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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. 22,170. Shoe for Cleaning Grain.
(*Nettoyeur des Grains.*)

Frederick M. Lynett, Toronto, Ont., 1st August, 1885; 5 years.

Claim.—1st. In combination with main frame A, having notched plate N, rocking-frame B, provided with spring lever M, having stud *i*, to enter the notches of the plate, and screen C, supported and adapted to rotate within frame B. 2nd. In combination with a rotary cylindrical screen, spiral conveyer blades secured to the interior walls thereof, buckets extending from one blade to another, stationary scattering plates located within the cylinder and adapted to spread the material raised and deposited upon them by the buckets, and a fan arranged, substantially as described and shown, to produce a current of air through the cylinder. 3rd. In a screening apparatus, such as described, the combination of a rotary screening cylinder having end plate *b*, partially closing the discharge end of the cylinder, hoop *c*, provided with outlets *f*, encircling band F, provided with outlets *g*, and fan I, said parts being constructed and arranged substantially as shown and described, whereby the material operated upon may be held for any desired length of time under the action of the fan. 4th. In combination with a stationary frame A, a rocking frame B, provided with a lateral axle K, and having trunnions a journaled in said stationary frame, a driving-wheel R, R₁, journaled upon one of the trunnions *a*, a rotary cylindrical screen C, provided with gear ring P and gear wheel Q Q₁, mounted upon axle K, and serving to transmit motion from the driving wheel R, R₁ to the screen, the parts being arranged substantially as described and shown, whereby the adjustment of the screen may be varied without changing the position of the driving wheel.

No. 22,171. Combination Button.
(*Bouton à Combinaison.*)

Frank A. Fox, New York, N. Y., U. S., 1st August, 1885; 15 years.

Claim.—In a changeable button, substantially as described, a disc having a threaded edge, provided with removable covering shell interiorly threaded and adapted to entirely conceal the face of the disc, substantially as set forth.

No. 21,172. Wheel Harrow. (*Herse à Roue.*)

William A. Martin, Milltown, P. E. I., 1st August, 1885; 5 years.

Claim.—1st. The combination of an over-hanging hood on the arm or pillar carrying the wheel, and a cone made on or attached to the said wheel, for the purpose of preventing dirt of any description whatever getting into the wearing parts of said wheel and its axle, substantially as and for the purpose hereinbefore set forth.

No. 22,173. Feed Water Alarm.

(*Indicateur à Sonnerie du Niveau d'Eau.*)

George W. Getchell, Brewer, and Webster Cook, Williamantic, Me., U. S., 1st August, 1885; 5 years.

Claim.—1st. In a feed-water alarm, the pivotal lever *g*, formed with the bent or attached arm *j*, and having the balance rod *o*, *p*, pendulum *q*, *r*, and arm *l* rigidly attached by means of the collar E,

and formed at the inside end with the spindle collar or socket *t*, and adjusting screw *u*, in connection with the spindle *m*, and attached by the chain K to the float *d*, as shown and described. 2nd. In a feed-water alarm, the pivotal bend lever *g*, *j*, having the parts *g* and *j* formed integral, and bent at *a*, the part *g* inclosed and operating in a steam boiler or cylinder, and formed with the adjustable spindle *m* properly attached, and connected by a suitable chain with the float *d*, and actuated by the rise and fall of the float *d*, corresponding to the rise and fall of the water in the boiler or cylinder, the part *j* passing through and rotating in the packing-box *i*, and having rigidly attached the rod and weight *q*, *r*, and balance rod and weight *o*, *p*, and arm and spring *l*, *s*, arranged and operating in connection with the circuit-closer V and proper electrical wires to ring the electrical bell W, or sound any electrical alarm. 3rd. In a feed-water alarm, the combination of the steam cylinder *c*, recessed chamber *m*, float *d*, chain K, spindle or lever *g*, arm *j*, pendulum *q*, *r*, balanced rod *o*, arm and spring *l*, *s*, circuit-closer V, suitable electric wires, and the electric bell or alarm W, arranged and used and operating as shown and described. 4th. In a feed-water alarm operating in a steam cylinder or boiler, the safety valve X, having the lever *s* connected to or engaging with and operating the balanced rod *o* to sound an electrical alarm, all as shown and described, and substantially as and for the purpose hereinbefore set forth.

No. 22,174. Apparatus for Measuring and Continuously Recording Physical Power. (*Appareil pour Mesurer et Enregistrer avec Continuité la Force Animale.*)

Arthur G. Meeze, Redhill, Eng., 1st August, 1885; 5 years.

Claim.—1st. The dynamical integrator, hereinabove described, with reference to Figs. 1 and 2 of the drawings, and consisting of the combination with the spindle of a suitable counting device, of epicyclic gear, a secondary spindle carrying a friction disc or cone driven by elastic extensible belting from a pulley upon the first spindle, and a friction-piece adapted to be moved to or from the centre of the disc or cone, so as to retard and control the velocity of the secondary spindles, by means of which apparatus may be effected the integration of two variable functions, and consequently the direct meterage of divers forms of physical power, and indirectly the quantity of water or other fluid passed through pipes or conduits, substantially as set forth. 2nd. The combination and arrangement of apparatus described, with reference to Figs. 1 to 5, inclusive of the drawings, for the meterage of the power given out by steam or other engines worked by fluid pressure. 3rd. The adaptation to the measurement of power transmitted by driving belts, of integrating apparatus, constructed and arranged substantially as shown in Figs. 6 and 7, and consisting essentially in the combination with the spindle of a counter C, of epicyclic gear, a second spindle A₁, carrying a friction disc or cone D, a pair of belts, *e*, *e*₁, one of which is elastic and extensible connecting the epicyclic gear with the said secondary spindle, and a friction-piece *d*, controlled by the tension of the driving belt, so as to be displaced from the centre of the disc or cone in proportion to the variations in effective tension of the said belt, substantially as set forth. 4th. The adaptation of my integrating ergometer to the measurement of the power transmitted through revolving shafting, as described, with reference to Figs. 8 and 9 of the drawings. 5th. The use for measuring and recording transmitted physical power, of an integrating dynamometer, constructed as described with reference to Figs. 1 and 2 of the drawings, an essential feature of which integrator is a friction disc or cone D, and a friction-piece *d* arranged so as to be moved to or from the centre of the said disc or cone in proportion to one of the functions to be integrated (the pulley B being driven at a rate proportional to the other function) in order to ascertain the total energy expended or work done. 6th. The adaptation to the meterage of electrical energy, of dynamical integrating apparatus, constructed arranged and operating substantially as hereinbefore described, with reference to Figs. 11 and 12 of the drawings. 7th. The differential use of dynamical integrating apparatus for the meterage of electrical energy, as described, with reference to Figs. 11, 12 and 13 of the drawings. 8th. The combination, with an electric motor doing electrical or other work, of an integrating ergometer for the purpose of effecting the meterage of electrical energy, as described. 9th. The means described, with reference to Figs. 14 and 15, for differentially measuring and recording electrical energy.

10th. The combination with electric apparatus K, counter C, differential gear i, j, k , and elastic extensible belting, of a friction disc D and a traversing friction-piece d , the displacement of which friction-piece from the centre of the disc is controlled by the electric current to be measured. 11th. In dynamical integrating apparatus, the combination of a traversing friction-piece and a friction disc, driven by an elastic extensible belting, with differential gear and a counter, substantially as described, with reference to Fig. 15a of the drawings. 12th. The combination, with a counter C, and pair of fluid motors M, M' adapted to be driven at different velocities, of pulleys, differential gear, and elastic extensible belting, arranged in the manner and for the purpose described, with reference to Figs. 16 and 17 of the drawings. 13th. The adaptation to the meterage of water of my dynamical integrating apparatus in the manner described, with reference to Figs. 18 and 19 of the drawings. 14th. The combination, with integrating apparatus, constructed as described, and fitted with a friction disc D, and friction-piece d , of means for driving the pulley B, of the apparatus from a motor worked or controlled by the fluid in passing, and a valve or its equivalent arranged to displace the said friction-piece, and at the same time to vary the size of the outlet and regulate and control the flow of the fluid, substantially as and for the purpose set forth. 15th. The means, hereinbefore described, with reference to the drawings, for effecting and controlling, for the various purposes of my invention, the velocity of a shaft or pulley driven directly or indirectly through contact with an elastic extensible driving belt, which control is of the nature of retardation, and is effected by causing the said shaft or pulley to do work, (a) in overcoming the resistance of a traversing friction-piece kept pressed against the surface of a revolving disc or cone driven by or from the said shaft or pulley, (b) in overcoming the resistance to motion experienced when an electrical conductor is moved to or from an electric current or its equivalent, as when the said shaft or pulley drives a dynamo, or causes a metallic disc to revolve between the poles of a magnet, (c) in overcoming a resistance introduced by fluid friction, as when the said shaft or pulley drives vanes or their equivalent immersed in a fluid.

No. 22,175. Roller Skate. (*Patin à Roulettes.*)

John Lovett, Indianapolis, Ind., U.S., 1st August, 1885; years.

Claim.—1st. The combination, with the hanger and roller-frame, of a roller skate, of an elastic plate for securing the roller-frame and hanger together, substantially as described. 2nd. The combination, with the roller frame and hanger of a roller skate, of an elastic plate for securing said parts together, and a tension regulator for said plate, substantially as described. 3rd. The combination, with the roller-frame and hanger of a roller skate, of an elastic plate for securing said parts together, and an elastic cushion or spring for cushioning the lateral play of said parts, substantially as described. 4th. The combination, with the roller-frame and hanger of a roller skate, of an elastic plate for securing said parts together, an elastic cushion or spring to cushion the play of said parts, and a compressor to regulate the resistance of said cushion, substantially as described. 5th. The combination, with the roller-frame and hanger of a roller-skate, of an elastic plate for securing said parts together, a tension regulator for said plate, an elastic cushion or spring for cushioning the said parts, and a compressor for regulating the resistance of said cushion, substantially as described. 6th. The combination of the roller-frame and hanger of a roller skate, of a corrugated plate to secure said parts together, substantially as described. 7th. The combination, with the roller-frame and hanger of a roller skate, of an elastic plate to secure said parts together, and an adjusting screw engaged with said plate to regulate its tension, substantially as described. 8th. The combination, with the roller-frame and hanger of a roller skate, of an elastic plate for securing said parts together, an elastic cushion or spring to cushion said parts and a screw to regulate the resistance of the cushion, substantially as described. 9th. The combination, with the hanger having the slot in its top, of the roller-frame formed with a finger or stud projecting through said slot to limit the play of one part on the other, substantially as described. 10th. The roller-frame for a roller skate framed with a lubricant chamber extending from the upper portion to the axle box and adapted to hold a plastic lubricant, substantially as described. 11th. The roller-frame for a roller skate, provided with lugs on its lower end, substantially as and for the purpose described. 12th. The roller-frame for a roller skate, having an axle box at its lower end, and provided with a substantially vertical lubricant chamber, adapted to hold a plastic lubricant and to feed the same automatically as required, substantially as described. 13th. The roller-frame for a roller skate formed with journal pins at its upper end, and lugs at its lower end, and having a lubricant chamber extending from its upper portion to the axle box, substantially as described. 14th. The hanger for a roller skate, having the central recess and slot and journal bearings, and the interiorly threaded heel at one end and interiorly threaded lip or extension at the other end, substantially as described. 15th. The corrugated elastic plate for securing the bracket and hanger of a roller skate together, substantially as described. 16th. The combination with the clamping jaws of a skate, of a plate having said jaws secured thereto, and adapted to be secured to the foot piece of a skate, substantially as described. 17th. A wooden roller for skates, composed of a series of wedge-shaped sections, bearing with their inner ends on the hub or box, and cut in such a manner that the grain of the wood runs lengthwise of the sections, and secured together by metallic plates or rings applied to the sides of the roller, and bolts or rivets passing through said plates or rings and said sections, substantially as set forth. 18th. The combination of a frame provided with a hub, having recesses or sockets x, y , of an axle or shaft extending through the socket y , and a flanged box fitting each socket X, and friction rollers arranged within the box to bear upon the axle and upon the inner face of the flange, substantially as described. 19th. The combination, with a revolving axle, of a box perforated for the passage of the axle and adapted to a socket in the part supporting the axle, and provided with an annular

flange and friction rollers arranged within said flange to afford bearings for the axle, substantially as described. 20th. The combination, with the roller frame having a recess or socket y , of a transverse axle supporting the rollers and provided with a peripheral groove e , and a retaining pin or key h , substantially as et forth. 21st. The combination of the frame, revolving axle provided with a peripheral groove adapted to a retaining device h , and boxes recessed for the passage of the axle and inclosing anti-friction rollers, substantially as described.

No. 22,176. Hose. (*Tuyau Elastique.*)

James Jones, Dublin, Ireland, 1st August, 1885; 5 years.

Claim.—1st. Hose or tubing formed of fabric treated with oils to render it air and liquid proof, and placed around a spiral wire core, substantially as herein shown and described. 2nd. Hose or tubing formed of fabric treated with oils to render it air and liquid proof, and wound on a spiral wire core, the fabric being held on the core by cords, wires or cables wound spirally on the covering, substantially as herein shown and described. 3rd. The combination, with the spiral wire core A, of the fabric covering B, treated with oils to render it air and liquid proof, and wound on the core, the wire C, wound on the fabric B, and wire C, and the binding wires E, wound around the fabric D, substantially as herein shown and described. 4th. Hose or tubing made of fabric treated with oils to render it air and liquid proof, substantially as herein shown and described.

No. 22,177. Oscillating Engine.

(*Machine à Cylindre Oscillant.*)

Albert Cunningham, Milwaukee, Wis., U.S., 1st August, 1885; 5 years.

Claim.—1st. The combination, in an oscillating engine, of the trunnion C, having bearing faces on two diametrically opposite sides, one of which is closed, and the other provided with ports communicating through said trunnion with supply and exhaust ports or connections, cylinder A having a transverse bore to receive said trunnion C upon which it is mounted and oscillates, and passages c and f communicating with opposite ends of said cylinder and registering with the ports in said trunnion, substantially as and for the purposes set forth. 2nd. The combination, in an oscillating engine, of the cylinder A, having a transverse bore to receive the trunnion C, upon which it is supported and oscillates, trunnion C having passages leading from its end or ends and opening at one side thereof, so as to register with ports or passages communicating with opposite ends of cylinder, and a yielding box or block bearing against said trunnion upon the opposite side opposite the openings of said passages therein, substantially as and for the purposes set forth. 3rd. The combination, in an oscillating engine, of the trunnion C having bearing faces on two diametrically opposite sides, one of which is closed and the other provided with ports communicating through said trunnion with the valve chamber M, cylinder A having a transverse bore to receive said trunnion C, upon which it is mounted and oscillates, passages c and f , communicating with the opposite ends of said cylinder and registering with the ports in said trunnion and valve N, substantially as and for the purposes set forth. 4th. The combination, in an oscillating engine, of the cylinder A, mounted upon trunnion C and provided with passages c and f , communicating with the lower and upper ends of said cylinder respectively, passage g , connecting passage f with a cavity u, u below the trunnion and the segmental box L, substantially as and for the purpose set forth. 5th. The combination, in an oscillating engine, of cylinder A, trunnion C, upon which it is mounted and vibrates, passages c and f leading from opposite ends of said cylinder to the face of the trunnion passages, through said trunnion registering with said passages c and f , box L, at the opposite side of said trunnion, and a steam connection with the passage supplying the upper end of said cylinder, whereby the same steam pressure which is introduced to the top of said cylinder, is exerted upon said box L, substantially as and for the purposes set forth. 6th. The combination, in an oscillating engine, of the cylinder A provided with passages c and f communicating with its opposite ends and the trunnion upon which it swings, trunnion C, provided with induction and eduction passages which register with said passages c and f , segmental box L, pressure plate O, diaphragm a, a , steam cavity u, u , and passage g , connecting the same with passage f , substantially as and for the purposes set forth. 7th. The combination, in an oscillating engine, of the cylinder A, having a transverse bore to receive trunnion C, upon which it is mounted and oscillates, trunnion C having passages d and e opening at one side and at the end or ends thereof, passages c and f registering with said passages d and e and communicating with opposite ends of said cylinder A, and a connection between the face of said trunnion opposite to the ports therein and the end of the cylinder in which the pressure tends to separate the valve face of said trunnion from its bearing, whereby the latter are held closely together, substantially as and for the purposes set forth. 8th. The combination, in an oscillating engine, of the cylinder A, having a transverse bore to receive trunnion C upon which it is supported and oscillates, passages c and f leading from said trunnion to the opposite ends of said cylinder, trunnion C having passages d and e opening on one side thereof and registering with said passages c and f , the box or block L bearing against said trunnion upon the opposite side and connections between said block L and the end of said cylinder in which the pressure tends to separate the valve face of said trunnion from the valve face against which it bears, whereby said valve faces are snugly held together, substantially as and for the purposes set forth.

No. 22,178. Horse Shoe. (*Fer à Cheval.*)

William J. Smith, Oxenden, Ont., 3rd August, 1885; 5 years.

Claim.—A calkless horse-shoe having an outer ridge D, sloped inwardly on the exterior and interior, an inner ridge F of lesser height bevelled in opposite directions, and a groove between said ridges perforated with nail holes, as set forth.

No. 22,179. Device for Cleaning Clothes.*(Appareil pour Nettoyer les Hardes.)*

Albert B. Williamson, Toronto, Ont., 3rd August, 1885; 5 years.

Claim.—1st. A plate B arranged to rest upon the ledge *a* and having inverted saucer-shaped chambers *C*, in combination with the vertical tubes *D* arranged to connect the chambers *C* with the perforated tube *E*, located at a point above the ordinary water level in the boiler *A*. 2nd. A plate *B* having inverted saucer-shaped chambers *C* and vertical tubes *D* extending therefrom, in combination with the perforated tube *E* connected to the tubes *D* by the outwardly and downwardly projecting tubes *b*, substantially as and for the purpose specified.

No. 22,180. Shuttle for Sewing Machines.*(Navette pour Machines à Coudre.)*

Charles Parton, Plattsburgh, N. Y., U. S., 3rd August, 1885; 5 years.

Claim.—1st. The combination, in a shuttle, of shuttle shell *A* having open slots *D*, *E* and recesses *R*, *S*, *T*, of tension spring *G* having slots *L*, *M*, *K*, projections *O*, *P*, *Q*, guide *K* and hook *U*, substantially as set forth. 2nd. The combination, in a cylindrical shuttle, of a shell having an open thread slot, and a tension spring having a slot and projection near the open end of the shell, to prevent the thread from being caught and broken by the action of the shuttle, substantially as set forth. 3rd. A tension spring for shuttles having a slot and projection near its rear end outside of the guide which forms one side of the slot, to support the thread and prevent its being caught and broken by the action of the shuttle, substantially as set forth. 4th. A tension spring for shuttles having a side projection near its rear end, adapted to permit the thread to pass under it in threading the shuttle, and to prevent the thread from being drawn backward and caught and broken by the action of the shuttle, substantially as set forth. 5th. The combination of a shuttle shell having an open thread slot for threading the shuttle by drawing the thread into the open thread slot, and a tension spring having a projection near its rear end and near the end of the open thread slot to prevent the thread from being drawn out of the open thread slot and caught and broken by the action of the shuttle.

No. 22,181. Plough. (Charrue.)

George B. Casaday, Hudson, Ill., U. S., 3rd August, 1885; 5 years.

Claim.—1st. In a plough, the combination, with the standard, of a hollow reversible point fitted upon the lower forward end of the standard, and a removable wing operating when secured in position to positively lock the point in place, substantially as shown and described. 2nd. In a plough, the combination, with the standard, of a bottom reversible point fitted upon the lower forward end of the standard, and a hollow reversible wing fitted on a wing-bearing on the standard and operating when in position to positively lock the point in place, substantially as shown and described. 3rd. In a plough, the combination, with the standard, mould-board and a reversible cutter, of a hollow reversible point fitted on the lower forward end of the standard and forming a continuation of the cutter, and a hollow reversible wing fitted on a wing bearing on the standard, and operating when in position to positively lock the point in place, substantially as shown and described. 4th. In a plough, the combination, with the standard and mould-board, of a removable and reversible skin or cutter secured to the standard and presenting when either side is in use a cutting edge, and a wearing surface conforming to and forming a combination of the mould-board, substantially as shown and described. 5th. In a plough, the combination with the standard and mould-board, of the removable and reversible shin or cutter having two opposite wearing faces and cutting edges, and two sets of bearing surfaces independent of the wearing faces and upon which it is supported and connected to the standard, substantially as shown and described. 6th. In a plough, the removable and reversible shin or cutter having the duplicate wearing faces and cutting edges, and the duplicate shoulders *k*₂ and bearing *k*₃ on its lower end, in combination with the standard having the shoulder *a*₄, and the hollow reversible point engaging when adjusted with the bearing *k*₃, all constructed and arranged substantially as shown and described.

No. 22,182. Plough. (Charrue)

George B. Casaday, Hudson, Ind., U. S., 3rd August, 1885; 5 years.

Claim.—1st. In a plough, a hollow reversible combined wing and point having two opposite corresponding and converging wearing faces continued to a common edge, and two opposite and corresponding points, substantially as shown and described. 2nd. In a plough, the combination, with a standard and mould-board, of a hollow reversible combined wing and point fitted upon a wing-bearing on the standard, and having two opposite corresponding wearing faces and points, substantially as shown and described. 3rd. In a plough, the combination, with the standard and mould-board, of a removable cutter secured to the standard and a hollow reversible combined wing and point fitted on a wing-bearing on the standard having two opposite corresponding wearing faces and points, and operating when secured in place to engage with the lower end of the cutter and lock the same in position, substantially as shown and described. 4th. In a plough, the combination with the standard and mould-board, of a reversible cutter secured to the standard and having two opposite and corresponding faces and cutting edges, and a hollow reversible combined wing and point, fitted upon a wing bearing on the standard having two opposite corresponding wearing faces, and points and operating when in position to engage with the lower end of the reversible cutter and lock it in place, substantially as shown and described.

No. 22,183. Car-Coupler. (Accouplage de Chars.)

John Coup, New York, N. Y., (Co-inventor with David McCurdy, Cleveland, Ohio,) and William Dudgeon, Union, Ohio, U. S., 3rd August, 1885; 5 years.

Claim.—1st. A car-coupling formed of a hook pivoted to the side of a draw-head, by means of a cam hub piece, which, by its semi-rotation, is adapted to raise the said hook and throw it forward, so as to disengage it from the adjacent car when it is to be uncoupled, substantially as shown and described. 2nd. A car-coupling formed of a curved hook pivoted to the side of the draw-head on an eccentric cam, and arranged to swing vertically and hook on to a palette-shaped cam or coupling block on the adjacent draw-head, substantially as shown and described. 3rd. In a car-coupling, a transverse shaft or rod passing through the draw-head and carrying on one of its ends an eccentric cam on which is assembled the coupling hook for connecting two cars, and on the other end of it a palette-shaped cam for engaging the hooked end of the coupling of an adjacent car, substantially as shown and described. 4th. In a car-coupling, a cam for actuating or moving the coupling hook upward and forward, so as to disengage it, substantially as shown and described. 5th. In a car coupling, a cam for moving and disengaged the coupling hook provided with a hub circumferentially wound with a chain or cord, for rotating it, so as to operate or release the coupling hook as desired, substantially as shown and described. 6th. A draw-head for coupling cars, provided with a vertically-swinging coupling hook pivoted to its side by an eccentric cam, and provided with a laterally projecting stop on the top of which the said coupling hook rests, substantially as shown and described. 7th. A car-coupling consisting of a draw-head with a vertically-moving hook pivoted to its side by an eccentric cam, and provided with means for operating the said cam and the thereby the coupling hook, by means of a system of levers and rods attached to the car and connected with the periphery of the hub of the cam by cords or chains wound circumferentially thereon, substantially as shown and described. 8th. In a car-coupling, a coupling piece or cam in approximately palette shape, adapted to receive and hold the hooked end of a coupling hook, pivoted to the side of the draw-head of an adjacent car, substantially as shown and described. 9th. In a car-coupling a coupling hook having a rear projection provided with a cross pin *e*₂ and a latch or pawl *F*₂, said pin engaging with the inclined guide *h*₂ in side of draw-head, for holding or retaining the hook in an elevated or depressed position, as described. 10th. In a car-coupling, the combination, with hook and rotating shaft, of a pear shaped crank having pivoted wheel or clips carrying a vertical rod for operating the coupler from top of car, as described, substantially as and for the purpose set forth. 11th. The combination, with the rotating shaft, of the grooved wheel or boss *G* on the transverse shaft or axle *S*, for manipulating the connecting link, so as to couple it to a higher or lower car, substantially as shown and described. 12th. A stop or guide rest and a cam shaped surface to engage thereon, applied respectively to either the coupling hook or the side of the draw-head, so as to cause the free end of the coupling hook to move into position to couple or uncouple according as it is thrown forward or backward by the actuating cam, substantially as shown and described.

No. 22,184. Car-Coupling. (Accouplage de Chars.)

James Barry, Willmar, Howard A. Turner and Charles L. Hastings, Minneapolis, Minn., U. S., 3rd August, 1885; 5 years.

Claim.—1st. The combination, with a draw-head, of shafts journaled on the end of the car and provided with projecting parts to which the coupling pin is pivoted, cranks on the ends of the shafts, a lever on each side of the car, and a rod connecting the crank of each shaft with the lever at the same side of the car at which the crank is located, substantially as herein shown and described. 2nd. The combination, with a draw-head, of shafts journaled on the end of the car, the levers *G* pivoted to the sides of the car, the rods *F* connecting said lever with cranks formed on the ends of the shafts, a coupling pin held to a crank formed at the inner ends of the shafts, a semi-circular rack at each lever *G*, and a dog engaging with said rack, substantially as herein shown and described. 3rd. The combination, with a draw-head, of shafts journaled on the end of the car, a pin held in the crank parts of said shafts, the levers *G* on the sides of the car, the rods *F* connecting the said levers with the cranks on the ends of the shafts on the ends of the car, a semi-circular rack *H* at each lever *G*, the dog *H* engaging with the rack, the link *H*₂ connecting the dog with the lever *G*, the lever *M* pivoted to the lever *G*, and the rod *n* connecting the dog *H* and the lever *M*, substantially as herein shown and described. 4th. The combination, with a draw-head, of shafts journaled on the end of the car, a pin held in the crank parts of said shafts, the lever *G* on the sides of the car, the rods *F*₁ connecting said levers with the cranks on the shafts on the ends of the car, a semi-circular rack *H* at each lever *G*, the dog *H*₁ engaging with the rack, the link *h*₂ connecting the dog with the lever *G*, the lever *M* pivoted to the lever *G*, and the rod *n* connecting the dog *H*₁ and the lever *M*, the lever *K* having a pin *m*, the link *K*₁ connecting the lever *K* with the lever *G*, the lever *L*, the rod *K*₂ connecting the levers *L* and *K*, the bar *I*, having a rack *I*₂ formed on its bottom edge, angle piece *J* on the corners of the car, the rod *J*₂ connecting the angle pieces *J*₁ at the end of the car, and rods connecting the angle pieces with the bars *I*, substantially as herein shown and described. 5th. The combination, with a draw-head, of the shaft *N* having a crank part *N*₁ and arms *P*, at the ends of the levers *Q*, the rods *P*₁ connecting the arms *P* with the levers *Q*, and the plate *U* pivoted on the crank part *N*₁, substantially as herein shown and described. 6th. The combination, with a draw-head, of the shaft *N*, having a crank part *N*₁, the plate *U*, pivoted on the crank part, the levers *Q*, the rods *P*₁ connecting the lever *Q* with the arms *P* of the shaft *N*, the semi-circular rack *R*, the dogs *R*₁ connected with the levers *Q*, the springs *R*₃ acting on the dogs, and the spring *T*, secured to a dog *R*₁ at each side of the car passed over the shaft *N* and under the crank part *N*₁, and secured to the lower part of the plate *U*, substantially as herein shown and described.

No. 22,185. Oil Stove. (Poêle à Huile.)

John McConnell, Cleveland, Ohio, U. S., 3rd August, 1885; 5 years.

Claim.—1st. The combination, with the burner-plate, and a cone-stand having one or more depending hooks which engage with the said plate, of one or more cone-stand legs which rest on the latter,

a clamp which secures the cone-stand in position, and a cone hinged to the cone-stand, substantially as set forth. 2nd. The combination, with a reservoir and a burner-plate, of a cone-stand having one or more legs resting on the latter, one or more depending hooks engaging with the burner-plate, and a depending arm adapted to the reservoir, said cone-stand having a cone hinged thereto, substantially as set forth. 3rd. The combination, with a reservoir having a top stud, of a handle bearing on the latter, and a fastening connecting the two together, substantially as set forth. 4th. The combination, with a reservoir having a top-stud, and a cone-stand having an arm, of a handle, and a fastening which clamps said cone and handle to said stud, substantially as set forth. 5th. The combination, with a reservoir having a top stud, and a handle, of a cone-stand having an arm, a cone-clasp, and a fastening which holds said parts together, substantially as set forth. 6th. The combination, with a cone-stand having a depending arm, of a handle, and a cone-clasp, said three parts respectively provided with a horizontal extension, of a fastening which clamps said extensions to the reservoir, substantially as set forth. 7th. The combination, with the burner-plate B, and rod L, of the stops M adjustably fitted thereon, and adapted by engagement with said burner-plate to limit the movement of the rod, substantially as set forth. 8th. The combination, with burner-plate B, and rod L, located above the latter, of the stops M, adjustably and eccentrically fitted thereon, the two sides of said stop respectively engaging with the top of said burner-plate to limit the movement of said rod, substantially as set forth. 9th. The combination, with wick-rod L, and burner-plate B, of stop M loosely fitted on said rod, and set-screw *m* threaded in a hole in the stop and having end bearing against the rod, said stop engaging with said burner-plate to limit the rotary movement of said rod, substantially as set forth.

No. 22,186. Automatic Cash Carrier.

(*Coulisse Automatique à Monnaie.*)

Joseph W. Flagg, Worcester, Mass., U.S., 4th August, 1885; 5 years.

Claim.—1st. The combination, with the inclined tracks of a cash-carrying apparatus and carriers adapted to roll thereon, of a series of guard-wires attached at their ends to the tracks, and forming arches extending over said tracks at appropriate distances, as and for the purpose set forth. 2nd. The combination, with the rails of an elevated receiving track placed over the main inward track of a cash-carrying system, of springs attached to the rails of the receiving-tracks and forming an extension of the same, as and for the purpose set forth. 3rd. The combination, with the rails of an elevated receiving-track of blade-springs *e*, attached to the rails of the said receiving-track, as and for the purpose set forth. 4th. The combination, with an outward track, of a cash-carrying apparatus having openings to allow the proper distribution of the carriers and movable delivery baskets of an intermediate track communicating with said openings and baskets, as and for the purpose set forth. 5th. The combination, with the outward track of a cash-carrying apparatus having a series of openings to effect the proper distribution of the carriers and movable delivery baskets, and intermediate tracks communicating with said openings and said delivery-baskets, of a transverse vertically-sliding bar for retaining the carriers in the intermediate tracks, said bar being operated by the movable baskets so as to allow the carriers to pass from the intermediate tracks into the baskets when the baskets are elevated, as and for the purpose set forth. 6th. The combination, with an intermediate track communicating with the openings of an outward track, and having an opening to allow the exit of the carriers therefrom, of a bar extending transversely across said opening in the track and sliding vertically in slots, said bar being operated by the delivery-baskets, substantially as described, whereby the carriers may be retained on, or discharged from, the intermediate track as desired, as and for the purpose set forth. 7th. In a cash-carrying apparatus, the outward distributing track having one or more circular openings, to allow the proper distribution of the carriers, and having the rails of said outward track chamfered at their inner upper corners adjacent to the circular openings, so as to form a continuous track for the rolling carriers, as and for the purpose set forth. 8th. In a way or track of a cash-carrying apparatus, the combination, with a pivoted switch-rail of a vertical rotating post, a horizontal arm attached to the post and vertically adjustable thereon, and extending over the track so as to be moved by the passing carriers, connecting mechanism for securing the simultaneous action of the rotating post and the pivoted switch-rail, and a spring to reverse their motion after the passage of a carrier, as and for the purpose set forth. 9th. In a cash-system, employing rolling carriers of graduated sizes, the horizontal arm journalled at the sides of the track, and extending over the track at a proper height to be actuated only by the larger carriers intended for the side or branch track, in combination with connected switching devices for deflecting said larger carriers onto the branch track, as and for the purpose set forth. 10th. The combination, with an inclined way of a cash-carrying apparatus and graduated carriers adapted to roll thereon, of the vertical rotating spindle *r*₅, horizontal arm *r*₆ attached to said spindle and adjustable vertically thereon, and extending over the track at proper height to be actuated by carriers of a certain size, arm *r*₄ on post *r*₆, bell crank *r*₂, pivoted switch-rail L, connected links *r*₁ and *r*₃, and spring *r*, so attached to and actuating the switching mechanism as to reverse its motion after the passage of an operating carrier, as and for the purpose set forth. 11th. The combination, with the way of a cash-carrying apparatus with graduated carriers adapted to roll thereon, of a horizontal arm extending over the way and attached to a vertical rotating spindle, said horizontal arm being adjusted vertically relatively to the graduated carriers so as to be moved only by the larger carriers and a switch-rail arranged to deflect the carriers upon a branch-track, when desired, said switch-rail and vertical rotating post being connected so as to move simultaneously, as and for the purpose set forth. 12th. The combination, with the inward track of a cash-carrying apparatus having converging branch-tracks, of a rigid frog at the intersecting tracks, said frog having an inclined surface, as described, upon which the carriers roll, thereby sustaining the carriers until the normal width of the main track has been reached, as and for the purpose set forth. 13th. The combination, with the receiving

track arranged beneath the openings in the outward or distributing track, of a cash-carrying apparatus, said receiving track having an opening through which carriers fall into a movable delivery basket and a movable delivery basket suspended by cords, of a transverse bar closing the opening in the receiving track and having eyes at the end through which the cords of the delivery basket pass, said cords being connected with means by which the baskets may be raised, and buttons on said cords by which the transverse bar may be raised by the upward motion of the cords, as and for the purposes set forth. 14th. The combination, with the main track B having openings C, of the receiving-track F having an opening E, transverse bar *b*₂ closing the opening E and having eyes *h*₂, *h*₃, cords *h*, *h*, passing through said eyes, attached to the winding-drums, winding-drums *h*₁, buttons *c*, *c*, attached to the cords *h*, *h*, arranged and operating as described, and for the purpose set forth. 15th. The combination, with the main track of a cash-carrying apparatus and graduated carriers adapted to roll thereon, of graduated openings in the main track and a branch track arranged below the main track, having one end beneath the openings in the main track, whereby certain of the carriers on the main track are diverted to the branch track, as and for the purpose set forth. 16th. In a cash-carrying apparatus, the way or track consisting of rails formed of the longitudinal sections, of tubes arranged upon ties or other supports with their convex sides outward and downward, so the carriers roll upon the lower edges of the concave sides, as and for the purpose set forth. 17th. In a cash-carrying apparatus, the rail having its inner and upper side concave and its lower and outer side convex, substantially as and for the purpose set forth. 18th. The combination, in an elevator, of a cash-carrying apparatus having a rigid support for the carrier, of a vibrating wire or arm pivoted near the front of the elevator and extending rearward and upward behind the carrier, so the forward motion of the said vibrating arm will force the carrier forward, as and for the purpose set forth. 19th. The combination, in an elevator of a cash-carrying apparatus, of a rigid support for the carrier, having its upper surface inclined with the front side the highest and a pivoted wire or arm extending rearward and upward beyond the inclined surface so as to form a back to hold the carrier from rolling off its support, as and for the purpose set forth. 20th. The elevator consisting of a metallic elliptical rim H, having lugs K and rails I, I, to support the carrier, and a pivoted wire or arm extending upward and rearward for the purpose of forcing the carrier off the rail, as and for the purpose set forth. 21st. The combination, in the elevator, of a cash-carrying apparatus, of rails I, I, pivoted vibrating arm *n* and tripping-prong *o*, as and for the purpose set forth. 22nd. The combination, with the hollow hemisphere T and T₁, of the outer tube U, having a flange 4 at one end, both in one piece and carrying an inner tube U₁ and elastic diaphragm 2, outer tube V having a flange 6 at one end both in one piece, and carrying an inner tube V₁ and diaphragm 3, the flange being recessed in, and attached to the hemisphere I and I₁, as and for the purpose set forth. 23rd. In a hollow rolling cash-carrier formed of two parts, the locking device consisting of spring catches 8, 8, recessed in one part of the carrier, and a tube projecting from the other part of the carrier, having a lip or shoulder 9, with openings 12, 12, said projecting tube entering the recess in the opposite half of the carrier, so the lip may be engaged by the spring catches, thereby securely locking the two parts of the carrier together, as and for the purpose set forth.

No. 22,187. Inkstand. (*Ecritoire.*)

Frank B. Woodhouse, Utica, N.Y., U.S., 4th August, 1885; 5 years.

Claim.—1st. The combination, with the ink cover, of the crank lever pivoted to the upper ends of standards, the lower end of said lever having a pivoted connection with said cover, and the upper end of said lever forming a hand rest, substantially as described, whereby, when the hand holding the pen is rested on said lever, the cover will be withdrawn or removed, as set forth. 2nd. The combination, with the ink-well cover, of the crank lever pivoted to the upper ends of standards, the lower end of said lever being pivoted to a bar connected to the said cover, the upper end of said lever forming a hand rest, substantially as and for the purpose set forth. 3rd. An ink-stand comprising an ink-well supported on a base, a crank lever pivoted to standards on the base, and connected with the ink well by a bar which operates the sliding cover of the ink well, and a spring to close the cover, substantially as set forth. 4th. The combination, in an ink-stand, of a base A, a detachable ink-well B held to the base by the interlocking projection, and cavity *a*, *b*, the crank lever E pivoted to standards C, the rod and cover G, H, stop J and spring I, substantially as herein set forth. 5th. The combination, in an ink-stand, of base A detachable ink-well B held thereto by the interlocking projection and cavity *a*, *b*, and removable clamp K, the lever E pivoted to standards C, and the rod and cover G, H, stop J and spring I, substantially as herein set forth.

No. 22,188. Process for Bleaching Cotton Yarns and Fabrics. (*Procédé de Blanchiment des Fils et Tissus de Coton.*)

William Mather, Salford, Eng., 4th August, 1885; years.

Claim.—The improvement in the art of bleaching cotton yarns and fabrics, which consists in first treating them with a boiling solution of caustic soda, then subjecting them to the action of steam in a closed vessel, and, while so subjected to steam, occasionally introducing the soda liquor, then washing the yarns or fabrics, these steps being repeated if necessary, then subjecting the materials to the action of chlorine liquor, then washing them and finally scouring the same, substantially as set forth.

No. 22,189. Carving Dish. (*Plat à Découper.*)

Walter H. Thorne, Bournemouth, Eng., 4th August, 1885; years.

Claim.—1st. The novelty of a raised "centre" A A A, with the cone-shaped spikes. 2nd. The system of drainage of gravy on an improved plan, by the combination of A A A, with B B B, thence to D D D and E, all substantially as described.

No. 22,190. Process for Making Whiskey.*(Procédé pour Fabriquer l'Eau de Vie.)*

Charles S. Corning, Peoria, Ill., U.S., 4th August, 1885; 5 years.

Claim.—1st. In the process of making spirituous liquors, mixing the grain with water or slop preparatory to forcing it into the scalding, substantially as described. 2nd. In the process of making spirituous liquors, mixing the grain with heated water or slop, whereby settling is prevented and the mixture better prepared for introduction into the scalding, substantially as described. 3rd. In the process of making spirituous liquors, passing the material continuously through a closed vessel subjected to heat, substantially as and for the purpose set forth. 4th. In the process of making spirituous liquors, passing the material continuously through a closed vessel subjected to heat and pressure, substantially as and for the purpose set forth. 5th. In the process of making spirituous liquors, forcing the material from the mixing tubs into a closed scalding vessel, where it is instantly subjected to a high degree of heat, substantially as and for the purpose set forth. 6th. In the process of making spirituous liquors, passing the material from the scalding through a closed cooling device between the scalding and converter, thereby delivering it to the latter at the proper temperature without exposure to the air, substantially as and for the purpose set forth. 7th. In the process of making spirituous liquors, forcing the mixture while hot into a closed vessel, instantly subjecting it in said vessel to a higher degree of heat to complete the scalding, and forcing out at the other end of said vessel by means of the steam pressure therein, substantially as and for the purpose set forth. 8th. The process of making spirituous liquors, which consists: first, in mixing the grain with water or slop, then forcing it into a closed vessel, where it is subjected to a high degree of heat and pressure, next forcing the scalded mash from this vessel by the steam pressure therein through a cooling device to the converters, where the small grain is added, and finally pumping it through the converters through a second cooling device to the fermenting tubs, substantially as and for the purpose described.

No. 22,191. Apparatus for Mashing Grain in Distilleries.*(Appareil pour Brasser les Grains dans les Distilleries.)*

Charles S. Corning, Peoria, Ill., U.S., 4th August, 1885; 5 years.

Claim.—1st. In an apparatus for mashing grain, the combination, with mixing tub and the scalding vessel, of a pump interposed between the two for forcing the material from one to the other, substantially as and for the purpose set forth. 2nd. In an apparatus for mashing grain in distilleries, a closed scalding vessel provided with a steam supply pipe, and means, substantially as herein described, for forcing the material through it in a constant stream, substantially as shown and described. 3rd. In an apparatus for mashing grain in distilleries, a closed cooking or scalding vessel set upon an incline and provided with an agitator, and having an inlet and outlet for the material at either end, whereby the mixture fed in at one end is passed through the vessel in a continuous stream and scalded before being expelled, substantially as and for the purpose described. 4th. In an apparatus for mashing grain in distilleries, a closed scalding vessel provided with a steam supply pipe and an agitator, in combination with a pump connected to one end of said vessel, and a cooling device connected to the other, whereby the material is forced at once into a high temperature, and after being scalded is forced through the cooling device by the pressure of steam in the vessel, substantially as and for the purpose set forth. 5th. In an apparatus for mashing grain in distilleries, a cooling device located between the scalding and converter and connected thereto, through which the mash is passed, whereby it is cooled without the aid of a vacuum or exposure to the air, substantially as and for the purpose set forth. 6th. In an apparatus for mashing grain in distilleries, the combination, with a scalding vessel through which the material is passed and a converting tub into which it is discharged, of a cooling device through which the scalded mash is passed from one to the other to cool it for the reception of the small grain or malt, substantially as and for the purpose set forth. 7th. In an apparatus for mashing grain in distilleries, a pair of mixing tubs having a single outlet pipe, provided with valves for controlling the flow from one or the other, a pump connected therewith, a closed scalding vessel with one end of which the pump is connected, and a cooling device connected to the other end of the scalding, in combination with a pair of converting tubs connected to the cooler by a pipe having valves to control the flow to either tub, a small grain tub similarly connected to these tubs, a pump connected to the converting tubs and also to a cooling device interposed between the pump and the fermenting tubs, whereby the mash is prepared and converted in one tub of each pair, while the other is in use, and a continuous flow of material through the apparatus is obtained, substantially as and for the purpose set forth. 8th. In an apparatus for mashing grain, the combination, with a worm for cooling the mash preparatory to converting, and a second worm for cooling it preparatory to fermenting, of a pipe connecting the tanks surrounding the two worms, whereby the overflow from the second tank is conveyed to the first for use in it, substantially as and for the purpose set forth.

No. 22,192. Beer Registering Faucet.*(Canule-Compteur à Bière.)*

David W. Davis and William G. Latimer, Detroit, Mich., U. S., 4th August, 1885; 5 years.

Claim.—1st. A faucet, having a registering attachment as a part of such faucet, whereby a record is kept of the number of times such faucet is opened for the flow of liquids, substantially as described. 2nd. A faucet, having circular valve seats a surrounding the vertical passage thereof at its junction with the horizontal passage, in combination with a ball valve seated upon the seats *a*, and secured through its axis to a rod, as a means for operating a registering device, substantially as and for the purposes specified. 3rd. A faucet, constructed substantially as described, with a registering device having a valve *B* actuated by a handle *C* outside the body of such faucet,

and standing at right angles to such valve when closed, substantially as set forth.

No. 22,193. Student's Book Rest.*(Pupitre d'Étudiant.)*

Arthur Mowat, Toronto, Ont., 4th August, 1885; 5 years.

Claim.—1st. A board *C*, provided with the fingers *f* and held vertically adjustable between the supports *B*, a ratchet rack *G* formed in the back of the said board, in combination with the pawl *d* fixed to the crank-rod *D*, which is suitably journaled on the supports *B*, substantially as and for the purpose specified. 2nd. Rods *G* passing through the holes in the board *C*, and each having fixed on its end a block *F*, in combination with the fingers *g* adjustably held in the blocks *F*, substantially as and for the purpose specified. 3rd. The supports *B* arranged to hold the vertically adjustable board *C*, which carries the book *E* and base plate *A* to which the supports *B* are fixed, in combination with the block *H* pivoted on the base plate.

No. 22,194. Composing Stick used by Printers.*(Compositeur d'Imprimerie.)*

Charles M. Grow, Frederick, Md., U.S., 4th August, 1885; 5 years.

Claim.—The composing stick, consisting of plate *A*, fixed side wall, the slotted rear wall, the plates *c* adapted to said slot, the gauges adapted to said plates and the tightening devices therefor, all operating in connection with each other, as described.

No. 22,195. Fifth-Wheel for Vehicle.*(Rond d'Avant-train de Voiture.)*

James H. McCabe, St. Louis, Mo., U.S., 6th August, 1885; 5 years.

Claim.—A fifth wheel consisting of axle *A*, having a lug *X* at the rear lower member *I*, having journal projections *Y* and *O* at the rear, the projection *O* being formed with concentric ribs *O* and *O*₂, the upper member *Q* having journal projection resting on the projection *O* and formed with central extension *P* surrounded by the rib *O*₁, and rib *P*₂, surrounded by the rib *O*₂ and the king-bolt *W* passed through the journals and lug, as shown and described.

No. 22,196. Balanced Slide Valves.*(Tiroir de Vapeur Équilibré.)*

George Beare, Arnadale, Ont., 6th August, 1885; 5 years.

Claim.—1st. In combination with valve *E* having a recessed face *I*, ports *G*, *H* and central relief valve *J*, the steam chest *B* having a recess *B*₁ between the ports *C*, *D*, whereby one of the working faces of valve will have partly passed its seat, while the face at the opposite end is entering on its seat, as set forth, to equalize the pressure of steam in the ports on the working faces of the valve. 2nd. The combination of the steam chest *B* having central discharge *N*, sliding valve *E* having ports *G*, *H*, and relief valve *J*, whereby the steam chest and valve are relieved, of exhaust steam. 3rd. The combination of the steam chest *B*, having ports *C*, *D*, and discharge *N*, and sliding valve *E* having ports *G*, *H*, recessed face *I* and relief valve *J*, whereby the pressure of steam on the top and bottom of the sliding valve is equalized, as set forth.

No. 22,197. Dust Guard for Car Axle Boxes.*(Garde-Poussière pour Boîtes à Graisse de Char.)*

Fabian J. Roberts, Detroit, Mich., U.S., 6th August, 1885; 5 years.

Claim.—1st. As an improved dust guard, the ring *E* inclosed in an annular pocket, and constructed to reduce the diameter of the same by its own resiliency, substantially as and for the purpose specified. 2nd. A dust guard for axles, consisting of a textile fabric, provided with a divided annular pocket, and constructed to cause the interceded ends of said pocket to approach each other, substantially as and for the purposes described. 3rd. In a dust guard, substantially as described, the combination, with the flexible packing *D*, of the ring *E* adapted to compress said packing by its own resiliency, and provided with the arms *a*, substantially as and for the purpose set forth. 4th. In a dust guard, a packing consisting of several thicknesses of textile fabric, and one or more pieces of rubber interposed between them, and the metallic ring *E* inclosed within said packing and adapted to compress same against the axles by its resiliency, substantially as and for the purpose specified. 5th. In a dust guard, the combination of the plates *C* having their inner faces recessed to receive the packing the flexible packing *D* inclosed within the recesses in said plates, and the spring *E* inclosed within said packing and constructed to compress the same, substantially as described. 6th. In a dust guard and in combination with the frame *G* and plates *C*, a packing *D* adapted to expand and contract, and provided with a packing *D* adapted to expand and contract, and provided with a packing ring *H* and spring ring *E* arranged to reduce the diameter of the opening through such packing ring by the resiliency of the spring, substantially as described. 7th. In a dust guard, in combination with a packing *D* provided with a compression spring, the springs *I*, substantially as and for the purposes set forth.

No. 22,198. Machine for Planing and Finishing thin pieces of Wood.*(Machine à Raboter et finir les Menus-Morceaux de Bois.)*

Addison M. Ford and James M. Moore, Jericho, Vt., U.S., 6th August, 1885; 5 years.

Claim.—1st. The combination of the spring *f* rigidly secured to the frame at one end, a set-screw which bears against the spring at its upper end for the purpose of regulating its tension, the plate *g* which is fastened to the frame at one end and which is forced upward at

its inner end by the spring and the plate *i* which is supported by the plate, substantially as shown and for the purpose set forth. 2nd. The combination of the spring *f* which is secured to the frame at one end, a set-screw which is connected to the spring for the purpose of regulating its tension, the plate *g* which is supported at one end by the frame and at its other end by the spring, the plate *i* which rests upon the plate *g*, the grooved plate *l* placed upon the top of the frame and grooved or recessed to receive the planes which are attached to the plate *l*, substantially as described. 3rd. The combination of the plate *l* placed upon the top of the frame and grooved or recessed to receive the plane, the plate *2* attached to the plate *l*, the pivoted clamping-iron attached to the opposite sides of the plate *l* and the set-screw which it passed down through the clamping iron and made to fasten the plane in position, substantially as set forth and for the purpose described. 4th. The combination of the plate *p* the spring *r* placed upon the top of the plate, the plate or frame *t* having recesses in opposite sides to receive the planes *U*, and the set-screw *V* for adjusting the planes laterally, substantially as specified.

No. 22,199. Cultivator. (*Cultivateur*)

Francis M. Everingham, Onondaga, N.Y., U.S., 6th August, 1885; 5 years.

Claim.—1st. In a cultivator, the combination of the two innermost teeth arranged movable laterally independent of the frame, two sets of teeth arranged stationary respectively near the outer sides of the machine, secondary laterally movable teeth between the primary movable teeth, and the stationary teeth couplings connecting together all the laterally movable teeth and levers for operating the same, all combined to operate close to plants standing out of the regular row without moving all the cultivator teeth laterally and without leaving uncultivated strips of land in the track of the cultivator, substantially as specified. 2nd. In a cultivator, the combination of the two innermost teeth arranged movable laterally independent of the frame, two sets of cultivator teeth arranged stationary respectively near the outer sides of the machine, secondary laterally movable teeth arranged rearward from the innermost teeth and between the same, and the stationary outer teeth couplings connecting of the laterally movable teeth together, and levers for operating the same, all combined to operate substantially in the manner specified and shown. 3rd. The combination with the cultivator frame, of the teeth *T*, *T* fixed to said frame at the extreme distances from the center of the line of draft, the hangers *a*, *a* secured to the frame at opposite sides of the aforesaid center, the plates *b*, *b* pivoted on the hangers, the teeth *T*, *T* attached to the plates at opposite sides of the pivot thereof, arms *c*, *c* extended from the pivoted plates, the coupling bar *d* connecting said arms and the treadles or levers *e*, *e* pivoted on the hangers and resting on the plates *b*, *b*, substantially as described and shown. 4th. A stiff or rigid tooth formed with broadened points *k*, *k* and narrowed central portions *l*, in combination with a spring shank having its end resting against the back of the narrow portion of the aforesaid tooth to sustain the same, substantially as described and shown.

No. 22,200. Saw Tooth Swage.

(*Etampe à Dent de Scie.*)

Alexander Jacobs, Cheboygan, Mich., U.S., 6th August, 1885; 5 years.

Claim.—1st. The combination of a pair of gripping and swaging jaws *a*, *b* arranged to shift to and from the saw-teeth, and having a working-lever *u* arranged to so shift them, and also to effect action of said jaws for gripping and swaging the teeth, substantially as described. 2nd. The combination of a side gauge *ai* and lever *bi*, with the gripping and swaging jaws *a*, *b* and the working-lever *u*, said jaws being arranged to shift to and from the teeth and grip and swage the points, and the side gauge *ai* and *bi* arranged to gauge and hold the teeth laterally while being swaged, substantially as described. 3rd. The gripping-jaws *a*, *b* and arms *c*, *d* connected by pivot boss *e* and cavity *f*, and arranged between cap *g* and rocker-bearing *k* to be shifted to and from the saw teeth, and to grip and swage the points of said teeth, substantially as described. 4th. The combination, with the gripping-jaws *a*, *b* and arm *c*, *d* connected by pivoted boss *e* and cavity *f*, and arranged between cap *g* and roller-bearing *k*, of the lever *u*, *u* inclined and hook-ended arm *q*, *q*, stud *z* and the curved end *y* of arm *d* for shifting the jaws and swaging the teeth, substantially as described. 5th. The side gauge lever *bi*, *ai*, in combination with the gripping jaws *a*, *b*, arms *c*, *d* and the levers *u* for working said jaws, said lever *u* and lever *bi*, *ai* being arranged for action conjointly with the action of the gripping-jaws, substantially as described. 6th. The catch *ri* and cam *hr*, in combination with the lever *bi*, *ai* and lever *u*, said lever *u* being arranged for simultaneously operating the jaw-arms *c*, *d* and the side gauge lever *bi*, *ai*, substantially as described. 7th. The combination, with the jaw-arm *c* arranged with jaw-arm *d* also arranged in supporting-guides *n*, and provided with crotch *x*, inclined arm *q* and hook-end *s*, of the lever *u* having nose *t* and stop-boss *w*, substantially as described. 8th. The stop-gauge *c*, in combination with the lever-head *bi*, side gauge *ai* and the swaging jaws *a*, *b*, said jaws being arranged to shift to and from the teeth and to swage the same, substantially as described.

No 22,201. Heel Stiffener.

(*Contrefort de Chaussure.*)

George A. Fullerton, Boston, Mass., U.S., 6th August, 1885; 5 years.

Claim.—1st. The heel stiffener above described, composed of a fibrous sheet, the fibres of which are cemented together. 2nd. The heel stiffener composed of the fabric above described, consisting of the fibrous sheet *a* having its fibres cemented together, and also cemented to the sheets of cloth *b* and *d*, either or both, substantially as described. 3rd. The heel stiffener composed of the fabric above described, consisting of the fibrous sheet *a* having its fibres cemented together, and also cemented to the sheets of cloth *b* and *d*, either or both, by means of glue treated with chrome alum and heat, substantially as described.

No. 22,202. Sulky. (*Désobligeante*.)

Martin Payne, New York, N.Y., U.S., 6th August, 1885; 5 years.

Claim.—The combination, in a sulky of the described construction of the circle and brace bars, provided with sockets upon the upper side of their united portions, the axle curved to form an arch at its middle and provided with sockets upon its under side, the shafts and the elastic or yielding blocks placed between the middle of the axle and the united portion of the circle and brace bars, and between the ends of the axle and the rear ends of the shafts, as and for the purpose shown and set forth.

No. 22,203. Plough. (*Charrue*)

George B. Casaday, Hudson, Ind., U.S., 6th August, 1885; 5 years.

Claim.—1st. In a plough, a reversible combined cutter and point having two cutting edges, and two corresponding converging faces continued to a common point, substantially as shown and described. 2nd. In a plough, the combination, with the standard and mould-board, of a reversible combined cutter and point secured to the standard and having two cutting edges and opposite corresponding and converging faces continued to a common point, and presenting when either face is in use a point, a cutting edge, and a wearing face conforming to and forming a continuation of the mould-board, substantially as shown and described. 3rd. In a plough, the combination, with the standard mould-board and landside, of a reversible combined cutter and point secured to the standard, and presenting, when either face is in use, a joint, a cutting edge, and a surface conforming to and forming a continuation of the mould-board, and a surface conforming to and forming a continuation of the landside, substantially as shown and described. 4th. In a plough, a standard, a mould-board and a reversible combined cutter and point secured to the standard, in combination with a removable wing operating when in position to overlap the combined cutter and point and positively lock the same in place, substantially as shown and described. 5th. In a plough, a mould-board, a standard having a V-shaped shoulder *A*, a reversible combined cutter and joint having a V-shaped notch *E* interlocking with the shoulder on the standard, in combination with a reversible wing, said wing operating when in place to overlap the cutter and point and positively lock the same in place, substantially as shown and described. 6th. In a plough, a mould-board, a standard provided with a V-shaped shoulder *A* and a raised triangular shoulder *a*² on its lower end, in combination with a reversible combined cutter and point provided with the V-shaped notch *E* and triangular recesses *d*⁴, *d*⁴, and a reversible wing operating when in position to engage with one of the recesses *d*⁴ and lock the combined cutter and point in place, substantially as shown and described. 7th. In a plough, a mould-board, a standard having a V-shaped shoulder *A*, a reversible combined cutter and point having a V-shaped notch *E* interlocking with the shoulder on the standard, in combination with a hollow reversible wing secured on a suitable bearing on the standard, and operating when in position to interlock with the combined cutter and point and hold the same in place, substantially as shown and described.

No. 22,204. Pipe Joint Packing.

(*Garniture de joint de Tuyau.*)

Cotter T. Bride, Washington, D.C., U.S., 6th August, 1885; 5 years.

Claim.—A packing ring or gasket for connecting soil or similar pipes, formed of elastic material without a flange and having inwardly inclined outer wall, in combination with a pipe end and pipe hub or bell, the packing or gasket being applied in the manner.

No. 22,205. Construction of Two-Wheeled Vehicles. (*Fabrication des Voitures à Deux Roues.*)

William Rudd, Dresden, Ont., 6th August, 1885; 5 years.

Claim.—1st. The shafts *A* and *B*, the coupling or hinge *X* and the part *B* in a curve or bend, the cast-steel spring *C*, the coupling *D*. 2nd. The combination of the shafts *A* and *B*, the cast-steel spring *C*, with its attachments *E*, *F*, *D* and *G*, the brace *H* and the springs *I* and *K*, for the purposes hereinbefore set forth.

No. 22,206. Boiler for Hot Water Apparatus. (*Chaudière de Calorifère à Eau.*)

John Hazlett, Kingston, Ont., 6th August, 1885; 5 years.

Claim.—1st. The boiler *K* having horizontal tubes *K*₁ and a furnace *L* surrounded by a shell *A*, whereby a water space *J* is formed to connect with the headers *E*, *F*, as set forth. 2nd. In combination with the boiler *K*, having tubes *K*₁ and a furnace *L*, the shell *A* having one or more removable sides, as set forth. 3rd. The shell *A* having angle iron bars *B* connecting the sides, as set forth. 4th. The hollow water boxes *S*, surrounding the furnace and connected to water space *J* by passages *T*, as set forth.

No. 22,207. Artist's Canvas Stretcher for Painting Purposes. (*Châssis pour Tendre les Toiles des Artistes-Peintres.*)

Joseph L. Rawbone, William G. Rawbone and Charles M. Edwards, Toronto, Ont., 6th July, 1885; 5 years.

Claim.—1st. In an artist's stretcher, the combination of the diagonal plate *B* having converging slots *6* and being secured by set screws *6*, with the sides *A* of the stretcher, said sides being cut to a plain mitre and being joined by the said diagonal plate *B*, all arranged and operating as shown and for the purpose specified.

No. 22,208. Lath Machine. (*Machine à Latte.*)

James T. Hall, St. Louis, Mich., U.S., 6th August, 1885; 5 years.

Claim.—1st. In a device, for the purpose described, the plates C, hinged to the floor and supporting the bed A and frame E, in combination with the standards F, and set screw J, the parts being constructed and opening substantially as and for the purposes specified. 2nd. In a device, for the purposes described, the combination of the arbors T, V, journalled in vertically adjustable boxes, and carrying series of graduated saws W, with a frame that is vertically and radially adjustable, substantially as set forth. 3rd. In a device, for the purpose described, the combination, with a radially adjustable frame E, carrying vertically adjustable saw arbors, of the spring pressure rolls h, substantially as and for the purposes specified. 4th. A device, for the purposes described, consisting of a bed A, legs B, inclined plate C, hinged to the floor D, frame E, standards F, girth H, tie I, set screw J, arbors T, V, vertically adjustable boxes U, saws W, table extension X, and pressure rolls h and suitable driving mechanism, the parts being constructed, combined and operating substantially as set forth.

No. 22,209. Steam Lubricator.*(Graisseur à Vapeur.)*

J. Vincent Renchard, Detroit, Mich., U.S., 6th August, 1885; 5 years.

Claim.—1st. In a lubricator, the main body E thereof having the extension e, 2 formed in a single casting therewith, said extension having a portion of its surface removed, exposing to view an indicator glass, the ends of which, having free communication with the body, or oil chamber thereof, substantially as specified and shown. 2nd. In a lubricator, the main body E, having the extension e, 2, formed in a single casting therewith, its upper end extending outwardly at an angle coinciding with the arched portion of the diaphragm e, 4, forming an oil filling channel, e, 3, whose surface shall be above the horizontal portion of said diaphragm, substantially as and for the purpose set forth. 3rd. In a lubricator the main body E having cast integral therewith, the extension e, 2 for embracing the glass indicator G, and filling channel e, 3, single connecting trunk e, 1 and extension e, 7, e, 8 and e, 9, and being internally divided into oil and water chambers, by means of the diaphragm e, 4, and its upper end formed to receive the condenser F, all arranged substantially as described and shown. 4th. In a lubricator and for the purpose of indicating the highest general level of the contained lubricant, the body E thereof, in conjunction with the extension e, 2, glass indicator G, said extension having its front or sides removed in crescent or other form to a height coinciding to a level with the horizontal portion of the diaphragm e, 4, substantially as set forth and shown. 5th. In a lubricator the main body thereof provided with a glass indicator tube, G, whose upper and lower ends have free communication therewith, a water conducting tube, e, 4, whose lower end shall communicate with a water supply or space, and its outer end inclined upwardly and adapted to issue drops of water into the upper end of said glass indicator tube, that their descent through the oil contained in said indicator tube, shall become visible, substantially as specified and described. 6th. In a lubricator containing separate oil and water chambers and for the purpose of providing a water seal which shall preclude the entrance of oil into its discharge end, the angularly arranged siphon tube, e, 4, whose lower end communicates with the water chamber, and its upper end adapted to discharge water into the volume of oil, contained within the lubricator, substantially as and for the purpose specified. 7th. In a lubricator and for the purpose of securing a temperature of the oil within the glass indicator G, nearly equal to that contained within the oil in the main body of the lubricator, the extension, e, 2, constructed and arranged to nearly surrounded the indicator glass, and having a sufficient portion of its front removed, in crescent or other form to render a clear view of the glass indicator G, substantially as and for the purpose specified. 8th. In a lubricator, and for the purpose of insuring the issue of the descending water drops, which indicate the rate of the feed of oil, into and through the oil contained in the glass indicator, G, the basin or receptacle e, 5 located above the end of said indicator glass, substantially as and for the purpose specified.

No. 22,210. Friction Clutch.*(Embrayage à Friction.)*

Arthur L. Stanford, Fort Hill, Ill., U.S., 6th August, 1885; 5 years.

Claim.—1st. In a friction clutch, the combination, with a hollow metal body having a central opening through it for the passage of the bar to be clutched, of two movable clamping rollers within the hollow body, one on each side of the central opening and one or both resting in contact with a bevelled surface, substantially as described. 2nd. A friction clutch comprising in combination a hollow metallic body having the inner surfaces of its end walls bevelled as shown and having openings t for the passage through it of the bar, internal rollers between which the bar passes, and mechanism, substantially as described, for raising the rollers at will above their normal position to prevent gripping of the bar. 3rd. A friction clutch and release comprising in combination a hollow metallic body having the inner surfaces of its end walls bevelled as shown, and having openings t for the passage through it of the bar, and slots g internal rollers C, having trunnions r extending through the slots, arms p pivoted together and to the trunnions n, and yoke lever D, pivoted to the arms p, and fulcrumed to the body A, substantially as described. 4th. The combination of the hollow metallic body A, having its inner walls bevelled, and having a central opening through it for the passage of the lifting bar, rollers C, bearing blocks E, and mechanism substantially as described, for raising the rollers at will above their normal position to prevent gripping.

No. 22,211. Harness. (*Harnais.*)

Levi Walker, Delhi, Ont., 6th August, 1885; 5 years.

Claim.—The combination, in a harness, of the use of a long evener

A A, and short evener D together, with the connection thereof, with the hames on a collar by the use of chains or leather B, B and C, C, and the draft chain H, substantially as and for the purpose hereinbefore described and set forth.

No. 22,212. Gas Furnace. (*Four à Gaz.*)

Charles M. Gearing and John R. McKee, Jr., Pittsburgh, Pa., U.S., 7th August, 1885; 5 years.

Claim.—1st. The combination, in a furnace for burning liquid fuel, of the pan located at the lower part thereof, the oil supply pipe, and the perforated diaphragm, provided with a covering of fire brick or other material substantially as and for the purposes specified. 2nd. The combination, with the pan or receptacle, at the bottom of the furnace and its diaphragm and covering of fire brick of the perforated pipe whereby a series of jets of air and steam may be directed upon the ignited fuel, substantially as and for the purposes specified. 3rd. The combination, with the oil receptacle of the furnace, of the perforated arched partition through which the burning gases are passed, prior to their final combustion substantially as specified. 4th. The combination, with the upper combustion chamber of the retorts located therein, the pipe leading from said chamber to the retorts the mixer and the oil supply pipe and injector, the whole arranged to operate substantially as and for the purposes specified.

No. 22,213. Sound Amplifier for Pianos, etc. (*Amplificateur du Son pour Pianos, etc.*)

François E. Viger and Julien Brosseau, Longueil, Que., 7th August 1885; 5 years.

Claim.—A sound amplifier having the shape and form shown in drawings, provided with concave top A, holes a and teeth E, as above described and for the purposes set forth.

No. 22,214. Locomotive Ash Pan.*(Cendrier de Locomotive.)*

Charles M. Lake and Sylvester M. Winney, Jackson, Mich., U.S., 7th August, 1885; 5 years.

Claim.—1st. The combination, with a cylinder and a pipe connecting the ports provided with three-way-cocks, suitable plugs in said cocks, and check-valves, of a condenser located beneath the ash pan, and a connecting pipe for conveying the steam to the condenser substantially as set forth. 2nd. The combination, with a cylinder having a connecting pipe between the ports, and provided with three way cocks, and suitable cocks plugs, of an ash pan frame, detachable condenser bottom, and pipe for conveying the steam to the condenser, substantially as set forth. 3rd. The combination of an ash pan, a condenser beneath the pan, a cylinder or cylinders, pipes connecting the cylinder, exhaust ports with the condenser, three-way-cocks in said ports, and branch pipes for blowing out the ash-pan, having at the juncture of the pipe and branches three-way-plugs, whereby steam may be let into the branches or into the condenser, substantially as set forth. 4th. The combination, with the cylinders an indicator, a pipe connecting the indicator with the boiler, and pipes connecting the indicator with the cylinder, exhaust ports, of an ash-pan condenser, and pipes connecting the exhaust ports with the condenser, said ports being provided with suitable cocks and valves, all substantially as set forth.

No. 22,215. Fish Hook. (*Haim*)

Dominick E. Dempsey, (Assignee of Clare L. Spencer), Geneva, N. Y., U.S., 7th August, 1885; 5 years.

Claim.—1st. The combination of an upper fixed and lower removable gang hooks, substantially as described. 2nd. In a combination hook, substantially as described, a removable needle for fixing the line or other bait upon the gang hooks being unoccupied. 3rd. The combination of gang hooks A, having a hollow stem, with needle C, having a screw-threaded end, and gang hooks B, substantially as described. 4th. A combination hook consisting of two gangs, viz.: a fixed gang, and a detachable gang, substantially as described. 5th. In combination with gang hooks A and B, and needle C, the spinner E, substantially as described. 6th. In a combination hook, a detachable gang hook, substantially as described. 7th. In a combination hook, as described, a spinner having a twist or screw-shape, substantially as described. 8th. In combination with one or more gang hooks, two spinners, each revolving in opposite directions, substantially as described. 9th. In combination with a fish hook, two spinners each revolving in a direction opposite to the other.

No. 22,216. Garment-Fastener.*(Agrafe de Vêtement.)*

Peter C. Getz, Philadelphia, Penn., U.S., 8th August, 1885; 5 years.

Claim.—As a new article of manufacture, a garment-fastener consisting of a plate having a slot, which extends longitudinally, as at a, is widened as at b, and provided with fastening eyes, substantially as and for the purpose set forth.

No. 22,217. Gravity Separator*(Épurateur des Grauz.)*

William H. Wakeford Baltimore, Md., U.S., 8th August, 1885; 5 years.

Claim.—1st. The combination, substantially as before set forth, of a gravity chest having valved ports on opposite sides, a blast fan for blowing air into the chest through the air ports on one side, and a suction fan for exhausting air from the chest through the exhaust ports in its other side. 2nd. The combination, substantially as before set forth, of a gravity chest having valved ports on opposite sides, and alternation cant-boards, a blast fan for blowing air into the

chest through the air ports on one side, and a suction fan for exhausting air from the chest through the exhaust ports in its other side. 3rd. The combination substantially as before set forth, of a gravity chest having valved ports in opposite sides, and alternating corrugated cant-boards, a blast fan for blowing air into the chest through the air ports on one side, and a suction fan for exhausting air from the chest through the exhaust ports in its other side.

No. 22,218. Combined Crib or Cradle.

(*Hamac ou Berceau.*)

Charles Long, Kingston, Ont., 8th August, 1885; 5 years.

Claim.—A crib or cradle, as a new article of manufactures made up of oval sides A, A, rockers I, ports D, all joined together by wood screws, and provided with netting M, supported by wire B having kinks C, and retaining pins J, the whole substantially as and for the purpose hereinbefore set forth.

No. 22,219. Axle Lubricator.

(*Graisneur d'Essieu.*)

Warren Cole, jr., Keokuk, Iowa, U.S., 8th August, 1885; 5 years.

Claim.—1st. In a vehicle axle, a spindle provided with a slide or plug which fits within a groove, in combination with a wedge for holding said slide or plug in place, substantially as described. 2nd. In a vehicle axle, a spindle having a groove or slot provided with an inclined surface, to raise the end of the slide out even with the outer surface of the spindle, when said slide is shoved in place, substantially as described. 3rd. In an axle lubricator, a spindle containing a flat slot provided with an inclined plane, and headed screw or pin, in combination with a side having a notched end, substantially as described. 4th. In an axle lubricator, a spindle having a short shallow slot, in combination with a slide provided with a crook or shoulder, substantially as described. 5th. In an axle lubricator, a spindle or skein having a slot entering the frictional surface thereof, through the shoulder, in combination with a slide, substantially as described. 6th. In an axle lubricator, a spindle provided with a flat or level place on the outside of the shoulder band, between the back band and shoulder, substantially as described. 7th. In an axle lubricator, a spindle provided with a slot and slide, in combination with a wedge having a spring on the under side engaging with a lug, whereby the wedge is held in place, substantially as described. 8th. In a vehicle axle, a spindle having a groove or slot, in combination with a slide provided with oil or grease ducts, substantially as described. 9th. In a vehicle axle, a spindle having a slot or groove provided with a thin slide, whereby the same when previously loaded with grease or lubricating material will pass freely into the wheel without dislodging its load on the outside, but displacing it within the wheel, substantially as described. 10th. The combination in an axle lubricator, of a spindle provided with a short, shallow slot *x*, inclined plane *c*, screw or pin *d*, notched and crooked slide *B*, lug *p*, flat face *n*, wedge *d*, with spring *m*, attached to the outer side, substantially as described. 11th. In a vehicle axle, a spindle having a slot or groove in combination with a slide held in place by a wedge and spring, substantially as described.

No. 22,220. Machine for Cutting Rubber.

(*Machine à Tailler le Caoutchouc.*)

John Murphy, Brooklyn, N.Y., U.S., 8th August, 1885; 5 years.

Claim.—1st. In a machine for cutting rubber, the combination of a reciprocating tool carriage, operated by a transmitting belt, and a table, work-bench or platform, substantially as specified. 2nd. In a machine for cutting rubber, the combination of a double-edged cutting tool, a carriage for controlling the movement thereof, a transmitting belt, and a table, work-bench or platform, substantially as and for the purpose specified. 3rd. In a machine for cutting rubber, the combination of a double-edged cutting tool, a reciprocating tool carriage for controlling the movement and depth of cut thereof, a groove or guide controlling the movement of the reciprocating tool carriage, a transmitting belt, and a table, work-bench or platform, substantially as set forth. 4th. In a machine for cutting rubber, the combination of a double-edged cutting tool, a reciprocating tool carriage for controlling the movement and depth of cut thereof, as well as the angular adjustment of cutting tool, a groove or guide controlling the movement of the reciprocating tool carriage, a transmitting belt, and a table, work-bench or platform, substantially as set forth. 5th. In a machine for cutting rubber, the combination of a reciprocating tool carriage, a cutting tool, a groove or guide controlling the movement thereof, a transmitting belt and its operating mechanism, and a table, work-bench or platform, substantially as set forth. 6th. In a machine for cutting rubber, the combination of a reciprocating tool carriage operated by a transmitting belt, a table, a work-bench or platform, and an adjustable grip or gauge, substantially as and for the purposes specified. 7th. In a machine for cutting rubber, the combination of a reciprocating tool carriage, a double-edged cutting tool, a transmitting belt, a guide or groove controlling the movement of reciprocating tool carriage, an adjustable grip or gauge, and a table, platform or work-bench, substantially as set forth. 8th. In a machine for cutting rubber, the combination with an operating table, bench or platform, or an adjustable grip or gauge, a guide or groove controlling the movement of the reciprocating tool carriage, a double-edged cutting tool, a transmitting belt, and the operating wheels or pulleys through which power is applied, substantially as and for the purpose specified. 9th. In a machine for cutting rubber, the combination with an operating table, work-bench or platform, an adjustable grip or gauge, a reciprocating tool carriage, a double-edged cutting tool capable of angular adjustment to perform a draw-cut, and a transmitting belt and power pulleys, substantially as and for the purposes specified. 10th. In a machine for cutting rubber, the combination of an operating table, work-bench or platform, having an adjustable grip or gauge to full length of operating table or platform, a guide or groove *F*, controlling the movement of reciprocating tool carriage, a reciprocating tool carriage *D*, double-edged cutting tool *d*, a transmitting belt *C*, sprocket wheels *B* and *B*₂, and an operating

crank wheel or pulleys, through which power may be applied, substantially as set forth. 11th. In a machine for cutting rubber, the combination of the tool carriage *A*, the adjusting screw *d*₁, the hand wheel *d*₂, having slots *d*₅ and *d*₆ upon its hub, by means of which the cutting tool is adjusted to a vertical or draw-cut, the double-edged knife *d*, adjusting screws and hand wheel *d*₂ and the belt *d*₃, substantially as and for the purposes specified.

No. 22,221. Land Roller. (*Rouleau d'Agriculture.*)

John L. Lehman, Portland, Me., U.S., 8th August, 1885; 5 years.

Claim.—The combination of the beams *A*, *F*, arranged parallel to each other and pivoted together, the hound *B*, braces *b*₁, for the hound, pole *C* pivoted to the hound, brackets *a*, *a*₁ bolted to beam *A*, roller *D*, journaled in said brackets, and brackets *f*, *f*₁ bolted to beam *F*, and roller *H* journaled in said brackets, substantially as described.

No. 22,222. Apparatus for Advertising.

(*Appareil de Publicité.*)

Theodore N. Scott, Toronto, Ont., 8th August, 1885; 5 years.

Claim.—1st. A portable frame *B*, constructed with windows or openings *B*, and carrying the geared rollers *C* and the lower rollers *D*, the former operated and set in motion by means of the crank *d*, in combination with the advertising belt or curtain *E*, substantially as shown, and for the purpose specified. 2nd. The advertising belt or curtain *E*, having attached to its studs *F* engaging with the hammer-lever *e*, of a bell or gong *G*, in combination with the windows or openings *B*, of the frame *A*, whereby the intermittent display of the advertisements or pictures is secured and controlled, substantially as shown, and for the purpose specified.

No. 22,223. Needle for Brush Making.

(*Aiguille de Brosserie.*)

Joseph M. Pickering, Philadelphia, Penn., U.S., 8th August, 1885; 15 years.

Claim.—1st. The brush-maker's needle having a handle in two parts hinged together and provided with grasping or clamping plates, substantially as described, whereby wire is securely held during the operation of wiring tufts of bristles into brush blocks, as set forth. 2nd. The brush-maker's needle having an eye near its point, and its outer end bent or curved in the plane occupied by the eye, and a longitudinal groove on its upper side opposite said bend, substantially as described, whereby a loop receiving space is afforded below the bent portion of the needle, when the wire extends rearwardly from the eye, as set forth. 3rd. In a brush-maker's needle, an eye near the point thereof, having a rounded inner end, and an inclined outer end, substantially as described, whereby tensile strain can be applied to a wire passing along said needle, and forwardly through said eye, without materially bending said wire, as set forth.

No. 22,224. Roadway Footpath Crossing.

(*Pavé de Traverse de Chemin.*)

Edward L. Perkins, Ottawa, Ont., 8th August, 1885; 5 years.

Claim.—1st. A covering for footpath crossings consisting of metallic plates, lap jointed together, and secured to a bedding of wood, or other approved material, substantially as shown and for the purpose set forth. 2nd. A covering for footpath crossings, consisting of the metallic plates *C*, provided with the ribs *a*, *a*, and lap joints *b*, as herein shown and set forth. 3rd. In a roadway footpath crossing, the combination of the bedding *A* and sills *B*, with the plates *C*, having the ribs *a*, or any equivalent device, and the lap joints *b*, substantially as herein shown and described.

No. 22,225. Bit for Wind Sucking and Cribbing Horses. (*Mors pour les Chevaux qui Rotent et qui Rongent.*)

John Blyholder and Henry S. James, St. Louis, Mo., U.S., 8th August, 1885; 5 years.

Claim.—A tubular bit provided with a central tubular arm to lie on the horse's mouth, as shown and described, and for the purposes hereinbefore set forth.

No. 22,226. Post for Wire Fences.

(*Pieu pour Clôtures en Fil de Fer.*)

Thomas E. Nichols, Hamilton, Ont., 8th August, 1885; 5 years.

Claim.—1st. The form of the post *A*, having the ridges *B*, *B* along both edges on both sides of it. 2nd. The combination, with the post *A*, of the flanges *C*, *C*, substantially as and for the purpose hereinbefore set forth.

No. 22,227. Door Bolt. (*Verrou de Porte.*)

John F. Taylor, West Park, N.Y., U.S., 8th August, 1885; 5 years.

Claim.—1st. A door bolt, comprising a locking bar supported to slide in an eye adapted for attachment to the door, and said bar provided with a lever or equivalent means for turning it axially, and also with a cam-lug adapted to lock behind a stop or shoulder on the door to hold the bolt projected, and a spring arranged to offer resistance to the cam-lug as the bolt is turned axially, substantially as herein set forth. 2nd. The combination, in a door-bolt, of a bar *A*, provided with a lever *D*, or equivalent means for turning it axially, and having a cam-lug *F*, a plate *B*, having an eye *b*, to support bar *A*, and a slot at *b*₁ for the passage of lug *F*, and a spring supported by and back of the plate *B*, so as to offer resistance to the cam when the bar *A* is entered into the catch-plate and turned, substantially as herein set forth. 3rd. The combination, in a door bolt, of a bar *A*, provided with a lever *D*, or equivalent means for turning it axially,

and having a cam-lug F, a plate B, having an eye *b* to support bar A, and a slot *b*₁ for the passage of lug F, and said plate having a case E at its outer end, and a spring G made in Ω -form and held within case E, so as to offer resistance to the lug F, when the bar A is entered into the catch-plate and turned, substantially as herein set forth. 4th. As an improved article of manufacture, a catch for a door-bolt made with its bolt-bar receiving eye formed on a dovetail-shaped plate adapted to be let into the casing, substantially as herein set forth.

No. 22,228. Construction of Lamps for Burning Paraffin, etc. (*Fabrication des Lampes Brûlant la Paraffine, etc.*)

George Rayner, Hackney, Eng., 8th August, 1885; 5 years.

Claim.—1st. The manufacture and use of paraffine lamps having a tube *d* containing a rod *e*, with finger catch *f*, and lip *e*₁ connected with the flaps *b*, *b*₁, or tube *b*₁, sustained by springs *c*, *c*₁, and movable block *h* linked to the chain *K*, substantially as and for the purposes hereinbefore described and shown on the drawings. 2nd. The combination and arrangement of mechanism for instantaneously extinguishing lamps, substantially as hereinbefore described and shown on the drawings.

No. 22,229. Car-Coupling. (*Accouplage de Chars.*)

Robert Hitchcock, Springfield, Mass., U.S., 8th August, 1885; 5 years.

Claim.—1st. An automatic car-coupler, consisting of a draw-bar hinged at its inner end to the car-body, and having a hook and beveled head at its outer end, a yoke at the end of the car having an upwardly inclined oblique passage through which the body of the draw-bar passes, and a chain and attachments connected to the bar by which the same may be lifted in uncoupling, all in combination, substantially as stated. 2nd. The combination, with the end of a car, of a draw-bar hinged thereto at its inner end, and having a hook and beveled head at its outer end, a yoke attached to the car having an upwardly-inclined passage through which the body of the draw-bar extends, and a projecting guard which extends near the draw-bar to prevent accidental uncoupling, all substantially as described.

No. 22,230. Gate Opening Device.

(*Appareil pour ouvrir les Barrières.*)

Nicholas E. Reesor, Markham, Ont., 8th August, 1885; 5 years.

Claim.—1st. A gate A hinged upon the hollow supports C, connected to the gate-posts D, and through which the vertical spindle E passes, a crank *a* formed on the top end of the said spindle and connected to the movable block or weight F, as described, in combination with the double cranked spindle I connected to the spindle E, substantially as and for the purpose specified. 2nd. A vertical spindle E, located and operated as described, and having a double arm M formed on it, in combination with the spring-latch N connected to the said arm M and arranged to engage with the hasp P, substantially as and for the purpose specified. 3rd. A notched hasp P, arranged as described, and butting against a spring rubber *g*, substantially as and for the purpose specified.

No. 22,231. Clothes Wringer.

(*Essoreuse à Linge.*)

Stainlas Pariseault, St. Jean Baptiste, Que., 10th August, 1885; 5 years.

Claim.—1st. In a clothes wringer, the spring C secured to the block M, having the half-circled ends *b* *b*₁ resting at *c*, *c*₁ on blocks B, B₁, in combination with the frames A, A, beam D, thumb-screws N, N, and upper roller E, as above described and for the purposes set forth. 2nd. In a clothes wringer, the gear wheels J, J, K, K, provided respectively with cogs *n*, *o*, flat spaces *p* and strengthening pieces L L in combination with the rollers E, E crank I and frames A, A, as above described and for the purpose set forth. 3rd. In a clothes-wringer, the combination of the spring C, *b*, *b*₁, *c*, *c*₁, gear-wheels J, J, K, K, *n*, *o*, *p*, L, L and crank I, with the frames A, A, blocks M, B, B₁, beam D, and thumb-screws N, N, the whole as above described and for the purpose set forth.

No. 22,232. Milk Can. (*Jatte à Lait.*)

William Stevely, London, Ont., 10th August, 1885; 5 years.

Claim.—1st. The inner band I, in combination with the concave plate B, formed with flanges F, F, body C and band S, the combination of which forms a strong and durable bottom for milk cans, substantially as set forth. 2nd. The inner band I, in combination with the concave plate B, formed with flanges F, F, body C, and bands S, S, soldered and rivetted, or otherwise rigidly secured together, substantially as shown and described and for the purpose set forth.

No. 22,233. Wheel Felly. (*Jante de Roue.*)

Jared Maris, Columbus, Ohio, U.S., 10th August, 1885; 5 years.

Claim.—1st. A wheel rim provided with grooves or mortises therein, and strips of wood material in said grooves or notches, with their grain running in a different direction from the grain of the rim. 2nd. A wheel rim, provided with mortises therein, strips or blocks of material inserted in said mortises, and spoke sockets passing through said strips or blocks, and through, or partly through, the rim. 3rd. A wheel rim provided with grooves or mortises therein, and blocks of veneering inserted in said grooves or mortises, substantially as set forth. 4th. A wheel rim, provided with grooves or mortises therein, and blocks of veneering inserted in said grooves or mortises, substantially as set forth. 4th. A wheel rim provided with grooves or mortises therein, blocks of veneering inserted in said mortises, and spoke sockets passing through said blocks, and through, or partly through, the rim. 5th. A wheel rim provided with a series of trans-

verse mortises, blocks or veneering inserted in said mortises, and spoke sockets passing through said blocks, and through, or partly through, the rim.

No. 22,234. Machine for Holding and Cutting Rolled Paper. (*Machine pour Retenir et Tailler le Papier Roulé.*)

William S. Hunter and William A. Hungerford, Belleville, Ont., 10th August, 1885; 5 years.

Claim.—1st. The frames *a*, having flanges *k*, adapted to slide upon supports *l*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the frames *a* and hanger *b*, adapted to carry two rollers *c*, whereby two or more rolls of paper may be cut with the same knife, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the rolls *d*, slats *f*, knife *g*, and bar *h*, substantially as and for the purpose hereinbefore set forth. 4th. The rolls *d*, slats *f*, knife *g* and bar *h*, in combination with the frames *a*, hangers *b*, flanges *k* and supports *l*, substantially as and for the purpose hereinbefore set forth.

No. 22,235. Horse Shoe. (*Fer à Cheval.*)

The Dundas Spring Horse-Shoe Company, Dundas, Ont., (Assignee of Frederick A. Roe, New York, N.Y., U.S.) 10th August, 1885; 5 years.

Claim.—1st. The combination of plate A, heel and toe calks B, B, C, out of one solid piece of metal without welding, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the plate A and the clip E, made out of one solid piece of metal, substantially as and for the purpose hereinbefore set forth.

No. 22,236. Hoisting and Conveying Machines. (*Machine à Hisser et Transporter.*)

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

Claim.—1st. In combination with the front pier and a cable-tramway, a back pier movable on tracks transversely to the tramway and having located within it, and preferably near the back portion of the base thereof, the hoisting engine and machinery for the purpose of giving to said back pier a capacity to withstand the forward pull on its top part of the cable-tramway, all substantially as hereinbefore described.

No. 22,237. Moulding and Compressing Machine. (*Machine à Mouler et Presser.*)

Joseph A. McFerran, Philadelphia, Penn., U.S., 30th August, 1885; 5 years.

Claim.—1st. The combination, in a machine for moulding pulverized or plastic material, of the die *e*, the intermittently-elevated ejector D, and the intermittently depressed plunger E, part of the upward movement of which is dependent upon the simultaneous ascent with the upward movement of the ejector, substantially as set forth. 2nd. The combination of the lower die *e*, of a machine for moulding pulverized or plastic material, and the ejector D, with the plunger E, carrying the upper die and the lever T₂, adjustably connected to the said plunger, all being combined and operating substantially as specified. 3rd. The combination of the lever T₂, the threaded rod T₃ passing through, and adjustable in the short arm of the lever, and the plunger E connected to the lower end of the adjustable rod, substantially as specified. 4th. The combination of the plunger E, carrying the upper die of the machine for moulding pulverized or plastic material, with the lever T₂, having a short arm connected to the said plunger, and with a crank-pin T₁, carried around the shaft T, and acting on the under side only of the said lever, which is free from control of said crank-pin during the greater portion of the revolution of the latter, substantially as specified. 5th. The combination, in a machine for moulding pulverized or plastic material, of the plunger E, carrying the upper die *m*, and a lever T, having its short arm connected to the said plunger, with the lower die *e*, ejector D, and lever V, and with the shaft T, and crank-pin T₁, carried around with the said shaft, whereby the said levers are operated, the lever T₂ to depress the plunger, and the lever V to raise both the ejector and plunger, substantially as specified. 6th. The combination, in a machine for moulding pulverized or plastic material, carrying a number of dies and an ejector, of the intermittently-operated support and lifter *v*, and a bearing on which it rests during the intermission of its movement, and during the downward movement of the upper die, substantially as specified. 7th. The combination, in a machine for moulding pulverized or plastic material, having an upper die *m*, of the intermittently-rotated die-holder having a number of dies, and each die having an ejector, with a support and lifter *v*, substantially as set forth. 8th. The combination, in a machine for moulding pulverized or plastic material, of the intermittently-rotated die-holder and its ejectors, and an intermittently-operated lever for supporting each injector in succession and for imparting part of the upward movement to each ejector, with a fixed inclined plane *y* for completing the upward movement of each ejector in succession, during each successive movement of the die-holder, substantially as set forth. 9th. The combination, in a machine for moulding pulverized or plastic material, of an intermittently-rotated die-holder, carrying a number of dies, and an ejector for each die, with a vertically adjustable support *x*, on to which the ejectors fall in succession, with a hopper situated above the said adjustable support for feeding into the die the material to be compressed, substantially as specified. 10th. The combination, in a machine for moulding pulverized or plastic material, of a lower die *e*, and an ejector therefor, with a hopper F, and an agitator C, a portion *g*, of which extends to, or nearly to, the edge of the orifice in said die, substantially as set forth. 11th. The combination, in a machine for moulding pulverized or plastic material, of an intermittently-rotated die-holder, having

a series of dies, and an ejector for each die, with a fixed rib 4, in contact with which each ejector must traverse, and an adjustable support α , to which each ejector in succession must fall as the machine operates, substantially as specified. 12th. The combination, in a machine for moulding pulverized or plastic material, of the intermittently-rotated die-holder B and its series of dies, each having an ejector, with the fixed rib 4, and an adjustable support α , having an inclination τ , substantially as specified. 13th. The combination, of the intermittently-rotated die holder, of a machine for moulding pulverized or plastic material, its dies and ejectors, and the support α , with a reciprocated rod b , for depressing each ejector in succession, substantially as set forth. 14th. The combination, in a machine for moulding pulverized or plastic material, of the following elements, namely: first, an upper reciprocating die; second, an intermittently-rotated die-holder, having a series of lower dies, and an ejector for each die; third, a support and lifter w , forming a foundation for each ejector, in succession, during the descent of the upper die, and for lifting each ejector in succession; fourth, a fixed rib 4, having an inclined plane ν , for receiving each lifted ejector in succession falls from the rib 4, substantially as set forth. 15th. The combination of the intermittently-rotated die-holder, of a machine for moulding pulverized or plastic material, and its series of dies and ejectors, with a lubricating-roller 10, substantially as specified. 16th. The combination of the plunger E and the upper die m , with a lubricating roller 12, carried by a vibrating arm 11, substantially as described. 17th. The combination of the intermittently-rotated die-holder B, of a machine for moulding pulverized or plastic material, and its series of dies and ejectors, with the spout 14, and arm 13, projecting from the spout over and above the face of the die-holder, substantially as set forth. 18th. The combination of a die-holder and its dies e , and ejectors D, each ejector having a cylindrical enlargement 15, arranged to slide in and to be guided by the opening of the die-holder, substantially as specified. 19th. The combination of the die-carrier, its dies and ejectors, each of which has at the top a slight enlargement, t , presenting a shoulder z , substantially as set forth. 20th. The combination of the die-holder, its dies and ejectors, with a chamber 16, for each die, substantially as specified.

No. 22,238. Handle for Travelling Bags, etc.

(*Poignée de Sac de Nuit, etc.*)

Robert W. Chapman, Newark, N.J., U.S., 13th August, 1885; 5 years.

Claim.—1st. The sheet metal handle, consisting of the upper section formed with central bead a , side beads or seats b, b , downwardly-projecting flanges c, c , and the lower section formed with central bead d and upwardly and outwardly projecting flanges e, e , and the sections being united by bending the upper flanges over the lower, substantially as shown and described. 2nd. The sheet metal handle, consisting of an upper section, formed with tongues f, f , and flanges c, c , enlarged so as to firmly grasp and cover the ends of the lower section, in combination with the lower section, of a sheet metal handle, substantially as herein shown and described. 3rd. The combination, with a sheet metal handle, formed in two sections united by inner and outer flanges, as described, of the leather coverings fitted to the sections separately, and their free edges held in place by the overlapping sections, substantially as herein shown and described.

No. 22,239. Fabric as a Substitute for Leather.

(*Tissue remplaçant le Cuir.*)

George A. Fullerton, Boston, Mass., U.S., 13th August, 1885; 5 years.

Claim.—1st. The fabric above described, consisted of fibres cemented together with glue treated with chrome alum and heat, substantially as described. 2nd. The fabric above described, composed of the fibrous sheet a , having its fibres cemented together, and also cemented to the sheets of cloth b and d , either or both, substantially as described. 3rd. The fabric above described, composed of the fibrous sheet a having its fibres cemented together, and also cemented to the sheets of cloth b and d , either or both, by means of glue treated with chrome alum and heat, substantially as described.

No. 22,240. Salt Drying and Granulating Apparatus.

(*Appareil pour Sécher et Granuler le Sel.*)

Claude Henrie, Bay, Mich., U.S., 13th August, 1885; 5 years.

Claim.—1st. The combination of cylinder D having shell E, spokes G, G, shaft F and one or more rollers S sleeved to the shaft to travel on the inside of the cylinder, whereby the salt is simultaneously dried and crushed, as set forth. 2nd. The combination, with the cylinder D having shell E, spokes G, G, and hollow shaft F, of the steam pipe H, reservoir A and screw conveyor B, whereby the salt is distributed to the conveyor and fed to the cylinder and the cylinder heated by steam, as set forth. 3rd. The hollow roller S, having an internal loose weight T to jar the cylinder, for the purpose set forth.

No. 22,241. Fire-arm.

(*Arme à Feu*)

Joseph D. Lucas and William J. Kriz, St. Louis, Mo., U.S., 13th August, 1885; 5 years

Claim.—1st. A compound gun having two shot barrels and two rifle barrels made of different pieces of metal, the rifle barrel being located directly between the shot barrels, as set forth. 2nd. In a compound gun, the two shot barrels and two rifle barrels made of different pieces of metal, and the rifle barrels located between the shot barrels, in combination with two extractors, substantially as and for the purpose set forth. 3rd. In a compound gun, the two shot barrels and two rifle barrels made of different pieces of metal, and the rifle barrels located between the shot barrels, in combination with the hammer and locking and cocking pin D, operated by a cam rock shaft and lever, substantially as set forth. 4th. In a compound gun, the two shot barrels and the two rifle barrels made of different pieces

of metal, and the rifle barrels located between the shot barrels, in combination with the hammers, and the two movable plates T working side by side in a shot in the frame for holding the hammers cocked and held to their adjustment by springs V, as set forth. 5th. In a fire-arm, a hollow or dovetailed hammer and block N₁, adapted to slide in the hammer, in combination with the upper and lower firing pins, the said block being adapted to strike a firing pin in either its upper or lower position, as set forth. 6th. In a fire-arm, the combination of a hammer, an adjustable block on the hammer, a lever hinged to the frame and connected to the block, the block being adjusted by said lever to place it in position to strike either firing pin, as set forth. 7th. In a fire-arm, the combination of the piece Y with a recess and a notch, and the barrel having a recessed lug to receive a spring bolt having a conical point, the lug adapted to fit in a recess in the piece Y and the conical point of the bolt adapted to fit in the notch in the piece, substantially as set forth. 8th. The combination, with the hollow frame A having the slot U and a pair of hammers contained therein, of the pair of sliding plates T, each having a shank T₁, a head T₂ and a spring V, constructed and arranged to operate substantially as set forth. 9th. The combination, with a gun having a concealed hammer and a plurality of barrels, of a sliding block secured to said hammer and connection projecting within the reach of the operator for moving said sliding block, as and for the purpose set forth. 10th. The combination, with a hammer, of a sliding block secured thereto, and a projection therefrom adapted to be engaged by the thumb of the operator, for moving said block, as set forth. 11th. The combination, with the hammer N having the sliding block N₁, of the bell crank lever O projecting outside of the stock at one end and connected at the other with said sliding block N₁, substantially as set forth. 12th. A fire-arm having two rifle barrels formed from separate pieces of metal and secured directly to each other, and two shot barrels formed from separate pieces of metal and secured to the sides of the rifle barrels, as and for the purpose set forth.

No. 22,242. Spring Bed Bottom.

(*Sommier Elastique.*)

Frederick T. Browning, Orange, N.J., U.S., 13th August 1885; 5 years.

Claim.—1st. The series of longitudinal slats A, A₁, springs C and ties P, in combination with each other and with the jointed arms B, cross-slides D, keepers A₂, top bars E and inclined spring braces F, as herein specified. 2nd. In a spring bed bottom, in combination with the series of longitudinal slats A, conoidal springs C and ties P, the top bars E supported partly by additional springs C and partly by additional springs F, G, all arranged for joint operation as herein specified. 3rd. The diagonal braces H, in combination with the cross slides D, longitudinal slats A, A₁, rivets and keepers A₂ and with the springs C and ties P, adapted to serve as herein specified. 4th. In combination with the longitudinal slats A, A₁, springs C, ties P and jointed arms B, the additional jointed arms I, with knuckles I₁ and hook J adapted to hold the construction firmly in the extended condition, as herein specified. 5th. In combination with the parallel bars A, spring C and ties P, the jointed arms B having an extension B₁, screw K and thumb nut L, arranged to serve in holding the structures in various positions, substantially as herein specified.

No. 22,243. Sash Fastener.

(*Arrête-Croisée.*)

Rebecca G. Bassell (Assignee of John Y. Bassell), Leesburgh, Va., U.S., 13th August, 1885; 5 years.

Claim.—1st. In a sash fastener, and in combination with the recessed sash, a locking dog pivoted to the frame and provided with an interlocking portion, whose bearing surfaces are formed in arcs of circles, of which the pivot is the centre, substantially as described. 2nd. In a sash fastener, and in combination with the sliding sash and the recesses therein, a pivoted locking dog mounted in bearings in the frame, and provided with an arc-shaped engaging portion, whereby the dog can be inserted and withdrawn from the recess in the sash, without moving the latter, substantially as and for the purpose set forth. 3rd. In a sash fastener, and in combination with the window sash and its attached strike plate provided with a shoulder or offset, as described, a pivoted locking dog having the arc-shaped bearing surfaces and the notches near the outer end thereof, substantially as described. 4th. In a sash fastener, and in combination with the window sash, the spring pressed locking dog having an arc-shaped engaging portion, and a pivot concentric therewith, and the operating key or spindle passing through said pivot and engaging a lug or projection therein, substantially as described. 5th. In a sash fastener, and in combination with the locking dog thereof, the actuating spindle provided with a flange or collar at one end and an interlocking stud or projection, and an escutcheon having a notched collar or opening for the reception of the end of the spindle to permit longitudinal movement of the latter and form a bearing therefor, substantially as described. 6th. In a sash fastener, and in combination with the locking dog thereof, and the operating lever, the angular or feathered actuating spindle, and the escutcheon, the latter adapted to form a bearing for the end of the spindle and prevent its withdrawal, substantially as described. 7th. In a sash fastener, and in combination with the pivoted dogs, the operating lever and the escutcheon, the removable actuating spindle adapted to be inserted through the said operating lever and escutcheon, and to be locked in position by a collar or flange on the latter resting between a stud and collar on the end of the said spindle, substantially as described. 8th. In a sash fastener, and in combination with the locking dogs and actuating spindle, the operating lever connected at one end to said spindle, and provided with a sliding portion or extension for engagement with a locking plate, substantially as described. 9th. In a sash fastener and in combination with the actuating spindle and the locking dogs controlled thereby, the operating lever applied to said spindle and provided with a locking device for engagement with a fixed plate or escutcheon, substantially as described. 10th. In a sash fastener, and in combination with the actuating spindle and the locking dogs controlled thereby, the operating lever applied to said spindle and carrying the outer sliding section provided with wings or projections

for engaging suitable recesses or projections in an escutcheon or plate, substantially as described.

No. 22,244. Suspenders. (*Bretelles.*)

Thomas O. Potter, Boston, Mass., U.S., 13th August, 1885; 5 years.

Claim.—1st. The suspenders, or other similar article, having the waistband bars, rods or supports secured to the waistband, as described, and to the ends of the suspenders in a manner to be removable therefrom, all substantially as specified. 2nd. As a means for supporting pantaloons or other articles of wearing apparel, the bars or rods A, A, connected with, attached to, or held within the waist-pantaloons or other article, and having means of attachment to suspending straps of suspenders, braces, or shoulder straps, all substantially as and for the purposes described. 3rd. The combination, in suspenders, braces or shoulder straps, of the rods, bars or supports, waistband suspending devices the rings or eyes E, and the suspending straps *g*, *i*, of the suspenders, braces or shoulder straps, all substantially as and for the purposes described. 4th. The combination of the waistband rod, bar or support, the arms *c*, *ct*, having the screw holes *b*₃, *b*₄, and the screw D, all substantially as and for the purposes described. 5th. The combination of the waistband rod, bar or support, the arms *c*, *ct*, having the screw holes *b*₃, *b*₄, the spring screw head holding flanged arm *c*₃ and the screw D, all substantially as and for the purposes described. 6th. The combination in an attaching device for suspenders, of the arm supporting the screw D, with the arm having the inward projection *d*₄, and the screw-hole *b*₄ formed therein, all substantially as and for the purposes described. 7th. The combination of the arm *ct*, the screw D, the arm C₂, having the screw hole *b*₄ and the cap *b*₁, all substantially as and for the purposes described. 8th. The combination of the arm *c*, *ct*, having screw-holes *b*₅, *b*₆, with the screw D, having the thread *d*₂ and groove *n*₃, all substantially as and for the purposes described. 9th. In an attaching device for suspenders, the combination of the waistband rod, bar, or support, and an arm or arms supporting a cross stud, pin or bar adapted to be passed through the material of the waistband, and to be supported at one or both ends, all substantially as and for the purposes described. 10th. The waistband bar, rod or support of suspenders or braces constructed to have a horizontal adjustment or movement to vary the degree of its curve, all substantially as described. 11th. Suspenders or braces, comprising waistband rods, bars or supports, sustaining waistband attaching devices, and shoulder straps for suspending the same.

No. 22,245. Bail for Shingle Bunches.

(*Chassis pour Paquets de Bardeau.*)

Hiram E. Brackett and Fred. L. Sawyer, Hampden, Me., U.S., 13th August, 1885; 5 years.

Claim.—The combination of the endless metallic loops or links *d*, *dt*, with the wooden shingle binders D, D₁, all as shown and described and substantially as and for the purpose specified.

No. 22,246. Thermoscope. (*Thermoscope.*)

Henry J. Haight, New York, N.Y., U.S., 13th August, 1885; 5 years.

Claim.—1st. In a thermoscope, the combination of the stand C, provided with oppositely-placed set screws *b*, *b*, radial arm B, pivoted to the stand at the rear side thereof, on a pivot *a*, coil A, mounted on a rearward lug or projection *e*, of the said arm B, scale H secured to the front side of the stand, and the hands D, F, G, mounted on the front side of the stand, substantially as herein specified. 2nd. The combination of the stand C, provided with the grooved sleeve projection *k*, the hands F, G, the spring *m*, provided with the spline *n* and the nut *l*, substantially as and for the purpose herein specified. 3rd. The combination of the main hand B, provided with the backwardly extended pin *t*, and the hands F, G, respectively provided with the notches *u*, *r*, substantially as described, whereby the hands F, G are adapted to be moved by the pin *t* of the hand B, and also to be brought directly back of the said hand D without interference by the said pin, as set forth. 4th. The clamp plate *l*, constructed substantially as described, in combination with the scale H, for the purpose specified.

No. 22,247. Machine for the Reduction of Ores, etc., by Attrition. (*Machine pour la Réduction des Minerais, etc., par Attrition.*)

James K. Griffin, Brooklyn, N.Y., U.S., 13th August, 1885; 5 years.

Claim.—1st. In the reduction of ores and other substances by attrition, the herein-described method of carrying off the reduced substances, which consists in passing a current of air directly upon the line of attrition between opposing revolving surfaces of the material, being reduced, substantially as described. 2nd. The herein-described method of reducing ores or other substances, which consists in forming and maintaining a line of attrition between opposing surfaces of the substance to be reduced by passing said substance through a rotating conveyer, and against an annular wall of the same substance firmly compacted in a rotating shell, and then carrying the pulverized substance off by a current of air communicating directly with the line of attrition, substantially as described. 3rd. In an ore pulverizer, a horizontally arranged conveyer, having two or more distinct openings for the passage of the material to be reduced, and for the air to carry off the same when pulverized, substantially as described. 4th. In an ore pulverizer, the combination of the conveyer having openings for the passage of the material to be reduced and for the air to carry off the same when pulverized, an outer rotating shell or case, and means for rotating the latter, substantially as described. 5th. In an ore pulverizer, the combination of a revolving conveyer having openings for the passage of the material to be reduced and for the air to carry off the same when pulverized, an outer rotating shell or case, and means for rotating both the conveyer and the shell, substantially as described. 6th. In an ore pulverizer, the combination of a conveyer having ore and air passages, and an outer rotating shell or case,

said conveyer and shell being so adapted that the ore delivered through the conveyer will form with the ore adhering to the shell a line of attrition on their opposite surfaces, and means for rotating the shell, substantially as described. 7th. In an ore pulverizer, the combination of the rotating conveyer having ore and air passages, and an outer rotating shell or case, said conveyer and shell being so adapted that the ore delivered through the conveyer will form with the ore adhering to the shell, a line of attrition on their opposing surfaces, and means for rotating the conveyer and shell, substantially as described. 8th. In an ore pulverizer, the combination of an inner rotating conveyer, an outer rotating shell, independent means for rotating the conveyer and the shell, and a hopper, constructed and arranged substantially as described. 9th. An ore pulveriser, comprising the conveyer *e*, having ore passages *g*, *g*, air-passages *p*, *p*, cap *b*, adjustable plates *e*₁, *e*₂, division plates *m*, *m*, shell *a*, shafts *d* and *f*, gearing C, and adjustable gearing C₁, all constructed and arranged substantially as described.

No. 22,248. Hoisting and Conveying Machine. (*Machine à Hisser et Transporter.*)

Alexander E. Brown, Cleveland, Ohio, U.S., 13th August, 1885; 5 years.

Claim.—1st. A bridge, a rigid tramway supported at three or more points, and adapted to be moved bodily side-wise on a series of cross-beams or truck-like supports, substantially as and for the purposes set forth. 2nd. In combination with any suitable covered storage building, a tramway for a hoisting and conveying machine arranged beneath the roof of said building, and having its hinged apron projecting outwardly beyond, and working wholly exteriorly of said building, all substantially in the manner and for the purposes set forth. 3rd. In combination with a shed or storage building, a laterally adjustable tramway arranged inside thereof, and a hinged apron projecting beyond the building, an upwardly projecting frame work near the outer end of the tramway and exterior of the building, and a suitable supporting cross beam at the end of the building, the whole arranged and operating together, so that the said cross-beam affords proper support for the upper end of the projecting framework of the tramway, substantially as herein set forth. 4th. A rigid tramway, suspended by a series of truck-like carriers, and means for causing said carriers to move simultaneously upon suitable supporting cross-beams, substantially as and for the purposes set forth. 5th. The combination of a series of truck-like tramway-supporting carriers with a single machine, or mechanism for moving said carriers simultaneously, substantially as hereinbefore set forth.

No. 22,249. Steam Heating Radiator.

(*Calorifère à Vapeur.*)

William W. Carman, Exeter, N.H., U.S., 13th August, 1885; 5 years.

Claim.—1st. The combination of the chambered base A, provided with the conical seats in its bottom, with the pipes B screwed into the top of such base, and having conical seats in their tops, and with the pipes C conical at their opposite ends to fit to the two sets of seats and placed within the pipes B, all being substantially as set forth. 2nd. The combination of the chambered base A, provided with the inclined bottom and with conical seats therein, as set forth, with the pipes B screwed into the tops of such base and having conical seats at their upper ends, and with the pipes C conical at their opposite ends to fit both sets of such seats and placed within the pipes B, all being substantially as represented.

No. 22,250. Fire-Place Grate. (*Gril de Foyer.*)

William R. Belding, Eureka Springs, Ark., U.S., 13th August, 1885; 5 years.

Claim.—1st. A fire-place grate, consisting of the bar A, bent to form a rail *a*₂ to support the grate bars B, having its ends bent to form feet *a*, and the legs *b*, all in one piece, and the grate bars B having hooks *e* to attach them to the rail *a*₂, and being bent to form legs *f*, as shown, all adapted to be put together to form a grate, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the frame A, constructed as described, of the movable grate bars B having hooks *e* by which to attach them to the said frame A, and being formed, as described, adapted to be put together to form a portable and detachable and separable fire-place grate, substantially as and for the purpose hereinbefore set forth.

No. 22,251. Composition for Filling and Waterproofing Leather. (*Composition pour Gonfler et Imperméabiliser les Peaux.*)

Vincent Brosseau, Sherbrooke, Que., 13th August, 1885; 5 years.

Claim.—A composition of matter formed of raw linseed oil, tallow, rosin and beeswax, in the proportions and for the purposes set forth.

No. 22,252. Steam Boiler. (*Chaudière à Vapeur.*)

Benjamin F. Wright and Noah Hardy, Oneida, Ks., U.S., 13th August, 1885; 15 years.

Claim.—1st. The combination, with a boiler and a hermetically-sealed fire-box, of the walking-beam 34, the pumps 8 and 9, valves 18 and 25, and the pipes 11 and 12 leading to the ash pit of the fire-box, and valve *l* leading into the boiler, as and for the purpose described. 2nd. The combination, with a boiler and a fire-box, of the hot-air, pumps 20 and 21, having valves 16 and 27 opening inwardly from the fire-box to the pumps, and valves 14 and 15 opening outwardly from the pumps into the boiler, and the walking beam 24 attached to the pistons of said pumps, as and for the purpose described. 3rd. The combination of a steam boiler, a hermetically closed fire-box having valves opening inwardly to the same, and other valves opening outwardly from the fire-box and into the boiler, and a pressure gauge having communication with the fire-box for indicating the pressure in the fire-box for comparison with the boiler or when charging fuel

into the fire-box, as described. 4th. The combination of boiler 22, fire-box 55, cold air pumps 8 and 9, valved pipes 11 and 12, hot air pumps 21 and 22, with valves 16 and 17, and 14 and 15, the petroleum or gas pump 40 and a walking-beam 34, connected to and operating all of said pumps, as and for the purpose described. 5th. In combination with a steam boiler, its furnace and valves for permitting the products of combustion to pass into the boiler from the furnace, the air pumps connecting with the furnace and automatic escape valves located between the pump and furnace, for preventing an excessive admission of cold air to the furnace, substantially as shown and described. 6th. In combination with a steam boiler, its furnace and valves for permitting the products of combustion to pass into the boiler from the furnace, a water pump having its inlet pipe communicating with the boiler below the water line and its outer pipe communicating with the furnace, to increase absorption of heat and promote the evaporation of the water and petroleum, substantially as shown and described. 7th. The combination, with the boiler and the furnace of the water pump P, its pipes and its operating mechanism, the said pump being arranged to take water from the boiler and force it into the furnace, as and for the purpose described. 8th. The combination, with the air pumps and the air-tight furnace, of the escape valves V adapted to automatically carry off an excess of air pressure, as described. 9th. The combination, with the boiler and the furnace of the return pipe 61 connected to each of the same, as shown and described.

No. 22,253. Car-Coupling.

(*Accouplage de Wagons.*)

Patrick Ryan, Guelph, Ont., 17th August, 1885; 5 years.

Claim.—1st. In a car-coupling, the combination, with a draw-head of a coupling hook pivoted in the same, a transverse bar held under the draw-head, a bar pivoted to the middle of said bar, and of a spring for pressing the bars upward, substantially as herein shown and described. 2nd. In a car-coupling, the combination, with the draw-head A, of the pivoted coupling-hook H in the same, the bar K, pivoted to the car, the transverse bar L pivoted to the inner end of the bar K, the spring M on the bottom of the car, and of the link N, connecting the free end of the lever M, substantially as herein shown and described. 3rd. In a car-coupling, the combination, with the draw-head A, of the pivoted coupling-hook H in the same, the transverse bar L under the draw-head, a spring M, for pressing it against the under side of the draw-head, the lever N, pivoted to the under side of the car, and connected with the bar L, and of the rod O, extending upward from the free end of the lever N, substantially as herein shown and described. 4th. The combination, with the draw-head A, of the spindle C having a forked end B within the draw-head, the coupling-hook H pivoted in the fork B, and the spring E, surrounding the spindle C, substantially as herein shown and described.

No. 22,254. Fire-Escape. (*Sauveteur d'Incendie.*)

George Ryer, Rocky Hill, Ct., U.S., 17th August, 1885; 5 years.

Claim.—1st. The padded safety strap e, combined with a slip noosed and knotted rope d, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the ladder and the device composed of the padded strap e, and slip noosed and knotted rope d, substantially as and for the purpose hereinbefore set forth.

No. 22,255. Combined Washing and Wringing Machine. (*Laveuse-Essoreuse Mechanique.*)

Asa L. Burke, Stratford, Ont., 17th August, 1885; 5 years.

Claim.—1st. The box A, having a concave corrugated bottom a, a convex rubber B, formed of angular cross slats d secured to the ends b, the arms C fastened to the said ends b, and having vertical slots e made in them to fit over the pivot rod d, in combination with the levers h, pivoted to the arm C, and the levers F, which are pivoted at their bottom ends to the bars E, fastened to and extending below the bottom of the box A. 2nd. In a washing machine, in which a convex open slotted rubber B is pivoted within a concave corrugated bottom a, the pivot rod D passing through the vertical slots e, and journalled in the sides of the box A, in combination with the plates f, and collars g, arranged substantially as and for the purpose specified. 3rd. In a washing machine, in which an open slotted convex rubber B is pivoted on a rod D within the box A, and having a concave corrugated bottom a, the combination of the pivoted cap h, arranged substantially as and for the purpose specified. 4th. In a washing machine, in which a convex open-slotted washer B is operated within a box A having a concave corrugated bottom a, the roller l, journalled in the end pieces m, which are fixed to the box A, as shown, the roller j journalled in the uprights k, which are braced together by the spring cross-piece J, connected to the double spring bars L, by the bolts K, in combination with the side pieces p, arranged as specified above the shelf o, and forming a wringer, substantially as and for the purpose specified. 5th. A box A, formed substantially as specified, the combination of an adjustable tray M, fitting below the box A, and provided with a cleat N, arranged to engage with the cross-piece O, substantially as and for the purpose specified.

No. 22,256. Accoustic Telephone. (*Téléphone.*)

George E. Baker and Southworth Cole, Brantford, Ont., 17th August, 1885; 5 years.

Claim.—Condenser E, with coppered steel bar H soldered on it, in combination with diaphragm D, substantially as and for the purposes hereinbefore set forth.

No. 22,257. Straw-Burning Furnace.

(*Fourneau Consumant la Paille.*)

Thomas A. Stevens, London, Ont., 19th August, 1885; 5 years.

Claim.—1st. A straw-burning furnace A, attached to an upright

or horizontal boiler B, for the purpose specified. 2nd. The combination of a straw-burning furnace A, with the boiler furnace I, for the purpose specified. 3rd. The straw-burning furnace A, provided with one or more doors o, o hung in frames R, R, for the purpose specified. 4th. The shell of a straw-burning furnace A, constructed of two metal plates, with an air chamber between them, in combination with the corrugated bars J, J, and finger grate bar L, for the purpose specified.

No. 22,258. Yoked Hames for Double Harness. (*Attelles à Volée pour Double Attelage.*)

Charles F. Cone, Guyon, Que., 30th August, 1885; 5 years.

Claim.—1st. The draft yoke, herein described, consisting of the hames A and A¹, loosely connected at bottom and top respectively by lower and upper bars E, H, and the vertical supporting bar I, for attachment of the draft, as set forth. 2nd. The hames A and A¹ having respectively brackets B and B₂ to keep the draft from the horses, and attached by bars C and C₁ to adjustable clevises B and D, connecting with the ends of bar E, and the top of the hames A and A¹ respectively, provided with hinged connecting bars F and F₁ carry-clevises G and G₁, bar H flexibly connected at both ends to said clevises G and G₁, a bar I separating the bars E, H, and draft chain K attached thereto, as set forth.

No. 22,259. Coke Oven. (*Fourneau à Coke.*)

Arthur M. Chambers and Thomas Smith, Chapteltown, Eng., 20th August, 1885; 5 years.

Claim.—1st. A coke oven having the pipe d surrounding it, through which heated air is forced in through the open upturned end i, the perforated floor l, walls m, channels o, opening i, and inclined discharge pipes u and v, as set forth. 2nd. The combination, with the oven a, of the pipe d, perforated floor l, and discharge pipes u and v, of the condenser A, tanks B, g, E, and scrubber D, for cleaning and separating, as set forth. 3rd. The movable pipe w, in combination with discharge pipe H and the movable board or plate I, substantially as and for the purpose herein described and set forth.

No. 22,260. Combined Oat Cleaner and Grader. (*Nettoyeur-Trieur d'Avoine.*)

John E. Wilson, Galt, and Robert Thomson, Woodstock, Ont., 20th August, 1885; 5 years.

Claim.—A series of revolving cylinders, perforated substantially as described, separated by hopper-shaped partitions, in combination with spouts and revolving worm, arranged and operating substantially as and for the purpose specified.

No. 22,261. Invalid Bed. (*Lit d'Invalide.*)

John W. Jacobs, St. Thomas, Ont., 20th August, 1885; 5 years.

Claim.—1st. In an invalid bed, the combination of a mattress frame A, made in three sections hinged together and provided with slats B for springs, and on each outer side of centre section a pivot P, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, in an invalid bed, of the sectional frame mattress A, the movable support F, attached to the head section of mattress by the pins Fr, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, in an invalid bed, of the sectional mattress frame A, the bolt latches E, compound lever e and cross-piece D, substantially as and for the purpose hereinbefore set forth. 4th. In an invalid bed, the combination of the sectional mattress frame A, the seat I provided with cords and clasps K, and the adjustable slats L and the fastenings or staples L, substantially as and for the purpose hereinbefore set forth.

No. 22,262. System of Illumination.

(*Système d'Eclairage.*)

Charles Weiss, Neunkirchen, Austria, 20th August, 1885; 5 years.

Claim.—1st. The combination, with a lamp of any ordinary construction, of an enclosing cap, casing or hood C, arranged to prevent the free access to the burner from below of the surrounding air, and provided with an air inlet D, whereby air from a blower fan, or other similar source may be admitted to the frame from below, substantially as set forth. 2nd. The combination, with a blower fan or other well known source of air under pressure, of a series of lamps adapted for burning liquid hydro-carbons, said lamps being provided with hoods to cut-off access of air to the flame from below, and with inlets for the admission of forced currents of air from the source, whereby chimneys or globes may be dispensed with, as set forth. 3rd. The combination, with the lamps provided with the means, substantially as described, for admitting a forced current of air to the flame from below, of the foraminous or sieve-like diaphragm H, arranged between the air inlet and the burning point, whereby the air is admitted to the flame in thin streams or jets, and the flickering of the flame is avoided, substantially as set forth.

No. 22,263. Circular Saw. (*Scie Ronde.*)

Rudolph P. Gerlach and Frank Stahl, Cleveland, Ohio, U.S., 20th August, 1885; 5 years.

Claim.—1st. The combination of the slotted solid saw-plate, a bit-holder constructed with two jaws connected by a hinge and a steel bit or tooth held by said bit-holder through the medium of a tongue-and-groove joint, substantially as set forth. 2nd. The combination, with the solid saw-plate having slots or seats, curved as shown, and having the represented obliquities to the radius of the plate, of corresponding double-jawed bit-holders, and bits fitted therein, substantially as and for the purpose set forth. 3rd. The combination of the slotted solid saw-plate, with a bit-holder consisting of a rigid jaw, and a movable jaw hinged thereto at a suitable distance from the butt-end thereof, (whereby said jaws may be opened without com-

pletely removing the holder from its slot.) and a bit, substantially as set forth. 4th. A saw-plate having curved slots of equal width some distance inward from the periphery and expand slightly at the base, in combination with a bit-holder fitting the parallel portion of the slot, and having expanding spring-slot in its base to hold it in its seat, as explained. 5th. A saw-bit formed with a tongue at back to confine it against lateral displacement, and a lug at its base, in combination with a double-law bit-holder and a saw-plate, as set forth. 6th. A saw-bit formed with a tongue at back to keep it from lateral displacement, shoulders on each side of said tongue to keep the bit from turning, and a lug at the base to keep it from flying out, in combination with a slotted saw-plate, and a bit-holder forming a seat for the said bit, as set forth. 7th. The combination of a saw-plate having oblique curved slots in its periphery, hinged bit-holders fitting therein, and saw-bits clamped by said holders, all substantially as herein shown and described.

No. 22,264. Press for Tinner's Use.

(*Presse d'Elanleur.*)

Henry Pattison, St. John, N.B., 20th August, 1885; 5 years.

Claim.—1st. In a tinner's press for making covers, substantially as described, the combination of the following instrumentalities, to wit: a vertically-arranged shaft carrying a disk or bed-die adapted to rotate in a horizontal plane, and having a cavity in its upper side conforming approximately with the shape of the cover to be made; a horizontally-arranged shaft carrying a circular die or dies adapted to rotate in a vertical plane, and work in conjunction with said bed-die or disk; a treadle, or means for bringing the die or dies on the horizontal shaft into forcible contact with a blank or sheet of metal placed on said disk; suitable supports and mountings for said shafts; and a spring or device adapted to elevate the dies on said horizontal shaft when the pressure on the same is removed, substantially as described. 2nd. In a press for making covers, substantially as described, the bed A, provided with the standards C, E, the shaft H, provided with the disk K, the shaft D provided with the dies *l, g, z*, the lever J, provided with the rod H and treadle M, and the spring *o*, combined and arranged to operate, substantially as set forth. 3rd. The disk K, provided with the rebate or shoulder *r*, in combination with the dies *g, z*, shafts H, D, and means for rotating and exerting pressure on said last-named die, substantially as described. 4th. In a press, substantially as described, the roller or wheel *w*, in combination with the shaft H, disk K, shaft D and a circular die or dies on said last-named shaft, substantially as and for the purpose set forth. 5th. In a press, substantially as described, the ring N, in combination with the bed-die or disk K, for preventing the die or dies on the shaft D, from injuring the blank or cover, and to permit it to be drawn towards the centre of the die K as it is formed, substantially as described.

No. 22,265. Planing Machine.

(*Machine à Raboter.*)

William M. Dwight, Detroit, Mich., U.S., 20th August, 1885; 5 years.

Claim.—1st. In a planing machine, the combination of a series of rotary knives or rotary saws, arranged to cut a series of grooves in a board, and of a series of stationary knives having knife blades arranged to undercut these grooves, substantially as and for the purposes described. 2nd. In a planing machine, the combination of the rotary cutter-head D, having a series of grooving cutters, and of a series of stationary knives, one for each groove, and having cutting blades arranged to enter the grooves and undercut them, substantially as described. 3rd. In a planing machine, the combination of the lower cylinder D, having a series of grooving cutters, of a series of stationary knives A, having undercutting blades *a*, and of the chip-breaker G, forming a knife-head to which the knives A are secured, substantially as described. 4th. In a planing machine, the combination of the lower cylinder D, having a series of grooving cutters, and of a series of stationary knives A, having undercutting blades *a*, and guides C, substantially as described. 5th. In a planing machine, the combination of the matcher heads H, having suitable cutters for making half grooves, the lower cylinder D, having a series of grooving cutters, and of the undercutting knives A stationarily secured to the bed of the machine, substantially as described. 6th. The combination of the knife A, having gauge-shaped cutting blades *a*, and shank *b*, of the knife stock B, having recess *d*, and set screw *e*, all arranged substantially as described. 7th. In a planing machine, a series of gauge tools provided with cutting lips adapted to undercut a corresponding series of square grooves in a board, while the same is fed through the machine, substantially as described.

No. 22,266. Heat Transmitter. [*Chalumeau.*]

Josiah H. L. Tuck, San Francisco, Cal., U.S., 20th August, 1885; 5 years.

Claim.—1st. The herein-described method of applying flame and heat to points, materials and objects which are not readily subjected to heat in the ordinary way, consisting in gathering the heat and flame in a convenient receptacle, and leading it through a flexible pipe, and applying through a suitable distributor or nozzle upon the point, material or object to be heated or kept hot. 2nd. The herein-described apparatus for applying flame and heat consisting of the collecting receptacle, a fire-proof conveying pipe of flexible character, and a suitable nozzle or distributor, as set forth. 3rd. The combination of the collecting receptacle A, having the conical or convergent top adapted to receive and collect the heat and flame, and a fire-proof conveying pipe secured to the apex thereof, said pipe being flexible, substantially as set forth. 4th. The apparatus described for collecting and conveying heat, flame and other products of combustion, consisting of the receptacle A, having the convergent top A', for location over the furnace or fire, the fire-proof pipe B, united to the apex of the top by a swivel joint, said pipe being formed of such material or in such manner as to be flexible, and a distributor C, attached to the outer end of the pipe, as set forth. 5th. In a device for transmitting and applying heat, the combination with the collector

A, pipe B, and distributor C, of the slide C' worked under the punctured face of the distributor, substantially as and for the purpose set forth. 6th. A heat distributor, provided with two or more stop cocks or gates, for turning the heat in different directions, as set forth. 7th. The combination, with the hood or flame chamber and conveying pipe, of the blower or fan, substantially as and for the purpose set forth. 8th. The combination, with the hood or flame chamber, of the tank for containing oil or other inflammable liquid, and burners in said hood or flame chamber.

No. 22,267. Sweat Pad for Horse Collars.

(*Bourrelet Absorbant pour Colliers de Cheval.*)

Edward L. McLain, Greenfield, Ohio, U.S., 21st August, 1885; 5 years.

Claim.—1st. The flexible pad fastening D, corrugated upon one or both sides, as set forth. 2nd. The flexible pad fastening D, made wedge-shaped or tapering in thickness, substantially as set forth. 3rd. The flexible pad fastening D, corrugated upon one or both sides, as set forth, and provided with means, substantially as set forth, whereby it may be removably attached to the pad.

No. 22,268. Plastic Compound.

(*Composition Plastique.*)

Henry W. Merritt, Somerville, Mass., U.S., 21st August, 1885; 5 years.

Claim.—1st. A plastic compound, containing as ingredients silica and a solid silicate, each in comminuted or pulverized condition and fixed caustic alkali dissolved in water, the whole being intermixed and incorporated substantially as described. 2nd. A plastic compound, consisting of silica and a solid silicate, each in comminuted or pulverized condition, fixed caustic alkali dissolved in water, and a soluble alkaline silicate, the whole being intermixed and incorporated, substantially in the manner and for the purpose as set forth. 3rd. A plastic compound containing as ingredients comminuted silica, a solid silicate of magnesium in pulverized state, and fixed caustic alkali dissolved in water, substantially as described. 4th. A plastic compound consisting of quartz sand, pulverized asbestine and caustic soda or caustic potash, with water to dissolve the alkali and give plasticity to the mass. 5th. A plastic compound consisting of quartz sand, pulverized asbestine, caustic soda or caustic potash, and a soluble alkaline silicate, with water to dissolve the soluble ingredients and render the mass suitably plastic. 6th. A mixture of pulverized solid silicate, fixed alkali and water, either with or without a proportion of soluble alkaline silicate ready for subsequent addition of sand to form a plastic compound, substantially as described.

No. 22,269. Rotary Snow Plough.

(*Charrue à Neige Rotatoire.*)

Lyman Morgan, Port Washington, Wis., U.S., 21st August, 1885; 5 years.

Claim.—1st. In a snow plough, the combination of the rotary disks B, B, supported upon shafts L, L, whose inner ends meet and bear against each other, forming a brace at the centres of said disks against lateral pressure upon their outer faces, together with mechanism, as described, for giving to said disks a rotary motion, substantially as and for the purposes set forth. 2nd. In a snow plough, the combination of the rotary disks B, B, so set that their forward edges roll together and brace each other outwards, the beak M, beveled friction wheels G, G mounted on the ends of the transverse shaft F, so as to bear against the rear inner faces of said disks and brace the same against lateral pressure, substantially as and for the purposes set forth. 3rd. The combination, in a snow plough, of the rotary disks B, B, formed as herein described, with the horizontal friction wheels O, O, suspended from the frame of the machine, in such manner as to bear against the inner faces of said disks underneath their centres and to roll together at the centre, whereby they brace each other and said disks against lateral pressure, substantially as and for the purposes set forth. 4th. The combination, in a snow plough, of the rotary disks B, B, with the friction wheels O, O, which bear against the inner faces of the said disks and roll together at the centre, thereby stiffening said disks and bracing them outward, substantially as and for the purposes set forth. 5th. In a snow plough, the combination of the revolving disks B, B, rolling together at their front edges and diverging towards the rear, and provided with arms or scoops C, C secured upon the exterior faces of said disks at oblique angles to their radii, substantially as and for the purposes set forth. 6th. The combination, in a snow plough, of the disks B, B, rotary braces G, G, bearing against said disks at the rear, and mutually supporting rotary braces O, O, bearing against said disks near their lower edges, substantially as described. 7th. In a snow plough, the disks B, B, so mounted as to roll together at their front edges and form a mutual lateral support for each other at that point, rotary braces G, G, bearing against said disks at the rear, and mutually supporting rotary braces O, O, bearing against said disks near their lower edges, substantially as and for the purposes set forth. 8th. The combination of the disks B, B, arranged and constructed to rotate at their top and front edges forward and downward, with wings or scoops C, C, attached to their exterior faces at an acute angle to the direction of their rotation, substantially as and for the purposes set forth.

No. 22,270. Snow Plough. (*Charrue à Neige.*)

Lyman Morgan, Port Washington, Wis., U.S., 21st August, 1885; 5 years.

Claim.—1st. In a snow plough, the combination of the shares A, A', hubs B, scoops or arms C radially attached to said hubs, shafts I, I, pinions D, and mechanism, substantially as described, for actuating the same, as set forth. 2nd. In a snow plough, the combination, with the shaft G and gear F, of the gears E and K and shaft L having curved cutters N, substantially as and for the purpose set forth. 3rd. A snow plough having shaft G, gears F and E, shaft E, gears D, D', shaft I, I having hubs B keyed thereon, scoops or arms C ra-

dially attached to said hubs, shafts A, A₁, gear K and shaft L having cutters N, substantially as and for the purposes set forth.

No. 22,271. Foundry Plant. (*Matériel de Fonderie.*)

John H. Whiting, Detroit, Mich., U.S., 21st August, 1885; 5 years.

Claim—1st. In a foundry plant, for the purposes described, a series of trucks connected together, the same distance apart as the rows of moulds, and operated by chain cable, or other equivalent device, in a direction transverse to the rows of moulds, substantially as and for the purposes set forth. 2nd. In a foundry plant, for the purposes described, a train of trucks by power in a direction transverse to the rows of moulds, and adapted to support the ladles, the same distances apart as the rows of moulds, in combination with a chain or cable, a starting rope, a belt shifting device and the starting lever G, and big ladle H placed in proximity to each other, substantially as and for the purposes described. 3rd. In a foundry plant, for the purposes described, the combination of the following devices: a train of trucks supporting the ladles and registering with the rows of moulds, a chain, cable or other equivalent device, for carrying the train of trucks with their ladles from and to the supply ladle and transverse to the rows of moulds, and a series of overhead traversing cranes, one for each row of moulds, all arranged and operating substantially as described. 4th. In a foundry plant, for the purposes described, the combination of a suspended ladle with the brace rod L, provided with hooks or eyes at each end, slipped over trunnions on the ladle and the mould respectively, whereby the ladle in pouring is held and steadied in its relative position toward the mould while pouring, substantially as set forth. 5th. In a foundry plant, for the purpose described, the combination of a series of moulds arranged in parallel rows, a series of independent overhead traversing cranes, a belt-shifting device and the cables *p, h*, arranged in proximity to the rows of moulds, and connected with said belt-shifting device, substantially as and for the purposes specified.

No. 22,273. Foundry Ladle. (*Puisse de Fonderie.*)

John H. Whiting, Detroit, Mich., U.S., 21st August, 1885; 5 years.

Claim—1st. The combination, with a tilting ladle, of a friction device, substantially as described, and connections between said ladle and friction device, whereby said ladle can be moved at a faster or slower rate of speed, as desired. 2nd. The combination, with a tilting ladle, of the gear wheel E, worm F, friction wheels J, K, A and intermediate connections, substantially as described, all combined and operating to transmit a slow speed in one direction and faster speed in the opposite direction, as set forth. 3rd. The combination, with the ladle A supported upon trunnions Q and provided with gear E, worm F and bevel gear G, A, of the sprocket wheel T, shaft L having sliding bearing d, friction wheels J, K and sprocket wheels S carried by said shaft, the friction wheel Q secured to the driving shaft Z, belt U and means, substantially as described, for controlling the frictional contacts between said friction wheel, as and for the purposes specified. 4th. The combination of the shaft L, having sliding bearing d, the friction wheels K L carried by said shaft, the friction wheel Q adapted to engage with said wheels and transmit motion in opposite directions and at different rate of speed to the shaft L, with the frame C, ladle A journaled in said frame, connections, as described, between said ladle and shaft L and the lever P, and intermediate connections, substantially as described, for controlling the frictional contacts between the friction wheels, as and for the purpose described. 5th. The combination of the friction wheel Q, secured on a stationary shaft driven by power, concentric friction wheels J, K, secured upon a shaft L, having a sliding bearing d by means of which either one of them may be engaged with the friction wheel Q, the lever P and the connecting devices with the sliding bearing d and suitable intermediate devices for transmitting motion from the shaft L to the worm gear of the ladle, substantially as described.

No. 22,273. Marking Tag. (*Etiquette.*)

Joseph P. Presley, Stanton, Mich., U.S., 21st August, 1885; 5 years.

Claim—1st. As an article of manufacture, a marking tag consisting of a main strip having a series of inventory spaces on its face, a supplementary piece preferably integral with the main strip and bent at right angles thereto, and a reinforcing support to hold said parts in their relative positions to each other, substantially as described. 2nd. In a marking tag, the combination of a main strip having inventory spaces on its face, a supplementary piece preferably arranged at right angles to the main strip, and a reinforcing strip or strips extending over the angle and on to the main and supplementary parts, to hold them in their relative positions, substantially as described. 3rd. In a marking tag, the combination of a main strip A, having inventory spaces *a* on its face, a supplementary piece *a'* arranged at right angles to the main strip, and a reinforcing strip or strips, as *a''*, extending over the angle and on to the main and supplementary parts, to hold them in their relative positions, substantially as specified.

No. 22,274. Ankle Support for Skates.

(*Support de Cou-de-Pied pour Patins.*)

Elwood G. Macomber, Portsmouth, R.I., U.S., 21st August, 1885; 5 years.

Claim—1st. The improved ankle support attachment for skates, which consists of the rod D provided at its upper end, with a one piece metallic leg-band attached thereto, and having means to secure its ends together, the said rod having the arm and a plate adapted to be secured to the arm and to be attached to a skate, in the manner set forth. 2nd. The ankle support attachment for skates, consisting of the rod D, provided with a one piece metallic leg-band pivoted thereto and having means to secure its ends together, and the strengthening piece, the said rod having the arm *d* and a plate detachably connected with the arm and adapted to be attached to a skate, as set forth. 3rd. The improved attachment for skates, which consists of the rod D provided with a pivoted one piece metallic leg-band, and arm *d* having groove 4 and cut-away portion 5, and the

plate G having depending socket lugs *h, h1*, one of the lugs having a key 6, as specified. 4th. An improved attachment for skates, consisting of a rod provided with a metallic leg-band, and an arm having an annular groove with cut-away portion, as specified, and a heel plate provided with a socket adapted to receive the arm, and having a key to enter the annular groove in the arm, substantially as and for the purpose set forth.

No. 22,275. Rubber Hose. (*Tuyau en Caoutchouc.*)

John Murphy, Brooklyn, N.Y., U.S., 21st August, 1885; 5 years.

Claim—1st. A compress for the manufacture of India rubber hose, provided with two or more adjustable elastic compression rolls having concave surfaces to receive the hose, and capable of adjustment as to position and amount and nature of pressure to be exerted upon a hose while being passed through. 2nd. In a machine for the manufacture of India rubber hose, the combination of two or more adjustable elastic compression rolls, substantially as described, a mandrel about which the hose is wrapped, and means whereby a radial pressure is maintained upon the material wrapped about the mandrel while being drawn or passed through the compression rolls, substantially as set forth. 3rd. In a machine for the manufacture of India rubber hose, the combination of two or more elastic compression rolls having concave surfaces to receive the hose, with a bed plate upon which they are adjusted and to which the several parts or bearings are attached, and upon which they are adjusted and operated, substantially as described. 4th. In a machine for the manufacture of India rubber hose, the combination of the elastic compression rolls, each held in place and to its work between a pair of discs upon a shaft or axle, and adjustable bearings attached to and operated upon a bed plate, substantially as and for the purposes specified. 5th. In a machine for the manufacture of India rubber hose, the combination of two or more compression rolls A, A, axles or shafts *b, b*, adjustable bearings C, C, and a bed plate D, substantially as and for purposes specified. 6th. In a machine for the manufacture of India rubber hose, the combination of two or more elastic compression rolls, power shaft or shafts B, axles or shafts *b, b*, adjustable bearings C and a bed plate D, substantially as and for purposes specified. 7th. In a machine for the manufacture of India rubber hose, the combination of a bed plate D, adjustable bearings C, axles or shafts *b, b*, driving shaft B, two or more elastic compression rolls A, A, and a mandrel upon which the hose material is mapped and compressed, substantially as set forth.

No. 22,276. Cutting and Trimming Attachment for Sewing Machines. (*Appareil pour Tailler et Parer applicable aux Machines à Coudre.*)

James W. Eastwood, Thorold, Ont., 21st August, 1885; 5 years.

Claim—1st. In combination, with the needle bar, of a sewing machine, a head or block C adapted to fit upon the end of the needle bar, and detachably secured to it, and a straight or bent knife or cutter held adjustably in a flat vertical groove in the side of the said block, or head. 2nd. The combination of the needle bar A, needle B, screw B, head C, set screws D, straight or bent knife F, having slot *f*, set screw G, face plate H and slot or recess I. 3rd. The combination of the head C, straight or bent cutter F, slot *f*, set screw G, face plate H and soft metal filling in the slot or recess I, all substantially as described and for the purpose set forth.

No. 22,277. Book Support. (*Pupitre.*)

Ira L. Hyde, Chazy, N.Y., U.S., 21st August, 1885; 5 years.

Claim—The combination, with the board or tablet A, provided with the quadrant E having curved slot F, an intersecting radial slot G and a lug or stud H, of the standard having its upper flattened portion provided with a semicircular bearing to fit the stud H, and a binding screw K, the whole constructed and arranged substantially as shown and described.

No. 22,278. Burglar Proof Safe. (*Coffre-Fort.*)

J. and J. Taylor, (Assignees of Thomas West and Robert McLain), Toronto, Ont., 22nd August, 1885; 5 years.

Claim—A spindle or arbor C, having an enlargement B rigidly attached to or formed upon it at such a point as to fit into a recess formed in the door A, substantially as and for the purpose specified.

No. 22,279. Art of Making Whisky.

(*Art de Faire l'Eau de Vie.*)

Francis M. Young, Chicago, and Charles S. Corning, Peoria, Ill., U.S., 22nd August, 1885; 5 years.

Claim—The improvement in the art of manufacturing whisky, consisting in the preparatory acidulation of the mash to a degree which would require for neutralization the addition of not more than about two per cent. of a normal alkaline solution, by the addition of the mash to a properly determined quantity of liquid slop, to produce such degree of acidulation, whereby the subsequent formation of acid at the expense of the sugar and starch in the grain is prevented or reduced, substantially as herein described.

No. 22,280. Photographic Sensitive Paper.

(*Papier Photographique Sensibilisé.*)

E. and H. T. Anthony & Co., New York, (Assignees of Thomas C. Roche, Brooklyn), N.Y., U.S., 22nd August, 1885; 5 years.

Claim—1st. As an improved article of manufacture, a prepared sensitive photographic paper, made as herein described, with two separate sensitive faces of gelatine silver emulsion, as set forth. 2nd. In photographic paper, the combination, with the body of the paper A, of the two separate films B, of gelatine silver emulsion, substantially as and for the purpose herein set forth. 3rd. A

photographic sensitive paper, constructed with the body of the paper A inclosed between the sensitive films B of gelatine silver emulsion, substantially as described. 4th. In a photographic paper, two separate sensitive films of gelatine silver emulsion supported and carried upon a single sheet of paper, as herein shown and described.

No. 22,281. Metallic Last for Boots and Shoes. (*Forme Métallique pour Chaussures.*)

Edward S. Kingston, Little Falls, and George A. Reynolds, Utica, N.Y., U.S., 22nd August, 1885; 5 years.

Claim.—1st. A last formed of two sections, hinged together just behind the toe, substantially as shown and described. 2nd. A last consisting of a bottom section, formed with a toe, and an upper section hinged to the bottom section just behind the toe, substantially as shown and described. 3rd. A hollow last formed of a bottom and an upper section connected at or near the toe and having open sides, substantially as shown and described. 4th. A hollow last formed of a bottom and an upper section hinged at or near the toe, and having open sides with suitable devices for holding the upper section in its raised position, substantially as shown and described. 5th. A last for boots and shoes, consisting of a bottom shell or section, a top or "fore-part" section hinged to said bottom section in rear of the toe thereof, and terminating at a point in advance of the heel part of said bottom section, and suitable means for holding the top section in a raised position so as to form an open space between the two sections, said fastening device when released allowing the last to collapse for permitting its removal from the boot or shoe, substantially as herein set forth. 6th. A boot or shoe last consisting of a bottom section having a toe and heel portion, and a top or "forepart" section extending from the toe portion of said bottom section to a point at or near the shank portion thereof, and raised above the sides of said bottom section, so as to leave an open space between the two sections, substantially as herein set forth. 7th. A hollow last formed of a bottom section A, having heel *a*, toe *b*, and side rims *c, c*, and an upper section B, hinged to the bottom at the toe, with suitable devices for holding the upper section in a raised position, substantially as described. 8th. In a hollow last, the combination of the bottom section A, with the spring *h*, substantially as and for the purpose set forth. 9th. A hollow last formed of the bottom section A, and adjustable section B, in combination with the spring *h*, substantially as shown and described. 10th. A hollow last formed of the section B, having flange *e*, and section A, having post *f*, hinged at or near the toe, with a locking device *g*, substantially as shown and described. 11th. The upper section B, formed with the flange *e*, and combined with the main body A, of the last, formed with the posts *d, f*, substantially as and for the purpose set forth. 12th. In a metallic last, a hollow bottom section having tapering sides and heel, substantially as and for the purpose set forth.

No. 22,282. Chemical Fire Extinguisher.

(*Extincteur d'Incendie Chimique*)

George A. Lindgren, Morgan H. Weir, Franklin R. Carson, Charles S. McClung and Ellsworth E. Weir, Laporte, Ind., U.S., 22nd August, 1885; 5 years.

Claim.—1st. A fire extinguisher, consisting of the usual strong vessel or receiver, having controllable outlet and containing a charge of ammonium gas therein under pressure, substantially as described. 2nd. A fire extinguisher, consisting of the usual strong vessel or receiver, having controllable outlet and containing a charge of ammonium gas in liquified or anti-freezing solution therein, said gas serving as the impelling motor to deliver the charge on to the fire, substantially as described.

No. 22,283. Sad Iron. (*Fer à Repasser.*)

James R. Berney, Sharbot Lake, and Daniel E. Rose, Tamworth, Ont., 22nd August, 1885; 5 years.

Claim.—1st. The shell A, having longitudinal slots E, F, in the sides, as set forth. 2nd. The shell A, provided with a door D at one side and having a lamp within, hung by its ends to gravitate, as set forth. 3rd. In combination with the shell A, a lamp hung pivotally therein and packed with an absorbent material. 4th. In combination with the shell A, the drop handle C, having guides L at the terminations to precede the point of the iron, for following creases, etc.

No. 22,284. Sulky Plough. (*Charrue à Siège.*)

Isaac B. McLean, Lucan, Ont., 24th August, 1885; 5 years.

Claim.—1st. In a sulky plough the attachment for raising and lowering consisting of ratchet A, bar C, lever F, G, chain or rod I, arm K, short bar L, dog M, rod N and spring R, combined and operating substantially as shown and specified. 2nd. A sulky plough having the mould-board and land-side placed in front of the wheels, to insure the furrow-wheel following accurately in the furrow, substantially as specified.

No. 22,285. Screw Cutting Tool-Holder.

(*Porte Outil à Fileter les Vis.*)

Edward F. Noyes, Hamilton, Ont., 24th August, 1885; 5 years.

Claim.—1st. In a tool-holder for cutting outside screw-threads secured to the tool-post of a lathe, the combination of the shanks or bar A, with the movable tool-box C, pivoted to said shank or bar, and holding the tool D, for cutting outside screw-threads, substantially as described. 2nd. In a tool-holder for cutting inside screw-threads secured to the tool-post of a lathe, the combination of the shank or bar A, with the movable tool-box J, pivoted to said shank or bar, and holding tool *e*, for cutting in side screw-threads substantially as described. 3rd. In a tool-holder for cutting screw-threads, the combination of the movable tool-box J, shank A, bushing *d*, screw N and tool *e*, substantially as and for the purposes specified. 4th. In a tool-holder for cutting screw-threads, the combina-

tion of the collar O, set screw P, tool-box J, shank A and tool *e*, substantially as specified. 5th. In a tool-holder, for cutting inside and outside screw-threads, the combination of the movable tool-boxes J, C, pivoted at each end of the bar A respectively, and the cutting tools D, *e*, an arranged and constructed substantially as and for the purposes specified. 6th. In a tool-holder, the set screw R, in combination with the tool-box J, and shank or bar A, to alter the tool-holder to all ordinary lathe tool-holder, as specified. 7th. In a tool-holder, the pin Q, in combination with the tool-box C, and shank or bar A, to render it a fixed tool-holder, substantially as specified.

No. 22,286. Apparatus for Generating Electricity, in part Applicable to other purposes. (*Appareil pour Produire l'Electricité, et partie applicable à d'autres fins.*)

The Honorable Charles A. Parson, Gateshead-on-Tyne, Eng., 24th August, 1885; 5 years.

Claim.—1st. An electric generator having its shaft or axis supported in bearings constructed to allow of slight lateral play resisted by frictional and elastic pressure, substantially in the manner hereinabove described. 2nd. In an electric generator for feeding lubricants to the bearings thereof, a screw or centrifugal pump mounted on the axis of the generator, and acting in conjunction with a fan (also mounted on the same axis) for raising the lubricant to the pump, substantially as described. 3rd. The construction and arrangement, for carrying away heat generated in the armature of the electric generator, of the hollow axis affording a passage for lubricating or other liquid, the screw pump which forces the said liquid through the axis, and the fan which raises the liquid to the pump, substantially as described. 4th. A combined machine comprising an electric generator, a rotary motor on same axis with blades that rotate in a cylinder or case also furnished with blades, and means for lubricating and cooling the bearings, so that the machines is able to be run at a high speed, substantially as described. 5th. A combined machine comprising an electric generator, and a motor having a hollow cylinder or hollow cylinders furnished with projecting rings of blades, and within it or them a rotary cylinder or rotary cylinders with projecting rings of blades upon which motive fluid is caused to act as it travels in directions parallel, or approximately parallel, to the axis of the rotary cylinder, the rotary ports of the generator and the motor being mounted upon a common axis formed in one or more parts, substantially as described. 6th. A combined machine comprising an electric generator, a motor having a hollow cylinder or hollow cylinders, furnished with projecting rings of blades, and within it, or them, a rotary cylinder or rotary cylinders with projecting rings of blades, a common axis on which the armature and rotary cylinder or cylinders are mounted, and bearing having a slight lateral play or elasticity combined with frictional resistance to play in such a manner as to enable the rotary portion or portions to rotate on its or their center of gravity or principal axis instead of on its or their geometrical center or axis (if the centre of gravity and geometrical centre be nearly coincident) and to cause the vibration to which the same may be subjected to be damped or modified, substantially as described. 7th. A combined machine comprising an electric generator, a motor having a hollow cylinder or hollow cylinders furnished with projecting rings of blades, a common axis on which the armature and the rotary cylinders or cylinders are mounted, and elastic bearings, each comprising a bush and friction rings or washers pressed tightly together by a spring or springs in such manner that the bush is capable of slight lateral movement resisted and controlled by the friction rings or washers, as described and illustrated. 8th. A combined machine comprising an electric generator, a motor having a hollow cylinder or cylinders furnished with projecting rings of blades, and within it or them a rotary cylinder or rotary cylinders with projecting rings of blades, a common axis on which the armature and the rotary cylinder or cylinders are mounted, a centrifugal or screw pump to circulate lubricant or cooling fluid to the motor and the generator and a suction fan to raise the level of such lubricant or cooling fluid in the return or suction pipe or chamber, and enable the circulating pump to start and keep in action, substantially as described. 10th. In a motor of the kind described, a piston and valve for increasing (in case of accident) the exhausting effect of the fan that is in connection with the diaphragm or piston of the regulator, substantially as described. 11th. The combination, with an electric generator and a motor, of an apparatus regulating the speed of the motor in such a way that the generator produces a constant current or a constant electro-motive force, and comprising a needle-bar or armature subject to, and actuated by the influence of the field magnets, a valve cock or shield connected to the said needle-bar or armature, and serving to vary the size of an air inlet, a diaphragm connected to the throttle or regulating valve of the motor, a fan to exhaust air from one side of the diaphragm, and an inlet to admit air thereto, the whole substantially as described and for the purpose specified. 12th. The combination, with an electric generator and a motor, of an apparatus regulating the speed of the motor and comprising a needle-bar or armature subject to, and actuated by the influence of the field magnets, a valve, cock or shield connected to the said needle-bar or armature, and serving to vary the size of an air inlet, a diaphragm connected to the throttle or regulating valve of the motor, a fan to exhaust air from one side of the diaphragm, an inlet to admit air thereto, and a valve and piston to increase the exhaustive effect of the fan upon the diaphragm in case of accident, substantially as described and for the purpose specified. 13th. In an electric generator, an armature of the drum or Siemens' type having a core formed of

thin iron discs or washers fitting the shaft tightly and insulated from each other, in combination with conductors laid in channels formed in the core, to secure them against the effect of the centrifugal force, substantially as described. 14th. In the armature of an electric generator, the combination of conductors laid in channels formed in the core, iron discs or washer constituting the said core, and also serving to transmit the heat from the conductors, and a passage or passages for the circulation of the cooling fluid to carry off the heat, substantially as described. 15th. The combination of the conductors *f*, *f'*, discs of washers *a* *a'*, and hollow axis *d*', substantially as described.

No. 22,287. Process for Making Wrought Iron direct from Iron Ores. (*Procédé pour faire le Fer Forgé directement du Minerai.*)

Charles J. Eames, New York, N.Y., U.S., 25th August, 1885; 15 years.

Claim.—The process, substantially as hereinbefore specified, for the production of wrought iron direct from the ore, which consists in reducing the ore upon a friable graphitic hearth, composed of plumbago, pulverized fire-brick and a carbonaceous adhesive binder, whereon the ore is subjected to a suitable temperature, and finally balling and blooming the sponge thus formed, substantially as and for the purpose specified.

No. 22,288. Process for Manufacturing Sponge and Wrought Iron directly from the Ore. (*Procédé de Fabrication du Fer Spongima et Forgé directement du Minerai.*)

Charles J. Eames, New York, N.Y., U.S., 25th August, 1885; 15 years.

Claim.—1st. The method, herein described, for the production of iron sponge direct from the ore, in its natural state and without admixture of flux, carbon or graphite, which consists in charging the ore on a friable graphitic hearth, covering the charge with a layer of lump graphite and then subjecting the charge to a dull red sustained heat until deoxidation is accomplished, substantially as and for the purpose specified. 2nd. The method, herein described, for the production of wrought iron direct from the ore, which consists in charging the ore on a friable graphitic hearth, covering the charge of ore in its natural state and without admixture of flux, carbon or graphite, with a layer of lump graphite, subjecting the charge to a dull red sustained heat, until deoxidation takes place, and then slightly increasing the heat for a short period to agglomerate the mass, so that the sponge can be balled and removed to the blooming apparatus, substantially as and for the purposes specified.

No. 22,289. Process for Manufacturing Iron Sponge, Wrought and Sheet Irons directly from the Ore. (*Procédé de Fabrication de l'Éponge de Fer, des Fers Forgé et Aciéreux directement du Minerai.*)

Charles J. Eames, New York, N.Y., U.S., 25th August, 1885; 15 years.

Claim.—1st. The method, herein described, for the production of iron sponge direct from the ore, which consists in charging the ore intermingled with lumps of "Graphitic Carbon," on a friable graphitic hearth, and subjecting the charge to dull sustained heat, until deoxidation of the ore is accomplished, substantially as and for the purposes specified. 2nd. The method, herein described, which consists in charging the ore on a friable graphitic hearth, covering the charge of ore with a layer of lump graphite, subjecting the charge to a dull red sustained heat, for a suitable short period, to agglomerate the mass, so that the sponge can be balled and removed to the blooming apparatus, for the production of wrought iron, as hereinbefore described, or for a suitable longer period, for the production of steel or steelified iron, as described. 3rd. The method, herein described, for producing steelified iron direct from the ore, which consists in charging the ore mingled with lumps of "graphitic carbon," on a friable graphitic hearth, covering the charge with a layer of graphitic lumps, subjecting the charge thus formed, first to the action of a dull red sustained heat until deoxidation is accomplished, and then to a higher sustained heat, short of the fusing point of the metal, for a further period of six (6) or more hours, substantially as and for the purposes specified.

No. 22,290. Hearth and Lining of Graphite for Metallic Furnaces. (*Foyer et Parois en Graphite pour Fourneaux Métallurgiques.*)

Charles J. Eames, New York, N.Y., U.S. 25th August, 1885; 15 years.

Claim.—A hearth or bed for deoxidizing, or ore reducing furnaces, composed of graphitic lumps, substantially as and for the purposes specified.

No. 22,291. Manufacture of Iron and Steel. (*Fabrication de Fer et de l'Acier.*)

Charles J. Eames, New York, N.Y., U.S. 26th August, 1885; 15 years.

Claim.—The process, herein described, for the deoxidation, or de-

oxidation and carbonization of ore in the manufacture of iron sponge, wrought iron and steely iron, which consists in coating the lumps of ore with a graphitic paste, and then subjecting them to a dull red sustained heat in a suitable furnace, substantially as and for the purposes specified.

No. 22,292. Manufacture of Iron Sponge and Wrought Iron and Steely Irons directly from the Ore.

(*Fabrication de l'Éponge de Fer, et du Fer Forgé et des Fers Aciéreux directement du Minerai.*)

Charles J. Eames, New York, N.Y., U.S., 25th August, 1885; 15 years.

Claim.—1st. The process, herein described, for producing iron sponge direct from the ore, which consists in intermingling the ore in its natural state with lumps of graphitic carbon, and subjecting the mixture in a reverberatory or other suitable furnace to a dull red sustained heat until deoxidation is accomplished, substantially as and for the purposes set forth. 2nd. The process, herein described, which consists in intermingling the ore in its natural state with lumps of graphitic carbon, subjecting the mixture in a reverberatory or other suitable furnace to a dull red sustained heat until deoxidation is accomplished, and then to a higher sustained heat for a suitable short period to agglomerate the mass, so that the sponge can be balled and removed to the blooming apparatus for the production of wrought iron, as hereinbefore described, or for a suitable longer period for the production of steelified iron, as described, substantially as and for the purposes set forth.

No. 22,293. Manufacture of Wrought and Steely Iron direct from the Ore.

(*Fabrication de Fer Forgé et Aciéreux directement du Minerai.*)

Charles J. Eames, New York, N.Y., U.S., 26th August, 1885; 15 years.

Claim.—1st. The process, herein described, which consists in charging the ore on a friable graphitic hearth, covering the charge of ore with a layer of lump graphite, subjecting the charge to a dull red sustained heat until deoxidation is accomplished, and then to a higher sustained heat for a suitable short period to agglomerate the mass, so that the sponge can be balled and removed to the blooming apparatus for the production of wrought iron, as hereinbefore described, or for a suitable longer period for the production of steel, or steelified iron, substantially as described. 2nd. The process, herein described, which consists in charging the ore mingled with lumps of graphitic carbon on a friable graphitic hearth, covering the charge with a layer of graphitic lumps, subjecting the charge thus formed, first to the action of a dull red sustained heat until deoxidation is accomplished, and then to a higher sustained heat, short of the fusing point of the metal, for a suitable short period of time, for the production of wrought iron, as hereinbefore described, or for a suitable longer period for the production of steelified iron or steel, as described. 3rd. The process, herein described, which consists in charging the ore mingled with lumps of graphitic carbon on a friable graphitic hearth, subjecting the charge thus formed, first to the action of a dull red sustained heat until deoxidation is accomplished, and then to a higher sustained heat, short of the fusing point of the metal, for a suitable short period of time, as herein described, or for a suitable longer period for the production of steelified iron or steel, as described.

No. 22,294. Furnace for the Manufacture of Sponge, Wrought Iron and Steely Iron, direct from the Ore.

(*Fourneau pour la Fabrication de l'Éponge, du Fer Forgé et du Fer Aciéreux directement du Minerai.*)

Charles J. Eames, New York, N.Y., U.S., 25th August, 1885; 15 years.

Claim.—1st. A deoxidizing furnace for the treatment of ores, said furnace having a balling hearth and a deoxidizing hearth provided with a graphitic bottom, said hearths arranged in sequence, substantially as and for the purposes specified. 2nd. The combination, in a furnace for deoxidizing ores, of a feeding and drying chamber for preliminary treatment of the charge, and a deoxidizing hearth having a graphitic bottom, substantially as and for the purposes specified. 3rd. In a furnace for deoxidizing ores, the combination of a balling hearth, a deoxidizing hearth having a graphitic bottom, and a preliminary drying and feed chamber for receiving the fresh charge, all arranged in sequence, substantially as and for the purposes specified.

No. 22,295. Machine for Hoisting and Conveying. (*Machine pour Hisser et Transporter.*)

Alexander E. Brown, Cleveland, Ohio, U.S., 26th August, 1885; 5 years.

Claim.—1st. The combination, with an ordinary hook A, provided with a rear loop-like device or hand-piece I, of a safety device formed or provided with a rearward hand-portion *f*, or its equivalent, and arranged and operating as described, to be moved into the proper position to permit the disengagement of the device engaged with the hook, whenever the hand-piece I and the device *f* are to be grasped by the operative, and shall automatically close up the throat of the hook whenever the last-named devices shall be released by the operative.

No. 22,296. Apparatus for Discharging Contents of Vessels and Cars and Conveying the same to Hoisting and Conveying Machines. (*Appareil pour Décharger les Vaisseaux et les Chars et en remettre le Contenu sur des Machines à Hisser et Transporter.*)

Alexander E. Brown, Cleveland, Ohio, U.S., 26th August, 1885; 5 years.

Claim.—1st. A portable bucket-supporting platform, adapted to be placed contiguous to one or intermediate of two cars, for the purpose of properly supporting one or more series of buckets to be loaded from said car or cars, and provided with an intermediate or supplemental car-like device or platform, on to which the loaded buckets may be run, as specified, and adapted to effect the movement laterally of said bucket, all substantially as and for the purposes set forth. 2nd. In a contrivance composed of a portable bucket-supporting platform, provided with an intermediate car-like device adapted to move endwise within said platform, the arrangement of the bucket-supporting surfaces C, C, in an inclined position, to facilitate the running of the loaded buckets from them on to the intermediate platform D, substantially as hereinbefore set forth.

No. 22,297. Fusible Link for Automatic Fire Extinguishers. (*Chainon Fusible pour Extincteurs d'Incendie Automatiques.*)

Osborn B. Hall, Malden, Mass., U.S., 26th August, 1885; 5 years.

Claim.—1st. A securing link for automatic fire extinguishers, formed in two halves or parts, of brass or other suitable metal, each bent into bow-like form, then telescoped together or overlapped, and united by soldering with fusible metal or alloy, which will give way at the danger point in the rise of temperature, substantially as specified. 2nd. In a securing link for automatic fire extinguishers, having the halves overlapped or telescoped together and united by fusible metal, the overlapping arms of the halves of the link perforated to receive the fusible metal or alloy that secures the halves together, substantially as specified. 3rd. In a securing link formed with two bow-like halves, united by fusible alloy, the outer half extended to overlap the curved portion of the other half, to allow an accumulation of the uniting alloy beneath the ends of said outer half, substantially as specified. 4th. A securing link formed with one-half tubular and the other half of wire telescoped within said tube, the two being united by fusible alloy, substantially as specified.

No. 22,298. Machine for Oiling and Polishing Wheels. (*Machine à Huiler et Polir les Roues.*)

Ferdinand W. Starr, Springfield, Ohio, U.S., 26th August, 1885; 5 years.

Claim.—1st. In a wheel-polishing machine, the combination of a box or receptacle containing a polishing material, and a spindle or holder within the box for holding the wheel, said spindle or holder and box being arranged substantially as described, whereby one of said parts may be moved relatively to the other. 2nd. In a wheel-polishing machine, the combination of a box or receptacle containing a polishing material, and a spindle or holder within the box for holding a wheel, said spindle or holder being arranged substantially as shown and described, whereby it may be reciprocated within the box. 3rd. In a wheel-polishing machine, the combination of a box or receptacle for containing a polishing material, and a spindle or holder within the box for holding a wheel, said spindle or holder being arranged substantially as shown and described, whereby it may be rotated within the box. 4th. In a wheel-polishing machine, the combination of a box or receptacle containing a polishing material, and a spindle or holder within the box for holding a wheel, said spindle or holder being arranged substantially as shown and described, whereby it may be rotated and reciprocated simultaneously within the box, for the purpose set forth. 5th. In combination with box A, having sides *a* and bottom *c*, the latter provided with openings *d*, lever B pivoted to the box and carrying a spindle or holder to support the wheel, and suitable material *g* for smoothing and oiling the wheel, as set forth. 6th. In combination with box A, constructed substantially as shown and described, lever B, provided with spindle *g*, said spindle or holder being provided with nut *h* and band-wheel *i*, as set forth. 7th. In combination with box A, having sides *a*, lens *b*, bottom *c* and opening *d*, lever B, pivoted to the box and provided with a spindle or holder *g*, nut *h*, wheel *i* and collar *j*, as and for the purpose set forth. 8th. In a wheel-polishing machine, constructed substantially as shown and described, lever B, pivoted to the box and carrying a spindle or holder for the wheel to be polished, said lever being enlarged immediately around the spindle, as and for the purpose set forth. 9th. A machine for operating upon the surface of vehicle wheels, consisting essentially of a receptacle for holding the abrading or polishing material, and an arm or holder, or the equivalent thereof, by which the wheel is held and reciprocated or rotated, both, over and among the polishing or abrading material contained in the receptacle, for the purpose of cleaning, oiling, or imparting a smooth surface to the wheel.

No. 22,299. Machine for Raising and Lowering Loaded Waggon Racks, etc., by hand. (*Machine à Bras pour Lever et Descendre les Râteliers de Wagons Chargés, etc.*)

Angus M. Smith, Huron, Ont., 26th August, 1885; 5 years.

Claim.—The adjustment, adaptation and arrangement of the said several known principles or wheels, cogs, levers, pulleys and shafts, so as to form a new and useful invention or machine, for the purpose hereinbefore set forth and mentioned.

No. 22,300. Anti-Friction Bearing for Roller Skates. (*Coussinet à Anti-Friction pour Patins à Roulettes.*)

Edward E. Edgerton, Chicago, Ill., U.S., 26th August, 1885; 5 years.

Claim.—In a roller skate, the combination, with the axle C, provided on the outer end with the flanged head *a*, of the washer *b*₁, the series of friction rollers *b*, the journal box *a* and the adjustable collar D, all combined, arranged and operating substantially as and for the purpose set forth.

No. 22,301. Wheel or Pulley. (*Roue ou Poulie.*)

George P. Clark, Windsor Locks, Ct., U.S., 26th August, 1885; 5 years.

Claim.—1st. As a new article of manufacture, a wheel or pulley composed of a body of paper, leather, rubber, or other similar material, compressed and held by penetrating points and side plates, substantially as described. 2nd. A wheel, composed of the casting C, formed with plain surface D, and flange E, in combination with the body or tire A, of compressed material, side plate B, and penetrating points *a*, substantially as set forth. 3rd. The ring F, formed with penetrating points *g*, in combination with casting C, flange E and plate B, and compressed tire or body A, the flange and plate B being provided with penetrating points, substantially as described. 4th. The method, herein described, of forming wheels of paper, leather, rubber, or other compressible material, which consists in compressing the paper, leather, or other material between side plates, inserting suitable penetrating points to hold the material in a compressed state, and to hold the side plates, and finally in working down or turning the outer surface of the compressed material to the desired shape, as set forth.

No. 22,302. Waggon Brake. (*Frein de Wagon.*)

David Knox, Belleville, Ont., 26th August, 1885; 5 years.

Claim.—1st. The lever *d*, connecting bars *e*, *e*₁, and arms *f*, *f*₁, as and for the purpose hereinbefore set forth. 2nd. The lever *d*, connecting bars *e*, *e*₁, and arms *f*, *f*₁, in combination with the waggon box *b* and rub blocks *i*, to be operated by the lever *a*, as and for the purpose hereinbefore set forth.

No. 22,303. Apparatus for Switching Currents of Electricity, etc. (*Commuteur d'Electricité, etc.*)

Alexander C. Mather, Montreal, Que., 26th August, 1885; 5 years.

Claim.—The combination of the wires of electrical generators, and auxiliary electrical generator wires arranged in one plane, with circuit wires and auxiliary circuit wires arranged in another plane, the one said plane overlying the other, and the wires in the one said plane being in direction at an angle with the direction of the wires in the other said plane, and with connections arranged to connect one wire in one plane with another wire in another plane, the said connection consisting of a strip K, formed into forked ends at an angle, the one end of the fork with the other end of the fork, the said angle being made to agree with the angle of the wires in the two said planes, and the said fork having the block *l* placed between the forked ends, the whole substantially as described.

No. 22,304. Running Gear of Vehicle.

(*Train de Voiture.*)

Robert McLaughlin, Oshawa, Ont., 26th August, 1885; 5 years.

Claim.—1st. In a running gear of a vehicle, a washer made of rubber, or other elastic material, placed against a stationary part, in combination with a brass or metal washer fitted against the elastic washer and arranged to come in contact with the moving part of the running gear, substantially as and for the purpose specified. 2nd. The elastic washer C, fitted against the axle collar D, a brass or metal washer E fitted against the washer C and axle box A, in combination with the elastic washer F, fitted into the recess in the nut G, and the brass or metal washer H, fitting against the washer F, and axle-box A, arranged substantially as and for the purpose specified.

No. 22,305. Felt Boot. (*Botte de Feutre.*)

Horatio G. Charlesworth, Toronto, Ont., 26th August, 1885; 5 years.

Claim.—1st. A felt stocking A, having sewn, or otherwise fastened to its leg, a strip C, made of leather or other suitable material and designed to fit over the top edge of the leather covering or boot B. 2nd. A felt stocking A, having sewn, or otherwise fastened to its leg, a strip C, made of leather or other suitable material, and designed to fit over the top edge of the leather covering or boot B, in combination with the straps D.

No. 22,306. Gearing for Reverse Shafts.

(*Mécanisme de Renversément pour Arbres.*)

William F. Cowden, Cumberland, Md., U.S., 26th August, 1885; 5 years.

Claim.—1st. The combination of the turn-shafts, fly-wheels secured on the ends thereof, and provided with crank-pins, a pitman extending between and connecting the said pins, eccentrics secured on the said shafts, and a strap connecting the rings of said eccentrics, substantially as set forth. 2nd. The improvement in drive-gearing for reverse shafts, substantially as herein described and shown, consisting of the twin shafts, the fly-wheels secured thereon, and provided with counterpoises, the crank-pins, the connecting pitman extended between said pins, the eccentrics secured on the shafts, and a strap connecting the rings of such eccentrics, as and for the purpose specified.

No. 22,307. Machine for Picking Fruit.*(Machine à Cueillir les Fruits.)*

Mark V. Dodsworth, Parrsborough, N.S., 26th August, 1885; 5 years.

Claim.—1st. The combination of the parts of the handle *f* and *g*, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the shutter *a*, and the pivots *c, c*, in the under part of the handle *g*, substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the shutter *a*, with the guides *K* and the pivots *c, c*, substantially as and for the purposes hereinbefore set forth.

No. 22,308. Machine for Digging Potatoes.*(Machine à Arracher les Patates.)*

Nelson K. DeLafame, Plattsburg, N.Y., U.S., 26th August, 1885; 5 years.

Claim.—1st. In a potato-digger, the main frame mounted upon an axle adapted to be rotated by the forward movement of the carrying wheels, the rear roller of the carrying belt journalled in hangers depending from the rear end of the main frame, the forward roller of the gathering belt journalled in the forward ends of arms pivoted to, and extending from the journals of the rear rollers, and the gathering belt, in combination with the plough or scoop pivotally connected, at its rear end, to the journals of the rear roller of the gathering belt, and adapted to be adjusted at its forward end nearer to, or farther from the frame, and means, substantially as described, for adjusting the forward roller of the gathering belt nearer to or farther from the plough or scoop, as and for the purpose set forth. 2nd. In a potato-digger, the main frame mounted upon suitable carrying wheels, the rear roller of the gathering belt journalled in hangers depending from the frame at the rear thereof, the side arms pivoted to the journals of the rear roller and forming bearings at their forward ends for the journals of the forward rollers of the gathering belt, the gathering belt provided with teeth and supported and operated by the rollers, the shaft extending from one to the other of the forward roller-supporting arms journalled in said arms, and provided at each end with pinions, in combination with rack arms extending upwardly from the side guards of a plough or scoop, pivotally connected to the journals of the rear roller of the carrying belt, and having its forward end adjustable nearer to, or farther from the frame, substantially as described, and for the purpose set forth. 3rd. In a potato-digger, a main frame mounted upon carrying wheels, adapted to be clutched with, and thereby rotate the axle in their forward movements, said frame pivotally connected at its rear end to a combined grate and plough or scoop located beneath the frame and having its forward end adjustable nearer to or farther from the frame, in combination with the gathering belt supported and operated by rollers journalled in hangers depending from the frame, and inside arms, pivoted at their rear ends to said hangers, and means located below the main frame, substantially as described, for adjusting the belt nearer to, or farther from said grate and plough, as and for the purpose set forth. 4th. In a potato-digger, a frame supported upon an axle journalled in carrying wheels, and provided at its rear end with depending hangers in which is journalled the rear roller of the gathering belt, in combination with the combined grate and plough or scoop located below, and pivotally connected to the journals of the rear roller of the carrying belt, and provided at its forward end with riprably projecting curved rack arms, concentric with the journals of said rear roller of the gathering belt, pinions engaging said rack arms and mounted upon a shaft journalled to the forward end of the frame, and guide wheels adjustably connected to the lower end of the said curved arms, substantially as described, and for the purpose set forth. 5th. In a potato-digger, the combination of the gathering belt mounted upon suitable rollers, the side guards of the plough or scoop, the grate pivoted at its forward end in said guards, with a rock shaft extending from one to the other of said guards, and provided with means, substantially as described, for adjustably supporting the rear end of the grate, and permit it to yield when under too great pressure, as and for the purpose set forth. 6th. In a potato-digger, the combination of the gathering belt mounted upon suitable rollers, the side guards of the plough or scoop, the grate pivoted at its forward end in said guards and resting its rear end upon spring-pressed rock-arms projecting from a rock shaft extending from one to the other of, and journalled in, said guards, and controlled by said rock arms, substantially as and for the purpose set forth. 7th. The combination, in a potato-digger, of a yielding grate for receiving the potatoes, and a gathering belt having yielding teeth, substantially as set forth. 8th. The combination, with the potato-digger frame and grate, of a supplemental attachment consisting, essentially, of a frame provided with a toothed elevator belt, a grate for receiving and assorting the potatoes, and a toothed belt and picker for receiving and discharging separately the vines and stalks, substantially as set forth. 9th. The combination, with the frame and grate of a potato-digger, of the detachable supplemental frame supported at its rear end upon castor wheels, and provided with a platform located directly below the assorting grate, the elevator, and means for driving the elevator belt from the digger, substantially as and for the purpose set forth. 10th. The combination of the inclined grate floor, the inclined toothed elevating-belt, the assorting grate, toothed endless apron above the assorting grate, and the picker above the apron, substantially as set forth.

No. 22,309. Nut Lock. (Arrête-Ecton.)

Josiah C. Cookerley, South Milford, Ind., U.S., 26th August, 1885; 5 years.

Claim.—1st. In a nut lock, the bolt and nut, in combination with the washer slit or divided horizontally to form two spring sections, the outer one of which is adapted to be forced inward by the pressure of the nut, said washer being slitted longitudinally to form a spring tongue, which is normally on a line with the outer spring section, so that, when the nut, the tongue will come up against one of the sides of the nut, as set forth. 2nd. The herein described nut locking washer formed in a single piece, comprising two spring sections having their outer ends sprung apart to give increased elasticity, and

allow them to yield and a tongue provided on one side of the sections so as to come up against the side of the nut, as set forth. 3rd. In a nut lock, the bolt and nut, in combination with the washer formed with two spring sections having the front or outer ends sprung apart aligned perforations provided through the sections, a longitudinal slot formed in the outer section to provide a spring tongue, which is on a line with the normal position of the outer section, and a cut-away portion formed in the inner section to allow the movement of the tongue inwardly, whereby said tongue remains in its position while the nut is being operated to press the outer spring section inward, substantially as set forth. 4th. In a nut lock, the bolt and nut, in combination with a washer, comprising a plate slit or divided horizontally for a portion of its length to form two spring sections, the outer ends of which are sprung apart, aligned perforations provided through the latter, a longitudinal slot formed in the outer section to provide a spring tongue, which is on a line with the normal position of the outer section, and a cut-away portion formed in the inner section, to allow the movement of the tongue, for the purpose set forth.

No. 22,310. Churn. (Baratte.)

George B. Dowswell, London, Ont., 26th August, 1885; 5 years.

Claim.—1st. The combination, with the body A and ends B, of the band C and connecting screw D, whereby the body and ends are compressed together, for the purpose described. 2nd. The conical journal E, in combination with the shaft F and pinion gear K, as set forth. 3rd. The tubes I inclinedly inserted in ends B, for aerating the cream as set forth. 4th. The dasher shaft F, provided with half-round or half-oval dashers J, as set forth.

No. 22,311. Storm Shield and Overdress.*(Manteau.)*

Maggie Boyd, Riverside, Cal., U.S., 31st August, 1885; 5 years.

Claim.—1st. The combination, with a cape or body piece, of the expandible hood or umbrella, the fastening straps by which it is attached to the shoulders, and the means for securing it and holding it on the head, substantially as and for the purpose hereinbefore set forth. 2nd. The umbrella or expandible hood or head piece attached to the shoulders, in combination with cape or body piece, as shown, and the veil or fabric having the ends secured to the hood, passing through rings at the side, so that the ends may be secured beneath the chin, substantially as and for the purpose hereinbefore set forth.

No. 22,312. Compound for Treating Tobacco. (Composition pour le Traitement du Tabac.)

Edward D. Wells, Westminster, Md., U.S., 31st August, 1885; 5 years.

Claim.—A compound for treating tobacco, consisting of tannic acid, benzoic acid and valerian, in about the proportions stated.

No. 22,313. Method of Making Shells for Boats and Canoes. (Mode de Fabrication des Bateaux et Canots.)

Houghton W. Wilson, Kingston, and Cornelius A. Jones, Yarker, Ont., 31st August, 1885; 5 years.

Claim.—1st. The method of making shells for boats or canoes, consisting in stretching raw hide over a form or model, and permitting it to dry thereon, then treating the shell with a number of applications of a mixture, substantially as described, for hardening the shell, and rendering it impervious to moisture, substantially as set forth. 2nd. The method of making shells for boats or canoes, consisting in stretching raw hide over a form or model, and then treating the shell with a mixture to harden it and render it impervious to moisture, as set forth.

No. 22,314. Art of Manufacturing Pulp and Paper. (Art de Fabriquer la Pâte à Papier et le Papier.)

John M. Allen, New Bedford, Mass., U.S., 31st August, 1885; 5 years.

Claim.—1st. A half stock, as a new article of merchandise and sale, made from the bark of the cedars, or from the inner bark of either of the other varieties of cone-bearing bearing trees, by withdrawing the partially pulped stock from the beating engines of a pulp mill or paper mill, when the pulping process is only about half completed, or when it is at the end of the first stage in the above described process. 2nd. The process of making pulp and paper from the bark of the cedars, or from the inner barks of the other varieties of the cone-bearing class of trees, by a treatment of alkali in water, after the fibres of these barks shall have been more or less loosely opened and separated, and a portion of the intercellular matters removed by water in the first instance, substantially as described. 3rd. Pulp made from the bark of the cedars, or from the inner bark of either of the other varieties of the cone-bearing class of trees, from which the intercellular matters have been entirely, or nearly entirely, removed, by partially exhausting the same by water in the first instance, and completing the exhaustion by an alkaline treatment, in the manner substantially as herein described. 4th. Paper made from the bark of the cedars, or from the inner barks of the other varieties of cone-bearing trees, or from a mixture of the cedar bark and inner bark stocks, or a mixture of either of said stocks with other well-known paper stock, said barks having the intercellular matters entirely, or nearly entirely, removed therefrom by a water treatment, followed by an alkaline treatment, substantially as described.

No. 22,315. Manufacture of Paper Boxes.*(Fabrication des Boîtes en Papier.)*

Albert F. Moree, Milford, Ct., U.S., 31st August, 1885; 5 years.

Claim.—1st. In a machine for making boxes from paste or straw-

board, the combination, with a cutting punch and shaping die arranged interior thereof, of a plate having therein a seat for the punch and an opening through which the said die passes, and a spring actuated lower die adapted to reciprocate within a corresponding opening and seat within the standard, substantially as set forth. 2nd. In a machine for making boxes from straw or paste-board, the combination, with the cupping and forming dies, of an air blast, substantially as and for the purpose set forth. 3rd. In a machine for making boxes from straw or paste-board, the combination, with the upper cupping die adapted to be reciprocated vertically, of the lower die having a spring action, substantially as set forth. 4th. The combination of the plate *c* secured to the platform and having seat *N*, and central opening *D*, punch *L* having interior thereof, the cupping die *M*, said punch and die adapted to have a separate and independent vertical reciprocation, ring *E*, seated within the standard *B*, and containing the lower die *G*, spindle *H* secured at its upper end to said die, spring *K* arranged around said spindle and confined between recesses in said die and standard, and the air blast entering an interior recess in the plate, for the purpose set forth. 5th. The method of making boxes from paste or straw board and the like, the same consisting in blanking out and cupping the material and forcing it through a plate, within a ring, against a spring actuated die in rotation and in one machine, substantially as described. 6th. The method of making boxes from paste or straw board, the same consisting in blanking and cupping the material and then stripping the completed box within the field of an air blast, substantially as set forth.

No. 22,316. Cover for Water Ports of Vessels. (*Tampon de Dalot pour Vaisseaux.*)

Alva K. Woodward, Ellsworth, Me., U.S., 31st August, 1885; 5 years.

Claim.—1st. The herein-described cover *C*, for the water ports of vessels, consisting of the backwardly flaring top *c*, outwardly and backwardly slanting front side. 2nd. The herein-described cover *C*, for the water ports of vessels, consisting of the backwardly flaring top *c*, and outwardly and backwardly slanting side *b* and bottom *d*. 3rd. The herein-described attachable cover *C*, for the water ports of vessels, consisting of the triangular backwardly flaring top *c*, outwardly and backwardly slanting side *b*, hinges *e, e*, and hook *k*, the whole with or without the triangular backwardly flaring bottom *d*. 4th. In combination, with the water port of a vessel, the port cover *C* consisting of the backwardly flaring top *c* and outwardly and backwardly slanting side *b*, either with or without the backwardly slanting bottom *d*, adapted to be either permanently or separately attached to the side of the vessel, all as shown and described and substantially as and for the purpose specified.

No. 22,317. Car-Coupling. (*Accouplage de Chars.*)

Miles Pettel, Wellington, Ont., 31st August, 1885; 5 years.

Claim.—1st. The combination, with the draw-head *B*, of the post and arm *D*, *Dr*, and boss *E*, for hanging a coupling pin *J*, and releasing the same by an endwise movement of the draw-head, as set forth. 2nd. The coupling link *G*, having a cross bar *G* near its middle, and provided with a prop *H*, as set forth.

No. 22,318. Combined Dust-Proof Box and Case for Watches. (*Boîte Gard-Poussière de Montre.*)

Charles K. Giles, Chicago, Ill., U.S., 31st August, 1885; 5 years.

Claim.—1st. A dust-proof box for watch movements, the front and back of which are constructed and adapted to form corresponding parts of the case and to clamp and hold the centre in place, in combination with a ring centre made in a separate and single piece adapted to be applied to the box, whereby the centre may be applied to the box and secured between the front and back by clamping without further fastening, thereby transforming the box into a complete case, all the parts of which are fixed and stationary, substantially as described. 2nd. A dust-proof box for watch movements, provided with projecting flanges or edges, arranged one on the front and one on the back section of the box, in combination with an independent ring centre separate from the other parts of the case, and adapted to be fitted and secured between the said flanges of the box, whereby these three parts are secured together in a fixed position to form a case, substantially as described. 3rd. The dust-proof box *A*, composed of the two sections *a, a*, each provided with a projecting edge or flange *a*, in combination with the case ring-centre *B*, adapted to be applied to the box between the flanges thereof, thereby transforming the box into a case by the combination of these three parts only, substantially as and for the purposes set forth. 4th. In a stem-winding watch, a winding stem provided with a threaded section and a collar outside of said section, in combination with a movement box provided with a threaded-stem aperture, the threads in each case being constructed to work in a direction opposite to the winding-turn, substantially as and for the purposes set forth.

No. 22,319. Wire Basket for receiving and draining China, etc. (*Egouttoir de Cuisine en Osier.*)

Charlotte C. Cannon, London, Ont., 31st August, 1885; 5 years.

Claim.—The basket *A*, of any suitable size and construction, having pan *B*, attached thereto and provided with suitable steel or wire springs *D, E, F, G*, for holding china, glass-ware, cutlery, etc., substantially as shown and specified and for the purpose hereinbefore set forth.

No. 22,320. Metallic Grinding Ring.

(*Meule Métallique de Moulin.*)

John G. Mole, Batavia, Ill., U.S., 31st August, 1885; 5 years.

Claim.—A grinding ring, having the furrows on the working face gradually diminish in depth as they approach the skirt and the face

of the grinding teeth, in combination with the grinding teeth *C*, the ridges *B*, and the series or groups of ridges *a*, substantially as described.

No. 22,321. Combined Signal and Gate for Railroad Crossings. (*Signal et Barrière Combinés pour Traverses de Chemin de Fer.*)

George A. Reynolds, Utica, N.Y., U.S., 31st August, 1885; 5 years.

Claim.—1st. In a signal for railroad crossings, the combination of a vertically movable and revolving collar, carrying an indicator or semaphoric signal, with a supporting column or post, encircled by said collar, and means, substantially as described, for raising and lowering the collar with its signal, by the approach and departure of passing trains, substantially as herein set forth. 2nd. In a signal for railroad crossings, the combination of the vertically-sliding and revolving collar, having a semaphoric signal or indicator, with a supporting column or post, a vertically sliding weight, and means, substantially as described, for raising the weight and indicator collar, and again returning them to their normal positions, substantially as herein set forth. 3rd. The combination of a swinging gate or bar, a supporting column or post, a vertically sliding weight encircling the post, and a device for holding the latter in an elevated position, with means, substantially as described, for raising the weight by an approaching train and releasing the weight-retaining device by a departing train, substantially as and for the purpose set forth. 4th. The combination of an audible or electric bell signal, and a vertically movable collar having a semaphoric signal, and means, substantially as described, for automatically sounding the bell by the movement of said collar, with a supporting column or post, substantially as herein set forth. 5th. In a railroad signal, the combination of a protecting case, a vertically and laterally movable spring pressed plate, a rock shaft and connecting devices, together with signalling mechanism, substantially as described, which is actuated by said devices, and a railroad track, substantially as herein set forth. 6th. In a railroad signal, the combination of the spring plate or catch, the system of cords and pulleys, the vertically movable weight, and the vertically sliding and revolving indicator collar, with a supporting column or post, and means, substantially as described, for automatically operating said device by passing trains, as and for the purposes set forth. 7th. In a railroad signal, the combination, with a swinging gate, of a pinion and hammer carried by said gate, and a gong or bell having a toothed rim mounted on a base or column, substantially as herein set forth. 8th. A hollow vertical post or column having an exterior encircling weight or collar, and a swinging gate adapted to be engaged by said weight, an interior weight, and a cord or chain, and pulley mechanism, and a retaining and tripping device for said interior weight, combined with devices for automatically releasing and elevating said interior weight by approaching and departing trains, substantially as herein set forth. 9th. A hollow column or post, having an interior frame in its base portion, a weight fitted to slide in said frame, and a retaining or tripping device, in combination with devices for raising said weight, a swinging gate, and a sliding collar or exterior weight, adapted to operate said gate, and connected with the interior weight, substantially as herein set forth.

No. 22,322. Trunk Fastener.

(*Fermeture de Coffret.*)

Frank W. Beckwith, Detroit, Mich., U.S., 31st August, 1885; 5 years.

Claim.—1st. In a trunk fastener, the bail iron *A* provided with a spring bail *B*, in combination with the casing *C* and the hook-lever *F* fulcrumed in said casing, and adapted to draw the spring bail down and around a stud projecting from the face of said casing, substantially as described. 2nd. In a trunk fastener, the combination of the bail iron *A*, provided with the spring-bail *B* and bail stud *d*, with the casing *C* provided with the hook lever *E* and stud *D*, constructed, arranged and operating substantially in the manner and for the purposes set forth. 3rd. In a trunk fastener, the combination of the bail *A*, provided with the spring bail *B* and bail stud *d*, with the casing *C* provided with the stud *D*, recesses *b* and *c* and ears *a* and *f* and the hook lever *E*, all constructed, arranged and operating substantially in the manner and for the purposes set forth.

No. 22,323. Hinge. (*Penture.*)

Frank W. Beckwith, Detroit, Mich., U.S., 31st August, 1885; 5 years.

Claim.—1st. A hinge, consisting of the leaves *A, B*, provided with suitable knuckles *C, E*, in combination with a removable pin *F* provided with an arm *G* and stop *a*, substantially as and for the purposes described. 2nd. A hinge, consisting of the plates *A, B*, provided with the knuckles *C, E*, and stud-hook *D*, in combination with a removable pin *F* adapted to be locked upon one of the leaves, substantially as and for the purposes specified.

No. 22,324. Hoof Pad. (*Coussinet de fer à Cheval.*)

Eugene F. Collins, Anson, Me., U.S., 31st August, 1885; 5 years.

Claim.—1st. A flexible hoof pad, composed of a single piece of felted material, the upper portion thereof being loosely felted, and the lower portion being hardened, substantially as described. 2nd. A flexible hoof pad, composed of a single piece of felted material, the upper portion thereof being loosely felted, and the lower portion being hardened, said pad being provided with means for attaching it to the hoof, substantially as described.

No. 22,325. Piano and Organ Attachment.

(*Appareil d'Orgue et de Piano.*)

William R. Eddington, Woodburn, Ill., U.S., 31st August, 1885; 5 years.

Claim.—1st. In an attachment for organs, etc., the metallic springs adapted to depress the keys of the organ, in combination with levers

I and perforated apron F, substantially as set forth, 2nd. In an attachment for organs, etc., the metallic springs adapted to depress the keys of the organ, in combination with auxiliary springs and the levers I and perforated apron F, substantially as set forth. 3rd. In an attachment for organs, etc., the combination of the rollers, means for turning the rollers, perforated apron levers pivoted to cross strips, bottom board and springs connected to the bottom board and to the levers, all arranged and operating substantially as shown and described for the purpose set forth. 4th. In an attachment for organs, etc., the perforated apron having wires secured across part of the perforations, substantially as shown and described for the purpose set forth. 5th. In an attachment for organs, etc., the perforated apron united by metal strips and pins covered by a strip F, substantially as set forth. 6th. In an attachment for organs, etc., the combination of the rollers, apron and block o, with a concave face, for the purpose set forth. 7th. In an attachment for organs, etc., the combination of the rollers, apron, levers, springs connected to the levers and adapted to operate the keys of the organ, and sliding bent rods M, substantially as and for the purpose set forth. 8th. In an attachment for organs, etc., the combination of the rollers, apron levers, springs connected to the levers and adapted to operate the keys of the organ and sliding plate n, substantially as shown and described for the purpose set forth. 9th. In an attachment for organs, etc., the combination of the apron roller, hinged arms located behind the gudgeons

of one of the rollers, springs D and adjustable rods D3, arranged and operating substantially as shown and described for the purpose set forth. 10th. In an attachment for organs, etc., the combination of the apron rollers, hinged arms located behind the gudgeons of one of the rollers, springs D, adjusting rods D3 and rods D5 screwing through the arms and provided with collars on their lower ends, substantially as shown and described for the purpose set forth. 11th. In an attachment for organs, etc., the strip T having numbers representing the tunes of the music sheets marked upon it, in combination with the adjustable guide U adapted to receive the music sheet or apron, substantially as and for the purpose set forth. 12th. In an attachment for organs, etc., the adjustable apron-guide U provided with buttons U5 for fitting between the strips I1 of the attachment, substantially as and for the purpose set forth. 13th. In an attachment for organs, etc., the apron guide consisting of end pieces and top and bottom strips, the bottom strip having notches and provided with numbers indicating the width of the music sheet or apron, in combination with button U2, substantially as and for the purpose set forth. 14th. In an attachment for organs, etc., the apron guide consisting of end pieces and top and bottom strips, in combination with the hooks W1 for engaging over the bottom strip of the guide, for the purpose set forth. 15th. In an attachment for organs, etc., the pull rods P having hooks P1 for engaging the stops of the organ, 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.

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| <p>437. R. SEILLIERE, 2nd 5 years of No. 11,600, from the 14th August, 1885. New and useful Improvements in the Extraction of Precious Metals, especially Gold, from Ores and other Auriferous Materials, 1st August, 1885.</p> <p>438. J. EDSON, 2nd 5 years of No. 11,678, from the 28th day of August, 1885. Improvements on Diaphragm Pumps, 1st August, 1885.</p> <p>439. E. S. PIPER, 2nd 5 years of No. 11,614, from the 7th August, 1885. Improvements in Street and other Lamps, 5th August, 1885.</p> <p>440. L. LAVOIE, 2nd 5 years of No. 11,615, from the 7th day of August, 1885. Improvements in Potato Picking machines, 6th August, 1885.</p> <p>441. J. F. CURTICE, 2nd 5 years of No. 11,620, from the 7th day of August, 1885. Improvements in Car Brake Shoes, 7th August, 1885.</p> <p>442. L. LAUREUSE (Assignee), 2nd 5 years of No. 11,617, from the 7th day of August, 1885. Improvements on Gilding Process, 7th August, 1885.</p> <p>443. P. J. SCHLICHT and L. FIELD, 2nd and 3rd 5 years of No. 11,657, from the 18th day of August, 1885. Improvements on Paper Files, 7th August, 1885.</p> <p>444. C. F. BRUSH, 2nd 5 years of No. 11,631, from the 11th day of August, 1885. Improvements on Apparatus for Generating and Applying Electricity, 11th August, 1885.</p> | <p>445. T. R. FULLER, 3rd 5 years of No. 11,631, from the 14th day of August, 1885. Improvements on Apparatus for Generating and Applying Electricity, 11th August, 1885.</p> <p>446. J. WATSON, 2nd 5 years of No. 11,637, from the 14th day of August, 1885. Improvements on Reaping Hooks, 13th August, 1885.</p> <p>447. J. ALEXANDER, 2nd 5 years of No. 11,639, from the 14th day of August, 1885. Improvements on Refrigerators, 13th August, 1885.</p> <p>448. D. T. LAWSON, 2nd 5 years of No. 11,687, from the 28th day of August, 1885. Improvements in Means for Preventing Explosions in Steam Boilers, 13th August, 1885.</p> <p>449. H. P. FAIRFIELD, 2nd 5 years of No. 11,711, from the 3rd day of September, 1880. Improvements on Machines for Assorting Pieces of Leather, 17th August, 1885.</p> <p>450. A. G. and P. PATTERSON (Assignees), 2nd 5 years of No. 11,691, from the 30th day of August, 1885. Improvements on Grinding Mills, 19th August, 1885.</p> <p>451. J. C. WILSON (Assignee), 3rd 5 years of No. 5,148, from the 8th day of September, 1885. Improvements in Moulds for Casting Turbines, 29th August, 1885.</p> |
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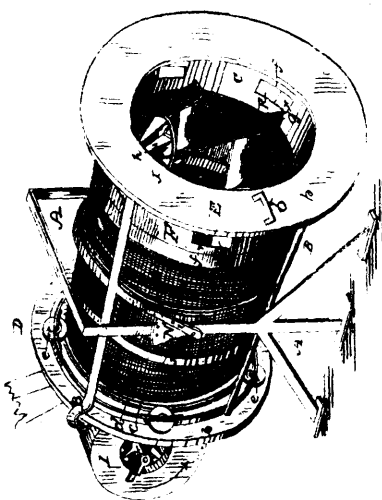
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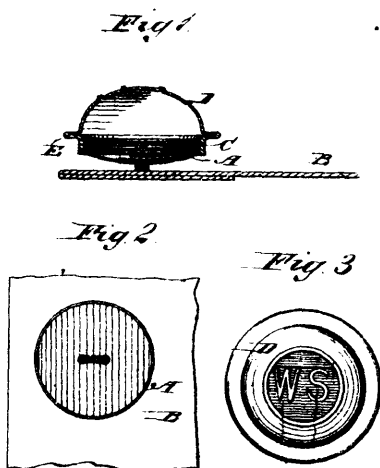
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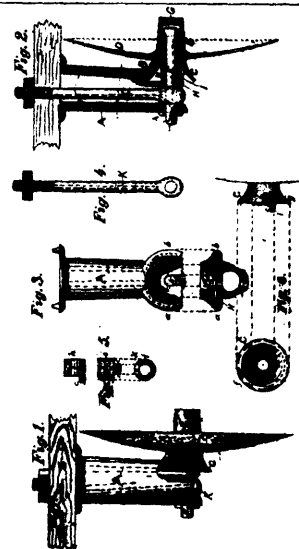
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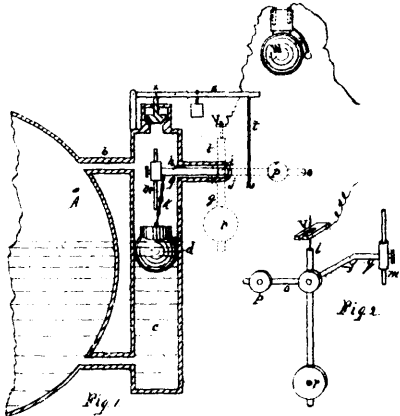
22170 Lynett's Hoes for Cleaning Grain.



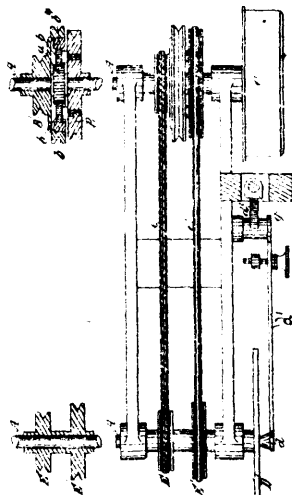
22171 Foxe's Combination Button.



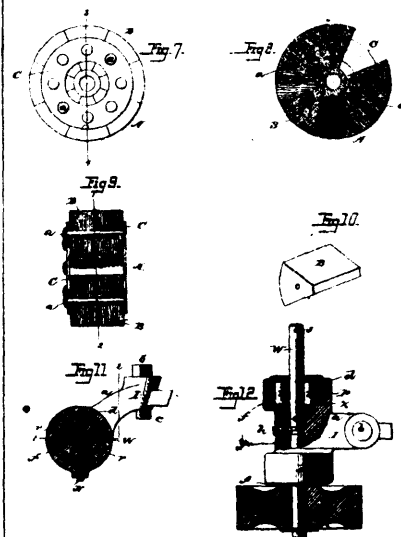
22172 Martin's Wheel Harrow and Improvements on Wheels.



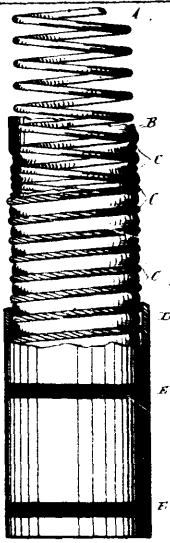
22173 Getchell's Feed Water Alarm.



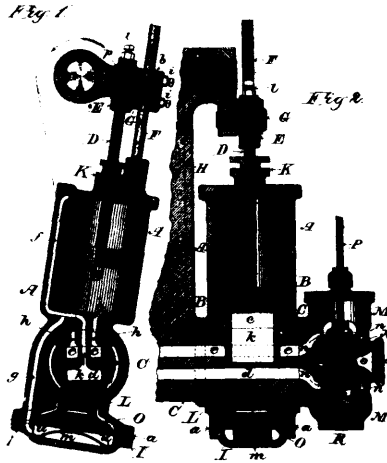
22174 Meese's Apparatus for Measuring and Continuously Recording Physical Power.



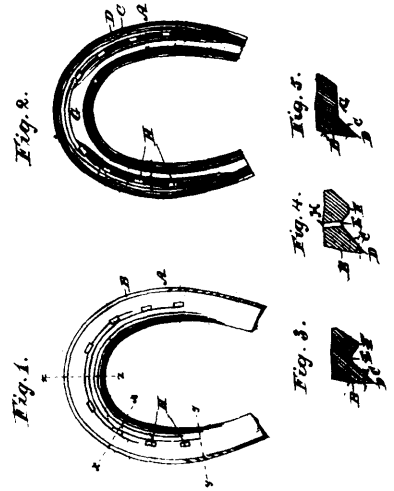
22175 Lovett's Roller Skate.



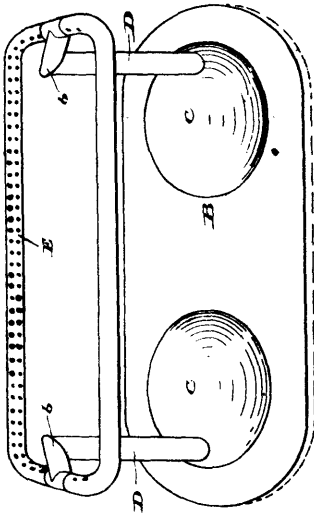
22176 Jones' Hose.



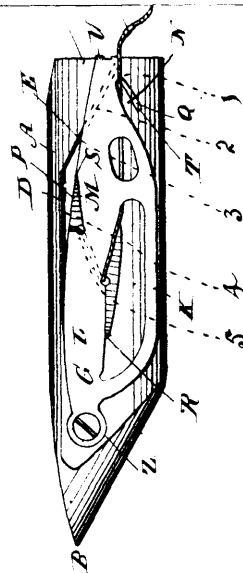
22177 Cunningham's Oscillating Engine.



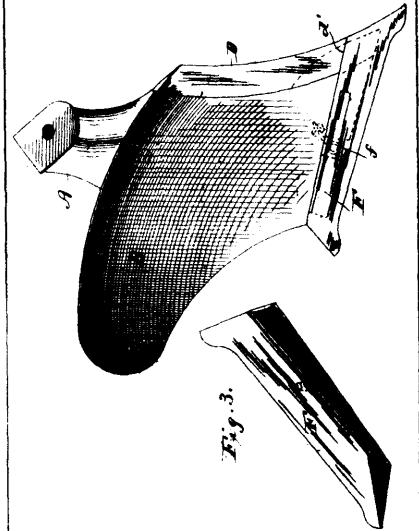
22178 Smith's Horse Shoe.



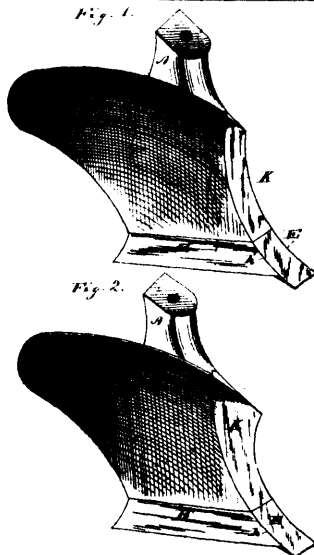
22179 Williamson's Device for Cleaning Clothes.



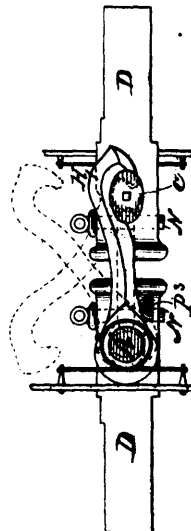
22180 Parton's Shuttle for Sewing Machines.



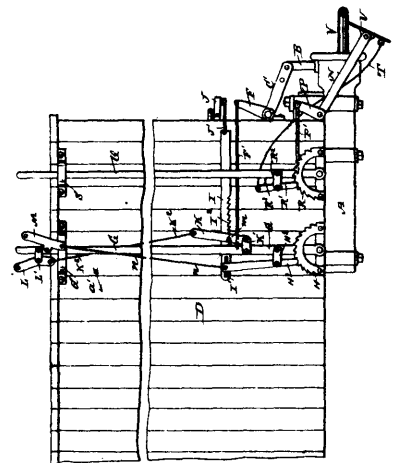
22181 Casaday's Plough.



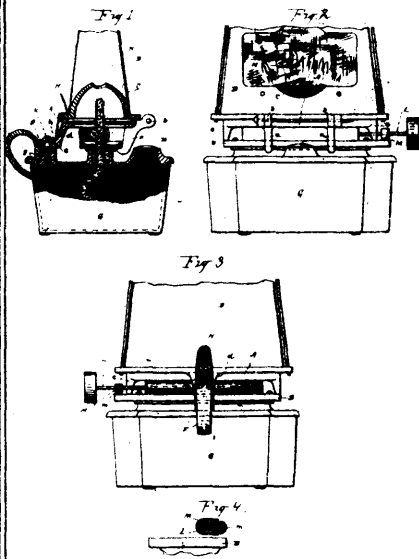
22182 Casaday's Plough.



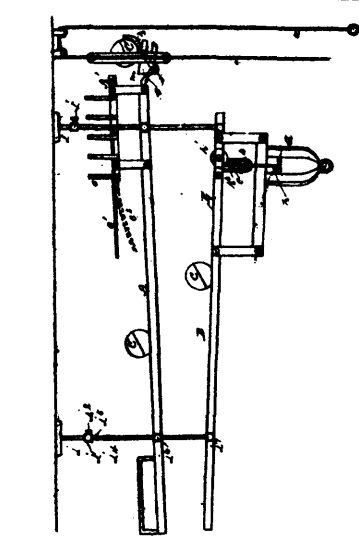
22183 Coup & McCurdy's Car Coupler.



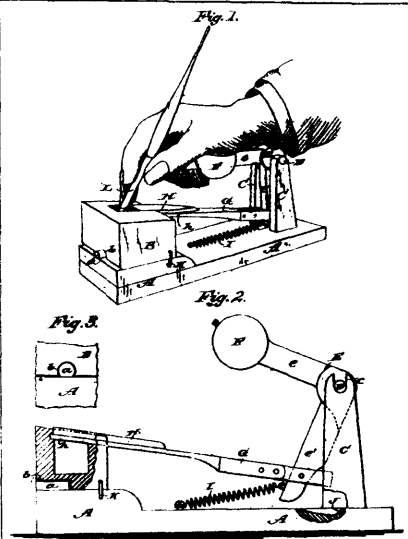
22184 Barry's Car Couplings.



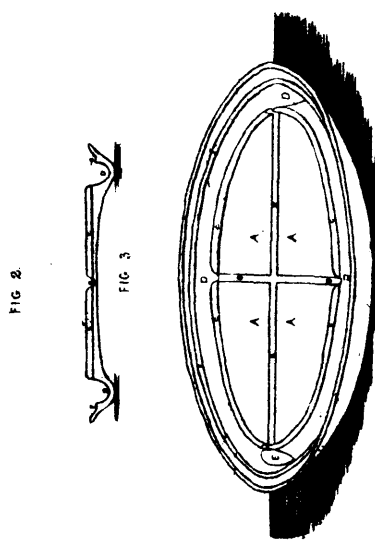
22185 McConnell's Oil Stove.



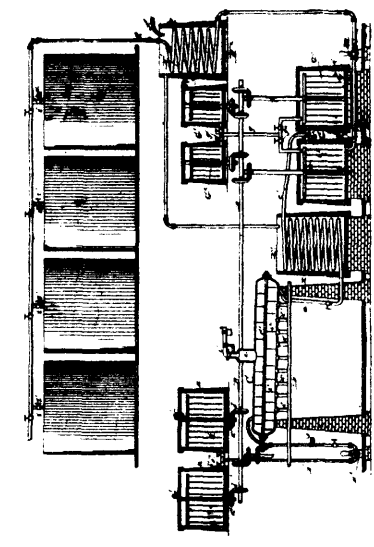
22186 Flagg's Automatic Cash Carrier.



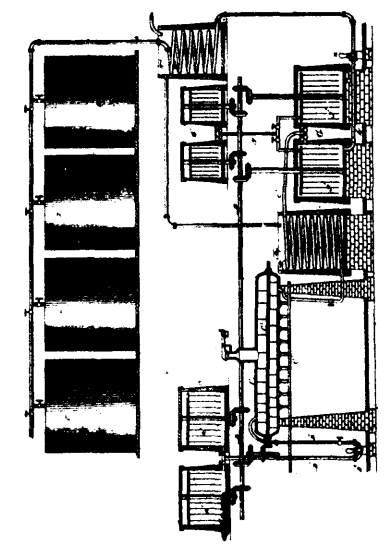
22187 Woodhouse's Ink Stand.



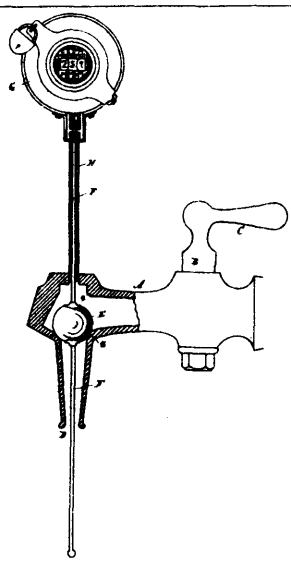
22189 Thorne's Carving Dish.



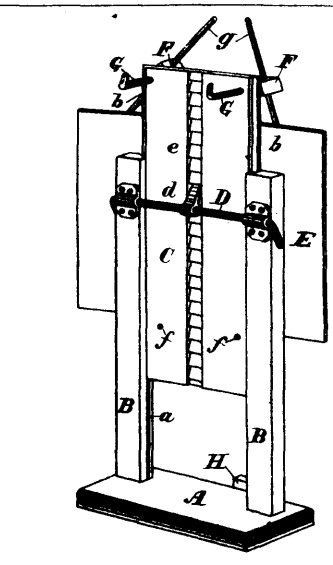
22190 Corning's Process for Making Whiskey.



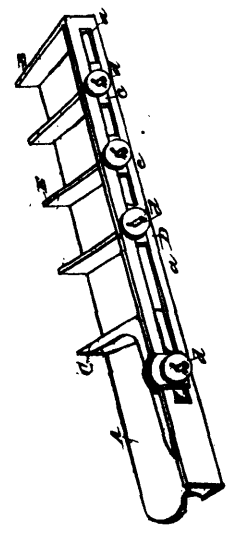
22191 Corning's Apparatus for Mashing Grain.



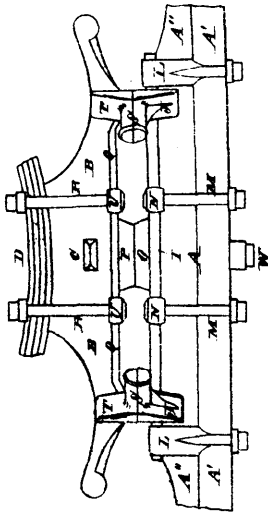
22192 Davis & Latimer's Beer Registering Faucet.



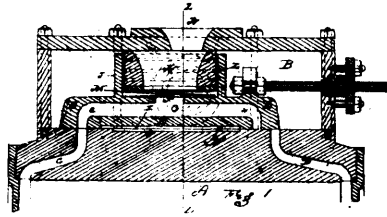
22193 Mowat's Student's Book-Rest.



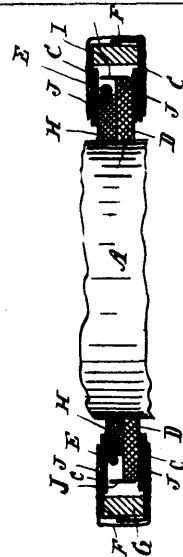
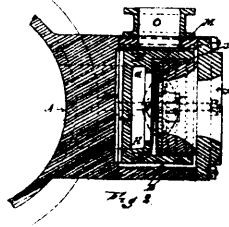
22194 Grow's Composing Stick for Printer's Use.



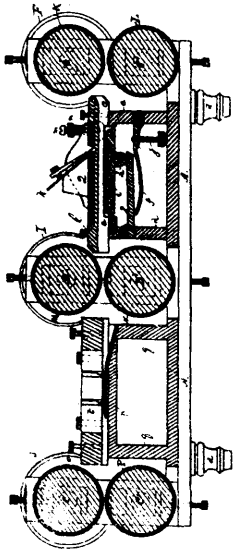
22195 McCabe's Fifth Wheel for Vehicles.



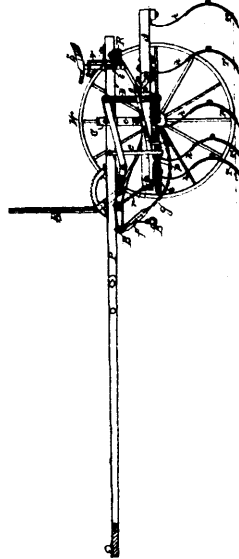
22196 Beare's Balanced Slide Valve.



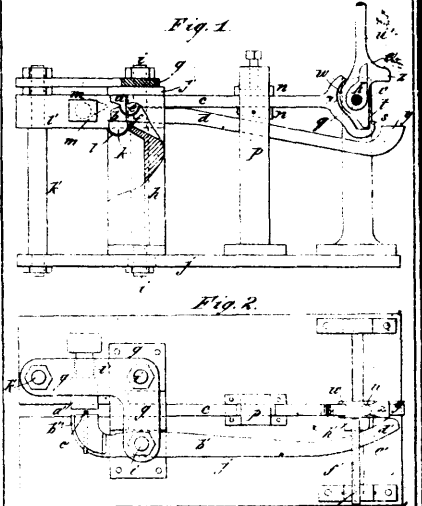
22197 Roberts' Dust Guard for Car Axle Boxes



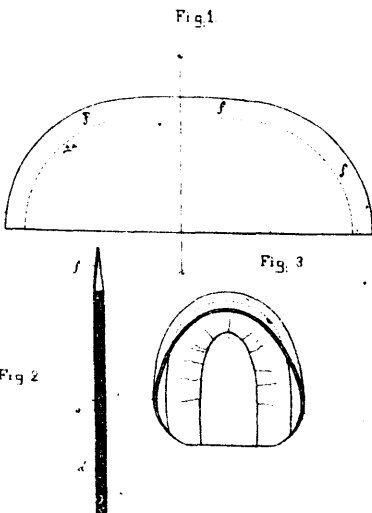
22198 Ford & Moore's Machine for Planing and Finishing thin Pieces of Wood.



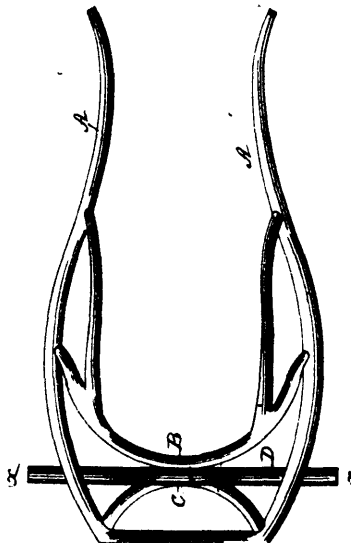
22199 Everingham's Cultivator.



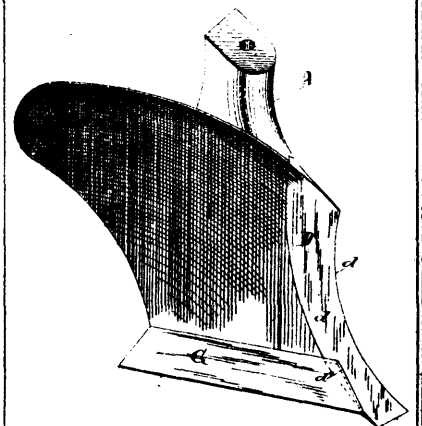
22200 Jacob's Saw Tooth Swage.



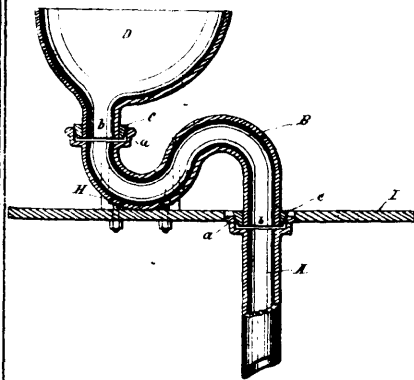
22201 Fullerton's Heel Stiffener.



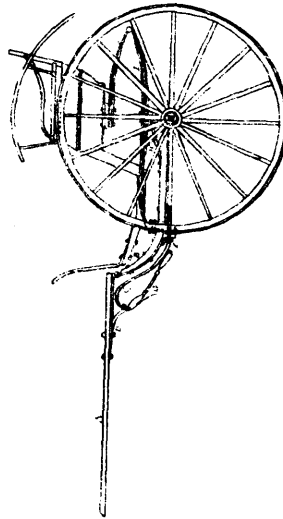
22202 Payne's Sulky.



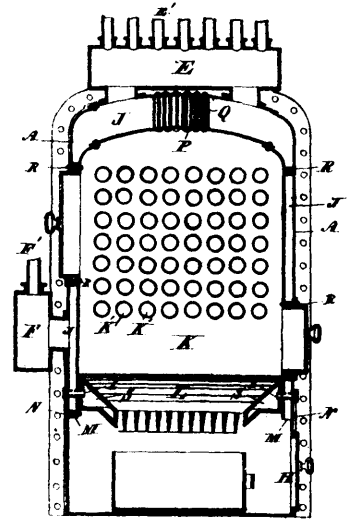
22203 Casaday's Plough.



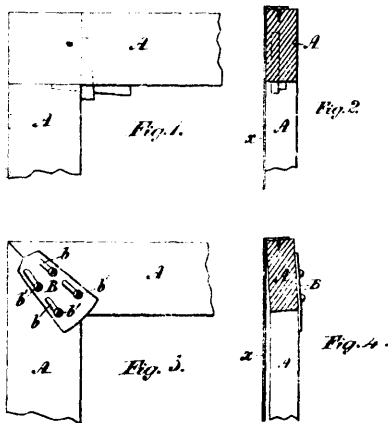
22204 Bride's Pipe Joint Packing.



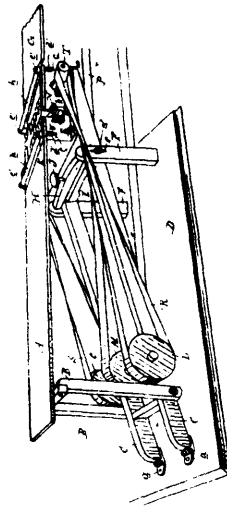
22205 Budd's Improvements on Two-Wheeled Vehicles.



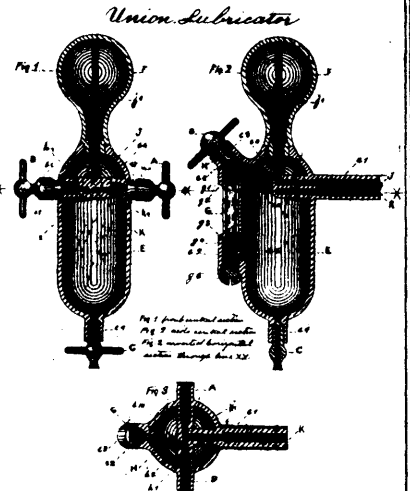
22206 Hazlett's Boilers for Hot Water Apparatus.



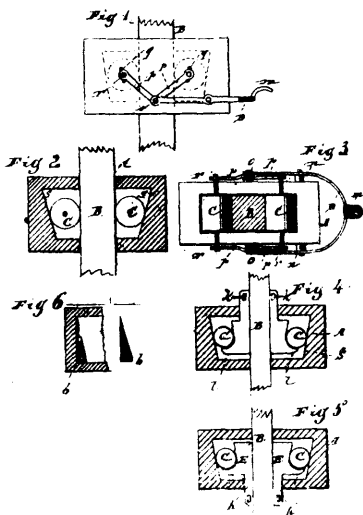
22207 Rawbone's Artist's Canvas Stretcher.



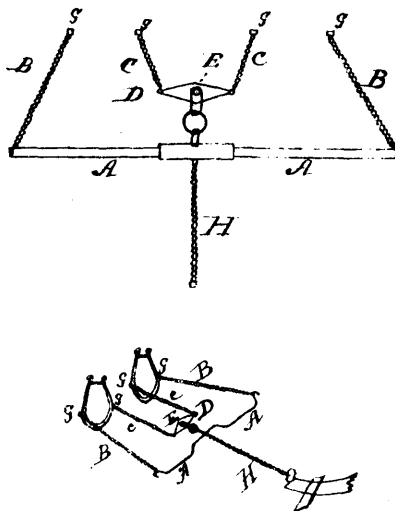
22208 Hall's Lath Machine.



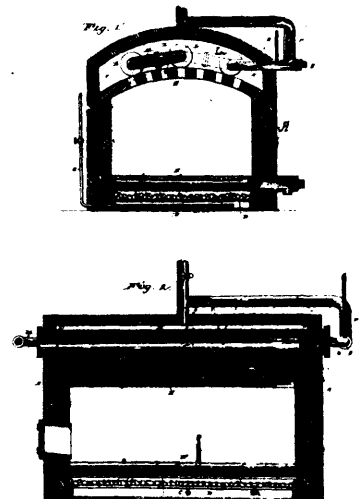
22209 Benchard's Steam Lubricator.



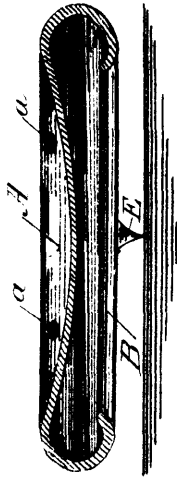
22210 Stanford's Friction Clutch.



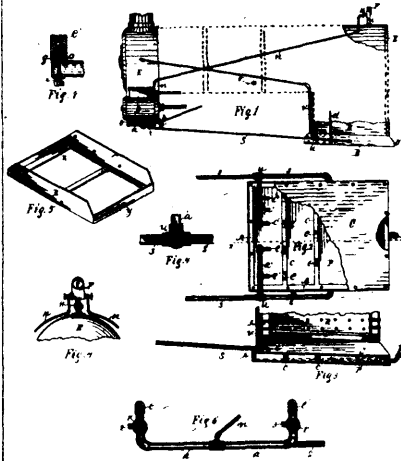
22211 Walker's Harness.



22212 Gearing's Gas Furnace.



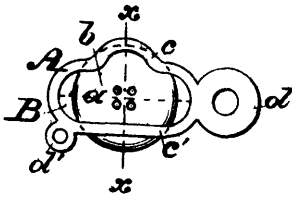
22213 Viger & Brosseau's Sound Amplificator for Pianos, etc.



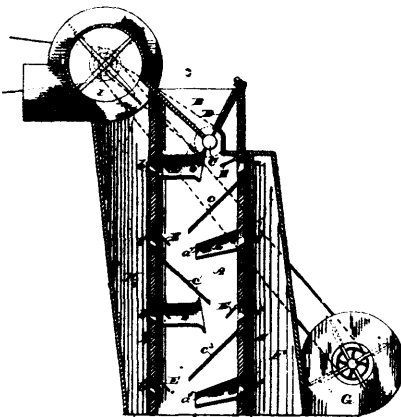
22214 Lake's Locomotive Ash Pan.



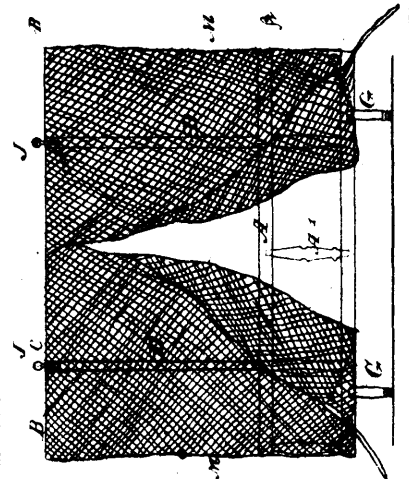
22215 Spencer's Fish Hook.



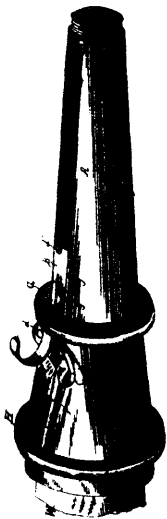
22216 Getz's Garment Fastener.



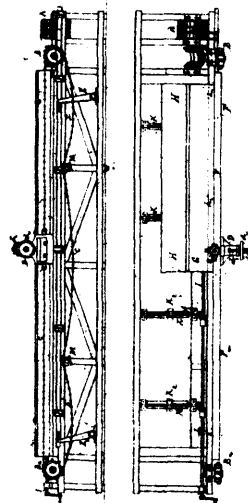
22217 Wakeford's Gravity Separator.



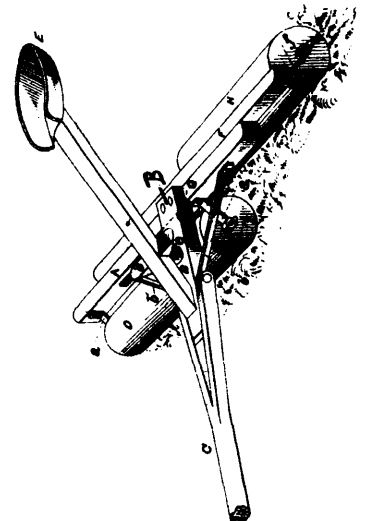
22218 Long's Crib or Cradle.



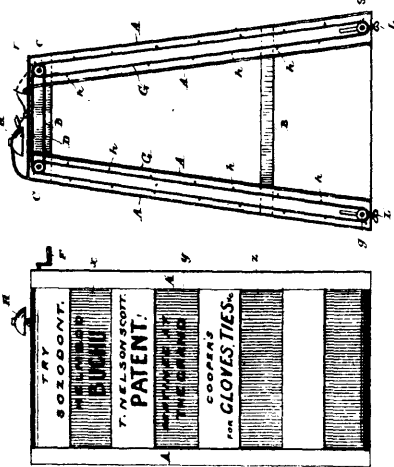
22219 Cole's Axle Lubricator.



22220 Murphy's Machine for Cutting Rubber.



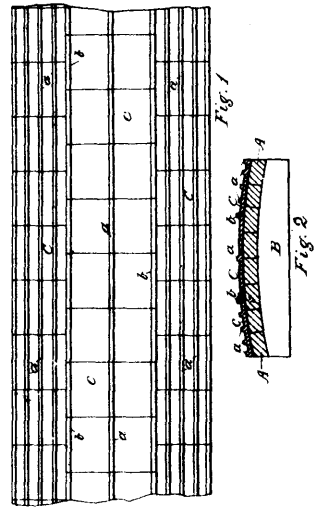
22221 Lehman's Land Roller.



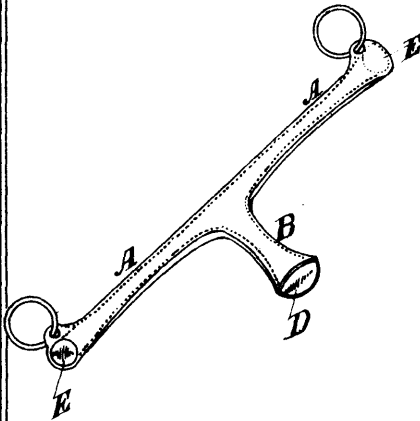
22222 Scott's Apparatus for Advertising.



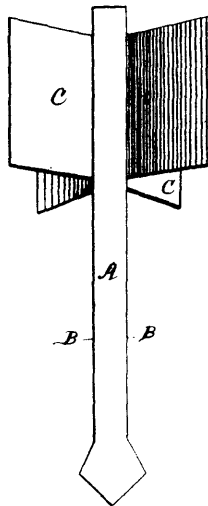
22223 Pickering's Needles for Brush Making.



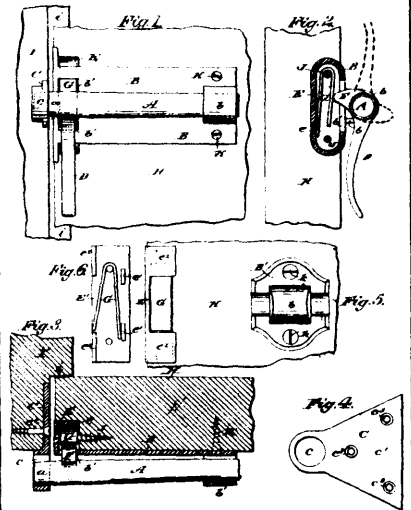
22224 Perkins' Roadway Footpath Crossing.



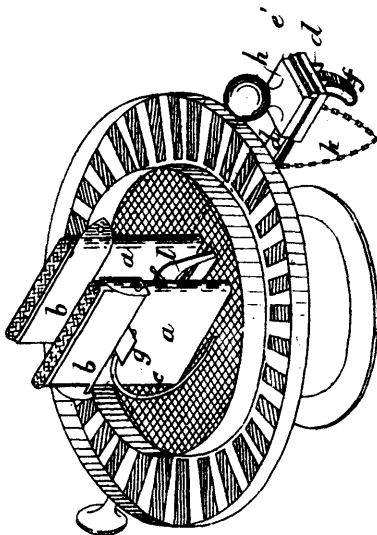
22225 Blyholder's and Jame's Bits for Wind Sucking and Cribbing Horses.



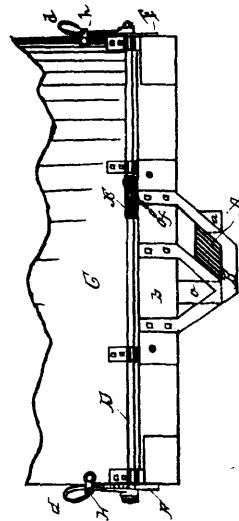
22226 Nichol's Fence Post for Wire Fences



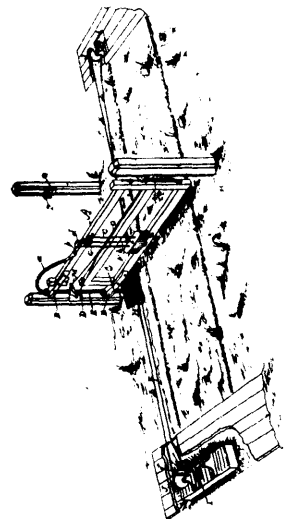
22227 Taylor's Door Bolt.



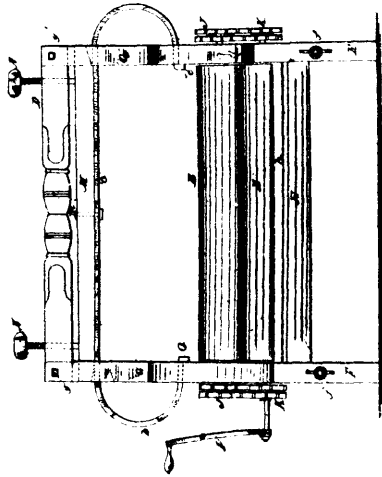
22228 Rayner's Lamp.



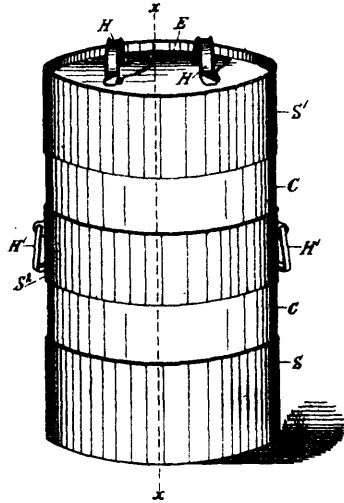
22229 Hitchcock's Car-Coupling.



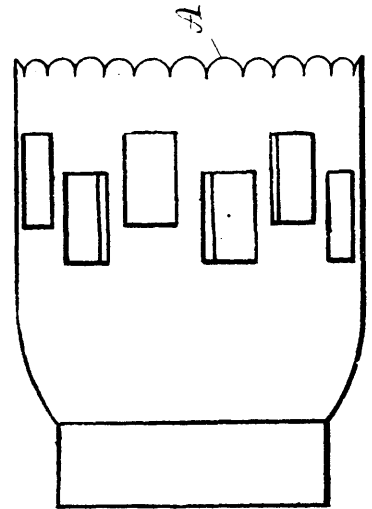
22230 Reesor's Gate Opening Device.



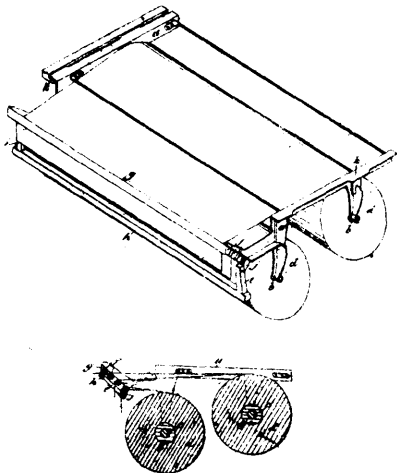
22231 Pariscaut's Clothes-Wringer.



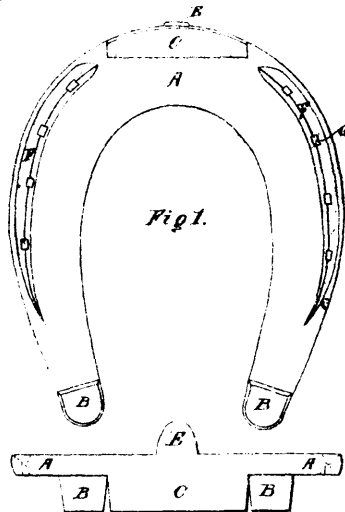
22232 Steveley's Milk Can.



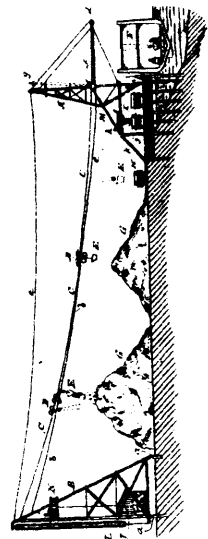
22233 Maris' Wheel Felloes or Rims.



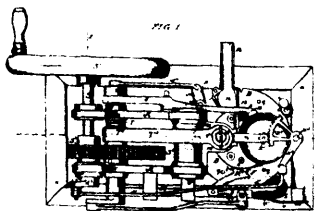
22234 Hunter & Hungerford's Machine for Holding and Cutting Rolled Paper



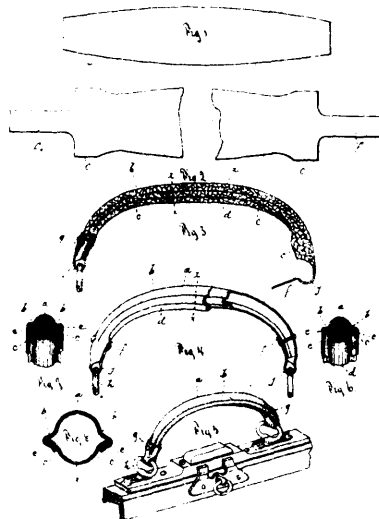
22235 Roe's Horse Shoe.



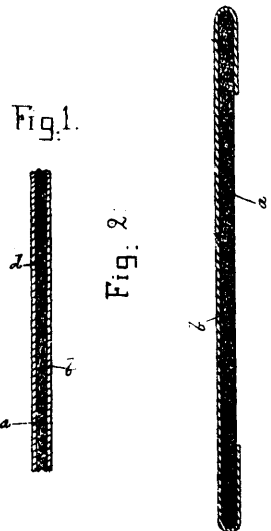
22236 Brown's Hoisting and Conveying Machine.



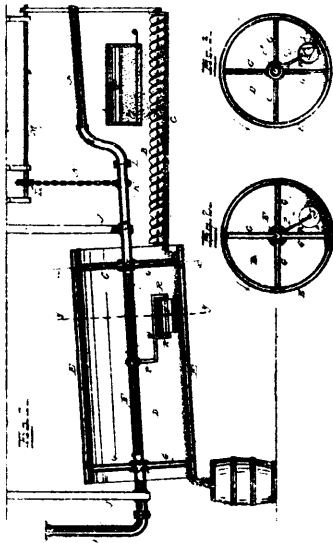
22237 McFerran's Moulding and Compressing Machine.



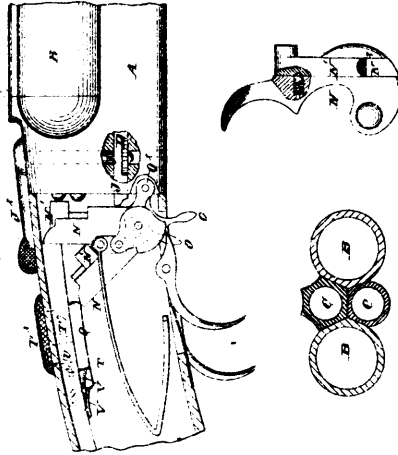
22238 Chapman's Handles for Travelling Bags, etc.



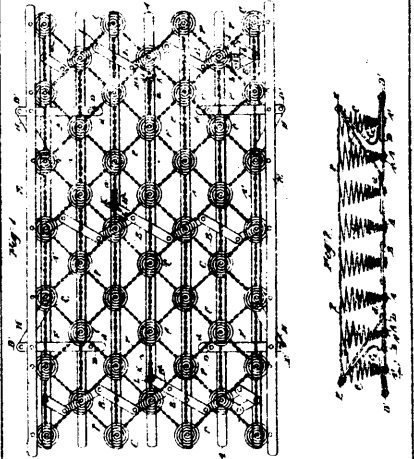
22239 Fullerton's Substitute for Leather.



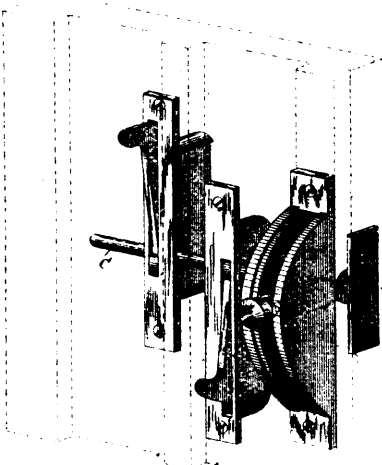
22240 Heme's Salt Drying and Granulating Apparatus



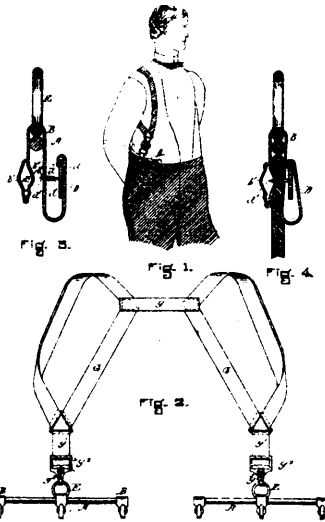
22241 Lucas & Kris's Fire Arm.



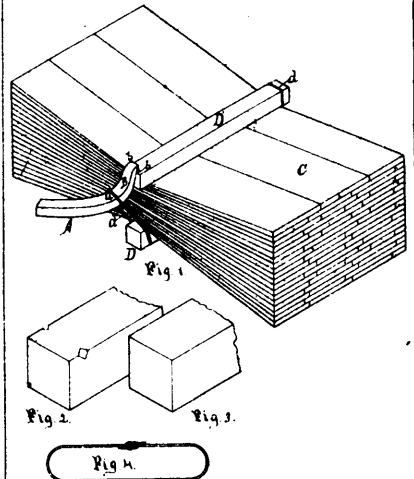
22242 Browning's Spring Bed Bottom.



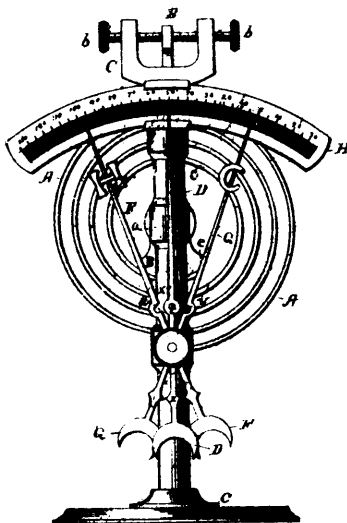
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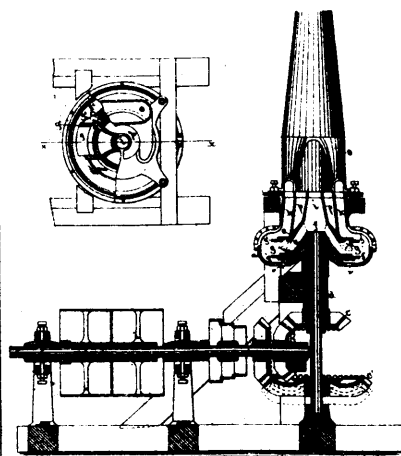
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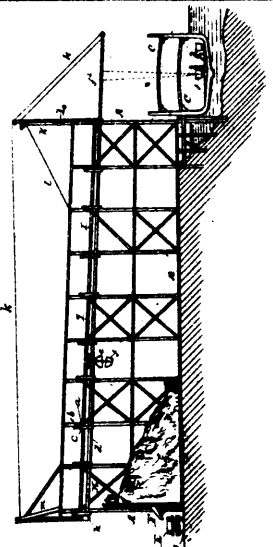
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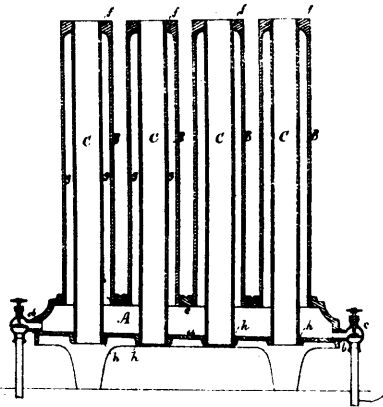
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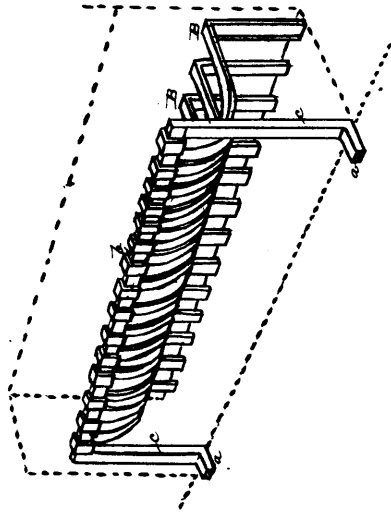
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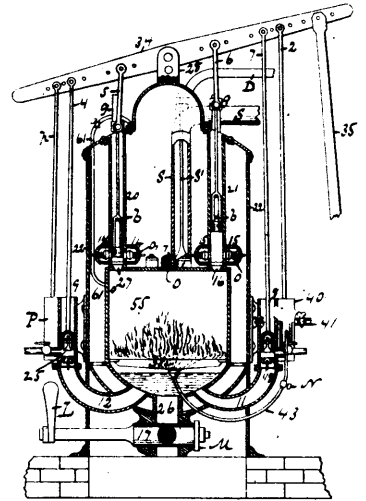
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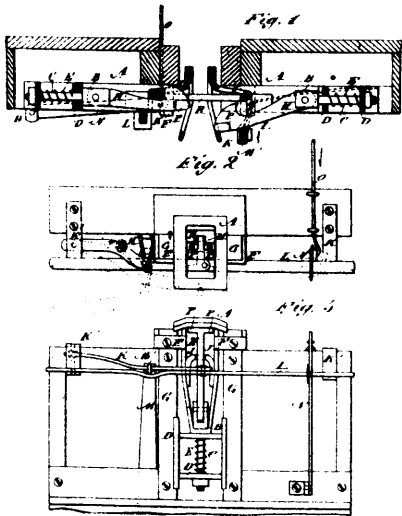
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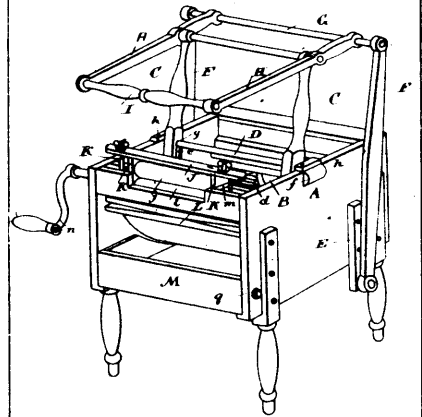
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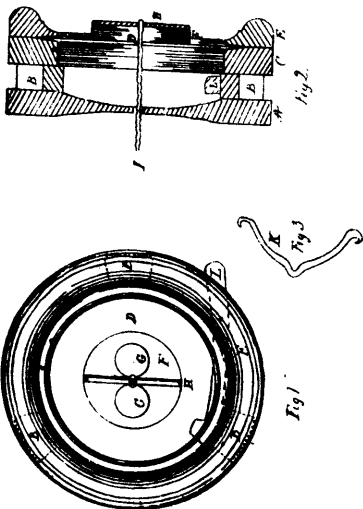
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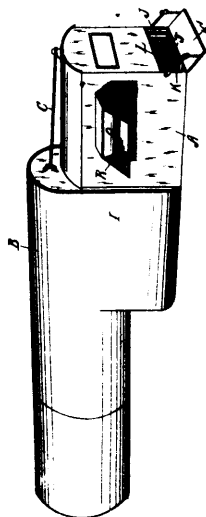
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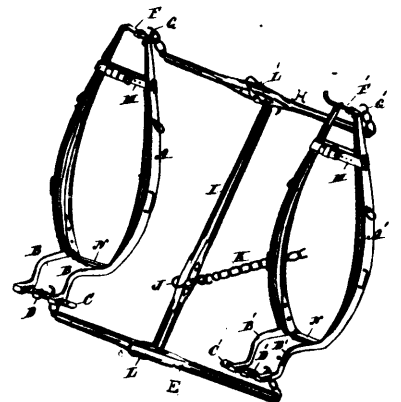
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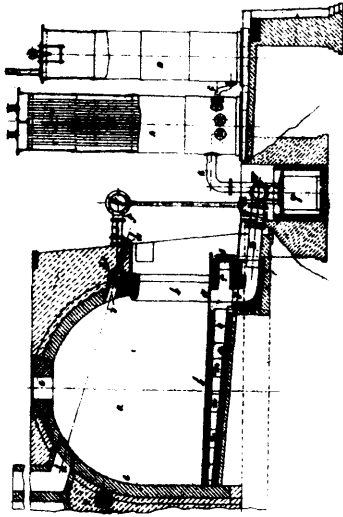
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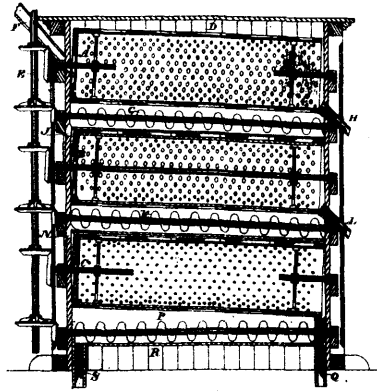
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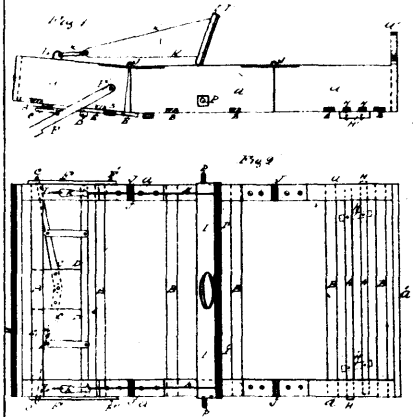
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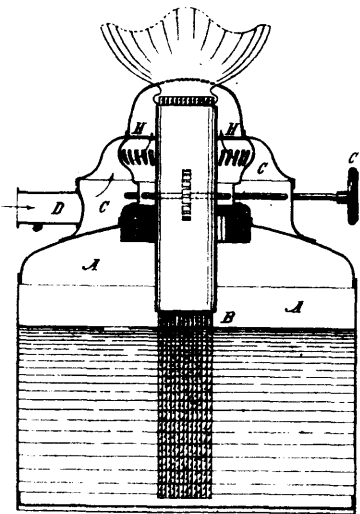
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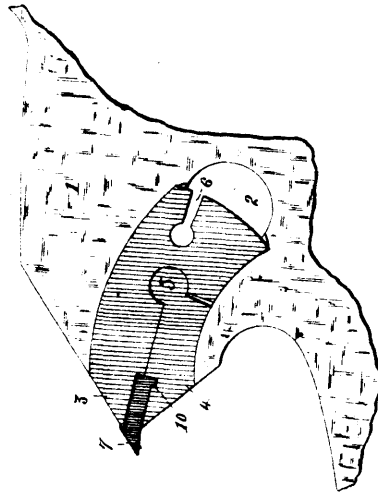
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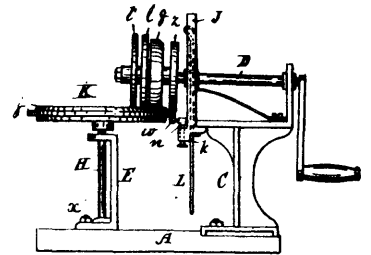
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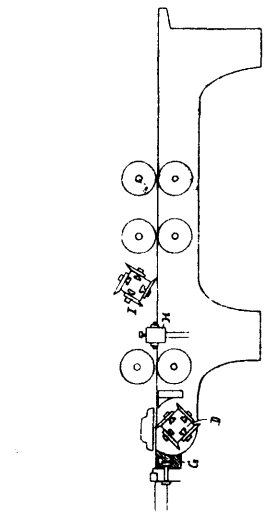
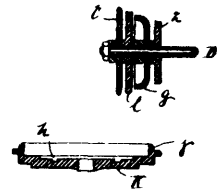
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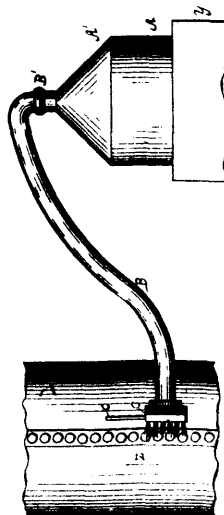
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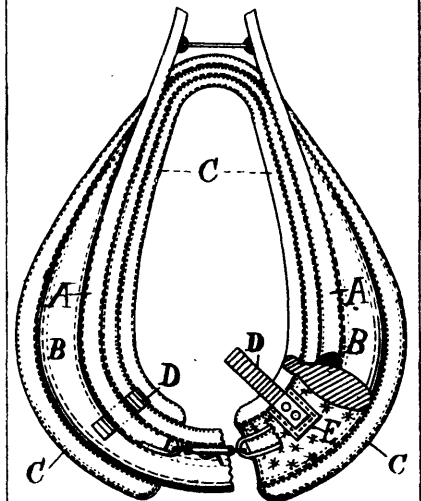
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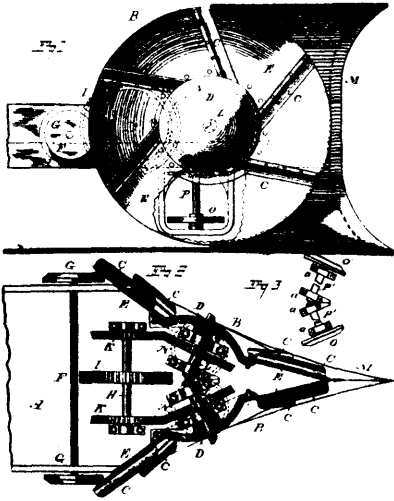
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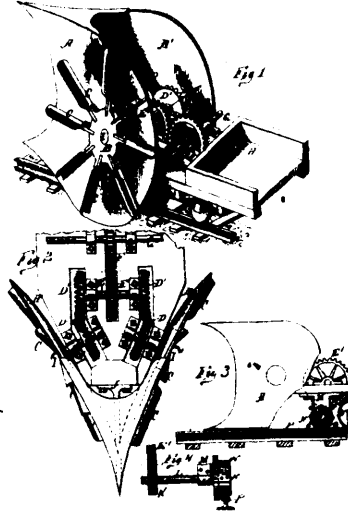
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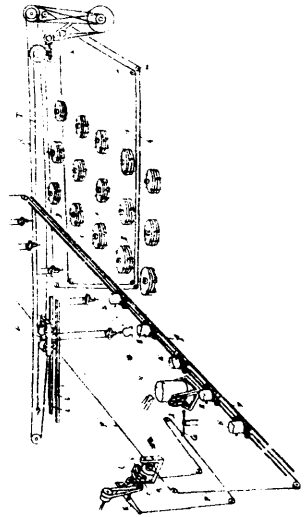
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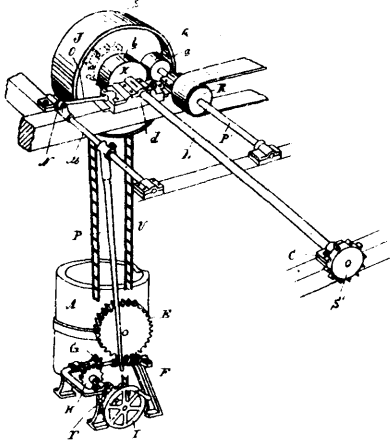
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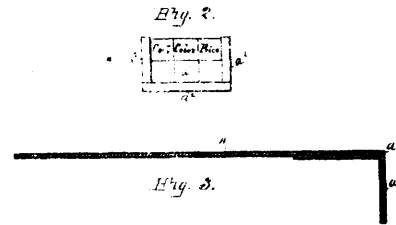
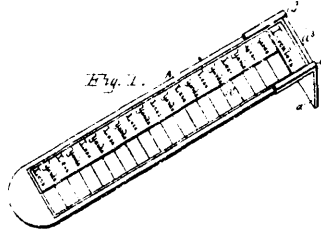
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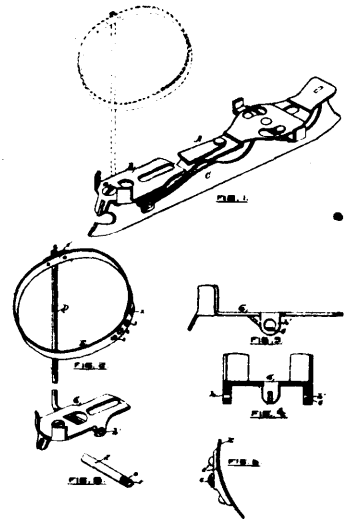
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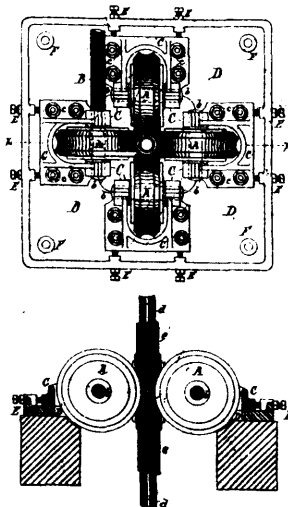
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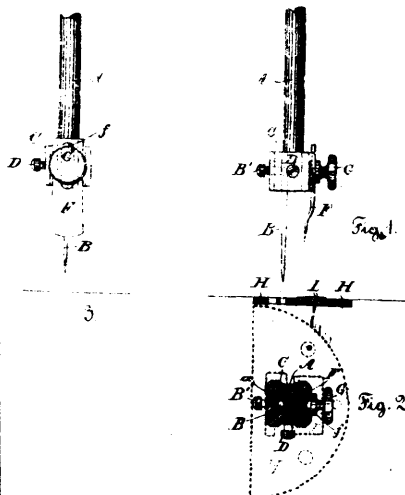
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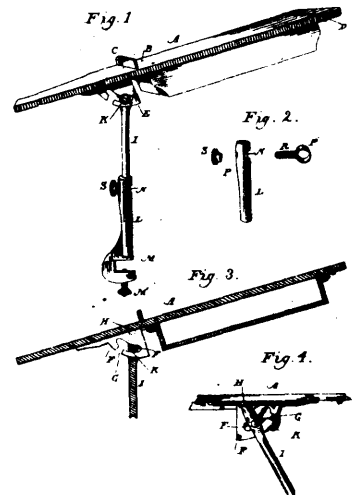
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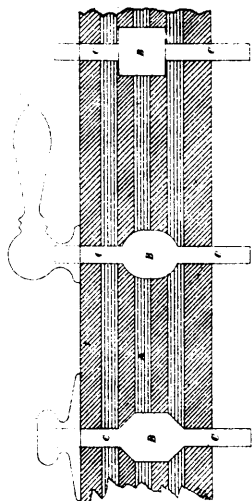
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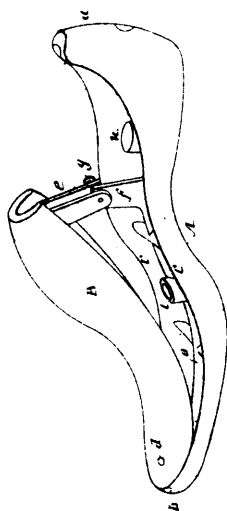
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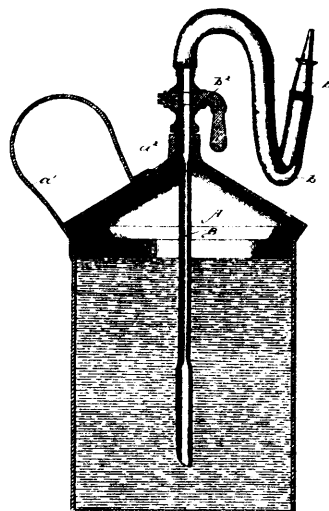
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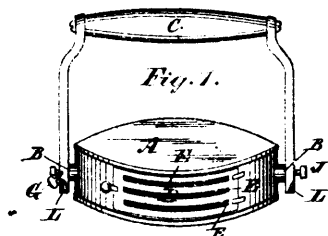


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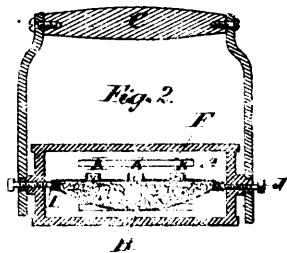
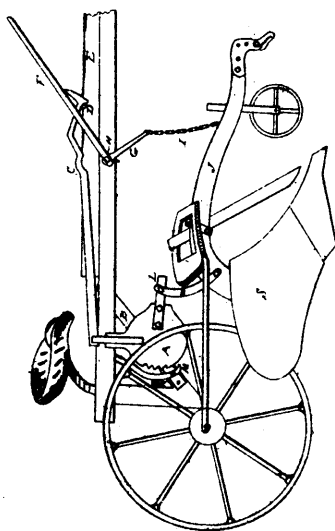
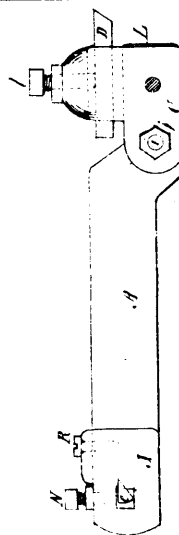


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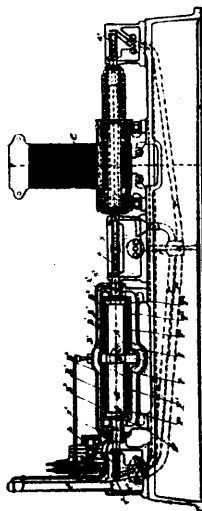
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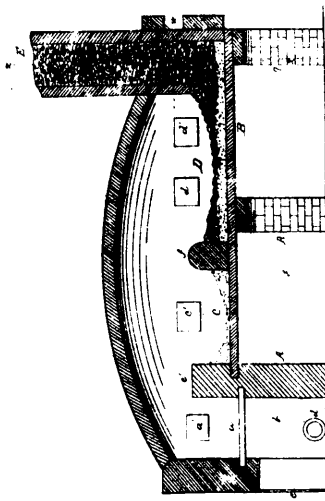
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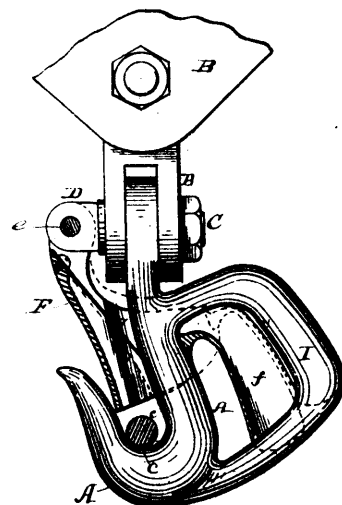
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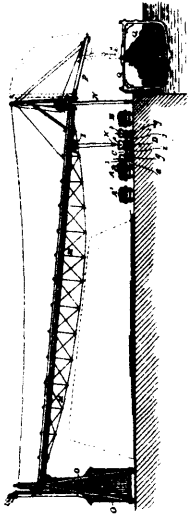
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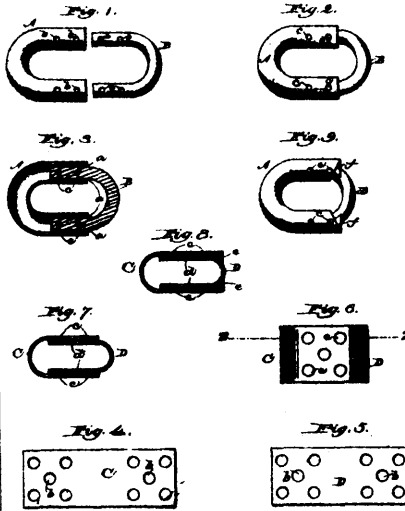
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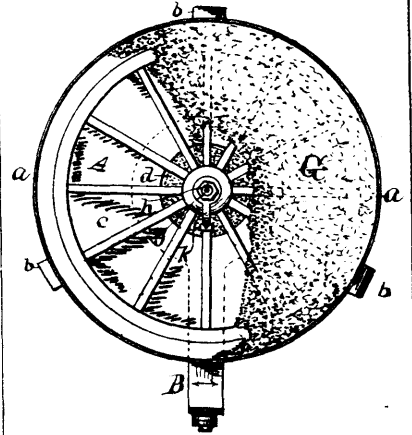
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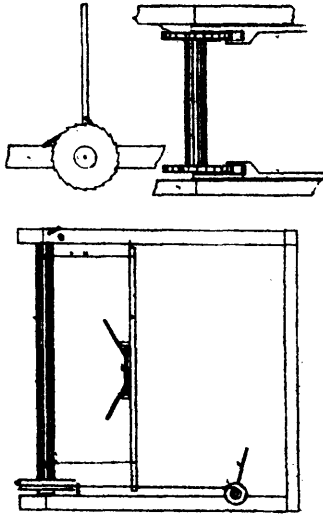
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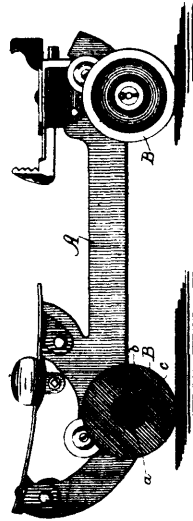
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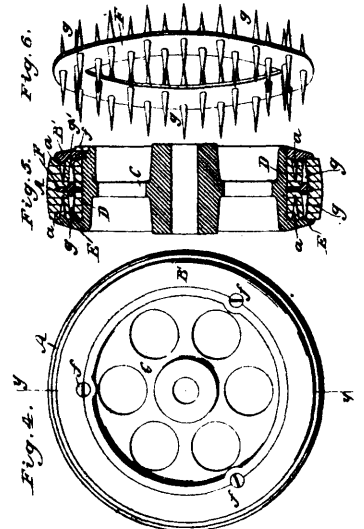
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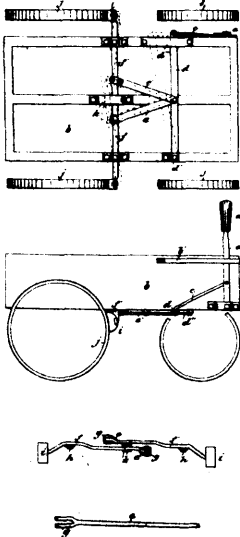
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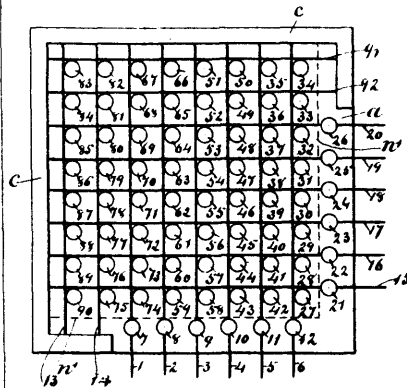
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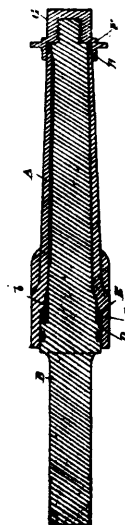
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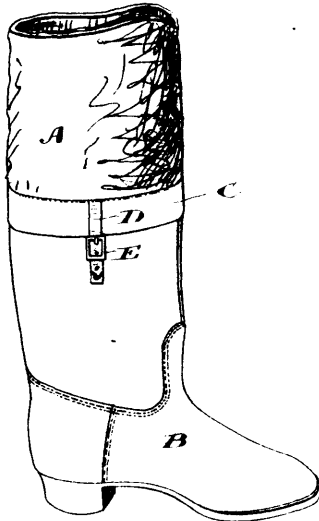
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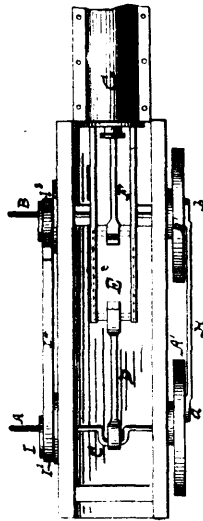
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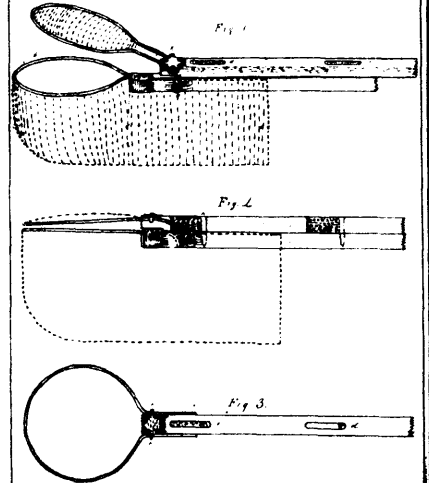
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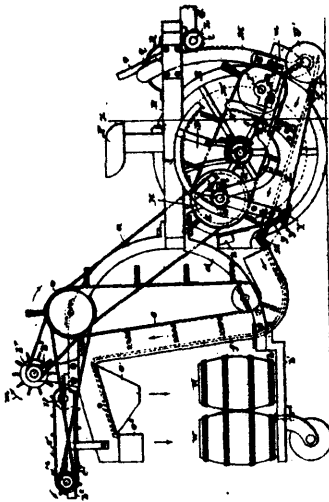
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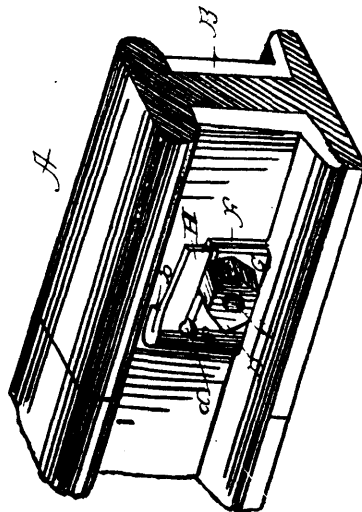
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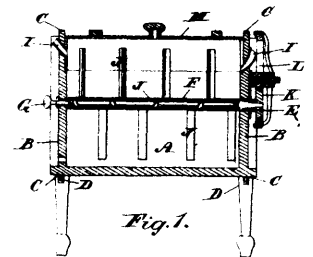
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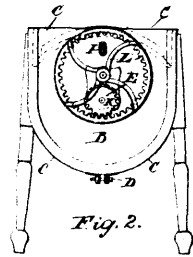
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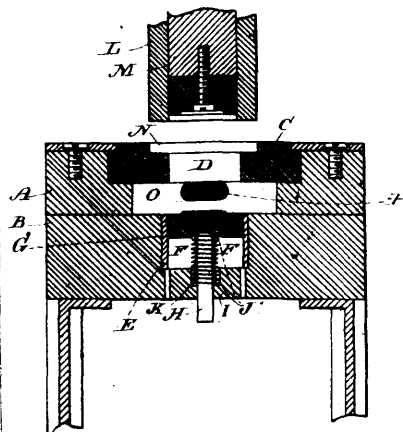
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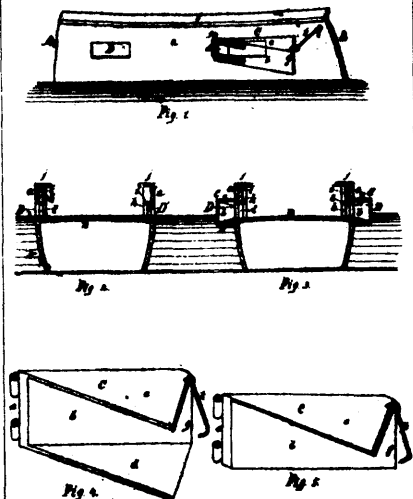
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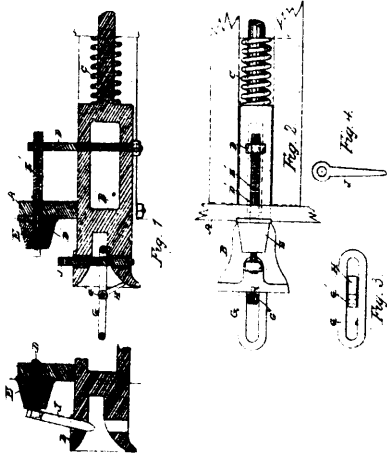
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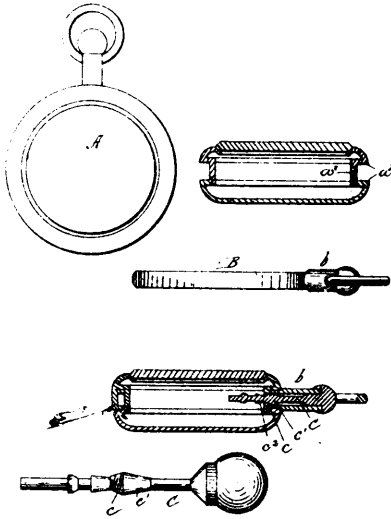
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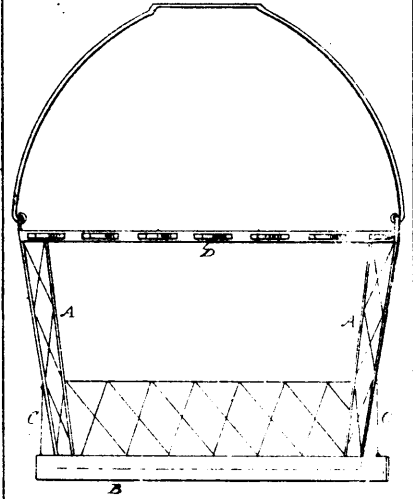
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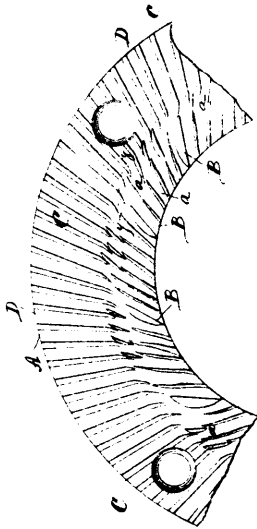
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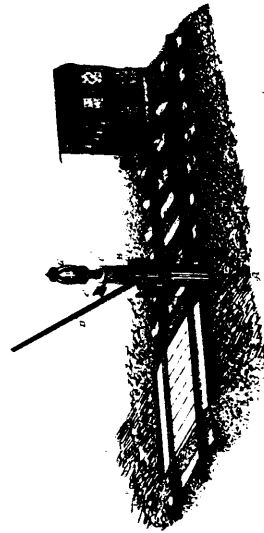
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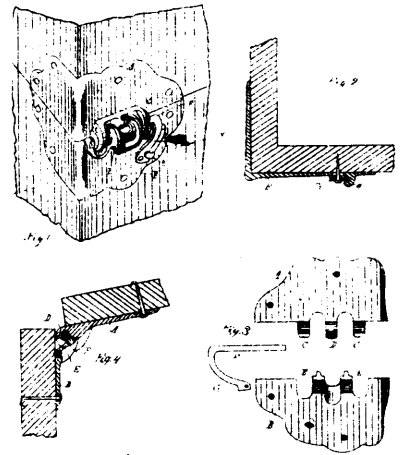
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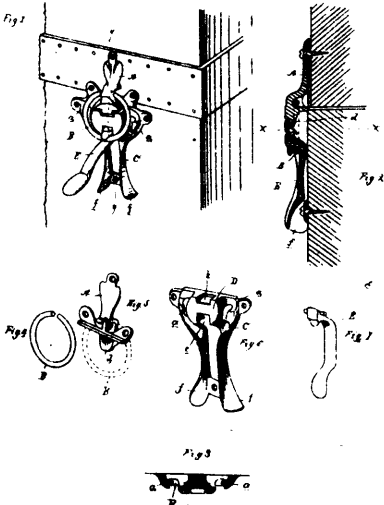
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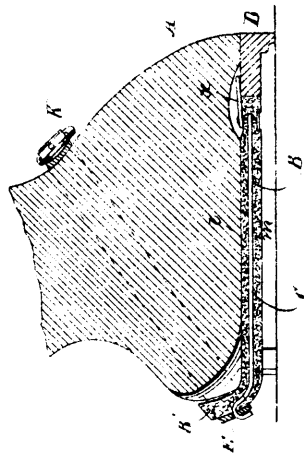
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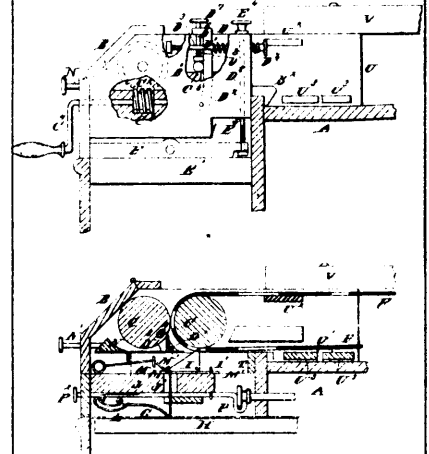
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