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# The Canadian Patent Office

## RECORD

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### INVENTIONS PATENTED.

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

#### No. 29,261. File for Letters, Papers, Bills, etc. (*Serre-papier.*)

William A. Cooke, jr., and Charles S. Cooke, Brooklyn, N.Y., U.S., 1st June, 1888; 5 years.

*Claim.*—1st. In paper files, the combination of a base and arched wire having one end connected with the base end, the opposite end free, the said wire being susceptible of longitudinal and vibratory motion in sequence, a fixed wire with which the free end of the arched wire interlocks when in alignment therewith, and a spring which steadies the movement of the arched wire and holds it when open and closed, and when its free end aligns with the fixed wire, automatically moves the arched wire longitudinally and causes its free end to interlock with the fixed wire, substantially as specified. 2nd. The combination of a base, an arched wire having one end connected with the base, and the opposite end free, the said wire being susceptible of limited longitudinal and vibratory motion in sequence, a fixed wire with which the free end of the arched wire interlocks when in alignment therewith, and a holding and steadying spring which, when the free end of the movable wire aligns with the fixed wire, automatically throws its free end into conjunction with the end of the fixed wire, substantially as specified. 3rd. The combination of two separate bases 4, 4, two separate arched transfer or keeper wires 9, 9, each having its leg *b* connected with one of the said bases, and the other end free, said wires each being susceptible of positive longitudinal and vibratory motion in sequence, fixed wires 2, 2, and bases 3, 3, the free ends of the movable wires interlocking with the fixed wires when aligned therewith, and springs which connect with the movable wires, steadying them in their movements, and holding them when open and closed, and, when their free ends align with the fixed wires, automatically move the arched wires longitudinally and cause their free ends to interlock with the fixed wires, substantially as specified. 4th. The combination of the fixed wire 2, the arched transfer or keeper wire 9, connected with a suitable base and susceptible of being moved vertically and vibrated axially therein, and provided with the foot 10, and the stop 12 having its end *k* terminated short of a line joining the adjacent side of the foot 10, and the fixed wire, substantially as specified. 5th. The combination of a fixed wire, an arched transfer or keeper wire connected with a suitable base and susceptible of being moved longitudinally and vibrated axially in its base, and provided with a foot 10, and a stop 12 having its end *k* terminated short of a line joining the adjacent side of the foot and the fixed wire, and provided with a stop *c*, substantially as specified. 6th. The combination of a fixed wire, an arched transfer or keeper wire connected with a suitable base and susceptible of longitudinal and vibratory movement therein, and provided with a foot 10, and a stop 12 having a horizontal edge *f*, and inclined edge *g*, substantially as specified. 7th. The combination of a fixed wire, an arched transfer or keeper wire connected with a suitable base, and susceptible of longitudinal and vibratory movement therein, and provided with a foot 10, a stop 12, a stop 13, and a slot 14 between the stop 12 and the adjacent end of the stop, substantially as specified. 8th. The combination of the arched transfer or keeper wire connected with a suitable base and susceptible of being moved vertically and vibrated axially therein, and provided with a foot 10, the stop 12 and the spring *e*, substantially as specified. 9th. The combination of the fixed wire, the longitudinally movable and vibratory transfer or keeper wire provided with the foot 10, the hollow pyramidal base 4, and the foot plate 11 provided with the step 12, substantially as specified. 10th. The combination of the fixed wire, the longitudinally movable and vibratory transfer or keeper wire provided with the foot 10, the hollow pyramidal base 4, and the foot plate 11 provided with the step 12 and stop 13, and the foot notch or slot 14 between them, substantially as specified. 11th. The combination of the two fixed wires, the movable transfer or keeper wires, the hollow pyramidal bases 4, 4, and the detachable plate 11, with the steps 12, 12, and stops 13, 13 cast thereon, substantially as specified. 12th. The combination of the tubular sleeve or guide 7 with the longitudinally moving and laterally vibrating transfer or keeper wire connected with a suitable base, substantially as specified.

#### No. 29,262. Transferring Paper File and Binder. (*Serre-papier et reliure.*)

William A. Cooke, jr., and Charles S. Cooke, Brooklyn, N.Y., U.S., 1st June, 1888; 5 years.

*Claim.*—1st. A transferring file for detaching papers from a temporary file, conveying them to, and connecting them with, the fixed members of a binder, consisting of two tubes united together at the lower ends by a bar, substantially as specified. 2nd. A transferring file for taking papers off a temporary file, and connecting them with the fixed members of a binder, consisting of a tube provided with an enlarged base, substantially as specified. 3rd. The combination of the transferring file composed of united tubes 20, 20, which form the detachable members of the binder, with the wires 17, 17, having balls *k* on the ends, and the studs 18, 18, substantially as specified. 4th. The combination of the transferring file composed of united tubes 20, 20, and the fixed wires of a temporary binder, substantially as specified. 5th. The sequent combination of the tubular transferring file, the fixed wires of a temporary file, and the fixed members of the binder, substantially as specified. 6th. The combination of the fixed arched wires 17, 17, having balls *k* on their ends, the plate B, the studs 18, 18, and the detachable tubes 20, 20, forming transferring files, substantially as specified. 7th. The combination, in a binder, of the fixed arched wires 17, 17, having balls *k* on the ends, the plate B, the studs 18, 18, stops 19 and detachable members 30, substantially as specified. 8th. The transferring file consisting of a tube having a longitudinal slit and an enlarged base, substantially as specified. 9th. The combination of the fixed members of a binder, and the detachable member forming also the transferring file connected rigidly at both ends with the fixed member, substantially as specified.

#### No. 29,263. Paper Filing Index.

(*Index serre-papier.*)

William A. Cook, jr., Brooklyn, N.Y., U.S., 1st June, 1888, 5 years.

*Claim.*—1st. In paper filing indexes, a series of disconnected leaves of equal length and having the index letters on opposite edges, substantially as specified. 2nd. An index composed of leaves having the index letters attached to opposite edges, and on both sides of each leaf, the letters on the reverse side being in an inverted position relatively to the letters on the obverse side, substantially as specified. 3rd. In interlocking index composed of leaves having index letters on both sides of opposite edges of the leaves, and having the letters on the reverse side inverted and the next in order to the letters on the obverse side, substantially as specified. 4th. An index composed of detached leaves and consisting of two divisions, the leaves in each division being provided with index letters, the letters of one division being on the opposite edges from the letters in the other division, substantially as specified. 5th. In combination with a letter file, composed of fixed and movable wires, index leaves provided with perforations on one edge for the wires, and index letters on both sides of the edges of the leaves, the letters on one side being in a reversed position from those on the other side so that the index letters are visible when the leaves are on either the fixed or movable wires, or part on one and part on the other, substantially as specified.

#### No. 29,264. Manufacture of Boots and Shoes. (*Fabrication des chaussures.*)

Fabien Rivard, Louis Chevalier and Honoré Météyor, Montreal, Que., 1st June, 1888; 5 years.

*Claim.*—The art of manufacturing moccasin boots or shoes, consisting in sewing the sole to the upper and insole prior to forming the latter on the last, and while it is yet in a flat or extended condition, substantially as herein described and for the purpose set forth.

#### No. 29,265. Machine for Lasting Boots and Shoes. (*Machine à enformer les chaussures.*)

The Shoe Lasting Machine Company, New York, N.Y., (assignee of Frank Chaso, Boston, Mass.), U.S., 1st June, 1888; 5 years.

*Claim.*—1st. The combination of the wiper carriage, the wipers, the freely oscillatory clasp supports mounted on said carriage but disconnected from, and movable independently of said wipers, and the

flexible or pliable clasp G, attached to said supports by its ends only, substantially as and for the purposes hereinbefore set forth. 2nd. combination of the wiper carriage, the flexible or pliable clasp G, the oscillatory clasp supports, and the slides to which said supports are pivoted, said oscillatory clasp supports and slides being disconnected from, and movable independently of the said wipers, substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the wiper carriage, the flexible or pliable clasp G, the oscillatory clasp supports, the slides to which said supports are pivoted, and the slide operating adjusting mechanism, said oscillatory clasp supports, slides and slide operating and adjusting mechanism being disconnected from, and movable independently of said wipers, substantially as and for the purposes hereinbefore set forth. 4th. The pivoted clasp supporting arms I and the flexible or pliable clasp G, in combination with back stops for preventing undue spreading apart of said arms, substantially as hereinbefore set forth.

### No. 29,266. Machine for Lasting Boots and Shoes. (*Machine à enformer les chaussures.*)

The Shoe Lasting Machine Company, New York, N.Y., (assignee of Frank Chase, Boston, Mass.), U.S., 1st June, 1888; 5 years.

*Claim.*—1st. The combination of the toe wipers, the retarder capable of oscillatory movement to adapt itself to inequalities in the upper, and the hold-down vertically movable independently of said retarder, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the retarder, its movable supporting frame, the hold-down vertically movable in said frame independently of the retarder, and means, substantially as described, for forcing down the hold-down, substantially as and for the purposes hereinbefore set forth. 3rd. The combination, with the toe wipers, of the adjustable side toe clamps arranged and adapted to bear from opposite sides against the toe end of the last, substantially as and for the purposes hereinbefore set forth. 4th. The combination, substantially as hereinbefore set forth, of the toe wiper, the hold-down and retarder mechanism, and the adjustable side toe clamps. 5th. The longitudinally movable and laterally tilting lasting carriage E, in combination with means, substantially as described, for adjusting said carriage both longitudinally and laterally, as hereinbefore set forth. 6th. The combination of the bar G, the wiper carriage adapted to slide and turn thereon, the carriage advancing and retracting mechanism, and means, substantially as described, whereby the carriage may be laterally tilted and held in such tilted position upon the bar, as and for the purposes hereinbefore set forth. 7th. The bar or rail G pivoted at its rear end, and the wiper carriage mounted and adapted both to slide and to turn on said rail, in combination with means, substantially as described, for lifting or lowering the front end of said rail. 8th. The combination of the bar or rail G, the wiper carriage mounted and adapted both to slide and to turn thereon, and mechanism, substantially as described, whereby each end of the bar or rail may be raised or lowered independently of the other, substantially as and for the purposes hereinbefore set forth. 9th. The combination, with the wiper carriage and the two independent slide bars O, R, of the wipers carrier by the slide R, the arms M and links N, connecting slide O with the wipers, for the purpose of opening and closing the latter, and the links connecting the pivoted arms M of slide O with slide R, for the purpose of advancing and retracting the latter, substantially as and for the purposes hereinbefore set forth. 10th. The pliable clasp G, composed of one or more chains joined at the ends to their supporting carriage, faced with leather or other smooth pliable material, and provided with a central guide, or supporting stem, substantially as and for the purposes hereinbefore set forth. 11th. The adjustable side toe clamps provided with pivoted or swivelled pressure pads, as and for the purposes hereinbefore set forth.

### No. 29,267. Hydrocarbon Oil Burner. (*Foyer à hydrocarbures.*)

James Sangster, (assignee of Charles E. Burbank), Buffalo, N.Y., U.S., 1st June, 1888; 5 years.

*Claim.*—In a vapour or gas generator for burning oil, a retort provided with a refuse receptacle at its inlet end, and means, substantially as described, for getting at the interior of the receptacle to clean it, in combination with a rear refuse receptacle, a perforated burner tube connected with said receptacle, and with a vertical tube within the receptacle provided with a conical deflecting cap, for the purposes described.

### No. 29,268. Coal Hod. (*Seau à charbon.*)

Edward Barrath, Cincinnati, Ohio, U. S. 1st June, 1888; 5 years.

*Claim.*—1st. The combination of the body A having a lap, the foot C having a lap, and the bottom B having a lap embracing the laps of the body and foot, substantially as described. 2nd. The combination of the body A having lap formed with an in-turned part a, upturned part a', and outturned part a'', the foot C having lap formed with an in-turned part c, upturned part c', and out-turned part c'', and the bottom B having a lap formed with a downward part b, an in-turned part b', embracing the out-turned parts of the body and foot, substantially as described.

### No. 29,269. Manufacture of Canoes. (*Fabrication de canots.*)

William English, Peterborough, Ont., 1st June, 1888; 5 years.

*Claim.*—The combination, with the strips A forming the body of the canoe, of pieces of compressed wood B inserted into grooves formed in the edge of each strip, substantially as and for the purpose specified.

### No. 29,270. Copying Machine. (*Machine à copier.*)

William Harkins, Chicago, Ill., U.S., 1st June, 1888; 15 years.

*Claim.*—1st. The combination of the frame A, hinged to the base

board K by the hinges k, k, and hinge plates e, e, and being made of the holder D, binder R and stretcher F, with the stoncil B and ink pad L, substantially as described and for the purpose set forth. 2nd. The combination of the frame A with the stoncil material B, oiled paper C, and stoncilling material C, substantially as described and for the purpose set forth. 3rd. The combination of the frame A with a stylus, the stoncil material B, the stoncilling material C and the oiled material C, substantially as described and for the purpose set forth. 4th. The combination of the stoncil B, stoncilling fabric C, oiled paper C, with the keys and platen of a typewriter, substantially as described and for the purpose set forth. 5th. As a new article of manufacture, a stoncil made of a centre of porous paper and a border of paper impermeable to ink, the two held together by a coating of paraffin or like material, substantially as described and for the purpose set forth. 6th. The detached rubber tubing f, in combination with the tongues e, e, and grooves d, d, of the frame A and the materials B and C, substantially as and for the purpose set forth. 7th. A stoncilling material C made of flexible material, so as to conform to curved surfaces as the platen of a typewriter, substantially as described and for the purpose set forth. 8th. As a new article of manufacture, a typewriter ribbon made of silk bolting cloth, substantially as described and for the purpose set forth.

### No. 29,271. Freight Car. (*Char à marchandises.*)

Perry Brown and Daniel E. Doherty, Louisville, Ky., U. S., 1st June, 1888; 5 years.

*Claim.*—1st. In a freight car, the combination of the side wall having the lower half permanently closed and the upper half permanently slatted, of a door having a vertically moving hinged connection at the top, and a rabbeted lock at the bottom, for tightly closing said slatted portion, substantially as and for the purpose specified. 2nd. In a freight car, the combination, with the car body having an opening in its side wall, of a frame E, hinged to said side wall, the slats on said frame and the door E, and a double hinge connecting said frame and also hinging the frame E to the wall, substantially as and for the purpose specified. 3rd. In a freight car, a door having a rabbeted lock at the bottom, locking means near its vertical centre, and holding means upon opposite sides of the central lock, substantially as shown and described. 4th. In a freight car, a door provided with a supplemental door, and means for simultaneously locking said supplemental door to the main door, and the main door to the frame, substantially as described. 5th. In a freight car, a door provided with a supplemental door combined with transverse bolts on the main door, a bolt constructed to lock said supplemental door to the main door, and means for operating all of said bolts simultaneously, as set forth. 6th. The combination, with a car having an opening in its top, and a casting around said opening, of a hinged portion of the run board and a depending flange carried by said hinged portion and constructed to embrace said casting, substantially as shown and described.

### No. 29,272. Oil Feeder. (*Graisneur.*)

John E. Blakemore and Samuel A. Randall, Boston, (assignees of Nicholas Siebert, Malden), Mass., U. S., 1st June, 1888; 5 years.

*Claim.*—1st. The combination, with the oil reservoir having an oil and water passage respectively, and a condenser communicating with the water passage, of an upwardly moving check-valve within the water passage, and a horizontally moving valve within the oil passage for checking the feed of oil when the steam is shut-off, substantially as herein described. 2nd. The oil reservoir f, the steam pipe B, passing through said reservoir, and the water passage d, in combination with a condenser communicating with both the steam pipe, and water passage, the oil passage e and a steam pipe adjacent to the discharge of said oil passage, substantially as herein described. 3rd. An improved oil reservoir comprising a steam pipe, a water passage d and an oil passage e formed therein, a condenser communicating with the steam pipe and a water passage, check-valves within said water and oil passages, a steam chamber g beneath the oil passage, a steam pipe and the controlling valve adjacent thereto, and a discharge pipe and controlling valve leading from said oil chamber to the valves and pistons, substantially as herein described.

### No. 29,273. Invalid and Dental Chair. (*Chaise d'invalides et de dentiste.*)

Joseph Peltier and Etienne Peltier, Montreal, Que., 1st June, 1888; 5 years.

*Claim.*—1st. In a dental or invalid chair, the combination, with a frame having grooves, of a sliding chair adapted to be raised or lowered in the said grooves, and provided with an adjustable back and hinged extension, as herein described. 2nd. The combination, with the frame A, A', A'', groove a, of the diagonal pieces B, the spring supports D, brackets B, disc and lever E, E', foot-lever F, hand lever H, bent socketed lever G, link I, legs t, and sliding chair G, substantially as shown and described. 3rd. The combination of the bent rods or hinges c', chair back H, notched segments P, slots h, catches or levers J, springs f, cords y, sliding bar K and seat C, substantially as shown and described. 4th. The combination of the seat C, hinged extension L, strap e, notched segment e', slot c'', catch M, spring m, wire or cord m', and ring or handle m'', as shown and described. 5th. In a chair as shown, the combination of the seat C and sliding staples N, extension L and back H, substantially as specified.

### No. 29,274. Car-Coupling. (*Attelage de chars.*)

Daniel M. Cowher and David H. Foster, Mapleton Depot, Penn., U.S., 1st June, 1888; 5 years.

*Claim.*—1st. The combination, with the draw-head having a rear transverse shoulder B, of the trigger supporting block having a rear extension E adapted to impinge upon the shoulder B, and the trigger working within the body of said block, substantially as specified. 2nd. The combination of the draw-head, the block C secured within the

same, and having its lower front portion cut away, and having an inclined recess within its body communicating with the cut away portion, and a trigger working in said inclined recess, substantially as specified.

**No. 29,275. Valve Mechanism.**

(*Mécanisme de soupape.*)

Thomson Kingsford, (assignee of John J. Tonkin), Oswego, N. Y., U. S., 1st June, 1888; 15 years.

*Claim.*—The combination, with an ordinary steam-chest and steam-cylinder provided with an ordinary main slide-valve and usual parts of an automatic throttle-valve and stem moving at right angles to the movement of the main valve, and operated by a governor D at right angles to the movement of the main slide-valve, and a frame F removably secured to the chest for supporting the throttle-valve mechanism within the steam-chest, whereby the throttle-valve mechanism may be removed for repairs and the engine remain operative, substantially as set forth.

**No. 29,276. Washer Cutter.**

(*Découpoir de rondelle.*)

Charles Wunderlich and Anton A. Tibbo, Washington, Mo., U. S., 1st June, 1888; 15 years.

*Claim.*—1st. In a washer cutter, the combination of the stock A, center B having head *b*<sub>1</sub>, cross-bar C, adjustable knives E, F and spring H, substantially as described. 2nd. The combination, with the stock A, of the center B formed with the head *b*<sub>1</sub>, and with teeth and pins *b*<sub>2</sub>, *b*<sub>3</sub>, the cross-bar C laterally adjustable in the stock A and carrying knives E, F, and the spring H surrounding the center B, between the head *b*<sub>1</sub> thereof and the lower end of the stock A, substantially as shown and described. 3rd. The stock A, made in crank form and formed with the foot *a*<sub>1</sub> and toe *a*<sub>2</sub>, the cross-bar C adjustable in said toe and formed with a head *c*, the knife E vertically adjustable in the head C, the block G adjustable along the cross-bar C, and the knife F vertically adjustable in the block G, in combination with the center B and spiral spring H, substantially as shown and described. 4th. The stock A, made in crank form and formed with a tang or shank *a*, and the center B placed in the crank portion of the stock, the upper end of the center B fitting loosely in a recess *a*<sub>2</sub> of the stock, and its lower end passing through the stock at the lower end, and formed with a head *b*<sub>1</sub>, upon the face of which head teeth *b*<sub>2</sub> and pins *b*<sub>3</sub> are formed, in combination with the cross-bar C and knives E, F, carried thereon, and a spiral spring H surrounding the lower end of the center B, substantially as shown and described.

**No. 29,277. Felt Boot Protector.**

(*Protecteur de botte de feutre.*)

Edward C. Rauch, Monroe, Mich., Harry Saunders, Toledo, Ohio, and Charles H. Saunders, Monroe, Mich., U. S., 1st June, 1888; 5 years.

*Claim.*—A felt-boot provided, on the line to which the top of the over-shoe comes, with a band having a woolly or furry outer surface, said surface of said band being adapted to present a yielding surface to, and to extend over, the top of said over-shoe to exclude substances from said over-shoe, substantially as shown and described.

**No. 29,278. Motor Engine Operated by the Combustion of Liquid Hydrocarbon.**

(*Machine motrice à hydrocarbures liquides.*)

John J. R. Humes, Camberwell, Eng., 2nd June, 1888; 5 years.

*Claim.*—1st. For use in liquid hydrocarbon engines, the improved means for mixing the hydrocarbon liquid with air or other gas capable of supporting combustion, substantially as described, with reference to Fig. 4, such means including a mixing nozzle in which the gas is directed with considerable obliquity across the stream of liquid, as it issues from the extremity of a pipe enclosed within the gas conduit. 2nd. The use, in liquid hydrocarbon engines, of an intermittent acting valve applied to the pipe conveying the liquid to the vapouriser, or mixing apparatus, and operating to intercept the flow of such liquid except when the motor cylinder, or compressing pump is drawing its charge of inflammable mixture. 3rd. In liquid hydrocarbon engines, the improved method of, and means for, rendering the operation of the hydrocarbon liquid controlling valve subject to the action of the governor, substantially as described with reference to Figs. 5 and 6. 4th. In liquid hydrocarbon engines, providing the air inlet to the vapour chamber whence the motor cylinder or compressing pump draws its supply of inflammable mixture, with a self-acting valve, or with means for throttling the passages to the said chamber, such valve or throttle being adjustable or otherwise, substantially as and for the purposes herein described. 5th. In liquid hydrocarbon engines where the inflammable charge is fired by electricity, the improved means, substantially as herein described, for making and breaking the electric circuit, the same consisting of an insulated connector mounted on any suitable reciprocating part of the engine, and working in conjunction with two flexible or pivoted arms connected with the circuit. 6th. Operating the valve controlling the exhaust from the motor cylinder of a liquid hydrocarbon engine by means of a reciprocating thrust-rod actuated by an eccentric, or its equivalent, and disconnected from the said valve, the arrangement being such that the proportion of the stroke of the rod communicated to the valve is rendered adjustable, substantially as herein described. 7th. The improved means, substantially as herein described, for rendering liquid hydrocarbon engines reversible, such means consisting of a pair of clutches for working the exhaust valve and firing apparatus respectively, the construction and setting of the clutches, in relation to one another and to the crank, being such that in either direction of rotation the action of the firing apparatus precedes by a proper interval that of the exhaust valve.

**No. 29,279. Lantern.** (*Lanterne*)

Charles W. Colony, Sandy Hook, N. Y., U. S., 4th June, 1888; 5 years.

*Claim.*—1st. The combination, with the top globe holder and the support upon which the bottom of the globe rests, of rods secured to the top holder, and vertically sliding connections, whereby said rods are attached to the globe support, substantially as set forth. 2nd. The combination, with the cap provided with a holder bearing against the top of the globe, and the bottom support of the globe provided with coupling links, of spring rods secured to said cap and having their lower ends made vertically movable in the links of the bottom support, substantially as set forth. 3rd. The combination, with the top globe holder and the support upon which the bottom of the globe rests, and which is provided with coupling links, of rods attached to said top holder and provided with offsets and stops which engage with said links, and form therewith a vertically sliding connection, substantially as set forth. 4th. The combination, with the tubular lantern frame, of a vertically movable top globe holder and a bottom globe support, spring rods attached to the top holder, guide links pivoted to the tubes, and coupling links attached to the bottom support, and connected with the spring rods, whereby the spring rods are deflected or strained as the globe frame is raised or lowered, substantially as set forth. 5th. In combination with the lantern frame, globe support and movable cap, guide links pivoted on said frame, coupling links connecting the globe support with the guide links, and spring rods secured to the cap, and having their extremities sliding in the aforesaid coupling links, and provided with coupling hooks adapted to interlock with the links, for locking the globe between its support and the cap, and having also bearings adapted to engage the links and sustain the cap raised from the globe, substantially as set forth. 6th. In combination with the lantern frame, globe support and movable cap, guide links hinged on said frame at opposite sides of the globe, and arranged with their oscillatory ends toward each other, and pendent spring rods attached to the cap at the sides directly over the guide links and normally inclined outward, and suitable connections between the lower extremities of said rods, and said links, whereby the links are confined in both their depressed and raised positions, substantially as set forth. 7th. In combination with the base A, globe support B, tubes T, T, and movable cap C, the links *l*, *l*, hinged on the tubes and formed with loops *e*, the couplings *a*, *b*, connecting the support B with the links *l*, and the spring rods *r*, *r*, attached to the cap C and having their lower extremities extending through the loops *e*, *e*, and formed with the hooks *h* and bearings *s*, substantially as described and shown. 8th. In combination with the base A, globe support B, tubes T, T, and movable cap C, the links *l* hinged *u* swing vertically on the said tubes, and formed with the loops *e*, the coupling links *b* connected with the links *l*, and having a bar *b*<sub>1</sub> extending across the neck of the aforesaid loop, and the spring rods *r* attached to the cap and having their lower extremities extending through the loops *e*, and formed with the hooks *h* and bearings *s*, substantially as described and shown. 9th. In combination with the base A, globe support B, tubes T, T, and movable cap C, the guide links *l*, *l*, hinged on said tubes to swing vertically thereon, and embracing the same, and formed with loops *e* and eyes *n*, *n*, back of said loops, the coupling links *b* connected at one end with the globe support, and having the opposite end extending through the eyes *n*, *n*, and the spring rods *r*, *r*, attached to the cap and having their lower extremities normally inclined outward and extending through the loops *e*, *e*, and formed with the offsets or hooks *h*, *h*, and bearings *s*, *s*, said loops being of a size to allow the spring rods *r*, *r* to be moved laterally to throw the hooks thereof out of engagement with the coupling links when in a depressed position, and to hold said hooks in their engagement with said links when in an elevated position, substantially as set forth and shown.

**No. 29,280. Automatic Railway Signal.**

(*Signal automatique de chemin de fer*)

Daniel Grant, Bath, Ont., 5th June, 1888; 5 years.

*Claim.*—1st. In a railway signalling device, the combination of the rocking shaft B, provided with a stop, and a spiral spring C, a rocking lever D, journalled upon said shaft and adapted to turn it in the direction of a train moving towards a point where a signal is required, by means of a projection *d* and lug *b*, and provided with a spiral spring C<sub>1</sub>, a crank B<sub>1</sub> at the projecting end of said shaft, a bell cord E connected with said crank, and carried upon posts or other convenient supports, and a bell G adapted to be operated by said cord, substantially as set forth. 2nd. In a railway signalling device, the combination of a rocking cross shaft B, having a stop abutting against a projection and held by a spiral spring C, and provided with a lug *b*, and a rocking lever journalled upon said shaft, and provided with a projection abutting against the lug *b* and held thereto by a spiral spring C<sub>1</sub>, substantially as set forth.

**No. 29,281. Snow Plough.** (*Charrue à neige.*)

Peter B. Brazel, Cheboygan, Mich., U. S., 5th June, 1888; 5 years.

*Claim.*—1st. In a snow plough, the combination, with a central supporting beam having bob-sled secured at each end thereof, of a forward adjustable plough mounted in connection with the front bob-sled, substantially as described. 2nd. In a snow plough, the combination, with a central supporting beam having a bob-sled secured at each end thereof, and to suitable side beams, of mould-boards mounted in connection with the said side beams, extension wings hinged in the rear of said mould boards, and a supplemental plough adapted to be raised and lowered, operating in conjunction with the central and side beams ahead of the mould boards, substantially as described. 3rd. In a snow plough, the combination, with a central supporting beam having a bob-sled secured to each end thereof, and to suitable side beams, said beams having mould boards arranged on each side thereof and in connection therewith, of an independently operating plough arranged in front of the said mould boards, and adapted to be raised and lowered, substantially as described. 4th. In a snow plough, the combination, with a central supporting beam having bob-sleds at each end thereof, and side beams supporting adjustable mould boards, of an independently operating

plough arranged in front of the mould boards, eyes secured to said plough registering with eyes secured to the said beams, a rod passing through said eyes, and a screw-threaded rod passing through the central beam, and engaging with a screw-threaded boss on the plough, whereby the said plough may be raised or lowered, substantially as described. 5th. In a snow plough, the combination, with a central supporting beam having bob-blebs B and C secured to the ends thereof, and also beams A carrying adjustable mould boards E, E, of the plough arranged just ahead of the said mould boards, and the plough mounted on, and operating in connection with the front bob-bleb B, substantially as described.

### No. 20,282. Gold Separating Machine.

(Machine à séparer l'or.)

George A. Ross and Leonard Young, assignees of Christian Burns, Lunenburg, N.S., 5th June, 1888; 5 years.

Claim.—The combination, with the trough, of the removable bottom D having rifles E, as set forth.

### No. 20,283. Car Axle Box. (Boîte à graisse.)

Stephen R. Stinard, Pompton, N.J., U.S., 6th June, 1888; 5 years.

Claim.—1st. A car axle box having an axle receiving chamber arranged with its bottom quite close to the axle journal, and provided with sloping side walls, in combination with oiled waste, or other lubricating material, placed in said chamber next the journal, substantially as shown and described, whereby, as the oiled waste, or lubricant, packs or settles, it will crowd toward and against the axle journal to insure its constant lubrication, as set forth. 2nd. The combination, with a car axle box and the axle of a tray fitted in the box, and having sloping or inclined side walls, substantially as shown and described, whereby settling oiled waste placed in the tray will be forced to the axle journal, and the lubricant will be retained to the tray, as and for the purposes set forth. 3rd. The combination, with a car axle box and the axle, of a removable tray, or plate, fitted in the box, and forming therein, or therewith, an axle, and lubricant receiving chamber having sloping side walls, which force settling waste to the axle journal, substantially as specified, and said tray, or plate, having a rib or flugs entering notches of the axle box, substantially as herein set forth.

### No. 20,284. Potato-Digger.

(Scarificateur à patates.)

Judson D. Perry, Detroit, Mich., U.S., 6th June, 1888; 5 years.

Claim.—1st. In a potato digging machine, the combination, with the revolving scoop A, of the rolling disk B supporting the forward end thereof, of the crank shaft, and operating lever for adjusting said disk vertically, and the ring bearing G at the rear end of the scoop, said ring bearing being supported on trunnions of the frame, substantially as described. 2nd. In a potato digging machine, the combination, with a revolving scoop, of a bevel gear wheel secured upon the rear end thereof, a ring bearing in which said gear wheel is journaled, of trunnions on said bearing and by which it is mounted in the frame, and a drive pinion upon one of said trunnions, and meshing with said gear wheel, all substantially as described. 3rd. The combination, with the revolving scoop and the frame, of the crank shaft C provided with the lever D, and the disk B on said crank shaft within said scoop and supporting the front end thereof, substantially as described. 4th. The combination with the revolving scoop and the frame, of the crank shaft C provided with the lever D, and the disk B on said crank shaft within said scoop, and supporting the front end thereof, and the roller E on the frame near the front of the scoop, substantially as described. 5th. In a potato digging machine, the combination, of the revolving scoop A, the circular trough M provided with a grating on top, the elevator trunk P, the elevator Q, the discharge spout U, and the revolving vine cutter N, within said trough below the grating, all arranged to operate substantially as described. 6th. In a potato digging machine, a revolving scoop consisting of the cutting blade A, the tapered grating C, the gear-wheel B, the spiral braces D secured to said grating, and the spiral springs E secured to said braces, all substantially as described.

### No. 20,285. Lamp Bracket. (Porte-lampe.)

Esau T. Naylor, San Francisco, Cal., U.S., 6th June, 1888; 5 years.

Claim.—A lamp bracket attachment for holding a lamp to its place, consisting of a single piece of spring wire bent centrally to form a shank, or standard, by which it is secured to the bracket, turned at right angles to the standard portion, and bent and crossed to form two loops, the end of one of which opens or expands, as the other is contracted, and vice versa, whereby said end loop may receive, hold and release the lamp, substantially as herein described.

### No. 20,286. Pump. (Pompe.)

George W. Green, Millbrook, Ont., 6th June, 1888; 5 years.

Claim.—A pump cylinder B, having a section pipe A, connecting with the cylinder at a point below a valve located in the bottom of the cylinder, and a pipe H leading from the cylinder at a point above its valve to the discharge pipe F, the said pipe H being provided with a check valve I, in combination with a suction pipe J, provided with a check valve K and communicating with the cylinder B near its top, and pipe connecting the cylinder suction pipe and discharge pipe, with a check valve O located in the said pipe, substantially as and for the purpose specified.

### No. 20,287. Working Tapers on Metals.

(Machine à faire cônes.)

John B. Armstrong, Guelph, Ont., 6th June, 1888; 5 years.

Claim.—1st. The production of tapers on the ends of metal bars by the process of compressing or squeezing the edges of the bars when

heated, and then rolling out the tapers on the heated bars after the edge has been so shaped, the process of shaping the edge and rolling the taper being performed in two consecutive operations on the heated bar, by passing the same between compressing jaws and rolling out the taper between rolls suitably shaped and adjustable as to each other, substantially as specified. 2nd. In a rolling machine, an upper roll C, driven independently of the lower roll and vertically adjustable, in combination with a segmental lower roll B suitably geared, the rolling surface of which is driven at a slightly lower rate of speed than that of the upper roll, substantially as specified. 3rd. In a rolling machine, the combination, with compressing levers H, of adjustable compressing bits b, in the jaws thereof, the compressing levers being operated by an elliptical cam L, rigidly attached to, and adapted to partake of, the motion of the lower roll B, substantially as specified. 4th. In a rolling machine, the combination, with the compressing levers H, carrying adjustable compressing bits b, and scaled adjusting wedges a, in the jaws thereof, of the springs I and K, and the elliptical cam L rigidly attached to and adapted to partake of the motion of, the lower segmental roll B, driven by the geared wheel F, substantially as specified. 5th. The upper roll C operated by the fly-wheel pulley E, in combination with standards N, screw d, spring d, and movable journals D, D, substantially as specified.

### No. 20,288. Machine for Transmitting Power. (Appareil de transmission de mouvement.)

Joseph A. Forsyth and Alfred B. Coleman, Burlington, Ont., 6th June, 1888; 5 years.

Claim.—1st. The combination, in a power machine, of the internal drive wheel B, spur wheels c and e, having teeth F on their under surface, the level wheels g and h, shafts H and H, worm wheels I and J, worm pinion J, upright central shaft K, bevel wheel L, pinion wheel m, and shaft n, substantially as and for the purpose hereinbefore set forth. 2nd. In a power machine, the combination of the shafts H and H, worm wheels I and J, worm pinion J and the upright shaft K, in centre of machine, substantially as and for the purpose hereinbefore set forth.

### No. 20,289. Machine for Testing Physical Strength. (Machine pour faire l'épreuve de la force physique.)

James M. O'Kelly, London, Eng., 6th June, 1888; 5 years.

Claim.—1st. The combination, with a device for testing physical strength provided with a reciprocating rod and a spring, as set forth, of a cylinder for displaying advertisements, and a corrugated cylinder for delivering small articles, the said cylinders being respectively connected to the reciprocating rod by intermediate ratchet mechanisms, and operating simultaneously with the said strength testing device, substantially as described and shown. 2nd. The combination, with a device for testing physical strength provided with a reciprocating rod and a spring, as set forth, of a longitudinally moving stepped stop actuated positively by the said reciprocating rod, a vertically moving stepped stop engaging with the aforesaid stop and normally preventing its longitudinal movement, and a pivoted lever provided with a coin pocket at one end, for raising the vertically moving stop and allowing the strength testing mechanism to be operated, substantially as described and shown. 3rd. The combination, with a device for testing physical strength provided with a reciprocating rod and a spring, as set forth, of a longitudinally moving stepped stop actuated positively by the said rod, a vertically moving stepped stop engaging with the aforesaid stop and normally preventing its longitudinal movement, a pivoted lever provided with a coin pocket at one end, for raising the vertically moving stop and allowing the strength testing mechanism to be operated, and a sliding guard plate also actuated positively by the reciprocating rod, and allowing the coin to fall out of the pocket on the lever as soon as the strength device is put in motion, substantially as described and shown.

### No. 20,290. Draft Regulator.

(Régulateur du tirage.)

Carroll E. Gray, Waukesha, Wis., U.S., 6th June, 1888; 5 years.

Claim.—1st. A draft regulator comprising a conical damper adapted to be raised and lowered, a damper chamber thereabout having an annular top and bottom plates provided with lugs projecting laterally from their inner circumferences, and bolts passing through the lugs of the top and bottom plates, whereby they are bound together, substantially as and for the purpose set forth. 2nd. A draft regulator comprising a conical damper adapted to be raised and lowered, a damper chamber thereabout, whose sides are expanded laterally toward the top and whose top and bottom are annular plates provided with lugs projecting laterally from their inner circumferences, and bolts passing through said lugs, whereby the top and bottom plates are bound together and the sides secured between them, substantially as set forth. 3rd. In a draft regulator, in combination, a damper chamber having annular top and bottom plates provided with lugs projecting laterally from their inner circumferences, a conical damper thereon adapted to be raised and lowered, and bolts connecting the lugs of the top and bottom plates passing through apertures in the damper and serving as guides therefor, substantially as and for the purpose set forth. 4th. In a draft regulator, in combination, a conical damper adapted to be raised and lowered, a damper chamber thereabout expanding laterally toward the top, and having an annular top plate provided with lugs projecting laterally from its inner circumferences, which lugs serve as stops for the damper when raised, substantially as and for the purpose set forth. 5th. In a draft regulator, in combination, a damper chamber having annular top and bottom plates provided with lugs projecting laterally from their inner circumferences, a conical damper thereon adapted to be raised and lowered, and bolts connecting the lugs of the top and bottom plates passing through apertures in the damper and serving as guides therefor, the lugs on the upper plate serving as stops for the damper when

raised, substantially as and for the purpose set forth. 6th. In a draft regulator, in combination with a damper chamber expanded laterally toward the top, and having annular top and bottom plates provided with lugs projecting laterally from their inner circumferences, a pipe above, and secured to, the damper chamber, a conical damper within the chamber, bolts passing through the lugs by which the top and bottom plates are bound together and through apertures in the damper, whereby they serve as guides for it, and a damper support extending upward and passing through the wall of the pipe, and having a lifting handle outside the pipe whose stem engages in a notched plate, substantially as and for the purpose set forth.

### No. 29,291. Bridle-Bit. (*Mors de bride.*)

Louis Brodanas, Toronto, Ont., 6th June, 1883, 5 years.

*Claim.*—The combination, with the bar of a bridle-bit constructed with a bond in the middle of the same, of two springs, one on each end of the bar and loose upon the same, so that the spring seats & journals prepared thereon will turn freely in the said springs when stopping the horse, substantially as specified and described and for purposes set forth.

### No. 29,292. Stock Car. (*Char à bestiaux.*)

Charles Langguth, Boston, Mass., U. S. 6th June, 1883, 5 years.

*Claim.*—1st. In a stock car, the combination, with the body of the car, of the vertically movable platform F, pulleys 3 situated near the top of the car, drum 4 secured to the bottom of the car, and chains F<sub>1</sub>, said platform and the floor of the car being performed to admit of the passage of the same, substantially as and for the purpose described. 2nd. The combination, with the body of the car, of the stationary posts C, swinging posts C<sub>1</sub> and locking bar d, provided with the locking pin I, substantially as and for the purpose set forth. 3rd. The heretofore before described hay-rack consisting essentially of the bar L, pivotally secured to the car roof said bar being provided with the rods L<sub>1</sub>, extending at right angles therefrom and having their ends bent into the hooks or loops H, and the parallel bar N provided with the similar rods L<sub>2</sub>, whose ends H<sub>2</sub> are similarly looped, the loops or hooks in the rods in one series passing around the bodies of the corresponding rods in the opposite series, and means whereby said hay-rack may be secured when extended and dropped to the side of the car, and when raised and contracted to the top of the car, substantially as and for the purpose described. 4th. In combination with a hay-rack extending horizontally along the side of a car, the heretofore described packer consisting essentially of the packing hook or loop P rigidly secured to the carriage P<sub>1</sub>, said carriage being provided with wheels P<sub>2</sub>, and a track R extending along the side of the car and supported by a bracket E rigidly secured to said side, substantially as and for the purpose set forth. 5th. The combination, with the floor F, of the supporting and stiffening angle iron bars A, substantially as and for the purpose described. 6th. A stock car adapted to be used also as a car for ordinary freight and provided with the following parts or appliances, viz. the vertically movable platform F, the stationary collapsible trough H, H<sub>1</sub>, H<sub>2</sub>, the vertically movable collapsible trough K, K<sub>1</sub>, K<sub>2</sub>, the contractible hay-rack L, N, L<sub>1</sub>, L<sub>2</sub>, H, H<sub>2</sub>, and the tank I provided with suitable conducting-pipes, said movable trough and hay rack being adapted to be secured to the roof of the car, and said stationary trough being adapted to be locked against the side of the car, substantially as and for the purpose described.

### No. 29,293. Automatic Audible Signal, adapted to Maritime and Fire-Alarm purposes. (*Signal acoustique automatique pour des fins maritimes et d'incendie.*)

James H. Crosby, East Somerville, and Machow Gannott, Boston, Mass., U. S., 7th, 1883, 5 years.

*Claim.*—1st. In a signal apparatus, a cylinder, a piston and piston-rod therein, and an audible signal in connection with said cylinder and piston-rod, and a valve-stem provided with a valve to control the admission of steam or other fluid into the said cylinder, as described, to actuate the said piston, combined with a code-cam, and means, substantially as described, to move the valve-stem through said code-cam, as and for the purpose set forth. 2nd. In a signal apparatus, a cylinder, a piston therein, a valve-stem and valves thereon, to regulate the admission of steam or air into said cylinder to actuate the said piston, and an adjustable code-cam having a series of elevations and depressions to represent different code signals, combined with means, substantially as described, to act upon the said code-cam and actuate the said valve-stem, substantially as described. 3rd. In an automatic signal apparatus, an audible signal, a cylinder provided with a piston and piston-rod connected to said audible signal, and means, substantially as described, to restore the piston to its normal position after each sounding of the audible signal, combined with a valve-stem having valves communicating with said cylinder, and with means, substantially as described, to seat and unseat the said valves, as and for the purpose set forth. 4th. In an automatic signal apparatus, an audible signal, a cylinder, its piston and piston-rod, and means, substantially as described, to restore the said piston to its normal position, combined with a valve stem having a code-cam and valves on said valve stem, and means, substantially as described, to unseat the said valves, and means, substantially as described, to seat the valves, as and for the purpose specified.

### No. 29,294. Road Grader. (*Grattoir de chemin.*)

Frederick C. Austin, Chicago, Ill. (Assignee of Harlan G. Moats, Guss., Iowa), U. S., 7th June, 1883, 5 years.

*Claim.*—1st. The combination, with two axles and their wheels, of two longitudinal frame pieces, a scraper-blade, and means of supporting this scraper-blade to allow it to be vertically and horizontally adjusted, substantially as set forth. 2nd. The combination, with two axles, two bolsters and four wheels, of two longitudinal frame pieces,

a scraper-blade and a means of independent adjustment of either end of the scraper-blade, substantially as set forth. 3rd. The combination, with a scraper-blade, of the curved supporting arms, a circular grooved track-plate, and a means of moving the scraper upon the grooved track-plate, substantially as set forth. 4th. The combination, with two axles and their wheels, of two frame pieces that extend from one axle to the other, pivoted levers capable of independent vertical adjustment, links, a circular grooved scraper supporting plate, curved arms, bolts to connect the arms and grooved plates, and a scraper, substantially as set forth. 5th. The combination, with a circular grooved supporting plate and a shaft and hand wheel, of downwardly projecting arms and a curved scraper-blade, substantially as set forth. 6th. The combination, with two plates, their supporting bolsters, axles and wheels, of forked brackets, levers pivoted adjustably in these brackets, notched upright bracket posts and spring plates secured rigidly on the levers to hold them in the notches of these brackets, substantially as set forth. 7th. The combination, with a circular grooved plate, connecting bolts, supporting arms and a scraper-blade, of a hand wheel, its upright shaft and a cross-bar attached to the scraper supporting arms, substantially as set forth. 8th. The combination, with two axles, their wheels and bolsters, of a grooved circular supporting plate two longitudinal frame pieces, a cross-bar attached to these arched pieces, two attached depending parallel guides and a horizontal arm adapted to loosely engage the guides, substantially as set forth. 9th. The combination, with the machine running-gear and the frame pieces, the parallel vertical guides depending therefrom, of the concentric track-rings having a swivel jaw connection with the front axle of the running-gear, and having a loose sliding connection with the vertical guides, substantially as set forth. 10th. The combination, with the running-gear, frame pieces, the parallel vertical guides and the levers pivoted on the frame pieces, of the concentric track-rings connected by a bar and wire joint to the front axle of the running-gear, and a bar connecting them in sliding relation with the vertical guides, the links connecting these track rings with the levers and the hand wheel, substantially as set forth. 11th. The combination, with the running-gear, frame plates, the track rings and levers for orienting or depressing said rings, of the depending curved arms and the scraper-blade attached thereto, substantially as set forth.

### No. 29,295. Steam Generator for Feed Cooking. (*Générateur de vapeur pour la cuisson de la nourriture des bestiaux.*)

Frederick C. Austin, Chicago, Ill. (assignee of Wilford W. Yokum, New Hartford, Iowa), U. S. 7th June, 1883, 5 years.

*Claim.*—1st. In a steam generator for cooking feed, the combination of an outer cylinder and an inner cylinder having a water space between them, heads closing such water space, and the ends of the inner cylinder forming a fire chamber of the interior of the inner cylinder, a flue leading therefrom, and means for conveying the generated steam from the place of use, substantially as described. 2nd. In a steam generator for cooking feed, the combination, of an outer cylinder, and an inner cylinder having a water space between them, heads closing such water space, and the ends of the inner cylinder forming a fire chamber of the interior of the inner cylinder, a flue leading therefrom, and a damper extending backward from the forward part of the fire chamber, and vertically adjustable at its rearward end, substantially as described. 3rd. The steam generator for cooking feed consisting of the heads A and B, having concentric flanges, the outer and inner cylinders C and D, the concentric shell and smoke flue, and the damper plate pivoted in front and having the rear suspending rod connected to the inclined slot of a turning sleeve on a section of the smoke flue, substantially as specified. 4th. The combination, with the front and rear heads, of the concentric cylinders connected to said heads, the vertical shell, its top and nipple tubes, and the vertical smoke pipe concentric with said shell, its upper section and turning sleeves, of the damper plate and suspending rod, and the supply tank on the outer cylinder having a pump and discharge tube extending to one of the nipple tubes of the shell top, substantially as specified.

### No. 29,296. Flooring or Decking for Bridge Work and Building Construction. (*Plancher de pont et de bâtisse.*)

Arthur W. Rammago, London, Eng., 8th June, 1883, 5 years.

*Claim.*—1st. In a fireproof flooring or decking, the said flooring or decking constructed of rolled steel or rolled iron plates A, riveted with flanges a, a<sub>1</sub>, and said flanges a, a<sub>1</sub>, riveted together, substantially as and for the purposes heretofore described and illustrated in the drawings hereunto annexed. 2nd. In a fireproof flooring or decking, the said flooring or decking constructed of rolled steel or rolled iron plates B, said plates B riveted with flanges b, and said flanges b riveted together, all substantially as and for the purposes heretofore described and illustrated in the drawings hereunto annexed. 3rd. In a fireproof flooring or decking, said flooring or decking constructed of rolled steel or rolled iron plates C, said plates riveted with flanges c, and said flanges c riveted together, substantially as and for the purposes heretofore described and illustrated in the drawings hereunto annexed. 4th. In a fireproof flooring or decking, said flooring or decking constructed of rolled steel or rolled iron segment plates D, said segment plates riveted with flanges d, d<sub>1</sub>, said flanges d, d<sub>1</sub> riveted together, the said flooring or decking stayed and strengthened with steel I's, or T irons and tie rods, all substantially as and for the purposes heretofore described and illustrated in the drawings hereunto annexed. 5th. In a fireproof flooring or decking, said flooring or decking constructed of rolled steel or rolled iron plates E, said plates riveted with flanges e, e<sub>1</sub>, and said flanges e, e<sub>1</sub> bent over to form the flanges e<sub>2</sub>, and said flanges e, e<sub>1</sub>, riveted together, all substantially as and for the purposes heretofore described and illustrated in the drawings hereunto annexed.

### No. 29,297. Buggy Top. (*Soufflet de voiture.*)

William Davis, Montreal, Que., 9th June, 1883, 5 years.

*Claim.*—1st. In a folding buggy top, the combination, with the front

bow cut away below the cover and always radial to pivot-point, of second bow and rigid stay pivoted both to first and to second bow, all substantially as herein set forth. 2nd. The combination of the front bow A, second bow B and rigid stays C, hinged to plates a and b, on first and second bows, all as and for the purposes set forth. 3rd. In a buggy top, the combination, with the second bow and cut away first bow, and stay connecting same, of curved locking strip, with spring jaws passing through slot in stay, all as and for the purposes set forth.

### No. 28,298. Feeder for Steam Boilers.

(*Alimentateur pour chaudières à vapeur*)

Josiah Austin, East Liberty, Ohio, U.S., 8th June, 1888; 5 years.

*Claim.*—1st. The combination, with standard B and pivoted frame C, of the chambers F, F<sub>1</sub>, pipes H, H<sub>1</sub>, I, I<sub>1</sub> and ports T, T<sub>1</sub>, and diaphragm S, as and for the purpose set forth. 2nd. The combination, with pipes H, H<sub>1</sub>, I, I<sub>1</sub>, ports T, T<sub>1</sub>, and diaphragm S, of the flexible tubes G, G<sub>1</sub> and chambers F, F<sub>1</sub>, as and for the purpose set forth. 3rd. The combination, with pivoted chambers F, F<sub>1</sub>, of the air chamber N, diaphragm O and jointed piston P, as and for the purpose set forth. 4th. In a steam boiler feeder, a balanced water chamber whose rising and falling prepare it for filling or feeding to the boiler, as and for the purpose set forth.

### No. 29,299. Process of Transferring Phototypes to Lithographic Stones.

(*Procédé de transposition des phototypes sur les pierres lithographiques.*)

Otis Krobs, Pittsburg, Penn., U.S., 8th June, 1888; 5 years.

*Claim.*—The process of transferring phototypes to lithographic stones consisting in, first, taking a photograph of the object; second, printing the photographic image of the negative upon a plate which has been suitably prepared; third, taking an impression from the plate upon a sheet of paper which has been saturated with a solution of gelatine, chloride of calcium, glycerine, chromate of alum and water; and fourth, transferring the impression from the prepared paper to the lithographic stone, substantially as set forth.

### No. 28,300. Improvements in Cars of all kinds having in, or on them, Racks for Hay or Course Food for Live Stock. (*Chars à bestiaux avec râteliers.*)

Hugh Baines, Brooklyn, N.Y., U.S., 8th June, 1888; 5 years.

*Claim.*—1st. In a live stock car having racks for hay, etc., a series of observation apertures of any desired shape, located in the roof proper of the car, as and for the purposes set forth. 2nd. In a live stock car, substantially as hereinbefore shown and described, a pair of longitudinal air chambers located in the upper part of the car, as and for the purposes set forth. 3rd. In a live stock car having racks for hay, etc., the combination of the air chambers in the upper part of the car, with observation apertures extending through and above the roof, and connecting with said air chambers, substantially as and for the purposes set forth. 4th. In a live stock car, the observation apertures constructed to form permanent ventilators in the roof of the car, substantially as shown and described. 5th. In a live stock car, the ventilating exhausts extending through and above the roof of the car, in combination with the removable caps, substantially as shown and described, whereby the shipper can utilize them as observation apertures, as set forth. 6th. In a live stock car, a series of ventilating exhausts provided with adjustable caps or covers, whereby the amount of the exhaust can be regulated or entirely shut off, as may be desired. 7th. In a live stock car, a series of ventilating exhausts extending vertically through the roof of the car, adjustable and removable caps, or covers, and retaining chains or straps H, substantially as shown and described. 8th. In a live stock car, the combination of the longitudinal air spaces, substantially as shown and described, with the wire gauze coverings, for the purposes set forth. 9th. In a live stock car, the combination, of the centrally located path or walk upon the roof of the car, the two series of observation apertures located upon both sides of the walk, and the raised guards outside extending along the top of the car, and outside of the observation apertures.

### No. 29,301. Impact Tool. (*Combinaison d'outils*)

John F. Clement, Philadelphia, Penn., U.S., 8th June, 1888; 5 years.

*Claim.*—1st. The combination, in an impact tool, of the ram cylinder and its ram, a pump and a pipe connecting said pump to the ram cylinder, said pipe having between the pump and the ram cylinder, a passage through which air can enter or leave the pipe, all substantially as specified. 2nd. The combination, in an impact tool, of the ram cylinder and its ram, a pump, a pipe connecting the pump and cylinder and having between the two a passage through which air can enter or leave the pipe, and means for regulating the effective inlet or discharge area of said passage, all substantially as specified. 3rd. The combination, in an impact tool, of the ram cylinder and ram, a double-acting pump and pipes, whereby communication is afforded between the opposite ends of the pump and corresponding ends of the ram cylinder, all substantially as specified. 4th. The combination of the cylinder and its ram, the movable stem and its lifting spring, and a stop screw independent of said spring and adjustable in a direction parallel with the line of movement of the stem so as to limit the lift of said stem by the spring, all substantially as specified. 5th. The combination of the ram cylinder and ram, a pump, a pipe connecting the pump and ram cylinder, and a valve having two ports, one providing a direct communication between the pipe and cylinder, and the other serving to direct the current, all substantially as specified. 6th. The combination of the ram cylinder and its ram, the pump, the two pipes, one communicating with one end of the cylinder and pump, and the other with the opposite ends thereof, a valve-chest connect-

ing the two pipes, and a valve having two ports, one forming a direct communication between one of the pipes and the cylinder, and the other providing a direct communication between the two pipes, all substantially as specified. 7th. The combination of a dental engine, the ram cylinder and its ram, the pump and a connecting pipe, a pump-carrier mounted on the post of the dental engine, a pump operating counter-shaft, and a belt, whereby said shaft is operated from the drive-wheel of the engine, all substantially as specified. 8th. The combination of a dental engine, its drive-wheel and tool-operating shaft, a pump structure mounted on the standard of the engine, and a driving belt having a detachable section, whereby it can be used either for driving the tool operating shaft of the engine or the operating shaft of the pump, all substantially as specified.

### No. 29,302. Damper for Upright Piano.

(*Etouffoir de piano droit*)

Joseph Horrburger, Paris, France, 8th June, 1888; 5 years.

*Claim.*—The combination of cushioned damper head *c* with the round screw threaded stud *f*, received within a screw-threaded mortise of said head and provided with a transverse perforation and with the set-screw *g*, substantially as specified.

### No. 29,303. Printing upon Oil Baize, Leather, Cloth, etc. (*Impression sur baize, cuir, toile cirés, etc.*)

Norval W. Holmo, Richard Stockdale and Robert N. Holmo, Lancaster, Eng., 8th June, 1888; 5 years.

*Claim.*—The improvements, substantially as hereinbefore described, for producing a pattern in several colors upon a woven fabric rendered non-absorbent, or only slightly absorbent, and of the nature of oil cloths or imitation leather cloths, by printing in oil or varnish colors with engraved copper or other rollers in connection with a plain cylindrical bed, roller or rollers.

### No. 29,304. Dyeing Apparatus.

(*Appareil de teinturerie.*)

Urban Weldon, Cohoes, N.Y., U.S., 8th June, 1888; 5 years.

*Claim.*—1st. In a dyeing apparatus, the combination, with a dipping wheel rotary in a dye-vat and provided with radial partitions, of pockets formed in the partitions approximately semi-circular in cross-sectional form, and having their inner side wall at its point of junction with a partition approximately right angular thereto, substantially as described and for the purpose set forth. 2nd. In a dyeing apparatus, a dipping wheel or cylinder rotary in a dye-vat, consisting of two heads provided with bearings and connected by a hub, radial partitions and longitudinal pockets, said partitions consisting of rows of pins or rods projecting radially from the hub to the several pockets at points about half way between the hub and periphery of the wheel, the pockets consisting of rounded rods extending longitudinally from head to head of the wheel, and having a cross-sectional arrangement approximately in the form of a semi-circle, the inside wall of the respective pockets at its point of junction with the rods of radially projecting pins being approximately right angular to said pins, substantially as described and for the purpose set forth. 3rd. In a dyeing apparatus, the combination, with a rotary dipping wheel or cylinder having radial partitions, of wheel supporting dye-vat provided with a bottom semi-circular in cross-section, and having a channel or groove formed at the lower part of the inner side of the bottom, and a steam supply-pipe located in said groove and opening into the vat, substantially as and for the purpose set forth.

### No. 29,305. Sulky Harrow. (*Herse à siège.*)

William Hewitt, London, Ont., 8th June, 1888; 5 years.

*Claim.*—1st. A sulky harrow formed in three sections at, *a*, *a*<sub>2</sub>, *a*<sub>3</sub>, and the wheels D, D, placed within the body of the harrow between said sections, in combination with the brackets C, C, formed with slots C<sub>1</sub>, C<sub>1</sub>, frame H and axle B, substantially as and for the purpose set forth. 2nd. A sulky harrow formed in three sections, and the wheels D, D, placed in the body of the harrow between said sections, in combination with the handles F, F, secured to the outer section at, *a*<sub>1</sub>, substantially as and for the purpose set forth. 3rd. A sulky harrow formed in three sections, and the wheels D, D, placed in the body of the harrow between said sections, in combination with the handles F formed with eyes *f*, and the hooks G, substantially as and for the purpose set forth. 4th. A sulky harrow formed in three sections, and the wheels D, D, placed within the body of the harrow between said sections, in combination with a bearing *n*<sub>3</sub>, formed with a slot *n*<sub>4</sub>, frame H, axle B and tongue N, substantially as and for the purpose set forth. 5th. A sulky harrow formed in three sections, and the wheels D, D, placed within the body of the harrow between said sections, in combination with a bearing *n*<sub>3</sub> formed with a slot *n*<sub>4</sub>, tongue N, and pin *n*<sub>2</sub> passing through pin holes in said bearing and tongue, frame H and axle B, substantially as and for the purpose set forth. 6th. In a harrow in which the wheels are within the body of the harrow, the connecting rod R, in combination with the equalizing bar S and frame H, as and for the purpose set forth. 7th. In a harrow in which the wheels are within the body of the harrow, the connecting rod R, in combination with the double tree V and frame H, as and for the purpose set forth. 8th. In a sulky harrow formed in three sections, and the wheels D, D, placed within the body of the harrow between said sections, the brackets C, C, formed with slots C<sub>1</sub>, C<sub>1</sub>, and axle B, in combination with the lever L, cog segment L and connecting rod K, substantially as and for the purpose set forth.

### No. 29,306. Rotary Churn. (*Baratte Rotative.*)

Thomas D. Brook, London, Ont., 9th June, 1888; 5 years.

*Claim.*—1st. The combination of the churn body A, having an approximately semi-elliptical cross section, and the rotary dasher C,

adapted to revolve in the narrower part of the churn body, substantially as specified. 2nd. A churn dasher provided with cup shaped apertured floats substantially as specified. 3rd. The combination, with the body A, of approximately semi-elliptical cross-section, of the dasher C provided with floats A, having cavities i and apertures j, substantially as specified. 4th. The combination, with the churn body A, of the cross bars B and the removable logs b, substantially as specified.

### No. 29,307. Window Ventilator.

(Ventilateur de fenêtre.)

Theodore Bury, Cleveland, Ohio, U.S., 9th June, 1888; 5 years.

*Claim.*—1st. The combination of the described reversible ventilator having air passages and slide C, arranged in connection with a window and frame thereof, substantially as and for the purpose set forth. 2nd. In combination with a window frame and sash, the reversible ventilator A having a series of air passages or ports, whereby the air can be admitted either upwardly or horizontally into the apartment from the exterior, substantially as set forth.

### No. 29,308. Burner for Heating Sad Irons.

(Appareil à chauffer les fers à repasser.)

James M. Wishart, Marion, Kan., U.S., 9th June, 1888; 5 years.

*Claim.*—A burner constructed in a single piece of metal having channels, connected one with the other so as to form a gas generator having a valve for controlling the passage of gas from such generator, having a perforated distributing chamber into which such gas enters, and an air space situated between said valve and distributing chamber to allow of the admixture of air with the gas in its passage across said space, as shown and described.

### No. 29,309. Harness. (Harnais.)

Robert M. Gibson, Ottawa, Ont., 9th June, 1888; 5 years.

*Claim.*—The combination, with the shafts A, of the frames E, e and rod J, for supporting the several parts of the harness, in the manner set forth.

### No. 29,310. Button-Hole Cutting Scissors.

(Ciseaux à boutonnières.)

Luther C. McNoal, Rochester, N.Y., U.S., 9th June, 1888; 5 years.

*Claim.*—1st. In combination with the arms of a pair of scissors, and a cam pivoted to one arm and adapted to be swung on its pivot, to engage the other arm and limit the movement of said arms, of a lock for positively holding said cam in adjusted position, substantially as described. 2nd. The combination, with a pair of scissors and a cam pivotally connected to one arm and adapted to be swung on its pivot, to engage the other arm and limit the movement of the two arms toward each other, of a projection or tooth, and a notched surface with which said projection or tooth engages, for holding the cam in adjusted position, substantially as described. 3rd. The combination, with a pair of scissors and a cam pivotally connected to one arm and adapted to be swung on its pivot, to engage the other arm and limit the movement of the two arms toward each other, of a projection or tooth, and a notched surface with which said projection or tooth engages, for holding the cam in adjusted position, and a spring for holding said projection or tooth and notched surface in engagement, substantially as described. 4th. The combination, with the pivoted arms, of a pair of button-hole cutting scissors, a cam pivoted to one arm and adapted to limit the movement of the blades toward each other, the series of adjusting notches beneath said cam, and the adjusting lever above the same, of a tooth or projection on the lever, and a notch or slot in the cam through which the tooth or projection passes to engage the adjusting notches, whereby the cam is held in adjusted position, substantially as described. 5th. The combination, with the pivoted arms of a pair of button-hole cutting scissors, a cam pivoted on one arm and adapted to limit the movement of the blades toward each other, the series of adjusting notches beneath said cam, and the adjusting lever above the same, with its projection passing through a notch or slot in the cam for engaging the notches, of a spring secured to said lever and bearing against the enclosing walls, for holding the projection in engagement with the notches, as set forth. 6th. In a pair of button-hole cutting scissors, the combination, with the cam having a notch or slot therein, pivoted in a depression in one arm of the scissors and adapted to be swung on its pivot, to engage the other arm and limit the movement of the two arms toward each other, of the notched segmental plate held by the arm beneath the cam, the lever above the cam having the tooth or projection passing through said notch or slot in the cam and engaging the notches in the segmental plate, a spring carried by said lever for holding said tooth in engagement with the notches, the plate for covering the depression in which said parts are located, and the pivot for holding the parts in position, substantially as described.

### No. 29,311. Thill or Shaft Coupler.

(Arçon de limonière.)

Charles R. Jones, Hatley, Que., 9th June, 1888; 5 years.

*Claim.*—1st. The combination of the couplers or shackles D and D', with the axle tree A and B, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the couplers or shackles E and E', with the shaft F, substantially as and for the purposes hereinbefore set forth. 3rd. The combination, with the couplers or shackles D and E, with the raw-hide I, substantially as and for the purposes hereinbefore set forth.

### No. 29,312. Wire Fence Machine.

(Machine à clôture en fil de fer.)

Leonidas C. Lowden, Indianapolis, Ind., U.S., 9th June, 1888; 5 years.

*Claim.*—1st. A fence weaving machine comprising a frame, a rack

bar movable in guides thereon, one of its edges engages with pinions revolving in bearings in such frame, and connected with twisting spools through which the fence wires pass from the tension device, another edge of such rack bar engaging with the actuating mechanism, substantially as described. 2nd. In a fence weaving machine, a frame or standard, a series of twisting spools for carrying the fence wires mounted thereon, their outer ends formed with rack teeth, a rack bar movable in guides in such frame, its teeth engaging with such twistors, and a crank mechanism for actuating the same, all combined substantially as described. 3rd. A fence weaving machine comprising in combination a series of geared twisting spools mounted in a frame, a rack bar and crank mechanism engaging with such twistors for revolving the same, and a gauge for setting the pickets at a uniform height while being operated upon, also connected to such machine, substantially as shown and described. 4th. The tension device herein described, comprising the frame work J, having lug K, the tension bar H having threaded shank b, for securing it to such frame, substantially as described.

### No. 29,313. Machine for Making Tooth-Picks. (Machine à faire les cure-dents.)

William F. Hutchinson, Lynn, Mass., U.S., 9th June, 1888; 35 years.

*Claim.*—1st. A tooth pick machine consisting essentially of a revolving drum with equi-distant knives around its periphery, and a drum composed of raw hide rubber or other suitable material as a bearing for said knives, substantially as hereinbefore set forth. 2nd. In a tooth pick machine, the drum D, having the knives g around its periphery, and the springs J between said knives, all substantially as described and for the purpose hereinbefore set forth. 3rd. The flanges F grooved as shown, and adapted to hold the knives g and springs J in position, substantially as shown and for the purposes hereinbefore set forth. 4th. In a tooth-pick machine, the combination of the flange F, springs J, rolls M and lever L, substantially as hereinbefore set forth. 5th. The combination of the drum D, knives g and flanges F, substantially as described and for the purposes hereinbefore set forth. 6th. The combination of the drum D, springs J and flanges F, substantially as hereinbefore set forth.

### No. 29,314. Bottle and Stopper Therefor.

(Bouteille et bouchon de bouteille.)

Storling Glover, Montreal, Que., 9th June, 1888; 5 years.

*Claim.*—1st. The combination, with a bottle having projections formed in its neck, of a stopper composed of finger disc, stem and lugs in one piece, and washer encircling such stem, the lugs being made to engage with the projections or disengage therefrom by a half turn of the stopper, all as herein set forth. 2nd. The stopper composed of finger disc A, stem B and lugs C and washer D fitting on such stem, all as and for the purposes described.

### No. 29,315. Shingling Gauge.

(Gauge à bardeaux.)

McGuire Slane, La Cite, N. M., U.S., 9th June, 1888; 5 years.

*Claim.*—1st. In a shingling gauge, the combination, with the bar a provided with arms b, of the bar B arranged to abut against the row of shingles, the levers f adapted to receive the blows of a hammer, and the pointed pins g pivoted in and projecting above the levers, substantially as described. 2nd. In a shingling gauge, the combination of the body A consisting of the angled bar a, provided with the apertured arms b projecting at right angles therefrom, the levers f pivoted in ears projecting from the said arms b, and the pins g pivoted in the levers f and adapted to be driven into the shingles, substantially as described.

### No. 29,316. Feed-Cutter. (Coupe-paille.)

Ebenezer W. Rider, Racine, Wis., U.S., 9th June, 1888; 5 years.

*Claim.*—1st. In a feed-cutter, the combination of the box and frame, with a suitable plate carrying a knife, a lever fulcrumed to the frame, a link connecting the lever and knife-plate, a bracket-arm secured to the frame on the side farthest from the operator, a link connecting this bracket-arm with the adjacent end of the knife-plate, a slotted arm secured to the frame at the side nearest the operator, and a projection or roulette on said knife-plate arranged to engage the slotted arm, substantially as set forth. 2nd. In a feed-cutter, the combination, with the box of the supporting frame having a front standard on the side farthest from the operator vertically extended above said box, suitable blocks secured to both front standards, a bar supported on the blocks, a vertical post secured to the vertically extended front standard outside the block thereon, a lever fulcrumed between the upper ends of this standard and post, a suitable plate carrying a knife and connected by a link to the lever, a bracket-arm secured to said vertically extended standard, a link connecting this bracket-arm with the adjacent end of the knife-plate, a slotted arm connected to the front frame-standard on the side nearest the operator, and extended in an outward direction above the box, and a projection or roulette on said knife-plate arranged to engage the slotted arm, substantially as set forth. 3rd. In a feed-cutter, the combination, with the box and supporting frame, of a lever actuated knife having the outer face of its plate provided with a suitable lug, a hinged apron arranged outside said knife, and provided upon its inner face with a lug arranged to be acted upon by the one on the knife-plate, and a spring arranged to normally hold said apron in a vertical position, substantially as set forth. 4th. In a feed-cutter, the combination, with the box of the supporting frame having a front standard thereon on the side farthest from the operator vertically extended above said box, a vertical post secured to said extended standard, a slotted arm secured to the front frame-standard nearest the operator, a lever fulcrumed between the upper ends of said extended standard and post, a suitable plate carrying a knife and provided on its front face with a lug, a bracket arm secured to the first named standard, links connecting the lever and bracket arm with the knife-plate, a projection or roulette, arranged on said knife-plate to engage the slotted



arm, a transverse bar having its ends bolted to said vertical post and slotted arm, an apron hinged to this bar and provided on its inner face with a lug arranged to be acted upon by the one on the knife-plate, and a spring operatively connecting said frame and apron to hold the latter normally in a vertical position, substantially as set forth.

### No. 29,317. Burner for Heating Sad Irons.

(*Réchaud de fer à repasser*)

James M. Wishart, Marion, Kan., U.S., 9th June, 1888; 5 years.

*Claim.*—1st. A burner consisting of the following elements, viz.: a gas generator formed of metal tubing in a coil or folds, a gas receiver containing channels, valve chamber and aperture for the passage of the gas, valve for controlling discharge of same and air space, and a gas distributor formed of a perforated tube, the whole being detachably connected together and held firmly in place in the sad iron by suitable means, all substantially as herein set forth. 2nd. The combination of block D having collar D<sub>1</sub> adapted to bear against rear wall of sad iron, tube E screwed into block, and cap nut E<sub>1</sub> adapted to be screwed on outer end of tube and bear against front wall of sad iron, as and for the purpose described.

### No. 29,318. Tellurian. (*Orrery.*)

George W. Benedict and Harvey Y. Miller, College Corner, Ind., U.S., 11th June, 1888; 5 years.

*Claim.*—1st. A table provided with a pair of intersecting slots, a slide-block in each of said slots, an arm pivoted to each of said slide-blocks, an earth-standard and earth-model supported at the outer end of the arm, and a sun-standard and sun-model supported at the inner end of said arm, combined substantially as and for the purpose specified. 2nd. An elliptical table intersecting slots arranged in the major and minor axis thereof, a slide-block in each of the slots, an arm pivoted to both of said blocks, an earth-standard and earth-model at the outer end of said arm over the margin of the table, and a sun-standard and sun-model supported at the inner end of the arm, combined substantially as and for the purpose specified. 3rd. In a tellurian, the combination of a main arm, a sun-standard supporting a sun-model and arranged at one end of said arm, a vertical shaft arranged at the other end of the arm, an earth-model supported on said shaft, a circular boss arranged on said arm eccentrically to said shaft, an arm arranged to revolve about the shaft, a bent rod arranged to embrace the periphery of the boss and to slide in the direction of its length through the arm, and to revolve therewith, an extension of said rod removably secured thereto, and bent so as to pass over the sun-model, and a comet-model mounted on said extension, all combined and arranged to co-operate substantially as and for the purpose specified. 4th. A table provided with a pair of intersecting slots, a slide-block in each slot, a pulley fixed to one of the slide-blocks, an arm pivoted to both of said slide-blocks, a sun-standard and a sun-model supported at the inner end of said arm, an earth-standard journaled at the outer end of the arm, an earth-model supported by the earth-standard, a pulley secured to the journal upon which the earth-standard is mounted, and a belt engaging said two pulleys, combined and arranged to co-operate substantially as and for the purpose specified. 5th. A pivoted main arm, a sun-standard and sun-model supported at the inner end of said arm, an earth-standard and earth-model supported at the outer end of said arm, and a laterally projecting arm, as Q, serving as a means for attaching said sun-standard to its support, combined substantially as and for the purpose specified. 6th. The table provided with a pair of intersecting slots, the slide-blocks in said slots, the main arm pivoted to both of said slide-blocks, the vertical shaft journaled in the outer end of the said main arm, the earth-model mounted on said shaft, a pair of sprocket wheels, one of which is secured to one of the said sliding blocks so as to bear a fixed relation thereto, and the other of which is secured to said shaft the belt passing around and connecting said wheels, the vertical shaft journaled near the inner end of the main arm, and carrying a third wheel which is also actuated by said belt, the sun-standard having a laterally projecting arm which is secured to said vertical shaft, and the sun-model mounted on said sun-standard, all combined and arranged to co-operate substantially as specified. 7th. The table provided with a pair of intersecting slots, the slide-blocks in said slots, the main arm pivoted to both of said slide-blocks, the vertical shaft journaled in the outer end of the main arm, the earth-standard adjustably secured to said shaft, the earth-model, a pair of sprocket wheels, one of which is secured to one of the said sliding blocks so as to bear a fixed relation thereto, and the other of which is secured to said shaft, the belt passing around and connecting said wheels, the moon arm pivoted on the shaft so as to turn easily thereon, the moon-standard connected with the moon arm so as to revolve therewith, and the moon-model mounted on said standard, all combined and arranged to co-operate substantially as and for the purpose specified. 8th. In a tellurian, the combination of a vertical shaft, an earth-model supported on said shaft, a circular boss arranged eccentrically to said shaft, an arm arranged to revolve about the shaft, a bent rod arranged to embrace the periphery of the boss, and to slide in the direction of its length through the arm, and to revolve therewith, and a moon-model mounted on the upper end of the rod, all arranged to co-operate, substantially as and for the purpose specified.

### No. 29,319. Cork Extractor. (*Tyre-bouchon.*)

Raymond B. Gilchrist, Peoria, Ill., U.S., 11th June, 1888; 5 years.

*Claim.*—1st. A cork extractor comprising a cork-screw having a screw-threaded extension, a sliding nut engaging the threads on the extension, a rack gearing with a pinion on the cork-screw, an operating lever acting during a portion of its throw to raise the cork-screw, substantially as described. 2nd. A cork extractor comprising a cork-screw having a screw-threaded extension having the slot, a sliding nut engaging the threads on the extension, a rack, a pinion interposed between the extension and the rack, and having a spline

entering the slot in the extension, and an operating lever acting during a portion of its movement to raise the cork-screw, substantially as described. 3rd. A cork extractor comprising a cork-screw having a screw-threaded extension, a nut engaging the threads on the extension, a rack operating upon the extension for imparting rotary motion to the cork-screw, an operating lever having the projection, and the lifting arm connected to the said projection and to the cork-screw, substantially as described. 4th. A cork extractor comprising a cork-screw having a screw-threaded extension, a screw-threaded portion engaging the extension, a rack operating upon the extension for imparting motion to the cork-screw, an operating lever having the projection, the raising arm connected to the said projection, and to the extension of the cork-screw, and the spring connected to the rack and to the base of the extractor, substantially as described. 5th. In a cork-extractor, the combination of a suitable cylinder, a nut perpendicularly movable therein, an axially and perpendicularly movable screw operatively set within said nut, provided at one end with a cork-screw, and at its other end with an extension or stem, a pinion located upon said stem, an operating lever pivotally held to said cylinder, a rack carried by said lever, which meshes with said pinion, operative to impart rotary motion to said pinion, and therethrough to actuate said cork-screw, and a lifting arm connected with said lever, and stem adapted through the action of said lever to perpendicularly move said cork-screw, all arranged and adapted to be operated substantially as herein described. 6th. In cork extractors, the combination of a suitable cylinder, a nut perpendicularly movable therein, a cork-screw carried fixedly by a screw set in said nut, and susceptible of longitudinal and rotary motion therein, a spring within said cylinder interposed between the cap thereof and said nut, operative to exert a tensional strain perpendicularly upon said nut, a pinion carried by an extension or stem of said screw which is free to move longitudinally therethrough, and operative to be rotated thereby, a lever pivoted to said cylinder, a rack carried by said lever which meshes with said pinion, adapted through the to-and-fro movement respectively of said lever, to actuate said cork-screw through its forward and reverse longitudinally and rotary movements, and a lifting arm connected with said lever, and screw-stem adapted through the action of said lever to move said cork-screw longitudinally, all arranged and adapted to be operated substantially as set forth.

### No. 29,320. Submarine Photographic Apparatus. (*Appareil photographique sous-marin.*)

Joseph l'Etoile and William A. Allan, Ottawa, Ont., 11th June, 1888; 5 years.

*Claim.*—1st. In a photographic apparatus, the combination, with a camera, of a shutter or disk, an electric motor for imparting motion to said shutter, and a generator for energizing the electric motor. 2nd. In combination with a camera, a shutter or disk, an electric motor for imparting motion thereto, a pawl or detent to engage the said disk or shutter, and an electromagnet adapted to actuate said pawl or detent. 3rd. In combination with a camera, a box or casing secured thereto, a shaft journaled in the box and adapted to receive sensitized paper, an electric motor, connected with the shaft, a generator, and a connection between the generator and the motor. 4th. In combination with a camera, a box or casing secured to the rear end thereof, a shaft journaled in said box or casing provided with a notched disk, and adapted to receive sensitized paper, a pawl or detent adapted to engage the notched disk, an electromagnet for withdrawing the detent or pawl out of engagement with said disk, and an electric motor for imparting motion to the shaft, all substantially as shown. 5th. In combination with a camera having a box or casing, a shaft journaled therein and adapted to receive sensitized paper, an electric motor adapted to impart motion to the shaft, an electrically operated detent adapted to control the rotation of the shaft, a shutter, an electric motor for turning said shutter, and an electrically operated detent adapted to control the movement of the shutter. 6th. In an apparatus for taking submarine photographs, the combination with a box or casing divided into two or more water-tight compartments, of a lens secured within an opening in the bottom of each of said compartments, a photographing apparatus located in one of said compartments, and an electric light located in the other compartment, or compartments, all substantially as shown. 7th. In combination, with a box or casing provided with a central chamber, and having a camera located in said chamber, one or more chambers surrounding the central chamber, and light giving bodies located in the surrounding chambers. 8th. In combination with the box or casing provided with the separated chambers, a lens located in an opening in the bottom of each chamber, plates E of glass, secured upon the outer face of the casing directly over the lenses, and a rim or flange D surrounding the openings, all substantially as shown. 9th. In combination with a box or casing divided into compartments, and having in the bottom of each compartment a lens, a plate of glass upon the outer face of each of the lenses, a ring G resting upon said plate and fitting within a projecting rim or flange D surrounding the openings in the bottoms of the chambers, the said ring being secured in position by means of cement, or other waterproof material. 10th. In combination with the box or casing A, provided with a central compartment C, and side compartments B, B, a block I secured in the bottom of each compartment, and having an opening to receive a lens, posts or uprights secured to said blocks I, a camera secured to the uprights within the chamber C, and lights or lamps secured to the uprights within the chambers B. 11th. In an apparatus, substantially as shown, the combination, with the base block I, the uprights J secured thereto, a cross-bar or support K adapted to slide upon the uprights J, J, and an electric lamp L carried by said cross-bar. 12th. In an apparatus, substantially as shown, the combination, with the base board I and the uprights J, J, of the lamp L, adjustably supported by said uprights, and a reflector N also adjustably supported upon said uprights. 13th. In combination with a watertight box or casing provided with a photographing apparatus, and with light giving bodies, a cable composed of wires insulated from each other but connected with their respective mechanisms, and a switch-board provided with a series of switches, each adapted to control its particular mechanism. 14th. In combination with a sub-

marine photographing apparatus, chains or cables for raising and lowering the said apparatus, electric conductors extending upward from said apparatus, and connected with the various mechanisms therein, and with the generator, and a switch board provided with a series of switches, each adapted to energize its particular mechanism.

14th. A submarine photographing apparatus, comprising a watertight box or casing, a camera and electric lights, all arranged for operation substantially in the manner shown.

15th. In combination with the camera R, the disk G, provided with holes or openings C, and with stops F, an electric motor D for imparting motion to said disk or shutter, a pawl or detent G adapted to engage the disk, an electromagnet K for withdrawing said detent for engagement with the disk, and a spring adapted and arranged, substantially as shown, to hold the detent normally in engagement with the disk.

17th. In an apparatus for taking submarine photographs, the combination, with the camera and the lights, of the case or shell in which said devices are placed, said shell having its side walls bevelled and provided with light openings, substantially as shown and described.

18th. In combination with the shell of a submarine photographing apparatus, of a camera, light-giving bodies, and an opening in the top of the shell to serve as a guide for the operator.

### No. 29,321. Stove Grate. (*Grille de poêle.*)

James Sangster, (assignee of Edward Walter), Buffalo, N. Y., U. S., 11th June, 1888; 5 years.

*Claim.*—A stove grate consisting of a series of bars projecting obliquely downward and inward from a frame or ring, in combination with a rocking or rotative portion consisting of a shaft set in bearings in the frame or ring, and having a series of bars projecting obliquely downward and outward from each side of said shaft, substantially as described.

### No. 29,322. Blasting Car. (*Char de pécariement.*)

Andrew R. Shannon and McEott, Hodgins and Clarke, Watertown, N. Y., 11th June, 1888; 5 years.

*Claim.*—1st. A blast car, carriage or similar device consisting of a fixed body, a lower pendant and vertically adjustable body, and means substantially as shown and described for manipulating the adjustable body, as and for the purpose specified.

2nd. A blast car, carriage or similar device consisting of a fixed body, a vertically adjustable fixed body pendant from the fixed body, a cushion interengaging the two bodies, and means substantially as shown and described for raising and lowering the pendant body, as and for the purpose specified.

### No. 29,323. Saw Swaging Machine.

(*Machine à élamper les scies.*)

George M. Hinkley and Edward P. Allis and Company, Milwaukee, Wis., U. S., 11th June, 1888; 15 years.

*Claim.*—1st. A machine for swaging saws consisting essentially of the following elements in combination, a supporting frame work provided with standards and hangers for sustaining the moving parts of the machine, a rotary shaft mounted in said frame and provided with cams for giving motion to the various parts, feed-rollers adapted and arranged to bear against opposite faces of a saw-blade and to advance the same, movable jaws for clamping the blade preparatory to the swaging action, a swaging roller movable lengthwise and in front of the saw-teeth, a swaging-die movable to and from the rear face of the teeth, and connecting devices, substantially as described and shown, for transmitting motion from the several cams to the feeding clamping and swaging devices.

2nd. In a saw-swaging machine, feeding mechanism consisting of a pair of rolls geared together, a beveled pinion secured upon the arbor of one of said rolls, a shaft provided with a bevel-gear to mesh with that of the roll and provided also with a ratchet-wheel, a pawl carrying arm or lever pivoted concentrically with said ratchet-wheel, a cam, a connecting rod extending from the pawl carrying lever to the cam and provided with a block or runner fitting upon the rim of said cam, and a link suspending from the frame of the machine, and serving to support the connecting-rod and the block or runner.

3rd. In combination with feed rollers H, H, connected by gearing shaft G, connected by gearing with the arbor of one of said rollers, ratchet-wheel L, levers M, M, provided with dog I, sliding-block N, adjusting-screw n, pitman o, link or hanger P, block or runner N and cam or eccentric I for imparting motion to the rod O.

4th. In combination with rollers H, H, and the journal-blocks F at their upper ends, a yoke J pivoted to one of said blocks, and a screw K passing through said yoke and adapted to bear against the other of said blocks, substantially as and for the purpose set forth.

5th. In combination with rollers H, H and with mechanism, substantially as shown, for imparting a step by step rotation thereto, journal-blocks applied to the upper and lower ends of said rollers, adjusting screws bearing against the lower journal-blocks, a yoke pivoted to one of the upper journal-blocks, and an adjusting-screw passing through the yoke and bearing against the other of said journal-blocks.

6th. In a saw-swaging machine, the combination of a supporting frame, standards rising therefrom, clamping jaws mounted in said standards, and links or toggles bearing at one end against the standards, and at the other end connected with a vertically-moving slide, whereby a vertical movement of the slide in one direction will cause the jaws to clasp the blade, and a movement in the reverse direction will cause the jaws to release the blade, substantially as set forth.

7th. The combination, in a saw swaging machine, of supporting standards jaws mounted and arranged to slide therein, set-screws applied to one of said jaws and serving to adjust and hold said jaw, a vertically moving slide in the rear of the other jaw, links extending from said slide to the jaw, a bearing block in rear of the slide, and adjusting-screws for moving and securing said bearing-block, whereby the distance to which the jaws shall be moved by the action of the slide may be varied, as desired.

8th. The combination, in saw swaging machine, of supporting standards, jaws mounted therein, a vertically moving slide in rear of one of said

frame work of the machine, a link connecting the lever and the slide, a rotating cam or eccentric, and a block or runner carried by the lever and actuated by the cam or eccentric, whereby the jaws are caused to periodically clamp and release the saw blade passing between them.

9th. In a saw swaging machine, the combination, with a supporting frame and standards, of clamping jaws mounted in said standards, a slide moving in one of said standards at right angles to the movement of the jaws, and connected with one of said jaws by links, a lever pivoted at one end to the frame of the machine, and provided at its opposite end with a grooved block or runner, a cam having its rim extended into the groove of said block or runner and serving to give motion to the lever, and a link connecting said lever and the slide, whereby the rotation of the cam is caused to move the slide and actuate the clamping jaw, substantially as set forth.

10th. In a saw-swaging machine, the combination, with supporting standards of a vertically moving, orked or slotted slide adapted to straddle the saw-blade, mechanism, substantially as shown, for imparting a longitudinal movement to said slide and a die carried by the slide and adapted to strike the rear face of the saw-tooth, substantially as set forth.

11th. In a saw-swaging machine, the combination, with saw-holding devices and with a swaging-die, of uprights or supports provided with arms having arched-shaped grooves, grooved guides or standards having arms curved to fit and seated in the grooves of the uprights or supports, clamps for securing said arms at any desired adjustment, a slide movable in the grooved standards or guides, and a roller carried by said slide and adapted to act upon the front face of a saw-tooth, substantially as and for the purpose set forth.

12th. In a saw-swaging machine the combination of saw holding devices, a reciprocating slide, a swaging-roller carried by said slide and adapted to set upon the front faces of the saw-teeth successively, guides for said slide adjustable to different inclinations, and locking devices or clamps for holding the guides at any inclination, whereby the movement of the slide and its roller may be made to correspond with the line of the front faces of the saw-teeth.

13th. In combination with uprights or supports Q having arms provided with curved grooves X, guides Z, provided with arms Y, fitting and seated in said grooves, clamping devices bearing upon said curved arms, slide Y movable longitudinally in said guides, and roller W carried by the said slide, substantially as set forth.

14th. In a saw-swaging machine, substantially as shown and described, the combination, with saw supports, of a reciprocating slide Y, a swaging-roller carried thereby, a lever pivoted at one end and provided at its opposite end with a grooved block Z, a cam 3 having its rim or flange extending into the groove of the block, and a rod or pitman A1 connecting the slide and the lever, whereby the rotation of the cam is caused to produce a reciprocating motion of the slide Y, and to carry the roller over the front faces of the teeth of the saw.

15th. In combination with guides Z, slide Y provided with roller W, lever C1 pivoted at one end, and provided at its opposite end with grooved block Z, rotary cam 3 and pitman or rod A1 connecting the slide and the lever.

16th. In combination with slide Y, provided with roller W and with lever C1 and its operating devices, connecting-rod or pitman A1 having the open yoke or frame at one end, sliding block B1 mounted in said open yoke, stud or pin X extending from said block to the lever C1, and an adjusting screw D1 for raising and lowering said block and pin.

17th. In a saw-swaging machine, the adjustable ways Z, in combination with the slide Y and the swaging-roller W, as and for the purpose specified.

18th. In a saw-swaging machine, the combination of a die or anvil X to support the back of the saw tooth, a slide provided with a swaging roller to act upon the front of the tooth, adjustable guides for said slide, and clamps or locking devices for holding the guides at any desired inclination, whereby the roller is caused to move positively in contact with the front of the tooth from root to point.

### No. 29,324. Ventilating and Draft Accelerating Cap for Chimneys, Ventilating Shafts, etc. (*Capuchon de ventilation et le tirage pour cheminées, bures de ventilation, etc.*)

Thomas W. Emery (co-inventor with William Spence), Minneapolis, Minn., U. S., 11th June, 1888; 5 years.

*Claim.*—1st. The main cap formed of a single piece of sheet metal, formed into shape and with returned sections cut from the metal, substantially as herein specified.

2nd. A ventilating or draft producing cap constructed with an attaching band A, returned sections C, C forming together an upwardly contracted case, and openings in the sides opposite to the same, and a close band at the top, substantially as and for the purpose herein specified.

3rd. A ventilating or draft producing cap constructed with upwardly contracted case, side openings opposite to the same, band above the openings supported by standards between the openings, and outwardly turned wings at the upper edge of the top band, substantially as and for the purpose herein specified.

4th. The combination of the main cap constructed with an upwardly contracted case with openings in the sides opposite to the same, and close band above, and a shield cap placed in the top of the cap over the draft opening of the contracted case, substantially as and for the purpose herein specified.

5th. The combination of the main cap constructed with upwardly contracted case, openings in the sides opposite to the same, and close band above the openings, a shield cap in the top of the main cap, and wire gauze screens covering the space between the shield cap and case below, substantially as herein specified.

6th. The combination of a chimney or ventilator having two or more flues, cap over the chimney formed with upwardly contracted case or frustum, shield cap over the open mouth of the same, and partition or partitions within the frustum between the flues, substantially as and for the purpose herein specified.

7th. The combination of a chimney or ventilator having two or more flues, cap over the chimney or ventilator formed with an upwardly contracted case or frustum, shield cap over the open mouth of the same, partition or partitions within the frustum between the flues, and wing partitions outside of the frustum and opposite to the interior partition or partitions, substantially as and for the purposes herein set forth.

**No. 29,325. Steam Engine. (Machine à vapeur.)**

Joseph A. Arthur, Toledo, and Thomas C. Garfield, Cleveland, Ohio, U.S., 12th June, 1888, 5 years.

*Claim.*—1st. In a steam engine of the character described, the combination, with the cylinder end, of a pocket having a conical bore, and a sleeve or lining for said pocket having a conical exterior and cylindrical interior bore, as set forth. 2nd. The combination, with the cylinder of a steam engine, of a pocket extending from the head thereof, said pocket having a conical bore, the split sleeve having conical outer surface which enters said pocket, and a nut attached to the sleeve and engaging a screw thread in the pocket, whereby the rotation of the nut will both turn and compress the sleeve, all in combination substantially as described. 3rd. The combination, in a steam engine of the character described, of a steam cylinder having pockets in the heads thereof, a pair of piston heads connected together, each head having a projecting bearing extending into its pocket in the cylinder, and a rocking piece bearing on each piston head, and connected to a crank between the two heads, substantially as described. 4th. In a steam engine, a cylinder having bearing pockets in its heads, connected pistons within the cylinder having bearing pieces extending into the pockets of the cylinder, a cross shaft having a crank pin intermediate of the pistons, rockers bearing on the pistons, and rigid but extensible connections attached to the rockers, and having bearings on the crank-pin, all combined substantially as set forth. 5th. The piston head having a hollow bearing piece from the outer face thereof, a bar in said bearing having a tooth projecting from the inner face of the piston head, and a rocker supported by said tooth and having projections toward the crank shaft, all in combination as stated. 6th. The combination, with the cylindrical valve chest having end apertures, of a valve rod extending longitudinally through the chest, and stuffing surrounding the valve rod fitting loosely in the apertures in the ends of the valve chest, but having flanges to cover the openings, whereby the stuffing boxes may be properly aligned, substantially as described. 7th. The combination, with the piston heads, of presser bars 21, and adjustable bearing pieces having tongues in position to interlock with each other as the crank revolves, substantially as described. 8th. The balanced valves on one valve rod working in removable rings, and provided with surrounding packing rings with tongued ends, combined with pieces attached to the inner packing ring having recesses to receive the tongued ends of the outer ring. 9th. The combination, with the fly wheel of an engine, of two weighted crank arms mounted thereon, a bar connecting these arms, an eccentric on the bar forming a loop around the shaft, and connections from the eccentric to the valves of the engine. 10th. The combination, with the fly wheel, of the weighted arms connected thereto, the springs for holding said arms, the bars connecting said arms, and having a loop surrounding the main shaft, said loop forming the eccentric, and an eccentric strap connected to the rock shaft and the reciprocating valves. 11th. The combination of the governor, constructed substantially as described and attached to the fly wheel, the eccentric and its connections, the rock shaft 33, and its arm connected to the eccentric, the reciprocating valves, and connections from the rock shaft to said valves, all substantially as described.

**No. 29,326. Saw Strainer and Jointer.**

(Appareil à tendre et affûter les scies.)

Robert Gaskin, jr., and William L. Warrig, Saint John, N. B., 12th June, 1888; 5 years.

*Claim.*—1st. The combination of the saw holding frame *f*, having means for straining a saw as set forth, and a reciprocating file guide *h*, provided with a file holder *a* and travelling upon said frame, to engage the file with the points of the teeth of the saw when the saw is under tension, as described. 2nd. The straining frame having straining members *c, d* at the ends, straining arms *e, f* secured to the ends of the saw and engaging said members, and a wedge or key *W* to strain the saw, substantially as set forth. 3rd. The combination, with the frame *f*, of the reciprocating file guide *h*, having a spindle *p* plate *q*, and file holder *r*, as set forth.

**No. 29,327. Check Hook. (Crochet de selle.)**

Freddie C. Kimball, Jackson, Mich., U.S., 12th June, 1888; 5 years.

*Claim.*—1st. As an improved article of manufacture, a check hook having lateral arms or stops on the upwardly curved portion thereof, substantially as specified. 2nd. As an improved article of manufacture, a check hook having downwardly curved arms arranged on opposite sides of the upwardly curved portion thereof, and about midway the height of the same, substantially as specified.

**No. 29,328. Rolling Mill and Manufacture of Car Wheels. (Laminatoire et fabrication des roues de chars.)**

Théodore W. Bean, Norristown, Penn., U.S., 12th June, 1888, 5 years.

*Claim.*—1st. In a mill for rolling steel car wheels, the combination, with a sliding bearing and a ball or rocking bearing, of the shaft of one of the rolls, journaled in said bearings, and carrying a beveled gear-wheel placed between said bearings, and engaging directly with the gearing on the shaft of the other roll, substantially as described. 2nd. In a mill for rolling car wheels, the combination, with two or more heads of suitable shape to form the sides of the car wheel, of their shafts carrying beveled gear-wheels directly engaging one another, and situated between sliding and rocking bearings, substantially as described. 3rd. In a mill for rolling car wheels, the combination, with a horizontal roll for shaping the face of the wheel journaled in stationary bearings, of two or more roll heads of suitable shape to form the sides of the car wheel and their shafts, each carrying a beveled gear engaging the other gear directly each journaled on one side of the said gear in sliding bearings, situated near the roll heads controlled, by set screws, and on the other in rocking bearings, substantially as described.

**No. 29,329. Means by the use of Vaporous Crystals of Ammonium Chloride for Carrying other Drugs to the Respiratory and other Passages of the Body. (Moyens par l'emploi des cristaux de chlorure d'ammonium vaporeux d'introduire d'autres drogues dans les organes respiratoires et autres.)**

John B. Butcher, Halifax, N. S., 12th June, 1889; 5 years.

*Claim.*—The use of the vaporous crystals of ammonium chloride, as a vehicle for carrying other drugs to the respiratory and other passages of the body in all catarrhal affections of the mucous membranes of those passages, as described for the purpose set forth.

**No. 29,330. Inking Attachment for Printing Presses. (Encrer de presse d'imprimerie.)**

James R. Brodie, San Francisco, Cal., U.S., 12th June, 1888; 5 years.

*Claim.*—1st. In combination with the distributing disk and inking rollers of a printing press, an inking fountain having a fountain roller located for operation between the disk and the form, and means consisting essentially of a socket for the fountain inclines *E, E* and vibrating arm *F*, all arranged for throwing said roller into and out of action with the press-rollers, substantially as described. 2nd. In a printing press having a distributing disk and oscillating rollers, an inking device consisting of fountain, fountain rollers, socket inclines, vibrating arm and ratchet and pawl placed for operation below the disk or between it and the chase, and adapted to supply ink to the press rollers on the upward movement, but to be out of contact with them on their return movement as herein set forth. 3rd. In a printing press having an ink distributing disk and oscillating inking rollers, the combination of an inking fountain and a fountain roller having movement into and out of the path of the inking rollers, as described, and mechanism which is adapted to produce such movements arranged in position with relation to the oscillating arm or carrier of the inking rollers, to be struck and operated by said arm or carrier on its upward movement, as set forth. 4th. The herein described inking attachment for printing presses consisting of the trough *A*, inclines *E, E*, rotating arm *F*, and the ratchet wheel and pawl and connecting rod, combined for operation as set forth.

**No. 29,331. Sad Iron. (Fer à repasser.)**

Nelson R. Streeter, Groton, N. Y., U.S., 13th June, 1889; 5 years.

*Claim.*—The combination of the frame *F* provided with the flange upon its lower front edge, the pivotal projections formed upon the flange, the lever provided with recesses to catch over the projections, and the spring which is secured at its upper end to the handle frame, and which has its lower end to pass through an opening in the lever, substantially as described.

**No. 29,332. Machine Belting.**

(Courroie de machine.)

David W. McLaren, Montreal, Que., 13th June, 1888; 5 years.

*Claim.*—1st. Link belting formed of transversely connected links, each with one convex and the other concave, and fitting each other, as and for the purposes described. 2nd. The combination, with two or more longitudinal sections of linked belting, of flexible connections with joints fitting each other, each secured to and connecting two such sections of belting, all as and for the purposes set forth.

**No. 29,333. Whiffletree Hook.**

(Crochet de palonnier.)

James M. Basinger, Buffalo, N. Y., U.S., 13th June, 1888; 5 years.

*Claim.*—The combination, with the whiffletree and its hook, of a guard *D* composed of a plate *e*, and arm *e* pivoted to the whiffletree, the plate *e* being constructed to bear against the trace in front and in rear of the whiffletree hook, whereby the trace is securely held on the hook by the guard, and the latter is held securely in its locking position, substantially as set forth.

**No. 29,334. Fence Machine.**

(Machine à clôture.)

Benjamin A. Wolds, Jackson, Mich., U.S., 13th June, 1888; 5 years.

*Claim.*—1st. In combination with the frame *A* of a fence-making machine, provided with a bearing-wheel *G*, the lever *H*, link *I* and bell crank dog *J*, substantially as and for the purposes set forth. 2nd. In a fence machine, the combination, with the frame *A* provided with twistors, and bearing wheel *G* carried thereby, of the lever *H* fulcrumed on said frame, the bell crank dog *J*, link *I* and spring *K* interposed between said lever and frame, substantially as and for the purpose specified. 3rd. In a fence making machine, the combination of the frame *A*, wheels *B, C*, crank *D*, shaft *E*, bevel wheels *F*, wheel *G*, lever *H*, link *I*, bell crank dog *J*, spring *K*, sockets *L*, adjustable guides *M*, support *N*, brace *O*, upright *P*, tension blocks *Q*, bolts *S* and spirit-level *W*, the parts being constructed arranged and operating substantially in the manner and for the purpose specified.

**No. 29,335. Drapery Hook. (Patère de draperie.)**

Ralph Tilton, Brooklyn, N. Y., and Martin Cowan, Chicago, Ill., U.S., 13th June, 1888, 5 years.

*Claim.*—1st. The elastic staple-like hook herein described for sus-

pending drapery, composed of a bar like head or back, and sides bent to terminate in prongs inclining downward and away from said head or back, essentially as specified. 2nd. A hook for suspending drapery constructed of a piece of spring metal bent to form a bar-like head or back *b*, converging sides *c, c*, and laterally flaring elastic prongs *d, d* inclining downward toward the head or back, and of a distance apart at their points corresponding or thereabouts to the length of the head or back, substantially as specified. 3rd. The combination, with a sliding curtain or drapery ring *C* having an eye *e*, of the within described spring metal staple-like hook *A* adapted to suspend a curtain or piece of drapery, and to automatically lock with the eye in the ring, essentially as set forth.

**No. 29,336. Package for Containing Extracted Honey.** (*Réceptif pour le miel vierge.*)

William Bueglass, Bright, Ont., 13th June, 1888; 5 years.

*Claim.*—As an improved package for extracting honey, a sheet of waxed or oiled paper formed in the desired shape, and having an end or ends formed of wood or other solid material, substantially as and for the purpose specified.

**No. 29,337. Attachment for Seaming Machines.** (*Disposition aux machines à agraffer le métal en feuilles.*)

Adolbert L. Traver, Philmont, N. Y., U. S., 13th June, 1888; 5 years.

*Claim.*—1st. The combination, in an attachment for seaming machines, of a trimmer and a brush. 2nd. The combination, in an attachment for seaming machines, of a trimmer and a revolving brush. 3rd. The combination, in an attachment for seaming machines, of a trimmer, a brush, and a guard between them. 4th. The combination, in an attachment for seaming machines, of a trimmer and a brush, the ends of the bristles of which engage with and pass entirely across the edges of the goods after they have been trimmed. 5th. The combination, in an attachment for seaming machines, of a trimmer, a brush and a cover over the brush. 6th. The combination, in an attachment for seaming machines, of a frame, two vertical shafts journaled therein, a disk secured to the lower end of each shaft, a band upon each shaft above its cutter, the inner diameter of one of which is larger than the diameter of the shaft and a spring. 7th. The combination in an attachment for seaming machines of a frame, two vertical shafts journaled therein, cutters secured to the lower ends of the shafts, two bands upon the shafts above the cutters, the diameter of one of which is larger than the diameter of the shaft, a spring the end of which is curved and a pad in the curved portion of the spring. 8th. The combination, in an attachment for seaming machines, of a base piece, an arm secured thereto having lugs upon its under side, one of which is counter-bored, two shafts journaled in said lugs having cutters upon their lower ends, and a spring in the counter-bored lug. 9th. The combination in an attachment for seaming machines, of a frame, two vertical shafts journaled therein, cutters secured upon their lower ends and cog pinions upon their upper ends, one of said shafts being extended beyond the cog pinions, and an adjusting nut upon said extended portion. 10th. The combination, in an attachment for seaming machines, of a frame, two shafts journaled therein, a ratchet upon one shaft, a ratchet lever for operating the shafts, and a link for connecting the end of said lever with the operating mechanism of the machine. 11th. The combination, in an attachment for seaming machines, of a frame, two shafts journaled therein, a ratchet upon the shaft, slotted arm secured to the frame, a lever pivoted in said slot, a pawl and a rod for connecting the end of the lever with the operating mechanism. 12th. The combination, in an attachment for seaming machines, of a frame, cutters attached thereto, an arm secured to the frame, a spindle adjustably secured to the arm, a sleeve on the spindle having a fast and a loose pulley, and a brush upon the sleeve. 13th. The combination, in an attachment for seaming machines, of a frame, cutters attached thereto, an arm upon the frame, the outer end of which is slotted, a spindle secured in the slot, a sleeve upon the spindle having an enlarged portion, a fast and a loose pulley upon one end, a cover over the fast having its lower side cut away, and one end open and an end piece upon the sleeve between the brush and the pulleys. 14th. The combination, in an attachment for seaming machines, of a frame, cutters and a brush secured thereto, a guard between the brush and the cutters, and a fender upon the guard having a lip projecting horizontally therefrom. 15th. The combination, in an attachment for seaming machines, of a frame, cutters journaled thereon, and rearwardly projecting guides or wings secured to the frame. 16th. The combination, in an attachment for seaming machines, of a frame cutters secured thereto, a slotted plate secured to the frame, and substantially parallel wings or guides secured to the plate, the point of one of which is bent downwards. 17th. The combination, in an attachment for seaming machines, of the cutters, the shaft of one of which is spring actuated, and an adjusting nut upon the other one, whereby the nut will move the two shafts in one direction and the spring will move them in the opposite direction.

**No. 29,338. Plough.** (*Charrue.*)

Onésime I. Bergeron, St. Grégoire, Que., 13th June, 1888; 5 years.

*Réclame.*—1o. La combinaison de l'oreille A, et le point d'extention C, les pointes D, D, tel que décrit. 2o. La combinaison, avec l'oreille A et le point d'extention C, avec les pointes D, D, tel que ci-dessus décrit et pour les fins indiquées.

**No. 29,339. Flexible Pipe Coupling.**

(*Joint de tuyau élastique.*)

Patten M. Askron and Charles L. Brown, Ciroloville, Kan., U. S., 13th June, 1888; 5 years.

*Claim.*—The combination of the caps *D* having the annular shoulders

*d*, and provided with the pipes *E* leading from their closed ends, the blocks *F, G* bolted together and secured rigidly in the caps and against the shoulders *d*, thereby leaving the unobstructed open spaces or chambers *T* within the caps between the blocks and the pipes *E*, the said blocks having the spherical sockets *M* and the recesses *a, b*, the telescoping pipes *A, B*, the pipes *N* leading from the pipes *A, B*, and having the balls *O* fitting in the sockets *M*, and the packing rings *R* around the balls *O*, substantially as specified.

**No. 29,340. Magazine Fire-Arm.**

(*Arme à feu à magasin.*)

Hermann Leinswaber, South Chicago, Edward F. A. Thielepape, Chicago, and Henry Schrohls, South Chicago, Ill., U. S., 13th June, 1888; 5 years.

*Claim.*—1st. In a magazine fire-arm, the combination, with the mechanism for moving the cartridge into position for firing, and with the firing mechanism, of a trigger actuating both said mechanisms through the medium of a single pressure consecutively in the order given, namely, first, the cartridge-adjusting mechanism, and, secondly, the firing-mechanism, substantially as described. 2nd. In a magazine fire-arm, in combination, the carrier for moving the cartridge into position for firing, the trigger which actuates the carrier through intermediate cam-mechanism, and a firing-mechanism engaged, and then released by the carrier in its upward movement, whereby a single pressure on the trigger causes, first, the moving of the cartridge into position, then fires the same. 3rd. In a magazine fire-arm, the combination, with the carrier for moving the cartridge into position for firing, and the trigger, and its connected slide which actuates the carrier, of a firing mechanism successively engaged and then released by the rising of such carrier, whereby a single movement of the trigger loads and fires the fire-arm. 4th. In a magazine fire-arm, the combination, with the barrel and stock, of a magazine, an elevator to receive the cartridges successively from the said magazine, and a trigger connected with the elevator and operated by a single pressure to actuate the elevator to carry a cartridge supported by it to the barrel, and firing-mechanism, and subsequently actuate the said firing-mechanism, substantially as described. 5th. In a magazine fire-arm, the combination, with the barrel and stock, of a magazine for the cartridges, a magazine for the shells of exploded cartridges, an elevator between the said magazines in normal position to receive the cartridges successively from their magazine, and a trigger connected with the elevator, and operated by a single pressure to actuate the elevator to carry a cartridge supported by it to the barrel, and firing-mechanism, and subsequently to actuate the said firing-mechanism to explode the cartridge, and by its release to return the elevator to its normal position, with the shell in position to enter the magazine provided to receive it, substantially as described. 6th. In a magazine fire-arm, the combination, with the barrel and stock, of a magazine provided with an automatic feed for the cartridges, an elevator normally in position to receive the cartridges successively from the said magazine, and a trigger connected with the elevator, and operated by a single pressure to actuate the elevator to carry a cartridge supported by it to the barrel, and firing-mechanism, and subsequently actuate the said firing-mechanism to explode the said cartridge, substantially as described. 7th. In a magazine fire-arm, the combination, with the barrel and stock, of a magazine provided with an automatic feed for the cartridges, a magazine for the shells of the exploded cartridges, an elevator between the said magazines in normal position to receive the cartridges successively from the feeding magazine, and a trigger connected with the elevator and operated by a single pressure to actuate the elevator to carry a cartridge supported by it to the barrel, and firing-mechanism, and subsequently to actuate the said firing-mechanism to explode the said cartridge, and by its release to return the elevator to its normal position, with the shell in position to enter the magazine provided to receive it, substantially as described. 8th. In a magazine fire-arm, the combination, with the stock magazine, firing-mechanism and barrel, of a chamber *E*, an elevator in the chamber normally in position to receive cartridges successively from the magazine, and a trigger connected with the elevator, and operated by a single pressure to raise the said elevator and carry a cartridge supported by it to the barrel, and firing-mechanism, and subsequently to actuate the said firing-mechanism to explode the said cartridge, subsequently as described. 9th. In a magazine fire-arm, the combination, with the magazine, firing-mechanism and barrel, of a chamber *E* contracted toward its upper end, an elevator *D* in the said chamber formed in two longitudinal parts loosely connected together toward their lower ends, and provided with an expansible bore toward their upper end, and a trigger connected with the elevator and operating by pressure to raise and compress the said elevator in the chamber *E*, and carry a cartridge contained in its bore to the barrel, and firing-mechanism, and to actuate the said firing-mechanism to explode the said cartridge, substantially as described. 10th. In a magazine fire-arm, the combination of a magazine *C* provided with an automatic feed for the cartridges, a magazine *C* for the shells of the exploded cartridges, a chamber *E* between the said magazines, an elevator *D* in the said chamber, and adapted normally to support a cartridge in position in line with the magazine *C*, and to enter the magazine *C*, a trigger connected with the elevator, and operated by pressure to raise the elevator to carry the cartridge supported by it to the barrel and firing-mechanism, and to actuate the said firing-mechanism to explode the cartridge, and a spring *I* connected with the trigger and operating when the trigger is released to return it and the elevator to their normal positions, substantially as described. 11th. In a magazine fire-arm, the combination of a magazine *C* provided with an automatic feed for the cartridges, a chamber *E* into which the magazine *C* leads, a chamber *G* containing a laterally elongated bore *L* partly closed at its forward end, and communicating at its rear end with the chamber *E*, a magazine *C* communicating at its rear end with the open forward end of the bore *L*, an elevator *D* in the chamber *E* provided with a bore normally communicating at opposite ends with the magazine *C*, and bore *L*, a trigger connected with the elevator and operated by pressure to raise the elevator in the chamber *E* to carry the cartridge contained in its bore to the barrel, and firing-mechanism, and to actuate the said firing-mechanism to explode the cartridge, and a spring *I* con-

neated with the trigger and operating, when the trigger is released, to return it and the elevator to their normal positions, substantially as described. 12th. In a magazine fire-arm, the combination of a magazine C provided with an automatic feed for the cartridges, a chamber E into which the magazine C leads, a chamber G containing a laterally elongated bore L partly closed at its forward end, and communicating at its rear end with the chamber E, a yielding tongue *t* in the base of the bore L, a pivotal cam N in the side of the said bore, a magazine C<sub>1</sub> communicating at its rear end with the open forward end of the bore L, an elevator D in the chamber E provided with a bore normally communicating at opposite ends with the magazine C<sub>1</sub>, and bore L, a trigger connected with the elevator, and operated by pressure to raise the elevator in the chamber E to carry the cartridge contained in its bore to the barrel, and firing-mechanism, to actuate the said firing-mechanism to explode the cartridge, a spring I<sub>2</sub> connected with the trigger, and operating when the trigger is released, to return it and the elevator to their normal positions, and a lug *b* on the trigger to engage with the cam N, substantially as described. 13th. In a magazine fire-arm, the combination of a magazine C provided with an automatic feed for the cartridges, a chamber E into which the magazine C leads, a chamber G<sub>1</sub> containing a laterally elongated bore L partly closed at its forward end, and communicating at its rear end with the chamber E, a magazine C<sub>1</sub> communicating at its rear end with the open forward end of the bore L, an elevator D provided with the pins *p* in the chamber E, and having a bore normally communicating at opposite ends with the magazine C<sub>1</sub>, and bore L, a trigger comprising connected sliding plates F extending through the chamber E on opposite sides of the elevator, and provided with inclined slots *a* through which the pins *p* extend, and a finger-piece F<sub>2</sub>, a spring I<sub>1</sub> in the chamber G<sub>1</sub> connected with the trigger, and firing-mechanism actuated by pressure upon the trigger, the whole being constructed and arranged to operate substantially as described. 14th. In a magazine fire-arm having an elevator D in a chamber E, and a trigger operating by pressure to raise the elevator in its chamber, and adapted when released to lower the elevator to its normal position, the combination, with the barrel G and chamber E, of a needle I supported to be reciprocated in suitable bearings, a confined spring I<sub>1</sub> engaging with the needle, a cam K having guides in its opposite sides, and fingers *i*, upon opposite sides of the needle, and extending into the guides in the said cam, and into the path of the trigger, whereby, when the trigger is pressed, it engages with the said fingers to force back the needle and compress the spring I<sub>1</sub> until released to drive the needle forward, substantially as and for the purpose set forth. 15th. In a magazine fire-arm having an elevator D in a chamber E, and a trigger operating by pressure to raise the elevator in its chamber, and adapted when released to lower the elevator to its normal position, the combination, with the barrel G, and chamber E, of a needle I supported to be reciprocated in suitable bearings, a spiral spring I<sub>1</sub> surrounding the needle, sliding collars *k* and *k*<sub>1</sub> confined upon the needle, and confining the spring I<sub>1</sub> between them, a cam K having guides in its opposite sides, and fingers *i* upon opposite sides of the needle, and extending into the guides in the said cam, and into the path of the trigger, whereby, when the trigger is pressed, it engages with the said fingers to force back the needle and compress the spring I<sub>1</sub> until released to drive the needle forward, substantially as and for the purpose set forth. 16th. In a magazine fire-arm having an elevator D in a chamber E, and a trigger operating by pressure to raise the elevator in its chamber, and adapted when released to lower the elevator to its normal position, the combination, with the barrel G, and chamber E, of a reciprocating needle I having a recess near its rear end containing rubber *h* surmounted by a tongue *a*, a cross-bar *c* extending transversely through the said recess and tongue, a spiral spring I<sub>1</sub> surrounding the needle, sliding collars *k* and *k*<sub>1</sub>, having guides *k*<sub>2</sub> to enter grooves *y* and *y*<sub>1</sub> in the sides of the needle, and confined upon the needle and confining the spring I<sub>1</sub> between them, a cam K having guides in its opposite sides, and fingers *i* upon the projecting ends of the cross-bar *c* extending into the guides in the said cam, and into the path of the trigger, substantially as and for the purpose set forth. 17th. In a magazine fire-arm having an elevator D in a chamber E, and a trigger operating by pressure to raise the elevator in its chamber, and adapted when released to lower the elevator to its normal position, the combination, with the barrel G and chamber E, of a reciprocating needle I having a recess near its rear end containing rubber *h* surmounted by a tongue *a*, a cross-bar *c* extending transversely through the said recess and tongue, a spiral spring I<sub>1</sub> surrounding the needle, sliding collars *k* and *k*<sub>1</sub>, having guides *k*<sub>2</sub> to enter grooves *y* and *y*<sub>1</sub> in the sides of the needle, and confined upon the needle and confining the spring I<sub>1</sub> between them, a cam K having guides in its opposite sides, and fingers *i* upon the projecting ends of the cross-bar *c* extending into the guides in the said cam, and into the path of the trigger, substantially as and for the purpose set forth. 18th. In a magazine fire-arm, the combination, with the stock having a magazine C of an automatic feed for the cartridges comprising a laterally confined spiral spring B extending into a chamber formed in one side of the stock, and communicating with the magazine C, and provided with a finger *g*<sub>2</sub> extending through a slot *s* in the stock, substantially as described. 19th. In a magazine fire-arm, the combination, with the stock having a magazine C, of an automatic feed for the cartridges, comprising a spiral spring B extending into a pivotal housing *r*<sub>2</sub> in a chamber *r* formed in one side of the stock, and communicating with the said magazine, a spring *r*<sub>1</sub> behind the housing *r*<sub>2</sub>, a head *q* at the forward end of the spring B, and a finger *g*<sub>2</sub> connected with the head *q*, and extending through a slot *s* in the stock, substantially as described. 20th. In a magazine fire-arm, the combination, of a stock A containing a magazine C, and provided with slots *s*<sub>1</sub> and *s*<sub>2</sub>, and a chamber *r* in one side communicating with the said magazine, and provided with a, a spiral spring B extending into a pivotal housing *r*<sub>2</sub> in the chamber *r*, and hollowed out on its outer side, a spring *r*<sub>1</sub> behind the housing *r*<sub>2</sub>, a head *q* at the forward end of the spring B, and a finger *g*<sub>2</sub> connected with the head *q*, and extending normally through the slot *s* in the stock, substantially as described. 21st. In a magazine fire-arm, the combination of a stock A containing a magazine C, and provided with a slot *s* closed with rubber strips *s*<sub>1</sub>, a slot *s*<sub>2</sub>, and a chamber *r* in one side communicating with the said magazine, and provided with a recess *a*, a spiral spring B extending into a pivotal housing *r*<sub>2</sub> in the

chamber *r*, a spring *r*<sub>1</sub> behind the housing *r*<sub>2</sub>, a head *q* at the forward end of the spring B, and a finger *g*<sub>2</sub> connected with the head *q*, and extending normally through the slot *s* in the stock, substantially as described. 22nd. In a magazine fire-arm having a chamber E, the combination, with the barrel G, of a magazine C communicating from its rear end with the forward end of the chamber E to receive the shells of cartridges after their explosion in the gun, and provided towards its forward end with an opening *e*, and a bevelled side *e*<sub>1</sub> at the said opening, substantially as and for the purpose set forth. 23rd. In a magazine fire-arm having a chamber E, the combination, with the barrel G, of a magazine C communicating from its rear end with the forward end of the chamber E to receive the shells of cartridges after their explosion in the gun, and provided towards its forward end with an opening *e* having an adjustable cover *d*, and a bevelled side *e*<sub>1</sub> at the said opening, substantially as and for the purpose set forth.

### No. 29,341. Folding Cot. (*Lit plant.*)

John C. Porter, New York, U.S., 13th June, 1888; 5 years.

*Claim.*—1st. As a new article of manufacture, a folding cot consisting of a main body formed of the side bars A, A, and cross pieces B, B, the folding legs E, folding holding arms F, springs C and slats D, all arranged substantially as shown and described. 2nd. The legs E hinged to the main side bars A, and provided with the round *b*<sub>1</sub>, in combination with the hinged holding arms F, notched at *d*, and provided with the stops *f*, substantially as and for the purposes set forth. 3rd. In a folding cot, the main frame composed of the side beams A, A, cross bars B, B supporting the springs, and the slats held upon the same, and the folding legs E pivoted to the side bars A, and provided with the rounds *b*<sub>1</sub>, in combination with the holding arms F, each pivoted to the main side bars A on a line with the pivots of the legs E, and notched at *d*, and provided with the stop pins *f* between the notch *d* and the pivot of the holding arms, substantially as described.

### No. 29,342. Chafing Dish. (*Réchaud.*)

Pierre A. Bégin, Ottawa, Ont., 13th June, 1888; 5 years.

*Reclame.*—1o. Dans un réchaud activé par une lampe à l'huile, le vaseau B munie d'un tuyau conique central H ayant la couverture C, tel que décrit pour les fins sus-mentionnées. 2o. La combinaison dans un réchaud activé par une lampe à l'huile, de la théière A, cheminée D, vaseau B, tuyau H et couverture C, le tout tels que décrit pour les fins sus-mentionnées.

### No. 29,343. Harrow. (*Herse.*)

George Gillies, Gananoque, Ont., 14th June, 1888; 5 years.

*Claim.*—1st. A harrow frame consisting of two sections, each section composed of two parallel bars bent to intersect at the ends, and hinged together in V-form, as set forth. 2nd. A harrow frame consisting of two sections hinged together in V-form, said sections provided with a fender J at the front, as set forth. 3rd. A harrow having a tooth at the joint of two sections hinged together, as set forth. 4th. A harrow consisting of two sections hinged together, each section composed of two parallel bars provided with teeth, one of which bars having a round hole or eye, and the corresponding bar of the opposite section a square hole or eye, and a pintle rod having a round portion to enter the round eye, and a square portion to enter the square eye, and a tooth-holder and tooth clipped to said pintle rod, as set forth. 5th. The combination in a harrow of two sections, a pintle connective said sections, a tooth-holder seated on said pintle, a tooth seated on said tooth-holder, and a clip clamping said pintle, tooth-holder and tooth together, substantially as set forth.

### No. 29,344. Seaming Machine.

(*Machine à agraffer les feuilles de métal.*)

Francis A. Walsh, Milwaukee, Wis., U.S., 14th June, 1888; 5 years.

*Claim.*—1st. In a machine for seaming sheet metal vessels, a roller former having a seaming groove at an acute angle to its axis, and means, substantially as described, for actuating said roller former with relation to a vessel, whereby the operation of seaming is accomplished, as set forth. 2nd. In a machine for seaming sheet metal vessels, a roll or former having a seaming groove at an acute angle to its axis, and a finishing face approximately parallel to said axis, and means, substantially as described, for actuating said roll or former with relation to a vessel, whereby the operation of double seaming may be accomplished, as set forth. 3rd. In a machine for seaming sheet metal vessels, a roll or former having a seaming groove at an acute angle to its axis, a finishing face approximately parallel to said axis, and a shoulder at an angle to the finishing face, and means, substantially as described, for actuating said roll or former with relation to a vessel, whereby the operation of seaming is accomplished, as set forth. 4th. In a machine for seaming sheet metal vessels, a roll or former made in two sections, said sections so constructed and arranged that a groove at an acute angle to the axis of the roll or former is left between the opposing surfaces of said sections, and means, substantially as described, for actuating said roll or former with relation to a vessel, whereby the operation of seaming may be accomplished, as set forth. 5th. In a machine for seaming sheet metal vessels, a roll or former made in two sections so constructed and arranged that a groove at an acute angle to the axis of the roll or former is left between the opposing surfaces of the sections, and means, substantially as described, for holding one of said sections against rotation, and for actuating said roll or former with relation to a vessel, whereby the operation of seaming is accomplished, as set forth. 6th. In a machine for seaming sheet metal vessels, a roll or former provided with a seaming groove, and bevelled on one side of this groove to form a finishing face, and means, substantially as described, for actuating said roll or former, whereby the operation of seaming is accomplished, as set forth. 7th. In a machine for seaming sheet metal vessels, a bifurcated rock shaft, a stud or support adjustable in the bifurcations of the shaft, a seaming roll or former

arranged on said stud or support, and means, substantially as described, for actuating said shaft with relation to a vessel, whereby the operation of seaming may be accomplished, as set forth. 9th. In a machine for seaming sheet metal vessels, the combination of a chucking mechanism, a shaft a roll or former carried by the shaft, and means, substantially as described, for rocking said shaft and reciprocating the chucking mechanism at predetermined intervals, as set forth. 9th. In a machine for seaming sheet metal vessels, the combination of a chucking mechanism, a shaft provided with a pinion, a roll or former carried by the shaft, a toothed segment arranged to mesh with the pinion, and suitable mechanism for actuating the segment, substantially as set forth. 10th. In a machine for seaming sheet metal vessels, the combination of a live spindle carrying a chuck, another spindle in line with the live one, and having its opposing end provided with a bore, a spring seated in the bore, a block loosely arranged above the spring, a chuck having a stem that fits said bore and rests upon the block, and a seaming mechanism, substantially as set forth. 11th. In a machine for seaming sheet metal vessels, the combination of a live spindle carrying a chuck, another spindle in line with the live one, and having its opposing end provided with a bore, a spring seated in the bore, a block loosely arranged above the spring, a chuck having a stem that fits said bore, and rests upon the block, and mechanism for bringing the latter spindle to and from the former, and seaming mechanism, substantially as set forth. 12th. In a machine for seaming sheet metal vessels, the combination of two oppositely arranged, and movable spindles, a chuck carried by each spindle, a shaft carrying two cams having a portion thereof timed alike, a lever mechanism connecting each spindle with one of the cams, and a seaming mechanism, substantially as set forth. 13th. In a machine for seaming sheet metal vessels, the combination of two oppositely arranged, and movable spindles, a chuck carried by each spindle, a shaft carrying two cams having a portion thereof timed alike, a lever mechanism connecting each spindle with one of the cams, a shaft carrying a roll or former, a segment geared to the shaft, a lever mechanism connected to the segment, and a cam for actuating the latter lever mechanism, substantially as set forth. 14th. In a machine for seaming sheet metal vessels, the combination of a main standard, a bearing, adjustable thereon, a rock shaft journaled in the bearing, and provided with a seaming roll or former, and a screw having its bearing on said main standard, and arranged to engage a lug on the rock shaft bearing, substantially as set forth. 15th. In a machine for seaming sheet metal vessels, the combination of a shaft carrying a roll or former, and provided with a pinion, a toothed segment arranged to mesh with the pinion, a lever arm, a rod adjustably connected to the segment and lever arm, and a cam for actuating said lever arm, substantially as set forth. 16th. In a machine for seaming sheet metal vessels, the combination of a main standard, a block pivoted to the standard, and provided with an arm, a bearing arranged on the block, a rock shaft journaled in the bearing, a roll or former carried by the rock shaft, and a cam arranged to impinge against the arm of said block, and move the latter on its pivot at predetermined intervals, substantially as set forth.

### No. 29,345. Wheel Plough.

(*Charrue à avant-train.*)

John Clayton, Wadena, Minn., U.S., 14th June, 1888; 5 years.

*Claim.*—1st. The combination of the shaft G, F, the conical sleeve E, the corresponding clevis plate A, and the pin H with the arm J, the lever band connecting rod N, substantially as specified. 2nd. The combination of the shaft G, F, the conical sleeves E, D, the latter provided with the lug I, the clevis plates A, B, the latter provided with the recess a having the shoulders S, F, the pin H, the arm J, link rod N and lever b, substantially as specified.

### No. 29,346. Weighing Scales. (*Balances.*)

Elouid Duplessis, Lako Weeden, Que., 14th June, 1888; 5 years.

*Claim.*—1st. In a weighing scale, the combination of a lever provided with a cross-head at its inner end, a weighing beam pivoted to the outer end of the said lever, a swinging block pivoted to said weighing beam, and a support carried by said swinging block, substantially as described. 2nd. In a weighing scale, the combination of a lever provided at its inner end with a cross-head having forwardly extending projections, a weighing beam pivoted to the outer end of the lever, an apertured swinging block pivoted to the weighing beam, a short distance from the pivoted end of said beam, and a ratcheted support working in the aperture of the said block, substantially as described. 3rd. In a weighing scale, the combination of the lever A, provided with a cross-head B having the projections B<sup>1</sup> at its inner end, and with the forked outer end, the beam H pivoted between the forks of the said lever A, the graduated beam secured to the beam I, the equilibrium I<sup>1</sup> sliding on the beam H, the apertured block O pivoted to the beam H, and the ratcheted support F provided with the foot P<sup>1</sup>, and working in the aperture of the said block, substantially as herein shown and described.

### No. 29,347. Gear Wheel. (*Roue d'engrenage.*)

Charles H. Morgan, Buffalo, N.Y., U.S., 14th June, 1888, 5 years.

*Claim.*—1st. The combination, with the rim and the hub or internal support upon which the rim is loosely mounted, and which are provided in their adjacent faces with cavities or recesses, of a connecting spring arranged partly in the recess of the hub, and partly in the recess of the rim, substantially as set forth. 2nd. The combination, with the hub or internal support provided with recesses extending outwardly in opposite directions, and the rim provided in its bore with recesses registering with the recesses of the hub, of connecting springs arranged with their inner ends in the recesses of the hub, and with their outer ends in the recesses of the rim, substantially as set forth. 3rd. The combination, with the hub provided in its face with a recess, of a rim loosely mounted on the hub, and provided in its bore with a corresponding recess, a connecting spring seated partly in the recess of the hub, and partly in the recess of the rim, and a screw whereby

the spring is held against the hub, substantially as set forth. 4th. The combination, with the hub provided in its face with a recess, of a rim loosely mounted on the hub, and provided in its bore with a corresponding recess, a connected spring seated partly in the recess of the hub, and partly in the recess of the rim, a screw whereby the spring is held against the hub, and a protecting plate interposed between the spring and the screw, substantially as set forth.

### No. 29,348. Manufacture of Compound Ingots. (*Fabrication des lingots composés.*)

Lévi L. Burdon, Providence, R. I., U.S., 14th June, 1888; 5 years.

*Claim.*—1st. The improved method herein described of making compound ingots, the same consisting first in preparing the surfaces of the base metal core and the seamless gold shell to unite with solder, next in introducing the core within said shell, thereby forming an annular space between them, then inserting a sleeve of solder into said annular space, and finally subjecting the whole to a high temperature which fuses the solder and unites the core and shell with a uniform thickness of the same. 2nd. The improved method of making compound ingots, which consists in inserting a cylindrical base metal core having a slightly reduced diameter within the outer or gold shell, the surfaces thereof having been previously prepared to be united by solder and having a chamber, as *c*, formed at the upper end, then inserting a thin sleeve of silver or other suitable solder between the core and shell and placing loose solder in said chamber, and finally placing the whole within a suitably prepared and heated furnace, thereby fusing the solder and uniting the core and outer shell with a uniform thickness of the same, the ingot after withdrawal from the furnace being adapted to be rolled and drawn down to produce seamless filled plated wire.

### No. 29,349. Method of Straightening Metal Seamless Tubes. (*Mode de redresser les tubes métalliques sans couture.*)

Lévi L. Burdon, Providence, R. I., U.S., 14th June, 1888; 5 years.

*Claim.*—1st. The method of straightening tubes which consists essentially in passing a cylindrical arbor longitudinally through, and in continuous contact with, a heated tube of substantially the same diameter as the arbor, thereby giving to the tube a uniform interior diameter corresponding to the diameter of the arbor, substantially as hereinbefore set forth. 2d. The hereinbefore described improved mode of straightening metallic tubes, the same consisting in inserting slightly one end of the shaping arbor within one end of the tube to be acted upon, and then subjecting the arbor and tube to the action of heat which expands the tube, and permits it to slide down and from the arbor by gravity.

### No. 29,350. Fifth-Wheel. (*Rond d'avant-train.*)

Warnock & Co., (Assignees of William E. Rothwell), Galt, Ont., 14th June, 1888; 5 years.

*Claim.*—1st. A fifth-wheel having a concave or recess in the top half of its rim, designed to fit over the bottom half of its rim, substantially as and for the purpose specified. 2nd. A fifth-wheel rim having a concave or recess in the top half of its rim, designed to fit over the bottom half of its rim, in combination with a lug projecting outwardly from the top half of the rim, and a reach iron bolted to the said lug and extending below to form a support for the bottom half of the rim of the fifth-wheel, substantially as and for the purpose specified. 3rd. A fifth-wheel having a lug D extending from its head-block bearing C, said lug having a hole to receive the king-bolt E, and a hub *e* surrounding the said hole, and designed to fit into a hole made in the lug F which extends from the axle bearing G, in combination with a reach-bracket H having a hole in it to receive the king-bolt E, and a hub *f* to fit into a hole made in the lug F, substantially as and for the purpose specified.

### No. 29,351. Spring Tooth Sulky Harrow.

(*Herse à dents élastiques à siège.*)

The J. W. Mann Manufacturing Company, (Assignee of Thomas G. Cook), Brockville, Ont., 14th June, 1888, 5 years.

*Claim.*—1st. The combination of the sulky frame E carrying a rock shaft J, provided with a lever W and having quadrant castings K sleeved thereon, draft pole C flexibly secured to said frame by hinges H and by straps U and lugs Z to said shaft, and the harrow sections independently connected to said castings by bars R, T, posts P, P<sup>1</sup>, and bar Q, whereby the harrow sections will each have an independent movement to follow the inclination of the ground, and the harrow sections combinedly tilted to effect greater or less penetration of the teeth, and the teeth leveled to simultaneously with such tilting to have the same degree of penetration, as set forth. 2nd. The combination, with the sulky frame provided with brackets I, of the rock shaft J provided with lever W, quadrant castings K sleeved thereon, draft bars R secured to said castings and to each harrow section, adjustment bars T connected to said castings and to front posts P at the ends of the harrow sections, and bars Q connecting said posts P to rear posts P<sup>1</sup> for tilting the harrow sections, as set forth. 3rd. The combination of the sulky frame and draft pole C hinged together at the rear, the front of the frame provided with brackets I carrying a rock shaft J, and the draft pole C having straps U pinned to a lug Z sleeved on said shaft, for leveling the teeth simultaneously with the tilting of the harrow sections, as set forth.

### No. 29,352. Wick Lifting Device.

(*Appareil pour monter les mâches.*)

Frank Rhind and Edward Millor, Meriden, Conn., U. S., 14th June, 1888; 5 years.

*Claim.*—1st. In an argand lamp, the combination of an oil font, an inner wick tube, a wick adjusting sleeve surrounding said tube, and a draw bar or handle pivotally connected with said sleeve and passing out of the top of said font, substantially as described. 2nd. In an

Argand lamp, the combination of an oil font, an inner wick tube, a wick adjusting sleeve surrounding said tube, and an outwardly curved draw-bar or handle pivotally connected with said sleeve and passing out of the top of said font, substantially as described. 3rd. In an Argand lamp, the combination of an oil font, an inner wick tube, a wick adjusting sleeve surrounding said tube, a lug or offset attached to said sleeve, and a draw bar or handle pivotally connected to said lug or offset, and passing out of the top of said font, substantially as described. 4th. In an Argand lamp, the combination of an oil font, an inner wick tube, a wick adjusting sleeve surrounding said tube, a draw-bar or handle pivotally connected with said sleeve, and a notch or recess formed in a detachable burner body through which said draw-bar passes, substantially as described. 5th. In an Argand lamp, the combination of the font A, wick tube B, sleeve D, offset E, pin F, handle G and guide H, substantially as described.

### No. 29,353. Paint Compound.

(Composition à peinture.)

Nelson A. Parker, Frankfort, Mich. (Assignee of Ransom K. Burt Haddam, Kan.) U.S., 14th June, 1888, 5 years.

Claim.—The process of preparing paint compound, consisting in dissolving common hard soap in water, then adding rosin in a pulverized state, and boiling the solution until the rosin is dissolved, then allowing the solution to cool, coloring the same, and finally adding the raw linseed oil, all in about the proportions specified.

### No. 29,354. Grain Separator.

(Séparateur des grains.)

Abel Kleinstiver and B. S. Van Tuyl, Petrolia, Ont., 14th June, 1888, 5 years.

Claim.—1st. The combination of the shaft A, bevelled gear wheels B, B, bevelled pinions B<sub>1</sub>, B<sub>1</sub>, cog wheels D, D and shafts C, C with the cog pinion D<sub>1</sub>, shaft E and cylinder F, substantially as and for the purpose set forth. 2nd. The combination of the shaft A, bevelled gear wheel B, bevelled pinion B<sub>1</sub>, cog wheel D, shaft C, cog wheel G, shaft G<sub>1</sub> and drum cylinder H<sub>2</sub>, substantially as and for the purpose set forth. 3rd. The combination of the shaft G<sub>1</sub>, disks or plates G<sub>2</sub>, flanges G<sub>3</sub> and picker arms G<sub>4</sub>, with the tubular sheet iron sections G<sub>5</sub>, shoulder G<sub>6</sub> and nut G<sub>7</sub>, substantially as and for the purpose set forth. 4th. A dividing board or partition H<sub>1</sub>, in combination with a concave F<sub>1</sub>, substantially as and for the purpose set forth. 5th. The dividing board or partition H<sub>1</sub>, formed with arms H<sub>2</sub> interposed between, and in combination with a concave and straw deck, substantially as and for the purpose set forth. 6th. The combination of the endless bands I formed with buckets I<sub>2</sub>, pulleys I<sub>1</sub>, of different diameters, and the shafts J and J<sub>2</sub>, substantially as and for the purpose set forth. 7th. The combination of the endless bands I formed with buckets I<sub>2</sub>, pulleys I<sub>1</sub> of different diameters, and shafts J, J<sub>1</sub>, J<sub>2</sub>, with the picker arms K, substantially as and for the purpose set forth. 8th. The combination of the endless bands I formed with buckets I<sub>2</sub>, pulleys I<sub>1</sub> of different diameters and shafts J and J<sub>2</sub>, with the picker arms K<sub>1</sub>, substantially as and for the purpose set forth. 9th. The endless bands I formed with buckets I<sub>2</sub>, pulleys I<sub>1</sub> of different diameters, shafts J, J<sub>1</sub> and J<sub>2</sub> and picker arms K, in combination with the beaters L and shaft L<sub>1</sub>, substantially as and for the purpose set forth. 10th. The rollers P, in combination with the endless bands O, pulleys O<sub>1</sub>, slats O<sub>2</sub> and grain deck H<sub>1</sub>, substantially as and for the purpose set forth. 11th. The shafts S<sub>1</sub>, pulleys S<sub>2</sub> and crank pins S<sub>3</sub>, in combination with the bar S, shoe B and supports R<sub>2</sub>, substantially as and for the purpose set forth. 12th. The connecting bars V<sub>1</sub>, in combination with the carriers V, N, substantially as and for the purpose set forth. 13th. A dividing board N, in combination with a straw deck, substantially as and for the purpose set forth.

### No. 29,355. Rein-Holder. (Accroche-guides)

Alphonse Grison, Ottawa, Ont., 16th June, 1888; 5 years.

Claim.—1st. In a rein-holder having a frame A, the serrated fixed jaw C, welded or otherwise secured to said frame, the movable concave jaw B, pin or pivot b, on which is secured jaw B, and stop b<sub>1</sub> for preventing the said jaw from projecting beyond the outer edge a<sub>1</sub> of jaw C, substantially as and for the purposes set forth and described. 2nd. In a rein-holder having a frame A, the combination of the serrated fixed jaw C, pin or pivot b and stop b<sub>1</sub>, welded or otherwise secured to said frame, and of the movable concave jaw B, pivotally secured on said frame, in the manner described, by pin or pivot b, substantially as and for the purposes set forth.

### No. 29,356. Hygienic Bandage for Women.

(Bandage hygiénique pour femmes.)

Fonss Grossmann, Berlin, Germany, 16th June, 1888; 5 years.

Claim.—1st. A hygienic bandage consisting of the open, or l a dies' drawers a, provided at the front and back with the fastening hooks g, and having the inserted pieces a<sub>1</sub> for keeping apart the leg parts, in combination with a bandage proper or pellet consisting of a strip b impervious to liquid, and carrying an antiseptic cushion c attached thereto by means of eyes b<sub>2</sub> held fast by elastic fastening hooks b<sub>1</sub>, the said strip b being provided at each end with a rubber band d rendered adjustable by means of a buckle e, and connected to the said fastening hooks g of the drawers a by means of the eyes or rings f, as and for the purpose specified, substantially as described. 2nd. In a hygienic bandage, the ladies' drawers provided at the front and back with fastening devices, and with inserted pieces for keeping apart the leg parts, in combination with a bandage proper or pellet consisting of a strip impervious to liquid, and a cushion detachably fastened to the said strip, as and for the purposes specified, substantially as described. 3rd. In a hygienic bandage, the employment of the inserted pieces a<sub>1</sub>, substantially as and for the purposes specified.

### No. 29,357. Cockle Extractor.

(Extracteur de la nuelle.)

Walter J. Cooke, Woodhouse, Ont., 16th June, 1888; 5 years.

Claim.—1st. In a cockle separator, an inclined cylinder A having a smooth internal surface studded with fine pins a, disposed thereon in such a manner that pairs thereof shall support a grain of wheat lengthwise, while allowing cockle and other foreign seed to pass between them, said cylinder having grooved rims A<sub>1</sub>, in combination with friction wheels B mounted upon shafts B<sub>1</sub>, and adapted to gear into the grooved rims A<sub>1</sub>, a conveyor trough C disposed in the lower portion, and toward one side of said cylinder A, and supported upon outside standards, and provided with extended upwardly inclined sides C<sub>1</sub>, C<sub>2</sub>, and having discharge spout c<sub>1</sub>, a conveyor D disposed in said trough, and journaled outside said cylinder A, and the feed spout E adapted to drop the grain into the raised part of the cylinder, substantially as set forth. 2nd. In a cockle separator, the combination of an inclined cylinder having a smooth internal surface studded with pins a, disposed in such a manner as to retain a grain of wheat lengthwise, but allow cockle or other foreign seed to pass between them, said cylinder suitably supported and rotated externally a conveyor trough at the lower portion of said cylinder supported upon outside supports, and fitted with a conveyor and having extended sides upwardly inclined, and adapted to catch the grain falling from the portion of the cylinder that are elevated for the time being, substantially as set forth.

### No. 29,358. Level. (Niveau à bulle d'air.)

Oscar D. Wood, Passaic, N.J., U.S., 16th June, 1888; 5 years.

Claim.—1st. The combination, with the stock A and its spirit level, of eight-pieces ribbed internally, and provided with adjustable screws on the upper ends of the ribs, the angle-plates secured to the stock, and the lifting springs and the latching springs recessed into said stock, substantially as described. 2nd. In combination, with a level stock provided with the usual spirit tube, and angle plates secured on the upper corners of the said level stock, and provided with apertures, of the spring-actuated sight-pieces set in recesses in the level-stock, and provided with shoulders or ribs, as and for the purposes described.

### No. 29,359. Producing a Rustless Coating on Iron and Steel Surfaces. (Production d'enduit contre la rouille des surfaces de fer et d'acier)

William T. Wells, Huckensack N.J., U.S., 19th June, 1888; 5 years.

Claim.—1st. The process, substantially as described, of protecting iron and steel articles from rust, which consists in subjecting such articles at a high temperature to the action of mingled steam and carbon monoxide. 2nd. The process, substantially as described, of protecting iron and steel articles from rust which consists in gradually heating such articles, and subjecting them at a high temperature to the action of mingled steam and carbon monoxide. 3rd. The process, substantially as described, of protecting iron and steel articles from rust, which consists in subjecting such articles at a high temperature to the action of steam, then subjecting them to the action of carbon monoxide, and then subjecting them to the action of mingled steam and carbon monoxide. 4th. In the process of protecting iron and steel articles from rust, the gradual heating of such articles to a high temperature, and subjecting them at such temperature to the action of steam, whereby the rough parts of the surface are scaled off or removed, and the surface is cleansed, substantially as shown and described. 5th. The process, substantially as described, of protecting iron and steel articles from rust, which consists in gradually heating such articles, then subjecting them at a high temperature to the action of steam, then subjecting them to the action of carbon monoxide, and then subjecting them to the action of mingled steam and carbon monoxide. 6th. The process, substantially as described, of protecting iron and steel articles from rust, which consists in gradually heating such articles by consuming in the heating chamber the gas made by a Siemens' Producer, then subjecting them at a high temperature to the action of steam, then subjecting them to the action of carbon monoxide, and then subjecting them to the action of mingled steam and carbon monoxide. 7th. In combination, the combustion chamber C provided with curtains L, L, and checker work P, the air valve A, gas valve V, the port chamber I, the heating chamber D, and the escape flue E, substantially as shown and described. 8th. In combination, the combustion chamber C, provided with curtains L, L, and checker work P, the air valve A, gas valve V, and steam valve H, the port chamber I, the heating chamber D, and the escape flue E, substantially as shown and described.

### No. 29,360. Glass Cutting Table.

(Table pour tailler le verre.)

Alonzo Hughes, Orlando, Fla., U.S., 19th June, 1888; 5 years.

Claim.—1st. A glass-cutter's table having an end A<sub>1</sub> provided with feeding and gauging devices, and the other end A<sub>2</sub> having a plain surface and straight edged end upon which the glass may be broken, substantially as described. 2nd. In a glass-cutter's table, the combination, with the table, of a movable graduated side strip, and a cross strip connected to said side strip at right angles thereto, substantially as described. 3rd. In a glass-cutter's table, the combination, with the table A, of the graduated side strips C, the cross strip D, and a feed mechanism for sliding the side strip and cross strip upon the table, substantially as described. 4th. In a glass-cutter's table, the combination, with the table A, of the side strips C having toothed racks upon their under sides, a cross strip D, and a cross shaft E having gear pinions F to engage with the said toothed racks, and a handle for revolving the same, substantially as described. 5th. In a glass-cutter's table, the combination, with the board, of guide-plates B having ribs b, side plates C grooved to receive said ribs b, and provided with gauge-plates upon one side, and toothed racks

upon the other sides, and a shaft carrying toothed wheels to engage said toothed racks, substantially as described. 6th. In a glass-cutter's table, the combination, with the board A, of the side plates C having toothed racks and graduated faces, a cross-piece D, and stop G against which the straight edge may be placed when the cut is made, substantially as described.

**No. 29,361. Fruit Evaporator.**

(*Evaporateur à fruits.*)

Eli White, Mount Morris, N.Y., U.S., 19th June, 1888; 5 years

*Claim.*—1st. In a fruit evaporator, the combination, with the housing containing a series of ways or tracks for the fruit-sieves, and chains or equivalent devices for moving the sieves on any of said ways independently of those on the others, of mechanism for moving said chains consisting of gear wheels connected thereto, and a movable pinion for engaging any one of said gear wheels provided with a crank or handle for rotating it, substantially as described. 2nd. In a fruit evaporator, the combination, with the housing containing a series of tracks or ways for the fruit-sieves, and chains or equivalent devices for moving the sieves on any of said ways independently of those on the others, of mechanism for moving said chains consisting of gear wheels located outside of the casing, and connected to said chains, a track or slide, and a pinion mounted thereon for engaging any one of said gear wheels, and a crank or handle for rotating it, substantially as described. 3rd. In a fruit evaporator, a sieve consisting of a lower frame carrying a sprocket which projects through the upper frame, an upper frame, the sieve held between the two frames, rollers attached to said frames, and screws and bolts to draw the whole arrangement together, substantially as described. 4th. In a fruit evaporator, a series of fruit carriers with a steam coil arranged beneath each of said carriers, each of said coils having independent connections with a common steam supply pipe, and a common exhaust pipe, each of the outer pipes of one coil leading from the steam supply pipe in the opposite direction from that of the corresponding pipes in adjacent coils, whereby the hottest direct steam is alternately thrown on opposite sides of the evaporator, substantially as described.

**No. 29,362. Twine Holder.** (*Porte-cordonnet.*)

Albert B. Tomlin, Ft. Collins, Col., U.S., 19th June, 1888; 5 years.

*Claim.*—1st. In a twine holder, the combination, with the casing, and the handle rising therefrom, and having the legs b, b', of the weights having the reflex bands passing around the said legs of the handle, and the eye between the legs, the twine being passed through said bands and eye, as set forth. 2nd. The combination, with the twine holder case, and the handle secured thereto, and consisting of two wire legs b, b', of the eye C made on the leg b, the wire d secured to the leg b' having the eye D, and the moving wire weight having the central eye, and the opposite reflex bands at its end portions, substantially as specified. 3rd. The combination, with the twine holder case, of the handle B composed of the two legs b, b', and having the eye C, the wire d secured to the leg b, having the eye D, and forming the pointed eye e with the leg b', and the wire weight E having the central eye e, and the reflex bands e', substantially as specified.

**No. 29,363. Composition of Matter for the Cure of Diphtheria.** (*Composition de matières pour guérir la diphthérie*)

Alexander R. C. Smith, Coldwater, Ont., 19th June, 1888; 5 years.

*Claim.*—A composition composed of spirits of turpentine, spirits of hartshorn, oil of organum, oil of spike, camphor and sweet oil, mixed together in the proportion of about one ounce of each ingredient, substantially as and for the purpose specified.

**No. 29,364. Process of Distilling Crude Petroleum.** (*Procédé de distillation du pétrole cru*)

William H. Pitt and George H. Van Vleck, Buffalo, N.Y., U.S., 19th June, 1888; 5 years.

*Claim.*—The process of distilling petroleum having sulphurous or other offensive odours, consisting essentially of vapourizing such liquid petroleum, then passing the vapours so formed through a receptacle heated at about the same or a higher temperature than the vapours coming from the still, said receptacle being filled with a metal or metals, such as iron or metallic compounds, having an affinity for the sulphurous vapours and other objectionable compounds, whereby they are held and retained by such substance, and conducting away and condensing the balance of the vapours, substantially as shown and described.

**No. 29,365. Extension Lamp Fixture.**

(*Boîte à lampe.*)

Frank Rhind and Edward Miller, Meriden, Conn., U.S., 19th June, 1888; 5 years.

*Claim.*—1st. In a lamp fixture adapted to be hung from the ceiling and consisting of two parts, one the suspending portion, and the other part carrying the lamp or lamps, the said other part adjustable to different elevations, with relation to the suspending portion, the combination therewith of a frame, a spring drum arranged upon an axis in said frame, the said frame and drum arranged in one of said parts, cord or chain upon said drum and extending therefrom into connection with the other of said parts, the said drum constructed with one or more notches in a line concentric with the axis of the drum, and a dog adapted to engage the notches in the drum when the parts are in the normal position, the said frame and dog, the one constructed for limited rotation in a horizontal plane, and the other stationary with relation to the same plane, substantially as described. 2nd. In a lamp fixture adapted to be hung from the ceiling,

and consisting of two parts, one of said parts adapted to be suspended from the ceiling and remain stationary, the other part adapted to carry the lamp or lamps, and adjustable to different elevations, the combination therewith of a spring drum hung in a frame formed as a part of the stationary portion, a cord or chain therefrom in connection with the adjustable part, a hanger above the said frame, and to which the said frame is pivoted, so that the said frame may rotate on the said pivot, the said drum constructed with one or more notches, and the hanger constructed with a corresponding dog adapted to engage said notch or notches of the drum in the normal condition of the fixture, substantially as described, and whereby said engagement of said hanger and drum may be released by a rotative movement of the fixture, substantially as described. 3rd. In an extension lamp fixture, the combination of a frame carrying the stationary part of the fixture, a drum arranged upon an axis in said frame, a cord or chain therefrom and connected to an adjustable part of the fixture, a hanger to which the said frame is connected by a pivot so as to permit a partial rotation of the said frame and drum, the said drum constructed with one or more notches in a line concentric with the axis of the drum, the hanger constructed with a dog extending downward and so as to stand in the path of said notch or notches on the drum in the normal condition of the drum, a spring between said hanger and frame, the tendency of which is to draw the said hanger and drum into engagement, but yield under the rotative movement of the frame, and so as to take the drum out of engagement with the hanger, substantially as described. 4th. In an extension lamp fixture, the combination of a frame A carrying the stationary part of the fixture, a drum B hung on the said frame upon a horizontal axis, and so as to revolve in a vertical plane, a cord or chain extending from said drum into connection with the adjustable part of the fixture, the said drum constructed with a series of notches or teeth a concentric with its axis, a hanger G, with a vertical pivot connection between said hanger and frame, whereby a horizontal rotation is permitted to the frame, and all it carries independent of the hanger, a dog I projecting downward from said hanger into the path of the said concentric series of notches on the drum, a spring J connected by one end to the frame, and by the other end to said hanger, the tendency of the spring being to yieldingly hold the frame in the position of engagement between the dog and drum but so as to permit disengagement under a rotative movement of the said frame, substantially as described.

**No. 29,366. Cigar and Cigarette Case.**

(*Etui à cigare et cigarette.*)

Arthur J. Needham, Horace C. Needham, Walter C. Needham, Robert Hammond and Frederic J. Burt, London, Eng., 19th June, 1888; 15 years.

*Claim.*—1st. The improved case having a lid B pivoted at one end and acted upon by a spring E, tending to keep same closed, in combination with slots K, formed at the top of each side of such case and towards the front thereof, for the purpose of enabling the end cigar or cigarette to be grasped by the fingers through such slots, and be drawn upward against the action of the spring actuated lid, for the purpose of withdrawing same without having to open the lid by hand, all substantially as herein set forth. 2nd. The spring actuated device consisting of a plate C, pivoted at its upper end and acted upon by a spring S, so as to force cigars or cigarettes contained in the case A towards the front A' thereof, substantially as specified.

**No. 29,367. Harness Pad.** (*Sellette.*)

The Morrow Brothers Manufacturing Company, (Assignee of James Morrow), Washington Court House, Ohio, U.S., 19th June, 1888; 5 years.

*Claim.*—1st. The duplex or bridge pad for draft animals, having the two distinct saddle-formed bearing pieces 6, 7 attached by longitudinally adjustable yokes 1, 1, to the ends of a bar 1, provided at or about its mid-length with means for suspending the collar or saddle, substantially as and for the purpose set forth. 2nd. The duplex or bridge pad for draft animals having two distinct saddle-formed bearing pieces 6, 6, attached at or about the middle of their crowns by longitudinally adjustable hinge-clips 7, 8, 9, to a bar 1, provided, at or about its mid-length, with means for supporting the collar, substantially as and for the purpose set forth. 3rd. The described combination of bar 1, bearing piece or pad 6, the car 7, the screw-bolt or pin 8 and the clip 9, by which the bearing pad is hinged to the supporting rod, as and for the purposes set forth. 4th. The collar supporting pad for draft animals, consisting of the combination of the supporting bar and stirrup 1, 2, 3, and the pair of self adjusting bearing plates 6, 6, having their axes of oscillation between said plates and said bar, as and for the purposes set forth. 5th. In a collar supporting pad for draft animals the combination of the supporting bar 1, the stirrup 2, 3 and the two bearing plates 6, 6, of which each has between its upper surface and the said bar a hinged attachment thereto, as set forth.

**No. 29,368. Application of Pure Wood Cellulose or Wood Fibre half Stuff as ordinarily Carried out in the Manufacture of Feltings, Sheathing and Roofing in the Construction of Buildings.** (*Application de la cellulose de bois pure ou de la fine fibre tel qu'ordinairement employées dans la fabrication des feutres, doublures et toitures pour la construction des bâtiments.*)

William Angus, Montreal, Que., 19th June, 1888; 5 years.

*Claim.*—1st. As an improved article of manufacture for sheathing, felting or roofing purposes, pure sheet cellulose or half stuff from chemical wood pulp, substantially as described. 2nd. As an improved article of manufacture for roofing, felting or sheathing purposes, pure sheet cellulose or half stuff from chemical wood pulp with a water-proof compound, substantially as described.



**No. 29,360. Boiler. (Chaudière.)**

George F. Nilsson, Belmont, Mass., U. S., 19th June, 1888; 5 years.

*Claim.*—1st. In a boiler of the character described, the combination of the following instrumentalities, to wit: a body, a vertical pipe *I* having said body at the rear on the under side thereof, a transversely arranged pipe connected centrally with said vertical pipe and extending through the boiler casing, a transversely arranged pipe disposed on the bridge wall near the fire-box and extending through the casing, inclined pipes connecting the ends of said transverse pipes outside the casing, a transversely arranged pipe disposed on the bridge wall under the rear end of the boiler and extending through the casing, the ends of said pipe being connected with the transverse pipe which is connected with said vertical pipe, a transversely arranged pipe passing through the casing near the forward end of the boiler, inclined pipes connecting said pipe with the transverse pipe at the rear of the bridge wall and vertical pipes connecting the ends of the transverse pipes and the body of the boiler below the water line, all being arranged to operate substantially as set forth. 2nd. In a boiler, a series of longitudinally and transversely arranged horizontal pipes connected with each other and with the body of the boiler below the water line, said pipes being disposed in, or partially in, the fire-box, and a flue leading from the fire-box to the smoke stack or chimney, and adapted to be connected with conducting pipes for conveying the hot water to points at a distance from the boiler for heating purposes, substantially as described. 3rd. In a boiler, the body or boiler proper *A* having the flues *d* and dome *E*, the vertical pipes *z, r, i*, transverse pipes *z, m, f, h*, inclined pipes *g, v, o*, bridge wall *H* and casing *D*, combined and arranged to operate substantially as set forth.

**No. 29,370. Pump. (Pompe.)**

Henry A. French, Dimondale, Mich., U. S., 19th June, 1888; 5 years.

*Claim.*—1st. The combination, with the upper and lower cylinders, of the hollow casting or coupling piece *C* formed in a single piece independent of the cylinders, with three branches or pipes having a continuous unobstructed communication, the main branch forming the connection between the cylinders, and the air and discharge pipes connected respectively with the other two branches, as set forth. 2nd. The casting or coupling connection *C* forming three hollow tubes having a continuous unobstructed communication, which tubes are arranged on the same horizontal plane, as set forth. 3rd. The combination, with the upper and lower cylinders, the hollow casting or coupling *C*, formed in a single piece and comprising three tubes or branches, the main tube connecting at its top and bottom respectively with the upper and lower cylinders, and the air and discharge pipes connecting with the upper ends of the two remaining branches, the several branches of the casting having an unobstructed communication, as set forth. 4th. The casting or coupling piece *C* made in a single piece, with three branches or tubes having a continuous unobstructed communication with each other, two of the branches being closed at their lower ends only while the remaining branch is left open at both ends, as set forth. 5th. The combination, with the upper and lower cylinders, of the hollow casting *C* made independent of the cylinders and provided with the tubes or branches, two of the branches being closed at their lower ends, the air and discharge pipes of the pumps connecting respectively with the tops of such branches, and the other branch being open at both ends the upper and lower cylinders connecting respectively with such ends, as set forth. 6th. The casting or coupling piece *C* made of a single piece with three branches or tubes, the central or main branch being open at both ends which are screw threaded, and the other two branches being open only at the top and screw threaded at such ends, as set forth. 7th. The combination, with the upper and lower cylinders, of the hollow casting *C* connecting the cylinders, and comprising three tubes or branches, the main branch connecting respectively at its top and bottom with the upper and lower cylinders, and the air and discharge pipes arranged parallel with each other side by side, and having their lower ends connecting respectively with the two remaining branches of the casting, as set forth. 8th. The combination, with the upper and lower cylinders, of the casting *C* comprising three hollow branches or tubes, one of which serves as the connection for the cylinders, the air and discharge pipes arranged side by side and connecting with two other branches, all three branches having a continuous unobstructed communication, and the air pipe extending up so as to provide a support for the handle, as set forth. 9th. The upper and lower cylinders threaded at their lower and upper ends, in combination with the coupling piece threaded at its upper and lower ends to receive the said threaded ends of the cylinders, whereby the cylinders may be constructed of different metal from the coupling piece and replaced at will, as set forth.

**No. 29,371. Snow Scraper. (Grattoir à neige.)**

John W. Haines, Fort Fairfield, Me., U. S., 19th June, 1888; 5 years.

*Claim.*—1st. The combination of the side boards forming runners, the adjustable scrapers, the hand levers for adjusting said scrapers, and the fenders constructed as set forth and arranged on the top of the scraper against the forward ends of the runners, substantially as described. 2nd. The combination of the side runners having top front and rear cross-braces, and a central brace carrying fulcrum brackets, hand levers mounted in said brackets and having link rods secured to the front ends, the sledged scrapers to the rear portion of which the link rods are also connected, the pivot bar *C*, the beams *C* and *d*, the hinged fenders *D* and the brace strips *E*, substantially as described.

**No. 29,372. Brush and Mop Holder.**

(Manche de brosse et de torchon.)

Martin Bourke, Youngstown, Ohio, U. S., 19th June, 1888; 5 years.

*Claim.*—1st. In a brush or mop holder, a suitable head having a series of straight teeth pointed at their ends, in combination with a clamping device consisting of two sections connected together by a clamping screw, and adjustable on the teeth and removable therefrom,

substantially as and for the purpose set forth. 2nd. In a brush or mop holder, a head provided with inwardly projecting spurs, and a series of straight and pointed teeth, in combination, with an adjustable and removable clamping device consisting of two independent sections connected together by a clamping screw, one of said sections having means for attaching thereto a suitable handle, and the other section having holes or perforations through which pass the teeth and spurs to act in connection with the spurs on the head when the device is used for holding a brush, substantially as and for the purpose specified.

**No. 29,373. Smoke Consuming Furnace.**

(Fourneau fumivore.)

Alexander Kerr and George H. Kendall, Montreal, Que., 19th June, 1888; 5 years.

*Claim.*—1st. The combination, with a furnace, of the fire-bridge provided with a channel and perforated coping as described, with a blowing apparatus and pipe connecting the blowing apparatus with the said channel in the fire-bridge, the said pipe being situated in the combustion chamber, so that the air passing through it will be highly heated before arriving in the said channel, the whole substantially as described. 2nd. The combination of the boiler *A*, furnace *A*, fire-bridge *B* having channel *G* and perforated coping *G*, with blower *L* and pipe *K*, having a coil as described and arranged to pass through the combustion chamber *C*, whereby the air passing from the blower is heated before passing into the channel *G*, the whole substantially as described.

**No. 29,374. Brake-Shoe for Railways, etc.**

(Sabot de frein pour chemins de fer, etc.)

Joseph Pollock and Edward G. Gregory, Selma, Ala., U. S., 19th June, 1888; 5 years.

*Claim.*—The within described improved brake-shoe, composed of a cast metal body having rods of a softer metal than the body extending entirely through it and cast in it, as herein described.

**No. 29,375. Watermelon Holder.**

(Porte-melon d'eau.)

George H. Moser and Charles R. Dake, Belleville, Ill., U. S., 19th June, 1888; 5 years.

*Claim.*—A package holder formed of one continuous wire bent into parallel lines held apart by braces or spacers, and the ends held in opposite ends of a tubular handle, whereby the wire loop thus formed may be wrapped about the package, and through its end passed the handle so as to draw the wire tightly around the package, as described.

**No. 29,376. Two-Wheeled Vehicle.**

(Voiture à deux roues.)

John Galligan, (Assignee of Byron J. Healey), Kalamazoo, Mich., U. S., 19th June, 1888; 5 years.

*Claim.*—The combination of the body fulcrumed at the forward end, and the axle with the spring consisting of two connected coils made from a single strip of metal, said coils being inverted in their relative position to each other, the inner end of the rear coil being rigidly attached to the axle, and the inner end of the forward coil being attached to the body in the relation shown, substantially as set forth.

**No. 29,377. Top Prop or Cushion.**

(Appui de capote de voiture.)

William S. Coleman, (Inventor), (Inventors with Albert C. Armentrout), and Edward C. Haysler, Salisbury, Md., U. S., 19th June, 1888; 5 years.

*Claim.*—1st. A yielding top-rest or cushion, comprising in a single element a socket to receive its supporting rod, and spring arms to embrace the bow, as set forth. 2nd. A rubber top-rest or cushion comprising in a single element, a socket to receive its supporting rod, and spring arms to embrace the bow, all formed integral as set forth. 3rd. A rubber top-rest or cushion comprising in a single element, a socket to receive its supporting rod or arm, and spring arms to embrace the bow, the adjacent faces of said arms being inclined, substantially as and for the purpose specified. 4th. A rubber cushion or rest *F* with longitudinal aperture *a*, arms *e, c* having inclined faces, and hollowed out beneath said inclined faces, and provided with a cut away portion *A*, as shown, to form a spring between the bottom bows and the support of the cushion, as described. 5th. The combination, with the seat extension side arms and folding top, of a rod *b* secured to the back of said seat, and the rubber cushions on said arms and formed with spring arms to embrace and hold against vertical and endwise movement the lower bow of said top, as set forth. 6th. The combination, with the seat and folding top of the brackets *c, e* secured to the back of said seat, the rods supported by said brackets, nuts *d* on the ends of said rod, and the cushions *E* on said rod between said brackets and nuts, substantially as described.

**No. 29,378. Manufacture of Explosives and Cartridge for Containing such Explosives. (Fabrication des explosifs et des cartouches pour ces explosifs.)**

The Compagnie Générale des Explosifs Favier, (assignee of Arthur Favier), Paris, France, 20th June, 1888; 5 years.

*Claim.*—1st. The agglomeration under pressure, with or without heat, of the mixture of nitrate of ammonia, with a waterproof hydrocarbon, substantially as described. 2nd. The ensuring of the detonation of these mixtures by explosive bodies placed in the centre of the cartouche, and capable of producing detonation by the discharge of a fuminating capsule, substantially as described and illustrated in the accompanying drawings. 3rd. The combination, with a com-

pressed cartridge, such as described, of a central detonator composed of the same material as the cartridge but uncompressed, and with or without the addition of a nitrated explosive, substantially as shown and described. 4th. The combination, with a cartridge containing a detonator, such as described, of a protective covering consisting of cardboard caps, such as F, and varnished or paraffined paper cover G, applied in manner substantially as described and illustrated in the accompanying drawings. 5th. In a cartridge destined to be used under water, the employment of a copper tube, such as H, secured to the embossed cap F by means of a cardboard washer M for the purpose of receiving the fulminating cap, or priming, substantially as described and illustrated in the accompanying drawings.

### No. 29,379. Clothes Drying Machine.

(*Séchoir à linge.*)

Thomas C. Crawley, Otonabee, Ont., 20th June, 1888; 5 years.

Claim.—The combination of the crank and shaft B, B, pulleys C, C, C, coris D, D, and slats E, E, E, on which the clothes are attached with clothes pins, substantially as and for the purposes hereinbefore set forth.

### No. 29,380. Wet or Hydro-Metallurgical Method of Extracting Gold from Crushed or other finely divided Auriferous Material. (*Méthode humide ou hydro-métallurgique d'extraire l'or des matières aurifères écrasées ou séparées menues.*)

Claude T. J. Vantin, London, Eng., 20th June, 1888; 5 years.

Claim.—In the process of extracting gold from auriferous material by means of chlorine, the application of compressed air in the extraction vessels, instead of the excess of chlorine necessary to the partial liquifaction of the chlorine.

### No. 29,381. Tube Expander.

(*Machine à élargir les tubes.*)

Charles H. Robinson, St. Paul, Minn., U. S., 20th June, 1888; 5 years.

Claim.—1st. In a tube expander, a head having a central longitudinal bore, and channels extending radially and laterally through said head, and communicating with said central bore, in combination with expanding rollers located in said radial channels, each of said rollers having on one end a cavity or recess, and stop pins inserted through the head of the tube expander with their ends entering the recesses in said rollers, substantially as set forth. 2nd. In a tube expander, a head cast or formed in a single piece having a central longitudinal bore, and channels extending radially and laterally through said head, and communicating with said central bore, in combination with expanding rollers located in said radial channels, each of said rollers having on one end a cavity or recess, and stop pins inserted through the head of the tube expander with their ends entering the recesses in said rollers, substantially as set forth. 3rd. In a tube expander, a head having a central longitudinal bore, and channels extending radially and laterally through said head, and communicating with said central bore, in combination with expanding rollers located in said radial channels, each of said rollers having on one end a cavity or recess, and stop pins inserted through the head of the tube expander with their ends entering the recesses in said rollers, substantially as set forth. 4th. As a new article of manufacture, an expanding roller for a tube expander, said roller having one end plain and square, and having a cavity or recess in the opposite end, substantially as and for the purpose set forth.

### No. 29,382. Farm Gate. (*Barrière.*)

John W. Madden, Thamesville, Ont., 20th June, 1888; 5 years.

Claim.—1st. The combination of the swinging gate section B, and the section C sliding endwise into said section B, as set forth. 2nd. The combination of the post A having pins E, F, section B swinging on said pins, and section C having an upper and lower guide rail extending across said section B, and sliding endwise thereon, as set forth. 3rd. The combination, with the post A, provided with pins E, F, and vertical bar G, of the swinging section B, and sliding section C having upper and lower rails to run said section C, level between rollers journaled to the posts of section B, and the section B having carrying rail whose ends 7, 8 support the combined sections to swing and slide, as set forth.

### No. 29,383. Method of Decorating Shoes or Slippers. (*Mode d'enjoliver les souliers ou pantouffles.*)

Charles N. Vroom, Saint Stephen, N.B., 22nd June, 1888; 5 years.

Claim.—An improved method of decorating shoes or slippers, by the application of ink or dye with a stamp, substantially as described.

### No. 29,384. Fish Plate for Railway or other Rails. (*Eclisse de rail de chemin de fer ou autres.*)

Selah Phillips, Arnot, Penn., U. S., 22nd June, 1888; 5 years.

Claim.—1st. In a joint, the combination, with a fish plate having an incline surface with a slot therein, and a bolt passing therethrough, of a cotter inserted in an independent hole for retaining the bolt, substantially as shown and described. 2nd. In a joint, the combination, with a fish plate having a cam surface with a slot therein, and a bolt therethrough, of a cotter or wedge inserted in an independent hole, and a strip for retaining said cotter in place, substan-

tially as set forth. 3rd. In a joint, the combination, with the rail and fish plate, having a slot with a bolt therethrough, of a cotter inserted in an independent slot, and a band or strip bearing against said cotter, and passing partially around the rail, substantially as and for the purposes set forth.

### No. 29,385. Steam Engine. (*Machine à vapeur.*)

William A. Pitt, Glenbrook, Conn., U. S., 22nd June, 1888; 5 years.

Claim.—1st. In a steam engine, a combination of levers and cranks so connected with the piston that any travel may be effected on the one end of the engine, by a constant greater or lesser travel on the other end, as may be desired, as set forth. 2nd. In an engine, a leverage so arranged and connected with the piston that the power and weight is constantly moved in and out from the fulcrum, or centre, or power, in any proportion to each other, the fulcrum being stationary, as set forth. 3rd. The combination, with the steam cylinders and their pistons, of a leverage consisting of two sets of cranks mounted at right angles to each other on independent shafts, and two other cranks set on a common shaft, the said cranks being arranged to move with unequal speed, as set forth. 4th. In a steam engine, a leverage consisting of two cranks set at right angles to each other on independent shafts, and connected with the steam cylinder, and two other cranks similarly set and connected with two shorter cranks on a common shaft, the said cranks being so arranged that the intermediate cranks will make a one-quarter revolution, and the other cranks a one-half revolution on each stroke of the piston, substantially as set forth. 5th. The combination, with two cylinders, of intermediate leverage having a constantly changing axis of fulcrum, whereby all loss of power due to the expansive use of steam is compensated for by a proportionate increase of leverage, as set forth. 6th. The combination, with a cylinder or cylinders, of a piston rod, or piston rods, provided with a rack end, and a toothed wheel arranged to engage with both racks, the said wheel being journaled in movable blocks mounted in the engine frame, whereby the axis of the wheel becomes a changeable fulcrum from the beginning to the end of the stroke of the pistons, as set forth. 7th. In an engine, a leverage connecting two cylinders having a constantly changing fulcrum, whereby any portion of the stroke may be effected on the one end of the engine, by a greater or lesser given portion of the stroke on the other end, as set forth. 8th. In an engine, the interposition between the power and resistance, or work end of such engine, of two levers placed upon the same intermediate and individual shaft, so that any portion of the movement in the one may be caused with either a greater or lesser movement in the other in the same direction, as set forth. 9th. In an engine, the combination, with a revolving or work shaft having two cranks placed in line and opposite to each other, of two cylinders and their connections connected to two sets of levers placed on intermediate shafts, each set being caused always to move in opposite directions, and where a greater movement is caused in the one connected to the work shaft, with a lesser movement in the same direction than that caused in the one connected to, and by the movement of, the steam piston in the forward stroke, and exactly the reverse in the backward stroke, thereby effecting a uniformity in motion and equality in power at all points throughout the entire revolution of the rotating shaft, as set forth.

### No. 29,386. Furnace Register.

(*Régistre de fourneau.*)

James Munson, Buffalo, N. Y., U. S., 22nd June, 1888; 5 years.

Claim.—1st. In a hot air register, the combination, with the perforated face-plate A having a rib or flange a formed on its under side, of a perforated lug c arranged on one side of said flange, a perforated lug c' arranged on the opposite side of the flange, and provided with a recess e, and a wing B provided at one end with a round pivot, and at its opposite end with a similar pivot having one of its sides flattened, substantially as set forth. 2nd. The combination, with the face-plate A having an angular flange a, of wings B pivoted at their upper ends to said flange, a rod f connecting the wings B, a segment J having its pivot arranged at right angles to the pivots of the wings B, and a flexible arm d whereby the segment J is connected with the rod f, substantially as set forth.

### No. 29,387. Road Cart. (*Désobligeante.*)

Samuel Lounsbury, Egmondville, Ont., 22nd June, 1888; 5 years.

Claim.—The combination of the side-bar and shafts A, axle D, cross-bars B, springs C, and cart body, substantially as and for the purpose hereinbefore set forth.

### No. 29,388. Damper Regulator.

(*Régulateur de registre.*)

Erwin W. Haynes, Franklin Falls, N. H., U. S., 22nd June, 1888; 5 years.

Claim.—1st. The combination of the outer tank B, the case or frame H secured thereon having the bridge K, the diaphragm P, and the follower on the said diaphragm, the inner tank F arranged in the tank B, and having the pipe G secured to the bridge K, under the diaphragm, the levers connected to the said follower, the adjusting weight on one of the said levers, the damper or door Y, and the connection between the same and the weighted lever, substantially as described. 2nd. The combination of the furnace having the door or damper Y, and the tank B, the case or frame H on the upper side of said tank, and adapted to turn thereon, said case or frame having the bridge K, the diaphragm resting on said bridge, the follower on said diaphragm, the levers supported on the case or frame, connections between the same and the follower, and door or damper, the inner tank F arranged in the tank B, and the pipe G extending upward from said inner tank, and secured to the bridge K, and communicating with the lower part of the diaphragm, substantially as described.

**No. 29,389. Boot Cleaning Machine.***(Machine à cirer les chaussures.)*

Richard Günther, Chemnitz, Saxony, 22nd June, 1888; 5 years.

*Claim.*—1st. The combination of rotating brushes *k*, *l*, consisting of two half bristle rollers *m*, and the treadle apparatus *c*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with rotating brushes *k*, *l*, consisting of two half bristle rollers *m*, and the treadle apparatus *c*, of the rings *n* drawn over the bristle rollers, substantially as and for the purpose hereinbefore set forth.

**No. 29,390. Veneering Machine.***(Machine à plaquer.)*

John W. Sherwood and Josiah W. Sherwood, Grand Rapids, Mich., U.S., 22nd June, 1888; 5 years.

*Claim.*—1st. In a machine for wrapping veneer, the combination, with the work supporting spindle *C* and its centering devices, substantially as described, of opposing rolls adapted to bear against the work carried by the spindle, bearings for the same, and devices, substantially such as described, for simultaneously moving the bearings of the opposing rolls toward and from the work, as set forth. 2nd. The combination of the driving spindle *C*, rolls *K*, *K*, *K* arranged about said spindle, movable bearings for the rolls, a single power device, as the lever *8*, and connections, substantially as described, between said device, and bearings for advancing and withdrawing simultaneously the several bearings and rolls at the will of the operator, as set forth. 3rd. The combination, with the rolls *K*, *K*, of pivoted spring-controlled arms adapted to oscillate toward or from each other, and having bearings for the rolls, supports for the pivots of said arms, and a spring for pressing said supports, arms and rolls toward the work, substantially as described. 4th. The rolls *K*, *K*, in combination with the pivoted arms 12, 12, springs 13, 13, yoke 11 and spring 2. 5th. The rod 13, in combination with the swinging arms 12, 12, having apertures through which said rod passes to support and guide the arms, and springs 13, 13, and yoke 11. 6th. The rolls *K*, *K*, bearings *L*, *L*, and spring 2 carrying one of said bearings at each end, in combination with the movable bar 3. 7th. The movable bar 3 supporting the middle of the spring, having attached the spring 2 supporting the bearings *L*, *L* and rolls *K*, *K*, in combination with cams 5, 5, having attached the cords 7, 7, bar 6, weight *W*, and treadle 8. 8th. In combination with the rolls *K*, *K* journalled in movable bearings, as described the roll *K* journalled in movable weights *M*, *M*. 9th. The rolls *K*, *K*, bearings *L*, *L*, spring 2, bar 3, guide blocks 4, 4, and cams 5, 5, in combination with roll *K*, weights *M*, *M*, cords 9, 9, and pulleys 10, 10, 10. 10th. In combination, with the cams 5, 5, bar 6 and 3, spring 2, bearings *L*, *L*, and rolls *K*, *K*, *K*, *K*, weights *M*, *M*, cords 9, 9, and pulleys 10, 10, 10, the cords 7, 7, weight *W*, and treadle 8. 11th. The pin *G*, in combination with the centre *H*, and spindle *C*. 12th. The pin *G* having the projection 21, in combination with the spindle *C* and centre *H*. 13th. The pin *G* having the hook 22, in combination with the ring *R*, and strip *N*. 14th. The pin *G* having the hook 22, in combination with the spindle *C*, centre *H*, ring *R*, and strip *N*. 15th. The rotating centre *H* in combination with the non-rotating centre *H*, and spring 1. 16th. The bar 16, in combination with the arm 14, pulley 15, brake 17, the core actuating devices, and the pressing rolls, substantially as set forth. 17th. The tube *d* adapted to hold the veneer, in combination with the pin *G*, *c*, substantially as set forth.

**No. 29,391. Railway Signal.***(Signal de chemin de fer.)*

Adélaré F. Martel, Montreal, Jean B. A. Mongonais, Rigaud, Toussaint Brosseau and Marie M. P. Craig, Montreal, Que., 23rd June, 1888; 5 years.

*Claim.*—1st. In a railway signal, the combination, with a bridge track, or like structure, of a combustible cord located in proximity thereto, a circuit closer connected with the cord, an automatic mechanically operated semaphoric signal, a non electric connection between the circuit closer and the semaphoric signal, a normally open electric circuit, an audible signal included in the circuit, all substantially as shown, whereby, when the cord is severed, the circuit closer is caused to complete the circuit and sound an alarm, and at the same time cause or permit the semaphoric signal to be displayed. 2nd. In a railway signal, the combination, with a track, bridge, or like structures, of a combustible cord or connection located in proximity thereto, an elbow lever to which said cord is connected, an electric circuit, contact arms in the path of the elbow lever, a bell or signal included in the circuit, a semaphoric signal located on that side of the elbow lever opposite the combustible cord, and a connection extending from the elbow lever to the semaphoric signal, all substantially as shown. 3rd. In a railway signal, the combination, with a bridge, track, or like structure, of a combustible cord located in proximity thereto, an elbow lever connected with the combustible cord, a semaphoric signal, a connection between the semaphoric signal and the elbow lever, an electric circuit, contacts in the path of the elbow lever, and an alarm or signal included in the circuit, all substantially as shown, whereby, when the cord is severed, the elbow lever will rock and complete the circuit, and also cause or permit the semaphoric signal to be displayed. 4th. In combination with a track, bridge, or like structure, a severable cord or connection *C* located in proximity thereto, a post or standard provided with a signal arm *H* controlled by the cord or connection *C* a locomotive provided with stopping mechanism, and an arm carried by the locomotive and adapted to actuate the stopping mechanism when struck by the signal arm, all substantially as shown, whereby the said signal arm *H* is adapted to serve the two-fold purpose of a visual signal, and as a means for stopping the train in case the said signal should not be observed in time by the engineer. 5th. The herein described railway signal consisting in the combination, with a track, bridge, or like structure, of a severable cord or connection *C* located in proximity thereto, an elbow lever *D* provided with a weighted arm, and connected with the cord *C*, a semaphoric signal provided with an arm *H*, a connection *G* between the elbow lever and the semaphoric signal,

an electric circuit provided with an audible alarm *N*, and contact fingers *I* and *J* arranged in the path of the elbow lever, substantially as shown, to be brought into contact by the elbow lever when the cord *C* is severed. 6th. In combination with a bridge, a cord or connection, as *C*, mounted thereupon, an elbow lever at each end of the cord or connection pivoted to the pier or abutments of the bridge, an electric circuit containing an alarm and contact fingers, the contact fingers being arranged in the path of the elbow lever, and thereby adapted to be brought into contact with each other by the elbow lever when the cord or connection *C* is severed. 7th. In combination with a track, bridge, or like structure, a fusible cord or connection located in proximity thereto, and connected with a signalling device, and a board, as *T*, grooved on its lower edge to receive the cord or connections *C*, substantially as shown and described. 8th. In combination with a railway track, bridge, or like structure, a visual signal, a normally open electric circuit, an audible alarm included in the circuit, a circuit closer, a connection between the circuit closer and the semaphoric signal, and a combustible cord or connection located in proximity to the track connected with the circuit closer, and adapted to prevent the completion of the circuit, and the display of the semaphoric signal until the said cord is burned or severed.

**No. 29,392. Animal Trap. (Piège.)**

Abner M. Cleaver, Petty, and John C. Dollarhido, Looksburg, Ark., U.S., 23rd June, 1888; 5 years.

*Claim.*—In an animal trap, the combination of the spring *A* constructed as described, the plate *B* carrying the notched and shouldered trigger *C*, the pawl *D* pivoted to said plate and adjacent to the free end of the spring through which it passes, and the jaws *E* connected to bearings of said plate, as shown and described.

**No. 29,393 Sulky Plough. (Charrue à siège.)**

William S. Mooto, Smithville, Ont., 23 June, 1888; 5 years.

*Claim.*—The hinging of the frame of the sulky to the plough between landside and mould-board, together with the lever *e*, substantially as and for the purpose hereinbefore set forth.

**No. 29,394. Manufacture of Paper Hangings. (Fabrication des tentures de papier.)**

Norval W. Helme, Richard Stockdale and Robert N. Helme, Lancaster, Eng., 26th June, 1888; 5 years.

*Claim.*—The improved composition for the preparation of paper hangings consisting of the following ingredients, 1 boiled oil, 2 China clay, whitening chalk or other suitable earthy matters together with lamp black or the like, lead or other paints or pigments, 3 borax alkalies and turpentine, petroleum or other suitable vegetable or mineral sprits, together with or without farinaceous or mucilaginous matters, such as starch, Irish moss and glue or other similar animal matters, in about the proportions hereinbefore specified.

**No. 29,395. Process of Amalgamating Gold and Silver. (Procédé d'amalgame de l'or et de l'argent.)**

William W. Wheeler, Meriden, Conn., U.S., 25th June, 1888; 5 years.

*Claim.*—1st. In the process of amalgamating metals, the method herein described which consists in subjecting the ores in the form of pulp, containing the precious metals to the action of soluble metallic salts, and adding thereto aldehyde alcohol as for instance glucose, substantially as described. 2nd. In the process of amalgamating metals, the method herein described, which consists in subjecting the ores in the form of pulp containing the precious metals to the action of soluble metallic salts, and adding thereto aldehyde alcohol as for instance glucose, and then adding a caustic alkali, substantially as described.

**No. 29,396. Railway Wheel or Wheel for Vehicle Running upon Rails. (Roue de chemin de fer ou de voiture à rails.)**

Thomas R. Crampton, Westminster, Eng., 25th June, 1888; 15 years.

*Claim.*—The making of one or more grooves in the tyres of railway wheels, or wheels for locomotives or other vehicles running upon rails, for the purposes and in the manner substantially as described.

**No. 29,397. Metallic Ceiling. (Plafond métallique.)**

William R. Kinnear, Columbus, Ohio, U.S., 25th June, 1888; 5 years.

*Claim.*—1st. In a metallic ceiling such as described, the combination of separate panels provided with corresponding beads or mouldings upon the edges, said mouldings adapted to fit one over the other, substantially as set forth. 2nd. In a metallic ceiling such as described, the combination of separate panels provided with corresponding beads or mouldings upon the edges adapted to fit one over the other, the corners of the said panels cut at a constant angle, substantially as set forth, whereby, when the said panels are placed together the line of beading or moulding is not broken. 3rd. In a metallic ceiling such as described, the combination of panels provided with corresponding beads or mouldings upon the edges adapted to fit one over the other, and a cornice having a bead or moulding corresponding to those upon the said panels, and adapted to pass under the same, and further provided with a depending flange and adapted to rest against the side of the room and to receive a line of nails, substantially as described. 4th. In a metallic ceiling such as described, the panels provided with beads or mouldings upon the edges adapted to fit one over the other, each panel consisting of one piece of metal and stamped to the form, substantially as herein set forth. 5th. In a metallic ceiling such as described, the combination of separate panels provided upon their edges with corresponding beads or mouldings,

said mouldings being each adapted to fit any of the mouldings of the abutting panels and mitred at the corners, so that the mouldings of the obliquely abutting panels meet without changing the line of the said moulding. 6th. In a coiling such as described, and in the cornice thereof, brackets provided with flanges for concealing the meeting edges of the pieces composing the cornice, substantially as described. 7th. In a coiling such as described, and in a cornice thereof composed of separate pieces, brackets provided with flanges for concealing the meeting edges of said pieces, substantially as described. 8th. In a coiling such as described, and in combination with a cornice composed of separate pieces of brackets for retaining them in shape, set between the said pieces and secured in position to support them, substantially as described.

### No. 29,398. Dynamo-Electric Machine. (Machine dynamo électrique.)

William H. Scott and Edward A. Paris, Norwich, Eng., 25th June, 1888; 5 years.

*Claim.*—In dynamo-electric machines, the construction of a armature in which the conductor is wound between teeth or projections of great depth, and in close proximity, substantially as and for the purposes specified.

### No. 29,399. Roofing Tile. (Tuile à toiture.)

Albert Diedrich, Berlin, Prussia, 25th June, 1888; 5 years.

*Claim.*—Tiles of clay, cement, glass, artificial stone, iron and all other suitable materials which are joined by means of grooves B, and ridges A or their substantial equivalents, and cemented with asphaltum, mastic mortar and the like, the characteristic parts of the tiles being the bearing ribs D, the gradually sloping elevations D as laying on surfaces, the noses C and the sharp slanting gutter edge E for making a firm roofing for excluding moisture, and for preventing the wood from rotting, substantially as and for the purpose hereinbefore set forth.

### No. 29,400. Stone, Ore and other Pulverizing Machines. (Machine à broyer la pierre, le minéral, etc.)

Philetus W. Gates, Chicago, Ill., U. S., 25th June, 1888; 15 years.

*Claim.*—1st. A pulverizing machine consisting of a hollow reducing cylinder, and hollow reducing roller, whereby stone or other substances are reduced to any desired fineness, and such portions of the substances acted upon as are not sufficiently reduced by the time they arrive at the discharge end of the machine are returned to the feeding end thereof, and again introduced between the pulverizing surfaces, substantially as described. 2nd. The elevator for lifting the insufficiently pulverized substances, and directing them into the return feeding and crushing roller of the machine, substantially as described. 3rd. A crushing roller having an inner return feeding screw for a pulverizing machine, substantially as described. 4th. A pulverizing machine comprising the cylinder, and a hollow roller having an inner return feeding screw, said cylinder having an outlet head through which the sufficiently pulverized materials are discharged, while the coarser substances are returned to the feed end of the pulverizer, substantially as described. 5th. The pulverizing machine comprising a hollow reducing and return feeding roller, and a hollow reducing cylinder provided with annular bearings on its periphery, and a toothed rim, said cylinder being supported by flanged roller and driven by a pinion on a shaft, substantially as described. 6th. The revolving reducing cylinder provided with the discharge head having wire gauze covering, in combination with the revolving reducing roller having an inner return feeding screw, substantially as described. 7th. A pulverizing machine combining the revolving reducing cylinder, a feeding and checking screw in its feed receiving opening, a discharging head having wire gauze covered openings, and a revolving reducing roller having an inner return feeding screw, substantially as described. 8th. A pulverizing machine combining a revolving hollow cylinder, one or more inner hollow reducing rollers, a return feed screw, a feeding chute and means for adjusting and agitating said chute according to the requirements of the crushing surfaces may demand, substantially as described.

### No. 29,401. Wire Stretcher. (Tendeur de fil de fer.)

James A. Mason, Savoy, Texas, U.S., 25th June, 1888; 5 years.

*Claim.*—1st. In a wire stretcher, the combination of a bar provided with a toothed quadrant and with a boss having an overhanging projection at its rear end, an eccentric pivoted on the face of the said boss for holding the wire against the projection, a hand lever pivoted to the bar and provided with a spring detent engaging with a toothed quadrant, a plate pivoted at one end to the hand lever and provided with an overhanging projection, and a second eccentric pivoted upon the face of the plate for gripping the wire against the projection, substantially as set forth. 2nd. In a wire stretcher, the combination of a bar provided with a boss at its rear end having an overhanging projection, an eccentric pivoted upon the face of the boss so that it will automatically hold the end of a wire against the projection, a hand lever pivoted to the bar, a rotating catch securing the lever to the said bar, a plate pivoted at one end to the hand lever and provided with an overhanging projection, and a second eccentric pivoted upon the face of the plate for gripping the wire against the projection, substantially as set forth. 3rd. In a wire stretcher, the combination of a bar provided with a toothed quadrant, and with a boss at its rear end having an overhanging projection, spiked arms of unequal length secured upon opposite sides of the bar for attaching it to a fence post, an eccentric pivoted on the face of the said boss for holding the wire against the projection, a hand lever pivoted to the bar and provided with a spring detent engaging with the toothed quadrant, a plate pivoted at one end to the hand lever and provided with an overhanging projection, and a second eccentric pivoted upon the face of the plate for gripping the wire against the projection, substantially as set forth.

### No. 29,402. Interest Indicator.

(Calculateur d'intérêt.)

Olvin M. Dunham, St. Joseph, Mo., U. S., 25th June, 1888; 5 years.

*Claim.*—1st. An interest indicator or calculator consisting of a frame containing rollers, a movable principal and interest web operated by the rollers, a fixed time indicator and a series of flexible covers, all constructed and operated, as herein shown and described. 2nd. In an interest indicator or calculator, the combination, with the frame A, indicator D and interest web C, of the flexible covers E.

### No. 29,403. Fence Machine.

(Machine à cloture.)

Samuel H. Garrett, Mansfield, Ohio, U. S., 25th June, 1888; 5 years.

*Claim.*—1st. In a fence machine, the combination, with the upright A having the plates B bolted thereto, said plates being bent at their ends and having the gear-twisters B<sup>1</sup> journaled thereon, of the rack-bar C embraced by said bent ends, and having stops C<sup>1</sup> arranged thereon and adapted to limit the movement of the bar by coming into contact with the said bent ends, substantially as specified. 2nd. In a fence machine, the combination, with the upright A having the plates B and gear-twisters B<sup>1</sup>, and the rack-bar C embraced by said plates and meshing with the twisters, of the plates D and D<sup>1</sup>, the former having the bearing D<sup>2</sup> formed at a right angle thereto, and carrying the gear D<sup>3</sup> and bundle D<sup>4</sup>, the twister B<sup>1</sup> mounted in said plates, and the gear B<sup>2</sup> mounted on the twister and meshing with the gear D<sup>3</sup>, substantially as specified. 3rd. In a fence machine, the combination, with the upright A, of the casting F<sup>1</sup> carrying the sector F<sup>2</sup> and having the ways F<sup>4</sup>, and the clamping-bar F<sup>3</sup> mounted in said ways, and adapted to mesh with said sector, substantially as specified. 4th. In a fence machine, the combination, with the upright A, of the casting F<sup>1</sup> having guides F<sup>4</sup>, the clamping-bar F<sup>3</sup> mounted thereon, and the lugs or ears F<sup>2</sup> carrying the sector F<sup>2</sup> having the toothed and plain faces, substantially as specified. 5th. The combination, with the fence machine and its twisters, of the tension H, consisting of the plate H<sup>1</sup> having the central opening H<sup>2</sup> and parallel grooves H<sup>3</sup> for carrying the wires, and the button H<sup>4</sup> adapted to bind upon said wires, substantially as specified. 6th. In combination with a fence machine and the post G, a tension device comprising the securing-plate H<sup>1</sup> having the central opening H<sup>2</sup> and grooved, as at H<sup>3</sup>, and the button H<sup>4</sup> and its screw H<sup>5</sup>, substantially as specified.

### No. 29,404. Suspender Attachment.

(Disposition aux bretelles.)

Charles H. Scales, Toronto, Ont., 5th June, 1888; 5 years.

*Claim.*—1st. The suspender-buckle A formed of a single piece of wire bent upon itself, thereby forming an axis B adapted to receive the friction-roller C, said ends contracted above said axis and extended and bent to receive the end of the suspender, substantially as shown and described. 2nd. In a suspender-buckle, the combination herein described, with a skeleton body having a transverse friction-roller axis, upward-projecting members and outward-projecting arms, of a pair of oblong guide-loops rigidly connected end to end, and rigid branches on the loops connecting them to the outward projecting arms of the body, substantially as described. 3rd. The combination, with the buckle A formed of a single piece of wire formed with a transverse axis B, provided with a friction roller C and its ends extended and projected and adapted to receive the suspender end as shown, of the skeleton plate M connected to the outward projection of the buckle A, and provided with guide loops N, N arranged exterior to the said buckle, substantially as and for the purpose specified.

### No. 29,405. Nail. (Clou.)

Adolphe Bélanger, Montreal, Que., 25th June, 1888; 5 years.

*Résumé.*—Un nouvel article de manufacture, un clou composé du corps principal A, réuni d'une tête B à projection b, et de languettes C, C, le tout tel que ci-dessus décrit et pour les fins sus-mentionnées.

### No. 29,406. Dovetailing Machine.

(Machine d'assemblage à queue d'aronde.)

Alexander Dodds, Grand Rapids, Mich., U. S., 25th June, 1888; 5 years.

*Claim.*—1st. In a dovetail-machine, a series of spindles having conical journals, in combination with separately adjustable conical bearings attached to an adjustable frame, said spindles having adjusting screws at their lower ends, and collars engaging with the ends of the upper bearings, substantially as described. 2nd. In a dovetail machine, the combination of a vertical plate and an eccentrically journaled roll, with studs connecting said plate and roll and provided with adjusting nuts, substantially as described. 3rd. In a dovetail machine, the combination of angle plates, a clamp pivoted to said plates and provided with springs, with an eccentric pivoted upon an adjustable bolt, substantially as described. 4th. In a dovetail machine, the combination of angle plates and vertical plates, with an eccentrically journaled roll supported by studs having adjusting nuts, and a clamp pivoted to said plates and provided with springs, and operated by an eccentric pivoted upon an adjustable bolt, substantially as described. 5th. In a dovetail machine, a table adapted to support the boards to be operated upon, in combination with a frame adapted to move in a right line having attached grooved strips in which said table moves at right angles to the movement of said frame, and a guide pin attached to said table, said pin engaging with an adjustable block having concentric curved guiding surfaces engaging with opposite sides of said pin, substantially as described. 6th. In a dovetail machine, a table arranged to move horizontally in all directions having attached a guide pin, in combination with a guide block having concentric guiding surfaces engaging with said pin, and an adjustable stop block engaging with said table, substantially as described. 7th. In a dovetail machine, in combination with a series of spindles having cutters attached, and provided with separately adjustable tapered bearings and attached to an adjustable frame, a table

adapted to move horizontally in all directions, having attached clamps for holding the boards, and a guide pin operating in conjunction with a guide block and stop block, substantially as described. 4th. A dovetail machine having an adjustable frame for the support of the spindles, and a table adjusted to move horizontally in all directions, having clamps for holding the boards to be dovetailed, and a guide pin operating in conjunction with a guide block and stop block, and a series of spindles having cutters attached, in combination with a series of small pinions A, attached upon the spindles, idler pinions B, a driving pinion C, shaft D, and bolt, substantially as described.

### No. 29,407. Combined Seeder and Harrow. (*Semoir-herse*)

George M. Clark, Higganum, Conn., U.S., 25th June, 1883; 15 years.

*Claim.*—1st. In a seeding machine, the combination, substantially as hereinbefore described, of a seed box shaft, a sprocket wheel thereon connected by suitable drive chain with a main sprocket wheel revolved as a result of motion of said machine while in service, and a flexibly jointed chain-frame extending from the main sprocket wheel to the sprocket wheel on the seed box shaft, and having at its joint a chain supporting sprocket wheel, whereby substantially uniform relations are maintained between the chain and all of said sprocket wheels regardless of those variations in the position of the main sprocket wheel which are incident to the operation of seeding. 2nd. In a seeding machine, the combination, substantially as hereinbefore described, of suitable sprocket wheels, and drive chain employed therefor for communicating power to a seed box shaft, and a three-part flexibly jointed chain frame, one part of which is hinged at one end upon said shaft, and also hinged at its opposite end to one end of a second, or middle part of said frame upon a pivot parallel with said shaft, the third part, or base of said frame, having its lower end supported by the axis of the main sprocket wheel, and its upper end swivelled to one end of said second, or middle part, for enabling a free torsional movement of said base portion of the frame, during variations in the position of the axis of the main, or driving sprocket wheel. 3rd. In a seeding machine, the combination, with a seed box shaft, a sprocket wheel thereon, a main or driving sprocket wheel and drive chain coupling said wheels, of a three-part chain frame which is interposed between said shaft and the main sprocket wheel, is provided with an intermediate chain wheel, and has its lower part or base loosely swivelled to the middle portion, substantially as described. For affording not only a torsional movement, but also lateral flexibility, and enabling said base part to freely conform to the various positions assumed by the main sprocket wheel incident to adjusting and operating the machine. 4th. In a seeding machine, the combination, with the seed box shaft, a sprocket wheel thereon, a main or driving sprocket wheel, and suitable drive chain, of a flexibly jointed chain supporting frame which is interposed between said shaft, and the axis of the main sprocket wheel is constructed in parts or sections, and has two of said parts adjustably connected and forming a longitudinally extensible portion of the frame, substantially as described, whereby the drive chain can be maintained in a tightened condition without impairing the swivelling movement of the lower portion of the frame, in conforming to the varied positions of the main sprocket wheel incident to the adjustment and operation of the machine in seeding. 5th. In a seeding machine, the combination, substantially as hereinbefore described, of a seed box having its agitator shaft provided with a sprocket wheel accessible near the centre of the machine, for the application of power thereto, a pair of revolving axles angularly adjustable with reference to the line of draft, and having thereon soil working devices, a main or driving sprocket wheel upon and near the inner end of one of said axles, a jointed chain-frame extending from said main sprocket wheel to the seed box shaft, and drive-chain supported under even tension by said frame for communicating power to the seed box shaft. 6th. In a seeding machine, the combination, with the seed box shaft, a sprocket wheel thereon, a main or driving sprocket wheel, a chain-frame extending from the main sprocket wheel to the seed box shaft, and flexibly jointed upon a pivot or bolt, which is parallel with said shaft, a doubled grooved sprocket wheel mounted in said frame between the main sprocket wheel and the seed box shaft, and two drive chains for coupling said double grooved sprocket wheel respectively with said main sprocket wheel and the sprocket wheel on the seed box shaft, substantially as described. 7th. In a seeding machine, the combination, with the seed box shaft, a sprocket wheel thereon, a main or driving sprocket wheel and suitable drive chain, of a flexibly jointed chain-frame hinged at one end upon said shaft, and at its foot supported on the axis of the main sprocket wheel, and provided with clearing fingers at each side of, and parallel with said wheel, substantially as described, whereby the chain and said main sprocket wheel are protected against being unduly clogged by roots and earth while the machine is in service. 8th. In a seeding machine, the combination, with the seed box shaft, and its sprocket wheel, a main or driving sprocket wheel and suitable drive chain, of a stationary clearing stud or finger projecting into the chain groove of the main sprocket wheel, substantially as described, for freeing said groove from earth, roots and other obstructive matter while the machine is in service.

### No. 29,408. Railway Buffer.

(*Tampon de choc de chemin de fer.*)

Thomas H. Heard, Sheffield, Eng., 25th June, 1883; 5 years.

*Claim.*—1st. Improvements in railway buffers by the addition of a plunger case C, whereby I obtain greater strength support and truer guide for the plunger rod, and whereby the liability of derangement to the buffer is reduced to a minimum. 2nd. The combination, in a railway buffer, of the buffer case A, spring B, plunger rod and case C, collar D and washer E, substantially as set forth.

### No. 29,409. Machine for Turning Carriage Bows. (*Machine à tourner les branches de capotes des voitures.*)

Josiah W. Sherwood and John W. Sherwood, Grand Rapids, Mich., U.S., 25th June, 1888; 5 years.

*Claim.*—1st. The combination of the cylinder B, the supporting arms D, D', carrying the spindles C, C', cams e, e', in conjunction with the curved guide posts H, H, hand screws n, n, and retaining hooks d', d', as shown and described. 2nd. A rotating cylinder having attached either sand paper or knives, in combination with the rotating spindles C, C', for holding and rotating the material to be operated upon, and rolls K, K, adjusted in spring bearings and independent of each other, arranged to prevent said material from springing, substantially as described. 3rd. The combination of the guides H, H, hand screws n, n, spindles C, C', cams e, e', and yielding rolls k, k, arranged to prevent the material from springing, all serving to maintain said material in position while being operated upon, as shown and described. 4th. The spindles C, C', adapted to hold and rotate the material, and a cutting cylinder adapted to operate upon the said material, in combination with the rolls k, k, the arms D, D', and retaining hooks adapted for temporarily holding the said arms and the material in position, substantially as described. 5th. The combination of the arms D, D', F, F', the pivoted yokes G, G, having the pivoted slotted arms j, j, springs l, l, rods i, i, and rolls K, K, independent of each other, as shown and for the purpose described.

### No. 29,410. Billiard Cue. (*Queue de billard.*)

Josiah W. Sherwood, Grand Rapids, Mich., U.S., 25th June, 1888; 5 years.

*Claim.*—1st. In a billiard cue, the tube A constructed as described in combination with the adjustable weight D, substantially as described. 2nd. In a billiard cue, a tubular body, in combination with a weight within said tubular body supported by a rod having a screw for adjusting said weight, substantially as described. 3rd. In a billiard cue, a tubular body A, in combination with the weight D, rods B and e, e, and diaphragms C, C', substantially as described. 4th. In a billiard cue, a tubular body having within its axis a rod supporting an adjustable weight and projecting from said tubular body, in combination with a plug or cap for closing the end of said tube having a cavity to inclose the end of said rod, substantially as described. 5th. In a billiard cue, a tubular body constructed as described, in combination with a plug for closing its larger end, having a chamber thereon, said chamber closed with a cap, substantially as described. 6th. In a billiard cue, a tubular body constructed as described, having attached the tip I and plug t, substantially as described. 7th. In a billiard cue, the combination of the tube A, constructed as described, with the plug E having the cavity H, and the cap F having attached the pad or buffer G, and the tip I, substantially as described. 8th. In a billiard cue, in combination with the tube A, the weight D supported and adjusted by the rods B and e, e, and the diaphragms C, C', the plug E having the chambers g and h, and the cap F having the pad G and the tip I, and plug t, substantially as described.

### No. 29,411. Manufacture of Steel or Ingot Iron by the Basic Open Hearth Process. (*Fabrication de l'acier ou du fer en lingots par le procédé basique de foyer à réchauffer.*)

Percy C. Gilchrist, Westminster, Eng., 27th June, 1883; 5 years.

*Claim.*—The hereinbefore described process of treating phosphoric pig iron and converting it into iron or steel in a basic lined open hearth furnace, which consists in adding with the charge of pig iron as much lime or limestone as can possibly be used consistently with keeping a fluid slag and from seven to eight times as much iron ore or oxide, which may be phosphoric, as there is phosphorus and silicon in the pig, for the purpose of effecting the greater part of the purification of the pig iron as it melts in the furnace, substantially as set forth.

### No. 29,412. Process of Treating Porous Cups for Use in Electric and Galvanic Batteries. (*Procédé de traitement des godets poreux à l'usage des piles électriques et galvaniques*)

Bloomfield J. Wheelock and James W. Wheelock, New York, N.Y., U.S., 27th June, 1883; 5 years.

*Claim.*—1st. A porous cup for electric batteries improved by being so treated and permeated throughout its entire body with paraffine, or its equivalent, as set forth. 2nd. The process herein described of treating porous cups for electric batteries, which consists in heating the cup to a degree sufficient to melt wax, and applying paraffine or wax, or its equivalent, to the whole surface of the cup, and repeating the operation as many times as is necessary to bring the cup to the desired degree of porosity.

### No. 29,413. Apparatus for the Automatic Dating or Stamping and Delivery of Prepaid Tickets, etc. (*Appareil à dater ou timbrer et livrer automatiquement les billets payés, etc.*)

Percival Everitt, London, Eng., 27th June, 1883; 5 years.

*Claim.*—1st. In an apparatus for delivering prepaid tickets, the combination, with a casing having a coin receiving aperture and a coin holder or guide, of a slide or drawer, a lock for locking said drawer, a ticket holder and a printing mechanism arranged to print on the tickets in said holder, substantially as described. 2nd. In an apparatus for delivering prepaid tickets, the combination, with a casing having a coin receiving aperture and a coin guide or holder, of a slide or drawer arranged to support the coin and provided with a lock operated by the action of the coin in moving the slide, a ticket holder and a printing mechanism arranged to print on said tickets, substantially as described. 3rd. In an apparatus for delivering prepaid tickets, the combination, with a casing having a coin receiving

aperture and a coin holder, of a slide or drawer, a lock for locking said drawer, a ticket holder, a printing mechanism arranged to print on the tickets in said holder, and a time marking or indicating mechanism connected with the printing mechanism so as to shift the latter from time to time, substantially as described. 4th. In an apparatus for delivering prepaid tickets, the combination, with a slide or drawer, of a ticket holder and a printing mechanism, said slide arranged to bring the tickets in the ticket holder and the printing mechanism in contact so as to print the tickets, substantially as described. 5th. In an apparatus for delivering prepaid tickets, the combination, with a slide or drawer provided with inclines, of a movable ticket holder, and a printing mechanism arranged under the ticket holder, whereby, when the slide is moved out, the ticket holder can drop down so that the lowermost ticket can be printed by the printing mechanism, substantially as described. 6th. In an appara-

tus for delivering prepaid tickets the combination, with a casing having a coin receiving aperture and a coin holder or guide, of a delivery slide provided with a lock, a movable ticket holder supported on said slide, and a printing mechanism arranged to print on the tickets in said holder, substantially as described. 7th. The combination, with the delivery slide and a lock provided with a projection, of two racks provided with teeth arranged in reverse direction, whereby the said slide cannot be returned to normal position until fully opened, and cannot on its return be pulled out again until fully returned, and another coin inserted in the apparatus, substantially as described. 8th. The combination, with the vertically moving ticket holder provided with a projection, of the delivery slide having a pin and the tumbling lever cooperating therewith, whereby said ticket holder is supported on the return movement of the slide, substantially as described.

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

1141. J. BATES, 2nd 5 years of No. 17,039 from the 21st day of June, 1888. Improvements on Manual Power, 5th June, 1888.
1142. J. KNIGHT (assignee), 2nd 5 years of No. 16,913, from the 14th day of June, 1888. Improvements on Camp Stoves, 9th June, 1888.
1143. J. KNIGHT (assignee), 2nd 5 years of No. 16,933, from the 16th day of June, 1888. Improvements on Portable Ovens, 9th June, 1888.
1144. W. J. SARGANT (assignee), 2nd 5 years of No. 17,032, from the 21st day of June, 1888. Improvements on Black Leaf Check Books and Covers, 9th June, 1888.
1145. T. T. PROSSER, 2nd 5 years of No. 16,907, from the 14th day of June, 1888. Improvements on Freight Cars for Transporting Grain, etc., 12th June, 1888.
1146. T. T. PROSSER, 2nd 5 years of No. 16,908, from the 14th day of June, 1888. Improvements on Freight Cars for Transporting Grain, etc., 12th June, 1888.
1147. T. T. PROSSER, 2nd 5 years of No. 16,928, from the 16th day of June, 1888. Improvements on Freight Cars for Transporting Grain, etc., 12th June, 1888.
1148. T. T. PROSSER, 2nd 5 years of No. 16,952, from the 16th day of June, 1888. Improvements on Freight Cars for Transporting Grain, etc., 12th June, 1888.
1149. THE GRIP PRINTING AND PUBLISHING CO., (assignee), 2nd 5 years of No. 16,930, from the 16th day of June, 1888. Improvements on Memorandum Books, 12th June, 1888.
1150. R. B. BROWN, (assignee), 2nd 5 years of No. 17,003, from the 19th day of June, 1888. Improvements on Hay Elevators and Carriers, 12th June, 1888.
1151. W. H. CARMONT, 2nd 5 years of No. 17,084, from the 22nd day of June, 1888. Improvements on the Manufacture of Grooved Tyres for wheels, and in the Fastening of India Rubber or other Yielding Material, therein 13th June, 1888.
1152. THE SELF ADJUSTING KEROSENE LAMP CO. (assignee), 2nd 5 years of No. 16,989, from the 18th day of June, 1888. Improvements in Lighting Buildings by Hydro-Carbon Lamps, 13th June, 1888.
1153. H. F. COOMBS, 2nd 5 years of No. 16,964, from the 16th day of June, 1888. Improvements on Butter Tubs, 15th June, 1888.
1154. H. F. COOMBS, 2nd 5 years of No. 16,965, from the 16th day of June, 1888. Improvements on Waggon or Car Tops, 15th June, 1888.
1155. J. H. WHITNEY, 2nd 5 years of No. 17,014, from the 18th day of June, 1888. Improvements in Sewing Machines, 16th June, 1888.
1156. J. HOWES, 2nd 5 years of No. 16,961, from the 16th day of June, 1888. Improvements on Faucets, 16th June, 1888.
1157. E. HOW, 2nd 5 years of No. 17,013, from the 18th day of June, 1888. Improvements in Double Trees, 16th June, 1888.
1158. T. PATTERSON, 2nd 5 years of No. 17,018, from the 18th day of June, 1888. Improvements on Spark Arrestors, 16th June, 1888.
1159. M. H. GILBERT, 2nd 5 years of No. 17,033, from the 18th day of June, 1888. Improvements on Stock Cars, 16th June, 1888.
1160. THE PRATT MANUFACTURING CO. (assignee), 2nd 5 years of No. 17,219, from the 12th day of July, 1888. Improvement on Button Fastenings, 18th June, 1888.
1161. D. CONBOY, 2nd 5 years of No. 17,059, from the 22nd day of June, 1888. Improvements in Carriage Tops, 18th June, 1888.
1162. D. CONBOY, 2nd 5 years of No. 17,060, from the 22nd day of June, 1888. Improvements on Buggy Tops, 18th June, 1888.
1163. T. A. EDISON, 2nd 5 years of No. 17,076, from the 22nd day of June, 1888. Improvements on Systems of Electrical Distribution, 18th June, 1888.
1164. T. A. EDISON, 2nd 5 years of No. 17,077, from the 22nd day of June, 1888. Improvements on Electrical Generators and Motors, 18th June, 1888.
1165. J. B. ROUILLARD, 2nd 5 years of No. 17,067, from the 22nd day of June, 1888. Improvements on Safety and Advertising Matches, 20th June, 1888.
1166. S. M. COLCORD, 2nd 5 years of No. 17,425, from the 4th day of August, 1888. Improvements on Methods of Preserving Ensilage in Silos, 20th June, 1888.
1167. H. ROBERTS, 2nd and 3rd 5 years of No. 19,268, from the 17th day of May, 1889. Woven Wire Seat, 21st June, 1888.
1168. THE CAPEWELL HORSE NAIL CO. (assignee), 2nd 5 years of No. 18,991, from the 1st day of April, 1889. Improvements in Horse Shoe Nail Machines, 21st June, 1888.
1169. THE BALL ELECTRIC LIGHT CO., (assignee), 2nd 5 years of No. 17,127 from the 2nd day of July, 1888. Improvement on Electric Arc Lamps, 26th June, 1888.
1170. THE GRIP PRINTING AND PUBLISHING CO., (assignee), 2nd 5 years of No. 17,166 from the 4th day of July, 1888. Improvements in Black Leaf Check Books, 26th June, 1888.
1171. D. MAXWELL, A. TURNBULL and R. TURNBULL, 2nd 5 years of No. 17,112, from the 2nd day of July, 1888. Improvements on Harvester Binders, 28th June, 1888.
1172. E. CHARTIER, 2nd 5 years of No. 17,114 from the 2nd day of July, 1888. Composition of Matter to be used for Plastering Walls of Houses, etc., 30th June, 1888.
1173. H. R. ADAMS, et al., 2nd 5 years of No. 17,164, from the 2nd day of July, 1888. Improvements on Boots and Shoes, 30th June, 1888.

## JUNE LIST OF TRADE MARKS.

*Registered at the Department of Agriculture—Copyright and Trade Mark Branch.*

3189. ABRAHAM BRAHADJ, of Montreal, Que. Hats, 1st June, 1888.
3190. GOULET FRÈRES, de Montreal, Que. Cigares, 1er Juin, 1888.
3191. LOUIS OVIDE GROTHÉ, of Montreal, Que. Cigars, 1st June, 1888.
3192. ADELIA B. DE GRATH, of New York, U. S. A. Liniment, 4th June, 1888.
3193. KENYON & THOMAS, of Adams, Co. of Jefferson, New York, U. S. A. Dr. Hale's Household Ointment, 4th June, 1888.
3194. CHARLES WILLIAM CURTIS, of 74 Lombard Street, London, England, trading as CURTIS & HARVEY. Gunpowder and other explosive substances, 4th June, 1888.
3195. CHARLES WILLIAM CURTIS, of 74 Lombard Street, London, England, trading as CURTIS & HARVEY. Gunpowder and other explosive substances, 4th June, 1888.
3196. STEELE BROS. & CO., of Toronto, Ont. Particular class of seed, "Giant Prolific Sweet Ensilage Corn," 7th June, 1888.
3197. MICHEL LEFEBVRE ET CIE., of Montreal, Que. Vinegar, 8th June, 1888.
3198. NAPOLEON BAUDIN, de Montreal, Que. Mine de Poêle, (stove polish), 13 Juin, 1888.
3199. THOMAS JACKSON, of 43 Great Ducie Street, Manchester, England. Cachoux, 18th June, 1888.
3200. JOSEPH MARCOTTE, of Montreal, Que. Cigars, 18th June, 1888.
3201. ROBERT COLLISON SCOTT, of Highgate, Co. of Kent, Ont. Flour, 19th June, 1888.
3202. S. DAVIS & SONS, of Montreal, Que. Cigars, Cigarettes and Tobacco, 19th June, 1888.
3203. JOSEPH CARLESS MOORE, of Montreal, Que. Dentifrice, 20th June, 1888.
3204. ALFRED WATTS & COMPANY, of Brantford, Ont. Soap, 20th June, 1888.
3205. MARKAR GEORGE DADIRRIAN, of New York, U. S. A. Medicinal Food and Beverage, 21st June, 1888.
3206. CHARLES WILSON, of Toronto, Ont. Mineral and Aerated Waters, 21st June, 1888.
3207. PEPPERELL MANUFACTURING CO., of Biddeford, Co. of York, State of Maine, U. S. A. Cotton Goods of various widths both brown and bleached, plain and twilled, 27th June, 1888.
3208. PEPPERELL MANUFACTURING CO., of Biddeford, Co. of York, State of Maine, U. S. A. Cotton Goods of various widths, both brown and bleached, plain and twilled, 27th June, 1888.
3209. PEPPERELL MANUFACTURING CO., of Biddeford, Co. of York, State of Maine, U. S. A. Cotton Goods of various widths, both brown and bleached, plain and twilled, 27th June, 1888.
3210. THE LACONIA CO., of Biddeford, Co. of York, State of Maine, U. S. A. Cotton Goods of various widths, both brown and bleached, plain and twilled, 27th June, 1888.
3211. THE LACONIA CO., of Biddeford, Co. of York, State of Maine, U. S. A. Cotton Goods of various widths, both brown and bleached, plain and twilled, 27th June, 1888.
3212. GEORGE R. STARKEY and GILBERT E. PALEN, 1529 Arch Street, Philadelphia, Pennsylvania, U. S. A. Compound Oxygen, 30th June, 1888.

# COPYRIGHTS.

*Entered during the month of June at the Department of Agriculture—Copyright and Trade Mark Branch.*

4295. WIDOWER JONES, by Edmund E. Sheppard (book). Edmund Ernest Sheppard, Toronto, 1st June, 1888.
4296. ILLUSTRATED CATALOGUE AND PRICE LIST OF WINDSOR STOVES AND RANGES. The Windsor Foundry Company, Windsor, N.S., 1st June, 1888.
4297. TOURISTS' GUIDE TO ST. JOHN AND PROVINCE OF NEW BRUNSWICK. The Canada Railway News Company, (Ld.) Montreal, 1st June, 1888.
4298. THE TRANSCONTINENTAL OFFICIAL RAILWAY AND STEAM NAVIGATION GAZETTEER AND BUYERS DIRECTORY. Pruyn & Hollo-way, Montreal, 1st June, 1888.
4299. ELAINE. Waltz. by Caroline Lowthian. The Anglo-Canadian Music Publishers' Association (Ld), London, England, 2nd June, 1888.
4300. VOICE PRODUCTION, by Rev. Ralph C. Horner, B.O., with an introduction by Rev. N. Burwash, M.A., S.T.D. (book). William Briggs, Toronto, 4th June, 1888.
4301. THE DOVE. Waltz. by Fabian Rose. The Anglo-Canadian Music Publishers' Association, (Ld.) London, England, 4th June, 1888.
4302. THE PROGRESSIVE ART GUIDE. (book). Jacob Young, Toronto, 4th June, 1888.
4303. INTERNATIONAL DAY AND NIGHT SIGNALS. Flashing Signals with Ball and Bright Light (book). Joseph Wall, 13 Claremont Road, Seaforth, Liverpool, England, 4th June, 1888.
4304. OLD BLAZER'S HERO. by D. Christie Murray, (book). The National Publishing Co., Toronto, 5th June, 1888.
4305. THE HEIR OF LINNE. by Robert Buchanan, (book). The National Publishing Co., Toronto, 5th June, 1888.
4306. BY MISADVENTURE. by Frank Barrett, (book). The National Publishing Co., Toronto, 5th June, 1888.
4307. MANUEL DU PÉLERIN A LA BONNE STE. ANNE DE BEAUPRÉ. par l'Abbé D. Gosselin. M. l'Abbé D. Gosselin, Cap Santé, Comté de Portneuf, Que., 6th Juin, 1888.
4308. A MANUAL OF THE CONSTITUTIONAL HISTORY OF CANADA. by John George Bourinot, L.L.D., F.R.S.C. Dawson Brothers, Montreal, 6th June, 1888.
4309. THE WATER LILY: AN ORIENTAL FAIRY TALE. by Frank Waters. John Francis Waters, Ottawa, 6th June, 1888.
4310. THE DOMINION ILLUSTRATED. (sample sheet). Weekly Illustrated Newspaper. G. E. Desbarats & Son, Montreal, 8th June, 1888.
4311. ON BANKS AND BANKING IN CANADA: A Study of the Bank Returns with reference to the proposed changes in the Bank Act. Treatise. by J. H. Menzies, F.C.A. Mary Isabella Menzies, Parkdale, Co. of York, Ont., 11th June, 1888.
4312. HISTOIRE POPULAIRE DE L'EGLISE DU CANADA. M. l'Abbé D. Gosselin, Cap Santé, Comté de Portneuf, Que., 12th Juin, 1888.
4313. THE EDMITES: THEIR HISTORY AS GATHERED FROM THE HOLY SCRIPTURES. by Mary L. T. Witter. Mary L. T. Witter, Berwick, King's Co., N.S., 13th June, 1888.
4314. THE FARMER'S ADVOCATE AND HOME MAGAZINE FOR 1887. (Volume XXII.) and JULY NUMBER, 1888, of Volume XXIII. William Weld, Ont., 13th June, 1888.
4315. ORIGINAL ARTICLES, WHICH ARE NOW BEING PUBLISHED IN THE FARMER'S ADVOCATE AND HOME MAGAZINE. (Temporary Copyright), William Weld, London, Ont., 13th June, 1888.
4316. BEYOND COMPARE. by Charles Gibbon, (book). The National Publishing Co. Toronto, 14th June, 1888.
4317. EVE. A Novel. by Rev. S. Baring Gould. William Bryce, Toronto, 15th June, 1888.
4318. SURVIVAL OF THE FITTEST, OR TRUTH STRANGER THAN FICTION. (pamphlet). James Thomson Paterson, Montreal, 15 June, 1888.
4319. WAGHORN'S GUIDE TO MANITOBA AND THE NORTH WEST, June, 1888. (book). James Rawlinson Waghorn, Winnipeg, Man., 18th June, 1888.



4329. DOCTOR GLENNIE'S DAUGHTER. A Story of Real Life. by B. L. Farjeon. William Bryce, Toronto, 15th June, 1888.
4321. THE SILENT SHORE, OR THE MYSTERY OF ST. JAMES' PARK by Jno. Bloundelle Burton, (book). William Bryce, Toronto, 22nd June, 1888.
4322. (A) PHOTOGRAPHIES DE SON EXCELLENCE LORD STANLEY OF PRESTON,  
4323. (B) GOUVENEUR-GENERAL DU CANADA. }  
4324. (C) Jules Ernest Livernois, Quebec, } Cabinet.  
4325. (D) 22nd Juin, 1888. }
4326. HOLIWELL'S NEW GUIDE TO THE CITY OF QUEBEC AND ENVIRONS WITH MAP OF THE CITY. by Thos. J. Oliver, 1888, (book). Charles Edwin Holiwell, Quebec, 25th June, 1888.
4327. BEAUTY'S EYES. Song. Words by F. E. Weatherly. Music by F. Paolo Tosti. The Anglo-Canadian Music Publishers' Association. (Ld.), London, England, 26th June, 1888.
4328. FIDDLE AND I. Song. Words by Frederick E. Weatherly. Music by Mrs. Arthur Goodeve. The Anglo-Canadian Music Publishers' Association. (Ld.) London, England, 26th June, 1888.
4329. THE BEAUTEOUS SONG. (Come Unto Me). Song. Words by Lindsay Lennox. Music by Odoardo Barri. The Anglo-Canadian Music Publishers' Association (Ld.), London, England, 26th June, 1888.
4330. THE FIRE INSURANCE AGENTS TEXT BOOK. by J. Griswold Richard Wilson Smith, Montreal, 27th June, 1888.
4331. THERE ARE NONE LIKE TO THEE. Ballad. Words by G. Clifton Bingham. Music by Hope Temple. The Anglo-Canadian Music Publishers' Association, (Ld.), London, England, 27th June, 1888.
4332. THE SONG OF FLORIAN. (Chanson de Florian). A Pastoral. English words by Dr. J. E. Carpenter. Music by Benjamin Godard. The Anglo-Canadian Music Publishers' Association, (Ld.) London, England, 27th June, 1888.
4333. THE CASE OF DOCTOR PLEMEN. by René de Pont-Jest. (book). William Bryce. Toronto, 28th June, 1888.
4334. THE FORTUNES OF PHILIPPA FAIRFAX. by Frances Hodgson Burnett, (book). William Bryce, Toronto, 28th June, 1888.
4335. THE HONORABLE MRS. VEREKER. by The Duchess, (book) The National Publishing Co., Toronto, 30th June, 1888.
4336. A DEAD PAST. by Mrs. H. Lovett Cameron (book). The National Publishing Co., Toronto, 30th June, 1888.

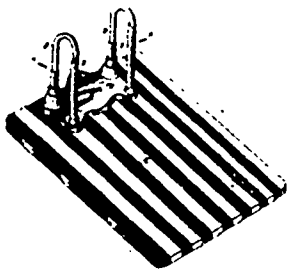
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ILLUSTRATIONS.

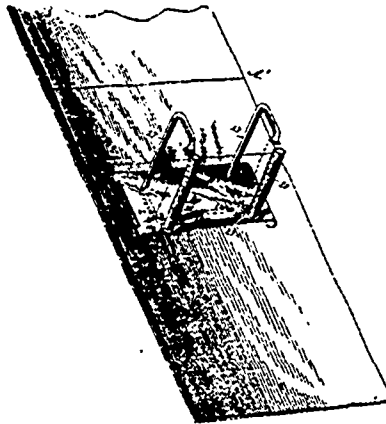
Vol. XVI.

JUNE, 1888.

No. 6



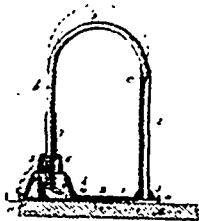
29261 Cooke's File for Letters, etc.



29262 Cooke's Transferring Paper File, etc.



29263 Cooke's Paper Filing Index



Rivard's Boot and Shoe.



Fig. 1

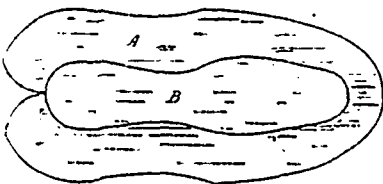
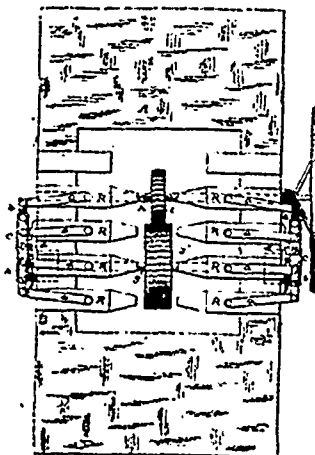
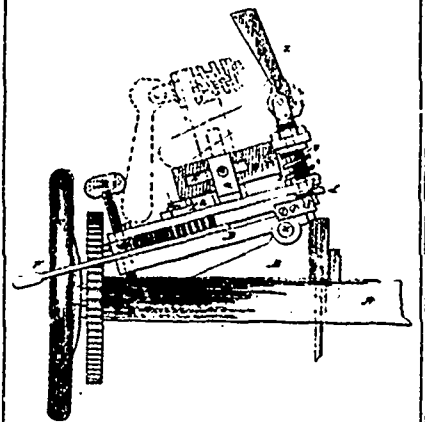


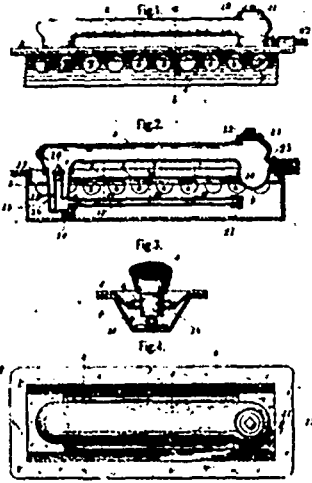
Fig. 2



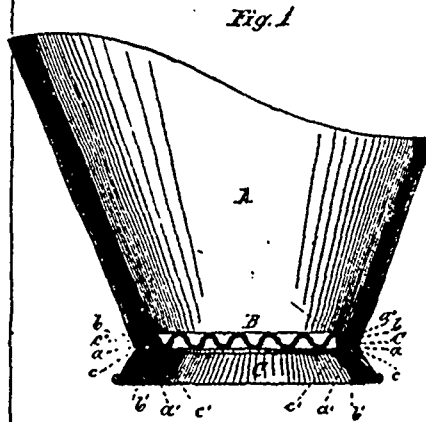
29265 Chase's Machine for Lasting Boots and Shoes.



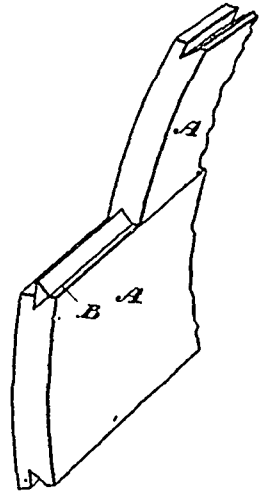
29266 Chase's Machine for Lasting Boots and Shoes



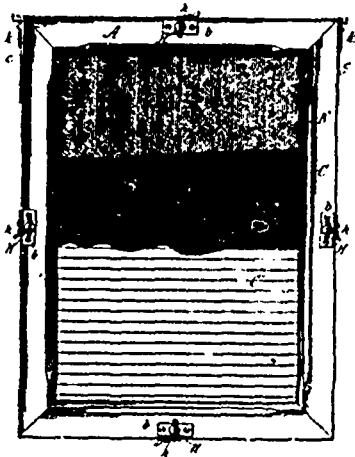
29267 Burbank's Hydro-Carbon Oil Burner.



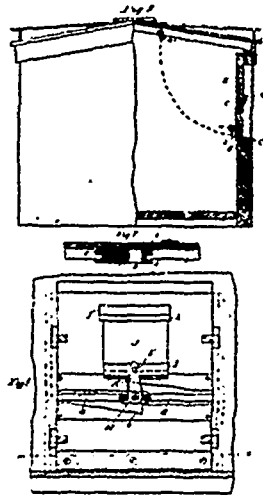
29268 Barrath's Coal Hod.



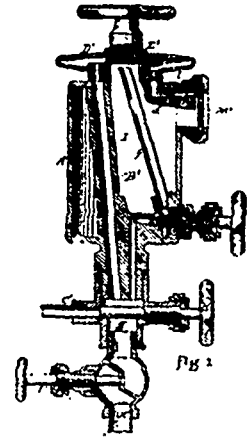
29269 English's Canoe.



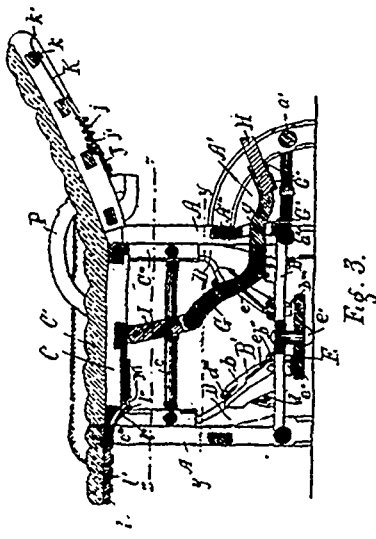
29270 Harkins' Copying Machine.



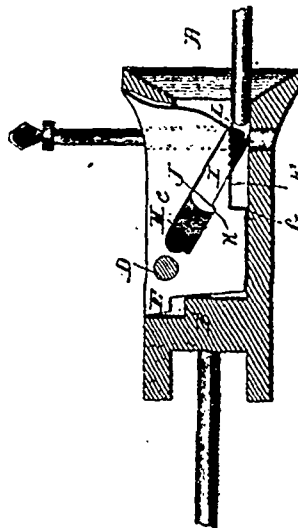
29271 Brown's Freight Car



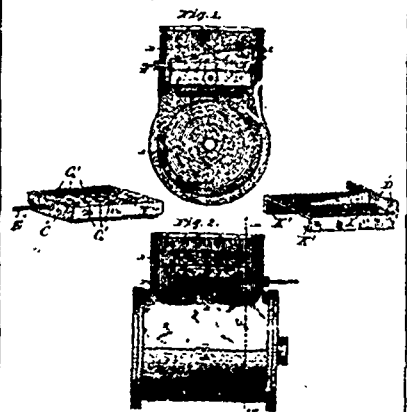
29272 Selbert's Oil Feeder.



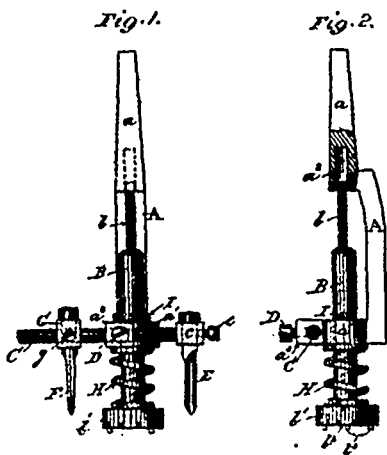
29273 Poltler's Improved and Dental Chair



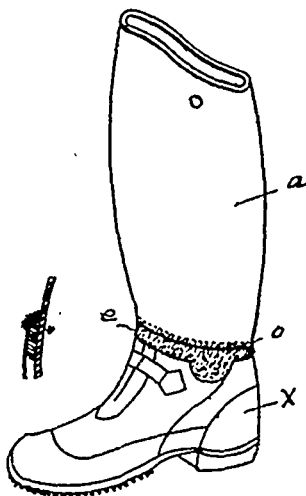
29274 Cowher's Car Coupling.



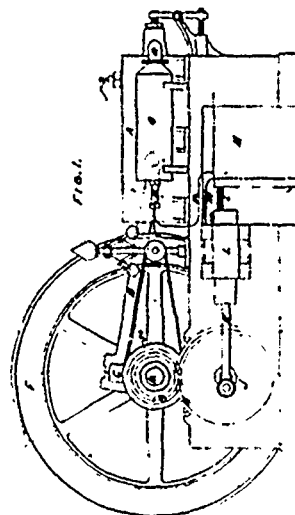
29275 Toukin's Valve Mechanism.



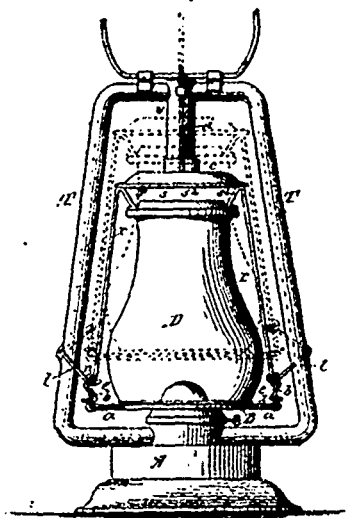
29275 Wunderlich's Washer Cutter.



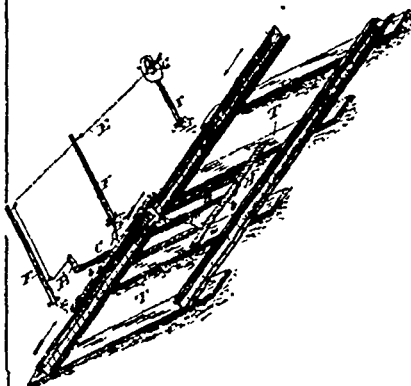
29277 Rauch and Saunders' Felt Boot Protector.



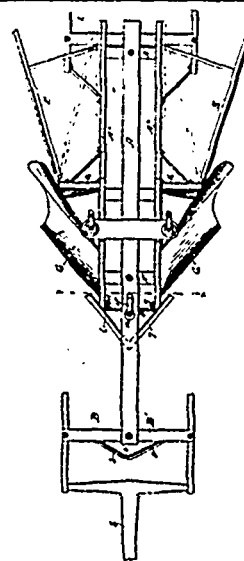
29278 Humes' Motor Engine.



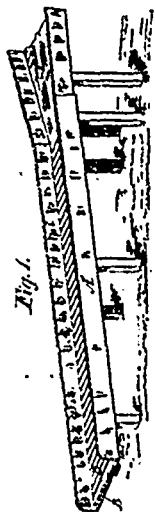
29279 Colony's Lantern.



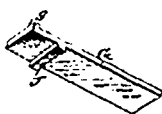
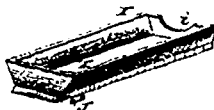
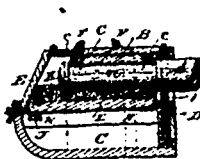
29280 Grant's Railway Signal.



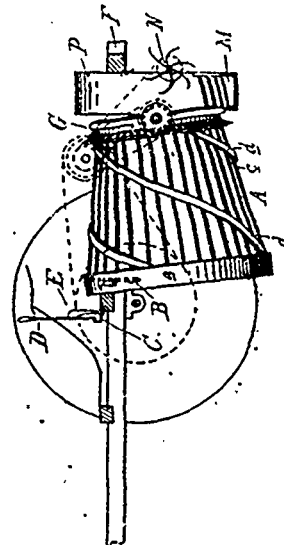
29281 Brazel's Snow-plough.



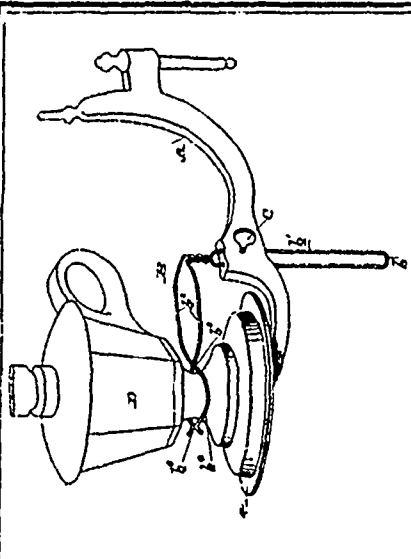
Burns' Gold Separating Apparatus



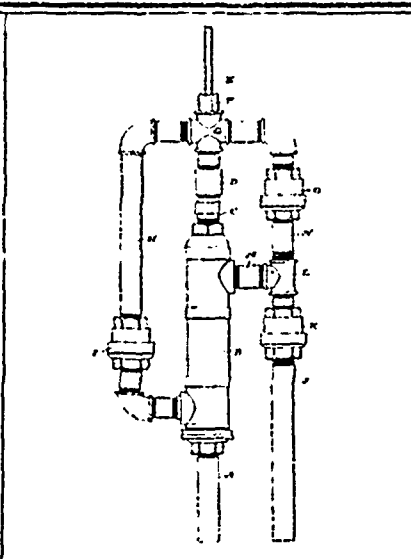
29282 Stinard's Car Axle Box.



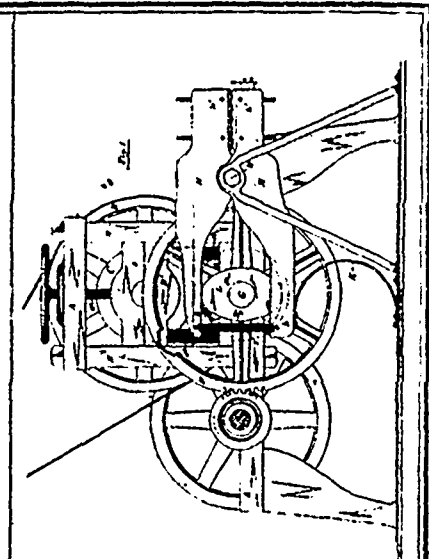
29284 Perry's Potato-Digger



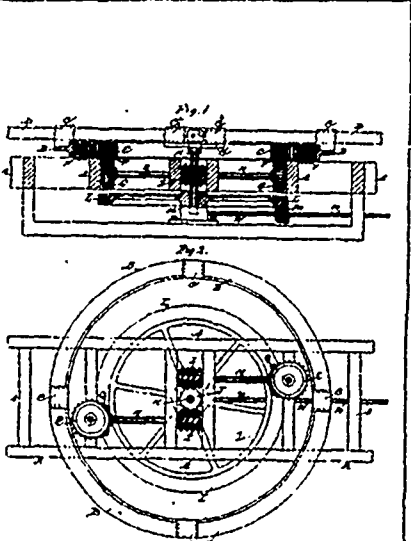
29285 Naylor's Lamp Bracket.



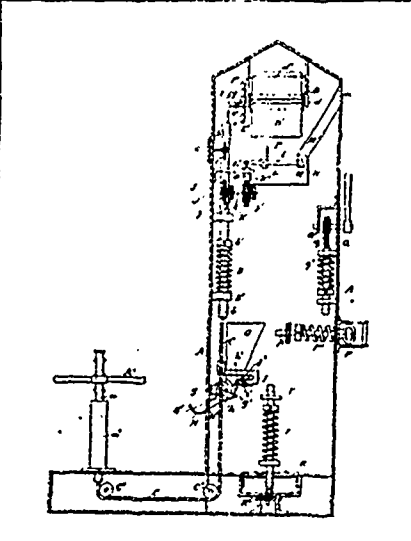
29286 Green's Pump.



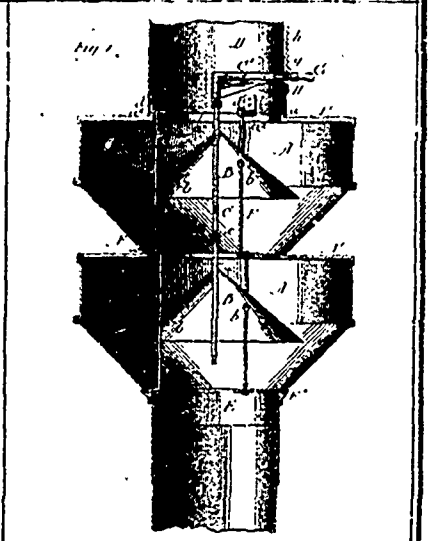
29287 Armstrong's Working Tapers on Molds.



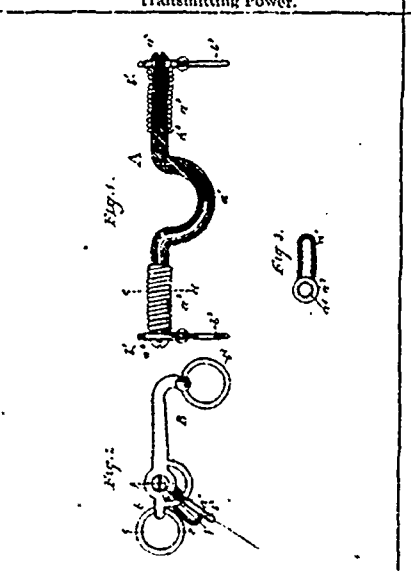
29283 Forsyth and Coleman's Machine for Transmitting Power.



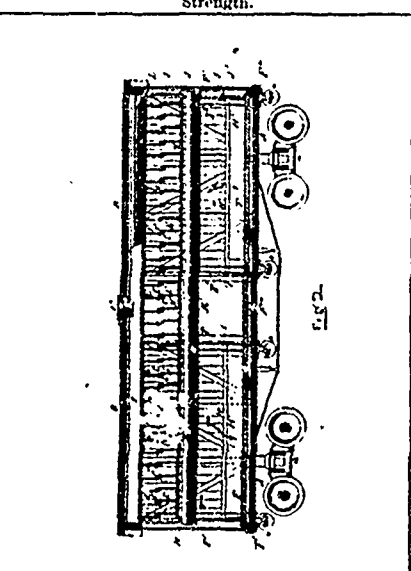
29289 O'Kelly's Machine for Testing Physical Strength.



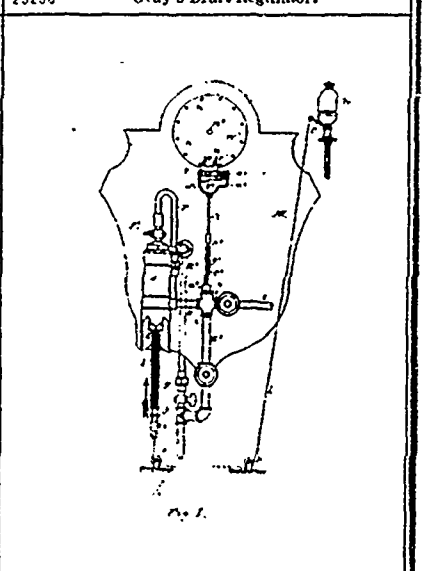
29290 Gray's Draft Regulator.



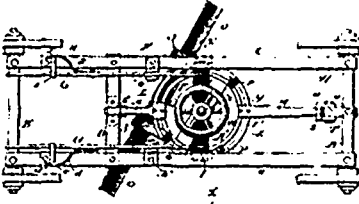
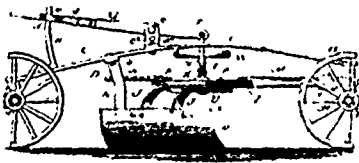
28291 Bredana's Bridle Bit.



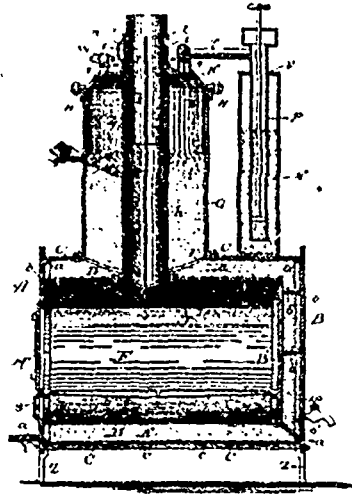
29292 Langguth's Stock Car.



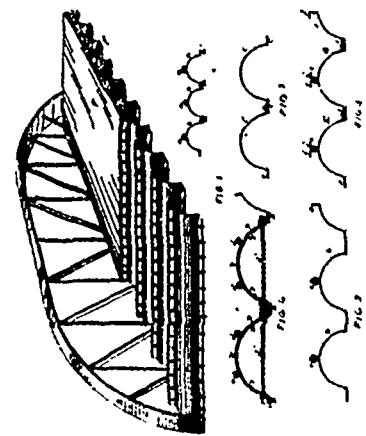
29293 Crosby's Audible Signal



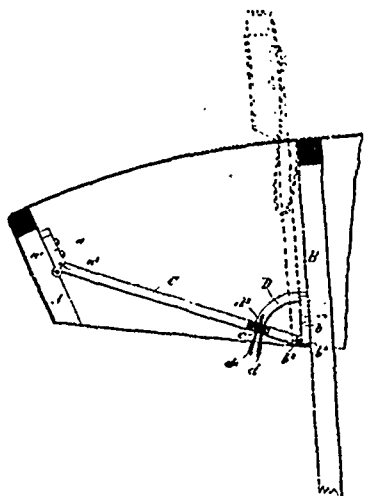
29294 Moats' Road Grader.



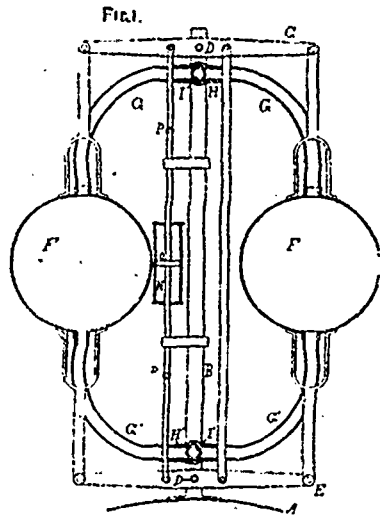
29285 Yokon's Steam Generator.



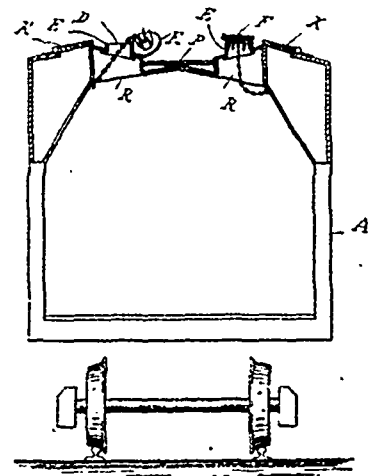
29286 Rammajo's Flooring for Bridgework, etc.



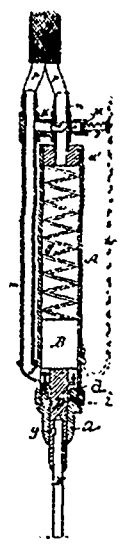
29287 Davis' Buggy Top.



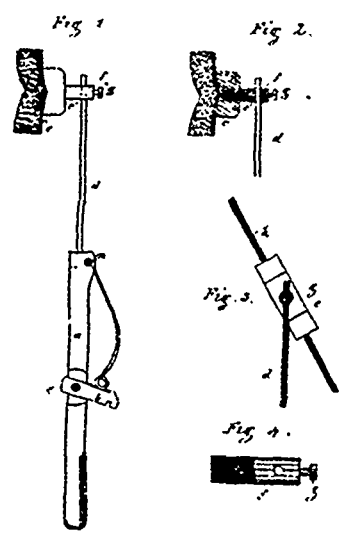
29288 Austin's Feeder for Steam Rollers.



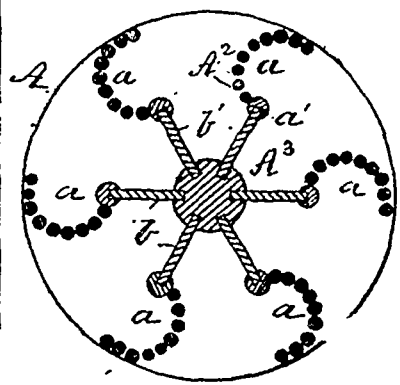
29356 Haines' Stock Car.



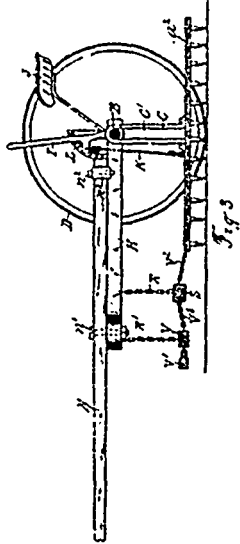
29301 Clement's Impact Tool



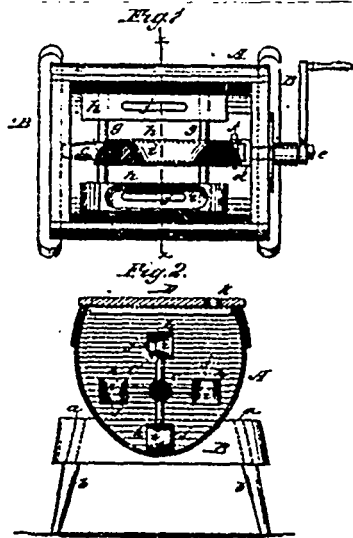
29302 Herberg's Damper for Upright Pianos



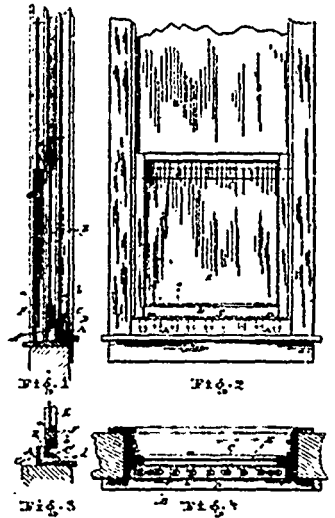
29304 Weldon's Dyeing Apparatus.



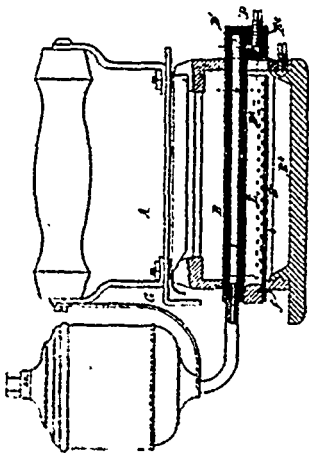
29335 Hewitt's Sulky Harrow.



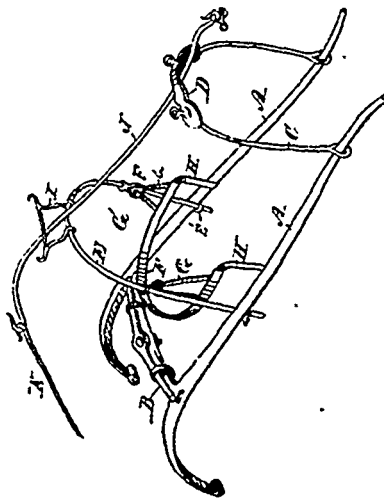
29336 Brock's Rotary Churn.



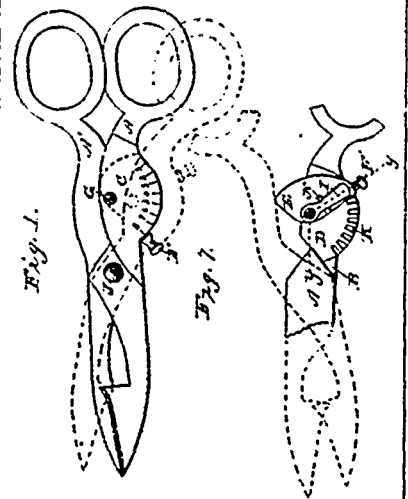
29337 Bury's Window Ventilator



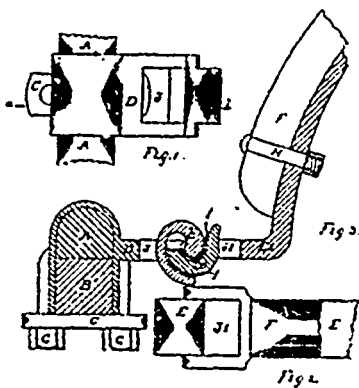
29338 Wishart's Burner for Sad Irons.



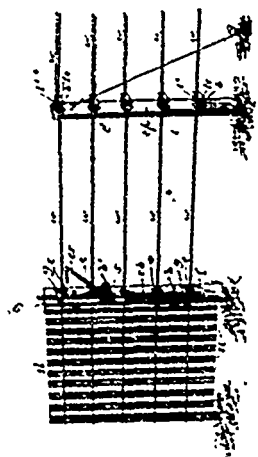
29339 Gibson's Harness



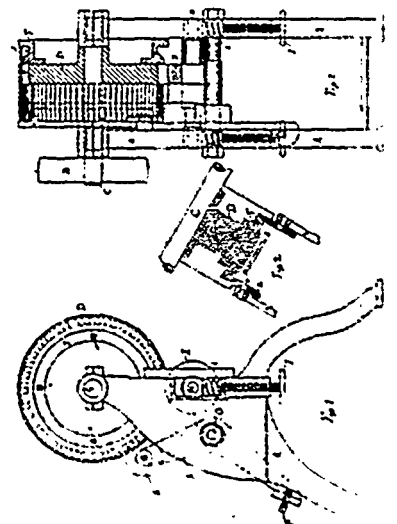
29340 McNeal's Button Hole Scissors.



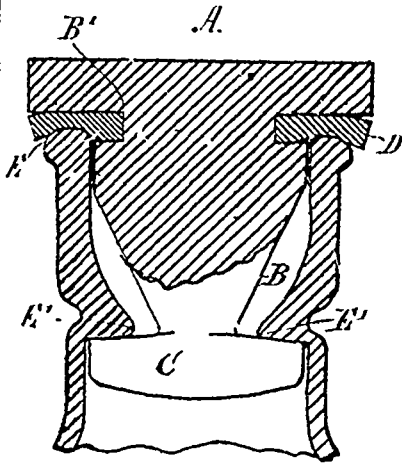
29341 Jones' Shaft Coupler.



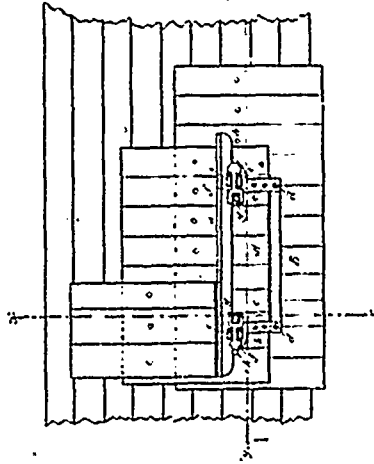
29342 Lowden's Wire Fence Machine.



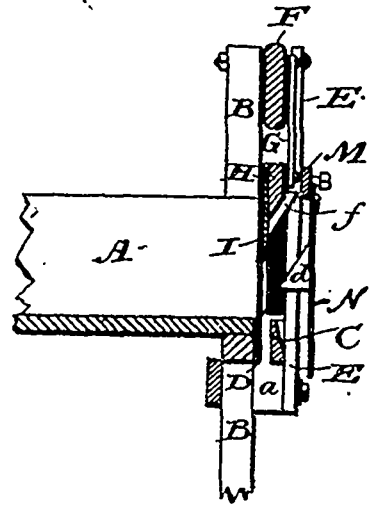
29343 Hutchinson's Machine for making Tooth Picks



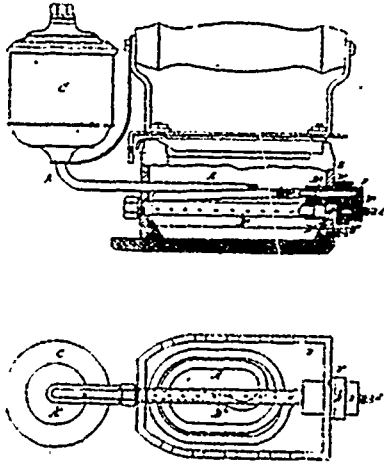
29314 Glover's Bottle and Stopper.



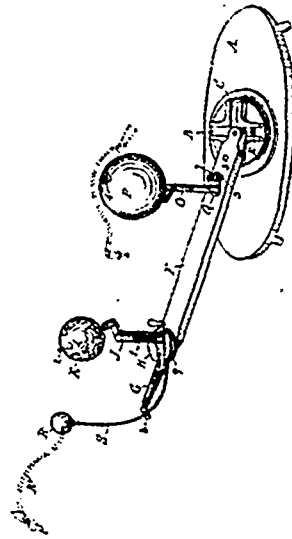
29315 Slane's Shingling Gauge.



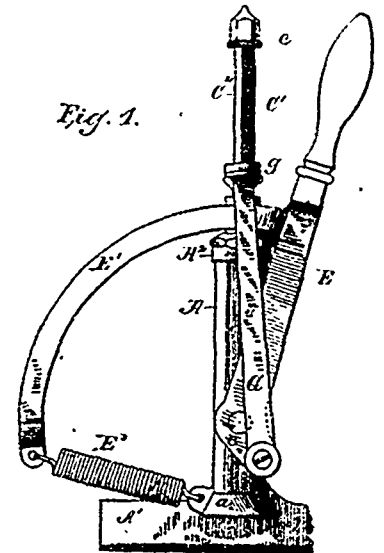
29316 Rider's Feed Cutter.



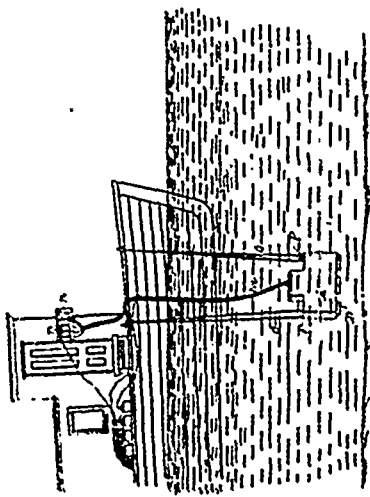
29317 Wishart's Burner for Sad Irons.



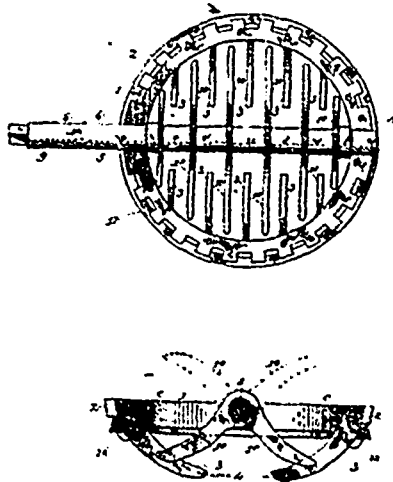
29318 Benedlet and Miller's Tellurian.



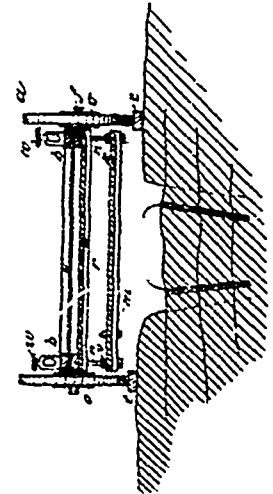
29319 Gilchrist's Cork Extractor.



29320 L'Etolle's Submarine Photographic Apparatus.

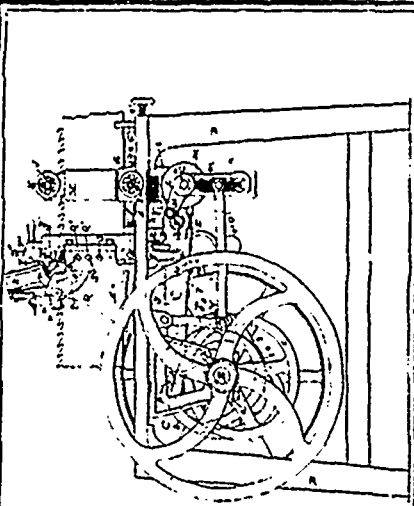


29321 Walter's Stove Grate.

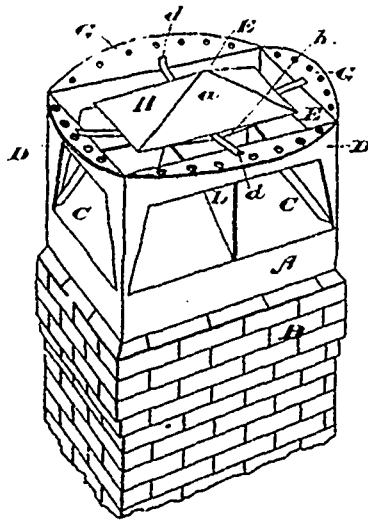


29322 Shannon's Blasting Car.

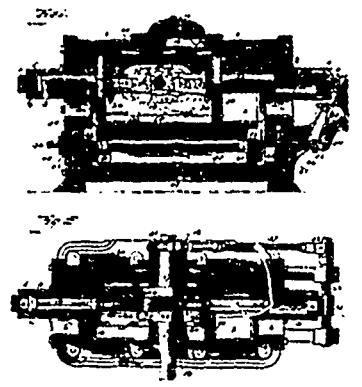




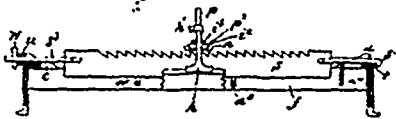
23123 Hinkley's Saw Swagging Machine.



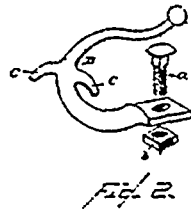
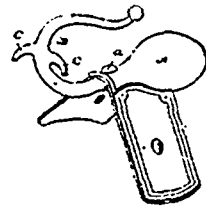
29374 Emery and Spence's Draft Accelerating Cap for Chimneys, etc.



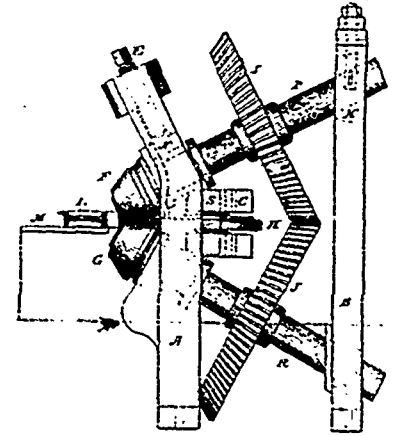
29325 Arthur's Steam Engine.



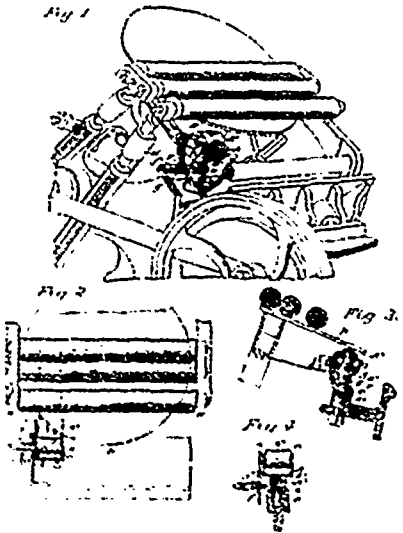
23126 Gaskin's Saw Strainer and Jointer.



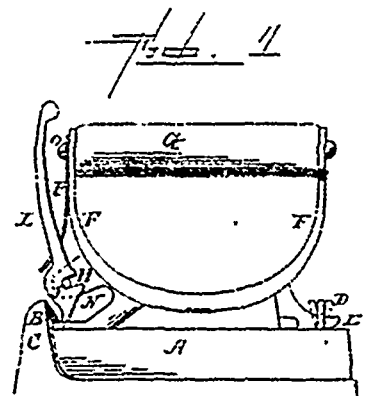
23327 Kimball's Check Hook.



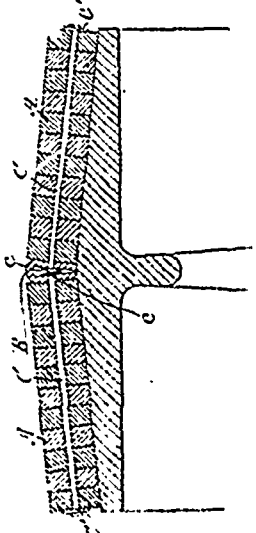
29328 Bean's Rolling Mill and Manufacture of Steel Car Wheels.



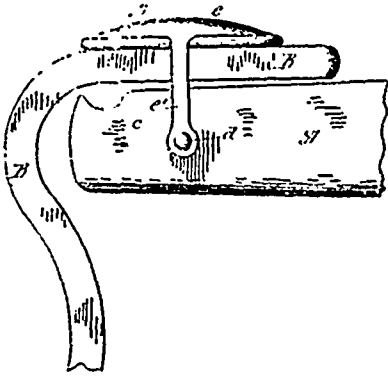
23127 Froche's Inking Attachment for Printing Presses



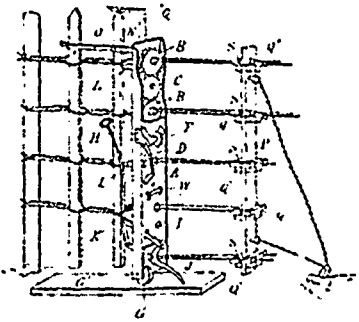
2400 Stecker's Saf Iron



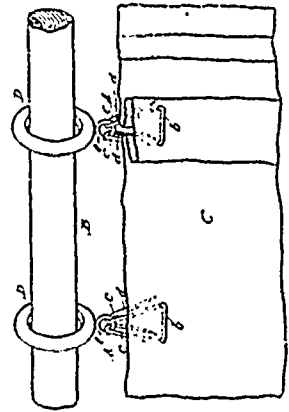
2402 McLaren's Machine Belting.



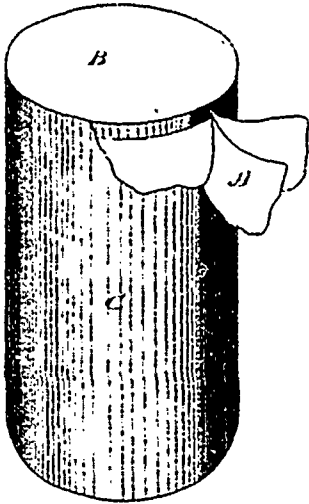
29333 Basinger's Whittetree Hook.



29334 Welds' Fence Machine.



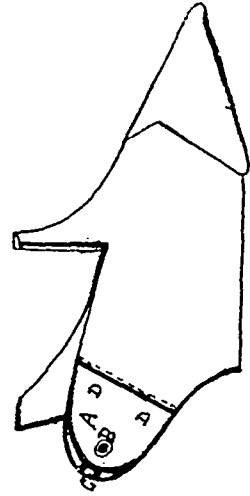
29335 Tilton and Cowen's Drapery Hook.



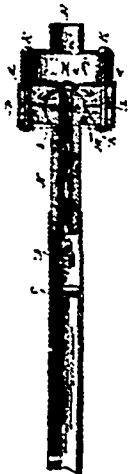
29336 Huegless' Package for Extracted Honey.



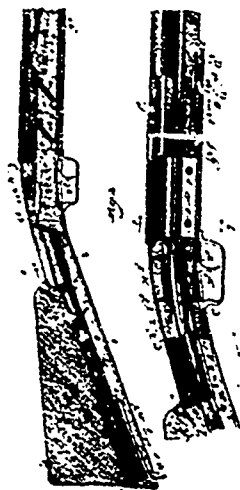
29337 Traver's Attachment for Scaming Machines



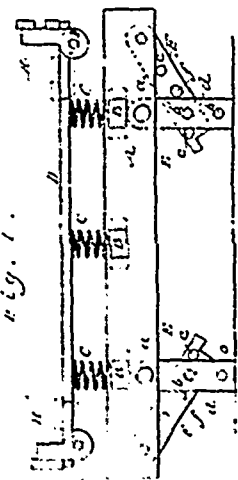
29338 Bergeron's Plough.



29339 Askren's Pipe Coupling.



29340 Leineweber's Magazine Fire Arm.



29341 Porter's Folding Cot.

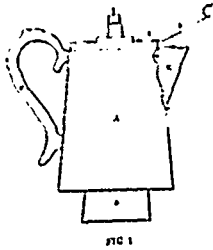


FIG 1

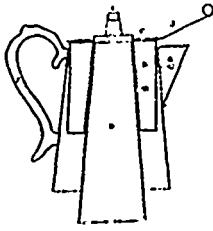


FIG 2

29342 Bègin's Heater.

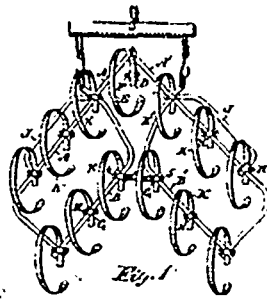
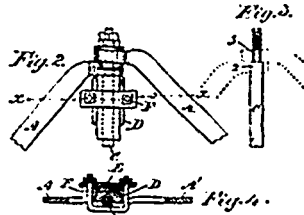
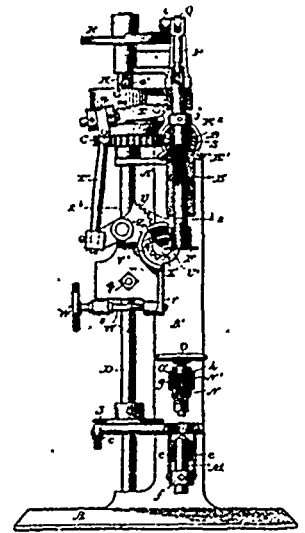


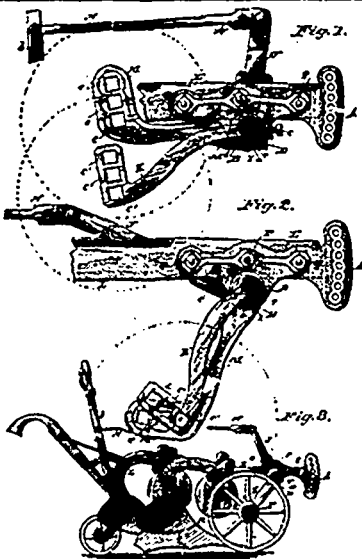
Fig. 1



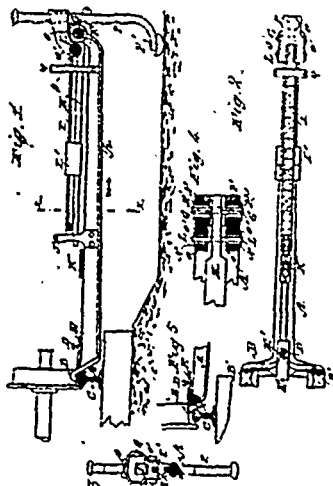
29343 Gillies' Harrow.



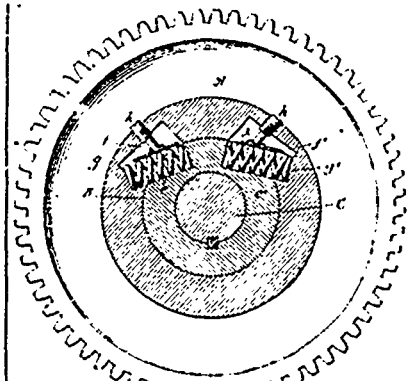
29344 Walsh's Seaming Machine.



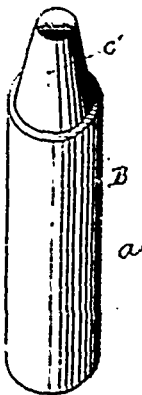
29345 Clayton's Wheel Plow.



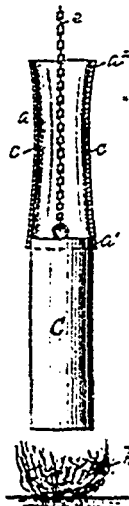
29346 Duplessis' Weighing Scale.



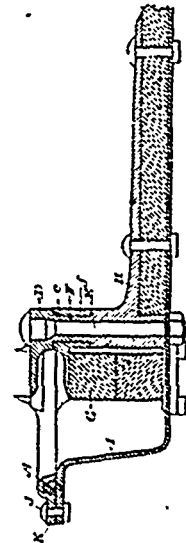
29347 Morgan's Car Wheel.



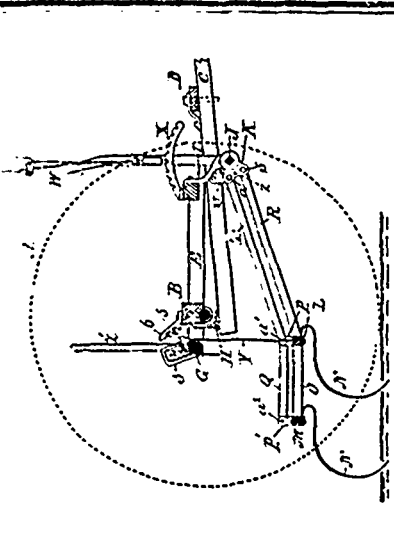
29349 Bardon's Compound Ingot.



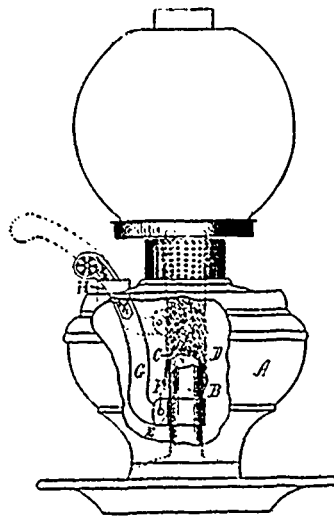
29348 Burdon's Method of Straightening Metallic Tubes.



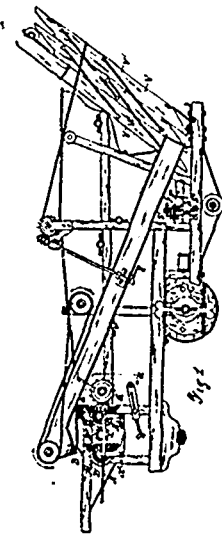
29350 Rothwell's Fifth Wheel.



28351 Cook's Sulky Harrow.



28352 Rhina's Wick Lifting Device.



28354 Kleinstiver's Gratu Separator.

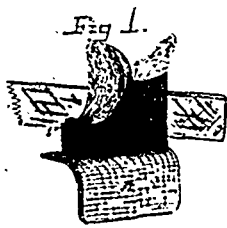
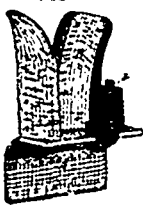
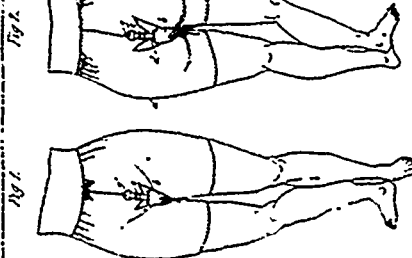
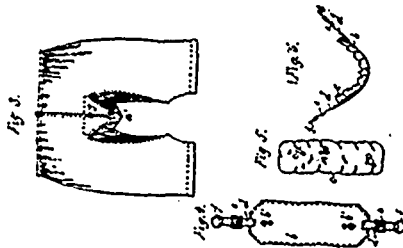


Fig. 2.



28355 Grison's Rein Holder.



28356 Grossmann's Hygienic Handker.

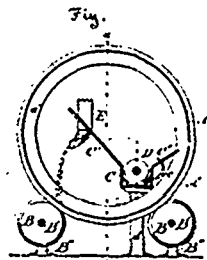
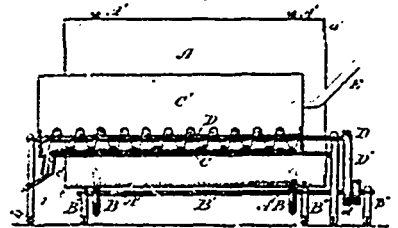
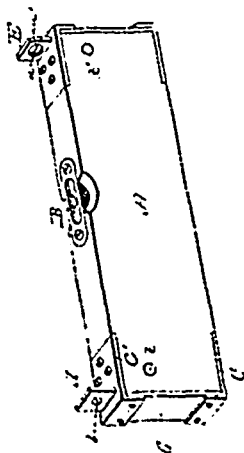


Fig. 2.

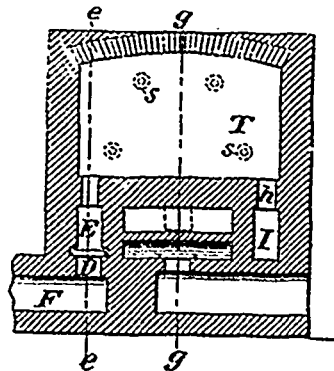


28357 Cooke's Cockle Extractor.

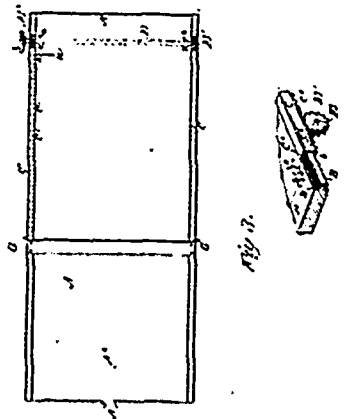


28358 Wool's Level

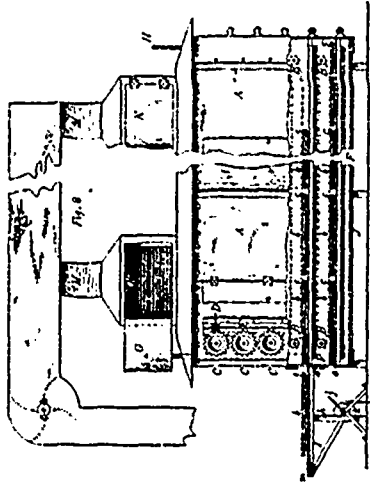
Fig. 5.



28359 Wells' Method of Producing a Rustless Coating on Iron, etc.



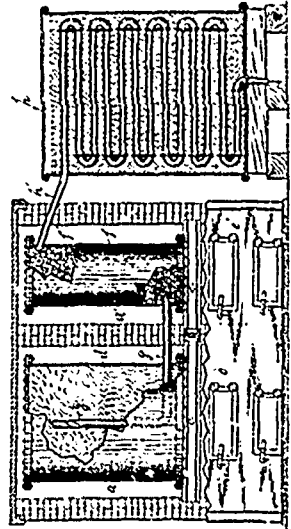
28360 Hughes' Glass Cutting Table



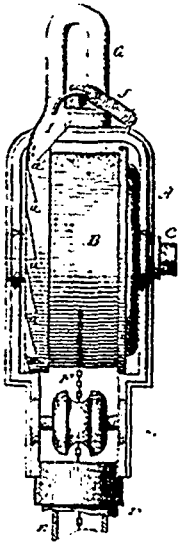
29361 White's Fruit Evaporator.



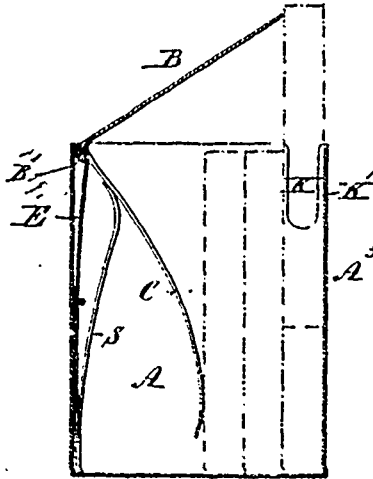
29362 Tomlin's Twine Holder.



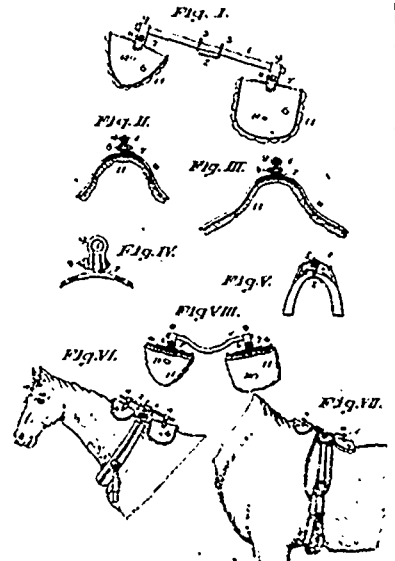
29864 Pitt's Process of Distilling Crude Petroleum.



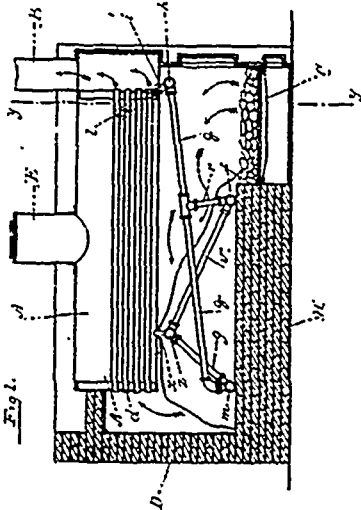
29365 Rhind's Extension Lamp Fixture.



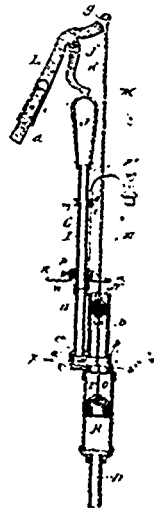
29366 Needham's Cigar Case.



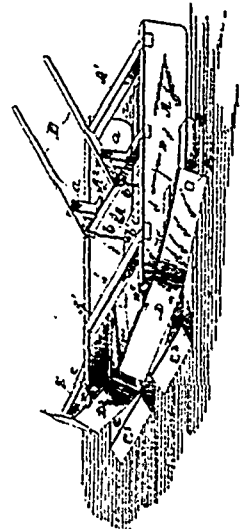
29357 Morrow's Harness Pat.



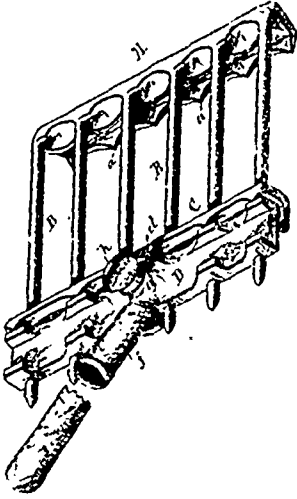
29359 Nilsson's Bolter.



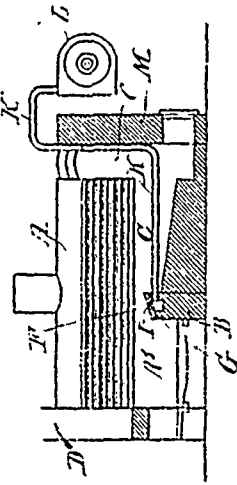
29370 Frouch's Pump.



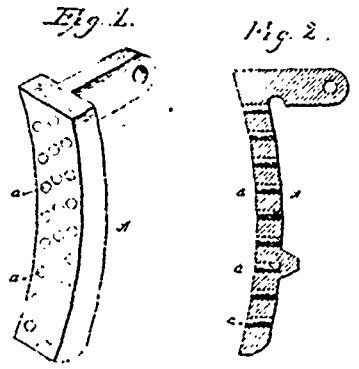
29371 Haines' Snow Scraper.



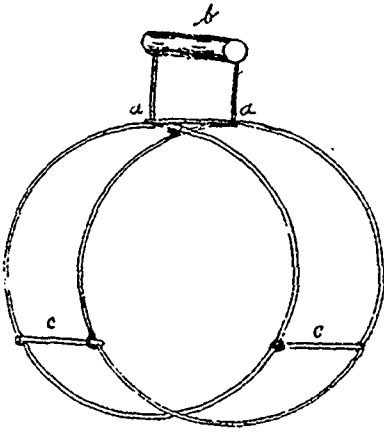
29372 Hourke's Brush and Mop Holder.



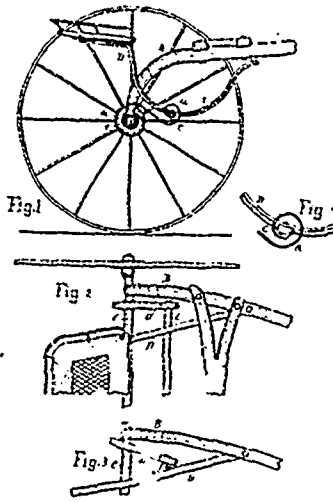
29373 Kerr's Smoke Consuming Furnace.



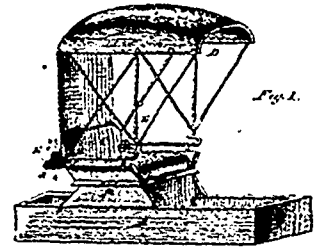
29374 Pollock's Railway Brake Shoe.



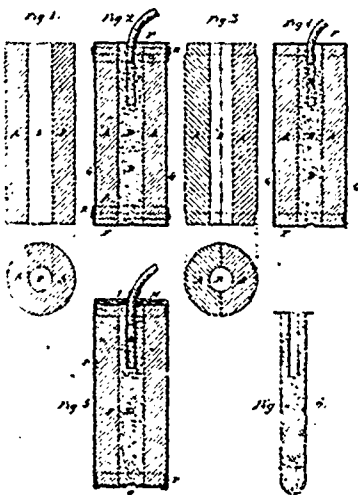
29375 Mosser's Watermelon Holder.



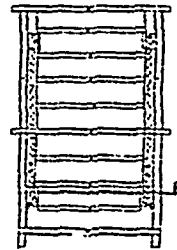
29376 Healy's Two Wheeled Vehicle.



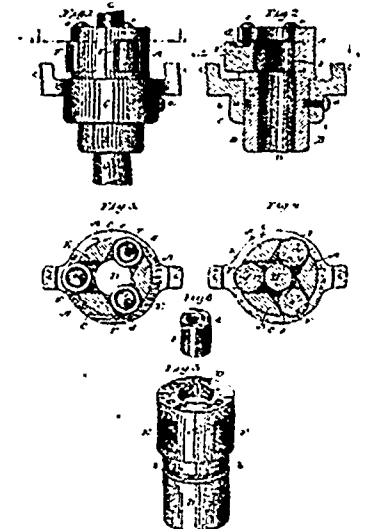
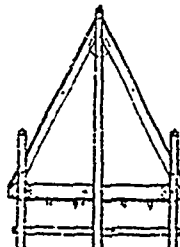
29377 Coleman, Armentrout and Switzer's Cushion.



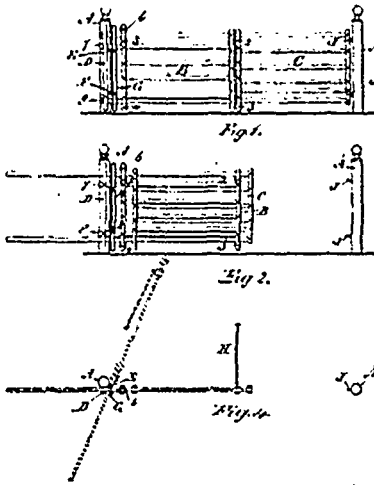
29378 Favier's Cartridge.



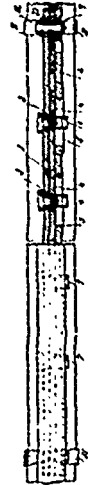
29379 Crowley's Clothes Drying Machine



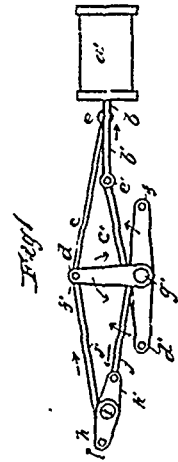
29381 Robinson's Tube Expander.



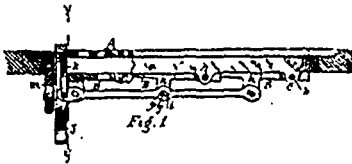
29382 Madden's Farm Gate.



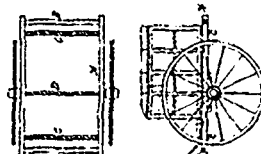
29384 Phillips' Fish Plate.



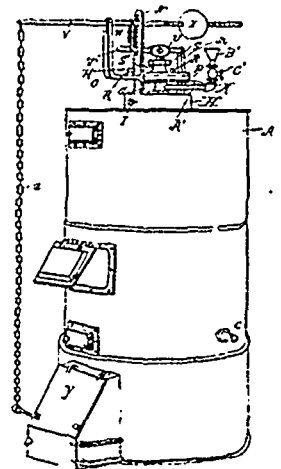
29385 Pitt's Steam Engine.



29386 Munson's Furnace Register.



29387 Lounsbury's Road Cart.



29388 Haynes' Damper Regulator.

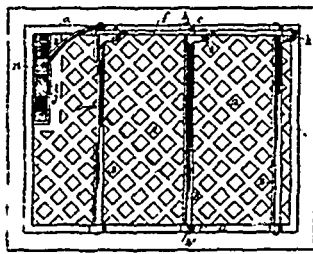


Fig. 2.

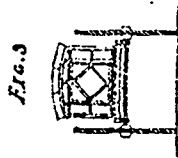
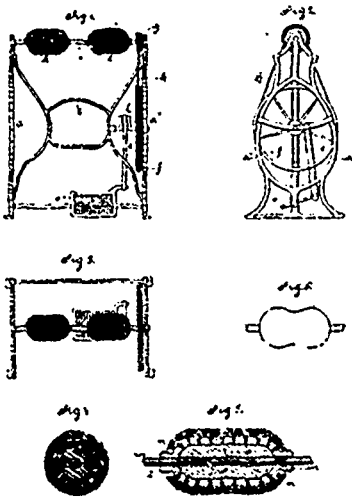
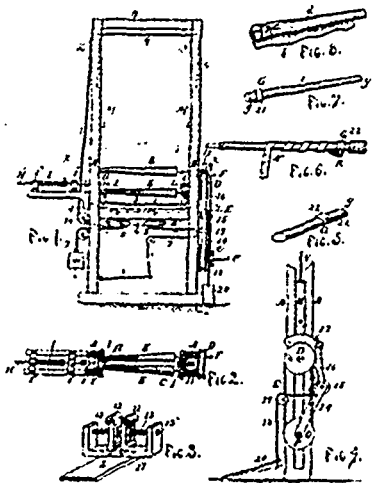


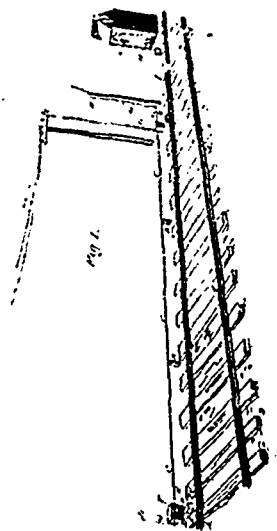
Fig. 3.



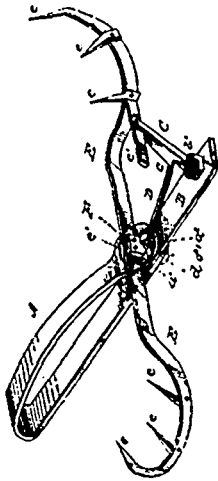
29389 Gunther's Boot Cleaning Machine.



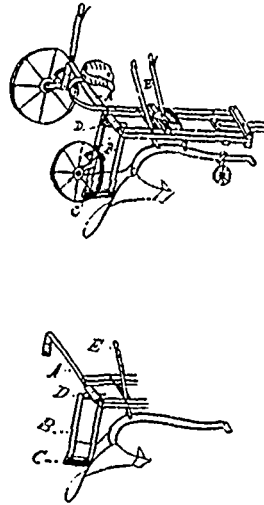
29390 Sherwood's Veneering Machine.



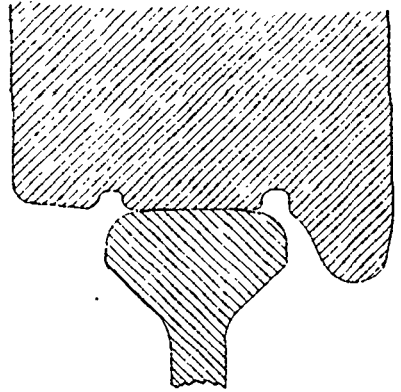
29391 Martel's Railway Signal.



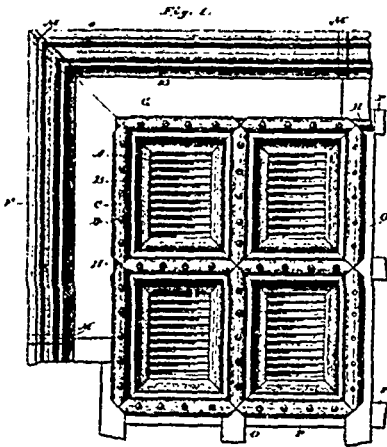
29392 Cleaver's Animal Trap.



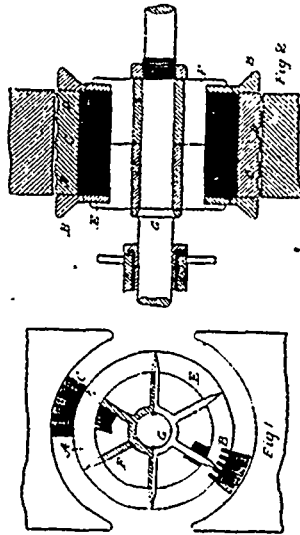
29393 Mootie's Sulky Plough.



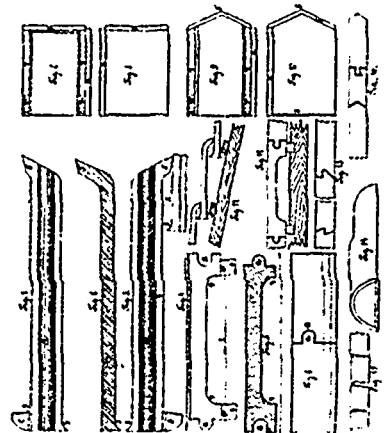
29396 Crampton's Railway Wheel.



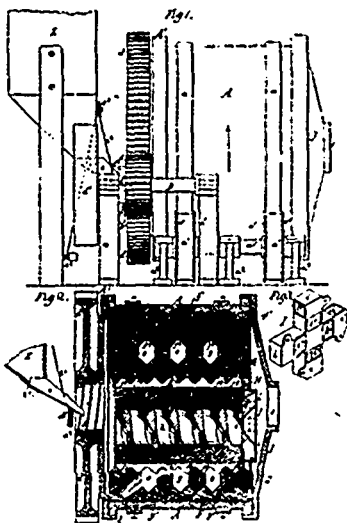
29397 Kinnear's Metallic Ceilings.



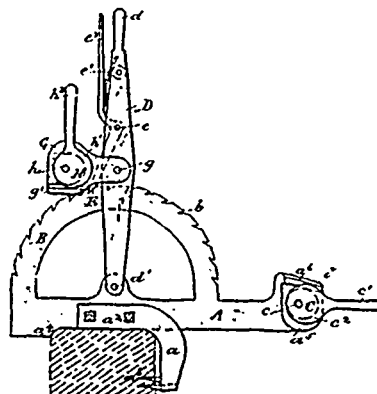
29398 Scott & Paris' Dynamo Electric Machine.



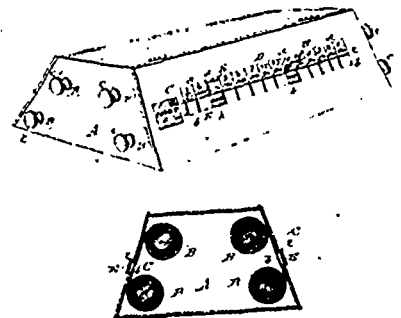
29399 Diodrich's Roofing Tile.



29399 Gates' Pulverizing Machine.

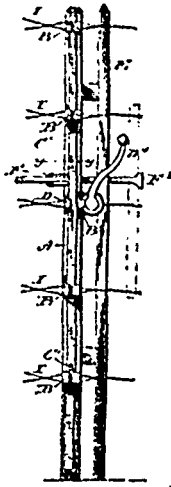


29400 Mason's Wire Stretcher.

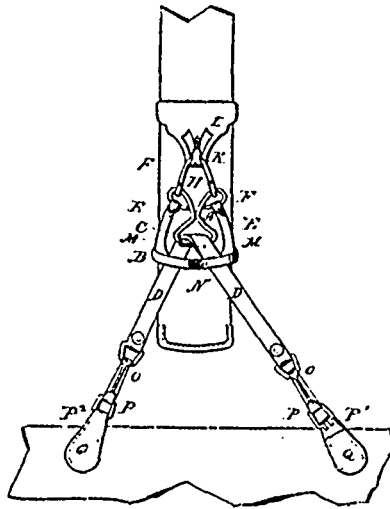


29402 Dunham's Interest Indicator.

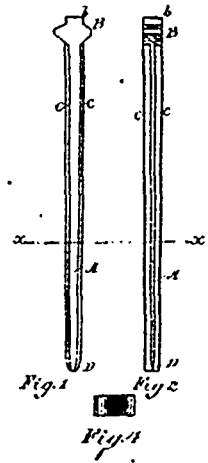




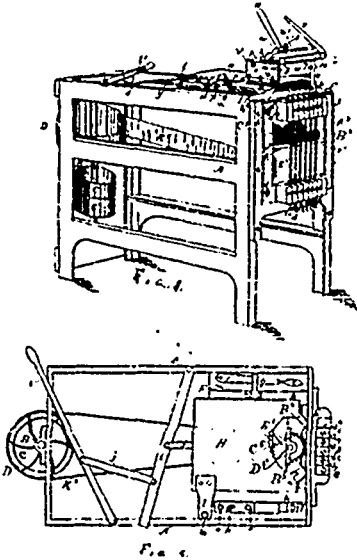
29403 Garrett's Fence Machine.



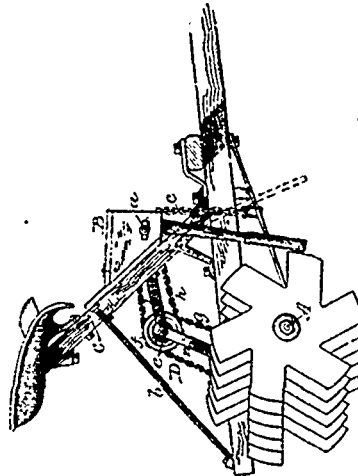
29404 Scales' Suspender Attachment.



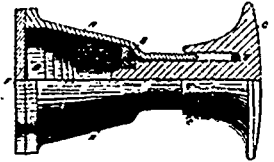
29405 Bélanger's Nail.



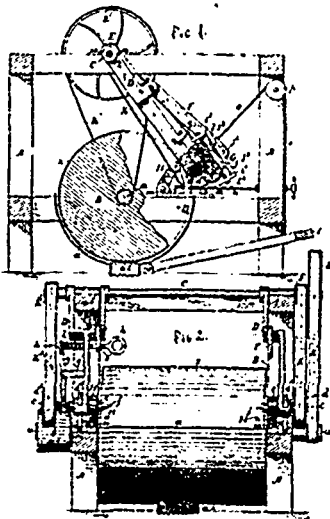
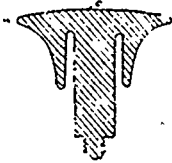
29406 Dodds' Dovetailing Machine.



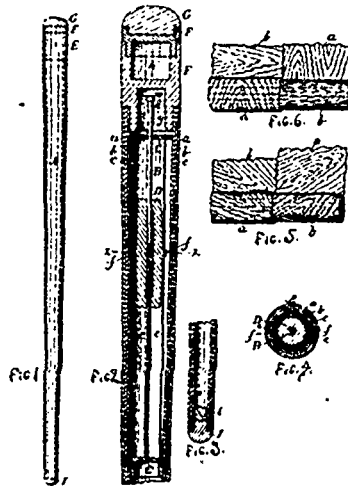
29407 Clark's Seeder and Harrow.



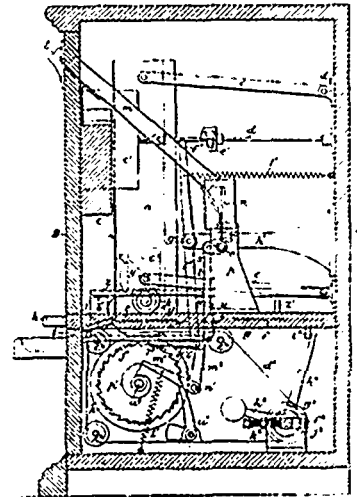
29408 Heard's Railway Buffer.



29409 Sherwood's Turning Machine.



29410 Sherwood's Billiard Cue.



29411 Everitt's Apparatus for the Stamping and Delivery of Tickets.