20th January, 1886; 5 years.

Claim.—In combination, the casing, the bolt formed with a vertical lug on its upper edge and a slot in its side face, and held in horizontal position by the hub of the tumbler, and the hub of the knob spindle, the knob and spindle provided with a hub *C* formed with an arm *c* arranged in the slot of the bolt, the weighted lever *E* pivoted within the casing with its front end to bear against the end face of the bolt, and the tumbler *D* pivoted in the casing with its hub on the upper edge of the bolt, and provided with the arm adapted to set against the inner face of the lug on the bolt, substantially as described and for the purpose set forth.

No. 23,247. Machine for Moulding Cigars.

(*Machine à Façonner les Cigares.*)

William J. Fox, New York, and Arthur R. King, Brooklyn, N. Y., U.S., 20th January, 1886; 5 years.

Claim.—1st. In a machine for pressing cigar bunches, the combination of a series of moulds, a propeller for moving the moulds along a mould opener and closer, and a presser independent of the propeller, and the mould opener and closer exerting pressure on the moulds as they are closed, to keep them under pressure, substantially as specified. 2nd. In a machine for pressing cigar bunches, the combination with mould supports, of mould sections having cavities extending lengthwise of them between the ends, and having flanges at the ends adapted to be received by said supports and sustained thereby, a propeller for moving the mould sections along in a direction transverse to their length, a mould opener and closer and a presser independent of the propeller and the mould opener and closer exerting pressure on the moulds after they are closed, to keep them under pressure, substantially as specified.

No. 23,248. Communicating to and from Moving Vehicles by Electricity.

(*Moyens de Communiquer par l'Électricité avec des Voitures en Mouvement.*)

Lucius J. Phelps, New York, N. Y., U.S., 21st January, 1886; 5 years.

Claim.—1st. In a system of electric communication, to and from a moving railway car or vehicle, a conductor parallel with the path of the vehicle, in combination with means carried upon the car in close proximity to said conductor, and in close electric circuit for producing an electric current through inductive action upon said conductor on the principle of magnetic, or current induction. 2nd. In a system of railway signalling, in which signals are transmitted to a moving car, the combination, with a conductor arranged parallel with the way over which the vehicle travels and in suitable proximity thereto, of means upon the vehicle in locally closed circuit for transforming by the principle of induction, the signalling impulses upon the conductor into corresponding electrical impulses in the circuit upon the vehicle. 3rd. In a system of electrical communication to and from a railway car, the combination of a conductor parallel with the way over which the car or vehicle travels, and means carried upon the vehicle in suitable proximity to the conductor and in closed circuit, whereby the signalling currents in the conductor may be transferred to the car by inductive action, in contradistinction to actual conduction of the signalling impulses from said conductor, to a conductor on the car in electrical connection therewith. 4th. In a system of communicating by electricity with a moving railway car, the combination, with a line conductor of one or more coils of wire upon the car, arranged with their their axes transverse to the conductor and in suitable inductive proximity thereto. 5th. In a system of telegraphing to moving railway cars, the combination, with a line conductor, of one or more magnet cores carried upon the car, in continuous inductive proximity to the line conductor and arranged transversely thereto, and coils of wire upon said magnet cores, as and for the purpose described. 6th. In a system of electrical inter-communication between a fixed station and a railway vehicle, the combination of a line conductor, a complete or closed local circuit upon the vehicle, and devices upon the car arranged in suitable proximity to the line conductor for inducing electric currents in the car circuit from the line conductor, or vice versa, inducing currents in the line conductor from the car circuit, as and for the purpose described. 7th. In a system of communicating by electricity to and from a railway car or vehicle, the combination of a line conductor, a telephone upon the vehicle, and a closed local circuit containing the telephone and arranged in suitable proximity and relation to the line conductor, whereby currents upon the line conductor may be reproduced by induction in the telephone. 8th. In a system of communicating by electricity between a moving railway car and a fixed station, the combination of a line conductor an alternating current generator, and a receiving telephone at the fixed station, a telephone upon a moving vehicle, an electro-magnet, or magnets, arranged in close proximity to the line conductor, and means for producing in the coils of said magnets rapidly alternating currents. 9th. In a system of electrical communication to and from a moving railway vehicle, the combination of a line conductor and means upon a car, for causing magnetic lines of force to sweep transversely across said line conductor. 10th. In a system of electric communication between a moving vehicle and a fixed station, or other vehicle, an induction apparatus of any desired kind, as described, one element of which consists of a conductor parallel to the way or path in which the vehicle travels while the other element is carried by the vehicle in closed circuit and in suitable proximity or relation to said conductor, as and for the purpose described. 11th. In a system of electric communication to and from a moving vehicle, the combination of a line conductor, an alternating current generator on a vehicle, and means upon the vehicle carried in suitable proximity or relation to the conductor, and in closed or complete electric circuit, whereby said alternating currents may induce alternating currents in the conductor. 12th. In a system of electric communication to and from a moving vehicle, the combination of a line conductor parallel with the way, an alternating current, dynamo for setting up rapidly alternating currents upon said line, a closed local circuit upon a moving vehicle, and devices carried by said vehicle in suitable proximity or relation to said conductor, whereby the rapidly alternating currents in the latter way induce rapidly alternating currents in the local circuit.

No. 23,249. Art of Telephony.

(Art Telephonique.)

James Lowth, Chicago, Ill., U.S., 21st January, 1886; 5 years.

Claim.—1st. As an improvement in the art of telephony, the hereinbefore described method of operating a telephone, which consists in communicating to the current controlling elements thereof, the disturbances or vibrations of the exterior parts of the human body, which are induced by, or accompany the exercise of the vocal organs. 2nd. As an improvement in the art of telephony, the hereinbefore described method of transmitting speech, which consists in communicating to the telephone transmitter these disturbances, or vibrations, of the exterior portions of the body, which are induced by or accompany the utterance of articulate sounds, producing changes in the current corresponding to said disturbances or vibrations, and reproducing in the receiver disturbances or vibrations that produce sounds similar to those uttered in causing the said exterior disturbances, or vibrations of the body. 3rd. As an improvement in the art of telephony, the hereinbefore described method of operating a telephone transmitter, which consists in communicating to the current controlling elements thereof, through the medium of a conductor connected therewith and placed in contact with the body of the speaker, these disturbances or vibrations of the exterior portions of the body which accompany the utterance of sound.

No. 23,250. Art of Telephony.

(Art Telephonique.)

James Lowth, Chicago, Ill., U.S., 21st January, 1886; 5 years.

Claim.—1st. As an improvement in the art of telephony, the hereinbefore described mode, or method, of working a battery-transmitter, which consists essentially in operating the electrodes thereof by the actions upon a solid body connected with said electrodes, and also held in contact with the body of the speaker, of those external parts of the speaker's body which will vibrate whenever sounds are

uttered by the person using the telephone. 2nd. As an improvement in the art of telephony, the hereinbefore described mode, or method, of working a battery-transmitter, which consists essentially in producing the electrical changes in the current necessary to the transmission of articulate speech, through the medium of a solid body connected with such transmitter, and also placed in contact with the body of the speaker, by those vibrations of exterior portions of the body which accompany the utterance of sounds.

No. 23,251. Telephone. (Telephone.)

James Lowth, Chicago, Ill., U.S., 21st January, 1886; 5 years.

Claim.—1st. In combination with a telephonic transmitter, a vibratory rod, arranged substantially as shown, in operative contact at one end with the vibratory element, or elements, of the telephone and projecting at its other end from the latter, to receive the muscular vibrations of exterior portions of the speaker's body, as set forth. 2nd. The combination, with the diaphragm magnet, helix and other necessary parts of a transmitter, of a vibratory rod arranged and operating to move said diaphragm, and a cover B to protect the said diaphragm against any material influence upon it, by sound-waves that might otherwise act perceptibly on it through the medium of the atmosphere. 3rd. The combination, with the case and other usually necessary parts of the transmitter, of a vibratory rod which bears directly on the diaphragm, as described, and a tubular extension E that serves the double purpose of a surrounding protection of, and support to, the said rod, and which also answers as a handle for the convenient use of the transmitter whenever said rod is to be placed in contact with the body of the speaker, all as set forth.

No. 23,252. Telephone. (Telephone.)

James Lowth, Chicago, Ill., U.S., 21st January, 1886; 5 years.

Claim.—1st. In a telephonic apparatus, the combination, with the transmitter-case, of a stethoscopic vibrator, and the electrodes arranged in connection with the said vibrator, the latter being suitably supported for communicating its vibratory movement to one of the said electrodes, substantially as and for the purposes specified. 2nd. In combination with each other, and the other necessary parts of a telephone, the case A, the vibrator F, the electrodes, and a suitably bearing for the said vibrator, all substantially as and for the purposes specified.

No. 23,253. Road-Grading Machine. (Machine à faire les Plate-formes des Chemins.)

Joseph D. Adams, Marshall, Ind., U.S., 21st January, 1886; 5 years.

Claim.—1st. In a road grading machine, the combination, with the scraper or leveling bar and supporting wheels, of the pivoted and adjustable spindles and the adjustable castor wheel, substantially as and for the purpose specified. 2nd. In a road-grading machine, the combination of the pivoted and adjustable spindles, and the supporting wheels provided with the projecting circular metallic flanges, substantially as and for the purpose specified. 3rd. In a road grading machine, the combination, with a carrying frame having a main axle, and a scraping or leveling bar suspended from, and beneath, and arranged obliquely to, the line of draft of said frame, of a pair of wheel spindles pivoted to opposite ends of said main axle, carrying wheels mounted on said spindles, and intermediate mechanism connecting said spindles, whereby the spindles and their wheels are simultaneously inclined in the same direction and at the same angle, all combined and arranged to cooperate substantially as and for the purpose set forth. 4th. In a road-grading machine, the combination of the slotted castor wheel-standard, the parallel bars *f, f'* pivoted to each side of said standard and connecting the same to the main frame, the upright *e* slotted at its upper end, and the lever *U* fulcrumed in said slotted standard *e* and loosely pivoted to the upright *f*, substantially as described and for the purpose specified. 5th. In a road-grading machine, the combination of the scraper, or leveling bar, having the blocks *b, b'*, vertical uprights *I, I'*, having corresponding guide grooves for said blocks and mechanism for connecting and adjusting said bar relative to the main frame, substantially as herein shown and described. 6th. The combination, with the scraper, or leveling bar and the pivoted lever *K*, of the vertical bar *J* having the horizontal slot *z*, enlarged circular opening *z'*, and a lock pin having its ends of different diameters, substantially as and for the purpose herein shown and described.

No. 23,254. Punch-Cutting Machine. (Machine à Tailler les Etampes.)

Lynn B. Benton, Milwaukee, Wis., U.S., 21st January, 1886; 5 years.

Claim.—1st. In a punch-cutting machine, the combination of a fixed standard, or frame, a swinging frame suspended therefrom by a universal joint connection, a holder for the punch blank having a support connected with said swinging frame by a universal joint connection, a cutting tool and mechanism for rotating the same, a leaf attached to the fixed standard for holding the pattern, an index rod attached to the swinging frame for tracing the pattern, and a pattern, substantially as and for the purposes set forth. 2nd. In a punch-cutting machine, the combination of a fixed frame or standard A, an oscillating or swinging frame T attached thereto by a universal joint connection, a work holder *H*, rotating cutter, a support D for the pattern, and an index rod C for tracing said pattern, substantially as and for the purposes set forth. 3rd. In a punch-cutting machine, the combination of a standard or frame A, an oscillating frame T composed of the upright rods *c, c*, ring *K* and disk *H* and suspended at the top from standard A by a universal joint connection, an index rod C attached to and depending from said frame, a leaf D adjustably attached to standard A and provided with gauge *a* laterally adjustable on rod *b*, together with a lathe head B attached to the standard A and providing with a cutting tool, a holder R for the reception of the punch blank and a support P for said holder *R*, connected with swinging frame T by a universal joint connection; substantially as and for the purposes set forth. 4th. In a punch-

cutting machine, the combination, with a fixed frame, or standard A, of a lathe head B provided with a tool *o* and adjustably attached to said standard, of a pattern E, a support D for said pattern, together with a support for the punch blank, connected by a universal joint with said standard A, and provided with a rod for tracing the pattern and giving a corresponding movement to the work, substantially as and for the purposes set forth. 5th. In a punch-cutting machine, the combination of the standard A, from which is suspended by a universal joint connection the oscillating frame T, the work holder support P, embracing and bearing upon the bracket A, which is secured to and projects from the block N, a universal joint connection between said support P and frame T, together with a rotating cutter or tool, a support D for the pattern and an index for tracing said pattern and moving the work correspondingly, substantially as and for the purposes set forth. 6th. The combination, in a punch-cutting machine, of standard A provided with a vertical way *f*, a block N adjustably attached upon said way to the standard, and adjustable block O also attached upon said way to the standard A, and provided with the micrometer, adjusting screw *g* which engages with a threaded socket in block N and with pin *r*, which engages with a graduated series of holes cut in the way *f*, the oscillating frame T, suspended by a universal joint connection from standard A, a work support P resting upon a bracket A attached to and projecting from the block N, and connected with said oscillating frame by a universal joint, together with a rotating cutter and an index rod for tracing the pattern, substantially as and for the purposes set forth. 7th. In a punch-cutting machine, the work holder B composed of shell *a* fitting *g*, back *b* and cap *d*, and provided with the stem *x*, substantially as and for the purposes set forth. 8th. In a punch-cutting machine, the work holder B provided with a socket for the reception of the blank, and with the stem *x*, substantially as and for the purposes set forth. 9th. In a punch-cutting machine, the combination of the work support P, with the detachable holder R, provided with the threaded stem *x*, pivoted therein, cross-head V, and graduated disk Y, together with spring catch Z, substantially as and for the purposes set forth. 10th. The combination, in a punch-cutting machine, of the standard A, work support P, the bracket A attached to the block N, the oscillating frame T, and the universal joint connection, as described, between said swinging frame and said work support P, substantially as and for the purposes set forth. 11th. In a punch-cutting machine, the combination of the standard A, block N, adjustably attached thereto, and provided with bracket A, the work support P secured in and bearing upon said bracket A and the rotary cutter, both attached to block N, substantially as and for the purposes set forth. 12th. In a punch-cutting machine, the combination of the holder R, constituting a "facing jig" and a clamping device, substantially as and for the purposes set forth. 13th. The combination, in a punch-cutting machine, of a graduated series of followers S, *w*, 4 and 5, by which the distance of the cut from the face of the character is determined, and the work holder B, with means, as described, for adjusting its height, whereby the depth of the cut is regulated, substantially as and for the purposes set forth. 14th. The combination, in a punch-cutting machine, of the work holder B, cross-head V and graduated disk Y together with the cutting tool, substantially as and for the purposes set forth. 15th. The combination, in a punch-cutting machine, of a follower S for tracing the pattern, a work holder B, and adjustable cross-head V for regulating the height of said holder, and a cutting tool, substantially as and for the purposes set forth. 16th. In a punch-cutting machine, the combination of an index rod C, a series of tracing followers S, *w*, 4 and 5, the blank holder B and the rotary cutting tool, substantially as and for the purposes set forth. 17th. In a punch-cutting machine, the blank holder B, composed of a hardened shell *a* that constitutes a "facing jig," and an interior clamping device, substantially as and for the purposes set forth. 18th. In a punch-cutting machine, the combination of an index rod C and a tracing follower S, constructed so that a follower of one size may be substituted for one of another size, substantially as and for the purposes set forth. 19th. In a punch-cutting machine, a graduated series of followers S, *w*, 4 and 5 for tracing the pattern, whereby the punch is cut and finished by a succession of cuts, substantially as and for the purposes set forth. 20th. In a punch-cutting machine, the combination of a rotary cutter, the means for holding and giving the proper lateral movement to the punch blank, and for maintaining the same throughout its movement in a plane at right angles to the axis of the cutter, substantially as and for the purposes set forth. 21st. In a punch-cutting machine, the combination of an index rod C, adjustable in length so as to reproduce patterns according to different scales, as desired, and a rotary cutter *o*, substantially as and for the purposes set forth. 22nd. In a punch cutting machine, the combination of a series of tracing followers S, *w*, 4 and 5, a blank holder B, a tool *o* having curved cutting edges formed by the intersection of its faces, which are longitudinally curved converging to a common point, and mechanism for rotating said tool, substantially as and for the purpose set forth. 23rd. In a punch-cutting machine, the combination of a tapering tool, a work holder, a pattern and an index by which said pattern is traced and the cut of the tool directed, said tool or work holder being adjustable in the line of the axis of said tool, or nearly so, and in a plane at right angles, or nearly so, to the axis of said tool, so as to produce by the movement of the index about said pattern a series of cuts varying in depth and proximity to the outline of the finished character or design, substantially as and for the purposes set forth. 24th. In a punch-cutting machine, the combination of a tapering rotary tool and a work holder, said tool or work holder being adjustable in the line of the axis of said tool, or in a line parallel thereto, a pattern and an index arranged to trace said pattern, and at the same time to move said tool or work holder in a plane at right angles to the axis of said tool in paths corresponding to the travel of said index, and varying in proximity to the outline of the finished character or design, substantially as and for the purposes set forth.

No. 23,255. Roller Skate. (*Patin à Roulettes*.)

Lerant M. Richardson, Chicago, Ill., U. S., 21st January, 1886; 5 years.

Claim.—1st. The combination, in a roller-skate and with the axle thereof, of rollers provided in their bores with a ring or flange, a

bushing situated within each roller, balls situated in the bushing, and plates for holding the balls in position, said plates adapted when in position to be flush with the rollers, as set forth. 2nd. In a skate, the combination, with rollers E and axles D, of centrally divided bushings *b*, screw-threaded at each end, balls *d* situated therein, and plates *e* for holding such balls in position, said plates being provided each with a screw threaded flange *f*, as and for the purpose set forth. 3rd. In a skate, the combination, with axles D and rollers E provided with flange, or ring *a*, of centrally divided bushings *b*, balls *d* situated therein, and plates *e* for holding such balls in position, the parts so arranged that plates *e* will be flush with the sides of the rollers, as set forth.

No. 23,256. Suspender. (*Bretelle*.)

Henri Beaudry, Montreal, Que., 23rd January, 1886; 5 years.

Claim.—1st. In a suspender, having each pair of straps in one piece, the combination, with the web having a double oblique fold, of a stiffening wire placed within and partially covered by such fold, and a hook, loop, or eye integral with such stiffening wire projecting from the apex of the fold, substantially as and for the purpose specified. 2nd. In a suspender, the combination, with the main shoulder straps folded at the back, of the triangular wire stiffener B having the ends of the wire turned back from the apex to form the loop C, substantially as described. 3rd. The herein described triangular stiffener *e* for suspender straps, consisting of a wire with an eye *e* bent from its middle part, and the two ends meeting on one of the sides of the triangle, substantially as described.

No. 23,257. Anti-Friction Bearing for Pulley Blocks, etc. (*Coussinet à Anti-Friction pour Chapes de Poulies, etc.*)

Thomas R. Ferrall, Boston, Mass., U. S., 23rd January, 1886; 5 years.

Claim.—1st. In an anti-frictional bearing, a regulator consisting of a pair of rings *c*, *c*, having recesses *ci*, *ci* on their insides for the reception of the roller trunnions, and united by stays or braces *ci*, *ci*, as and for the purpose set forth. 2nd. In an anti-frictional bearing, the regulator composed of rings *c*, *c* having interior recesses *ci*, *ci* and braces *ci*, *ci*, combined with rollers *b*, *b*, *b* having reduced ends or trunnions *bi*, *bi* as and for the purpose set forth. 3rd. The shell *a* having annular flange *ai*, and detachable wire, or flange *ai*, in combination with the regulator composed of rings *c*, *c*, having recesses *ci*, *ci*, for the reception of the end trunnions *bi*, *bi* of rollers *b*, *b*, and braces *ci*, *ci*, as and for the purpose set forth.

No. 23,258. Plant for the Manufacture of Bi-Carbonate of Soda. (*Matériel pour la Fabrication du Bicarbonate de Soude.*)

Charles Wigg, Liverpool, Eng., 23rd January, 1886; 5 years.

Claim.—1st. The combination of tank 1, acid egg 4 and valves and connections, with the generator 2. 2nd. The combination of the saturators Z, with valves and connections, substantially as set forth. 3rd. Saturators Z, with cages 23, substantially as set forth. 4th. The combination of saturators Z, and wash towers 31, substantially as set forth. 5th. The combination of saturators Z, with ammonia stills 23, substantially as set forth. 6th. Carbonators 33, with hollow rotating beaters, for the purpose set forth. 7th. The combination of carbonators, with connecting pipes and valves, substantially as set forth. 8th. The combination of generators, saturators and carbonators, substantially as set forth.

No. 23,259. Rail Fastening Device.

(*Appareil pour Assujettir les Rails.*)

Bernard Gallagher, Lynn, Mass., U. S., 25th January, 1886; 5 years.

Claim.—The herein described device for securing rails to their sleepers, consisting in interposing between the rails flange *a* and the head *ci* of the spike *c*, an elastic spring or other elastic medium, for the purpose as herein set forth.

No. 23,260. Incubator. (*Incubateur*.)

Louis Kahner, Decatur, Ill., U. S., 25th January, 1886; 5 years.

Claim.—1st. The combination, with the drawer A having the bottom of netting and rollers journalled in said drawer at the ends thereof, of bands connecting said rollers, slats *g* secured to the bands and extending downwardly therefrom, and the strips A' secured to the bands *p* adjacent to the rollers *o*, as set forth. 2nd. The incubator, herein described, comprising a casing, a moisture pan resting on the floor of said casing, an egg drawer supported above the moisture pan, inlet and outlet pipes controlled by valves and communicating with the egg chamber, a water tank B, a hot air pipe traversing the same, a brooder located above tank B, pipes *c*, *d*, controlled by valves and communicating with the tank and brooder, and the valve controlled pipe *it*, located as shown, as set forth.

No. 23,261. Machine for Simultaneously Operating on, or Treating Several Surfaces in Horizontal and Vertical Direction. (*Machine pour Travailler et Traiter Simultanément Plusieurs Surfaces de Position Horizontale et Verticale*.)

Theodor Baum, Berlin, Prussia, 25th January, 1886; 5 years.

Claim.—A machine for simultaneously operating on, or treating several surfaces of regular prismatical bodies, in a horizontal as well as vertical direction, characterized by *a*, the arrangement of the slides *b* sliding in a lateral direction in the grooves of the supports *d*, which said slides through the oscillation of the central tube, receive an oscillating movement by means of the inserted sliding or guide pieces *g*, which gear into the recesses *w* of the discs *m*, *o*, and the re-

turning of these slides to their original position when the object under treatment is finished by simply turning the central tube *b*, the arrangement of the cutter or tool holders *d* upon the slides *c*, and the adjusting of the said cutter or tool-holders by the adjusting screws *k*, and the fixing of the same by set screws *l*, substantially as described in the foregoing specification and shown in the accompanying drawings.

No. 23,262. Lifting Jack. (Cric.)

Emanuel Nordyke, Heppner, Oregon, U.S., 25th January, 1886: 5 years.

Claim.—1st. In a lifting jack, the combination of the centre piston, the toggle levers, the clutch *E* having hole *e* therein for engaging with the said piston, and the arm *a* connected to the upper toggle lever, the clutch *F* having the hole *f* engaging with the centre piston and provide *l* with the arm *l*, the cylinder having projecting arm *b*, and a lever for working the toggle levers, substantially as and for the purpose set forth. 2nd. In a lifting jack, the combination of the centre piston, the toggle levers, the clutch *E* having hole *e* therein, for engaging with the said piston, and the arm *a* connected to the upper toggle lever, the clutch *F* having the hole *f* engaging with the centre piston and provided with the arm *l*, the catch *h*, the cylinder having the collar *b* and projecting arm *b*, and a lever for working the toggle levers, substantially as and for the purpose set forth.

No. 23,263. Hitching Strap.

(Courroie d'Enrénouire.)

Samuel Birdsall, Susquehanna, Penn., U.S., 25th January, 1886: 5 years.

Claim.—1st. The combination, with a neck-strap and a tie-strap secured thereto, of a plate adjustably secured to the tie-strap and provided with an eye, a ring secured within the eye and carrying a brace-strap, and a snap-hook secured to the free end of said brace-strap, substantially as set forth. 2nd. The combination, with a neck-strap, of a tie-strap secured to the neck-strap by means of a loop or square having two parallel sides supplied with anti-friction rollers, and a brace strap adapted to connect the tie-strap to the bit or bridle ring at either side of the horse's mouth, substantially as set forth.

No. 23,264. Life, Ship's, and other Boat or Vessel. (Canot ou Vaisseau de Sauvetage pour Navires et autres.)

Francis L. Norton, New York, N. Y., U.S., 25th January, 1886, 5 years.

Claim.—A life-boat, ship's boat, or other boat or vessel, constructed as herein set forth, with two distinct frames, *a, b*, skins or plankings *c, d*, and covering piece *e*, in combination with hermetically closed air chamber *b*, hand automatic water ballast chamber *e*, pipes *e, e*, and air valve *e*, substantially as herein shown and described.

No. 23,265. Telegraph Insulator.

(Isolateur Télégraphique.)

Benjamin N. Debloux, Bay St. Louis, Miss., U.S., 25th January, 1886, 5 years.

Claim.—1st. A telegraph insulator made in two parts *A* and *B*, in combination with ring or collar *D*, for binding the faces of the two parts firmly together, and holding the water shed above the support, substantially as shown and described. 2nd. The male part *A* with a screw-thread upon its extremity, in combination with female part *B* having no screw-thread, substantially as and for the purpose set forth. 3rd. The combination, with the two-part insulator and its supporting arm, of a device for moving one of the insulator parts and causing them to grasp and firmly hold the wire, substantially as herein shown and described. 4th. The combination, with the two-part insulator and the supporting arm, of a nut arranged to operate upon the thread of the male part and draw it down upon the female part by pressure of the nut against the under surface of the arm, substantially as described. 5th. The male part *A*, constructed with inclined faces and with a hook to engage the wire, in combination with the female part *B* having inclined faces and shoulder *d*, substantially as described. 6th. A telegraph insulator consisting of two parts, one of which is provided with inclined faces, a hook to engage the wire, a shank to fit the supporting arm and screw-thread, the other part provided with inclined faces, a shoulder to receive the wire and shank ring or collar and nut, all substantially as described.

No. 23,266. Stump Extractor.

(Arrache-Souche.)

Homer L. Boyce, Fennville, Mich., U.S., 25th January, 1886: 5 years.

Claim.—1st. In combination with the legs *A, A*, having tenons *c*, the block or casting *C* having a bevelled side and stub axle *c*, supporting carry-wheels and securing the casting to the tenons, substantially as shown. 2nd. In a stump puller, the casting or block *B* having the legs or supports pivotally attached thereto, and provided on its upper side with a concave bearing, in combination with a convex block *D*, nut *G* supported thereon, operating wheel *H* having graduated disks, anti friction rollers carried in frame *K*, and screw-threaded rod *B'*, substantially as shown and for the purpose set forth. 3rd. In a stump-puller, a tripod carrying at its upper end a rotary wheel carrying an internally screw-threaded block, which is supported upon an oscillating bearing, and wheel *H* carrying graduated disks *i*, substantially as shown and for the purpose set forth. 4th. In a stump puller, a supporting frame provided at its upper end with a concave bearing or hinged block, nut *G*, convex bearing block *D*, having anti-friction rollers or balls interposed between the same, and an operating wheel having graduated disks *i* and screw-threaded rod *B'*, substantially as shown and for the purpose set forth. 5th. In a stump-puller, substantially as described, the bearing block *D*, grooved near its upper end and provided with a

strap *e*, for supporting the arm *E*, which carries at its outer end vertical and horizontal guide-rollers, substantially as shown and for the purpose set forth. 6th. In a stump-puller, a supporting frame, the members of which are connected to each other, at their upper ends, by a casting having a central opening and a concave or hinged bearing surface, a bearing block adapted to fit within said concave surface and support an arm having guide pulleys attached to its outer end, a ring *F* carrying a series of anti-friction rollers or balls, and nut *G* carrying the operating means, as specified, and a screw-threaded rod or other suitable device connected at its lower end to a lever, the parts being combined and organized substantially as shown and for the purpose set forth.

No. 23,267. Vehicle Spring.

(Resort de Voiture.)

E. Fleet Morse, Ithaca, N. Y., U.S., 25th January, 1886: 5 years.

Claim.—1st. In a vehicle, a differential torsion spring consisting of one or more elastic rods and attached arms, said arms having a different angular motion when the body is depressed, in virtue of which said rod or rods act as torsion springs supporting the body, substantially as described. 2nd. In a vehicle, a differential spring consisting of an elastic rod, provided with two short arms supporting the vehicle body, and a long arm supported by the vehicle body, substantially as and for the purpose set forth. 3rd. An arm *E* of a vehicle spring, in combination with a movable link *E'*, adapted to change the effective length of arm *E* and thus adjust the spring to the desired stiffness, substantially as set forth. 4th. In a vehicle, a spring consisting of one or more elastic rods, provided with one or more short arms supporting the body, and a long arm supported by the body, in combination with suitable mechanism for adjusting the length of one of said arms, substantially as and for the purpose set forth. 5th. In a vehicle torsion spring, the combination of two or more rods grouped and acting together with two or more attached arms having a different angular motion, when the body is depressed, whereby said rods act as torsion springs supporting the body substantially as described. 6th. The slide *M* and prismatic guides *G*, in combination with lever *L* and connecting straps for adjusting the spring, substantially as described. 7th. The elastic rod *P* connecting the supporting arms of a vehicle spring, and tending to make them turn together and equalize the depression of the body, substantially as described. 8th. The spring *S*, securely attached to arm *D* at one end, and to pin *T* at the other, in combination with stops to limit the bending of said spring, substantially as and for the purpose set forth. 9th. A vehicle torsion spring consisting of one or more elastic rods and three attached arms, two of said arms, having a different angular motion from the third, when the body is depressed, in virtue of which said rod or rods act as torsion springs supporting the body, substantially as described.

No. 23,268. Corset. (Corset.)

John S. Crotty, Chicago, Ill., U.S., 25th January, 1886, 5 years.

Claim.—1st. A corset, the body of which is composed of several sections cut from knit fabric, the longitudinal line of the knitting being transversely of the corset, combined with an eyelet strip at the rear, and a busk strip at the front, with vertical overlays, the said eyelet and busk strips, and the overlays made from woven fabric stitched to the knit fabric, the said overlays forming pockets to receive bones or stays, substantially as described, and whereby transverse non-elasticity is secured and vertical elasticity is permitted. 2nd. A corset, the body of which is composed of several sections of knit fabric combined with an eyelet strip at the rear edge, and a busk strip at the front edge, with a transverse overlay *L* extending from the eyelet strip at the rear, to the busk strip at the front, and vertical overlays stitched to the knit body of the corset, the said eyelet strip, busk strip and overlays made from woven fabric, substantially as described and whereby transverse non-elasticity is permitted.

No. 23,269. Drying Apparatus. (Etuve.)

Lydia J. Cadwell, Chicago, Ill., U.S., 25th January, 1886, 5 years.

Claim.—1st. In a drying apparatus, the organism described, embracing a drying chamber, constructed to simultaneously dissipate the mass being treated and carry it from one end to the other of the drying chamber, a jacket affording a heating space exterior to the drying chamber, means for producing a current of air through the drying chamber in a direction opposite to that in which the material advances, any suitable means for supplying heat between the jacket and the drier. 2nd. The combination, with a rotary drying cylinder, a furnace for supplying the same with dry or heated air internally, and a furnace for heating the drying cylinder externally, of a sheath or shell constituting a chamber about the drying cylinder, for the purpose of retaining and evenly distributing all the heat evolved from the external furnace, and thus preventing loss of heat from the motion of the drying cylinder or otherwise. 3rd. In combination with a drier, for pulverulent fertilizers and similar substances, provided with means for dissipating the mass within the drier, means for producing a current of air through the drier, a furnace separate from the means for producing the current of air, and a flue arranged to conduct vapour and gases from the drier to this furnace. 4th. In combination with a drier, constructed to dissipate within its drying chamber the mass being treated, a furnace constructed to supply heated air to the drying chamber, a separate furnace arranged to heat the wall of the drying chamber, and a flue arranged to conduct the vaporous air and gases from the drying chamber to one of the furnace fires. 5th. In combination with a drier, constructed to dissipate within the drying chamber the material being dried, a furnace constructed to supply heated air to the drying chamber, a furnace arranged to heat the wall of the drying chamber, a flue arranged to conduct the vapor and gases from the drying chamber to the fire of one of said furnaces, and a fire box for a secondary fire located in position to receive the product of combustion from the furnace to which said vapor and gases are first conducted. 6th. The combination, with a metal drying cylinder *A* and a housing therefor, of a

transversely divided passage B₂ in the housing, a furnace, a chimney, passages leading from the furnace to the several compartments of the passage B₁, and passages leading from the said several compartments to the chimney, substantially as described. 7th. The combination, with a metal walled drying chamber, a furnace arranged to heat the drying chamber by contact of its products of combustion with the chamber wall, a flue leading from the drying chamber to the furnace, a chimney having a receiving flue B₂ leading from the furnace, and a fire grate O located in the chimney above the grate, substantially as and for the purpose set forth. 8th. The combination of a drying chamber, means for supplying said chamber with air, a furnace, and a flue leading from the drying chamber to the fire box of the furnace, and provided with a branch passage, whereby a part only of the whole of the vapour-laden air from the drier may be delivered to the fire. 9th. The method, substantially as described, of preparing dry feed from distillers' slops and brewers' grains, which consists in, first, draining the slops, then mixing the residuum with previously dried brewers' grains to form a friable mass, then disintegrating the mass and at the same time subjecting it to a current of drying air.

NO. 23,270. Saw Horse. (*Chevalet de Scieur.*)

John Wilson, Hamilton, Ont., 25th January, 1886; 5 years.

Claim.—1st. In a saw-horse, the metal clamp A, formed with flanges b, b, and recesses e, c, placed diagonally on each side, to secure the legs D, substantially as and for the purpose specified. 2nd. In a saw-horse, the combination of the clamps A, legs D, threaded cross-bar E, nuts and washers F, G, substantially as and for the purpose specified.

No. 23,271. Ai-Tight Package for Merchandise. (*Vaisselle Imperméable à l'Air pour Marchandises.*)

Cicero D. Van Allen, London, Ont., 25th January, 1886; 5 years.

Claim.—1st. A package A in which a groove or recess B is formed in combination with cover C, C made in two parts, and the wedges E, E, both the outer edges of the wedges E, E, and cover C, C being formed with tenons or flanges D, D, and wedge F, substantially as shown and described. 2nd. A lining L secured to the underside of the cover, to prevent the access of the air to the contents of the package through said cover, and to prevent said cover from tainting the contents of said package, substantially as set forth. 3rd. A package A formed with a false bottom N, to prevent the butter adhering to the bottom of said package when removing the butter, &c., from said package, substantially as set forth. 4th. The mould G, G, formed in two parts and securely held together by a band J and wedge K, or its equivalent, in combination with a base I, on which a flange H, on its equivalent, is formed, substantially as shown and described.

NO. 23,272. Process of Making Paper Pulp from Wooden Blocks. (*Procédé de Production de la Pâte à Papier de Bois*)

George F. Cushman, Barret, Vt., U.S., 25th January, 1886; 5 years.

Claim.—1st. The herein-described process of treating wooden blocks for the production of pulp, consisting in, first, cooking the blocks in a hot solution of lime, soda-ash or equivalent chemical substances, to promote lateral separation and toughening of the fibres, and afterwards removing the blocks from such solution and subjecting them to the action of a grinding roller, substantially as and for the purpose set forth. 2nd. The herein-described process of producing paper pulp from wooden blocks consisting in sawing the blocks transversely to short lengths, chemically treating them in a hot liquid solution, such as described, for the purpose of loosening and toughening the fibres, and subsequently disintegrating the fibres by grinding the blocks on a revolving stone, substantially as set forth.

NO. 23,273. Fire-Proofing and Preserving Compound. (*Composition Incombustible et Hydrofuge.*)

Roland O. de Vèrèz, (assignee of Abel J. Martin,) Paris, France, 26th January, 1886; 5 years.

Claim.—1st. A fire-proofing, a fire-extinguishing and a preserving compound, made substantially as described, of glycerine and ammoniacal salts, as set forth. 2nd. A fire-proofing, a fire-extinguishing and preserving compound, made substantially as described, of glycerine and one or more fire-resisting, fire-extinguishing and preserving substances, as set forth. 3rd. A fire-proofing, a fire-extinguishing and a preserving compound, made substantially as described, of glycerine ammoniacal salts and one or more fire-resisting, extinguishing and preserving substances, as set forth.

No. 23,274. Injector. (*Injecteur de Vapeur.*)

Roe Stephens, Detroit, Mich. (Assignee of John Desmond, Cleveland, Ohio, U.S., 27th January, 1886; 5 years.

Claim.—1st. In a steam injector, the slide valve D comprising an arm, a slot, or recess, a disc and a washer, and apertured and tubular and constructed and arranged to register with flanges, or inner walls, of the valve chambers, substantially as shown and described. 2nd. In a steam injector, the valve I secured to pipe H, opening into the valve chambers for preventing outflow of water from the injector until the boiler is first supplied, constructed substantially as shown and described. 3rd. The combination of slide valve D, having a threaded end, with a washer secured thereon, and arms and a disc, in combination with flanges C₂ and c, substantially as shown and for the purpose described. 4th. The combination of the injector chambers having an outflow pipe, with valve I, substantially as shown and described. 5th. In a steam injector, the combination of disc J, lugs J₁, valve rod J₂, spring L, cross bar K and outflow pipe H, substantially as shown and for the purpose described.

No. 23,275. Variable or Adjustable Tuning Fork. (*Diapason Variable ou Mobile.*)

David W. Segrove, Springfield, Ohio, U. S., 26th January, 1886; 5 years.

Claim.—1st. The combination, with a tuning fork provided with graduations on the prongs thereof, of an adjustable bridge between said prongs, said bridge being provided with projecting ends adapted to mark the position of adjustment, substantially as set forth. 2nd. The combination, with the prongs of a tuning fork, of a sliding bridge provided with concave ends adapted to form a bearing on each side of said prongs, substantially as specified. 3rd. The combination, with the prongs of a tuning fork, of a sliding bridge between said prongs, and backwardly projecting guides on said bridge, substantially as and for the purpose set forth. 4th. The combination, with the prongs of a tuning fork, of a sliding bridge therein provided with backwardly projecting guides formed in one piece therewith, substantially as specified. 5th. The combination in a tuning fork, with the adjustable sliding bridge of the fork prongs provided with enlarged, or bell-shaped ends, substantially as set forth. 6th. The combination, with a tuning fork, of a removable handle adapted to be secured to the base of said fork, substantially as specified. 7th. The combination, with a fork having graduated prongs, said prongs being provided with enlarged or bell shaped ends, of an adjustable bridge provided with end projections, adapted to extend over said graduations and mark the position of the bridge, substantially as set forth. 8th. The combination, with the fork, the prongs of which are formed with enlarged or bell shaped ends, of an adjustable bridge with concave ends and backwardly projecting guides, substantially as set forth. 9th. The combination, with a fork, with prongs having enlarged or bell shaped ends and enlarged base, of a separate or removable handle adapted to be secured in said base, and an adjustable bridge in said prongs, substantially as set forth. 10th. The combination, with the fork A, having graduated prongs a, a, with enlarged ends c, c, of the bridge B having projections b, b, and guides c, c and a removable handle C, substantially as set forth.

No. 23,276. Synchronizer for Electro-Mechanical and other Clocks. (*Synchronisateur pour Horloges Electro-Mécaniques et autres.*)

The Electro-Mechanical Clock Company, Montreal (Assignee of Chester H. Pond, Brooklyn, N. Y., U.S., 26th January, 1886; 5 years.

Claim.—1st. An electrically operated synchronizer for electro-mechanical clocks, wherein an electro-magnet, in a circuit controlled by a regulator, acts when vitalized, to close the motor circuit of the clock to be synchronized, and to so place the synchronizing mechanism that it will be actuated by the movement of the winding motor of the clock, substantially as described. 2nd. An electrically operated synchronizer for electro-mechanical and other clocks, wherein the operations of the synchronizer are controlled by a regulator, but operated by a rotating motor of the clock to be synchronized, and wherein the movements of the synchronizing mechanism are utilized to shunt out the regulating circuit, and to interrupt the motor circuit at the close of the synchronizing operation, substantially as described. 3rd. The combination, with an electro-mechanical clock, wherein the clock mechanism is worked by a motor, of a synchronizing mechanism, substantially as described, operated by the motor, but controlled by a regulator clock through a synchronizing circuit, whereby the closing of the latter circuit is caused to close the motor circuit, and set the synchronizing mechanism in position to be operated by the motor. 4th. The combination, with an electro-mechanical clock, wherein the clock mechanism is wound by a motor, of a synchronizing mechanism, substantially as described, capable of being actuated by the motor, an electro-magnet capable, when vitalized, of closing the motor circuit and of setting the synchronizing mechanism in position, and a shunt circuit around said electro-magnet, controlled by the synchronizing mechanism, whereby said electro-magnet is cut out and the motor stopped, as soon as the synchronizing is effected. 5th. The mechanism for synchronizing, comprising the pin, or pins, on the spring case, the lever D and its shaft, the synchronizing lever bearing projections n, n, and the tooth, or projections, m, m, borne by the minute hand, substantially as described. 6th. The means for controlling the synchronizing mechanism, comprising the electro-magnet I, its circuit controlled by a regulator clock, its armature provided with a pin, or other device, for drawing down the end of lever D and closing the motor circuit, and the contact piece K, substantially as described. 7th. The means for controlling the shunt circuit of the synchronizer, comprising the contact a, the swinging contact t adapted to be raised and the contact made by the synchronizing lever J, and a spur or tappet, borne by the minute hand, and adapted to interrupt the said shunt circuit, substantially as and for the purposes set forth. 8th. The combination, with a clock and a synchronizing mechanism, of a shunt, or cut-off, for the purpose of cutting out the regulating circuit after the clock has been synchronized, substantially as set forth.

No. 23,277. Fire Extinguisher Fluid.

(*Fluide Extincteur d'Incendie.*)

John W. Murphy, Syracuse, N. Y., U.S., Charles B. Hunt and Robert A. Lyons, London, Ont., 26th January, 1886; 5 years.

Claim.—A fire extinguishing fluid, composed of the following ingredients: salt, cake of commerce, cake of nitre, alum, borax, aqua ammonia, bicarbonate of soda, common salt, and water, in the proportions stated, substantially as set forth.

No. 23,278. Button Hole Attachment for Sewing Machines. (*Machine à Coudre Faisant les Boutonnieres.*)

Charles W. Durant, New York, N.Y. (Assignee of John H. Palmer, Philadelphia, Pa.), U.S., 26th January, 1886; 5 years.

Claim.—1st. The combination of lever B, stud A, block D, having slot F and pin E, screw G, sliding vibrating lever I having slots K, P, cloth clamp J and cam M, substantially as and for the purpose specified. 2nd. The combination of lever B, stud A, block D having slot F and pin E, screw G, sliding vibrating lever I having slots K, P, and rollers, or pins O, cloth clamp J, cam N and cam M, substantially as and for the purpose specified. 3rd. The combination of lever B, stud A, block D, having slot F and pin E, block H, screw G, sliding vibrating lever I having slots K, P, cloth clamp J and cam M, substantially as and for the purpose specified.

No. 23,279. Button Hole Attachment for Sewing Machines. (*Machine à Coudre Faisant les Boutonnères.*)

Charles W. Durant, New York, N. Y. (Assignee of John H. Palmer, Philadelphia, Pa.,) U.S., 26th January, 1836; 5 years.

Claim.—1st. In a button hole attachment for a sewing machine, a horizontal reciprocating plate, in combination with a vertical reciprocating needle bar cam mechanism, substantially as set forth, to reciprocate said plate jointed lever mechanism, substantially as shown, by which the vertical reciprocations of the needle bar are converted into horizontal reciprocations of the said plate, a cloth clamp lever mechanism therefor, and connecting devices, substantially as shown, connecting said horizontally reciprocating plate with said lever mechanism, substantially as and for the purpose specified. 2nd. The cam D having an uneven number of projections d, having curved faces made concentric with the axis of the cam, so that the working faces are of sufficient length to allow for wear and loose play in the parts, in combination with a sliding plate E having two fixed points e working on the face of the cam, and separated a distance, substantially equal to the pitch diameter of the cam, the cloth clamp, its operating levers, substantially as set forth, mechanism and connecting mechanism, substantially as described, whereby the cloth clamp operating levers are operated by the reciprocating sliding plate, substantially as and for the purpose specified. 3rd. The cam D having an uneven number of projections d, having curved faces made concentric with the axis of the cam, so that the working faces are of sufficient length to allow for wear and loose play in the parts, and a ratchet wheel c secured to the cam and having twice as many teeth as the cam projections, and pawl mechanism to intermittently rotate said ratchet wheel one tooth at a time, the cloth clamp, its operating levers, substantially as set forth, mechanism and connecting mechanism, substantially as described, whereby the cloth clamp operating levers are operated by the reciprocating sliding plate, substantially as and for the purposes specified. 4th. The combination of the needle bar, with lever A, lever A' having stops A₂, lever C' having pawl C, ratchet wheel c, cam D, sliding plate E, the cloth clamp, its operating levers, substantially as set forth, mechanism and connecting mechanism, substantially as described, whereby the cloth clamp operating levers are operated by the reciprocating sliding plate, substantially as and for the purpose specified. 5th. The combination of the needle bar, with lever A, lever A' having adjustable stops A₂, lever C' having pawl C, ratchet wheel c, cam D, sliding plate E, the cloth clamp, its operating levers, substantially as set forth, mechanism and connecting mechanism, substantially as described, whereby the cloth clamp operating levers are operated by the reciprocating sliding plate, substantially as and for the purpose specified. 6th. The combination of reciprocating plate E, levers L, M, adjustable connections m, m', a feed wheel and connecting mechanism by which the oscillation of the lever M rotates the feed wheel, substantially as and for the purpose specified. 7th. The combination of reciprocating plate E, with lever G, adjustable part p and pivoted cloth holding levers, substantially as and for the purpose specified.

No. 23,280. Shaving Compound and Method of Preparing the Same. (*Composition pour Raser et Manière de la Préparer*)

The S. R. Kennedy Manufacturing Company, Camden, N.J. (Assignee of Samuel R. Kennedy, Philadelphia, Pa.,) U.S., 28th January, 1836; 5 years.

Claim.—1st. The method of preparing compositions for removing the hair, so that they can be used without injury to the skin, which consists in mixing with the active substance, or chemical, adapted to act on the hair, one or more substances to protect the skin from its action, substantially as and for the purpose described. 2nd. The composition for use in removing hair, containing one or more chemicals adapted to act on the hair, and a substance adapted to protect the skin from the action of such chemicals, substantially as and for the purpose described. 3rd. The composition for use in removing the hair, which contains a sulphide mixed with a substance adapted to protect the skin from the action of the sulphide, substantially as and for the purpose described. 4th. The composition for use in removing the hair, which contains barium sulphide, prepared by roasting together barium carbonate and sulphur, substantially as and for the purpose described. 5th. The composition for use in removing hair, which contains barium sulphide and carbonate, substantially as and for the purpose described. 6th. The composition for use in removing the hair, containing a carbonate and barium sulphide, prepared by roasting together barium carbonate and sulphur, substantially as and in the proportions set forth. 7th. The composition for use in removing the hair, containing barium sulphide, a carbonate and one or more emollient substances, substantially as and for the purpose described. 8th. The composition for use in removing the hair containing barium sulphide, a carbonate, one or more emollient substances, and an inert substance or matter for diluting the composition, substantially as and for the purpose described.

No. 23,281. Method of Shaving. (*Manière de Raser.*)

The S. R. Kennedy Manufacturing Company, Camden, N.J. (Assignee of Samuel R. Kennedy, Philadelphia, Pa.,) U.S., 26th January, 1836; 5 years.

Claim.—1st. As an improvement in the art of shaving with a chemical substance, or depilatory, the method of preventing possible injury to the skin, which consists in covering the skin with an artificial cuticle before applying the depilatory, substantially as and for the purpose described. 2nd. The method of shaving, which consists in first applying to the skin a protective film, or artificial cuticle, and then applying over that a substance, or compound, to remove the hair projecting through the film or cuticle, substantially as and for the purpose described. 3rd. The method of shaving, which consists in applying to the skin to be shaved a substance, or material, adapted to form a protective film, or artificial cuticle, then applying over this film, or cuticle, a depilatory substance, or compound, and then removing the film, or cuticle, with the depilatory and the destroyed hair, substantially as and for the purpose described. 4th. The method of shaving, which consists in applying to the portion of the skin to be shaved a film, or covering, adapted to protect the skin around and among the hairs, then applying over this film, or covering, a substance, or compound, adapted to destroy, or dissolve, hair, and then removing the film with the substance, or compound, and the destroyed hair from the skin, by washing or otherwise, substantially as and for the purpose described.

No. 23,282. Saw Vice. (*Etau à Scie.*)

Edward C. Colo. (assignee of Aaron J. Tyler,) Albion, N.Y., U.S., 27th January, 1836; 5 years.

Claim.—1st. A saw-vice consisting of the fixed V-shaped frame B, carrying a jaw formed at the ends of the said frame, a V-shaped frame E integrally attached to the base of the frame B and having upwardly projecting arms F, and a V-shaped jaw carrying frame H of a size corresponding to that of the frame B, and pivoted to the arms I, the whole operated substantially as specified. 2nd. A saw-vice consisting of a fixed V-shaped jaw carrying frame B, a V-shaped frame E, integral with the base of the fixed frame and having arms F, and a V-shaped frame H carrying a jaw and pivoted to the arms F, and a toggle joint connection consisting of a link L pivoted to the base of the fixed jaws, and an angle lever fulcrumed to the base of the frame H and pivotally connected by a shorter arm to the link L, substantially as specified. 3rd. A saw-vice consisting of a fixed jaw frame, and a jaw frame pivoted thereto, and coincident therewith, substantially as specified.

No. 23,283. Button Fastener Setting Machine. (*Machine à Assourer les Boutons.*)

The American Button Fastener Company, New Britain, Ct., (assignee of Francis H. Richards, Springfield, Mass.,) U.S., 27th January, 1836; 5 years.

Claim.—1st. In a button-fastener setting machine of the class described, a magazine grooved, substantially as described, to receive the fasteners and opening into one side of a driver-channel above a driver, a driver-channel adapted to receive the fasteners, one at a time, from said magazine, and corresponding to them, substantially as described, a die above said channel adapted to bend over into a hook, the prongs of said fasteners and a driver having a reciprocating motion in said channel and having its point conformably shaped to the fastener-head, whereby said fasteners are driven with their prongs maintained vertically from their point of entrance into said channel through the same and against said die, combined and operating substantially as set forth. 2nd. In a button-fastener setting machine of the class described, a magazine, grooved substantially as described, to receive the fasteners, and opening into one side of a driver-channel above a driver, a driver-channel adapted to receive the fasteners, one at a time from said magazine, and corresponding to them, substantially as described, a die above said channel adapted to bend over into a hook, the prongs of said fasteners, and a driver having a reciprocating motion in said channel, and having its point conformably shaped to the fastener-head, whereby said fasteners are driven, with their prongs maintained vertically from their joint of entrance into said channel, through the same and against said die, substantially as described, for operating said driver and die, combined and operating substantially as set forth. 3rd. In a button-fastener setting machine of the class described, a magazine, grooved substantially as described, to receive the fasteners, and opening into one side of a driver-channel above a driver, a driver-channel adapted to receive the fasteners, one at a time from said magazine, and corresponding to them, substantially as described, a die above said channel adapted to bend over into a hook the prongs of said fasteners, and a driver having a reciprocating motion in said channel, and having its point conformably shaped to the fastener-head, whereby said fasteners are driven with their prongs maintained vertically from their point of entrance into said channel through the same and against said die, and the lever mechanism, substantially as described, adapted to first press down said die, and then throw up the driver, combined and operating substantially as set forth. 4th. In a button-fastener setting machine, slide B having thereon a driver, as D, a vertically movable presser N having die D₂, lever R, links L, rod R₂, and spring S₅, combined and operating substantially as set forth. 5th. In a button-fastener setting machine, a button fastener driver D having one or more flanges J, in combination with driver guide D₁ forming one side of the driver-channel, substantially as described. 6th. A magazine for holding button fasteners, the heads of which are longer on one side of the prongs than on the other side thereof, having groove V₂ and rib V₁, said rib being so formed as to retain said fasteners in the magazine, only when the longer ends of their heads are in said groove V₂, substantially as described. 7th. In a button-fastener setting machine, magazine-holder H, magazine M removably fixed on said holder and grooved to receive the button fasteners, and plunger P₂ having a tongue adapted to slide in said groove, combined and operating substantially as described. 8th. In combination, a magazine-holder a removable magazine supported by said holder, a guide-rod parallel to the groove of said magazine, a plunger-carrier or sliding on said guide-rod, having a plunger adapted to prevent said magazine from leaving its place, and a feed button-fasteners through the same, and a spring arranged to slide said carrier on said rod, substantially as described. 9th. In combination,

a magazine M, guide-rod G, carrier C having plunger P₂ and arm E, and adapted to have a sliding and swinging motion on said rod, and groove G₂, substantially as and for the purpose described. 10th. In combination, magazine M suitably supported in a fixed position, guide G, carrier C having plunger P₂ and arm E, and adapted to have a sliding and a swinging motion on said guide, groove G₂ having catch K and spring S, substantially as and for the purpose described. 11th. In a button-fastener setting machine, in combination, a magazine holder H having the short channel M₂, and magazine M removably fitted to said holder, substantially as described. 12th. In combination, plate P recessed to receive slide B and driver D, cap P₁ forming one side of the driver channel and having an opening for a channel, or magazine, M₂, or M, a channel, or magazine, as M₂, or M, fitted to said opening, and a stop, as S, determining the lower limit of the stroke of said driver, so that the upper end of the driver will coincide with the bottom of the button fasteners in said magazine, substantially as described. 13th. In combination, plate P recessed to receive slide B and driver D, cap P₁ forming one side of the driver channel and having an opening for a channel, or magazine, as M₂, or M, fitted to said opening, and a stop, as S, determining the upper limit of the stroke of said driver, so that it will drive the fasteners up against said die the distance only which is required to properly set them, substantially as described. 14th. In a button fastener setting machine, in combination plate P recessed to receive slide B and driver D, caps P₁ forming one side of the driver channel, and having an opening for a channel, or magazine, as M₂, or M, a channel or magazine, as M₂, or M, fitted to said opening, a stop determining the lower limit of the stroke of said driver, so that the upper end of the driver will properly coincide with the bottom of the button fasteners in said magazine, a die D suitably held above the top of said channel, and a stop determining the upper limit of the stroke of said driver, so that it will drive the fasteners up against said die the distance only which is required to properly set them, substantially as described. 15th. In a button-fastener setting machine, the magazine M grooved to receive fasteners F, substantially as described, in combination with a sliding plunger P₂, formed to enter and feed said fasteners through said magazine, substantially as set forth.

No. 23,284. Shaving Tablet.

(Tablette de Barbier.)

The S. R. Kennedy Manufacturing Company, Camden, N.J., (assignee of Samuel R. Kennedy, Philadelphia, Pa.) U.S., 29th January, 1886; 15 years.

Claim.—1st. As an article of manufacture, a tablet, or cake, containing a substance, or compound, for use in removing hair covered with a protective film or coating to keep out air and moisture, substantially as described. 2nd. As an article of manufacture, a cake, or tablet, containing a sufficient quantity of hair removing substance, or compound, for one application or one shave, substantially as set forth. 3rd. As an article of manufacture, a cake, or tablet, containing a sufficient quantity of hair removing substance, or compound, for one application, or shave, pressed into a shape and covered with a coating to protect it from oxidizing influence, substantially as described. 4th. As a new article of manufacture, a tablet of chemical compound for removing the hair, covered with a protective coating of soluble material, substantially as and for the purpose described.

No. 23,285. Machine for Measuring the Area of Surfaces. (Machine Mesurante les Surfaces.)

The Sawyer Leather Machinery Company, Boston, (assignee of William A. Sawyer, Danversport,) Mass., U.S., 27th January, 1886; 5 years.

Claim.—1st. The combination, with a series of traction wheels having toothed hubs, and a series of gear wheels located over these hubs, of pivoted lever supports for said gear wheels and for said traction wheels, said pivoted lever supports being connected, whereby the position relatively to each other of said toothed hubs and their corresponding gear wheels is controlled, all arranged and operated substantially as described. 2nd. The combination, with a registering device, of a weighted lever arm, a series of aggregating levers, a series of cords, a series of gear wheels, a series of traction, or measuring wheels, having toothed hubs and resting on a roller, and adapted to be raised by the passage of an article whose area is to be measured, so that these toothed hubs engage and set in motion the gear wheels which transmit their motion by cords to the system of aggregating levers, all substantially as described. 3rd. The combination of a series of traction wheels having toothed hubs, and a series gear wheels located over these hubs, of friction hubs, or pulleys, for these gear wheels having an adjustable friction device, and a stop to determine their normal position, so that the friction pulleys revolve with the gear wheels and are readily pulled back into their normal position, substantially as and for the purpose set forth. 4th. In a machine for measuring the areas, the surfaces, the combination of a registering device consisting preferably, of a dial pointer axis and pinion with a system of aggregating levers, by means of weighted lever arm provided with a curved rack to engage with the pinion on the axis of the pointer of the registering device, and also with a curved piece having a strap attached thereto to engage with the system of aggregating levers, whereby an even leverage is secured in all positions of the weighted lever arm, substantially as described. 5th. In a machine for measuring the areas of surfaces, a system of aggregating levers, the two main levers W₅, W₅ of which are connected by a curved lever W₆ interposed between the two longer arms of the two said main levers, which arms are provided with a simple lever W₇ having pivot at each end, a grooved wheel, or pulley, while on each of the shorter arms is pivoted a lever W₄, at the end of which is pivoted a lever W₃, which have pivoted in turn at each of their ends, the levers W₂, which are each provided with a grooved wheel, or pulley, all proportion and operated substantially as described. 6th. The combination of a graduated scale and its pointer, with a weighted lever arm provided with a curved rack to engage a pinion on the shaft of the pointer, and connected by suitable means

to a system of aggregating levers, which are connected by cords to the hubs of gear wheels, the traction wheels having toothed hubs and resting upon a roller, the pawls acting on the gear wheels and the wiping roll, all arranged together substantially as described and for the purpose set forth. 7th. The combination, with a series of traction wheels having toothed hubs, and a series of gear wheels located over these hubs, of supports for these gear wheels consisting of a lever H pivoted to the supporting arm I, substantially as described. 8th. In a machine for measuring the areas of surfaces, a system of aggregating levers, in combination with a transmitting lever, the said system of levers and transmitting lever being connected by a device consisting a curved bracket attached to the transmitting lever, and provided with a strap adjustably attached to one end of the curved bracket, and at the other end to the system of aggregating levers, whereby with said transmitting lever an even leverage is secured, substantially as described. 9th. In a machine for measuring the areas of surfaces, the combination of a system of gear wheels free to make up and down, provided with friction collars adapted to wind up cords and a system of pawls pivoted on a rod and secured thereto by a pin, which works in a slot in the rear end of the pawl, with the lever M₁ connected by suitable mechanism to said cords, whereby the said gear wheels are held firmly in position while the friction hubs are pulled back to the zero point, substantially as described. 10th. In a machine for measuring the area of surfaces, the combination of a bent rod attached to a weighted lever, the said weighted lever a system of aggregating levers, a series of cords attached to the friction hubs, or pulleys, of gear wheels, a series of friction hubs, or pulleys, of gear wheels, whereby all of said friction pulleys moved are revolved back simultaneously into their normal position, substantially as described. 11th. In a machine for measuring the areas of surfaces, a series of gear wheels provided with friction hubs, or pulleys, having an adjustable friction device and a stop to determine their normal position, in combination with lever supports for said gear wheels, substantially as described. 12th. In a machine for measuring the areas of surfaces, the combination of a registering device, a weighted lever arm, a system of aggregating levers, a series of cords, a series of gear wheels, a series of traction, or measuring wheels, resting on a roller, with a series of pawls acting on the said set of gear wheels, all arranged and operated substantially as described and for the purpose set forth. 13th. The combination of a registering device, a weighted lever arm, a system of aggregating levers, a series of cords, a series of gear wheels, a series of traction, or measuring wheels, resting on a roller, all arranged and operated substantially as described and for the purpose set forth. 14th. In a machine for measurement the areas of surfaces, a rod secured by a brackets to a cross beam of the machine, in combination with a series of pawls pivoted on said rod, which is provided with an arm positively fixed thereto the said pawls, being individually secured to said rod by a pin positively fixed in said rod, and which works in a slot made in the rear end of the pawl, whereby the said pawls have a slight individual movement independent of each other, and are all positively operated by said arm, substantially as described. 15th. The combination, with a series of wheels having toothed hubs, of a series of toothed segments located over these hubs, of pivoted lever supports for said segments and for said wheels, said pivoted lever supports being connected, whereby the position relatively to each other of said toothed hubs and their corresponding toothed segments is controlled, all arranged and operated substantially as set forth. 16th. In a machine for measuring the areas of surfaces, the combination, with traction wheels provided with tooth hubs, of a toothed segment provided with weights S₁, S₂, substantially as described. 17th. In a machine for measuring the areas of surfaces, in which the area to be measured actuates devices for winding up cords, wheels provided with friction pulleys, or hubs, and both having adjustable friction devices and a stop to determine their normal position, all arranged for the purpose set forth substantially as described. 18th. In a machine for measuring the areas of surfaces, in which the area to be measured actuates devices for winding up cords, the combination of a registering device with the said cords by means of a system of aggregating levers, and a transmitting lever, all arranged and operated substantially as described. 19th. The combination, with a registering device of a system of aggregating levers connected to the hubs of toothed segments, substantially as described, and a series of traction, or measuring wheels, having toothed hubs and resting on a roller, and so journalled that by the passage of any material under them that the said toothed hubs will engage and set in motion the toothed segments, substantially as and for the purpose set forth. 20th. The combination of a registering device, with the system of levers, as described, the toothed segments, or gear wheels, having their hubs connected to this system of levers, as set forth, the wheels having toothed hubs and resting on a roller, the pawls acting on the segments or gear wheels, and adapted to be disengaged, as described, the weighted arm transmitting lever pivoted to the frame, and connected by suitable mechanism to the registering device, all arranged substantially as described and for the purpose set forth.

No. 23,286. Cooking Stove. (Poêle de Cuisine.)

Alexander Anderson, London, and Sarah C. Walker, Chatham, Ont., 29th January, 1886; 5 years.

Claim.—1st. A stove A, formed with draft openings K₁, K₂, in which the fire bottom B is placed in an inclined or sloping position, substantially as shown and described and for the purpose specified. 2nd. A stove A, formed with draft openings K, K₁, in which stove a cold air chamber E is formed, between the rear end of the fire bottom and the inner face of the back of the stove, substantially as shown and described and for the purpose specified. 3rd. The stove A, formed with openings K and K₁, in combination with an inclined or sloping fire bottom B, or its equivalent, and in which a chamber E, or its equivalent, is formed, substantially as shown and described and for the purpose specified. 4th. A stove in which a cold air chamber is situated between the rear end of the inclined, or sloping fire bottom and the inner face of the back of the stove, and at a point below the adjacent end of the fire bottom, substantially as shown and described and for the purpose specified. 5th. The body A of a stove formed with openings K and K₁, inclined or sloping fire bottom B, cold air chamber E and top C, in combination with the cover I, perforation J

and ash pan D, substantially as shown and described and for the purpose specified. 6th. The bottom of a cooking stove, in which is formed an opening J, in combination with a movable cover I, substantially as shown and described and for the purpose specified. 7th. A stove, in which the outlet pipe F is situated at a point below the fire, or adjacent end of the fire bottom, substantially as shown and described and for the purpose specified. 8th. A stove A, constructed and arranged in which the cold air forms a barrier to prevent the escape of the heat or hot air to the flue, or stove pipe, substantially as shown and described and for the purpose specified.

No. 23,287. Kettle Lifter. (*Poignée de Chaudron.*)

John B. Kibler, Minneapolis, Minn., U. S., 29th January, 1886, 5 years.

Claim.—1st. A kettle lifter, comprising a straight or slightly curved bar, provided with teeth and a handle, an angular bar pivoted thereto and having forks provided with hooks at their ends on one of its arms, and a handle on the other arm and a spring between said handles, for holding them apart, substantially as set forth. 2nd. In a kettle lifter, the toothed bar A having handle d, the bar B having forks b provided with hooks b¹ and the handle c, the pivot e and spring s, constructed and arranged substantially as and for the purpose set forth.

No. 23,288. Machine for Rolling Screw Threads. (*Filètre Brûlé.*)

Hayward A. Harvey, Orange, N.J., U. S., 29th January, 1886, 15 years.

Claim.—1st. In a machine for rolling threads on screws, the dies between which the blank is rolled having parallel ridges formed thereon at the proper angle of inclination with the plane of motion of the dies, the face of one of the dies parallel throughout with the axis of the blank to be rolled, the face of the corresponding die also substantially parallel with the said axis to an extent equal to the cylindrical portion of the blank to be threaded, thence inclined toward the opposite die the depth of the said inclination, being substantially equal to the length of the pointed portion of the blank and the inclination, substantially equal to one half the diameter of the blank, substantially as described. 2nd. In a machine for rolling threads on screws, a rotating die and a stationary curved die, in which the working faces for impressing the threads upon the body of the blank present parallel ridges at the proper angle of inclination with the plane of motion of the rotating die, the face of one die substantially parallel throughout with the axis of rotation, the face of the other die parallel with the axis of rotation to a depth substantially equal to the threaded portion of the screw to be produced, thence gradually inclined toward the opposite die the depth of the inclined portion being substantially equal to the pointed portion of the screw to be produced and the inclination substantially equal to one half the diameter of the blank, substantially as described.

No. 23,289. Paper Bag Machine. (*Machine à Sacs de Papier.*)

Robert Kilgour and Joseph Kilgour, Toronto, Ont. (Assignees of Felix W. Leinback, Clarence A. Wollé and Edward H. Brunner, Bethlehem, Pa., U. S., 29th January, 1886; 15 years.

Claim.—1st. The combination of a rotating drum, or segment, having a cutter J, and slotted as described, with the pivoted operator lever b², as set forth. 2nd. The combination of the plate d, with the pressor bar d¹, having recesses d², whereby pressure of the upper and inner folds of the tuck of the tube is prevented, as set forth. 3rd. The combination of mechanism, substantially as described, for forming a tube with tucked sides, with feed rolls, recessed as described, whereby the upper and inner folds of the tucks are relieved from pressure, as set forth. 4th. The combination of feed rolls, recessed as described, so as to feed the tucked tube without pressing the edges of the folds, with pressor plates f, whereby the lower folds of the said tucks are flattened at the edges without affecting the upper folds, as set forth. 5th. As a means of forming the primary or diamond fold, on a tube with tucked sides, the combination of the transverse pressor plate with side tuck folders, operating as described, to fold back the upper ply of the tube, as set forth. 6th. The combination of the pressor plate and side tuck folders, with the guide n, for the forward end of the diamond fold, as specified. 7th. The combination of the pressor p¹, with the rod p, actuated by and in advance of the said pressor p², as set forth. 8th. The combination of a bag blank carrier, with laterally operating edge nippers t, for determining the line of fold of the tuck z, and with a crossing blade, as set forth. 9th. The combination, in a paper bag machine, of mechanism for forming the primary or diamond fold of the bag bottom, with fold completing mechanism comprising the following elements: a drum S, edge-nippers t and w thereon, mechanism for operating said nippers, a deflector V, located as described, so as to press the advance point of the diamond over the nippers t and onto the body, and a deflector W, located as described, whereby it folds the portion of the bottom in advance of the nippers w, back over the latter and onto the rear point of the diamond, as set forth. 10th. The combination of the bag blank carrier, edge nippers for determining the line of fold of the final flap z, a deflector W and a pressor z, as set forth. 11th. The combination of the bag blank carrier and its nippers, with the deflector W and guard plate W¹, as set forth. 12th. The combination of the drum, edge nippers w, and pressor k, with the pivoted deflecting plate W, as set forth. 13th. The combination of the drum S, with the nippers t and w pivoted in slots in said drum, the cam collars w² adapted to act upon pins in said nippers, and spring plates w³ acting on the nippers to complete the closing of the same.

No. 23,290. Fence Rail Fastener.

(*Lien de Perche de Usture.*)

Charles Avery, Stanley, Ont., 30th January, 1886, 5 years.

Claim.—1st. A fence rail fastener D, passing around a rail or rails C, and secured to the post A by a staple, or staples B, or their equivalent, substantially as shown and described and for the purpose specified. 2nd. A fence rail fastener D, with or without a staple or staples B, B, a combination with rails C and post A, substantially as shown and described and for the purpose set forth.

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

- | | |
|--|--|
| <p>528. C. F. PIKE, 2nd 5 years of No. 12,263, from the 25th day of January, 1886. Improvements in Steam Boiler Furnaces, 5th January, 1886.</p> | <p>536. D. D. CATTANACH, 2nd 5 years of No. 12,233, from the 19th day of January, 1886. Improvements on Treating Linsced and Kindred Oils, 15th January, 1886.</p> |
| <p>529. E. N. HENEY, 2nd 5 years of No. 12,188, from the 8th day of January, 1886. Improvements on Buggy Top Attachments, 7th January, 1886.</p> | <p>537. A. W. REID, J. E. REID and E. POTTER, 2nd 5 years of No. 12,271, from the 27th day of January, 1886. Improvements on Machines for Unhairing and Flushing Hides, 18th January, 1886.</p> |
| <p>530. J. R. NORFOLK, 2nd 5 years of No. 12,274, from the 28th day of January, 1886. Improvements on Fluid Meters, 7th January, 1886.</p> | <p>538. A. I. FARNHAM, 2nd 5 years of No. 12,270, from the 27th day of January, 1886. Improvements on Sugar Evaporators, 18th January, 1886.</p> |
| <p>531. D. PLEWS, 2nd 5 years of No. 12,212, from the 15th day of January, 1886. Improvements on Wooden Pumps, 8th January, 1886.</p> | <p>539. S. R. C. MATTHEWS, 2nd 5 years of No. 13,687, from the 12th November, 1886. Improvements in Hydrants, 19th January, 1886.</p> |
| <p>532. L. M. PALMER, 2nd 5 years of No. 12,784, from the 29th day of January, 1886. Improvements on Machines for Nailing Barrel Hoops, 12th January, 1886.</p> | <p>540. C. C. LONGARD, J. S. LONGARD, G. E. LONGARD and W. T. LONGARD, 2nd 5 years of No. 12,809, from the 14th day of May, 1886. Improvements on Apparatus for heating Buildings by means of Hot Water, 23rd January, 1886.</p> |
| <p>533. THE EDWARD STORM SPRING CO. (Assignee), 3rd 5 years of No. 5,789 from the 11th day of March, 1886. Improvements on Springs for Vehicles, 12th January, 1886.</p> | <p>541. R. D'HEUREUX, 2nd 5 years of No. 12,311, from the 1st day of January, 1886. Improvements on the Manufacture of Starch, Glucose, Maltose, etc., from Grain, 23rd January, 1886.</p> |
| <p>534. S. REA, 2nd 5 years of No. 12,209, from the 15th day of January, 1886. Improvements in Clothes Washers, 15th January, 1886.</p> | <p>542. C. C. BRADLEY, 2nd 5 years of No. 12,314, from the 1st day of February, 1886. Improvements in Harvesters, 23rd January, 1886.</p> |
| <p>535. J. KINLEYSIDE, 2nd 5 years of No. 12,245, from the 19th day of January, 1886. Improvements in Washing Machines, 15th January, 1886.</p> | <p>543. T. S. HUNT and J. DOUGLAS, 2nd 5 years of No. 12,577, from the 4th day of April, 1886. Improvements in the Art of Extracting Copper from its Ores, 29th January, 1886.</p> |

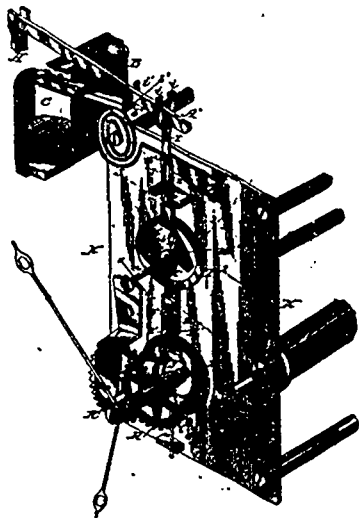
THE CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

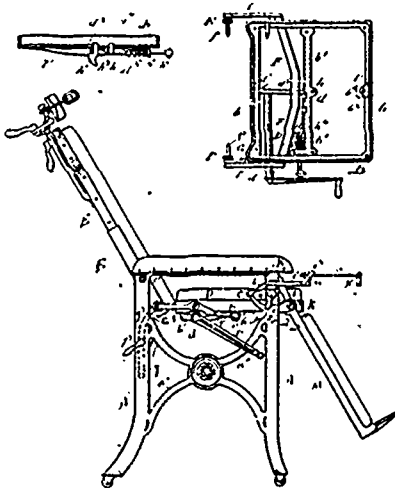
Vol. XIV.

FEBRUARY, 1886.

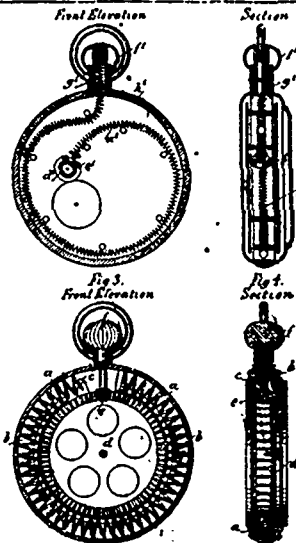
No. 2.



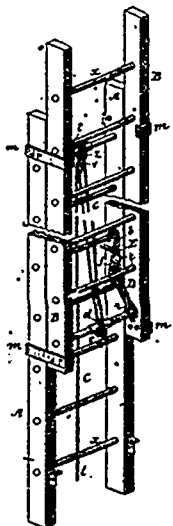
23066 Gardner's Time Controlling and Converting System.



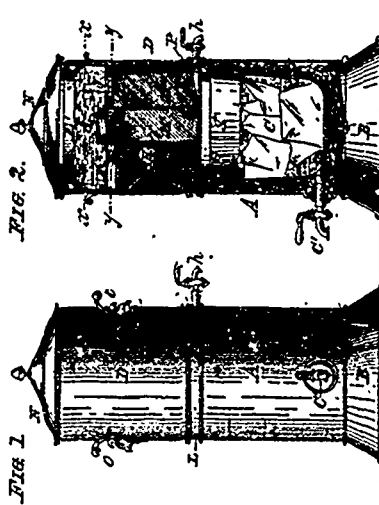
23067 Gould & Spencer's Surgical Chair.



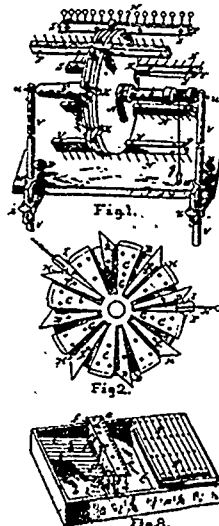
23068 Hambruch's Watch and Clock.



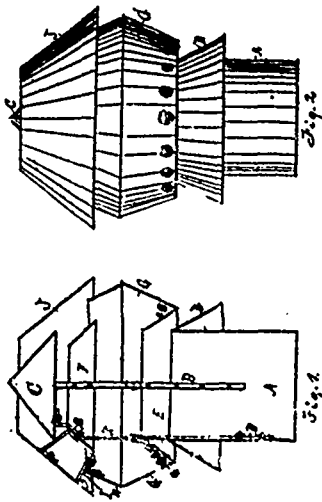
23069 Fox & McDormand's Ladder.



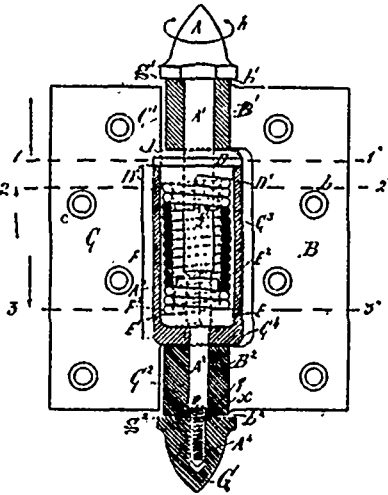
23070 Jewett's Filter and Cooler.



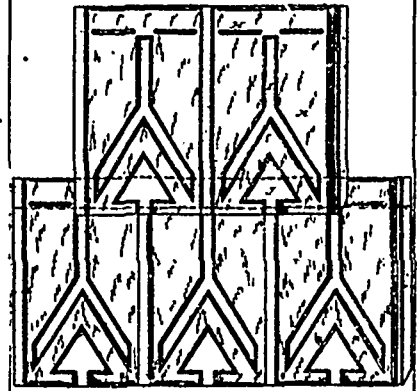
23071 Patch's Pill-Coating Apparatus.



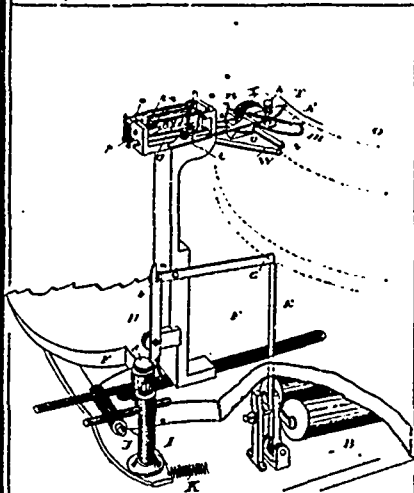
23072 Bradbeer's Chimney Cowl.



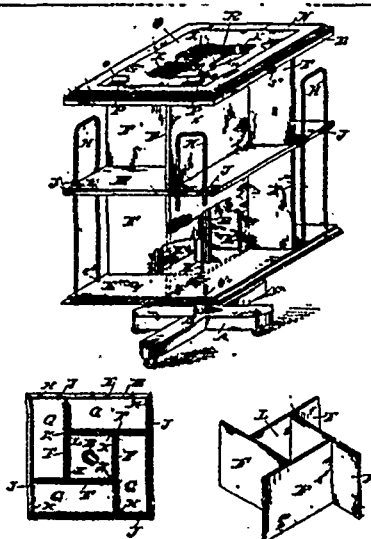
23073 Coskey's Spring Hinge.



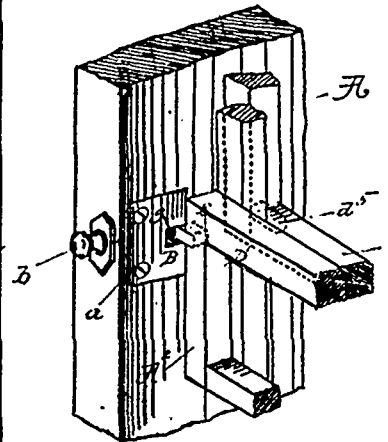
23074 Walter's Metal Roofing.



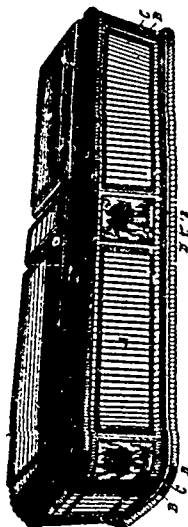
23075 Newlands' Electro Magnetic Stop Mechanism for Knitting Machines.



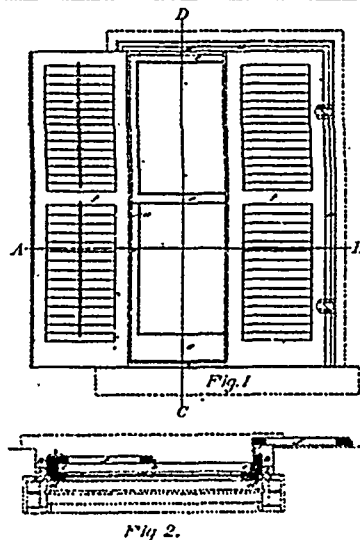
23076 Nanerth's Revolving Book Case.



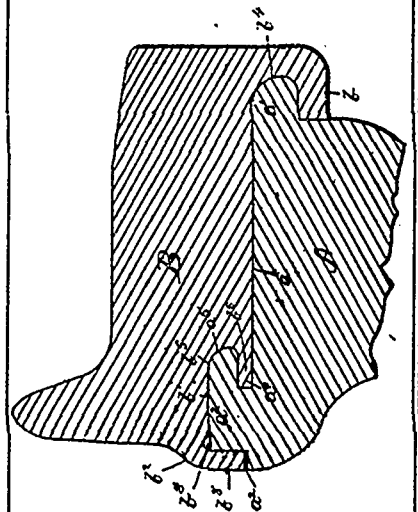
23077 Baringer Sash-Fastener.



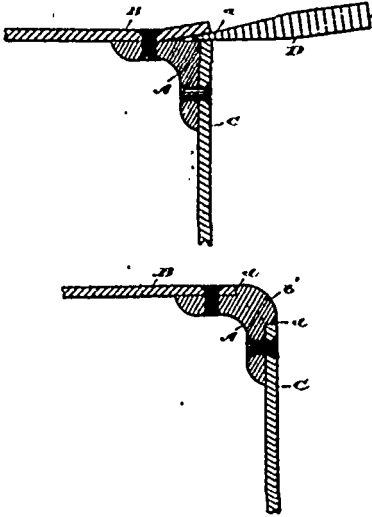
23078 Lovett's Burial Case.



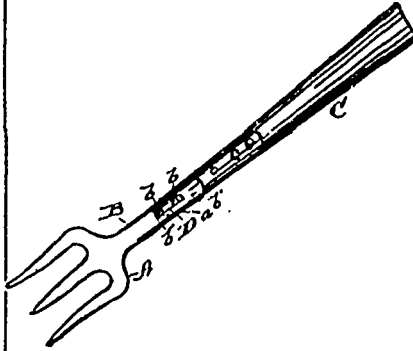
23079 Peters' Window Frame.



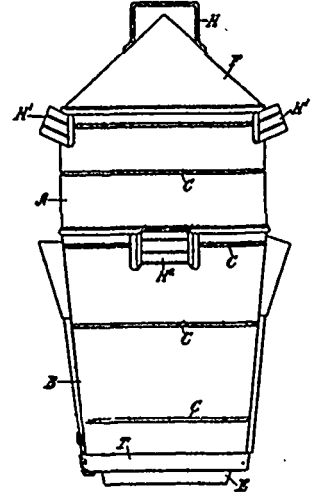
23080 Munton's Car Wheel.



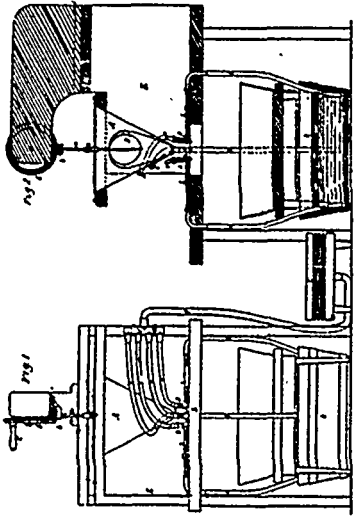
23082 West's Burglar Proof Safe.



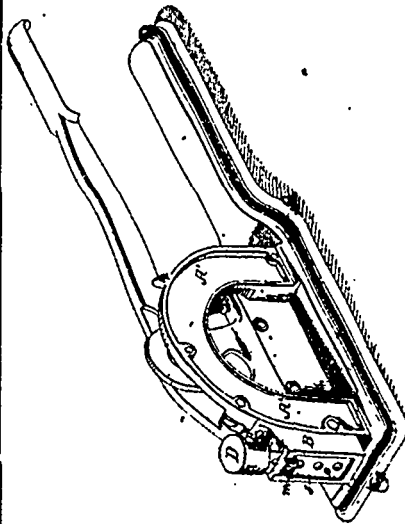
23083 Allen's Agricultural Fork.



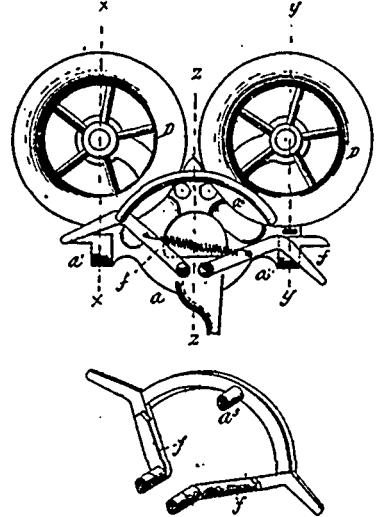
23084 West's Steam Cooker.



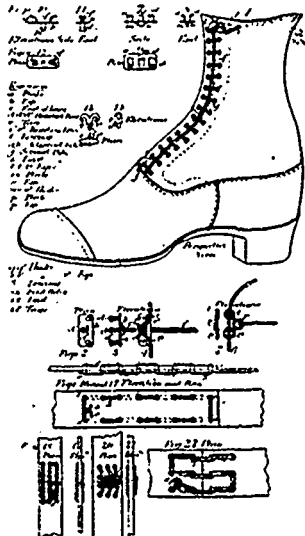
23085 Smith's Means for converting Flour into Dough.



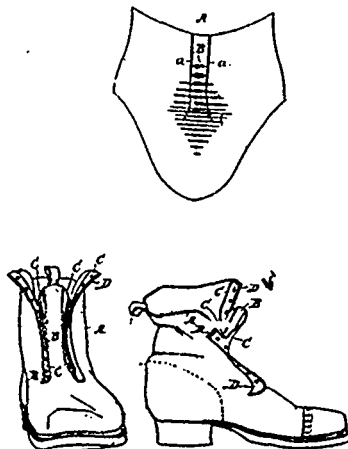
23086 Asbury's Tobacco-Cutting Machine.



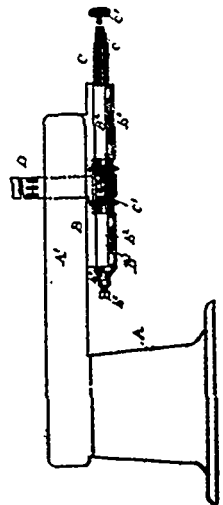
23087 Clark & Cowley's Cash and Parcel Carrier.



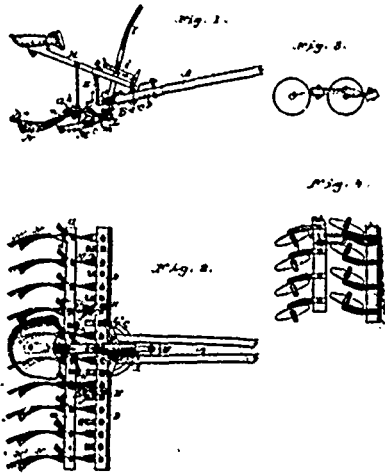
23088 Heard's Art of Fastening Flexible Laces.



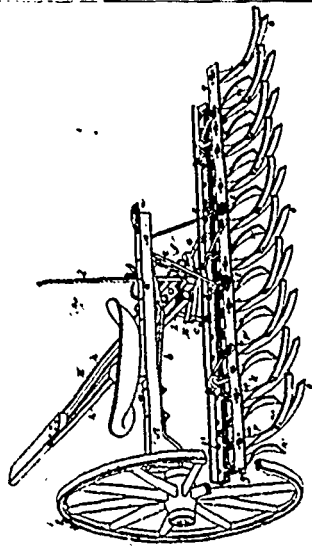
23089 Lennon's Laced Boot.



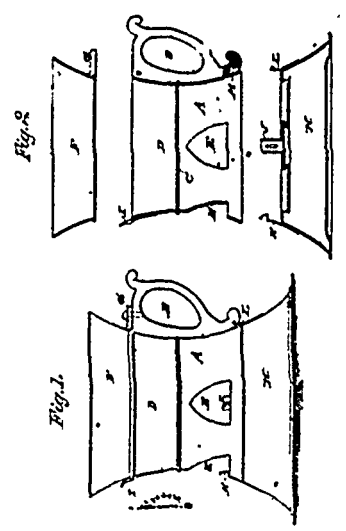
23090 Holland's Carving Machine.



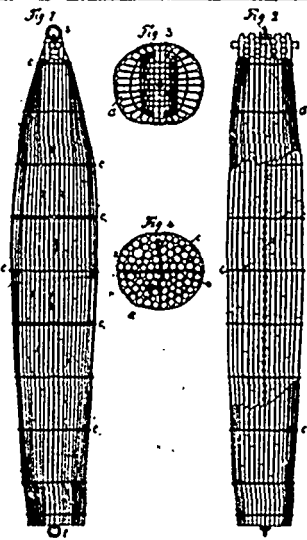
23091 Nisiwitz's Harrow.



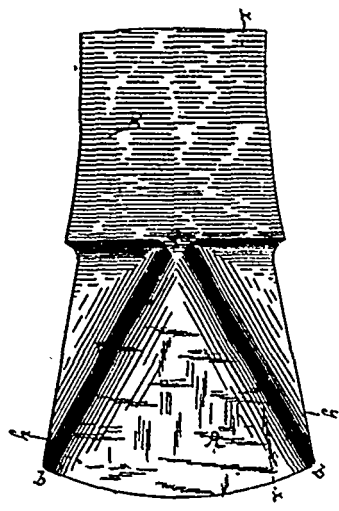
23092 Nisiwitz's Harrow.



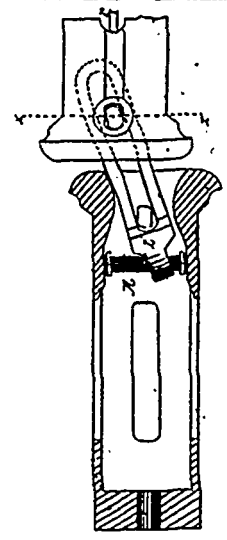
23093 Mayor's Shaving Mug.



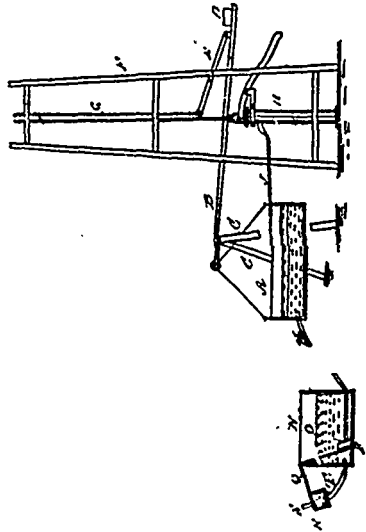
23095 Robertson's Rafting for Deep Water Towing.



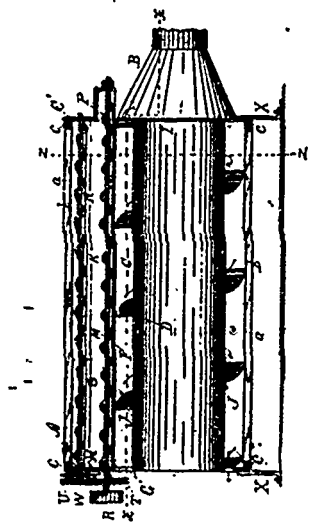
23096 Kelly's Axe.



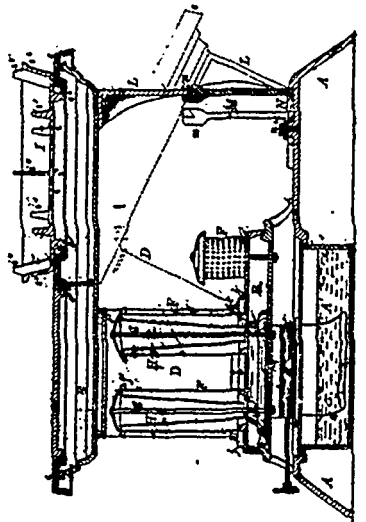
23097 Randolph's Car Coupling.



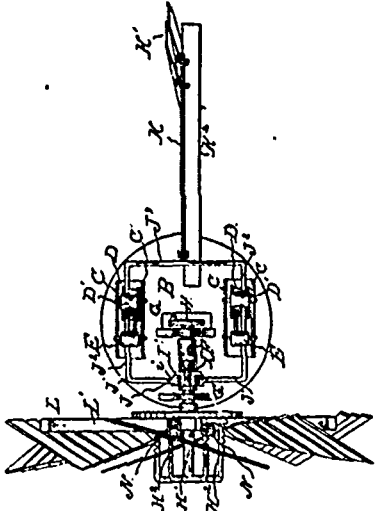
23098 Ott's Water Regulator for Windmills.



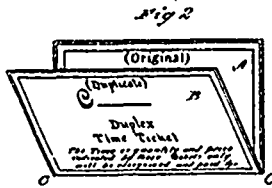
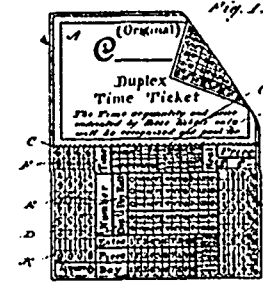
23099 Kvebno's Machine for Separating Dust from Air.



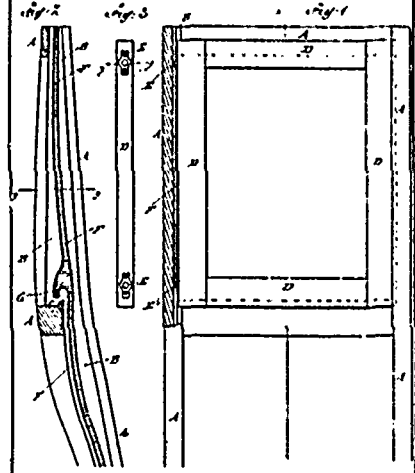
23100 Ham's Oil Stove.



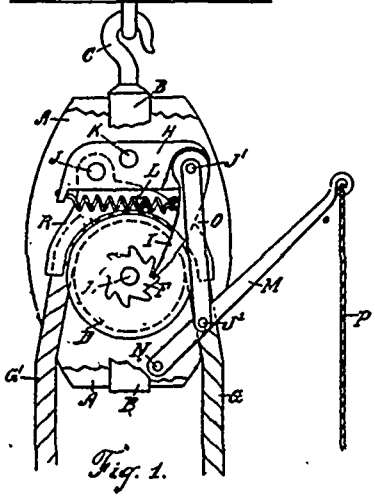
23101 Eden's Wind Wheel.



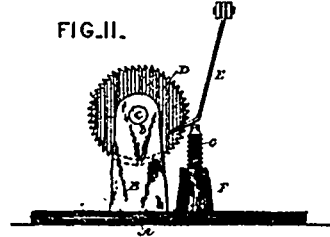
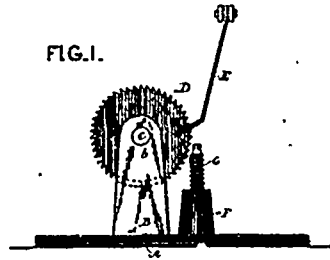
23102 Currie's Duplex Time Ticket.



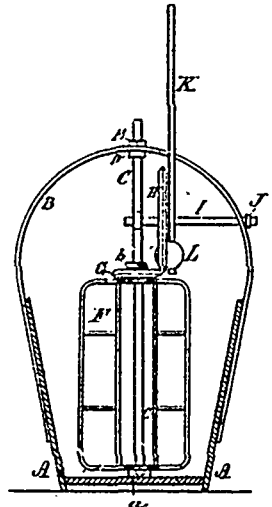
23103 Ayer's Sash Frame for Cars and Carriages.



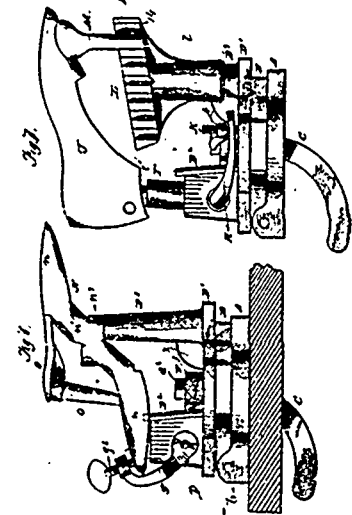
23104 Allen's Self Holding Pulley Block.



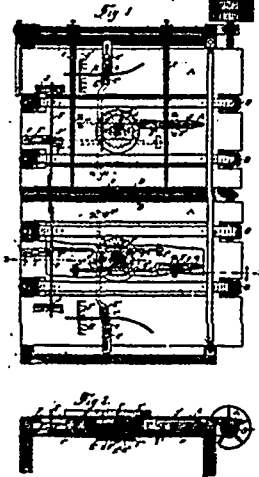
23105 William's Stop and Lock for Pawl and Ratchet Mechanism.



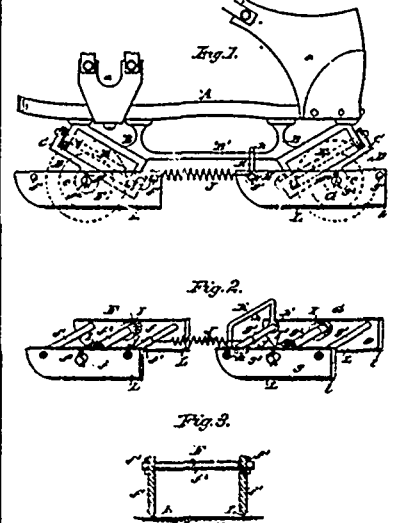
23106 Stuart's Washing Machine.



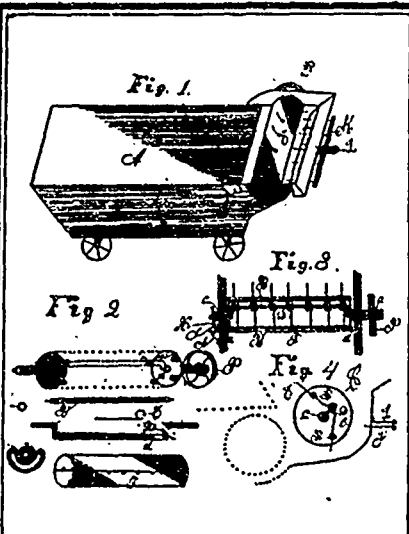
23107 Stockman's Last and Jack.



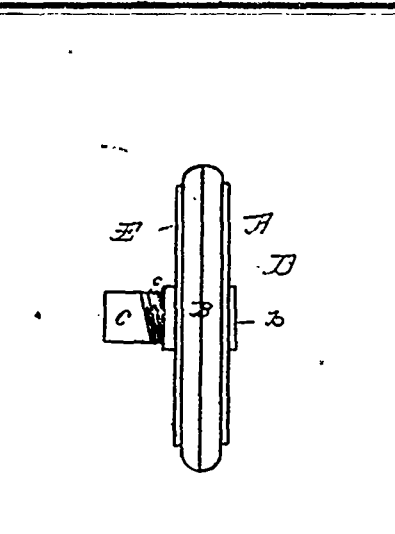
23108 Downing's Paper-Folding Machine.



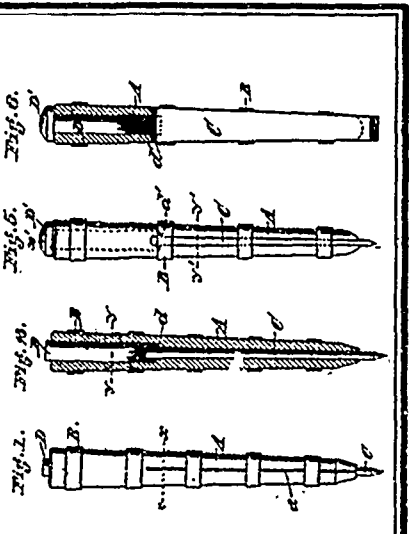
23109 Lapp's Convertible Skate.



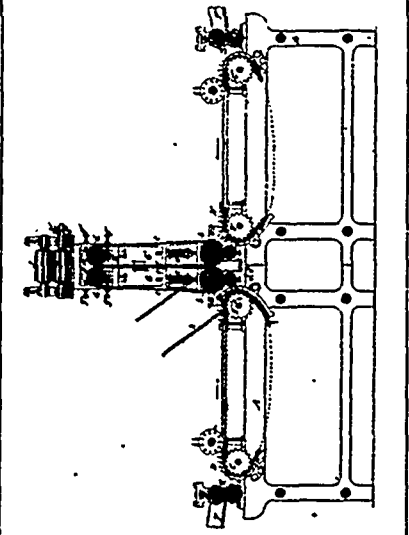
23110 Perring's Device for Feeding Clover Hullers and Thrashing Machines.



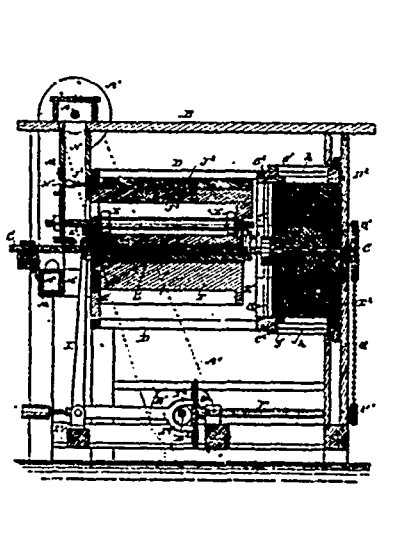
23111 Dalton's Skate Roller.



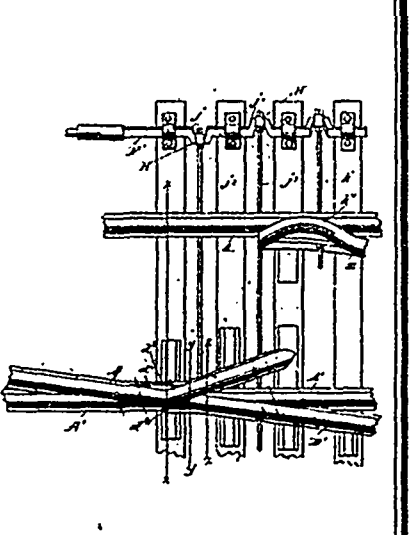
23112 Wood's Stone-Cutter's Chisel.



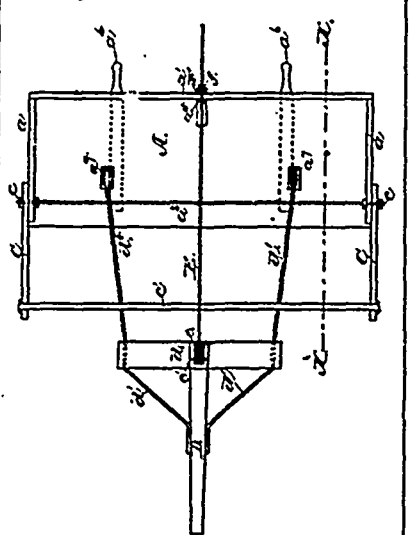
23113 Good's Machine for Spreading and Drawing Fibrous Material.



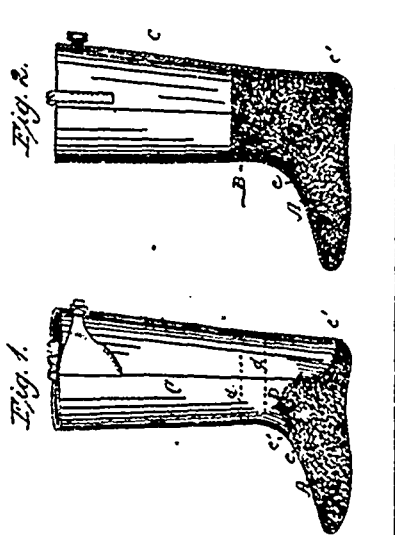
23114 Klostermann's Middlings Purifier.



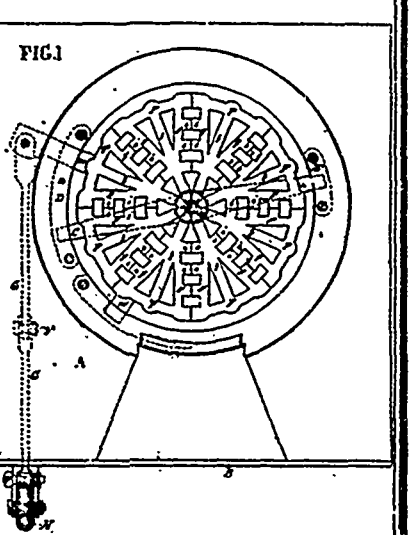
23115 Curlin's Railway Track Switch.



23116 Birch's Snow Scraper.



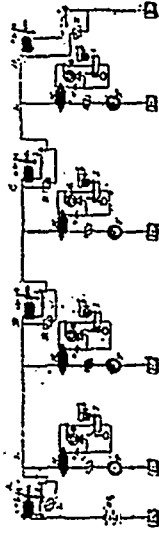
23117 Shaw's Boot.



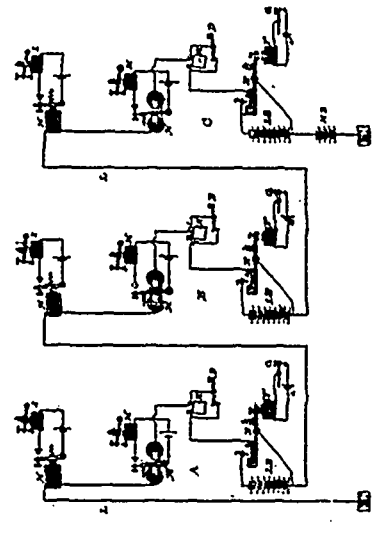
23118 Passmore's Grate.



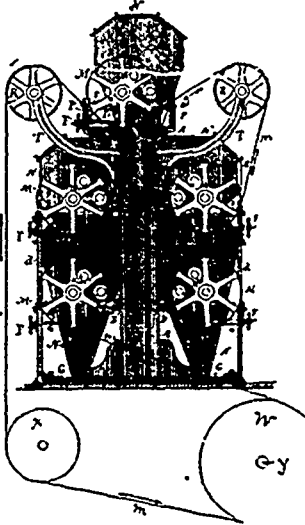
23119 Edison's Telegraphy.



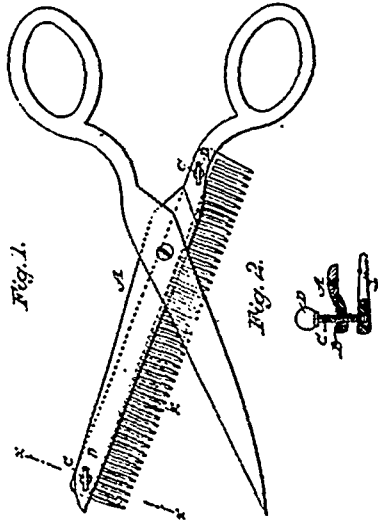
23120 Edison's Telegraphy.



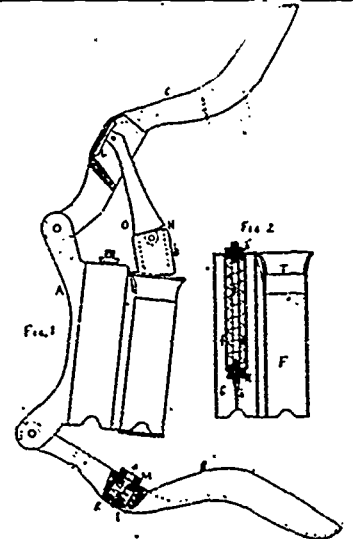
23121 Edison's Telegraphy.



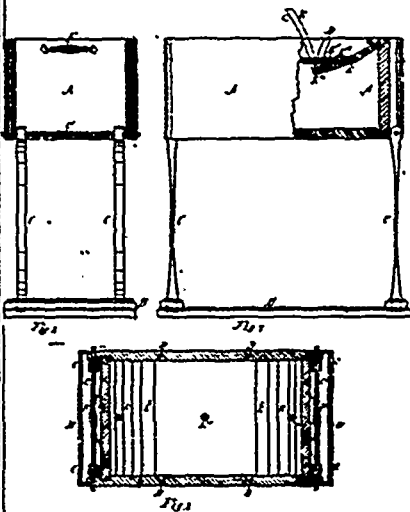
23122 Byrns' Roller Mill.



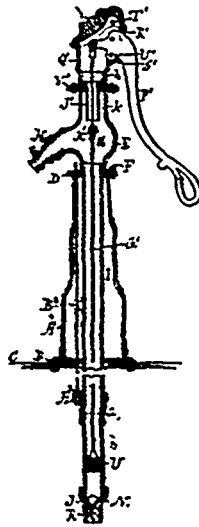
23123 Young's Comb Attachment for Scissors.



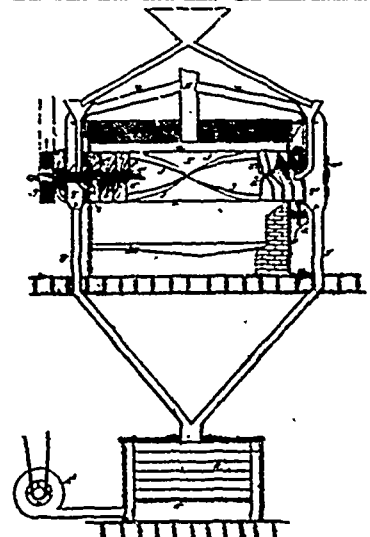
23124 McNeill's Cartridge Decapper, Eocapper and Reloader.



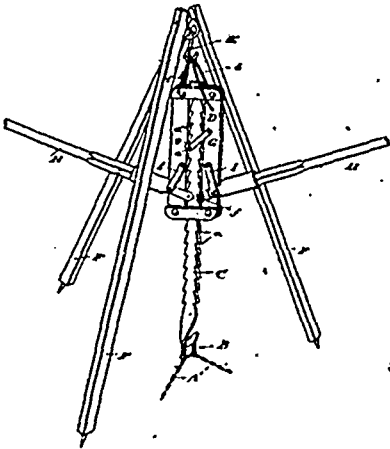
23125 Bradley's Churn.



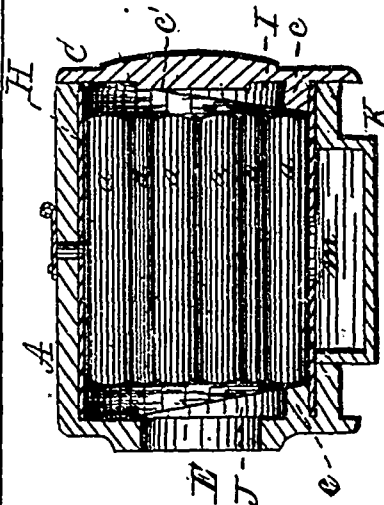
23126 Beebe's Pump.



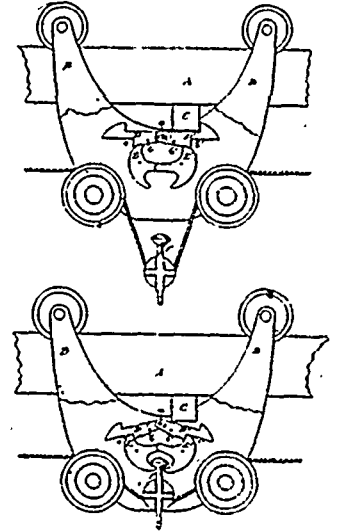
23127 Bruning's Coffee-Boaster.



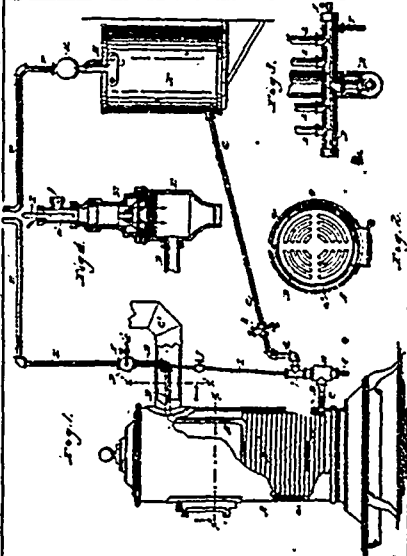
23128 Allen's Stump Extractor.



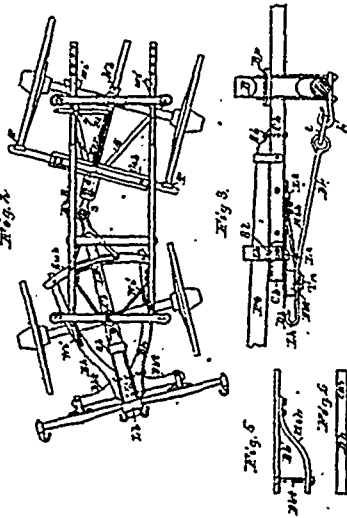
23129 Cutter's Railway Car Axle Box.



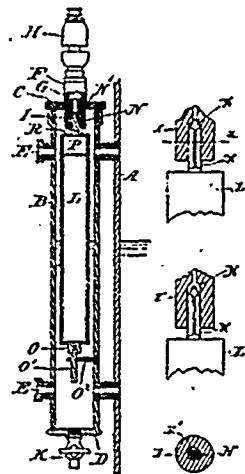
23130 Drader's Double Action Hay Car.



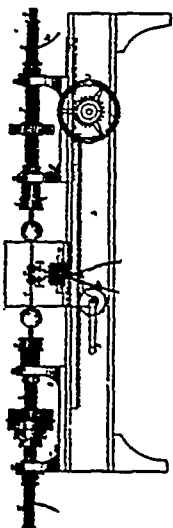
23131 Inman's Steam Heating Apparatus.



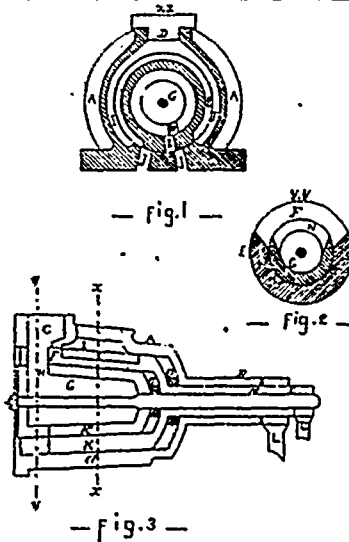
23132 Shaw's Wagon.



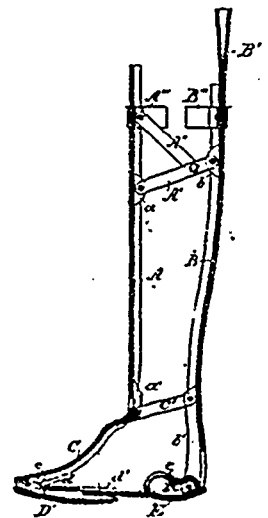
23133 Kerr's Steam Boiler Low Water Alarm.



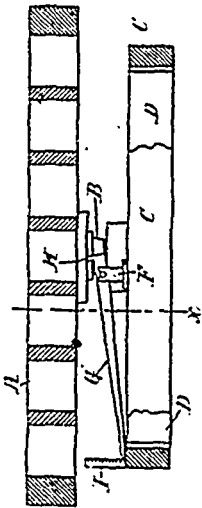
23134 Wright & Mackie's Apparatus for Shaping Heated Glass.



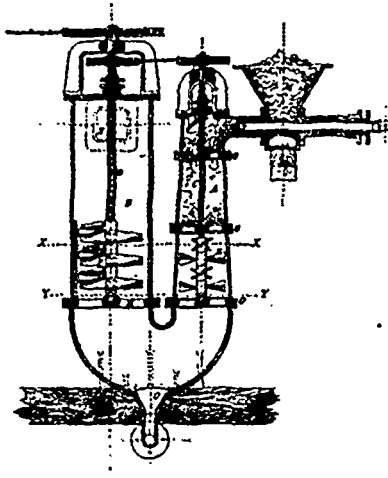
23135 Simmon's Cut-off Valve for Steam Engines.



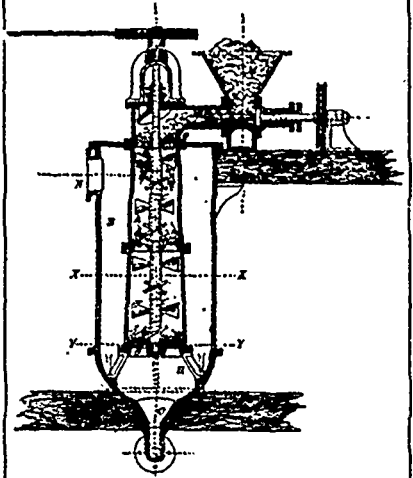
22136 Young's Stretcher for Felt Boots, Shoes and Stockings.



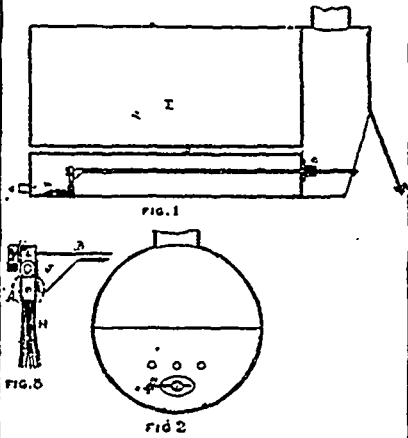
23137 Warren's Apparatus for Indicating the Load placed on Railway Cars.



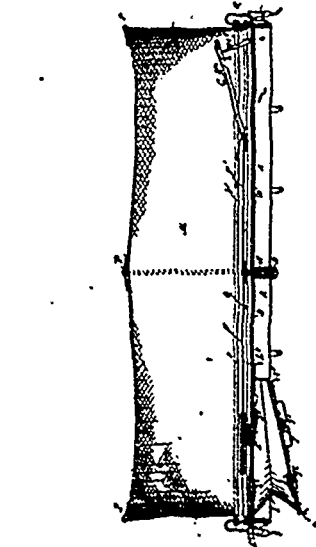
23138 Miller's Ore Amalgamating Apparatus.



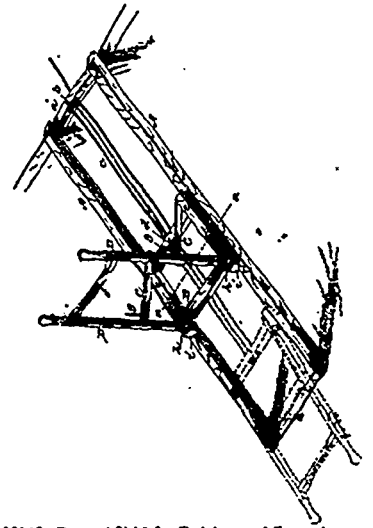
23139 Miller's Ore Amalgamating Apparatus.



23140 Miller & Feeny's Machine for Cleaning Steam Boilers.



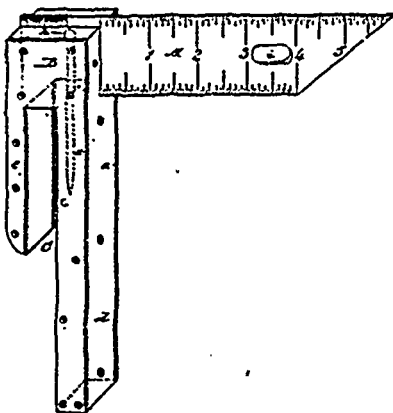
23141 Lovett & Baker's Apparatus for Embalming.



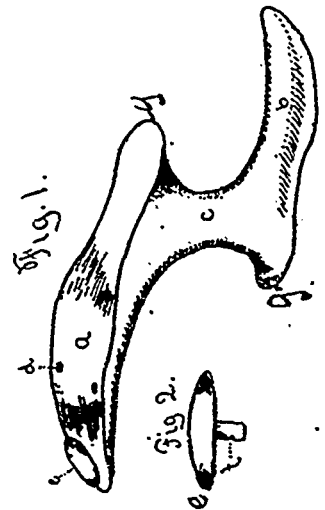
23142 Dawce's Skid for Raising and Lowering Heavy Bodies.



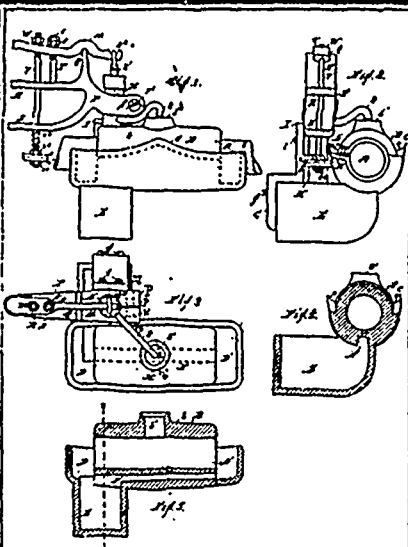
23144 Parker's Cross-Cut Saw.



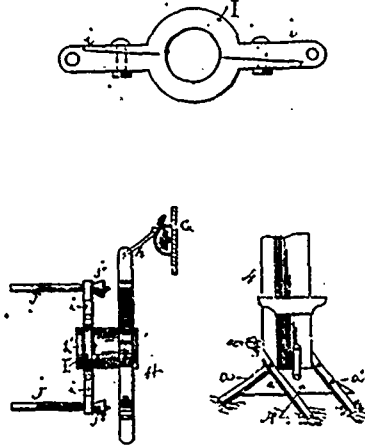
23145 Sergeant's Square.



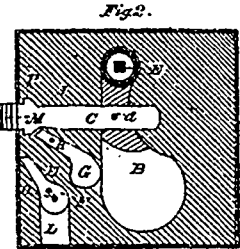
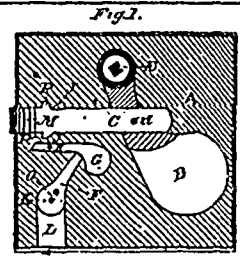
23146 Burke's Repairing Last.



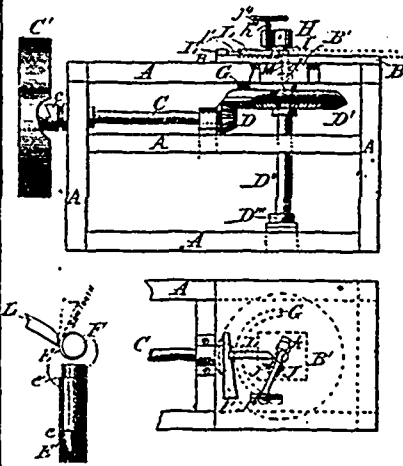
23147 Humphrey's Mechanical Oiler.



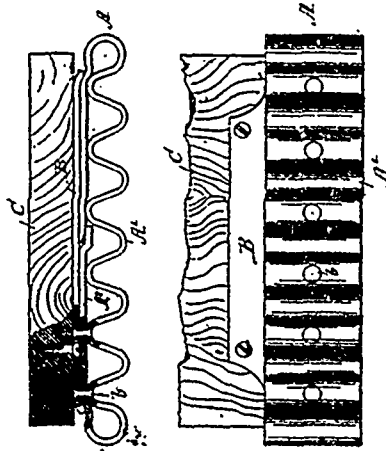
23148 Lane's Self-Regulating Wind Mill.



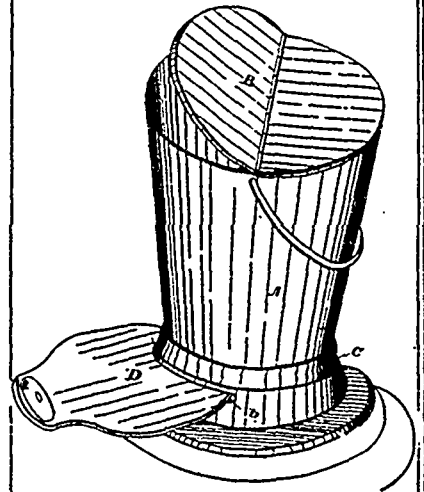
23149 Burrage's Device for the Construction of Locks.



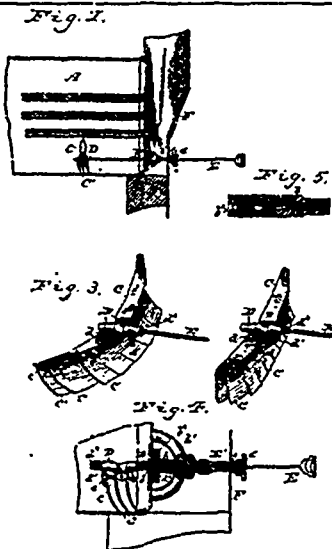
23150 Orm's Machine for Swaging Saw Teeth.



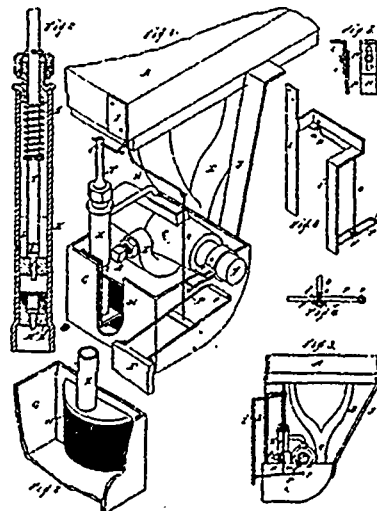
23151 Moody's Lag Iron for Horse Power.



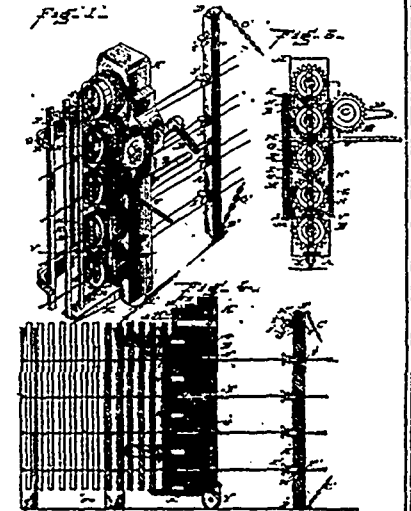
23152 Doyle's Coal Scuttle.



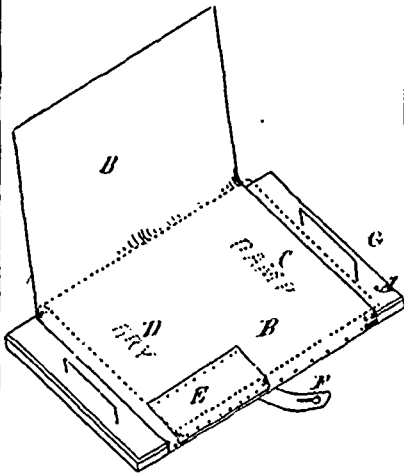
23153 Ord's Boiler Cleaning Apparatus



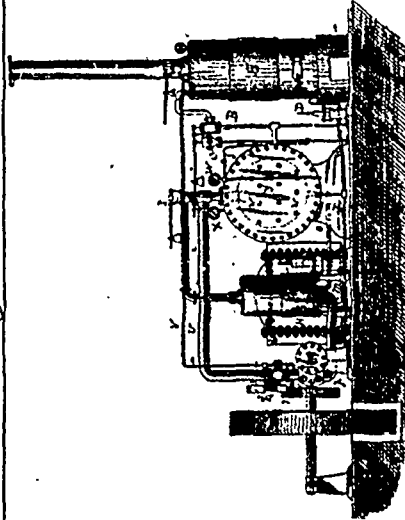
23154 Humphrey's Mechanical Oiler for Bearings.



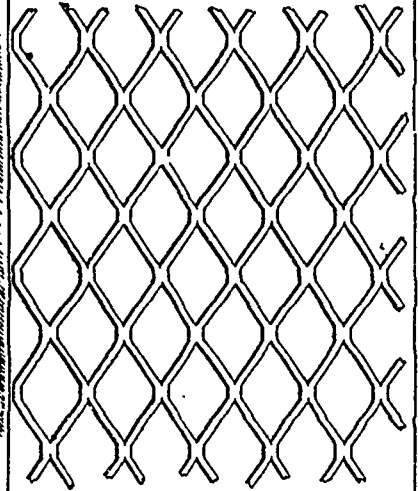
23155 Middaugh & Wilcox's Portable Fencing Machine.



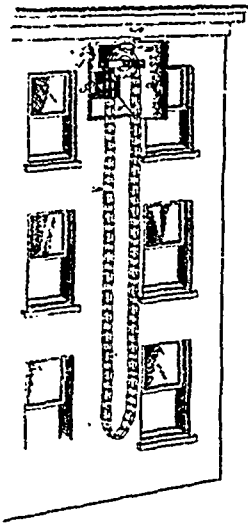
23156 **Biley's Knife Polisher.**



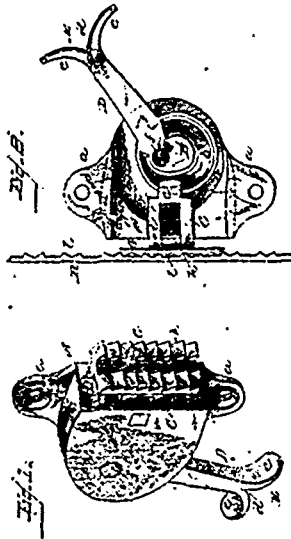
23157 **Colwell's Apparatus for the Utilization of Latent Heat for Generating a Motor.**



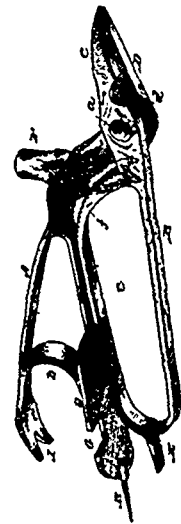
23158 **Golding's Slashed Metallic Screening.**



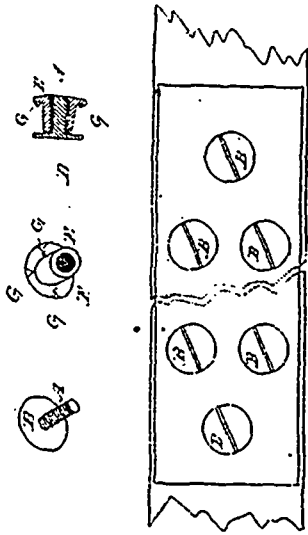
23159 **Moumeyer's Fire-Escape.**



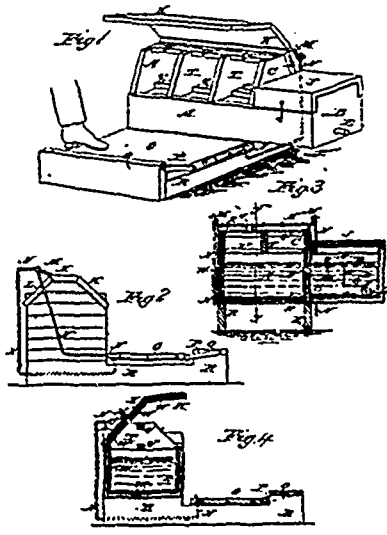
23160 **Bourke's Eash Fastener.**



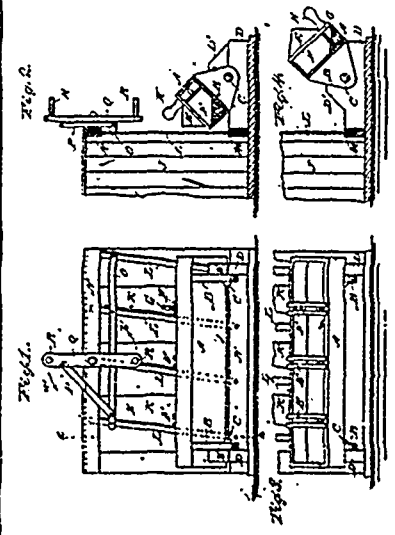
23161 **Bourke's Combination Tool.**



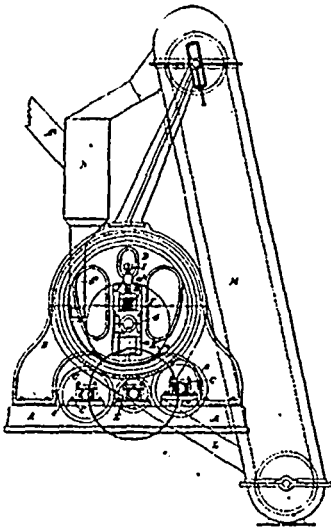
23162 **Creagan & Barrett's Manufacture of Belt Fasteners.**



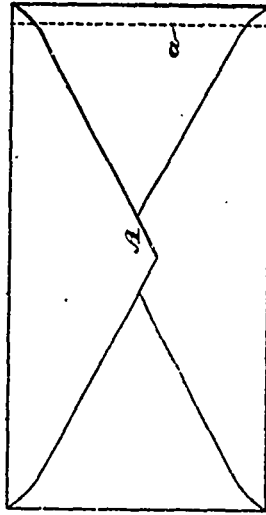
23163 **Boles' Stock Watering Trough.**



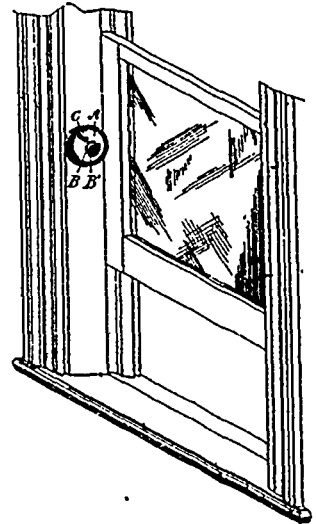
23164 **Laning's Food Trough.**



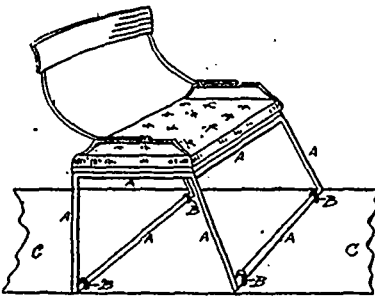
23165 Morris & Wood's Apparatus for Grinding Quartz, etc.



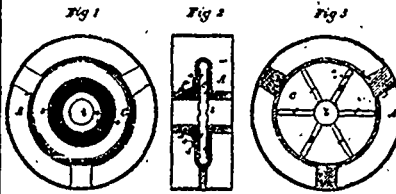
23166 Thompson's Envelope.



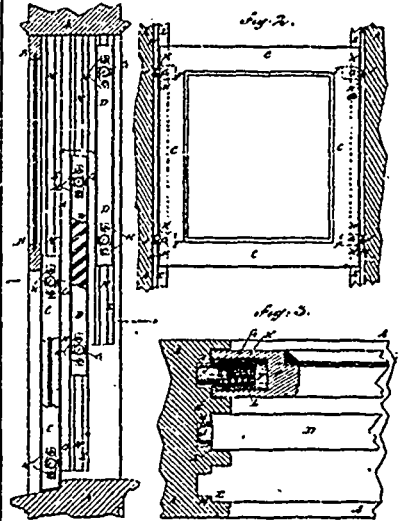
23167 Do Gruchy's Sash Fastener.



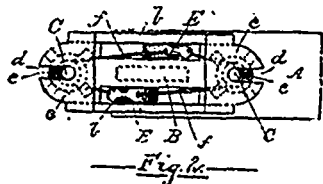
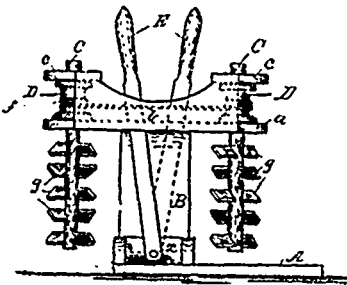
23168 Moran's Buggy Seat.



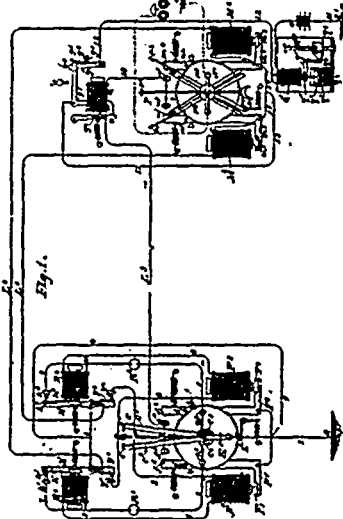
23169 McCaffrey's Loose Pulleys for Shafts.



23170 Ayars' Window Sash Holder.



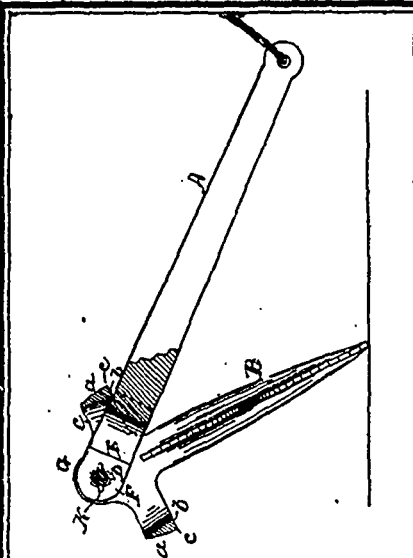
23171 Sexton's Churn Power.



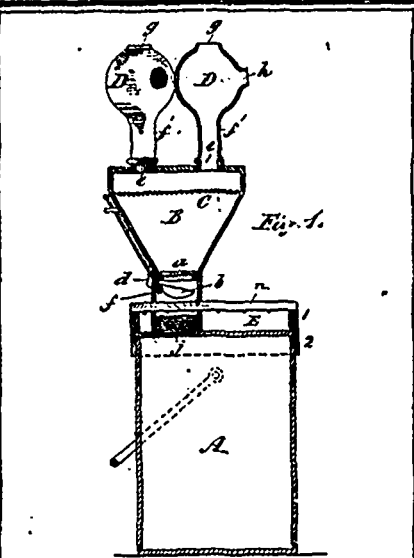
23172 Clarke's Telemeter.



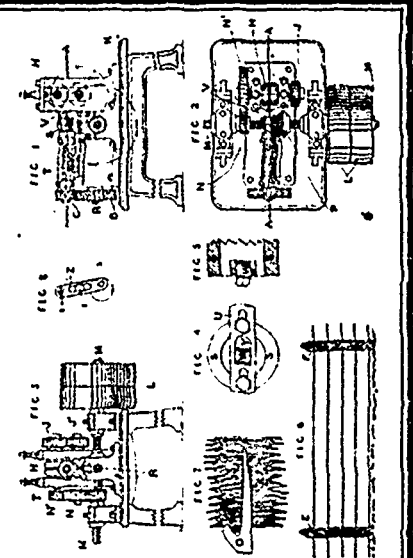
23173 Ludwig's Broom Holder.



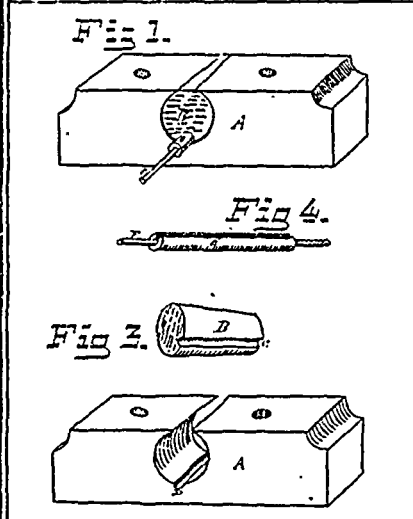
23174 Williams' Anchor.



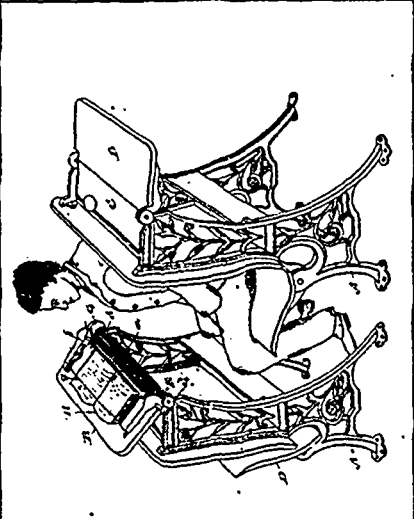
23175 Frazey's Device for Milking Cows.



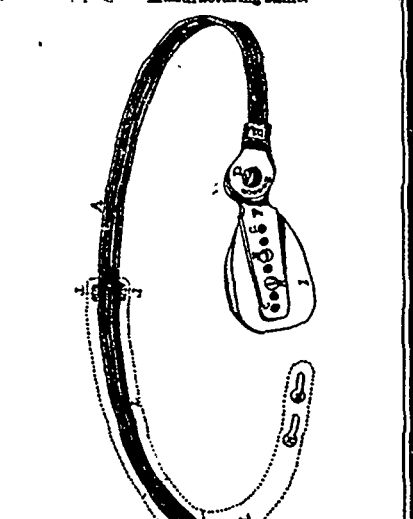
23176 Brampton's Wire Fencing and Machine for Manufacturing same.



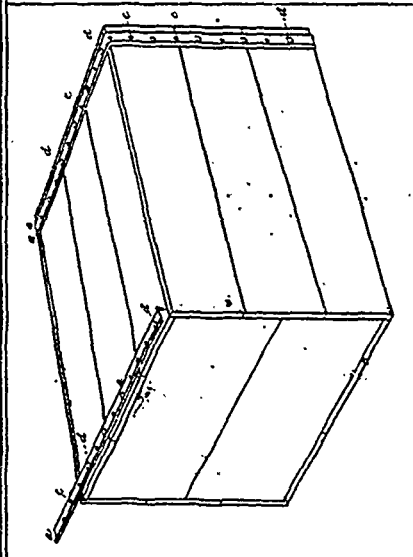
23177 Newson & Morson's Bracket for Supporting Electric Wires.



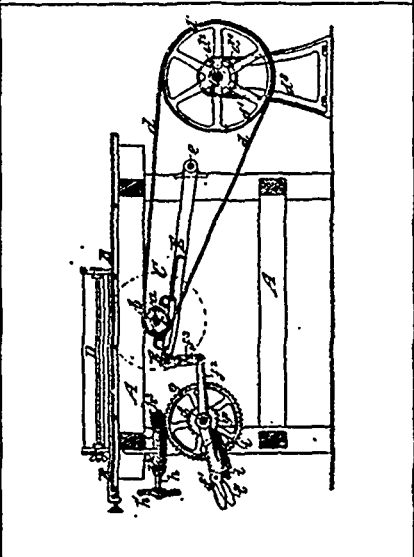
23178 Stahschmidt & Mickler's School Desk and Seat.



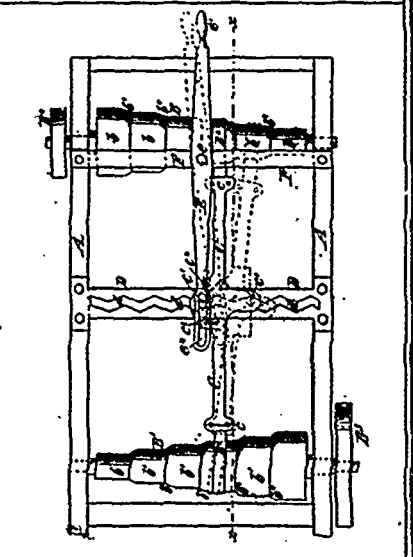
23179 Noxon's Truss.



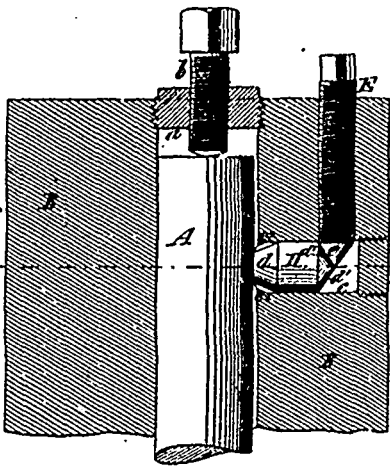
23180 Frank's Box Strap.



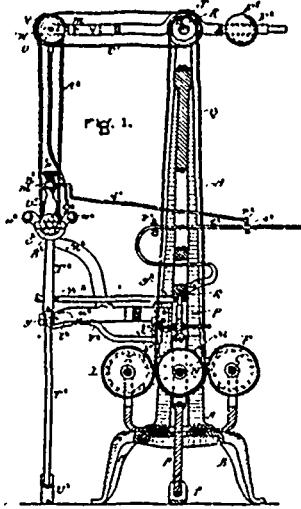
23181 Gray's Circular Saw Table.



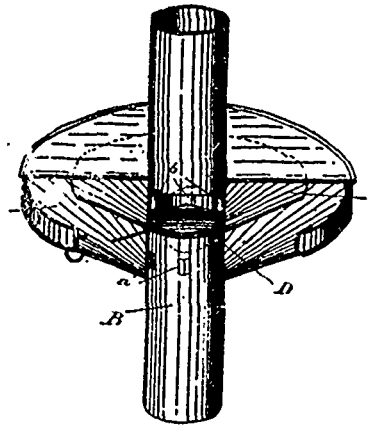
23182 Gray's Pulley and Belt Shipper.



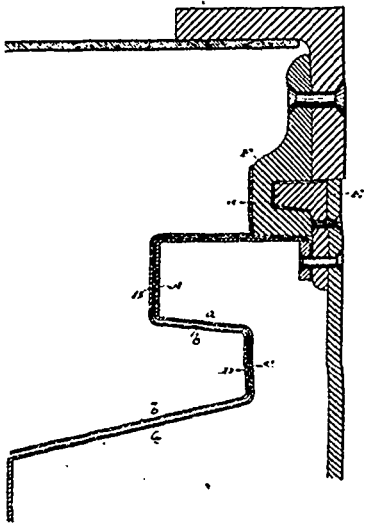
23183 Gray's Fastening for Cutter heads, etc.



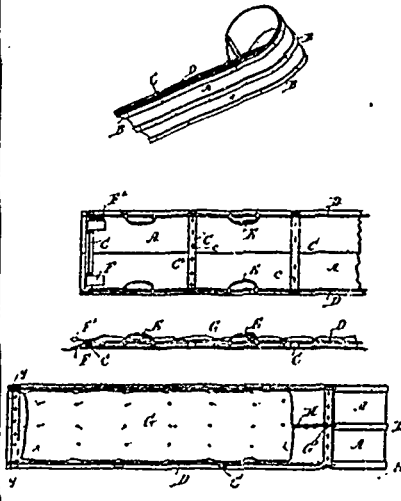
23184 Besudry's Machine for Burnishing the Soles of Boots and Shoes.



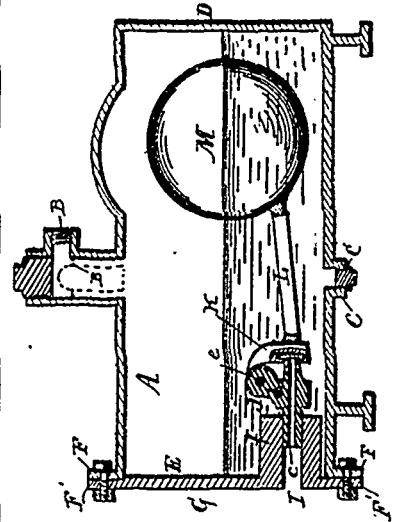
23185 Reader's Stove Shelf, Heater and Damper.



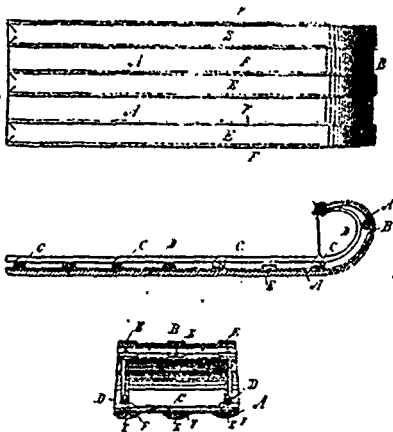
23186 West & Cox's Fire-Proof Safe.



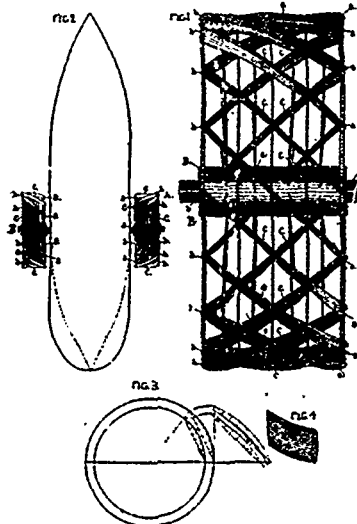
23187 Eaton's Toboggan.



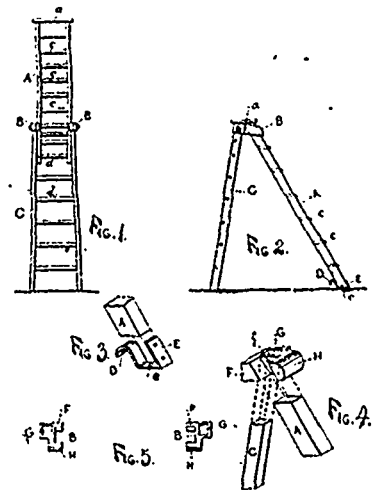
23188 Foscott's Steam Trap.



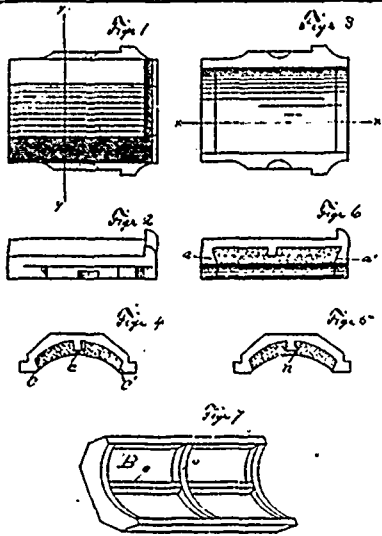
23191 Morrin's Toboggan.



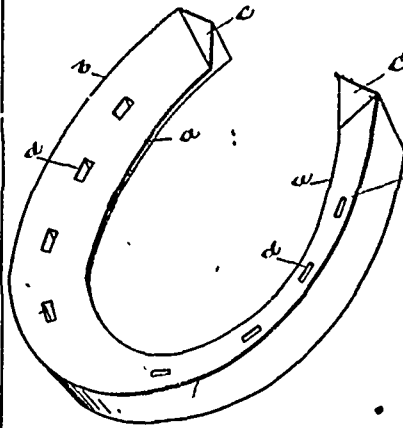
23192 Elford's Paddle Wheel.



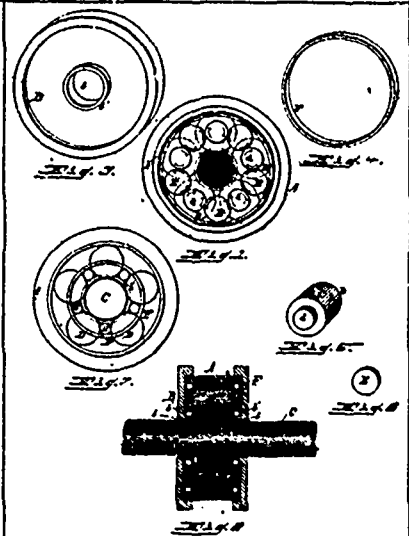
23193 Richard's Step Ladder.



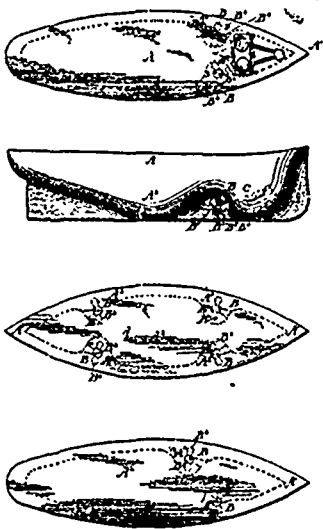
23184 Stroctor's Bearing for Car Axles.



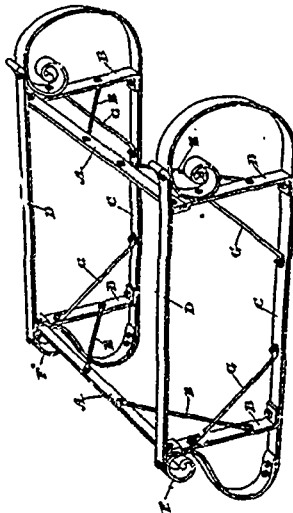
23185 Pearso's Horse Shoe.



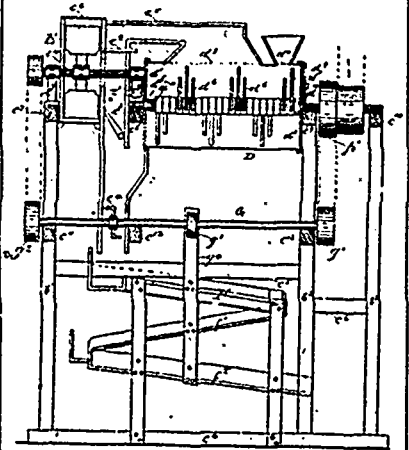
23186 Lake's Anti-friction Roller Bearing.



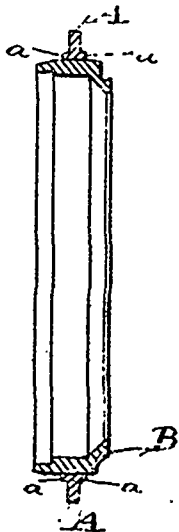
23197 Oram's Ship's Hull and Propeller.



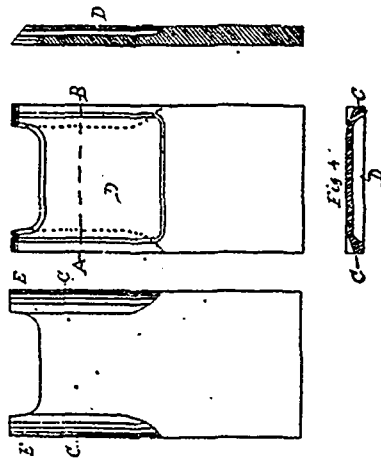
23198 Armstrong's Running Gear for Sleighs.



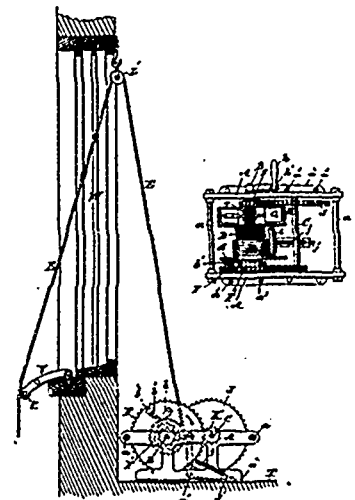
23199 Laidlaw's Grain Cleaning Machine.



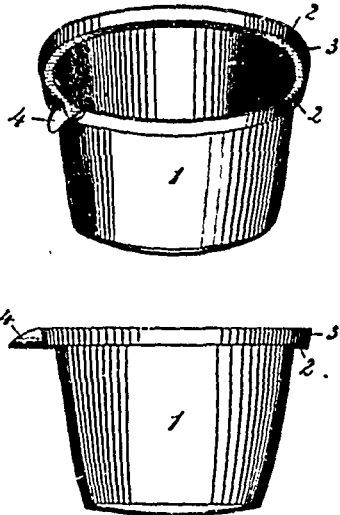
23201 Quigley's Watch Case.



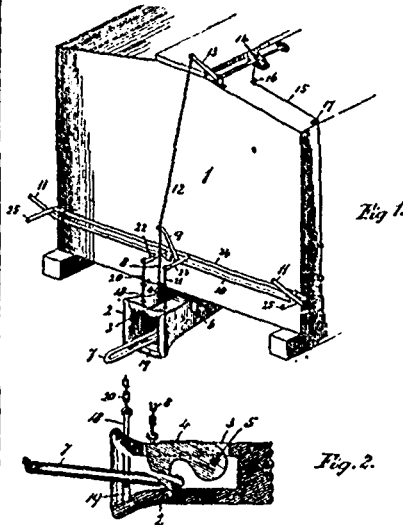
23202 Windsor's Hoop Planer Knife.



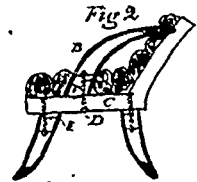
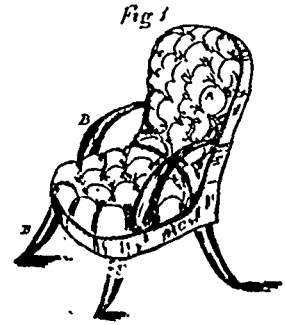
23203 Dittrick's Fire-Escape.



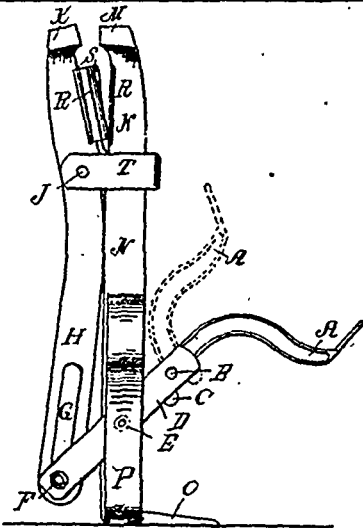
23204 Faucett's Boiler.



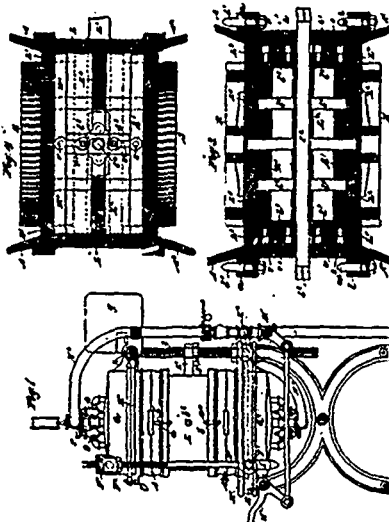
23205 Rivett & Macfarlane's Car-Coupling.



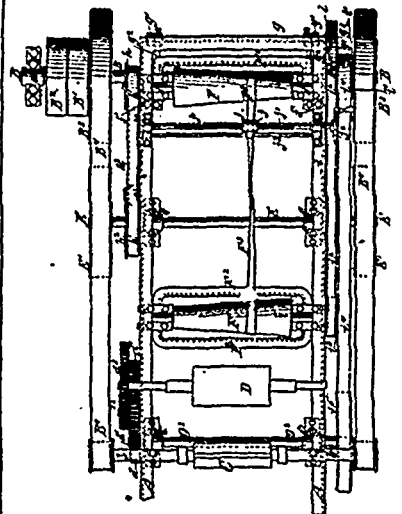
23206 Haight's Materials for Household Furniture.



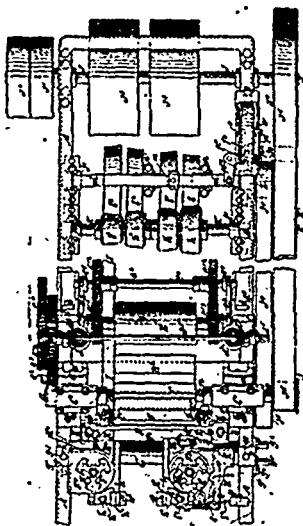
23207 Oliver's Bolt-Making Device.



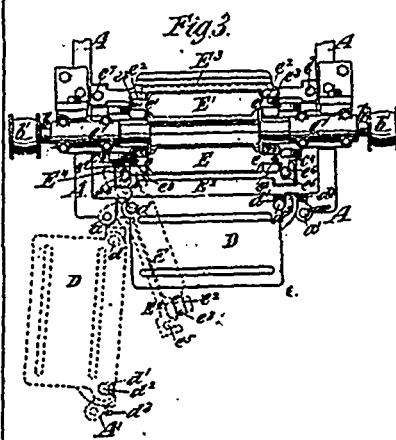
23208 Moore's Machine for Making Moulds for Castings.



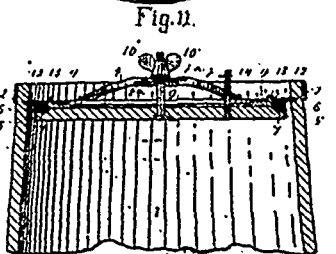
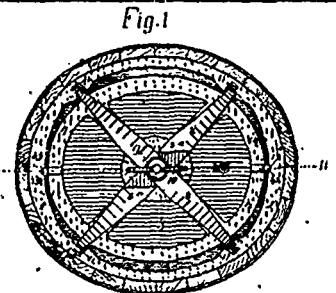
23209 Gray's Feed Mechanism for Planing Machines



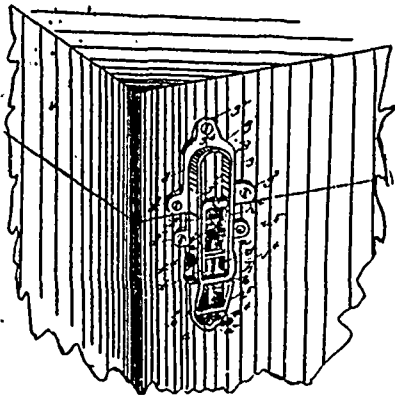
23210 Gray's Wood-Planing Machine.



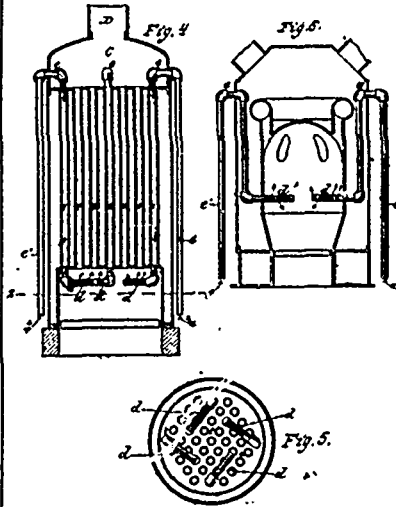
23211 Welch, Hutchinson & Gray's Wood-Planing



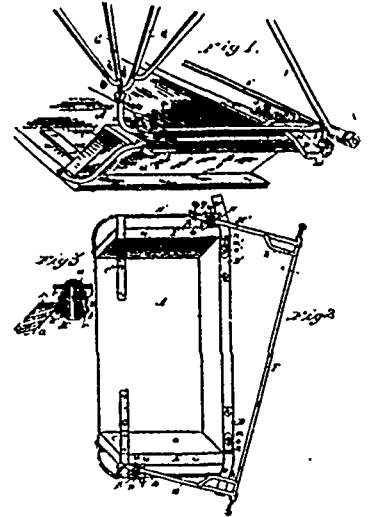
23212 Johnson's Barrel and Barrel Head Attaching Device



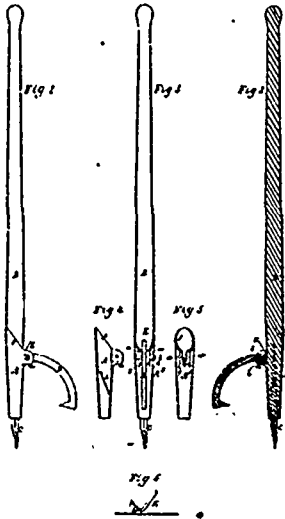
23213 Rivers' Trunk Catch.



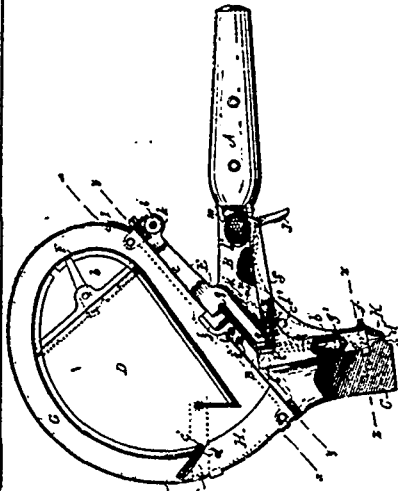
23214 Davenport's Air Channel for Furnaces.



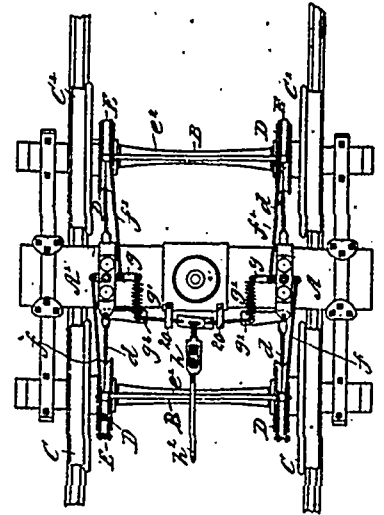
23215 Carroll & Ryan's Buggy Top.



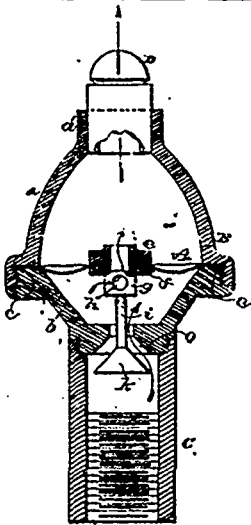
23216 Cassidy's Cant Hobb.



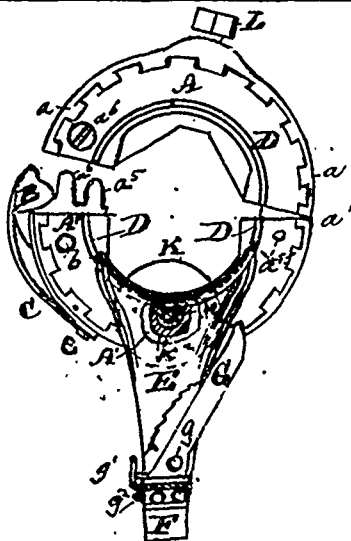
23217 Horton's Hammer.



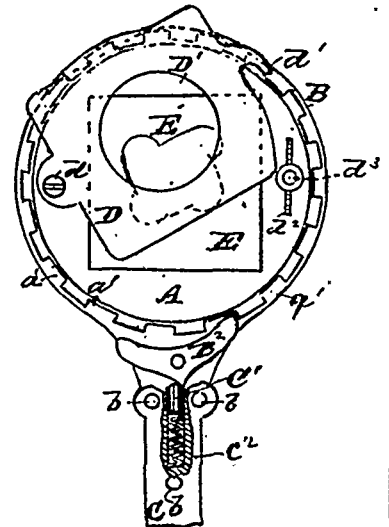
23218 Jewett's Car Brake.



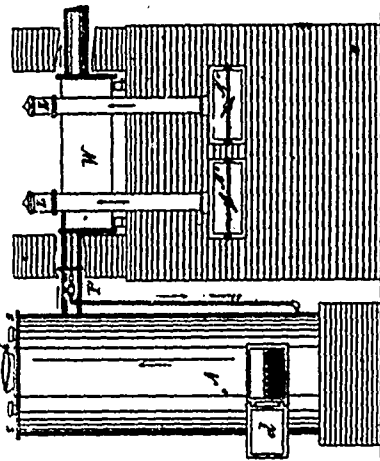
23219 Jackson's Gas Burner.



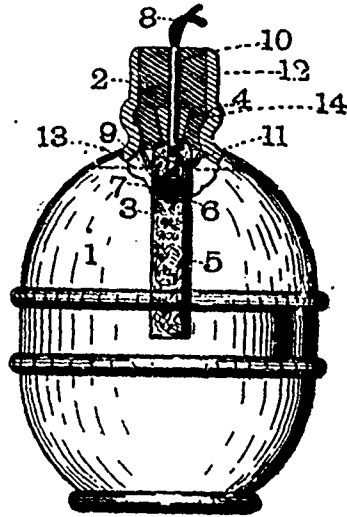
23220 Melhorn's Screw-Cutting Mechanism.



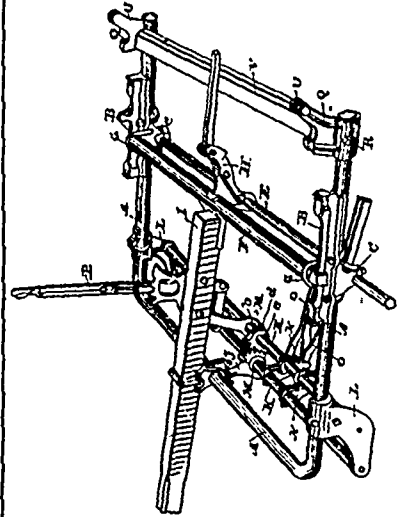
23221 Melhorn's Pipe-Cutting Mechanism.



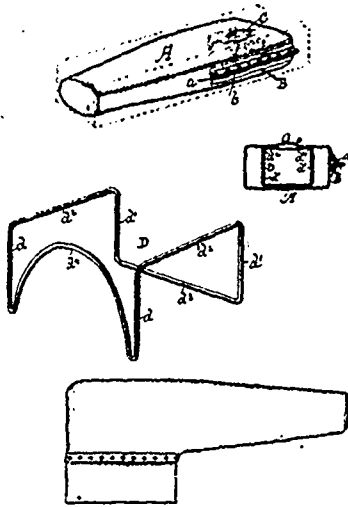
23222 Egner's Apparatus for the Manufacture of Gas.



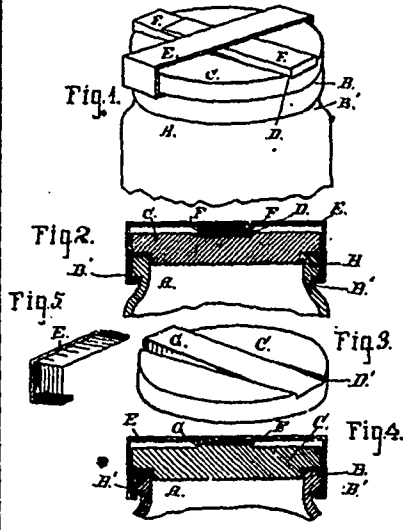
23223 Letson's Fire-Extinguisher.



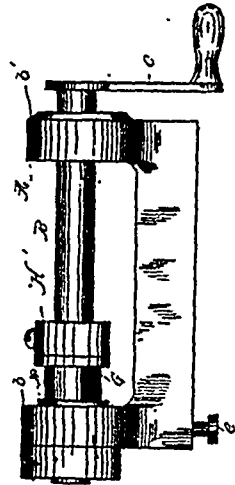
23224 Heath's Seeding Machine.



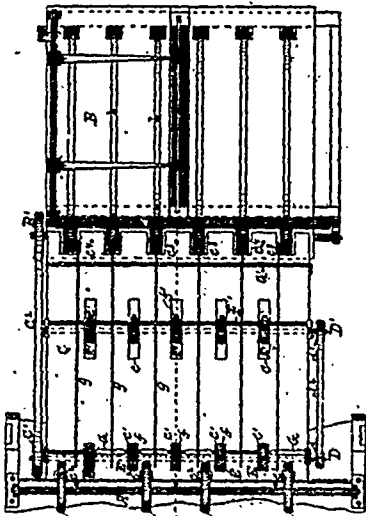
23225 Marston & Clapp's Shrouds for Corpses



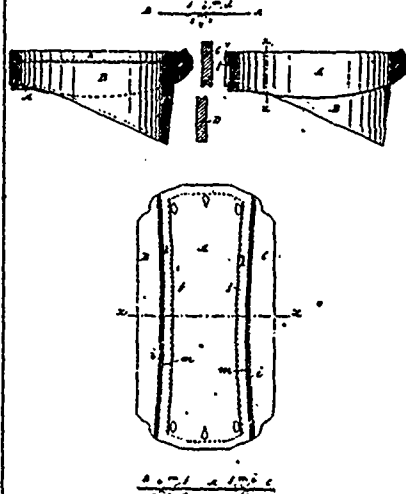
23226 Loomis' Fruit Jar.



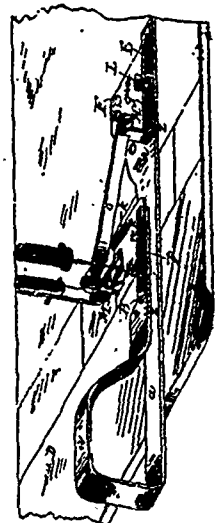
23227 Robbins' Mainspring Winder for Watches.



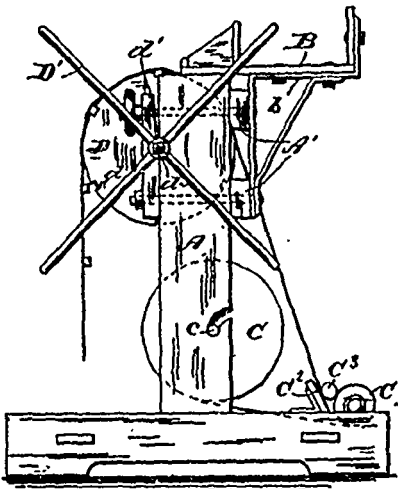
23228 Brown's Sheet Conveyers for Folding Machines.



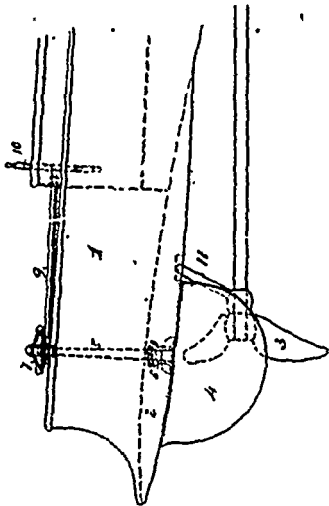
23229 March's Collar and Cuff.



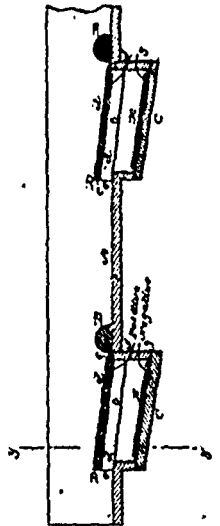
23230 Bonillon's Tucking Attachment for Sewing Machines.



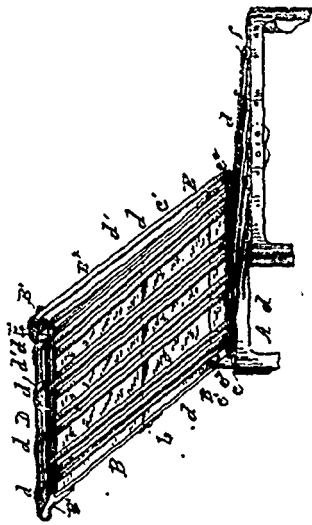
23231 Maxwell's Slat Attaching Device for Elevator Belts.



23232 Thornycroft's Arrangement for Steering Vessels.



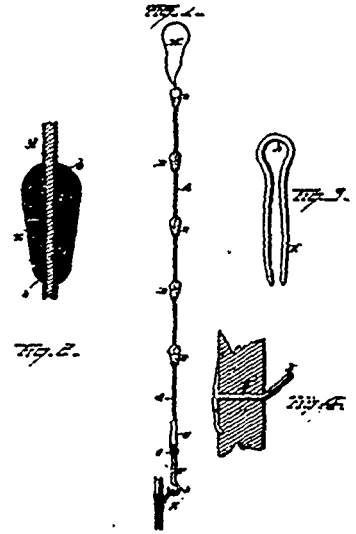
23233 Pike's Amalgamator for Ores, etc.



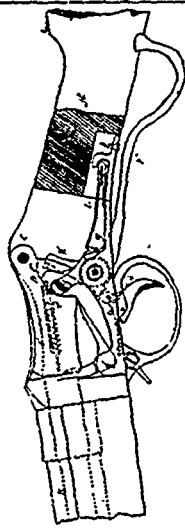
23234 Brown's Carrier Attachment for Folding Machines.



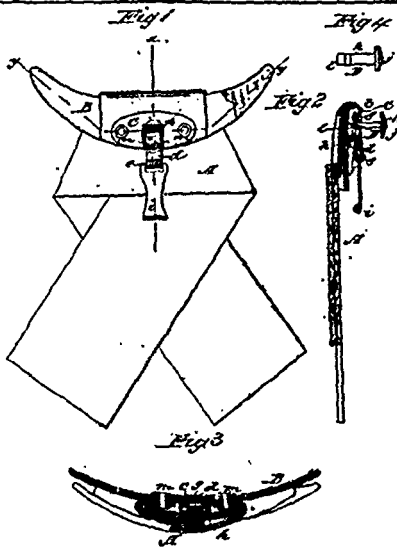
23235 Klipper's Collar and Cuff.



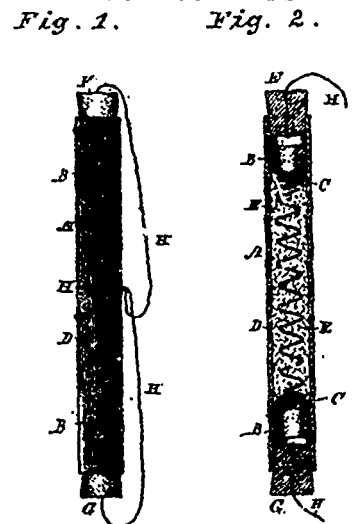
23236 Johnston's Devices for Lowering Coffins.



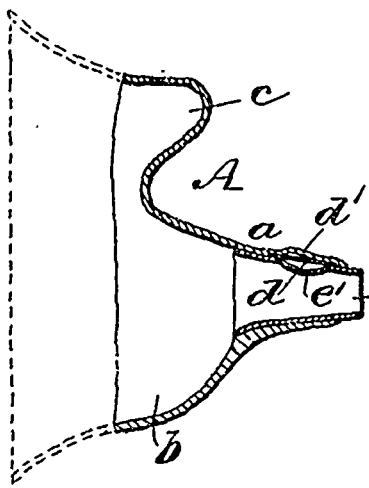
23237 Hasston's Brooch Loading Fire-Arm.



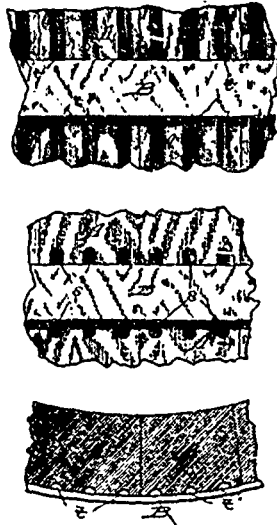
23238 Hollivell's Scarf Fastener.



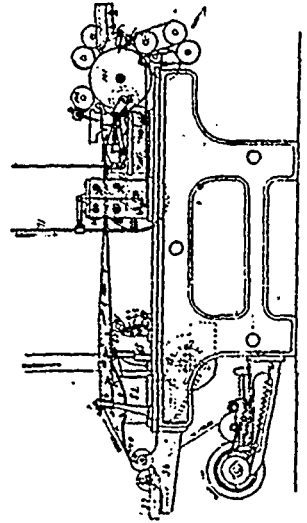
23239 Cushman's Inhaler.



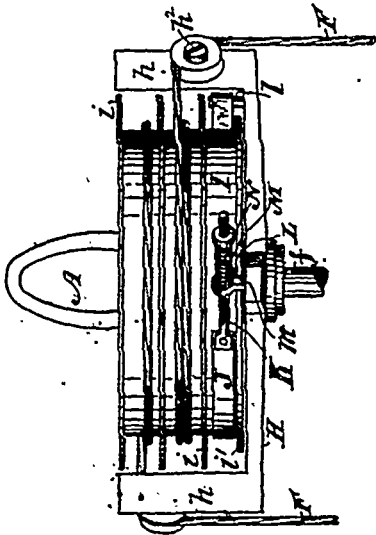
23240 Blodgett's Micro Audophone.



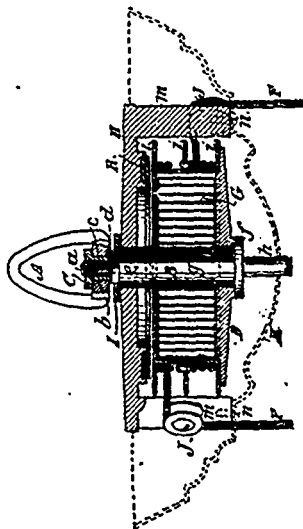
23241 Olsen's Tank.



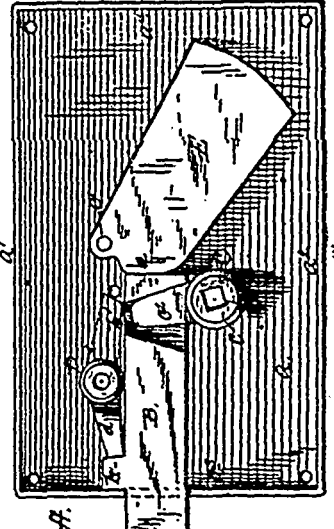
23242 Lorenz & Honiss' Paper Bag Machine.



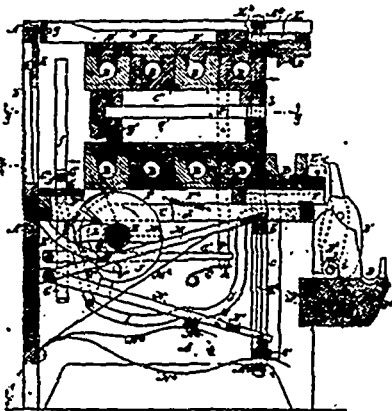
23243 Lyman's Suspending Device for Lamps, etc



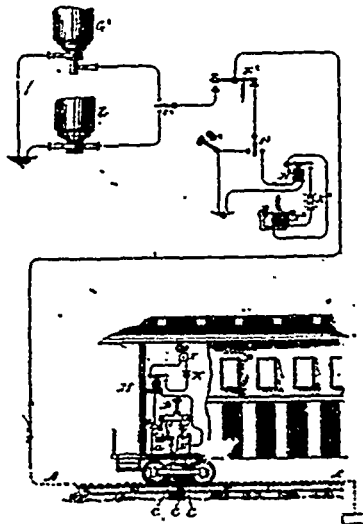
23244 Lyman's Device for Suspending Lamps, etc.



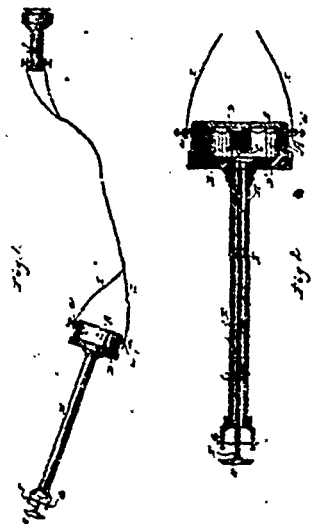
23245 Ehrman's Latch and Lock.



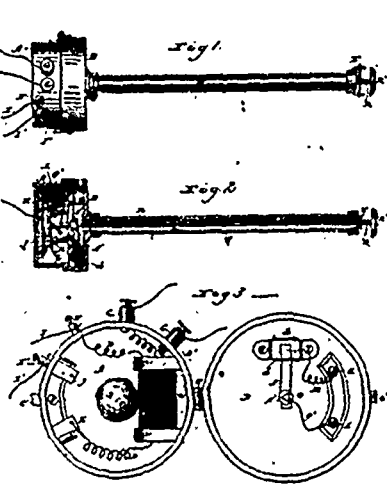
23247 Fox's Machine for Moulding Cigars.



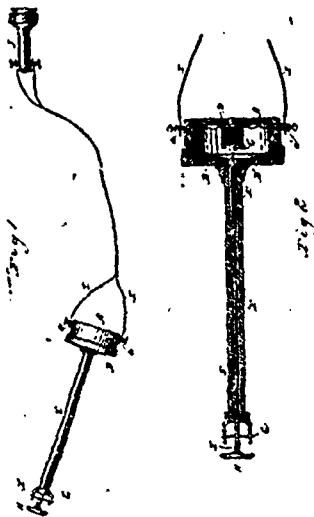
23248 Phelps' Electric Communicating System.



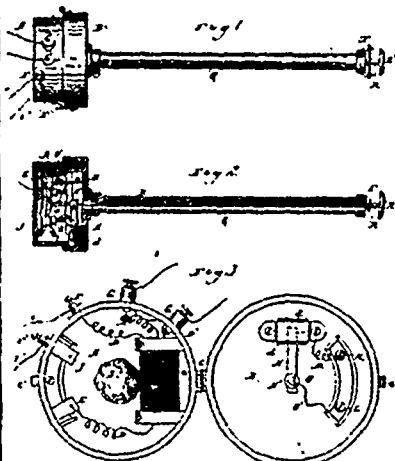
23249 Lowth's Art of Telephony.



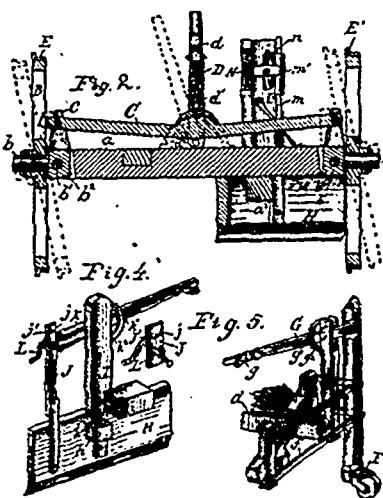
23250 Lowth's Art of Telephony.



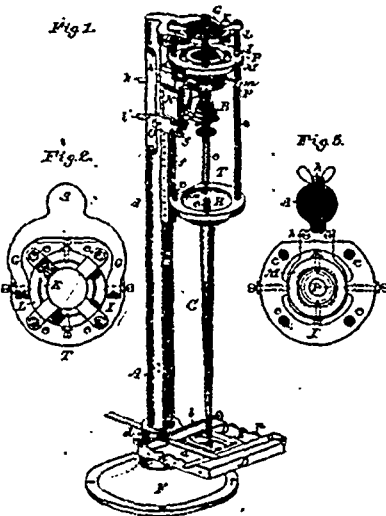
23251 Lowth's Telephone.



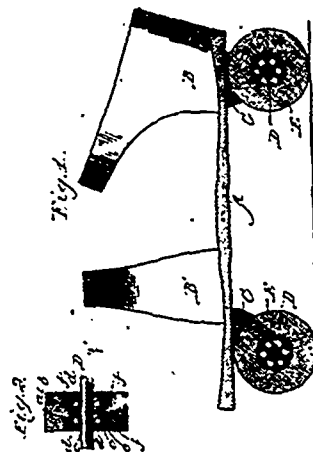
23252 Lowth's Telephone.



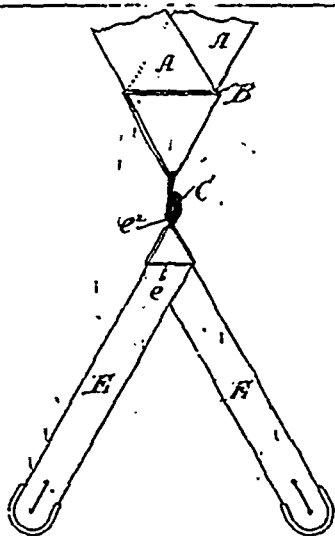
23253 Adams' Road-Grading Machine.



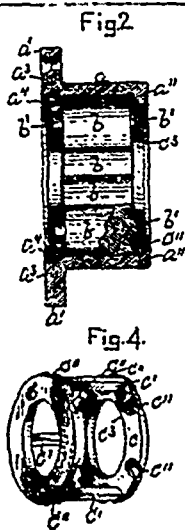
23254 Benton's Punch-Cutting Machine.



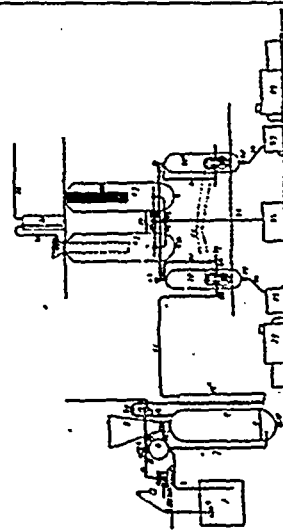
23255 Richardson's Roller Skate.



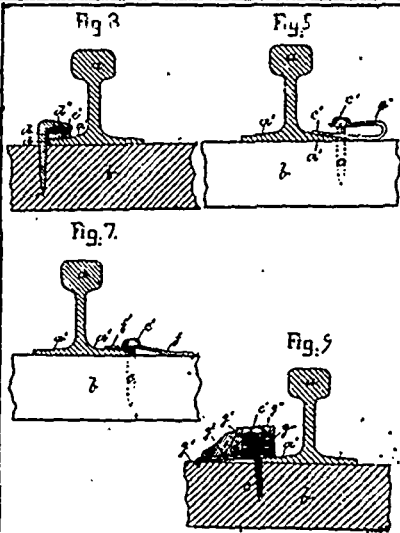
23256 Beaudry's Suspender.



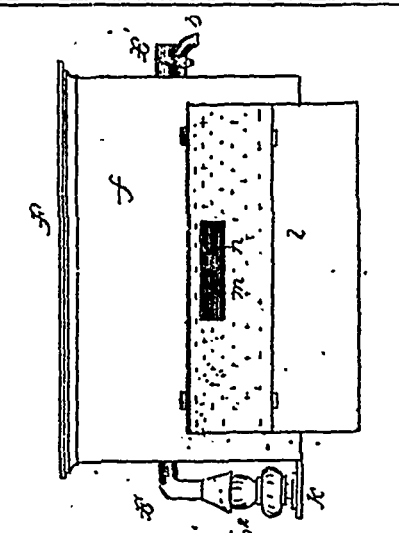
23257 Ferrall's Anti-Friction Bearings.



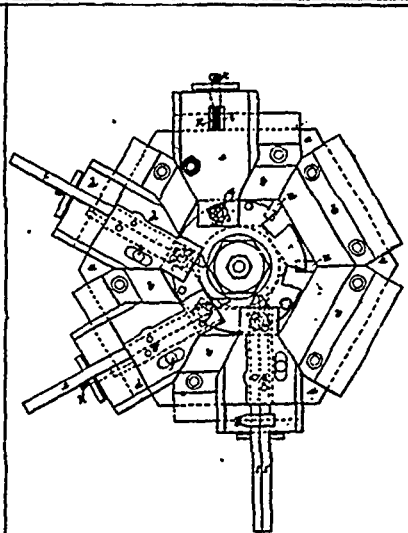
23258 Wigor's Plant for Manufacturing Bicarbonate of Soda.



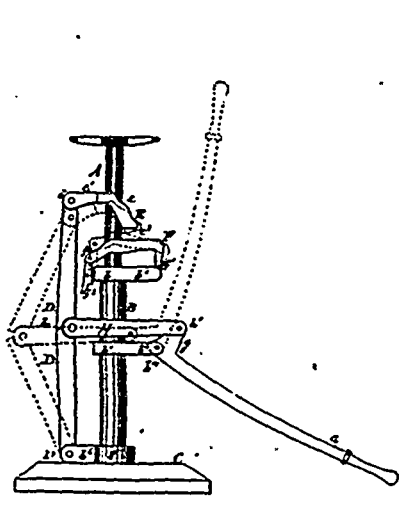
23259 Gallagher's Rail-Fastening Device.



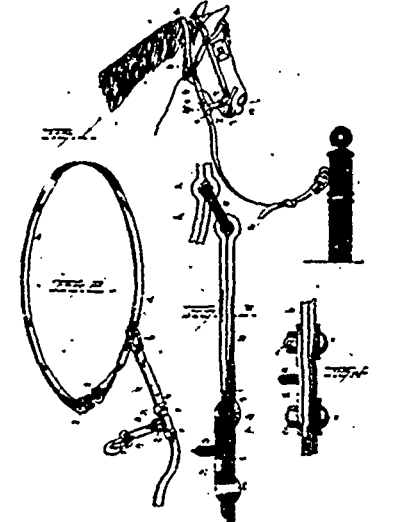
23260 Kulmer's Incubator.



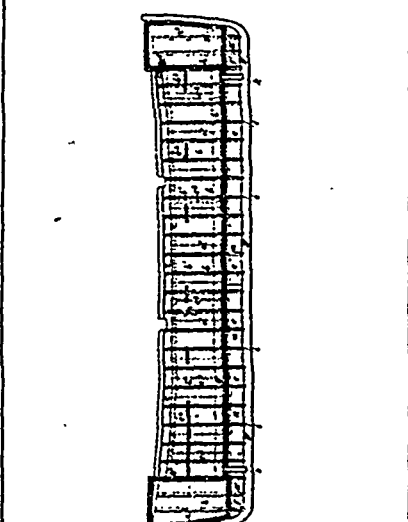
23261 Baum's Machine for Simultaneously Operating on, or Treating Several Surfaces in Horizontal and Vertical Direction.



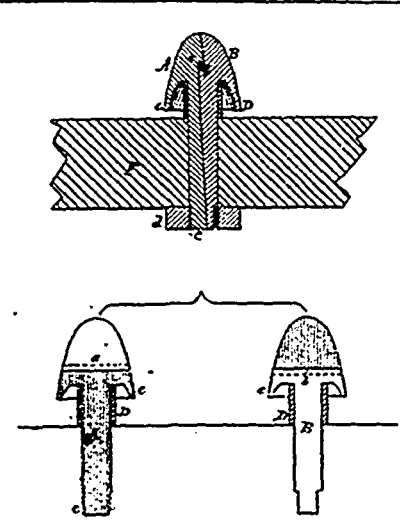
23262 Nordyke's Lifting Jack.



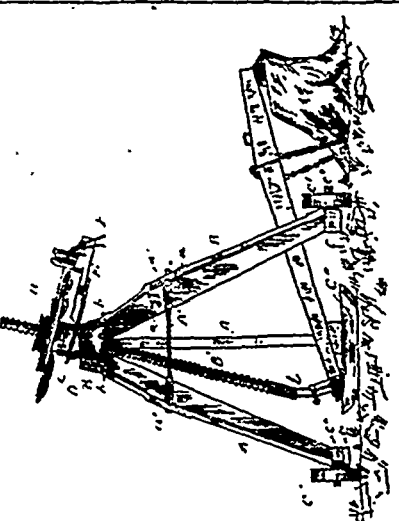
23263 Birdsall's Hitching Strap.



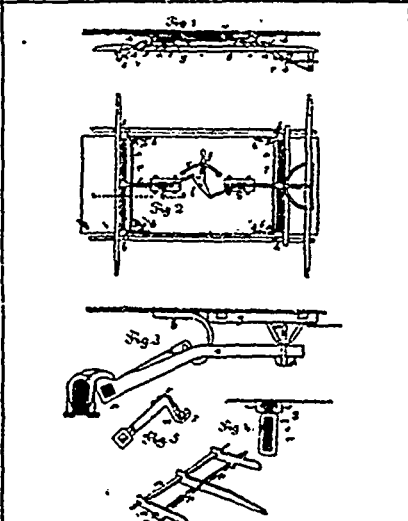
23264 Norton's Life, Ship, and other Boats.



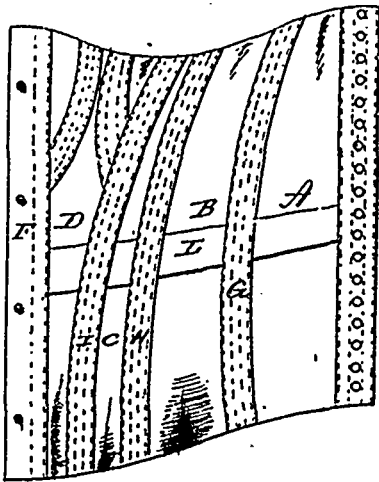
23265 Deblieux's Telegraph Insulator.



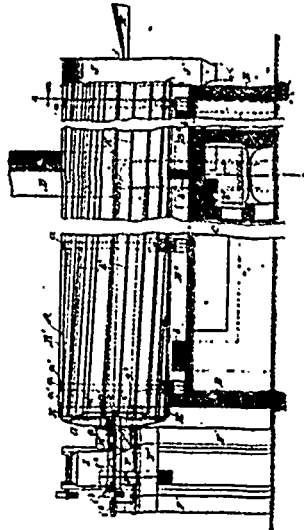
23266 Boyle's Stump Extractor.



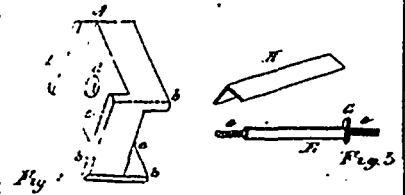
23267 Morse's Vehicle Spring.



23268 Crotty's Corset.



23269 Cadwell's Drying Apparatus.



23270 Wilson's Saw Horse.

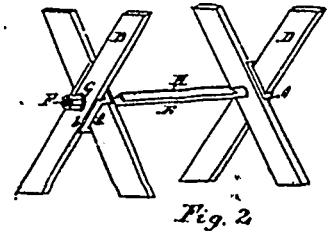


Fig. 2

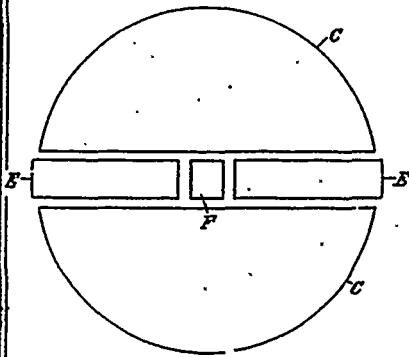
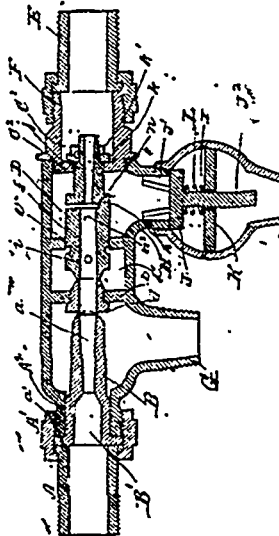
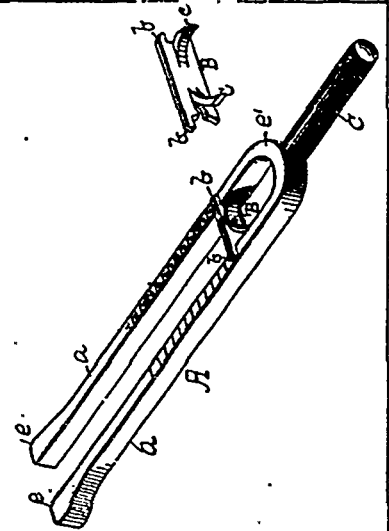


Fig. 3.

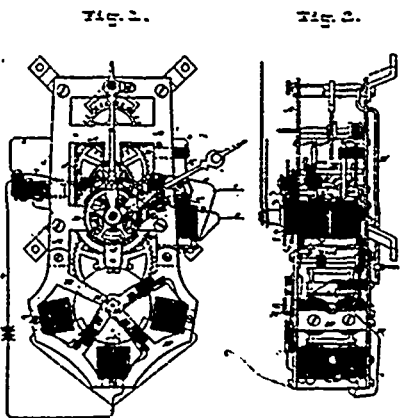
23271 Van Allen's Air-Tight Package for Merchandise.



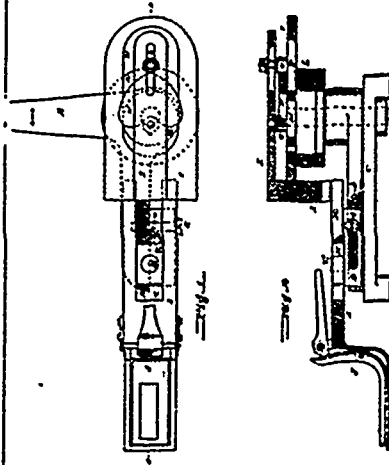
23274 Desmond's Steam Injector.



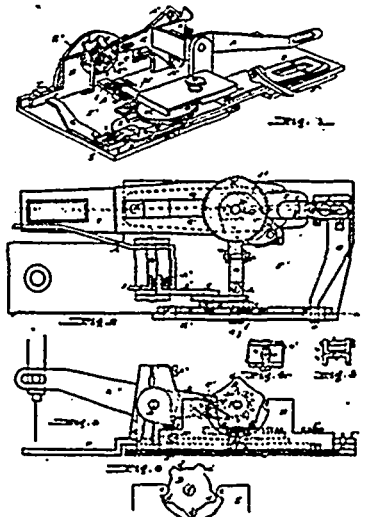
23275 Segrove's Tuning Fork.



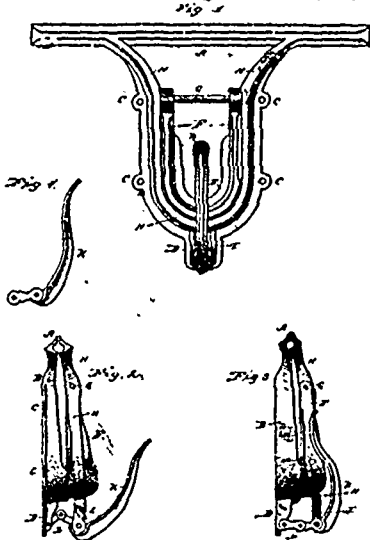
23276 Pond's Synchronizer for Clocks.



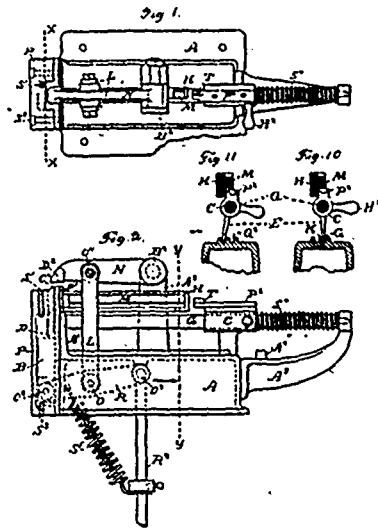
23278 Palmer's Button Hole Attachment for Sewing Machines.



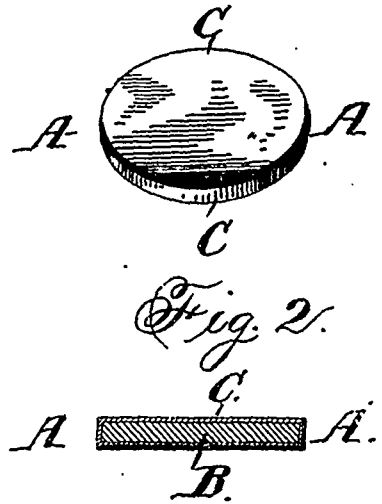
23279 Palmer's Button Hole Attachment for Sewing Machines.



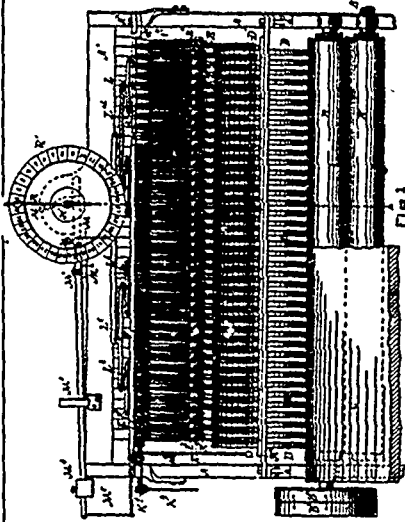
23282 Tyler's Saw Vico.



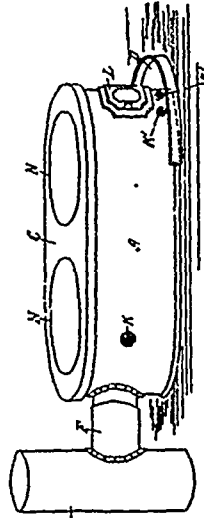
23283 Richards' Button Fastener Setting Machine.



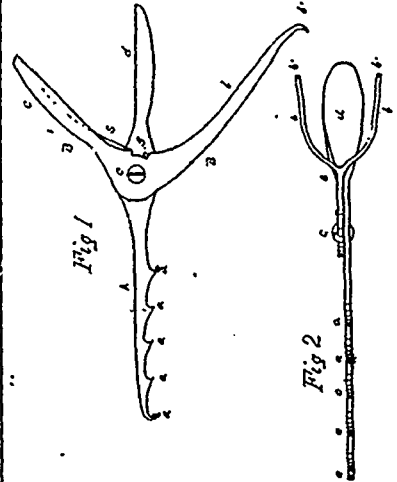
23284 Kennedy's Shaving Tablets.



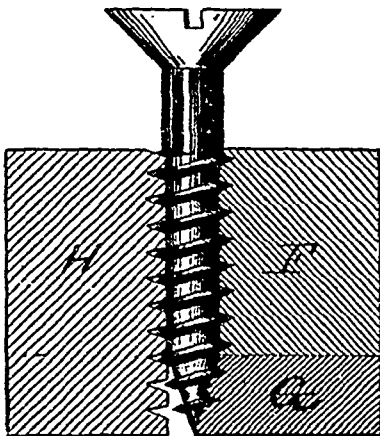
23285 Sawyer's Machine for Measuring the Area of Surfaces.



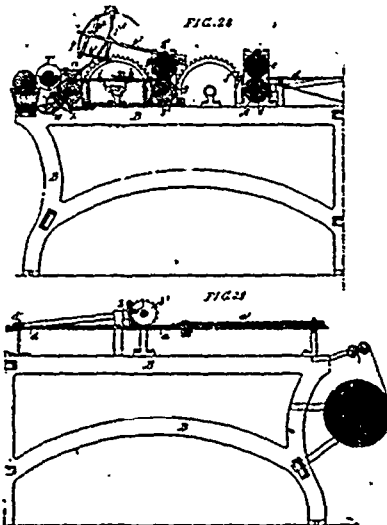
23286 Anderson's Cooking Stove.



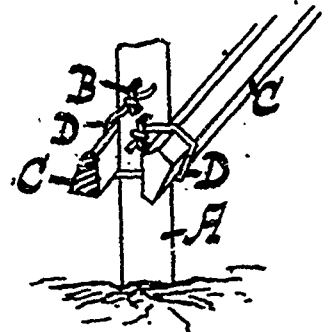
23287 Kibler's Kettle Lifter.



23288 Harvey's Machine for Rolling Screw Threads.



23289 Leinback, Wollo & Brunner's Paper Bag Machine.



23290 Ivory's Fence Rail Fastener.