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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. 34,191. Globe Valve. (*Soupape-sphérique*.)

James O. Tefft and Charles W. Carpenter, Olean, N. Y., U. S., 1st May, 1890; 5 years.

Claim.—A valve body, provided with a valve seat, a valve fitting therein, a plug screw into the branch upon the valve body, a threaded valve stem screwing into the lower end of the plug and reduced in size above the threaded portion, and extending upward through the plug and above it, and means for rotating the valve stem.

No. 34,192. Coffee Pot. (*Cafetière*.)

Munro Mattison, Busti, N. Y., U. S., 1st May, 1890; 5 years.

Claim.—The coffee pot, comprising the main pot, having a suitable distance below its upper edge, a circumscribing bearing or stop-head, the steaming-cup or chamber, having a circumscribing head or bearing resting upon the upper edge of said main pot, said steaming cup also having a bent steam pipe and a syphon pipe, the discharge end of said steam pipe, and the receiving end of said syphon pipe, reaching down within a short distance of the bottom of said cup, the drop cover having a deep flange, the lower edge of which rests upon the stop head or bearing of the main body, substantially as set forth.

No. 34,193. Flour Bin and Sifter. (*Farinière et sas*.)

Thomas F. Crary, Middleport, Ohio, U. S., 1st May, 1890; 5 years.

Claim.—1st. In a flour bin and sifter, an oscillating agitator, consisting of the curved laterally-spaced arms, having an eye or loop at one end, and a crank handle at the opposite end of the arms from said eye or loop, in combination with a shell or case through which the crank handle is passed to provide a support for one end of said agitator, and a short trunnion or stud fixed to said case and fitted in the eye or loop of said agitator to support the opposite end of the agitator, substantially as described. 2nd. In a flour bin and sifter, the combination, with a shell or case, a sieve, and an agitator having an extended crank handle, of a curved guard fixed in an inclined position exteriorly on the case, and having one end thereof inclined toward the shell as described, and a notch or recess contiguous to said inclined end, substantially as described.

No. 34,194. Combined See-Saw and Mail Cart for Children. (*Escarpolette voiture*.)

Nathan Whiteley, Golcar near Huddersfield, Eng., 1st May, 1890; 5 years.

Claim.—1st. In a mail cart or gig, the combination therewith, of a rocking or oscillating car operated by crank or other like motion, substantially as shown and described. 2nd. In a mail cart or gig, the combination therewith, of a rocking or oscillating car, the motion of which can be disconnected, and the car fixed, as described and shown herein. 3rd. In a mail cart or gig, having an oscillating or rocking car, the employment of lever arm, *u* for permitting the mechanism which imparts the rocking motion to be disconnected from the car, as described and shown.

No. 34,195. Surface Decoration. (*Ornementation des surfaces*.)

Alfred Cousen, Detroit, Mich., U. S., 1st May, 1890; 5 years.

Claim.—The herein described process of surface decoration, consisting in applying to the surface to be decorated, a layer of a plastic and sticky composition, substantially as described, and in producing therein the foliated decoration in the manner described.

No. 34,196. Spring Bed. (*Sommier élastique*.)

Charles E. Gilmore, Saint Stephen, N. B., 1st May, 1890; 5 years.

Claim.—The combination of the frame, slats, springs and mattress with the direct covering of the springs, and the direct attachment of the mattress, so as to form but one article, as and for the purpose hereinbefore set forth.

No. 34,197. Pipe, Gas Retort and Other Hollow Articles. (*Tuyau, cornue à gaz et autres objets creux*.)

John Illingworth, Batley, Eng., 1st May, 1890; 5 years.

Claim.—The manufacture of pipes, gas retorts, and other hollow articles, with an earthenware lining or shell, made in the manner, substantially as herein described and illustrated in the drawings.

No. 34,198. Machinery for Carbonizing and Drying Fabrics and Fibres. (*Machinerie pour carboniser et sécher les tissus et les fibres*.)

John Illingworth, Batley, Eng., 1st May, 1890; 5 years.

Claim.—1st. In combination, with the hopper *J*, the use and employment of a horizontal revolving cylinder placed at an angle, and perforated or otherwise, and provided with studs or spikes for carrying the fibre around for agitating, and carbonizing fabrics, and fibres substantially as described. 2nd. The employment of a revolving perforated cylinder, placed at an angle as described, in combination, with a hopper and feed rollers, for carbonizing fabrics and fibrous materials. 3rd. The use of a horizontal cylinder together with a hopper and feed rollers, surrounded with brickwork or otherwise enclosed, in combination, with a furnace *U*, and carbonizing gases, all substantially as described.

No. 34,199. Grain Scalper, Sheller and Peeling Machine. (*Machine à ébarbillonner, égrener et monder les grains*.)

Carl Franzel, Domstadt, Austria, 1st May, 1890; 5 years.

Claim.—1st. The stone cylinder *d*, having dovetailed projections, in combination with the clamping rings *e*, fitting with their dovetailed notches *e'* in the projections of the stone cylinder *d*, and the covering plate *e''* rigidly connected by bolts *e'''*, substantially as heretofore shown and described. 2nd. The drum *l* rotating in the journals *r* and *s*, lined with a perforated plate or wire gauze *3*, and enclosed in the stationary outer casing *11*, and which receives its rotary motion inverse to that of the stone cylinder *d*, likewise from the main shaft *e*, substantially as heretofore shown and described. 3rd. The stationary cover *z*, with the regulating sliding plate *y*, and the parabolic slot *z'* for increasing or diminishing the accumulation of the grain in the mill, as may be found necessary, substantially as heretofore shown and described.

No. 34,200. Galvanic Battery. (*Pile galvanique*.)

Eben D. Cross, Chicago, Ill., U. S., 1st May, 1890; 5 years.

Claim.—1st. A galvanic battery, having two cells containing suitable electrodes and excitants, and a third cell contains an excitant, and serving as a supply cell, substantially as set forth. 2nd. In a galvanic battery, a fume conducting passage arranged to conduct fumes from one cell and discharge the fumes into a cell containing a fluid capable of being charged with such fumes, and thereby converted into an excitant, substantially as set forth. 3rd. In a galvanic battery, the negative electrode separated into two parts which are respectively arranged in separate cells, and a tube or passage arranged to conduct fumes from one of such cells and discharge the same into the other cell, substantially as set forth. 4th. In a galvanic battery, the negative electrode separated into two parts, which are electrically connected together and respectively arranged in separate cells, whereof one contains an excitant, and a tube arranged

to conduct the fumes from the cell that contains the excitant and discharge the same into the other cell, which latter contains a vehicle capable of being impregnated with the fumes, so as to provide therein an excitant due to the fumes from the cell wherein they are first generated, substantially as set forth. 5th. In a galvanic battery, a carbon electrode, consisting of two sets of carbon tubes, which are electrically connected together, and respectively arranged in separate cells, whereof one contains an excitant, in combination, with a tube arranged to conduct the fumes from the cell that contains the excitant and discharge the fumes into the other cell, substantially as set forth. 6th. In a galvanic battery, the negative electrode separated into two parts which are electrically connected together, and respectively arranged in separate cells, whereof one contains an excitant, in combination with a tube, arranged to conduct the fumes from the cell containing the excitant and discharge such fumes into the other cell, which latter contains a packing of charcoal and asbestos, substantially as and for the purpose set forth. 7th. In a galvanic battery, a carbon electrode formed of carbon tubes, each having a longitudinally formed slot or opening, for the purpose set forth. 8th. In a galvanic battery, the combination, with a couple of cells, each having a carbon cover, of a couple of sets of carbon tubes respectively arranged within one and the other of said cells, and attached to the carbon covers, said covers being electrically connected together, substantially as set forth. 9th. In a galvanic battery, the combination, substantially as hereinbefore set forth, of three concentric cells, a carbon electrode separated into two parts which are electrically connected together, with one part arranged in the central cell and the other in the extreme outer cell, a zinc or its equivalent electrode arranged within the intermediate cell and a tube leading from one to the other of the two cells, which contains the said parts of the carbon electrode, substantially as set forth. 10th. In a galvanic battery, a carbon electrode, formed of carbon tubes, each having a longitudinal slot or opening, and combined with a filling, consisting of a tube or lining of porous material packed with asbestos, substantially as and for the purpose described. 11th. In a galvanic battery, a zinc electrode, consisting of a set of zinc rods attached to a metal plate, screws which engage in the upper ends of the zinc rods, substantially as and for the purpose described. 12th. In a galvanic battery, the negative electrode, combined with a solution of nitric acid and nitrate of ammonium. 13th. In a galvanic battery, the negative electrode, composed of carbon, and combined with a solution of nitric acid and nitrate of ammonium. 14th. In a galvanic battery, a carbon electrode, composed of carbon tubes, each having a longitudinal opening and containing a filling of asbestos packed in a tube of porous material, combined with a solution of nitric acid and nitrate of ammonium, substantially as set forth. 15th. A three cell galvanic battery, having in its first and third cells, portions of a negative electrically connected together, a positive electrode in its second cell, a fluid such as water in its third cell, and a fume conducting tube connecting together its first and third cells, as set forth.

No. 34,201. Yoke for Carrying Canoes.

(*Joug pour porter les canots.*)

Raoul Rinfret, St. Stanislas, Que., 1st May, 1890; 5 years.

Résumé.—Dans un joug à canot, le bout denté, ayant la plaque G, et la glissoire E, ayant la vis de pression F, et l'anneau D, tels que décrits, pour les fins designées.

No. 34,202. Vehicle Standard.

(*Rancher de voiture.*)

Samuel Graham, Lebeck, Mo., U.S., 1st May, 1890; 5 years.

Claim.—1st. A vehicle standard consisting of a rectangular band B at its lower end, adapted to fit over the bolster, a back plate extending vertically from the same, a vertical brace extending from said band to the upper extremity of the standard, and erected at right angles to said back plate, and cross webs *h, h*, intermediate of the upper and lower ends of the standards, the whole being cast integral, substantially as described. 2nd. As a new article of manufacture, a vehicle standard consisting of a band surrounding the bolster and secured thereto by means of a bolt passing transversely through said bolster and said band, a vertical plate, having tapering lower edges and arranged to bear against the vehicle body, a main web or brace extending from the band to the top of the standard, and triangular cross webs intermediate of the upper and lower extremities of the standard, the whole being cast integral, substantially as and for the purpose described. 3rd. In a vehicle standard, the combination of a rectangular band surrounding the bolster, a bolt securing the same thereto, a back plate extending vertically therefrom, a cap-piece at the upper end of the same, a main brace or web extending from said band to said cap-piece, and intermediate triangular cross webs connecting the surfaces of the back plate and main brace, and formed at right angles thereto, the whole being cast integral, substantially as described. 4th. The combination of the bolster, the standard, and a device, substantially as described, inserted between the two to removably secure them together as set forth. 5th. The combination of the bolster, the standard, and a wedge inserted between them, substantially as and for the purpose described. 6th. A key arranged to be inserted between the standard and bolster, and consisting of a wedge shaped plate provided with an adjustment slot, substantially as described. 7th. The combination of the standard, the bolster, a key inserted between them, and suitable means for removably securing said key to said bolster. 8th. The combination of the bolster, the standard provided with a band encircling the latter, a key inserted between said band and said bolster, and provided with a slot, and a bolt extending through said bolster, substantially as described. 9th. A key inserted between the standard and the bolster, and consisting of a wedge shaped plate having a bifurcated inner end, substantially as described. 10th. A key inserted between the standard and bolster, and consisting of a wedge shaped plate, having a roughened face, substantially as and for the purpose described.

No. 34,203. Drier for Fruit and other Articles.

(*Séchoir pour les fruits et autres articles.*)

George Frick and Frederick Frick, Waynesborough, Penn., U.S., 1st May, 1890; 5 years.

Claim.—1st. A drier, having movable crates or cages, and provided with a movable vestibule, and supports for said vestibule, permitting the same to be passed within the drier for isolating a single crate or cage therein, substantially as described. 2nd. A drier, having movable crates or cages, and provided with a movable vestibule for isolating a single crate or cage within the drier, and guides or tracks for said vestibule extending within the drier, substantially as described. 3rd. A drier, having movable crates or cages, and provided at one wall with an opening a little larger than a crate or cage, a movable vestibule for isolating a single crate or cage, and tracks or guides for said vestibule, extending through said opening within the drier whereby the vestibule can be withdrawn from the drier through said opening, or passed within the drier to isolate a drier of crate or cage, substantially as described. 4th. The combination, with movable vestibule for isolating a single crate or cage, said vestibule being provided with a hinged top adapted to be let down, forming a door for closing the front of the drier, substantially as described. 5th. In a drier, the combination, with the bottom and sides of a movable vestibule, of the hinged top and the spring catches therefor, substantially as described. 6th. The combination, in a drier, with the bottom and sides of a movable vestibule, of a hinged top, spring catches therefor, and bars adapted to bear against said catches to release the same, substantially as described. 7th. In a drier, the combination, with the bottom and sides of a movable vestibule, of a hinged top spring catches therefor, a shaft provided with a crank disk, and bars connected to said crank disk and adapted to bear against said catches to release the same, substantially as described. 8th. In a drier, the combination, with horizontally-disposed sprocket-chains, and a suspension track of a crate or cage attached to said chains, and movably suspended on said track, substantially as described. 9th. In a drier, the combination, with horizontally-disposed sprocket chains, a suspension track, and a guide parallel with the sprocket chains of a crate or cage attached to said chains, movably supported on said track and provided with a traveller engaging said guide, substantially as described.

No. 34,204. Cultivator.

(*Cultivateur.*)

John G. Trump, Richville, Mich., U.S., 1st May, 1890; 5 years.

Claim.—1st. The main frame, the arched axle, the drag bars and the forked shovel standards, in combination with the braces pivoted to said drag bars and passed through the forked ends of the standards, breaking pins securing said braces to the standards and coils and springs having one end secured to the drag bars and the opposite end secured to the standards below the breaking pins, substantially as herein described. 2nd. In a cultivator, the main frame having the arched front portion, the arched axle secured to said frame at its rear, and the drag bars and attachments, in combination with the removably-secured plate to which the central drag bars are attached, a draft attachment extending above and below said plate, and a brace extending from the draft attachment to the pole or tongue, substantially as herein described. 3rd. In a cultivator, the combination with the main frame, the main axle and bearing wheels and the drag bars and attachments of the pole or tongue, and the seat having a spring standard removably secured beneath the rear end of the pole or tongue, substantially as herein described. 4th. In a cultivator, the main frame, the main axle and bearing wheels, and the drag bars and attachments, in combination with yokes H, consisting of the upper and lower longitudinal bars *g*, and the vertical uniting bars *h*, arranged in pairs and separated from each other to permit the passage of the drag bars, substantially as and for the purpose specified.

No. 34,205. Door Cushion.

(*Tampon de porte.*)

John Fee and Alexander Sabiston, Montreal, Que., 1st May, 1890; 5 years.

Claim.—1st. The combination, with a door, of the shell *a* adapted to be attached thereto, and having a spring-actuated castor-wheel *p*, substantially as and for the purposes set forth. 2nd. The combination, with a door, of the shell *a* adapted to be attached thereto, and having a spring-actuated castor-wheel *p*, also the thimble *b* and cushion *c*, the whole substantially as described. 3rd. The combination, with a door, of the shell *a*, having end *e* and diaphragm *d*, having opening *f* and *g*, also having thimble *b* and cushion *c*, wheel-holder *h*, wheel *p* and spring *t*, the whole substantially as described and shown for the purposes set forth.

No. 34,206. Curtain Hanger.

(*Bâton de rideau.*)

Etna H. Davis (assignee of Daniel Davis), Elmira, N. Y., U.S., 1st May, 1890; 5 years.

Claim.—1st. The combination, with the sash, the roller and its slat, of the centrally-arranged vertical rod attached to the sash, and a bracket carrying the roller and slat and adjustable on said rod, substantially as described. 2nd. The combination, with the sash, the roller, curtain and slat, of the centrally-arranged vertical rod attached to the sash, the bracket sliding on the rod and attached to the slat, and a lock acting on the rod to hold the bracket in its adjusted position on the rod, substantially as described. 3rd. The combination, with the sash, the roller and its slat, of the centrally-arranged vertical rod attached to the sash, the bracket adjustable on said rod and attached to the slat, and a lock on the bracket acting against the rod to hold the bracket in its adjusted position on the rod, sub-

stantially as described. 4th. The combination, with the roller and its slat, of the centrally-arranged vertical rod attached to the sash, the bracket attached to the slat and adjustable on the rod, and a latch on the bracket to engage the rod to hold the bracket in its adjusted position, substantially as described. 5th. The combination, with the roller and its slat, of the centrally-arranged vertical rod, fulcrumed on the slat and adjustable on the rod, the latch on the bracket acting on the rod, and a rod operating the latch, substantially as shown and described. 6th. The combination, with the roller and its slat, of the upper sash, the lower sash, the end adjustably connected with the lower sash, and the bracket attached to the slat and adjustable on the rod, substantially as described. 7th. The combination, with the upper sash, the vertical rod attached at its upper end to the said sash, and its lower end adjustably connected with the lower sash, and the roller and its slat, of the bracket attached to the slat and adjustable on the rod, and a latch on the bracket to engage the rod, substantially as described.

No. 34,207. Sash Lock. (*Arrête-croisée.*)

The Ross Sash Lock Company (assignee of Thomas B. Ross), Evansville, Ind., U.S., 1st May, 1890; 5 years.

Claim.—The combination, with the pawl F located in the box D, D', and the shield H, having an opening H' and a notch A, of the detachable key pointed at one end and provided with a lip σ^1 near the other, the said key being rectangular in cross-section for a portion of its length to fit the rectangular opening in the pawl, and round in cross section adjacent to the lip σ^1 , to permit it to turn readily in the shield, substantially as and for the purposes set forth.

No. 34,208. Coffin. (*Cercueil.*)

The Niagara Casket and Coffin Company (assignee of John D. Ripson), Thorold, Ont., 1st May, 1890; 5 years.

Claim.—1st. A coffin lid, composed of the plates A and B, having a recess a , made between them to receive the head-glass C, and sliding head panel D, substantially as specified. 2nd. The plates A and B, having a recess a formed between them to receive the head-glass C, and head-panel D, in combination with the plate F and catch G, substantially as specified. 3rd. The plates A and B, having a recess a formed between them to receive the head-glass C and head panel D, which are separated by the cleats b , in combination with the hook e , formed on the end of the head-panel D to engage with the end of the head-glass C and the plate F fixed to the opposite end of the head-panel D and designed to engage with the catch G, substantially as specified. 4th. A coffin, having a finger I fixed on each side of it near its foot and designed to engage with corresponding fingers J fixed to the bottom of the coffin lid, in combination with the hooked catch L, provided with a spring O and designed to engage with the plate K fixed to the head end of the coffin, substantially as specified.

No. 34,209. Signal Operating Device for Trains. (*Appareil pour actionner les signaux des trains.*)

William Glasgow and Wilmer P. Ralph, Chicago, Ill., U.S., 1st May, 1890; 5 years.

Claim.—1st. A train signal operating mechanism, comprising a local permanent cord section in each car, a coupling for uniting such sections together between the cars, around which the cord section loops or winds and is fixedly attached, in manner substantially as herein described. 2nd. A train signal operating mechanism, comprising a local permanent cord section in each car, an automatic pull-coupling essentially as herein described for uniting such sections together between the cars, and a carrying sheave at each end attached, in manner substantially as herein described. 3rd. The mechanism, with the sectional pull-cord of a train signal operating grooves formed by flanges a , a^1 , a^2 the cord section B fitted in said grooves and passing from one groove to another through orifice a^3 , sheave, essentially as herein described. 4th. The combination, with a sectional pull cord of a train signal-operating mechanism, of a flanges a , a^1 , a^2 , the cross cord B fitted in said grooves formed by the sheave a at each end of the car, having grooves and secured E, having orifice a^3 and pin F adapted to pass through the said frame lock said sheave at a series of orifices a^3 in the rim of the sheave to be described. 5th. A train signal operating mechanism, comprising a local permanent cord section in each car, consisting of a central connecting section b and end metallic sections B, the outer ends of which are car, having receiving grooves in its periphery, cord section B fitted in the cord section B at its middle to the sheave, essentially as herein described. 6th. A train signal operating mechanism, comprising a local independent cord section permanently arranged in each car and an automatic pull-apart coupling for the adjacent ends of each pair of the same, consisting of a head D, having a recess a for attachment latch bar G pivoted at d^1 to one of the forks, and the spring dog or catch H, having a notched engaging face to engage and hold in a yielding manner the longer arm s of the latch bar, essentially as herein described.

No. 34,210. Saw Mill Dog. (*Clameau de scierie.*)

DeWitt C. Prescott, Marinette, Wis., U.S., 1st May, 1890; 5 years.

Claim.—1st. In a saw mill dog, the tooth plate B mounted on guides inclined downwards, in combination, with the tooth plate C

mounted on guides inclined upward, an actuating lever F, equalizing bar G pivoted to the inner end of said lever, and the link bars H and I connected respectively to the teeth plates, and the opposite ends of the equalizing bar, substantially as and for the purposes specified. 2nd. In a saw mill dog, an independent case A provided with inclined guides, in combination, with the teeth plates B and C, enclosed within the case, and mounted on said guides, the actuating lever F, the equalizing bar G, and the link bars H and I, substantially as and for the purposes specified. 3rd. In a saw mill dog, the independent case A, composed of two substantially equal parts a , a^1 , provided with the inclined splines a^2 , and a^3 , and the inclined grooves a^4 and a^5 , in combination with the tooth plate B, provided with the inclined groove b and spline b^1 , the plate C provided with the inclined spline c and groove c^1 , the actuating lever F pivoted to the case, the equalizing bar G pivoted to said lever outside of the case, and the link bars H and I connecting the respective ends of the equalizing bar to the teeth plates respectively, substantially as and for the purposes specified.

No. 34,211. Hot Water Furnace.

(*Calorifere à eau.*)

William R. Whitelaw, Cobourg, Ont., 1st May, 1890; 5 years.

Claim.—1st. The combination, with the hollow sides A, of the horizontal chamber C, having drop pipes F connected to it and jointed to the said hollow sides A, so that the interior of each side shall communicate with the interior of the horizontal chamber C, substantially as and for the purpose specified. 2nd. The combination, with the hollow sides A, and with the horizontal chamber D, connecting the interior of two of the said sides, of a horizontal chamber C, having drop pipes F connected to it, and jointed to the said hollow sides A, so that the interior of each side shall communicate with the interior of the horizontal chamber C, substantially as and for the purpose specified. 3rd. The hollow sides A, the horizontal chamber C, having drop pipes F connected to it and jointed to the said hollow sides A, so that the interior of each side shall communicate with the interior of the horizontal chamber C, in combination with the pipe H, connected by suitable branches to three of the said sides near their base, and with the pipes J connected to and extending from the horizontal chamber C, substantially as and for the purpose specified. 4th. The hollow sides A, the horizontal chamber C, having drop pipes F connected to it and jointed to the said hollow sides A, so that the interior of each side shall communicate with the interior of the horizontal chamber C, in combination with the jacket K, damper L and flues M and N, substantially as and for the purpose specified. 5th. The hollow sides A, the horizontal chamber C, having drop pipes F connected to it and jointed to the said hollow sides A, so that the interior of each side shall communicate with the interior of the horizontal chamber C, in combination with the jacket K, damper L and flues M and N and hinged partitions O, substantially as and for the purpose specified. 6th. The hollow sides A, the horizontal chamber C, having drop pipes F connected to it and jointed to the said hollow sides A, so that the interior of each side shall communicate with the interior of the horizontal chamber C, in combination with the jacket K, damper L, flues M and N and hinged partitions O, provided with regulating damper o , substantially as and for the purpose specified. 7th. The combination, with the ash-pit B, of a dust flue R, suitably connected to the smoke flues of the furnace, substantially as and for the purpose specified.

No. 34,212. Steam Boiler. (*Chaudière à vapeur.*)

John Baird, New York, N.Y., U.S., 1st May, 1890; 15 years.

Claim.—1st. In combination with a fire box, composed of arched tubes, substantially as described, a heating surface composed of vertical tubes near the rear end of the fire box, said combination being substantially such as specified. 2nd. A fire box, composed of arched tubes, as specified, in combination with a boiler proper, composed of two horizontal connected shells, the combination being substantially as hereinbefore set forth. 3rd. A fire box, composed of arched tubes connected at their lower ends with horizontal tubes, substantially as described, in combination with a boiler iron front, as described. 4th. A fire box, composed of arched tubes connected at their lower ends with horizontal tubes, in combination with a tube sheet and a water leg to the boiler, as described. 5th. A fire box, composed of arched tubes connected at their lower ends with horizontal tubes, in combination with the water leg and tube sheet of a boiler, and a boiler iron front, provided with a water space, all substantially as described.

No. 34,213. Car Lock. (*Serrure de char.*)

Eugene C. Merrill, Oakland, Cal., U.S., 1st May, 1890; 5 years.

Claim.—1st. A locking device for car doors, consisting of a haap connecting the door with the door frame, and having a transverse groove or channel, a vertically sliding bolt or bar engaging said groove, and a lock with a bolt, which engages and retains the sliding bar, substantially as herein described. 2nd. The sliding bolt or bar G, with openings I, H, and the projection G', above the line of the openings, in combination with the lock, and the lock bolt which enters said openings, the upper side of said lock extending beneath the projection, substantially as herein described.

No. 34,214. Safety Switch or Cut Out for Electric Circuits. (*Commutateur de sûreté pour les circuits électriques.*)

Thomas Patterson, Boston, Mass., U.S., 1st May, 1890; 5 years.

Claim.—The block a , having one or more grooves or passages lined with asbestos paper, combined with a fuse wire placed in said groove or passage, and a spring for holding it taut, and a lined cover for the block which conceals the fuse wire and spring within the groove or passage a^1 , substantially as described.

No. 34,215. Ventilating Stove and Furnace.*(Poêle et calorifère à ventilation.)*

Horace C. Snow, Ottawa, Ont., 1st May, 1890; 5 years.

Claim.—1st. The combination, in ventilating stoves and furnaces, of the fire chamber, having a central ventilating pipe through the same, whose enclosing walls form a water cylinder for the purposes set forth. 2nd. The combination, in ventilating stoves and furnaces with the fire chamber, of a water cylinder, having discharge and supply pipes, which with suitable coils shall form a hot water or steam circulating system, substantially as set forth. 3rd. The combination of a stove or furnace, such as is substantially hereinbefore shown and described, with ventilating hot and cold air supply and delivery pipes, hot and cold water supply and delivery pipes, and steam pipes, substantially as set forth. 4th. In ventilating stoves and furnaces, the combination, substantially as hereinbefore described, of the part or member A, having the accessories g, h, i, j, n, the part or member E, S, T, C, e, and f, the part K, X, L and M, all arranged as set forth.

No. 34,216. Pedestal for Vehicles.*(Train de voiture.)*

Thomas Hill, Jersey, N.J., U.S., 1st May, 1890; 5 years.

Claim.—1st. In a vehicle pedestal, the base plate 10, formed with integral tubular projections, substantially as shown and described. 2nd. In a vehicle pedestal, the combination, with the base plate formed with integral tubular projections, of a bearing plate formed in one piece and apertured to receive said projections, a retaining plate, bolts passing through the tubular projections and the bearing and retaining plates, and springs interposed between the base plate and bearing plate, substantially as shown and described. 3rd. In a vehicle pedestal, a base plate formed with integral tubular projections and annular flanges surrounding said projections, in combination with a bearing plate, having apertures to receive the tubular projections of the base plate and annular flanges surrounding said apertures, said flanges of the base and bearing plates being adapted to telescope, substantially as and for the purposes set forth. 4th. In a vehicle pedestal, the combination, with a base plate, having integral tubular projections, of a bearing plate, having vertical apertures to receive said projections, and a horizontal bearing provided with a cap plate, substantially as shown and described. 5th. The combination, with a base plate formed with annular flanges 12, and provided with integral tubular projections 11, of a bearing plate apertured to receive the projections 11, and formed with recesses c and c', springs that are coiled about the projections 11, and rest within the recesses c and c' at one end, and between the projections 11 and the inner faces of the flanges 12 at the other end, a keeper, and retaining bolts, substantially as described. 6th. The combination, with a base plate formed or provided with tubular projections 11 and flanges 19, of a bearing plate apertured to receive the projections 11, and formed with flanges 18, which fit telescopically within the flanges 19, springs coiled about the projections 11 and abutting against the base and bearing plates, a keeper, and retaining bolts, substantially as described. 7th. The combination, with a base plate formed or provided with integral projections 11, of a bearing plate provided with a box like structure which forms a lubricant receptacle, the bearing plate being apertured to receive the projections, springs coiled about the projections and arranged to bear against the base and bearing plates, a keeper, and retaining bolts, substantially as described. 8th. The combination, with a base plate formed or provided with integral tubular projections 11, of a bearing plate centrally provided with a bearing having a cap plate, and being provided with a box like structure which forms a lubricant receptacle, the bearing plate being apertured to receive the projections, springs coiled about the projections and arranged to bear against the base and bearing plates, a keeper, and retaining bolts, substantially as described.

No. 34,217. Shell for High Explosives.*(Obus pour les explosifs puissants.)*

Joel G. Justin, Syracuse, N.Y., U.S., 1st May, 1890; 5 years.

Claim.—1st. The combination, with the body of the shell of the explosive carrying cylinder, provided with flanged disks secured upon and projecting beyond its ends, and fitting the bore of the body, as set forth. 2nd. The combination, with the body of the shell, of the explosive carrying cylinder, provided with flanged disks upon the ends fitting the bore of the body, and means for detachably holding the cylinder adjacent to the head of the shell, substantially as described. 3rd. The combination, with the body of the shell of an explosive carrying cylinder, provided with solid flange disk upon its front end, and a flanged valve, provided with ports through the flange upon its rear end, substantially as described. 4th. The combination, with the body of the shell, and the explosive carrying cylinder, of the elastic washers secured upon the ends of the cylinder end projecting beyond them, and the flanged disks secured thereon and projecting beyond the washers, and fitting the bore of the shell, as set forth. 5th. The combination, with the explosive carrying cylinder, of a series of removable boxes fitting closely within the cylinder and communicating with each other through their ends, and a compressible absorbent packing around the explosives within each box, substantially as described. 6th. An explosive carrying cylinder, suspended by flanged disks secured upon and beyond its ends, fitting the bore of the outer shell body, in combination with the outer shell body, adapted to slide longitudinally over the cylinder and disks, as set forth. 7th. The combination, with the body of the shell, and the explosive carrying cylinder, supported therein by flanged disks secured upon and beyond the ends, and fitting the bore of the body, of a series of removable boxes, fitting closely within the cylinder and communicating with each other through their ends, and a compressible absorbent packing around the explosives within each box, as set forth. 8th. The combination, with the body of the shell, and the explosive carrying cylinder supported therein by flanged disks secured upon and beyond the ends, and fitting the bore of the body,

and suspended detachably by a cord or wire connected to the head of the shell and to the cylinder, of a series of removable boxes fitting closely within the cylinder and communicating with each other through their ends, and a compressible absorbent packing around the explosives within each box, as set forth. 9th. The combination, with the body of the shell, the explosive carrying cylinder within it, the elastic washers larger than the cylinder and secured thereon, and the flanged disks larger than said washers and fitting the bore of the body of the shell, of a series of removable boxes fitting closely within the cylinder and communicating with each other through their ends, and a compressible absorbent packing around the explosives within each box, as set forth. 10th. The combination, with the body of the shell, the explosive carrying cylinder supported therein, by flanged disks fitting the bore of the body and secured upon and beyond the ends of the cylinder, of a series of removable boxes fitting closely within the cylinder and holding the explosives, and communicating with each other through their ends, as set forth. 11th. The combination, with the body of the shell, the explosive carrying cylinder supported therein by flanged disks, fitting the bore of the body and secured upon and beyond the ends of the cylinder, and a cord or wire detachably connecting the cylinder to the shell body, of a series of removable boxes fitting closely within the cylinder, and the explosive and communicating with each other through their ends, as set forth. 12th. The combination, with the body of the shell, of the explosive carrying cylinder, the washers secured upon the ends thereof and projecting beyond their peripheries, the flanged disks secured upon the ends of the cylinder, exterior to and projecting beyond the washers, to fill the bore of the body, a cord or wire detachably connecting the cylinder to the body, and a series of removable boxes fitting closely within the cylinder, and carrying the explosive, and communicating with each other through their ends, as set forth.

No. 34,218. Hydro Carbon Lighting Device.*(Appareil d'éclairage par les hydro-carbures.)*

Daniel Hinkson, Oshawa, Ont., (assignee of Theodore Schulz and Frederick A. Cody, Rochester, N.Y., U.S.), 1st May, 1890; 5 years.

Claim.—1st. The combination, of a hydrocarbon distributing reservoir, provided with an outlet pipe, a reservoir, and an overflow receptacle, made interchangeable one with the other, all constructed and arranged, substantially as described. 2nd. The combination, of a hydrocarbon distributing reservoir, provided with a siphon shaped distributing pipe, and a reservoir, communicating with said distributing reservoir, substantially as described. 3rd. The combination, of a hydrocarbon distributing reservoir, having an opening at its top, an outlet pipe entering the side thereof near its top, a reservoir and an overflow receptacle, each provided with one screw threaded aperture, and a stop cock adapted to engage either of the said apertures, whereby the reservoir and receptacle are interchangeable, substantially as described. 4th. The combination, with a siphon shaped hydrocarbon distributing pipe, of a priming cock located near the highest point of the siphon, and adapted to admit a tunnel, substantially as described. 5th. The combination, of two hydrocarbon lamps, and a hanger therefor, comprising two telescoping pipes, one of which is provided with a set screw and two adjustable braces, a reservoir fixed on a level with the lamps, and a pipe connecting the said reservoir and lamps, substantially as described.

No. 34,219. Street Pavement. (Pavage de rue.)

Henry S. Hallwood and George C. Urlin, Columbus, Ohio, U.S., 1st May, 1890; 5 years.

Claim.—1st. A rectangular paving block, having in its sides, continuous horizontal grooves, or corrugations encircling said blocks and the upper edges beveled, substantially as and for the purpose described. 2nd. The combination, in a street pavement, of the street railway rails f, the adjoining paving blocks g, so set as to have their beveled top upon a higher level than the top of the rail, the blocks g having one half of their surface depressed in line with the surface of the bearing flange of the track, and the other half having their tops on a higher level than the top of the rail, and the inner ends or sides adjoining said rails conforming to the shape of the web and flanges of the rail, but with an opening between them alongside the flange, and the web of the rail wherein pitch is poured, substantially as described. 3rd. In a street pavement and railway track, the combination of the layer of boards b, planks d laid thereon, railway track rails f secured to said planks and boards, as described, and the layer of gravel, sand or broken stone c, upon said planks and boards, with the paving blocks or bricks resting upon said layer c, substantially as described.

No. 34,220. Railway Spike.*(Cheville de chemin de fer.)*

James Churchward, Brooklyn, N.Y., and Charles F. Quinoy, Boston, Mass. U. S., 1st May, 1890; 5 years.

Claim.—A railway spike, constructed of a single piece of metal, consisting of a top member, and diverging side members, integral with the top member, said side members being bent at an obtuse angle between their lower ends and their junction with the top member, substantially as shown and described.

No. 34,221. Stanchion. (Étaçon.)

Minor W. Taylor, Waterloo, Iowa, U.S., 2nd May, 1890; 5 years.

Claim.—1st. The combination, with a stall, having parallel spaced bars a and b, and the pivoted bars c, of the loosely suspended bars and the flexible connections for suspending said bars in position, substantially as described. 2nd. An improved stall, comprising a stanchion, having loosely-suspended bars, a trough or gutter at the

rear, a transverse beam in the stall back of the stanchion, and adapted to be immediately over the back of the animal, and brace beams for said transverse beam adapted to divide the stall into compartments, substantially as described. 3rd. A stall, the rear of which is formed or provided with a trough or gutter, in combination with a removable guard placed within the trough to prevent the animal standing therein, substantially as herein described. 4th. A stall, having a gutter or trough in the rear, provided with an inclined front wall, in combination with a removable guard adapted to be placed within said gutter or trough, substantially as herein described. 5th. A stall, having the beam F and brace beams G dividing the stall into compartments, in combination with flexible connections, having hook attachments at the outer ends for engaging the tail of the animal, substantially as and for the purpose described. 6th. A stall, having the trough or gutter at the rear, provided with an inclined front wall, a removable guard adapted to be placed within the trough, the beams at the forward portion of the stall and the flexible connections, having hook attachments at their outer ends for engaging the tail of the animal, substantially as described.

No. 34,222. Drum Stove for Utilizing Heat. *(Poêle sourd.)*

David Phillips, Morris, Man., 2nd May, 1890; 5 years.

Claim.—1st. The dead air chamber, intervening between the hot air chambers and the interior of the drum, thus preventing matters in interior of drum from being scorched. 2nd. The combination of drum and the attachable stove and grates. 3rd. The combination of improved drum and folding clothes rack.

No. 34,223. Plough Point. *(Soc de charrue.)*

James S. Fox, Port Hope, Ont., 2nd May, 1890; 5 years.

Claim.—1st. The combination, with a plough point, provided with a projecting rib or stud, of a point provided with spring wings, one of said wings constructed with an aperture to receive said stud or rib when the said point is sprung into place, substantially as set forth. 2nd. The combination, with a plough nose, constructed with a rib or stud on one side, and a projection, as B', on the other side, of a point provided with spring wings to engage over said sides respectively. 3rd. The combination, with a plough point, provided with a rib or stud, of a point provided with spring wings to engage over said point and upon said rib or stud, substantially as set forth.

No. 34,224. Mold for Making Solid or Hollow Compound Metal Ingots. *(Moule pour faire les lingots composés solides ou creux.)*

James L. P. Spooner, Providence, R. I., U. S., 2nd May, 1890; 5 years.

Claim.—1st. In a mold for casting metal ingots, the combination, with a shell or casing of cast iron or other metal, of a thimble or gage inserted therein, for the purpose specified. 2nd. In a mold for casting metal ingots, the combination, with a shell or casing of cast iron or other metal, of a thickness or lining of a fire-resisting material, for the purpose specified. 3rd. In a mold for casting metal ingots, the combination, with a shell or casing of cast iron or other metal, of a thickness or lining of a fire-resisting material, consisting of clay and plumbago mixed together, for the purpose specified. 4th. In a mold for casting metal ingots, the combination, with a shell or casing of cast iron or other metal and a thickness or lining of fire resisting material, of a thimble or gage inserted therein, for the purpose specified.

No. 34,225. Indicator for Railway and other Carriages. *(Indicateur pour les voitures de chemins de fer et autres.)*

Henry Lane, Londonderry, Ireland, 2nd May, 1890; 5 years.

Claim.—1st. The hereinbefore described combination of a stationary opaque slotted front plate, and a plurality of movable signals arranged behind said plate, with an electro temporary magnet and armature, and devices, as set forth, for closing and breaking the electric circuit about said magnet and mechanism, substantially as manner that the latter may be brought successively in conjunction with a slot in the front plate, all substantially as hereinbefore described and set forth. 2nd. The hereinbefore described combination, with a revolving barrel and a card sheet, bearing the names of stations and its armature, and carried by said barrel, of a solenoid mechanism, substantially as described, and a ratchet and pawl, and intermediate nature and operating said barrel, connected with the said armature. 3rd. In a device, actuated by an electro-magnet for announcing the names of stations or stopping places, the combination of a bell hammer connected with and actuated by the armature of the magnet, substantially as described and set forth.

No. 34,226. Rotary Brush. *(Brosse rotative.)*

Theodore E. Clark, Brookline, Mass., U. S., 2nd May, 1890; 5 years.

Claim.—As an improved article of manufacture, the herein described rotary brush, comprising the rotary shank or spindle, having a central and a lower collar, a tubular handle inclosing a portion of said shank, and secured between said collars, the brush head affixed to one end of said rotary shank or spindle and having its apex or convex end extending across said end of the shank or spindle, and the crank secured to the end of said rotary shank or spindle, substantially as shown and described, whereby said brush is held by one hand and operated by the other.

No. 34,227. Boot and Shoe. *(Chaussure.)*

Walter Smardon, Montreal, Que., 2nd May, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a boot or shoe, having an insole composed of two parts 1 and 2, substantially as and for the purposes described. 2nd. As an improved article of manufacture, a boot or shoe, having the turned over edges of the upper cemented to the insole, substantially as and for the purposes set forth. 3rd. As an improved article of manufacture, a boot or shoe, having the turned-over edges of the upper cemented to the insole, and having a sole cemented and stitched thereto, substantially as described. 4th. As an improved article of manufacture, a boot or shoe, having the turned-over edges of the upper cemented to the insole, and the sole g cemented and stitched to the upper, with a double sole h stitched to the sole g, the whole substantially as described.

No. 34,228. Saw Handle. *(Manche de scie.)*

Moses E. True, Batavia, N. Y., U. S., 2nd May, 1890; 5 years.

Claim.—The herein described wooden saw handle, having the longitudinal slot in its lower end, the side walls of which are made to impinge against the saw placed therein, the cross saw abutting rivets passing through the handles at the bottom of the slot, and the hooked draw bolt having the diagonal tang, provided with the screw-threaded end, and carrying thereupon the tightening nut, all arranged and operating substantially as described and for the purpose hereinbefore set forth.

No. 34,229. Sash Balance.

(Contre-poids de croisée.)

John A. Robbins, London, Ont., 2nd May, 1890; 5 years.

Claim.—1st. The cam A, pivoted at B, to frame or bearing C, so as to grip a cord E between face of said cam and projection b of frame or bearing, until released by pulling down the cord, substantially as and for the purpose shown and described. 2nd. In combination with a cam A and frame or bearing C, the cord E, passing over pulley or eye F, and attached to upper sash G, and controlled by the cam A for raising or lowering the sashes, substantially as shown and described.

No. 34,230. Hot Water Radiator.

(Calorifère à eau.)

John T. Breadner, Port Henry, N. Y., U. S., 2nd May, 1890; 5 years.

Claim.—1st. The combination, with a main radiator section divided into a receiving and discharging chamber, and provided with an inlet and outlet at the same end, of an auxiliary section having a single chamber, and tubes connecting the sections, one tube connecting the upper part of the receiving chamber of the main section, with the upper part of the auxiliary section, and the other tube connecting the lower part of the auxiliary section with the discharging chamber of the said main section, substantially as herein shown and described. 2nd. The combination, with the connected radiator sections 10 and 14, arranged side by side in close proximity, and having the end flanges 18 of the tube-like shields 19, having their edges projecting between the flanges of the sections and engaging the said flanges, substantially as and for the purpose set forth.

No. 34,231. Churn. *(Baratte.)*

Abraham S. Huff, Harwich, Ont., 2nd May, 1890; 5 years.

Claim.—1st. The dash and the base on which it operates being self-adjusting to the centre of vessel. 2nd. The head of the frame on which the pulley works. 3rd. The combination of the various parts which compose the working parts of churn. 4th. A churn with lever Q, head A, C, B, arm T, cord L, stand N, dash M, ratchet K, all arranged as and for the purposes hereinbefore set forth.

No. 34,232. Milk Strainer and Aerator.

(Couloir-aérateur à lait.)

Patrick S. Ryan, Rutland, Vt., U. S., 2nd May, 1890; 5 years.

Claim.—1st. The funnel-shaped strainer F, having inwardly perforated cone bottom G, imperforated around the base, and V-indented wall around the top, as set forth. 2nd. The aerator B, having radial arms C extending from the periphery, rings or walls D and perforated distributor E at top, as set forth. 3rd. The combination of the funnel-shaped strainer F, having a perforated cone bottom inwardly imperforated around the base, and V-indented wall around the top and the aerator B, having radial arms C extending from the periphery, rings or walls D and perforated distributor E, receiving the small end of the strainer, as set forth.

No. 34,233. Window Shade Roller Attachment. *(Ajustage des bâtons des stores de fenêtres.)*

George H. Meakins, Hamilton, Ont., 3rd May, 1890; 5 years.

Claim.—The combination of the case and lever combined as a lever lock for window shades.

No. 34,234. Stove Oven. *(Four de poêle.)*

Peter Hoogerzeil and George F. Hinkley, Beverly, Mass., U. S., 3rd May, 1890; 5 years.

Claim.—1st. The oven or box a and its hinged door B, having the slotted ears b, b, combined with the movable grating C, the link or bar c and the hinge pin e having anti-friction roller e', adapted to

roll against the inside of the door during the in and out movement of the said grating, substantially as described. 2nd. The oven or box *a* and its hinged door *B* and the movable grating *C* connected to said door and grating as described, combined with the anti-friction supporting rollers *c*, *c'*, on the grating *C*, and the anti-friction and stop rollers *a'*, *a'*, on the oven, substantially as and for the purpose set forth. 3rd. The oven or box *a* and its hinged door *B* and movable grating *C* connected to said door and grating as described, combined with the laterally adjustable side rollers *d*, *c'*, on the grating, the anti-friction and stop rollers *e*, *a'*, on the oven, the stationary inclined rib *a''* and anti-friction roller *F* on the said grating, all arranged and combined substantially as and for the purpose set forth.

No. 34,235. Bag Holder. (*Accroche-sac.*)

Kenneth O. Axon, Tuscarora, Ont., 3rd May, 1890; 5 years.

Claim.—1st. The combination of the bar *A*, and the reversible slide *C*, provided with the grip hooks *B* and *D*, substantially as and for the purpose hereinbefore set forth. 2nd. In a bag holder, the combination of the rod *E*, and the slide *F*, provided with the grip hook *G*, substantially as and for the purpose hereinbefore set forth.

No. 34,236. Baggage Truck. (*Chariot à bagage.*)

Elson H. Norris, Bucyrus, Ohio, U.S., 3rd May, 1890; 5 years.

Claim.—1st. The combination, with the frame and the platform, of the transverse shaft, the rock shaft *F*, thereon, and the timbers *H* pivotally connecting the platform and frame, the arms *G*, *G'* connecting the said timbers with the rock-shaft and the levers *J*, *J'* pivotally connecting the sides of the rock shaft with the transverse shafts, connecting the timbers *H*, *H*, substantially as shown and described. 2nd. The herein described baggage truck, the same comprising in combination, a main frame, wheels and axles, a rack, a transverse rock shaft journaled in the frame, the timbers *H*, connected as described, pivotally connected at their ends to the side timbers of the rack, and at their lower ends sleeved upon transverse shafts, the ends of which shafts are adapted to move within longitudinal grooves formed within the inner faces of the side timbers of the frame, and the levers connecting said timbers with the rock shaft, whereby the rack may be raised or lowered by the rotation of the shaft, substantially as described and for the purpose specified.

No. 34,237. Nut Lock and Fastener. (*Arrête-écrou.*)

John R. Dobson and John D. Peirson, Phoenixville, Penn., U.S., 3rd May, 1890; 5 years.

Claim.—In a nut lock, a washer with ratchet teeth, a sheet metal fastener with an opening therein, and having a rearwardly projecting arm *G*, a forwardly projecting dog *H*, and the guard *J* for said dog, said arm, dog, and guard, being integral with said fastener, said parts being combined substantially as described, and adapted to operate with a screw bolt and a nut, the latter fitting in said washer, as stated.

No. 34,238. Woven Wire Telegraph Pole. (*Poteau de télégraphe en fil de fer tissé.*)

William D. Rinschert, St. Louis, Mo., U.S., 3rd May, 1890; 5 years.

Claim.—1st. A woven wire telegraph pole, comprising intercrossed strands and intervening openings, suitably braced, substantially as specified. 2nd. As an improved article of manufacture, a telegraph pole, comprising inter-crossed strands and intervening openings braced by terminal bands, and made tapering. 3rd. A telegraph pole, comprising inter-crossed strands and openings, between these strands, adapted to be engaged by the feet or hands of line-men in scaling the pole, braced at one or more of its terminals by bands which are tied by said strands, and braced at intervals throughout its length by an additional series of bands. 4th. A woven wire telegraph pole, in combination, with an exterior protective sheathing applied to its outer surface, in the manner substantially as specified.

No. 34,239. Curb Compress for the Treatment of Curb on Horses. (*Compresse pour le traitement des courbes des chevaux.*)

James S. Cabanné, St. Louis, Mo., U.S., 3rd May, 1890; 5 years.

Claim.—A device, designed for the curing of curb in horses or other animals, consisting of the boot *b*, having suitable straps and buckles at its opposite edges, whereby it may be secured to the leg of the animal, the guide clips *b'*, the thumb screw *c*, and the compress button *e* on the upper end of the shank *d*, the latter adapted to be secured in the guide clips at different positions by means of the thumb screw, substantially as described.

No. 34,240. Saddle Tree. (*Fut de sellette.*)

Stephen G. Saywell, Toronto, Ont., 3rd May, 1890; 5 years.

Claim.—A tree having a projection *C*, formed on or attached to it, in combination with a metal loop *A*, journaled or pivoted on the said projection, and secured in position by the headed bolt *F*, substantially as specified.

No. 34,241. Door Check and Bumper. (*Arrête porte et tampon de choc.*)

Walter H. Clark, Cleveland, Ohio, U.S., 3rd May, 1890; 5 years.

Claim.—The combination, with a combined door check, and a bumper, formed integral, of a bracket in which said check and bumper is pivoted, the pivot being parallel with the door, said bumper being provided with a transverse ear, adapted to engage with the under side of said bracket and when the bumper is turned, hold the door check free from the floor, substantially as set forth.

No. 34,242. Iron and Bolt Cutter. (*Cisailles pour le fer et les boulons.*)

James H. Terry, Toronto, Ont., 3rd May, 1890; 5 years.

Claim.—The combination in an iron and bolt cutter, of the cutters *A*, having the strap or block *c*, and the pivots *b*, *b*, with the levers *D*, having the toothed segments, *H*, *J*, and the strap or block *E*, substantially as and for the purposes set forth.

No. 34,243. Iron and Bolt Cutter. (*Cisailles pour le fer et les boulons.*)

James H. Terry, Toronto, Ont., 3rd May, 1890; 5 years.

Claim.—The combination in an iron and bolt cutter, with the shears *A*, having the recesses *d*, *d*, the block *c*, the clip or holder *C*, the upright *a*, the toothed segments of the elbow levers *F*, and the links *f*, of the lever *D*, having the links *e*, and *f*, substantially as hereinbefore shown and described and as and for the purposes set forth.

No. 34,244. Journal Box. (*Boîte de tourillon.*)

Andrew D. Cox and Theron Sharp, Winchester, Ont., 3rd May, 1890; 5 years.

Claim.—1st. A journal box for shafts, provided with an oil chamber, and means, substantially as described, for automatically conveying the oil from the oil chamber to the surface of the shaft during the rotation of the same, substantially as described. 2nd. A journal box for shafts, the same consisting in a suitable casing, the lower portion of which is provided with an oil chamber, and means, substantially as described, for automatically conveying the oil from the oil chamber to the surface of the shaft during the rotation of the same, and inclined oil-ways, through which the surplus oil is returned to the oil chamber, substantially as described and for the purpose specified. 3rd. In a journal box, the lower portion of which is provided with an oil chamber, of an oil carrier mounted upon the shaft within the box, and provided upon its periphery with a series of arms, adapted to convey the oil to the upper portion of the box during the rotation of the shaft, and means substantially as described for insuring a return of the surplus oil to the oil chamber. 4th. The combination, with the journal box provided with an oil chamber in its lower portion, of a filling aperture communicating with the oil chamber, substantially as described.

No. 34,245. Car Coupling. (*Attelage de chars.*)

Charles H. Olds, Sayre, Penn., U.S., 3rd May, 1890; 5 years.

Claim.—1st. In a car coupler, the combination of the frame *A*, the locking dog *D*, having the vertically extending locking tooth *D*², and the inclined face *D*³, a spring *E* and an eccentric *F*, substantially as and for the purpose set forth. 2nd. In a car coupler, the combination of the frame *A*, the locking dog *D*, having the vertically extending locking tooth *D*², and the inclined face *D*³, a spring *E*, an eccentric *F*, and a rod *f*, having a crank *f*¹, substantially as and for the purpose set forth. 3rd. In a car coupler, the combination of the frame *A*, a locking dog *D*, a spring *E*, an eccentric *F*, the pivotal pin *f*, a lever *G*, and the rod *G*¹, substantially as and for the purpose specified. 4th. In a car coupler, the combination of the frame *A*, the locking dog *D*, having the vertically extending locking tooth *D*², and the inclined face *D*³, a spring *E*, an eccentric *F*, a pivotal pin *f*, and a rod *G*¹, substantially as and for the purpose set forth. 5th. In a car coupler, the combination of the frame *A*, the locking dog *D*, having the vertically extending locking tooth *D*² and the inclined face *D*³, a spring *E*, an eccentric *F*, and a coupling pin hole *A*⁴, all operating substantially as and for the purpose specified.

No. 34,246. Fish Way. (*Passé migratoire.*)

Robert Hockin, Pictou, N.S., 3rd May, 1890; 5 years.

Claim.—A fish-way, consisting of several compartments connected by an aperture at or near the bottom and approximately on the same level, said compartments having a floor uniformly horizontal, so that water flowing through the compartments will be at different height, diminishing from the water inlet to the outlet, to reduce the current, whereby the fish will pass from one compartment to another without leaping or jumping, as set forth.

No. 34,247. Steam Plough. (*Charrue à vapeur.*)

Corydon P. Brown, Winnipeg, Man., 3rd May, 1890; 5 years.

Claim.—1st. The combination, with a steam plough frame, mounted on wheels, of two sets or gangs of ploughshares, which are mounted upon contiguous sprocket chains, the sprocket wheels over which said chains run being mounted rigidly in the frame at such points that the lines of travel of the chains are inclined to the line of travel of the plough at equal acute angles, a prime mover mounted on the plough frame and gearing, which transmits motion to the driving wheels of the sprocket chains and to the driving wheels of the plough frame, substantially as described. 2nd. The combination, with a steam plough frame, of two sets or gangs of freely revoluble disks or ploughshares, which are mounted upon sprocket chains, which sprocket chains move in lines inclined at equal angles to the line of motion of the plough frame and upon opposite sides of said line, substantially as described. 3rd. The combination, with a steam plough frame, of sprocket chains running on sprocket wheels mounted in said frame, yokes supported between a set of parallel sprocket chains and freely revoluble disks mounted in said yokes, substantially as described. 4th. The combination, with a steam plough frame, of sprocket chains running on sprocket wheels mounted in said frame, yokes supported between a set of parallel sprocket chains, and freely revoluble disks, mounted in said yokes, together

with mechanism for producing simultaneous vertical adjustment at all the bearings of said sprocket wheels, substantially as described. 5th. The combination, with two parallel revolving sprocket chains, of yokes supported upon said sprocket chains, so that one end of each yoke is capable of vertical adjustment, and freely revoluble as described. 6th. The combination, with two parallel revolving sprocket chains, of yokes supported upon said sprocket chains, so that one end of each yoke is capable of vertical adjustment, and yokes, together with spring which normally tend to force the ends of said yokes downward into the furrow, substantially as described. 7th. The combination, with a steam plough frame, of two sets or gangs, of freely revoluble disks or ploughshares mounted on sprocket chains, which sprocket chains move in lines inclined at equal angles to the line of motion of the plough frame and upon opposite sides of said line, together with traction wheels upon which said frame is mounted, a motor on said frame, a train of gearing which communicates motion to said traction wheels from the motor to said sprocket chains, substantially as described. 8th. The combination, with a steam plough frame, of sprocket chains running on sprocket wheels mounted in said frame, yokes supported between a set of parallel sprocket chains, and freely revoluble disks mounted in said yokes, together with mechanism for producing simultaneous vertical adjustment of all the bearings of said sprocket wheels, a motor which drives the said sprocket chains, and gearing by which power may be transmitted from the motor to the before mentioned adjusting mechanism, substantially as described. 9th. The combination, with a steam plough frame, of two sets or gangs of freely revoluble disks or ploughshares, which are mounted upon sprocket chains, which sprocket chains move in lines inclined at equal angles to the line of motion of the plough frame and upon opposite sides of said line, together with a mower knife mounted on the forward portion of the frame, and operated in conjunction with the gangs of ploughshares, substantially as described. 10th. The combination, with a steam plough frame, of two sets or gangs of freely revoluble disks or ploughshares which are mounted upon sprocket chains, which sprocket chains move in lines inclined at equal angles to the line of motion of the plough frame and upon opposite sides of said line, together with the cultivator attached to the rear of the plough frame and operated in conjunction therewith, substantially as described. 11th. The combination, with a steam plough frame, mounted on wheels, of two sets or gangs of ploughshares, which are mounted upon continuous sprocket chains, the sprocket wheels over which said chains run being mounted rigidly in the frame at such points that the plough at equal acute angles, a prime mover mounted on the wheels of the frame, and gearing which transmits motion to the driving wheels of the sprocket chains and to the driving wheels of the plough frame, together with a mower knife mounted on the forward portion of the frame, connecting apparatus extending from the driving shaft to said mower knife, and the cultivator attached to the rear of the plough frame, substantially as described.

No. 34,248. Pulverizing Mill.

(Moulin à broyer.)

James K. Griffin, Brooklyn, N. Y., U. S., 5th May, 1890; 5 years.

Claim.—1st. In a pulverizing mill, the combination, with an annular die of a radially movable roll-shaft and roll, and mechanism for positively revolving the same upon their own axis and for gyrating them around the central axis of the mill, substantially as described. 2nd. In a pulverizing mill, the combination, with a pan or pulverizing chamber, and an annular die arranged above the bottom thereof, of a suspended radially-movable roll shaft and roll, which mechanism for positively revolving said shaft and roll upon their own axis, and for gyrating them around the central axis of the mill, tion, with the pan or chamber. 3rd. In a pulverizing mill, the combination, with the pan or chamber and the annular die or ring of the radially movable shaft, having a fixed roll at its lower end rotating revolving said shaft and roll, mechanism for positively revolving permitting of their gyration, and connecting them to said revolving mechanism, substantially as described. 4th. In a pulverizing mill, the combination, with the pan or chamber, and the annular die or ring, of the radially-movable shaft, having a fixed roll at its lower end rotating against the inner surface of said die, and mechanism for positively revolving said shaft and roll around the central axis of the mill, said shaft joint, substantially as described. 5th. In a pulverizing mill, the combination, with a pan or chamber provided with an annular die, through said cover, and having a roll at its lower end, and mechanism for positively revolving said shaft and roll upon their own axis, and for gyrating them around the central axis of the mill, and revolving said top or cover, substantially as described. 6th. In a pulverizing mill, the combination, with the pan or chamber I, formed with the annular die 8, and the revoluble top or cover 12, having anti-friction lined flanges 21, and provided with the plate 22, having through the slot in said cover, of the radially-movable shaft 18, and the roll 17, and mechanism for positively revolving said shaft and roll upon their own axis, and for gyrating them around the central axis of the mill, and revolving said top or cover, substantially as described. 7th. In a pulverizing mill, the combination, with a pan or chamber provided with an annular die, and a revoluble top or cover having a feed spout, of a stationary receiving hopper communicating with said feed spout, a radially-movable roll shaft passing through said cover, and having a roll at its lower end, and mechanism for positively revolving said shaft and roll upon their own axis and for gyrating them around the central axis of the mill, and revolving said top or cover, substantially as described. 8th. In a pulverizing mill, the combination, with a pan or pulverizing chamber, and an annular die arranged above the bottom thereof, of a

suspended radially-movable roll shaft, a roll secured to the lower end thereof and provided with stirrers on its lower end, which are also arranged above the bottom of said pan or chamber, and mechanism for positively revolving said shaft and roll upon their own axis, and for gyrating them around the central axis of the mill, substantially as described. 9th. In a pulverizing mill, the combination, with the pan or pulverizing chamber I, formed with the opening 8', provided with the annular die 8, the screens 5, and the screen frame 3, of the suspended radially-movable roll shaft 18, the roll 17 secured to the lower end thereof, and provided with the stirrers 17', and mechanism for positively revolving said shaft or roll upon their own axis, and for gyrating them around the central axis of the mill, substantially as described. 10th. In a pulverizing mill, the combination, with the pan or pulverizing chamber I, formed with the opening 8', and provided with the annular die 8, the screens 5 and the screen frame 3 formed with the trough 4 and spout 6, of the suspended radially-movable roll shaft 18, the roll 17 secured to the lower end thereof, and provided with stirrers 17', and mechanism for positively revolving said shaft and roll upon their own axis, and for gyrating them around the central axis of the mill, said mechanism consisting of the drive shaft 24, the pulley 25 and the universal joint 23, substantially as described.

No. 34,249. Apparatus for the Manufacture of Wire, Rods, Hoop Iron and Steel, etc. (*Appareil de fabrication du fil de fer, des barres, du feuillard de fer et d'acier, etc.*)

Henry Roberts, Pittsburg, Penn., U. S., 5th May, 1890; 5 years.

Claim.—1st. In an apparatus for heating wire, etc., the combination, with a heating chamber, of a coil spool arranged therein and adapted to receive one or more wraps or turns of the wire to be heated, mechanism for rotating said spool, whereby the wire is continuously drawn in and delivered from the heating chamber by the rotation of the coil spool, and rolls or reels for discharging and receiving the wire, substantially as and for the purposes described. 2nd. In an apparatus for heating wire, etc., the combination, with a heating chamber, of a power driven horizontally journalled tapering coil spool arranged therein, and adapted to gradually and progressively receive and discharge one or more wraps or turns of the wire to be heated, and rolls or reels for discharging and receiving the wire, substantially as and for the purposes described. 3rd. In an apparatus for heating wire, etc., the combination, with a heating chamber of a coil spool arranged therein, and adapted to receive a series of coils or turns of the wire, etc., to be heated, said coil spool being composed of separate independently rotary annular sections, substantially as and for the purposes described. 4th. In an apparatus for heating wire, etc., the combination, with a heating chamber, of a coil spool arranged therein and adapted to receive a series of coils or turns of the wire, etc., to be heated, said coil spool being composed of a separate independently rotary annular tapering sections, substantially as and for the purposes described. 5th. In an apparatus for heating wire, etc., the combination, with a heating chamber, of a power driven hollow coil spool arranged therein, and adapted to receive a series of coils or turns of the wire, etc., to be heated, said spool being mounted upon a hollow shaft or shafts connected with a water supply, substantially as and for the purposes described. 6th. An apparatus for heating wire, etc., which consists in a heating chamber, and a power driven rotative spool arranged therein, having devices (such as a notch on the spool) for detachably securing the end of a wire thereto, whereby the wire on being wrapped on the spool and drawn through the heating chamber may be subjected to heat to a length of time depending on the number of its convolutions around the spool, substantially as and for the purposes described.

No. 34,250. Railway Car.

(*Char de chemin de fer.*)

Charles A. Davis, Washington, D. C., U. S., 5th May, 1890; 5 years.

Claim.—1st. In a car, a partition consisting of a rear section I extending from the rear wall of the stall space partially across said space, and adapted to fold against said rear wall, and an independently continuous section K above and in line with said rear section, as shown and described. 2nd. In a car, the combination of a partition I, and a laterally yielding support for the end of said partition, whereby it is adapted to yield laterally. 3rd. In a car, a partition consisting of a hinged rear section I extending partially across said stall space, and an upper section K extending entirely across said space, the two sections being connected with connecting devices, substantially as described and shown. 4th. In combination, with hinged partition section I and partition board or section K, a pin d extending from one into a socket e in the other, for the purpose set forth. 5th. In a car, the combination of a rear partition section I, a partition board or section K, a fixed support B and posts or supports C, arranged as shown and described. 6th. In a car, the combination of a vertical rod B at one side, and posts or supports C at the opposite side of the space to be partitioned, a rear partition section I hinged to said rod and a partition board or section K, provided at one end with an eye L to encircle the rod, substantially as and for the purposes set forth. 7th. In a car, the combination of a vertical rod B at one side of the space to be partitioned, posts or supports C at the opposite side thereof, and a partition board K, provided at one end with a swivel eye L encircling the rod, as set forth. 8th. In combination with rods B and posts C, C, partition board K, provided with a swivel eye to encircle the rod, and a hanger or support N, substantially as and for the purpose set forth. 9th. In a car, the combination of a partition I, as upright or support B, a guide or guides G and springs H, as described and for the purpose set forth. 10th. In a car, the combination of vertical rod B, posts C, C, partition section I and partition board K having an eye or loop L encircling the rod and extending between posts C, C, as set forth. 11th. In combination, with a vertical rod B, a guide P, and slotted support G, provided with springs H, substantially as shown and described. 12th. In a

car, the combination, with a series of stalls and a passageway, a hay rack or series of racks E hinged at the bottom to the partition, substantially as and for the purpose set forth. 13th. In combination with a series of stalls, a passage way D, and a hay rack E, provided with a swinging front section, and a feed trough F attached to the swinging front section of the rack, substantially as and for the purpose set forth.

No. 34,251. System and Means to be used in the Supply or Distribution of Electricity for Lighting or other Purposes. (*Système et moyens d'alimentation ou de distribution de l'électricité pour l'éclairage et autres fins*)

Henry Edmunds, London, Eng., 5th May, 1890; 5 years.

Claim.—1st. The method of utilizing secondary or storage batteries in installations for electric lighting or other purposes, employing a main or charging circuit and local or working circuits at different stations, said method consisting in arranging the batteries at each station in groups or sets, and transferring each group or set in turn from the working circuit, into the charging circuit for short periods of time, without short circuiting the batteries or breaking the charging or working circuits, so that all but one of the groups or sets are in the working circuit at any instant of time, substantially as described. 2nd. In an installation or system, employing secondary batteries, a charging circuit, and local or discharging circuits at each station, the method of charging and discharging said batteries by arranging them in equal groups or sets, having separate terminals, transferring a group or set to the charging main for a short period of time, then connecting a resistance in a parallel branch of the charging main, disconnecting the group or set of batteries from the main, and connecting it in a branch of the working circuit in multiple arc with another group or set of batteries, disconnecting the latter from the working circuit, and connecting it in the branch of the charging circuit in multiple arc with said resistance, disconnecting the resistance so that the entire charging current passes through said batteries, and performing the same operation with each group or set of batteries in rotation at short and regular intervals of time, substantially in the manner and for the purposes set forth. 3rd. In a system of electrical distribution, the combination of a closed main charging circuit, a local working circuit, two or more groups of secondary batteries, positive and negative terminal contacts for each set of batteries, switch levers, one for each group of batteries, contact plates on each lever for connecting with all the battery terminals, and means for vibrating said levers so as to transfer each set or group of batteries from one circuit to the other in regular order, substantially as described. 4th. The combination of a closed charging circuit, a working circuit, two or more groups of secondary batteries, a branch circuit, including a resistance approximately equal to that of each set of batteries, terminal contact strips for the several sets of batteries, switch mechanism—such as a series of switch levers—transferring the several sets of batteries from one circuit to the other, and timing mechanism controlling said switch mechanism, and also controlling contacts in the circuit of said resistance, whereby the latter is included in the main when there is no battery therein, substantially as described. 5th. In a system of electrical distribution, the combination, with the main circuit, the working circuit, and two or more groups of batteries adapted to be included in either circuit, of a series of switches for transferring said sets of batteries from one circuit to another, continuously operating timing mechanism for operating said switches at stated intervals, a resistance and circuit connections, also controlled by said timing mechanism for including said resistance in a branch of the main circuit in parallel with each set or group of batteries, in the act of transferring the same from one circuit to the other, substantially as described. 6th. The combination, with the main circuit, working circuit, and batteries, of switch mechanism for including the batteries at regular intervals in the working circuit, a shaft rotating at a uniform rate and controlling said switch mechanism, a registering device, an electro-magnet in the charging main, and connections between said registering device, and said shaft controlled by said magnet, so that the duration of charge of the normal current is registered, substantially as described. 7th. The combination, with the rotating shaft for operating a circuit changer, and timing mechanism controlling said shaft, registering device, an electro-magnet, and gearing for operating said registering device connected with the armature of said magnet, so as to be thereby thrown into and out of engagement with said shaft, substantially as described. 8th. In a system of electrical distribution, the combination, with the main charging circuit, a local or working circuit, and secondary batteries, of a switch or circuit changer comprising a core, a coil included in the main circuit, and another coil included in a normally open branch of the local circuit, and means for closing said branch circuit when the voltage of the working circuit falls to a certain limit, thereby operating the switch or circuit changer and putting the batteries into charge, substantially as described. 9th. In a system of electrical distribution, the combination, with the secondary batteries, the main circuit, and the working circuit, of a switch or circuit changer comprising a magnet, having a coil in the main circuit, whereby the said circuit is diverted whereby the energy of the first coil can be neutralized or confirmed by a current of the proper direction, substantially as and for the purpose described. 10th. In a system of electrical distribution, the combination, with a main and local circuits and secondary batteries for supplying the latter, of an electro-magnet switch controlling the path of the main circuit to the batteries, a voltage regulator comprising a magnet in the local circuit, or a branch thereof, and contacts carried by the armature of said magnet for opening and closing the circuit of said switch magnet, and putting the batteries to line upon a fall of voltage in the local, substantially as described. 11th. In a system of electrical distribution, the combination, with a main circuit, a local circuit, and secondary batteries for supplying the latter, of a polarized switch controlling the main circuit to the batteries, and comprising a magnet having a coil in the main circuit

and another coil in the local, and a voltage regulator whose magnet is in the local or a branch thereof, and whose armature controls the circuit of the last named coil of the polarized switch, substantially as described. 12th. In a system of electrical distribution, the combination, with the main circuit, the local circuit and secondary batteries for supplying the latter, of a switch controlling the main line and having a coil included therein, a local branch including another coil of said switch magnet, and a local control magnet in the local supply circuit adapted upon the passage of a certain current to close said local branch and so operate the polarized switch without disturbing the local supply circuit, and upon the passage of a still greater current to open or regulate said local circuit while the batteries are being replenished, substantially as described. 13th. In a system of electrical distribution, the combination, with the main circuit, the local circuit, and secondary batteries for supplying the latter, of means for providing a path for the main line around the local installation in case of breakage of the main therein, or failure of supply, and for preventing short circuiting or back discharge from the batteries, said means comprising a magnet included in the main line, and whose armature is adapted, upon failure of energy in said magnet, to close a shunt around the local installation, and a switch magnet, having a coil included in a branch of said local circuit, substantially as described. 14th. The combination, with a shaft and motor for driving the same, of the drum on said shaft provided with perforated partitions and partly filled with liquid, an electro-magnet, an armature therefor, and a circuit closer operated by the rotation of said drum to close the circuit of said magnet, substantially as described. 15th. The combination, with a shaft and motor (such as a spring or weight) for driving the same, of a time drum divided into compartments by perforated partitions, a solenoid in an electric circuit, a circuit closer therefor operated periodically by the rotation of said drum, an armature for said magnet, and connections between said armature and motor, whereby the latter is wound up by the motions of the former, substantially as described. 16th. The combination of an electro-magnet, and its armature, a circuit including said magnet, a shaft carrying a regulating time drum, and driven by a suitable motor, a tilting lever carrying contacts for closing said circuit, a rod controlled by a device on said shaft for actuating said lever to close said circuit, thereby causing said magnet to attract its armature, and another rod connected with said armature for actuating said tilting lever to break said circuit when the armature is attracted, substantially as described.

No. 34,252. Cuff Holder. (*Agrafe-poignet.*)

Andrew H. Eldridge and John Vaeth, Syracuse, N.Y., U.S., 5th May, 1890; 5 years.

Claim.—1st. In a cuff holder, in combination, an elongated metallic plate provided with a cuff-engaging hook at its forward end, a fastening pin at its opposite end, intermediate side pieces having a transverse pivot pin connected thereto, and on which is pivoted a spring actuated upper plate, constructed with a finger projection at its rear end, a cuff impinging projection at its forward end, and an intermediate securing pin rising from the plate body, substantially as described. 2nd. A cuff holder, consisting of an elongated lower plate, comprising a body portion provided with a vertical engaging hook at its forward end, a transversely mounted safety fastening pin at its opposite rear end, intermediate side pieces having a pivot pin transversely inserted through them, and a central longitudinal corrugation in the plate body, an elongated upper plate pivotally secured by perforated side ears upon the pivot pin and lying above the lower plate longitudinally therewith, and comprising a body portion terminating with a finger projection at its rear end, downward side projections at its forward end adjacent to the vertical engaging hook of the lower plate, an intermediate horizontal securing pin rising from the upper plate body longitudinally therewith, and its pointed end extending forwardly, a central longitudinal corrugation in the plate body, and a coil spring upon the pivot pin adapted to bear against the upper and lower plates, all combined and operated together, substantially as described and for the purposes specified.

No. 34,253. Spring Tooth for Harrows.

(*Dent élastique de herse.*)

The Gale Sulky Harrow Manufacturing Company, Detroit, (assignee of Philip F. Wells, Milford,) Mich., U.S., 5th May, 1890; 5 years.

Claim.—A spring tooth, consisting of the body A, point B, having flanges *b*, *b*¹, and bolt C for securing the point to the body, substantially as described.

No. 34,254. Seat. (*Banc.*)

Samuel H. Tupper, Truro, N.S., (assignee of George M. Thompson, Somerville, Mass., U.S.,) 5th May, 1890; 5 years.

Claim.—1st. The combination of the standard or support B, pivotally connected to sole plate A and lug C projecting down from seat, and swinging stay E, pivoted to B, and having pin working in curved slot C¹ in C, all as and for the purposes described. 2nd. In a turn over stool, the combination of the following elements:—a plate secured to the floor, and having a ridge upon it, a bar or support forked at both ends and pivoted at bottom to said ridge, the seat, a lug projecting downward from such seat and with curved slot formed in same, a swinging stay pivoted to such support, and having pin sliding in such slot, a rod connected at its lower end with main support, and toggles pivoted to upper end of same, and to support and stay, all as herein set forth, and for the purposes set forth.

No. 34,255. Car Door Lock and Seal.

(*Serrure scellée de porte de char.*)

Charles J. Smith, St. Croix, and Evan Q. Thomas, Eau Claire, Wis., U.S., 5th May, 1890; 5 years.

Claim.—1st. The combination in a combined lock and seal for car doors, of the housing adapted to receive the sealing strip, a pivoted

section, having a puncturing pin intersecting the point of location of said strip, and provided with a curved portion projecting beyond the end of the housing, and adapted to be operated by the part or parts in the door, substantially as set forth. 2nd. The combination in a combined lock and seal for car doors, of the housing adapted to receive the sealing strip, a pivoted section, having a puncturing pin intersecting the point of location of said strip, and adapted to be operated by the part or parts on the car door, and a lever pivoted on said housing, and having a strip engaging and severing portion, substantially as set forth. 3rd. The combination in a combined lock and seal for car doors, of a housing having a vertical closed channel on its outer side adapted to receive a sealing strip, and a horizontal opening through the side of said housing intersecting said strip, a section G pivoted within the housing, having curved projecting tongue, and a puncturing pin extending through said opening, and a movable locking strap, within the housing together with a strap adapted to be located on the door, and designed to contact with the curved portion of the section G, and engage with the movable locking strap aforesaid, substantially as described. 4th. The combination in a combined lock and seal for car doors, of a housing having a vertical recess and an opening intersecting the same, a movable section G, having a curved projecting portion or tongue, and carrying a puncturing pin extending through said opening, a pivoted engaging strap, and a revoluble bolt having a cam block to lift said strap, and a lever operating said bolt, and provided with a seal engaging portion, together with a strap adapted to be located on the door, and designed to contact with the curved portion of the section G, and engage with the movable locking strap aforesaid, substantially as set forth. 5th. The combination, with the housing having vertical recess and horizontal opening intersecting the same, of the pivoted engaging strap, and lever having seal engaging portion, the section G mounted on a vertical pivot, having puncturing pin, and provided on its upper side with a projection or ear adapted to clear the top of the housing when the section G is turned at right angles to the front of the housing, together with a strap designed to be secured to the door, and adapted to contact with the section G, and engage the pivoted strap aforesaid, substantially as set forth. 6th. In a combined lock and seal for car doors, a housing adapted to receive a looped sealing strip, means for retaining said strip within the housing, and a pivoted lever over which the sealing strip is passed, said lever having a cutting edge for severing the strip, substantially as shown.

No. 34,256. Shears. (*Cisailles.*)

William Richard, Herbert G. Ogden and Ira F. France, Bloomville, Ohio, U.S., 6th May, 1890; 5 years.

Claim.—In a pair of shears, the combination, with the blade A¹, provided with the stationary pivot a¹, and the integral internally threaded ears a¹, arranged obliquely to each other on opposite edges of said blade A¹, of the blade A² moving on the pivot a², the clamp B resting upon the blade A², and having apertured lugs at its ends, and the adjusting screws b¹ b² engaging the apertured lugs of the clamp, and the integral ears of the blade A¹, substantially as specified.

No. 34,257. Flue Scraping Rod for Steam Boilers. (*Grattoir pour les bouilleurs des chaudières à vapeur.*)

Thomas R. Butman, Chicago, Ill., U.S., 6th May, 1890; 5 years.

Claim.—1st. A flue scraper rod, formed in one or more sections, and a joint connecting the sections, comprising a pivoted link, whereby the sections can be folded parallel, substantially as described. 2nd. Two rods, having sockets on their ends, provided with sockets, a link connecting said ends and confined at its end in said right angles to the link, substantially as described. 3rd. A folding flue scraping rod, composed of two or more wooden rods, ferrules on at its ends loosely confined in said sockets, a link connecting said rods, and of one rod to receive the brush, substantially as described. 4th. Two rods and a pivoted or ball socket joints connecting the same, and provided with one or more slots in its case, whereby the rods can be folded together and parallel, substantially as described. 5th. Two rods, having sockets on their ends provided with slots, reinforcing ribs on the fingers separating said slots, and the link having rods, substantially as described. 6th. The combination, with a flue scraping rod, of a brush attaching ferrule on the end of the rod, flue scraping rod, having radial wings to center the brush in the flue. 7th. A bear against the flue wall, and center at its brush receiving end to having separable ferrules on their ends provided with separable ball link, having balls on its opposite ends loosely fitted in said sockets. 9th. Two rods, having bifurcated sockets on their ends, in combination with the connecting link, having cross bars at its ends journaled in said sockets to allow the rods to fold parallel in two directions.

No. 34,258. Cartridge Belt. (*Cartouchière.*)

William McEntee, Erim, Minn., U.S., 6th May, 1890; 5 years.

Claim.—1st. In a cartridge belt, an adjustable strap arranged to form the cartridge holding loops, substantially as set forth. 2nd. In a cartridge belt, provided with vertical slits, a strap passing through the slits in alternate directions, and adapted to form adjustable cartridge holding loops, substantially as set forth. 3rd. A cartridge belt, having adjustable cartridge holding loops, substantially as set forth.

No. 34,259. Fruit Picker and Gatherer.

(*Cueilleur pour les fruits.*)

Charles R. Banks, Boston, Mass., U.S., 6th May, 1890; 5 years.

Claim.—1st. In a fruit picker and gatherer, a conducting tube or chute, having cushions secured to the interior of the same at intervals along its length, and also having a cushion at its bottom, and an outlet opening in the side of the tube adjacent to said cushion, all substantially as and for the purposes set forth. 2nd. A fruit picker and gatherer, consisting of a tube or chute, having a picking device at its upper end, and having cushions secured to the interior of the same at intervals along its length, and also having a cushion at its bottom, and an outlet opening in the side of the tube adjacent to said cushion, all substantially as and for the purposes set forth. 3rd. In a fruit picker and gatherer, the combination of two conducting tubes or chutes having cushions secured to the interiors of the same at intervals along their lengths, the lower tube being flexible, and having means for attaching it to the lower end of the upper tube to form an extension of the same, all substantially as shown and for the purposes set forth. 4th. In a fruit picker and gatherer, a conducting tube or chute, having cushions secured to the interior of the same at intervals along its length, and arranged alternately on either side of the tube, and also having a cushion at its bottom, and an outlet opening in the side of the tube adjacent to the cushion, all substantially as shown and for the purposes set forth. 5th. A fruit picker and gatherer, consisting of a conducting tube or chute, having cushions secured to the interior of the same at intervals along its length, and an opening at or near its lower end, in combination, with an annular cushion secured to the upper end of the conducting tube and surrounding the opening of the same, and a series of longitudinally projecting fingers surrounding said cushion, all substantially as shown and for the purposes set forth. 6th. In combination, with a conducting tube, the annular cushioned ring Z, surrounding the upper open end of said tube, and a series of longitudinal cushioned fingers surrounding said ring and extending beyond the same, all substantially as and for the purposes set forth. 7th. A fruit picker and gatherer, having a conducting tube or chute formed of two sections, the upper one of which is adapted to slide in or on the lower one, in combination with means for sliding said section, and an annular cushion or ring surrounding the upper open end of the upper section, and a series of longitudinally projecting fingers surrounding said ring, all substantially as shown and for the purposes set forth. 8th. A fruit picker and gatherer, having a conducting tube or chute, formed of two sections, the lower one of which has cushions secured to the interior of the same at intervals along its length, the upper section of which is adapted to slide in or on the lower section, in combination with means for sliding said upper section, and an annular cushion surrounding the upper open end of the same, and a series of longitudinally projecting fingers surrounding said ring, all substantially as shown and for the purposes set forth. 9th. A fruit picker and gatherer, consisting of a conducting tube or chute, having cushions secured to the interior of the same at intervals along its length, and an opening at or near its lower end, in combination with an annular cushion secured to the upper end of the conducting tube and surrounding the opening of the same, a series of longitudinally projecting fingers surrounding said cushion, and a handle for holding up said tube, all substantially as shown and for the purposes set forth. 10th. A fruit picker and gatherer, having a conducting tube or chute formed of two sections, the lower one of which has cushions secured to the interior of the same at intervals along its length, the upper section of which is adapted to slide in or on the lower section, in combination with the cord t and pulleys, an annular cushion surrounding the upper open end of the upper section, and a series of longitudinally projecting fingers surrounding said cushion, all substantially as shown and for the purposes set forth. 11th. In combination with the fruit conducting tube, the handles having the swells or projections m, the bar G having the recess v and extensions u, all substantially as shown and for the purposes set forth.

No. 34,260. Case for Holding Spools of Thread and Silk. (*Buffet pour les bobines.*)

Seneca P. Hope, Granby, Que., 6th May, 1890; 5 years.

Claim.—The combination of the inclined floors or partitions B, and the vertical partitions C, forming the inclined compartments or passages D, and the retaining ledges E, with the spool case A, substantially as and for the purpose hereinbefore set forth.

No. 34,261. Measuring Tank.

(*Citerne compteur.*)

Elmer N. Batchelder and Fred E. Lovejoy, Portland, Me., U.S., 6th May, 1890; 5 years.

Claim.—1st. In an automatic weighing scale, the combination of a scale beam, a weight carrier adapted to hang from the end thereof, a tripping device for pushing the said weight carrier bodily from the end of said beam, substantially as described. 2nd. In an automatic weighing scale, the combination of a scale beam, a weight carrier adapted to hang from the end thereof, a tripping device, and a cam surface on said weight carrier, against which said tripping device acts, substantially as described. 3rd. In an automatic weighing scale, the combination of a scale beam and a weighing tank thereon, a reservoir, a pipe leading from said reservoir to said weighing tank, a valve for closing said pipe, connecting mechanism between said scale beam and said valve, whereby the latter is controlled by the motion of said scale beam, and a loose joint or connection in said connecting mechanism, for allowing a limited motion of said beam before said valve is operated, substantially as described. 4th. In an automatic weighing scale, the combination of a scale beam, a weighing tank thereon, an outlet pipe and a valve for controlling said pipe, a pivoted lever having a short arm and a long arm for lifting said

valve, and a connection between the short arm of said lever and said tank, whereby a depression of said tank raises said valve, substantially as described. 5th. In an automatic weighing scale, a weighing tank, an inlet and an outlet pipe for said tank, valves for controlling said pipes, pivoted levers for operating said valves, each of said levers having a connection with said tank and with the fixed portion of the machine, and a loose joint in some portion of the mechanism which operates each valve, substantially as described.

No. 34,262. Grain Drill Attachment.

(Disposition aux semoirs en ligne.)

William C. Lathrop, Milton Centre, Ohio, U. S., 6th May, 1890; 5 years.

Claim.—1st. The combination, with a drill tooth, of the attaching plate, having a slot or loop in its upper end, the roller frame hinged to said attaching plate and having an upwardly-directed slotted branch, and the arm or bar connecting the upper end of the attaching plate with the upper branch of the roller frame, substantially as specified. 2nd. The attaching plate, having the rearwardly-curved fenders *a*, and the lower similarly formed bearing plate *g*, in combination with the roller frame, adapted to be hinged to said attaching plate, substantially as specified. 3rd. The combination, with a drill tube, of a plate slotted for the attachment to the drill, carrying lug journals, fenders, and bearing plates at one end, and a rearward loop at its opposite end, of a roller-supporting frame provided with means for receiving said roller, an eye at its forward end, whereby it may be hinged to the attaching plate, and a slot at its rear upper end, and a connecting rod having a cross-head at its forward end to enter the upper loop of the attaching plate, and grooves and serrations at its opposite end, so as to be adjustably connected with the slot of the said frame, substantially as specified.

No. 34,263. Dumping Car.

(Char à bascule.)

James W. Alfred, Wall, Penn., U. S., 6th May, 1890; 5 years.

Claim.—1st. In a dumping car, the combination of the beam *A*, the box *B* hinged to said beam, the tail board *C*, triangular frames *D* having their base secured to said tail board, and their apex pivoted to the sides, cords *E*, having one end secured to the upper corner of said frames, and the other to brackets projecting from the side of the beam *A*, and passing over pulleys on the side of the box, pulleys *e* secured to the sides, and the brackets *F* secured to said beam and holding one end of said cords, substantially as set forth. 2nd. In a dumping car, the combination of the box *B*, having the strap *B*¹, a tail board *C*, having a strap *C*¹ provided with a slot *c*¹, the rod *G* passing through the lower end of the strap *B*¹, and the slot *c*¹ of the strap *C*¹, and having cranked ends *g*, *g*¹, and the notched bracket *g*², substantially as set forth.

No. 34,264. Railroad Brake.

(Frein de chemin de fer.)

Eli Savage, Providence, R. I., U. S., 6th May, 1890; 5 years.

Claim.—1st. The combination, with the body of a railway car, of the rods 16 and the rods 23, the sleeve 19, the spring 21 and the hooks 28, and links 29, connected with the rods by a universal joint, as described. 2nd. A brake operating and coupling device for railroad cars, the same consisting in the rods 16 and 23, the sleeve 19 provided with the slot 20, spring 21 and pin 25, the hanger 18, sleeve 17 and hanger 24, the hooks 28 and links 29 secured to the rods by a flexible joint, as described. 3rd. The combination, in a railroad car brake operating device, with the body of the car, and the two longitudinally extending and coupled rods 16 and 23, of the beveled pinion 13, the bevel gear 14, the shaft 13, the arm 12, rod 10, spring 11, and brake lever, as described. 4th. In a train of railway cars, the combination, with each car, of the two rods placed one on each side, each having capacity of longitudinal extension resisted by a spring, a gear secured to each rod, and mechanism intermediate between the gear and brake levers, the rods of each car being coupled to the rods of the adjoining cars by a coupling connected with the said longitudinal rods by a ball and socket connection, as described. 5th. The combination, with the brake operating mechanism, substantially as herein described, of the gears 30, 31, 33 and 34, and mechanism for operating the brakes on a train of cars, simultaneously through the above-mentioned gears and brake mechanism, as described.

No. 34,265. Boiler Cleaner.

(Nettoyeur de chaudière.)

William T. Haney, Childersburg, Ala., U. S., 6th May, 1890; 5 years.

Claim.—1st. In a boiler cleaner, a brush having on its upper side a beveled or inclined surface, arranged to be acted on by the water as the brush is reciprocated whereby to force said brush against the surface of the boiler, substantially as set forth. 2nd. A boiler cleaner, consisting of the brush, having a block or body formed on its upper side with a beveled or inclined surface, and a handle connected with said brush, substantially as set forth.

No. 34,266. Bag Holder. (Accroche-sac.)

William I. Paterson, Luoknow, Ont., 7th May, 1890; 5 years.

Claim.—1st. In a bag holder, the combination of the base *A*, upright *B*, frame *C* pivoted thereon and carrying a hopper, and pins supporting the mouth of a bag distended, the pitman *D*¹ pivotally connected to said frame by a cross head, the crank *E* engaging said pitman, a ratchet wheel *E*² secured to said crank, the pawl *F* engaging in said ratchet and operated by a cord, and the front lever *G*

operating said pawl by the cord *g*, substantially as set forth. 2nd. In a bag holder, the combination of the upright *B*, frame *C* pivoted to said upright and carrying pins adapted to hold the mouth of a bag distended, pitman *D*¹ pivotally connected to said frame, crank *E* journaled to said upright and engaging said pitman, ratchet *E*² secured upon said crank, pawl *F* engaging said ratchet, and foot lever *G* operating said pawl by the cord *g*, substantially as set forth.

No. 34,267. Device for Supporting and Holding Head Gear. (Appareil pour supporter et attacher les coiffures.)

Drusillia M. Fuller, Brooklyn, N. Y., U. S., 7th May, 1890; 5 years.

Claim.—1st. In a device for supporting and holding head gear, a spring arm having upturned and inwardly bent extremities, and pads secured to the said extremities, substantially as and for the purpose specified. 2nd. In a device for supporting and holding head gear, the combination, with the pedestal, of clamping arms arranged at the sides of the same, substantially as described. 3rd. In a device for supporting and holding head gear, the combination, with the pedestal, of spring clamping arms arranged at the sides of the same, and pads carried by said arms, substantially as specified. 4th. In a device for supporting and holding head gear, the combination, with a pedestal comprising a shank and a disk, of spring arms secured to the shank, and a spring pad secured to each of said arms, substantially as shown and described. 5th. In a device for supporting and holding head gear, the combination, with a pedestal comprising a shank and attached disk, of arms adjustably attached to the shank of the pedestal, and pads carried by said arms, substantially as specified. 6th. In a device for supporting and holding head gear, the combination, with a pedestal comprising a shank and an attached disk, of spring arms curved inward in the direction of the shank between its lower end and the disk, and pads attached to the said curved arms, substantially as specified. 7th. In a device for supporting and holding head gear, the combination, with a spring provided with upturned and inwardly bent extremities and pads secured to the said extremities, of standards located at each side of the center of the spring, and provided with attached or integral clamping surfaces substantially as shown and described, the clamping surfaces of the standard being adapted for contact with the inner surface of the hat to be supported, and the pads of the spring with the brim of the said hat, as specified.

No. 34,268. Heating Apparatus. (Calorifère.)

Henry B. Flint, Bethel, Me., U. S., 7th May, 1890; 5 years.

Claim.—1st. In a heating apparatus, the combination of a drum provided with an upper and lower funnel opening into the chimney, a pipe fitted to slide in the lower funnel and be projected into the chimney, and pivoted bars in said pipe, having head plates, adapted to be projected into the chimney, whereby the heated air in said chimney may be directed into said drum, substantially as described. 2nd. In a heating apparatus, the combination of a drum provided with funnels opening into the chimney, a sliding pipe in one funnel adapted to be projected into the chimney and provided with a mouth, pivoted bars in said pipe provided with horizontal head plates, and a rotating rod in said pipe having arms working in slots in said bars, whereby they may be moved to project their heads laterally into said chimney, substantially as and for the purpose set forth. 3rd. In a heating apparatus, the combination of a drum, provided with funnels opening into a chimney, a pipe fitted to slide in one funnel and be projected into said chimney, a mouth in said pipe, two bars pivoted within the pipe and provided with head plates adapted to be projected laterally through said mouth, a rotating rod in said pipe, and a bar on said rod provided with arms working in said pivoted bars, whereby they may be actuated as said rod is revolved, substantially as described. 4th. In a heating apparatus, the combination of the drum *D*, provided with the funnels *E*, *F*, the pipe *H*, fitted to slide in the funnel *E*, and provided with the mouth *d*, the bars *p*, pivoted in said pipe and provided with heads *r*, and means, substantially as described, for actuating said bars to project their heads through mouth of said pipe. 5th. In a heating apparatus, the combination of the drum *D*, provided with the funnels *E*, *G*, the pipe *H*, fitted to slide in the funnel *E* and having the mouth *d* and plate *b*, the bars *p*, pivoted in said pipe and provided with the heads *r*, the rod *f*, fitted to rotate in said pipe, and projecting through the funnel slot *s*, and the bar *l* on said rod provided with the arms *m*, working in slots *r* in said pivoted bars, all being arranged to operate substantially as described. 6th. In a device of the character described, a tube fitted to slide in a drum funnel and be projected into a chimney, said tube being provided with pivoted bars having head plates adapted to be projected through the mouth of the tube, and block the chimney, whereby the heated air arising therein may be directed into said drum, substantially as described.

No. 34,269. Wrench. (Clé à écrou.)

John T. Hawkins, Taunton, Mass., U. S., 7th May, 1890; 5 years.

Claim.—1st. A pipe wrench, having one serrated jaw, and one unserrated or smooth jaw, forming an acute angle with each other, and provided with an adjustable stop for the pipe operated upon and practically in line with the angle of said smooth jaw, substantially as for the purposes set forth. 2nd. In a pipe wrench, constructed of a serrated or toothed jaw, and a smooth or unserrated jaw, forming an acute angle with each other, the combination of a stop for the pipe sliding upon the smooth jaw, and an adjusting screw for regulating the position of said sliding stop, substantially as set forth. 3rd. In a pipe wrench, constructed of a serrated or toothed jaw, and a smooth or unserrated jaw, forming an acute angle with each other, in combination with a stop sliding upon the smooth jaw, and having formed thereon tooth edges, an adjusting screw for regulating the position of said sliding stop, substantially as set forth.

No. 34,270. Machine for Washing Dishes.*(Machine à laver la vaisselle.)*

Williston F. W. Lent, Ridgetown, Ont., 7th May, 1890; 5 years.

Claim.—The combination, with the tray or tub, the cylinder and the piston and valve, substantially for the purposes hereinbefore set forth.**No. 34,271. Car Axle Lubricator.***(Graisseur d'essieu de char.)*

Jesse N. Dewey, Toledo, Mich., U.S., 7th May, 1890; 5 years.

Claim.—1st. A means for lubricating car axle journals, consisting of a removable pan located in the journal box, said pan adapted to hold the absorbent, through which the lubricant is fed to the axle journal by capillary attraction, substantially as described. 2nd. A means for lubricating car axle journals, consisting of a removable pan located in the journal box, a quantity of metal shavings or similar material in the bottom of said pan, and a small covering of waste or similar material placed on said metal shavings, the construction being such, that the lubricant will be drawn to the axle journal through the material in the pan by capillary attraction, substantially as described. 3rd. In a car axle lubricator, a removable pan for holding the absorbent, through which the lubricant is drawn to the axle journal, said pan provided with flanges extending at an angle from the sides thereof, substantially as described. 4th. In a car axle lubricator, a removable pan for holding the absorbent, through which the lubricant is drawn to the axle journals, said pan provided with the flanges d^1 , prongs ribs G , and braces G^1 , and fins d^2 , substantially as described.**No. 34,272. Coffor Dam. (Batardeau.)**

George K. Kirkham, Brooklyn, N.Y., U.S., 7th May, 1890; 5 years.

Claim.—1st. A coffor dam, provided with solid gates hinged to the sides of the dam, combined with series of arms pivoted to the edges of said gates, as and for the purpose described. 2nd. In a coffor dam provided with solid gates hinged to the sides thereof, with offsets formed in the edges of the gates, series of arms pivoted to the offsets in said gates, as and for the purpose described.**No. 34,273. Sheathing Joint.***(Joint de revêtement.)*

Sarah E. Sword, (assignee of Robert Sword,) Kemnay, Man., 7th May, 1890; 5 years.

Claim.—1st. The sheathing joint, consisting of a dovetail shaped rabbet b^1 b^{11} on the rear of the edge of a board, and a corresponding tongue on the edge of the adjoining board, being the exact counterpart of said rabbet, substantially as set forth. 2nd. A sheathing board having a dovetail shaped rabbet b^1 b^{11} at the rear of one edge, and a corresponding tongue being the exact counterpart of said rabbet at the other edge, substantially as set forth.**No. 34,274. Wrench. (Clé à écrou.)**

The Campbell Printing Press and Manufacturing Company, New York, (assignee of Edward S. Boynton, Brooklyn,) N. Y., U.S., 7th May, 1890; 5 years.

Claim.—In an adjustable wrench, operating to rotate pipes or rods by means of a wedge shaped opening, on what is known as the alligator principle, the combination of a toothed or serrated jaw on one side of the angular opening, and a smooth jaw on the other side, containing one or more steps or stops as 2, 3, whereby the opening between the jaws may be so adjusted that a firm hold is taken by the toothed jaw, and flattening or crushing of the pipe or rod avoided, substantially as set forth.**No. 34,275. Hame. (Attelle.)**

James E. Bull, Edward E. Bull, William N. Byers and Einer O. Nuthurst, Tracy, Tenn., U.S., 7th May, 1890; 5 years.

Claim.—1st. A T-shaped hame, provided with a projection b^3 lying parallel with it, and extending out from the same, and adapted to receive a ring in the space between it and the hame, and hame secured to the hame and closing said space, substantially as described. 2nd. The combination of a hame, provided with a flattened portion, and having a projection b^3 arranged parallel with the hame, and forming a space adapted to receive a ring, and a hame the projection b^3 , and adapted to close the space between the projection and the hame, and confine a ring in said space, substantially as described. 3rd. The combination of the T-shaped hame, having the longitudinal ridge a , and the flattened portion a^1 , said ridge terminating below the flattened portion, and forming a square shoulder, lying parallel with a hame, and forming a space or opening adapted to receive a ring, and the hame hook having at its rear end a plate provided with a rectangular notch to receive the square shoulder, and a recess to receive the projection and adapted to close the space formed by the projection, and retain a ring, substantially as described. 4th. The combination of the T-shaped hame, having a longitudinal ridge a , and a flattened portion a^1 , said ridge terminating above the flattened portion, and forming a square shoulder, and terminating below the flattened portion in a square shoulder, and terminating with a hame, and providing an opening or space adapted for the reception of a ring, the lug a^2 , and the hame hook provided at its rear end with a plate, having at its upper edge a rectangular notch to receive the square shoulder, and at its lower edge a recess to receive the projection b^3 , and provided in its lower face with a notch b^2 adapted tobe engaged by the lug a^2 , said plate closing the space between the projection b^3 and the hame, and confining a ring, substantially as described. 5th. The hame, having its lower end curved and provided with a lateral flange a^3 , and having at a suitable distance from its lower end a lug a^1 , and a curved lever pivoted to the lateral flange, and conforming closely to the configuration of the hame and lying nearly its entire length within the outer edge of the hame, said lever being adapted to engage the lug a^1 , and to carry a chain, substantially as and for the purpose described.**No. 34,276. Fruit Basket and Package.***(Panier à fruits.)*

The Ontario Basket Company, (assignee of William H. Chilman), Walkerville, Ont., 7th May, 1890; 5 years.

Claim.—1st. In combination with a fruit basket or package, of a cover formed of an inner and an outer hoop, and a covering of leno, tarlatan, wire netting, or equivalent material, having its edges secured between the said hoops, substantially as and for the purpose specified. 2nd. The combination, with a fruit basket or package, of a double hoop or band a b , the covering of leno, tarlatan or equivalent material, having its edges secured between the said hoops, and the reinforcing bridge c secured to the inner hoop, and the seat F fastened to the upper side of the bridge, all constructed and arranged substantially as and for the purpose specified.**No. 34,277. Metallic Wheel.***(Roue métallique.)*

Thomas Hill and Charles G. Comstock, Quincy, Ill., U. S., 7th May, 1890; 5 years.

Claim.—As a new article of manufacture, a metal wheel having the hub and the inner ends of the arms or spokes cast integral, and the outer ends of the arms or spokes welded to the inner ends, substantially as and for the purpose set forth.**No. 34,278. Vehicle. (Voiture.)**

Harlan P. Wells, Jason Spofford, Jr., Amesbury, Mass., U. S., and Edward N. Heney, Montreal, Que., 7th May, 1890; 5 years.

Claim.—1st. In a vehicle of the class named, the combination with a body of a portable seat folded, when not in use, inward under the seat proper, all as herein set forth. 2nd. In a vehicle of the class named, the combination with the body, of a portable seat carried on curved projecting arm pivoted to the bottom of the body, as herein described and for the purposes set forth. 3rd. As an improvement in vehicles, the herein described portable seat, which consists of the seat a^1 , with the arms a^2 provided with the slots a , constructed and adapted substantially as described, for the purpose set forth. 4th. In vehicles of the class herein named, the portable seat a^1 , having the slotted arms a^2 , in combination with the raised rib a^3 and bolts a^4 , constructed and arranged in the manner herein described for the purposes set forth.**No. 34,279. Liquid Shake. (Agitateur de liquide.)**

The American Shaker Company, Minneapolis, (assignee of John Stubbs, Long Lake, Minn., U. S., 7th May, 1890; 5 years.

Claim.—1st. In a device of the class described, the combination of a rotary frame, receptacles pivotally supported upon said frame, and each adapted to receive a rotary motion upon its own axis as said frame is rotated, substantially as described. 2nd. The combination, with a stationary wheel, of a frame mounted upon a support at the center of said wheel, and adapted to rotate thereon, receptacles pivotally supported upon said frame, and means connecting the supports of said receptacles with said fixed wheel, whereby as said frame is rotated upon its own axis, said receptacles are each given an independent rotary motion upon its own axis, substantially as described. 3rd. The combination, with the stationary wheel, of the rotary frame mounted upon a support at the center of said wheel, receptacles arranged on pivoted supports on said frame and connecting devices between said wheel and said supports, whereby as said frame is rotated, each of said receptacles is given an independent, rotary motion upon its own axis, substantially as described. 4th. The combination, with the stationary wheel 5, of the rotary frame mounted on a support at the center of said wheel, receptacle holders or supports pivoted in said frame, and provided with wheels 23, and belts 30 passing around said wheel 5, and around said wheels 23. 5th. In a device of the class described, the combination, with the rotary frame carrying the pivoted receptacles, of the screw for clamping said frame, for the purpose set forth. 6th. The combination, with the rotary frame, of the pivoted receptacle holders mounted in said frame, the receptacles and the bails upon said holders adapted to hold the covers upon said receptacles, and the holders adapted to hold the covers upon said receptacles, and the receptacles in the holders, substantially as described. 7th. In a device of the class described, the combination, with the receptacles, provided with removable covers, of the pivoted receptacle holders, and the bails pivoted to said holders, and provided with locking levers, substantially as described.**No. 34,280. Automatic Railroad Alarm and Signal. (Alarme et signal automatiques de chemin de fer.)**

Milton M. Souder and Peter G. Ringer, Lititz, Penn., U. S., 7th May, 1890; 5 years.

Claim.—1st. The combination, with the key, of a treadle for operating said key, and a block through which the treadle acts upon the key, removably interposed between the key and treadle, as set forth. 2nd. The combination, with the key placed near the rail of a

railroad track, of a treadle constructed to actuate the key through a pressure-block, the pressure-block, and connections between the pressure-block and a treadle on the opposite side of the track, whereby the block can be removed from between the key and treadle, as set forth. 3rd. The combination, with a key placed near the rail of a railway track, of a treadle constructed to actuate the key through a pressure-block, the pressure-block, a second treadle placed on the opposite side of the track in position to be engaged by the wheels of a car before the first treadle is so engaged when the car approaches from one direction, and connections between the pressure-block and the second treadle, whereby that block can be removed from between the key and the first treadle, as set forth. 4th. The combination, with a key placed near the rail of a railway track, of a treadle L, constructed to actuate the key through a pressure-block, the pressure-block, a second treadle Q, placed on the opposite side of the track in position to be engaged by the wheels of a car, before the treadle L is so engaged, when the car approaches from one direction, and to remain in engagement until the treadle L is also engaged, and connections between the pressure-block and the second treadle, whereby said block can be removed from between the key and the first treadle, as set forth. 5th. The combination, with the key and the treadle L by which it is operated, of the pressure-block, the treadle Q, and a connection between the treadle Q and the pressure-block, said connection being yieldingly attached to the pressure-block horizontally, as set forth. 6th. The combination, with the key and the treadle by which it is operated, of the pressure-block, the treadle Q, and a connection between the treadle Q and the pressure-block, said connection being formed with a spring whereby it can raise the pressure block after being depressed by the treadle L. 7th. The combination, with signals connected with electric batteries, of a key K, placed near a rail of the track, and having ground wires attached thereto, conductors adapted to be engaged by said key, wires connecting the conductors and signals, a treadle placed near the rail and adapted to actuate said key through a pressure-block, removably interposed between the treadle and key, as set forth. 8th. The combination, with signals connected with electric batteries, of a key K placed near a rail of the track, wires connecting the key and ground, conductors adapted to be engaged by said key, wires connecting the conductors and signals, a treadle placed near the rail and adapted to actuate said key through a pressure-block, the pressure-block removably interposed between the treadle and key, and a gear adapted to retard the disengagement of the key from the conductors, as set forth. 9th. The combination, with signals connected with electric batteries, of a key K placed near a rail of the track and having ground wires attached thereto, conductors adapted to be engaged by said key, wires connecting the conductors and signals, a treadle L placed near the rail, and adapted to actuate said key through a pressure-block, a pressure-block interposed between the key and the treadle L, a second treadle Q, located on the opposite side of the track and between the treadle L and the signals, and a connection between the treadle Q and the pressure-block, whereby said block may be withdrawn from between the treadle L and the pressure-block, as set forth.

No. 34,281. Burglar Alarm.

(*Avertisseur d'effraction.*)

James R. Edgar, (assignee of Thomas J. Gordon), Olathe, Kan., U.S., 7th May, 1890; 5 years.

Claim.—1st. The burglar alarm having the clock mechanism, the bell or gong hammer and gong or bell, in combination with the plate or bar having a shoulder acting upon the hammer, and a slot or aperture, the spring pressed locking bar or rod, engaging with the said slot or aperture, and having connection with the windows and doors of a dwelling, etc., substantially as specified. 2nd. The combination, with the spring pressed locking rod, engaging a slot or aperture in the spring pressed plate or bar, engaging with the bell or gong hammer rod, of the rotary rod or bar having a notch or recess facing the aforesaid locking rod, substantially as specified. 3rd. The combination, with the spring pressed locking rod, engaging a slot or aperture in the spring pressed hammer locking bar or plate, of the rotary rod having a notch or recess facing the aforesaid locking rod, said latter referred to rod also having a notch or recess receiving the convex or rounded portion of the rotary rod, substantially as set forth. 4th. In a burglar alarm, the combination, with the alarm mechanism, comprising the spring pressed locking rod, the spring pressed slotted plate or bar engaged by said rod, the bell or hammer rod engaged by said plate, and the rotary rod or bar having a notch facing said locking rod, and the alarm transmitting wire or medium, of the branch wire or its equivalent having a drop hook engaging a catch or projection on the door, and having connected to it a manipulating cord, or its equivalent passing over a suitably disposed pulley, and means for holding the drop hook away from the door, substantially as shown and described.

No. 34,282. Sign and Show-card.

(*Eenseigne et carte d'annonce.*)

Val J. Klase, Guelph, Ont., 8th May, 1890; 5 years.

Claim.—The combination in a sign or show-card, with the frame A, having the grooved ways *a, a, a*, of the printed cards *b, b, b*, substantially as and for the purposes set forth.

No. 34,283. Anti-Friction Bearing.

(*Coussinet sans frottement.*)

Benedict Millhauser, Soranton, Penn., U.S., 8th May, 1890, 5 years.

Claim.—1st. A shaft bearing having a wearing surface composed of celluloid or zylonite, substantially as described. 2nd. A journal box having its wearing surface composed of celluloid or zylonite, substantially as described. 3rd. A journal box, having a lining of celluloid or zylonite provided with projecting portions to enter recesses in the box and retain it, substantially as described.

No. 34,284. Road Cart. (*Désobligeante.*)

James Woods, Strathroy, Ont., 8th May, 1890; 5 years.

Claim.—1st. In a road cart, the above described arrangement for suspending the foot-board by attaching it in front to spring D, suspended by tie rods *h* from cross-bar B, and at rear by attachment to seat C, which is carried on truss M and brace N, freely attached to block O on spring K, so as to allow of rolling motion backwards and forwards to the springs, and taking off all horse motion and jar of vehicle, as shown and specified. 2nd. In a road cart, the iron J forming a combined step-rest, spring-hanger and shaft stay, substantially as shown and specified. 3rd. The spring D attached to cross-bar B, and in combination therewith the rubber blocks *a, a*, substantially as shown and specified, and for the purpose set forth.

No. 34,285. Damper. (*Régistre.*)

William Graham and Chistian Rehder, Toronto, Ont., 8th May, 1890; 5 years.

Claim.—As an improved two-piece damper, the damper plate A, having formed on it the recessed projections *c* and *d*, to receive the stem C, and the trunnion *a* to fit into the bearing hole *b*, in combination with the stem C, the outer end of which forms an open spring ring F, and has a groove G cut around it, and the open end *f*, substantially as and for the purpose specified.

No. 34,286. Conductor of Heavy Liquids from Measuring Faucets into Small Neck Vessels. (*Conducteur des liquides lourds des robinets-compteurs aux vaisseaux à goulots étroits.*)

Edward G. Angell and Lorenzo F. Picard, Juniata, Neb., U.S., 9th May, 1890; 5 years.

Claim.—The herein described attachment, to be used in the purpose of conducting heavy syrups, oils, varnishes, or any heavy liquids from a measuring faucet into a jug, can or other small necked vessel, substantially as and for the purpose hereinbefore set forth.

No. 34,287. Car Coupler. (*Attelage de chars.*)

William W. Townsend, Sr., Minneapolis, Minn., U.S., 9th May, 1890; 5 years.

Claim.—The combination, with a draw head, having a recess as 4, and a shoulder as 22, of a link weight arranged loosely in said recess, and adapted to tip forward by its own gravity against said shoulder, and to thus interpose itself beneath, and support the coupling pin, and to be tilted backward by an entering link so as to release said pin, and to bear upon and counterbalance said link, substantially as described.

No. 34,288. Camp Bed. (*Lit de camp.*)

John Dick, Toronto, Ont., 9th May, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a camp bed, having its stretcher formed of two thicknesses, so that the side bars of the frame may be inserted between the thicknesses, in order that when the said frame is expanded to support the bed, the full strength of the fabric is utilized for firmly connecting it to the frame, substantially as and for the purpose specified. 2nd. A stretcher A, formed bag-shape with two openings B made in one side of it, in combination with the side rails C and legs D, substantially as and for the purpose specified.

No. 34,289. Grinding Mill. (*Moulin à blé.*)

William Adair, Liverpool, Eng., 9th May, 1890; 5 years.

Claim.—1st. In grinding mills, the combination of three or more grinding bars, plates or blocks, such as *b* and *d*, with means for supporting and imparting reciprocating motion to such bars, substantially as shown and described. 2nd. In grinding mills, reciprocating grinding bars, plates or blocks, such as *b*, having inclined surfaces, substantially as shown and described. 3rd. The combination, with reciprocating grinding bars, plates or blocks, such as *b* and *d*, of keys *k*, and means for operating same, for the purpose set forth. 4th. The packing pieces *n*, in combination with the bars *b d* having grooves to receive such pieces, for the purposes set forth. 5th. Two or more series of grinding reciprocating blocks, plates or bars, such as *b, d*, combined and operating substantially in the manner, and for the purpose set forth.

No. 34,290. Condenser for Charcoal Kilns. (*Condenseur pour les fours à charbon de bois.*)

John Friedrich, Iron Mountain, Mich., U.S., 9th May, 1890; 5 years.

Claim.—1st. The combination, with a kiln, of an outer casing surrounding its lower portion, a condensing apparatus located within the chamber between the kiln wall and outer casing, and connections from the kiln chamber to said condensing chamber, as set forth. 2nd. The combination, with a kiln, and an outer casing surrounding its lower portion, of division plates dividing the chamber between the kiln wall and casing into several communicating compartments, water pipes traversing said compartments, and connections as described between the interior of the kiln and the chamber, between the kiln wall and casing, substantially as set forth. 3rd. The combination, with the kiln, and the inclosing casing of the division plates *a a' a'*, having openings at alternate ends, and water pipes placed in the chambers or apartments formed by said division plates, and the flues E communicating with the condensing chamber at the top, and with the combustion chamber of the kiln at the

lower end, as set forth. 4th. The combination, with the kiln, and the inclosing casing, forming a condensing chamber, of the flues connecting with the condensing chamber at their upper ends with the atmosphere at their lower ends, and the kiln at intermediate points, whereby communication is established between the kiln inclosing casing at one end, and the combustion chamber and outside air at the other, substantially as specified. 5th. The combination, with the kiln and the casing, forming the condensing chamber, of the connecting flues communicating with the condensing chamber at their upper ends, and having branch pipes *e*¹ communicating with the combustion chamber of the kiln, and the projection *e*² opening into the outside air, the branch pipes and projections being provided with dampers for controlling the area of the openings of the same, substantially as specified. 6th. The combination, with the kiln and the casing, forming the condensing chamber, formed by the walls of the kiln and the surrounding casing, and having separate apartments or chambers arranged horizontally around the kiln, and having communication at alternate ends to make a circuitous path through them, of connecting flues provided with dampers and gates, substantially as and for the purposes specified.

No. 34,291. Slate Cleaner for Cleaning the Slate Pencil Marks off Slates.

(*Nettoyeur d'ardoise.*)

Samuel J. Laughlin, Guelph, Ont., 9th May, 1890; 5 years.

Claim.—The combination of a tube A, made of any kind of material, and having a porous pad B at one of its ends, and at the other end there is provided a stopper, composed of different parts, C is a part of said stopper, that is hollowed out to receive the other part E which is cemented into the part C, and having a facing of felt D cemented into the part C, and in tube A there is provided a central hollow part F, that forms a reservoir for the purpose of holding water or other liquids, all being arranged and designed to effectually erase the pencil marks off slates, substantially as and for the purpose hereinbefore set forth.

No. 34,292. Faucet. (Robinet.)

Elijah W. Scoville, Manlius, N.Y., U.S., 9th May, 1890; 5 years.

Claim.—The within-described faucet, consisting of the barrel A, having its liquid channel a terminating at the under side of said barrel, and provided thereat with a segmental valve seat *b*, having its curvature in the direction of the length of the barrel, the lever *l* pivoted to opposite sides of the barrel A, and axially at right angles thereto, and for the valve *c* carried on the lower end of the lever and provided with the downwardly extended duct *d*, and the spring *e* pressing the lever in one direction to normally hold the valve *c* with its duct *d*, out of communication with the channel *a*, substantially as described and shown.

No. 34,293. Oiling of Vehicle Axles.

(*Oilage des essieux de voitures.*)

Willis Jones, Buffalo, N.Y., U.S., 9th May, 1890; 5 years.

Claim.—1st. In a vehicle axle, the slanting oil channel *h* and outlet *h*¹, the outer end of channel *h* having a plug *p* set therein, and a vertical oil passage *a* leading into said channel made in the top of the screw threaded end of the spindle B, and covered by the cap *c*, all substantially as herein specified. 2nd. In a vehicle axle, the top oil channel *k*, made at a vertical oil slant from rear to front end, and terminating in a vertical oil passage *a*¹ leading to an oil channel *h* in the axle B, adapted to giving an automatic flow of oil as the hub revolves, substantially as specified. 3rd. In a vehicle axle, the combination of the oil channel *h*¹, plug *p*, oil receiving passage *a* in top of screw thread, the upper channel *k* with connecting oil passage *a*¹ leading to channel *h*, axle cap C and hub box F, all arranged and operating conjointly, substantially as and for the purpose specified.

No. 34,294. Postal Scale. (Balances postales.)

Julius C. Bittschofsky, Cleveland, Ohio, U.S., 9th May, 1890; 5 years.

Claim.—1st. In postal scales, a scale card, supports for the card on the scale beam and extending laterally therefrom to one side of the path of the poise, with a combined pointer and support attached to the poise, and bent to lie across the face of the card and down all as set forth. 2nd. The combination, with a scale beam, of a movable on said beam, a support on said beam for said card, a poise extending over the graduated face of said card, substantially as set forth.

No. 34,295. Rein Ring for Harness, etc.

(*Crochet de harnais, etc.*)

Joseph Sanders, Belle Creek, P.E.I., 9th May, 1890; 5 years.

Claim.—1st. The opening in the ring or terret, to admit of the rein being placed in or taken out of the same without running it through from the end. This opening may be of any convenient width. 2nd. That formation of the prongs of the rein ring, which prevents the escape of the rein except as desired.

No. 34,296. Dumping Cart. (Tombereau.)

Francis M. Gibson, Good Hope, Ohio, U.S., 9th May, 1890; 5 years.

Claim.—1st. A dumping cart, having hinged to its body a hook-like device adapted to fit removably over the bolster, substantially as and for the purposes described. 2nd. The combination, with the bolster of a wagon, of a body having hinged to its under side a pair of hook-shaped straps adapted to fit removably over the bolster.

substantially as and for the purposes described. 3rd. The combination, with a wagon body, of the hook-shaped straps hinged thereto, and one or more bars uniting said straps, substantially as and for the purposes described. 4th. The combination, with a wagon body, provided with eyes near its edges, of hook-shaped straps, having pintles to engage with said eyes, and a bar uniting said straps, substantially as and for the purposes described. 5th. The combination, with the bolster B, of the body D, having the eyes E, the straps F, having pintles *f* engaging with the eyes, and the bars G ^G, secured to the straps and lying on each side of the bolster, substantially as described.

No. 34,297. Composition of Matter or Medicine for the Cure of Catarrh.

(*Composition de matieres ou medecine pour la guérison du catarrhe.*)

Robert J. K. Gore, Goderich, Ont., 9th May, 1890; 5 years.

Claim.—A compound of spirits of camphor, spirits of turpentine, chloroform, oil of mustard, and tincture of capsicum, substantially in the proportions and for the purposes set forth.

No. 34,298. Coal Sifter. (Crible à charbon.)

John H. Fredericks, Look Haven, Penn., U.S., 9th May, 1890; 5 years.

Claim.—A sifter, whose sides are composed of a single perforated annular band of sheet metal combined with a perforated sheet metal disk slitted and overlapped, so as to form a circular convex bottom, the disk and annular band being joined by infolding together at X, substantially as set forth.

No. 34,299. Horse Collar. (Collier de cheval.)

Thomas A. Jackson, Mount Pleasant, Ont., 9th May, 1890; 5 years.

Claim.—1st. The combination of the padded plates A with the pads F F, connected by the yoke B, which passes through the sockets *c*, forming the shape of the lower part of the collar, and the neck strap G, which connects the upper parts of the padded plates A, forming the upper part of the collar. 2nd. The combination of the extra staples D D, for attaching the traces, and the set screws E E in the sockets *c*, to raise or lower the draught to suit the height of the horse, and H H, the neck yoke rings in the yoke B, for attaching the neck yoke straps to the yoke B, all substantially as and for the purposes hereinbefore set forth.

No. 34,300. Hot Water Heater.

(*Fournaise calorifere à eau.*)

Eugène S. Manny, Montreal, Que., 9th May, 1890; 5 years.

Résumé.—1o. Dans une fournaise à eau chaude, les divisions K et L, la première étant plus basse et l'autre plus élevée, tel que décrit. 2o. Dans une fournaise à eau chaude, le cercle collecteur H entourant la partie inférieure du passage des produits de la combustion C, D, E, F, G, tel que ci-dessus décrit et pour les fins indiquées.

No. 34,301. Vehicle Wheel. (Roue de voiture.)

The Harris Metal Wheel Co., (assignee of Frederik Newhouse), Auburndale, Ohio, U.S., 9th May, 1890; 5 years.

Claim.—1st. In a wheel, a hub section, having lugs to receive the loop of a wire, bent to form two spokes of spoke passages beside said lugs, and an aperture in said hub section connecting said spoke passages, substantially as described. 2nd. In a wheel, hub sections sleeved upon a hub or box, having lugs to receive the loops of wires bent to form two spokes of spoke passages beside said lugs, an aperture connecting said spoke passages, and the flange G, having spoke passages I, substantially as described. 3rd. In a wheel, hub sections sleeved upon a hub or box, having lugs F cut away, portions M, spoke passages I and J, apertures H and collars N, substantially as described.

No. 34,302. Pipe Joint. (Joint de tuyau.)

Frank A. Lane and James A. Colby, Manchester, Eng., 9th May, 1890; 5 years.

Claim.—1st. The herein described ferrule, tapering toward one end, and provided at the other end with a laterally extending flange, adapted to form a seat for the galling, and convex and tapering on its end face, and thereby adapted to center the ferrule within the bell, in combination with the bell, having a tapering or rounded seat adapted to co-operate with said ferrule to bring both parts in line, substantially as set forth. 2nd. The herein described ferrule C, for pipe joints provided at one end with a convex or tapering end face, and having at the same end the laterally extending flange or shoulder *c*, adapted to form a seat for the galling, said ferrule being tapered or flared on its inner surface toward the end opposite said flange, whereby obstruction of the pipe in which it may be inserted is avoided, substantially as set forth.

No. 34,303. Paper Rack and Holder.

(*Porte-papier.*)

Samuel Mirfield and Frederick A. Clarry, Toronto, Ont., 9th May, 1890; 5 years.

Claim.—1st. A paper holder, composed of meridional wires A, A, having the ends converging and secured to disks B, B at the poles, a post C, passing through the disks, and a base D, supporting the post erect, as set forth. 2nd. A paper holder, composed of meridional wires A, A, converging at the poles and secured to a back E, as set forth.

No. 34,304. Hose Attachment.*(Joint de boy au.)*

Felix L. Decarie, Peter Lord and John Lee, Montreal, Que., 9th May, 1890; 5 years.

Claim.—1st. The combination of the sleeve *a*, with collar or collars *c*, constructed and arranged substantially as described. 2nd. The combination of the sleeve *a*, having flange *b*, with collars *c* adapted substantially as and for the purposes set forth.

No. 34,305. Animal Trap. (Piège.)

The Oneida Community, Kenwood, (assignee of Harry E. Kelley, Niagara Falls, N.Y., U.S., 9th May, 1890; 5 years.

Claim.—In an animal trap, the entrapping jaw formed of a blank of sheet metal, having its end portion crimped gradually transversely so as to bring one or both edges thereof facing the companion jaw, and terminating with transversely straight extremities, and the crimp continued in the same manner throughout the central or main portion of the blank, substantially as described and shown.

No. 34,306. Reed Organ. (Harmonium.)

George Blatchford, Woodstock, Ont., 12th May, 1890; 5 years.

Claim.—1st. A horizontal perforated partition, in the lower part of the air chamber of an organ, to obtain increased vibration, and an equalized current of air from the reeds, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the reed board, and a resonant chamber, having a horizontal perforated partition at the bottom of the air chamber, as shown and described substantially as and for the purpose hereinbefore set forth. 3rd. A resonant chamber, extending from the perforations in front of the case, horizontally and upwardly, to the perforations in the overhanging apertured part A, as shown and described, substantially as and for the purpose hereinbefore set forth. 4th. The upper apertured horizontal chamber A, connected with the vertical resonant chamber of an organ, having an inclined front side, as shown and described, substantially as and for the purpose hereinbefore set forth.

No. 34,307. Desk. (Pupitre.)

Chris Larson, Chicago, Ill., U.S., 12th May, 1890; 5 years.

Claim.—1st. In a desk, such as that hereinbefore referred to, the application to the bottom of the desk, of metal grooves, or grooves lined with metal, adapted to engage with pins secured in the underside of the pigeon holes, all substantially as and for the purposes hereinbefore set forth. 2nd. In a desk, such as that hereinbefore referred to, the application to the top of the desk above the pigeon holes or receptacles, of a metal groove, or grooves lined with metal, adapted to engage with a pin secured in the top of the receptacle, all substantially as and for the purposes hereinbefore set forth. 3rd. In a desk, such as that hereinbefore referred to, the application to the top of the desk, of metal grooves, or grooves lined with metal, as shown in Fig. 1 of the drawings, and which grooves are adapted to engage pins secured in the upper part of the receptacles, all substantially as and for the purposes hereinbefore set forth. 4th. In a desk, such as that described, the alternative of making the grooves in the bottom and top respectively, of the receptacles, and securing the pins into the bottom and top respectively, of the desk, all substantially as and for the purposes hereinbefore set forth.

No. 34,308. Wire Rope or Cable.*(Câble de fil de fer.)*

James B. Stone, Worcester, Mass., U.S., 12th May, 1890; 5 years.

Claim.—1st. A rope or strand consisting of two or more concentric series of wires, with smaller filler wires or cords between the said series of wires, as set forth. 2nd. A rope or cable formed of twisted strands or small ropes, each of which consists of two or more concentric series of wires, with smaller filler wires or cords *b* between said concentric series, substantially as set forth.

No. 34,309. Shoe Vamp. (Empeigne de chaussure.)

Alexandre Vincent and Frank, alias Francis, Vincent, Ste Thérèse, Que., 12th May, 1890; 5 years.

Résumé.—1o. Un nouvel article de manufacture, une empeigne de chaussure A, A¹, A², ayant les contours extérieurs *i, h, g, e, f, h², i²*, *a*, le découpage intérieur *a, b, m, c, d, e*, la pièce annexée *j, k, l*, adaptable à la dite empeigne A, A¹, A², le tout tel que ci-dessus décrit et pour les fins sus-mentionnées. 2o. Un nouvel article de manufacture, une empeigne A, A¹, A², ayant les contours extérieurs *i, h, e, f, e, f², g, h², i², a*, le découpage intérieur *b, c, d, e*, à laquelle empeigne on ajoute l'espace intérieur *u, o, p, q, r*, pour y introduire des élastiques pour en faire une chaussure dite "congress", et la pièce annexée D, et la partie E, pour former le haut de la dite chaussure, le tout tel que ci-dessus décrit, et pour les fins sus-mentionnées.

No. 34,310. Animal Trap. (Piège.)

The Oneida Community, Kenwood, (assignee of William A. Jameson, Niagara Falls, N.Y., U.S., 12th May, 1890; 5 years.

Claim.—1st. In an animal trap, the combination, with the base bar or plate, having its end bent up to form a post or standard and provided with a horizontal pivot, formed integral with said post, of a jaw provided with an opening engaging over said pivot, substantially as set forth. 2nd. In an animal trap, the combination, with the base bar or plate, having a post or standard, provided with a split eye, of a pivoted jaw provided with an eye or opening engaging with the split eye of the base bar and interlocked with said eye by a cold

shut, substantially as set forth. 3rd. In an animal trap, the combination, with the base plate or bar, provided at one end with a post having a horizontally projecting pivot, and at its opposite end with a post having a split eye, of a pivoted jaw provided at one end with an opening fitting over said pivot, and at its opposite end with an eye which is interlocked with said split eye by a cold shut, substantially as set forth. 4th. The combination, with the base bar of the trap, of the trigger supporting bar K provided with lips or ears which are bent or clinched around the base bar, substantially as set forth. 5th. The combination, with the base bar or plate provided with a post or standard, having a split eye, of a pivoted jaw, having an inwardly projecting flange provided with an eye engaging with the split eye of the base bar, substantially as set forth. 6th. In an animal trap, the combination, with the base bar or plate having horizontal pivots formed thereon, of the jaws, the spring for closing the jaws, and a trigger having depending arms provided with openings which fit over the pivots of the base plate or bar, substantially as set forth.

No. 34,311. Composition of Matter for Lubricating Surfaces. (Composition de matières pour graisser les surfaces.)

Philip H. Holmes, Gardiner, Me., U.S., 12th May, 1890; 5 years.

Claim.—1st. The herein described composition of matter, consisting of plumbago combined with wood fibre, in substantially the proportion specified, to form one homogeneous mass, substantially as set forth. 2nd. The herein described composition of matter, consisting of plumbago, wood fibre and sulphuric acid, substantially as set forth. 3rd. The herein described composition of matter, consisting of plumbago combined with wood fibre, sulphuric acid and sizing, substantially as set forth.

No. 34,312. Abdominal Supporter and Breast Bandage. (Suspendoir de l'abdomen et des mamelles.)

Ida M. Ferris and Samuel H. Woods, Osage, Kan., U.S., 12th May, 1890; 5 years.

Claim.—1st. In a bandage, the combination of the front and rear parts H I, the hip pads J, the elastic bands J², connecting the hip pads, and the straps and buckles K L connecting the hip pads to the front and rear pads H I, substantially as herein shown and described. 2nd. In a breast bandage, the combination of the two parts A A¹, straps and buckles *a a¹*, uniting the parts A A¹ at the back, straps and buckles *b b¹* uniting the parts A A¹ at the front, shoulder straps B secured to the parts A, elliptical rubber strips C, having openings C¹ for the nipples, circular pieces or covers D secured to the outer side of the breast bandage, and liquid absorbing material C² on the inner sides of the covers D, all substantially as herein shown and described. 3rd. The combination, with a breast bandage, of an abdominal and back pad, straps for connecting said pad, the keeper straps E for the bandage and pads aforesaid, and a belt engaged in the keepers of the straps E, substantially as described and shown.

No. 34,313. Method of Chlorinating Gold Ores. (Mode de chlorer les minerais aurifères.)

James H. Pollock, Glasgow, Scotland, 12th May, 1890; 5 years.

Claim.—1st. The process of extracting gold from ores, which consists in placing such ores in a vessel, with bi-sulphate of soda or any of the substances known as acid sulphates of sodium or potassium, and a substance capable of yielding chlorine, such as bleaching powder, substantially as and for the purposes set forth. 2nd. The process of extracting gold from ores, which consists in placing such ores together with chlorine generating agents in a closed vessel, and forcing water under pressure into the said vessel, substantially as and for the purposes set forth. 3rd. The process of extracting gold from ores, which consists in confining such ore with chlorine or chlorine generating agents in a vessel, forcing water into the said vessel and expelling the air, closing the said vessel and continuing to force water under pressure thereinto, in other words continuing the steady application of hydraulic pressure to the said vessel throughout the operation, substantially as and for the purposes set forth.

No. 34,314. Automatic Extinguisher for Oil Lamps. (Eteignoir automatique pour les lampes à huile.)

James Stark, London, Eng., 13th May, 1890; 5 years.

Claim.—1st. An automatic extinguisher for oil lamps, situated between the upper part of the wick tube and the dome or cap of the burner, the said extinguisher, comprising in its construction a hood, composed of hinged perforated flaps surrounding the wick tube, and equilibrated in such a manner that in the vertical position of the lamp the hood is open, but that it closes, by the pivotal motion of the flaps, when the lamp is suddenly tilted, substantially as described. 2nd. In a flat wick oil lamp provided with a dome or burner cap, an automatic extinguisher consisting of a pair of perforated hinged flaps A, surrounding the wick tube and provided with feet *a* resting on the floor *d* of the wick chamber, the whole being constructed and adapted to operate substantially as described.

No. 34,315. Process for the Production of Pure Double Chlorides of Aluminium. (Procédé de production des doubles chlorures purs d'aluminium.)

Hamilton Y. Castner, London, Eng., 13th May, 1890; 5 years.

Claim.—The hereinbefore described process of purifying anhydrous chlorides of aluminium, which consists in melting said chlor-

ides with a suitable quantity of a metal, as aluminium or sodium, adapted to reduce the contained iron to a metallic state and then separating it, substantially as described.

No. 34,316. Remedy for the Cure of Corns and Bunions on Men, and Curves, Corns and Strains on Horses. (*Remède pour guérir les cors et les oignons pour les hommes, et les courbes, cors et écors des chevaux.*)

Amable Robidoux, Roxton, Que., 13th May, 1890; 5 years.

Claim.—Un composé d'urine humaine, sel a manger (gros sel) couperose et du whiskey camphré (alcool camphré), substantiellement dans les proportions et pour les fins établies ci-haut.

No. 34,317. Sewer Trap. (*Trappe d'égout.*)

Albert C. Bowerman, Bloomfield, Ont., 13th May, 1890; 5 years.

Claim.—In a sewer trap, the combination of a short conical cylinder A, having inlet A¹ and outlet A², a conical plug B fitting said cylinder, to turn therein snugly, and having the passages b¹, b¹¹ and b², forming in its normal position continuations of the inlet and outlet respectively, a loop C, forming a continuation with said passages in the plug, and provided with a screw cap C', and a set screw b¹, holding said plug centrally to the cylinder, substantially as set forth.

No. 34,318. Fastening for Storm Windows.

(*Fermeture pour les doubles-croisées.*)

Charles R. Moore and John A. Lorimer, Newport, Vt., U.S., 13th May, 1890; 5 years.

Claim.—1st. In a storm window fastening, the combination of the fastener B and the friction spring located in the back or bottom of the bed-piece, operating together substantially as described. 2nd. In a storm window fastening, the combination of the fastener B, movable on screws b, b, operating in slots c, c, and the friction spring located in the back or bottom of the bed-piece, substantially as described. 3rd. In a storm window fastener, the bed piece i, recessed on its under surface and carrying the beveled hook h, in combination with the friction spring arranged in the back or bottom of the bed piece, stud g and screws b, b, substantially as and for the purposes described. 4th. In a storm window fastening, the bed-piece i, beveled hook h, slots c and screws b, b, in combination with the stud g, substantially as described. 5th. A storm window fastening, having a gravity catch, and a friction spring arranged to hold the catch normally in a given position, substantially as described. 6th. In a storm window fastening, the movable part B carrying in a recess thereof the frictional spring f, and held against the action of gravity thereby in position for applying and removing the storm window, substantially as described. 7th. The adjustable storm window fastener consisting, essentially, of the movable part B, frictional spring located in the back or bottom of the bed piece, and the headed or flanged screws b, b, substantially as described. 8th. In a storm window fastener, the combination of the movable part B and the headed or flanged screws b, b, held in frictional contact by the spring f, substantially as described. 9th. In a storm window fastening, the bed-piece i, beveled hook h, thumb rest k, slots c and screws b, b, in combination with stud g, substantially as and for the purposes described.

No. 34,319. Ironing Table.

(*Table à repasser.*)

Jason A. Kimball, Grand Ledge, and Warren E. Ludwig, Lunfield, Mich., U.S., 13th May, 1890; 5 years.

Claim.—1st. The combination, with an ironing board, a main inclined standard pivoted to one end of the board, and an upright standard, of a brace pivoted to the under side of the opposite end of the board to allow its free end a vertical movement, said brace being adapted to rest on the inclined standard and removably hold the free end of the board in position, and a cord or rope to limit the movement of the brace, substantially as described. 2nd. The combination of an ironing board, a main inclined standard hinged to the board, an upright short standard hinged to the main standard, a brace to support the free end of the board provided with a string or cord to limit its downward movement, a cross piece of the upright standard provided with a pin, and a horizontal brace hinged to a cross piece of the main standard, and provided at its free end with an aperture to receive said pin, substantially as described. 3rd. In an ironing board, the combination of a main inclined standard pivoted to the board, an upright standard pivoted to the inclined standard, a brace hinged to the board and limited in its play by a cord attached to its free end, and a notch or depression in said inclined standard, within which the outer end of said brace rests, substantially as described.

No. 34,320. Heating System.

(*Système de chauffage.*)

The Consolidated Car Heating Company (assignee of James F. McElroy), Albany, N.Y., U.S., 13th May, 1890; 5 years.

Claim.—1st. In a heating system, a radiator composed of sections connected by couplings, the couplings having a dam or partition provided with an aperture near the top, and of steam distributing pipes extending part ways between the couplings, substantially as described. 2nd. In a heating system, a radiator consisting of sections of pipe connected by couplings, being provided with a T-shaped partition, having a screw-threaded aperture near the top, of steam distributing pipes secured in said apertures and the space Q between, substantially as described.

No. 34,321. Metal Can. (*Boîte métallique.*)

Max Ams, New York, N.Y., U.S., 13th May, 1890; 5 years.

Claim.—1st. The combination of a can body, having overlapping upright ends with a strip placed between such ends, and projecting outwardly from the same, the ends being soldered to each other and to the strip, substantially as specified. 2nd. The combination of a can body having overlapping upright ends, with a strip c placed between such ends and projecting partly outwardly and partly inwardly from the same, the ends being soldered to each other and to the strip, substantially as specified. 3rd. The combination of a can body having overlapping ends, with cover b, having flange b¹, that is received by the can body and with a strip c placed between the overlapping ends, the strip c, being soldered to flange b¹, and to the overlapping ends of the can body, substantially as specified. 4th. The combination of can body a, having offset a¹ and indented line d, with the cover b having flange b¹, and with the strip c secured partly to the can body and partly to flange b¹, substantially as specified.

No. 34,322. Arrangement of Valves for Steam Engines. (*Disposition des soupapes de machines à vapeur.*)

Julius E. Waterous, Brantford, Ont., 13th May, 1890; 5 years.

Claim.—1st. The combination of the piston valves F, F, used as cut-off valves, placed in one steam chest C, C, immediately above and connected to the steam chests E, E, of the exhaust valves G, G, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of two piston valves F, F, placed in one common steam chest C, C, and worked by one valve spindle h, each having two or more openings or steam passages D, D, directly over and leading into the lower steam chests E, E, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of two piston valves F, F, placed in one steam chest C, C, and operated by one valve spindle h, each having two ports or steam passages D, D, arranged to exactly correspond with those of the valve seats or bushings a, a, as shown, substantially as and for the purpose hereinbefore set forth. 4th. The combination of two piston valves, placed on one spindle in one steam chest, and connected together in the centre by an adjustable nut e, fitted with a right and left hand screw, so that the distance between the ports D, D, may be extended or contracted, as may be required to secure the proper lead and lap of the valves, when they are used as cut-off valves, substantially as and for the purpose hereinbefore set forth.

No. 34,323. Hay Car. (*Char à foin.*)

William Mathieson, St. Mary, Ont., 13th May, 1890; 5 years.

Claim.—1st. In a hay car, a device for operating the lock of stop block, and, simultaneously, the catch or lock of draw-rope, consisting of bunter A, arranged and operating substantially as shown and specified. 2nd. In combination with a hay car, the catch or lock G, having collar F attached to bunter A, for controlling the draw-rope H, substantially as shown and specified.

No. 34,324. Horse Detacher.

(*Dételage instantané.*)

John Stoneham, New York, N.Y., U.S., 13th May, 1890; 5 years.

Claim.—1st. The combination of jaws a, a¹, with a slotted hand lever b and with link c, said link being pivoted to the jaw a¹, and to the hand lever within the slot, substantially as specified. 2nd. The combination of jaws a, a¹, with lever b, slotted at b², and with link c pivoted to the lever, and to jaw a¹, the rear end of jaw a¹ and the link c being adapted to be received by slot b², substantially as specified. 3rd. The combination of jaws a, a¹, with lever b, slotted at b², and with link c pivoted to the lever within said slot and to jaw a¹, and with spring d, substantially as specified.

No. 34,325. Coffee Pot. (*Cafetière.*)

John Smith, St. Stephen, N.B., 13th May, 1890; 5 years.

Claim.—A coffee pot, having a tubular rib E, fixed to the bottom, and a perforated infusing vessel F telescoping thereon, as set forth.

No. 34,326. Tablet for Telephone.

(*Calepin de téléphone.*)

John B. Morris, Cincinnati, Ohio, U.S., 13th May, 1890; 5 years.

Claim.—1st. A writing tablet A, having on its upper surface knife-bar B, located near its lower end, and the guide-bar D, located near its upper end, and the supplemental guide-bar D, located at the upper end of the tablet, in connection with a paper-roll suitably supported, substantially as and for the purposes specified. 2nd. A writing tablet, provided at its lower end with a guide-bar B, located over the paper and allowing the paper to be torn upward, and at its upper end having a guide-bar C, in combination with a paper roll suitably supported, and a brake consisting of the right-angled frame F, F², whose ends are pivoted in the sides of the frame E, and whose cross-bar F² rests upon the roller H, and a spring for pressing said brake-rod F² against the said roller, substantially as and for the purposes specified. 3rd. A writing tablet, provided at its lower end with a guide-bar B, located over the paper, and at its upper end having a guide-bar C, in combination with a paper roll suitably supported, and a brake consisting of the right-angled frame F, F², whose ends are pivoted in the sides of the frame E, and whose cross-bar F² rests upon the roller H, and a spring G, bent around the pivot F², one end of said spring pressing on the said frame F, F², and the other bearing against the tablet, substantially as and for the purposes specified. 4th. In a writing tablet, having hangers E, E, provided with journal bearings E¹, E¹, and entrance E² thereto, and roller H, provided with journals H¹, of smaller diameter than the roller, the paper being mounted upon said roller H, and suitable

brake, as F², the writing tablet provided at its upper surface with the guide-bar C and the knife-bar B, and the supplemental guide-bar D, located at the upper end of the tablet, the upper end of the tablet being rounded, substantially as and for the purposes specified. 5th. A writing tablet A, having on its upper surface the knife-bar B and guide-bar C, and the supplemental guide-bar D, located at the upper end of the tablet, and the brackets K, K, hangers E, E, roller H, supported therein, and brake F², substantially as and for the purposes specified. 6th. A writing tablet, provided with extension end pieces A', A', projecting beyond the rounded end intermediate between them, and the supplemental guide-bar D, extending over the said rounded end of the tablet at a slight distance therefrom and secured to said extensions, and guide-bar C on the top of the tablet and near its upper end, and the bar B on the tablet near its lower end, and supports for the paper roll, substantially as and for the purposes specified.

No. 34,327. Bouquet Holder.

(*Porte-bouquet.*)

Frank A. Moore and Frank Schreyer, Logansport, Ind., U. S., 13th May, 1890; 5 years.

Claim.—1st. In a bouquet holder, the combination of the plate, provided at its upper edge with the flange 2, having the curved recess 3, the clamping plate provided at its upper end with the curved arms 6, and the spring pin, substantially as described. 2nd. In a bouquet holder, the combination of the plate, provided at its upper edge with the flange 2, having the curved recess 3, the disk 4, the T-shaped clamping plate secured to the disk and having its arms 6 curved, the spring pin coiled around the disk, and having its arms 8 extending along the sides of the plate, and having its ends projecting through perforations of the plate and arranged at an angle thereto, and the L-shaped plates secured to the arms of the spring pin and having their ends extending beyond the sides of the plate, substantially as described. 3rd. In a bouquet holder, the lock plate 1, the spring pin attaching the holder to the wearer, having its arms 8 extending along the sides of the back plate and its ends projecting through perforations of the plate, and the clamping plates 6, for the bouquet, having the curved arms 6, bearing on the arms of the spring pin, substantially as described.

No. 34,328. Lumber Drier. (*Etuve à bois.*)

Horace J. Morton and Roderick B. Andrews, Chicago, Ill., U. S., 13th May, 1890; 5 years.

Claim.—1st. In a lumber drier, the combination, with a drying chamber, of outside metal walls B, which serve the purpose of condensing surfaces, inner walls and air-passages communicating between the drying chamber and the space between the outer and inner walls, substantially as specified. 2nd. In a lumber drier, the combination, with a drying chamber, having outside metal walls B, which serve as condensing surfaces, of the double inner walls C, which do not extend to the top of the drying chamber, said outside walls B and double inner walls C forming air-passages between said inner and outer walls, and above said inner walls, substantially as shown and described.

No. 34,329. Ash Sifter. (*Crible à cendres.*)

John Hanley, Minneapolis, Minn., U. S., 13th May, 1890; 5 years.

Claim.—1st. In a device of the class described, the combination of the receptacle case 7, having a cylindrical body, and the funnel shaped bottom 9, adapted to fit into a suitable receptacle, the cylindrical rotatable sieve 3 having the crank 5, and supported on the rollers 6, and the lid 10 adapted to close the open ends of the case and of the sieve, substantially as described. 2nd. The combination of a suitable metallic case, adapted to be adjustably fitted into a metallic ash receptacle, and having suitable rolls turning in suitable bearings on the inner surface, and a suitable cylindrical sieve journaled in one end of said case, and supported on said rolls, combined and adapted to be operated substantially as described.

No. 34,330. Sifter Shovel.

(*Pelle-crible.*)

Edward Fleming, New York, N. Y., U. S., 14th May, 1890; 5 years.

Claim.—1st. The combination, with a shovel having an open-work or perforated bottom, of a receptacle for dust and ashes, the said receptacle being detachably held to the shovel, substantially as described. 2nd. The herein described combined implement, comprising a shovel having a perforated or open work bottom, and an ash receptacle detachably held to said shovel, both the shovel and ash receptacle tapering toward the front, enabling them when connected to be used as a shovel, substantially as described. 3rd. The herein described combined implement, comprising a shovel having a perforated or open work bottom and upwardly extending sides or flanges, and a receptacle for dust and ashes, detachably held to said shovel, substantially as described. 4th. The herein described combined implement, comprising a shovel having a suitable handle, and a perforated or open work bottom inclined with respect to the handle, and a receptacle for dust and ashes having an open top and inclined sides adapted to the incline of the shovel bottom, substantially as described. 5th. The combination, with a shovel having a perforated bottom, of an ash receptacle below said bottom, and formed with a perforated front end, substantially as described.

No. 34,331. Stop Cock. (*Robinet.*)

The Consolidated Car Heating Co., Wheeling, W. V., (assignee of James F. McElroy, Albany, N. Y.), U. S., 14th May, 1890; 5 years.

Claim.—1st. In combination with a plug cock, having a stuffing box gland, of a dial plate formed integral therewith, and provided with an index scale, and of an index finger H secured in the plug,

whereby the degree of opening may be indicated, substantially as and for the purpose described. 2nd. In a plug cock, having a stuffing box gland, of a dial plate cast integral therewith, and provided with the stops *f* and *f'*, the index scale G, having the blank portion *h*, of indicating bars *g* and *g'*, and an index finger secured in the plug, whereby the degree of opening of the cock may be indicated to the operator, substantially as described.

No. 34,332. Baby Cradle. (*Berceau*)

Frederick Leas and Thomas G. Mathers, Winnipeg, Man., 14th May, 1890; 5 years.

Claim.—1st. The combination of the mechanism in box 4, and its application by means of pitman shaft 26 to the rocking of a cradle. 2nd. The perforated vertical bars 10 and the regulating weights 11, and their combination with the swinging body of the cradle for the purposes of regulating its motion, and reducing the power necessary to rock the cradle.

No. 34,333. Churn. (*Barutte.*)

Charles A. Japhet, Cameron, Mo., U. S., 14th May, 1890; 5 years.

Claim.—In a churn, the herein described dasher, consisting of opposite rods connected at their upper ends and bent to form bearing shoulders, and having a flat dasher frame, consisting of opposite side bars longitudinally bored to receive the rods, upper and lower connecting bars, and a series of intermediate connecting blades triangular in cross section, and arranged with their bases at a right angle to the faces of the side bars, so that the apex of one blade will be just below the longitudinal center of the base of the blade above, substantially as specified.

No. 34,334. Metallic Tube.

(*Tube métallique.*)

Charles L. Betts, New York, N. Y., U. S., 14th May, 1890; 5 years.

Claim.—1st. A sheet metal tube, having one of its longitudinal edges provided with longitudinal slits, and the other edge with undercut lips, adapted to be hooked into the slits by a longitudinal movement of one edge of the blank, with reference to the other, substantially as set forth. 2nd. A sheet metal tube, having one of its longitudinal edges provided with longitudinal slits, and the other with undercut lips, having inclined backs, substantially as set forth. 3rd. A sheet metal tube, having its longitudinal edges provided with interlocking slits and lips, and having openings in its cylindrical wall, and projecting lips on opposite sides of said openings, substantially as set forth.

No. 34,335. Car Truck. (*Châssis de char.*)

James H. Elliott, Montreal, Que., 14th May, 1890; 5 years.

Claim.—1st. The combination, with the platform and pivoted truck of the slotted casting on the truck, and the fixed pin engaging the slot of the casting, as set forth. 2nd. The combination, with the platform and pivoted truck of the casting D on the truck, formed with a transverse slot tapering in two directions from its center, either end of which is curved, and the fixed pin on the platform working in said slot, as set forth. 3rd. The combination, with the platform and pivoted truck of the casting D, secured to one end of the truck, and formed with a transverse slot, the outer wall of which is on the arc of a circle, and the vertical fixed pin on the platform engaging said slot, and having an enlarged head, substantially as shown and described. 4th. The combination, with the platform and pivoted truck of a casting secured to one end of the truck, and having a transverse slot, a fixed pin on the platform engaging said slot, and the U-shaped pieces G on the platform, and loosely embracing the longitudinal timbers of the other end of the truck, substantially as shown and described.

No. 34,336. Door Spring. (*Ressort de porte.*)

John H. Williams, Waterloo, Iowa, U. S., 14th May, 1890; 5 years.

Claim.—In a door closer, the combination, of a bracket, having a bearing therein, a drum carrying frame swiveled in the bracket, a drum mounted in the frame, a ribbon cord or the like, wound upon the drum, and a spring attached to the drum and frame, all substantially as set forth.

No. 34,337. Burglar Proof Door Lock for Inside of Rooms. (*Serrure de porte à l'épreuve des voleurs pour l'intérieur des chambres.*)

John C. Barolay, Jacquet River, N. B., 14th May, 1890; 5 years.

Claim.—The combination of the toothed plate A with the bolt C, substantially as and for the purpose hereinbefore set forth.

No. 34,338. Holder for Brooms, etc.

(*Porte-balai, etc.*)

Albert A. Griffin, Roscommon, Mich., U. S., 14th May, 1890; 5 years.

Claim.—1st. In a holder for brooms, etc., the combination of guides between which a handle is adapted to be inserted, of a spherical friction body in one or both of said guides, and having an inclined bearing for the spherical body, substantially as described. 2nd. In a holder for brooms, etc., the combination of two vertical guides, inclined inward toward each other at the bottom, of spherical bodies in said guides, substantially as described. 3rd. In a holder for brooms, etc., the combination of two vertical tubular guides inclined towards each other at the bottom, and cut away on their inner

sides, and of spherical bodies in said guides, substantially as described. 4th. In a holder for brooms, etc., the combination of vertical guides inclined towards each other at the bottom, and cut away on their inner sides, of removable stops D in the top of said guides, and of spherical bodies in said guides, substantially as described. 5th. In a holder for brooms, etc., the combination of the bracket A, the vertically inclined guides C' having the cut away portion E, and open at the top provided with the stops D and the rib G, and of spherical bodies in the guides, the parts operating as and for the purpose described.

No. 34,339. Metallic Tube. (*Tube métallique.*)

Charles F. Erb, New York, N.Y., U.S., 14th May, 1890; 5 years.

Claim.—1st. An elbow tube, having diagonal side seams at the elbow, substantially as set forth. 2nd. An elbow tube, constructed with a flat back, and having the diagonal edges of its side portions interlocked with each other, substantially as set forth. 3rd. An elbow tube, having a continuous flat back, and having the edges of its side portions connected by diagonal seams, substantially as set forth.

No. 34,340. Earth Auger. (*Sonde à trépan.*)

George Burroughs, Fallowfield, Ont., 16th May, 1890; 5 years.

Claim.—1st. In an earth auger, the combination of a cylinder, ridges projecting from its internal surface one or more continuous rings or blades, rising from the lowest point to near the upper edge of the cylinder, at a regular rate or pitch like a screw thread, and the portion of said cylinder just below said blade or blades being cut away in a line with the bottom of said blade, substantially as set forth. 2nd. In an earth auger, the combination of the shell B secured to the auger shaft, the shaft D connected to said shell by the arm C, the false bottom E adjustably secured within said shell B, and the cutters F for enlarging the bore hole, substantially as set forth. 3rd. In an earth auger, the combination of the shell B carrying, connected by arms to an auger shaft, the tamper weight G suspended from a cord or the like in said cylinder, and adapted to consolidate said or similar material contained therein, substantially as set forth. 4th. In an earth auger, the combination of a head A or A', having one or more continuous blades a formed upon its interior screw thread fashion, the shell B secured within the upper edge of said head, substantially as set forth. 5th. An auger head consisting of a cylinder A, having formed upon its internal surface 2 blades or ridges rising from the lowest point or cutting edge, continuously at a regular rate or pitch like a screw thread to near the upper edge of said cylinder, substantially as set forth.

No. 34,341. Ocean Signal Station.

(*Station de signaux en mer.*)

Isaac Paine, (administrator of the estate of Alvin F. Paine,) South Wellfleet, Mass., U.S., 16th May, 1890; 5 years.

Claim.—1st. The herein described manner of anchoring light ships or signal stations at sea, consisting of a hollow float or buoy anchored to the sea bottom, and having journaled to a cylindrical stem thereon, a ring connected by means of a chain or cable to the light ship, substantially as and for the purpose set forth. 2nd. A float or buoy, having secured to it a hollow stem or tube anchored to the sea bottom, as described, and having loosely journaled on it, a ring connected to the light ship or signal station, combined with a telegraph wire or cable passing through said hollow tube, and establishing an electrical connection between the light ship or signal station and the shore, or between similarly arranged light ships or signal stations, substantially as and for the purpose set forth.

No. 34,342. Draught for Steam Engine Fire Places. (*Tirage des foyers des machines à vapeur.*)

Jean B. Jarest and Arthur Chagnon, St. Hyacinthe, Qué., 16th May, 1890; 5 years.

Résumé.—1er. La combinaison, dans une grille de bouilloire à vapeur, d'un tuyau B muni d'un robinet sphérique (globe), un tuyau conducteur de la au robinet C, au front de la bouilloire, pour les fins et tel que décrit. 2ème. Dans une grille à bouilloire à vapeur, une main D, de tuyaux perforés en dessus contenant autant de doigts H, qu'il y a d'espaces entre les grilles, et ayant un tuyau de connection avec le robinet C, le tout tel que décrit pour les fins mentionnées.

No. 34,343. Fastener for the Meeting Rails of Sashes. (*Fermeture de croisée.*)

Jerome D. Ferree, Ottumwa, Iowa, U.S., 17th May, 1890; 5 years.

Claim.—The combination, with the upper and lower window sashes, the former provided with sockets E, of a sliding flat bolt D, extending across the lower sash, and supported immediately above the window casing, and adapted to be pushed into engagement with said sockets, and to be withdrawn to give freedom to the lower sash, substantially as set forth.

No. 34,344. Child's Tray. (*Table d'enfant.*)

Charles L. Wagandt, Baltimore, Md., U.S., 19th May, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a child's tray recessed upon its front side as described, and having upon each side of such recess the forward projections A', the inner sides of which extend at substantially right angles to the table, and are adapted to fit the sides of the child and hold its body from sidewise movement, substantially as set forth. 2nd. As an improved article of manufacture, a child's tray recessed upon its front side as described, and

having upon each side of such recess the forward projections A', the inner sides of which are situated at and are adapted to fit the sides of the child's body, and hold it from lateral movement, the tray being provided around said recess with the protector or apron a' extending upward above the rim of the tray, and deflect into the tray spilled protect the clothing of the child, and deflect into the tray spilled articles of food, substantially as set forth. 3rd. As an improved article of manufacture, the child's table tray A substantially as herein described, combined with the perforated removable bottom D. 4th. As an improved article of manufacture, the child's table tray A, substantially as herein described, combined with the perforated removable bottom D and the catches d', substantially as set forth.

No. 34,345. Stock Memoranda Tablet.

(*Carnet de courtier.*)

Joseph Dick, New York, N.Y., U.S., 20th May, 1890; 5 years.

Claim.—1st. A tablet divided into columns, said columns having a series of slide ways produced therein, and provided with slides movable in said slide ways, substantially as shown and described. 2nd. As an improved article of manufacture, a tablet divided into columns, each of said columns having a series of transverse slide ways, and provided with a series of indicating or cover slides capable of being moved in said slide ways from one column to another, as and for the purpose specified. 3rd. In a stock tablet, the combination, with a body portion divided into a series of columns, said columns having slide ways produced therein, which slide ways disclose the names of various articles of stock, of indicating or cover slides held to move laterally in said slide ways, substantially as shown and described and for the purpose specified.

No. 34,346. Ventilating Halls, Rooms, etc.

(*Ventilation des corridors, chambres, etc.*)

David G. Hoey, Glasgow, Scotland, 20th May, 1890; 5 years.

Claim.—The combination, in a system of ventilation, of atmospheric air inlets A, in the walls of a building, connecting with dado spaces within the apartment, a hollow vertical shaft or duct J, from below the ceiling to the outer atmosphere above the roof, and gas jets L, to induce an upward current in said shaft J, as set forth.

No. 34,347. Churn. (*Baratte.*)

John H. Simpson, Mono Centre, Ont., 20th May, 1890; 5 years.

Claim.—1st. A series of triangularly shaped blades A, fixed to and radiating from a horizontal shaft B, journaled within the box C, substantially as and for the purpose specified. 2nd. A series of triangularly shaped blades A, fixed to and radiating from the horizontal shaft B, journaled within the box C, the corners of the bottom of the box being filled by strips D, in combination with a detachable block E, and spur gearing F, and G, substantially as and for the purpose specified. 3rd. A churn box C, provided with the lid J, having a bevelled face to correspond with the bevelled top of the box C, in combination with hinges K connected to the lid J, at a point above the said lid, substantially as and for the purpose specified. 4th. A churn C, provided with a lid J, having a bevelled face to correspond with the bevelled top of the box C, in combination with cross strips L, projecting behind the hinges K, which are detachably pivoted on pins projecting from the strips L, above and within the back edge of the lid J, substantially as and for the purpose specified.

No. 34,348. Car Brake. (*Frein de char.*)

William Brunquest, Menominee, Mich., U.S., 20th May, 1890; 5 years.

Claim.—1st. The combination, with a car axle, of eccentric faced rollers arranged in connection therewith, and a means for turning said rollers, substantially as described. 2nd. The combination, with a car axle, of eccentric faced rollers arranged in connection therewith, a chain or belt arranged in connection with said rollers, an operating chain leading from the roller chain, and a brake staff to which the operating chain is connected. 3rd. The combination, with the axle of a car of eccentric faced rollers arranged in connection therewith, chains 13, arranged in connection with the rollers chains 14 and 16, connected to the chains 13, and brake staffs to which the chains 14 and 16 are connected.

No. 34,349. Organ Action. (*Jeux d'orgues.*)

Roman Callender, St. Thomas, Ont., 20th May, 1890; 5 years.

Claim.—1st. A series of stops, independently connected to the organ by mechanism, so arranged, that various musical combinations may be set without interfering with the operation of the ordinary stops of the organ, in combination may be simultaneously brought the stops forming the combination without any effect or break in the continuity of the music, substantially as and for the purpose specified. 2nd. Two or more series of stops, independently connected to the organ by mechanism, so arranged that each series of stops may be set for a different musical combination, without interfering with the operation of the ordinary stops of the organ, in combination with mechanism, by which the performer can instantly change the action from one combination to another, without any effort or break in the continuity of the music, substantially as and for the purpose specified. 3rd. A series of stops, independently connected to the organ, by mechanism so arranged that various musical combinations may be set, without interfering with the operation of the ordinary stops of the organ, in combination with mechanism, by which the stops forming the combinations may be instantly brought into action, and the ordinary organ stop which may at the time be set, simultaneously dampened so that they will not interfere with each other, or break the continu-

ity of the music, substantially as and for the purpose specified. 4th. One or more series of stops, independently connected to the notes by mechanism, so arranged that each series of stops may be set for a different combination, in combination with mechanism, by which the full power of the organ may be instantaneously secured by the simple movement of a single stop, without interfering with the setting of the combinations, substantially as and for the purpose specified. 5th. A single stop, connected by suitable mechanism to two or more notes, so that the adjustment of the said single stop shall bring into action any predetermined combination, substantially as and for the purpose specified. 6th. One or more series of stops, independently connected to the notes by mechanism, so arranged that each series of stops may be set for a different musical combination, and one or more solo stops independently connected to the notes, in combination with a damping action, so arranged, that any solo stop if drawn can only speak so long as the grand organ knee movement is not used, the knee movement, by which the combinations are brought into action, being arranged to simultaneously operate the damping action, so as to close all the stops not connected with the combination, substantially as and for the purpose specified. 7th. A divided swell shutter, so arranged, that each half of the shutter shall be completely under the control of a single knee swell, in combination with stops, by which the connection between the single knee swell and each half of the shutter may be instantly made or broken, in order that the bass swell or the treble swell may be brought into connection, independently or simultaneously with each other, and with the single knee swell, substantially as and for the purpose specified. 8th. A series of slides F, independently connected to their respective notes or mechanical movements, in combination with mechanism, by which the said slides may be independently or collectively operated upon, substantially as and for the purpose specified. 9th. A series of slides T, independently connected to their respective notes or mechanical movements, in combination with mechanism, by which each slide is independently connected to its respective draw stop, substantially as and for the purpose specified. 10th. A block N, supported above the slide T, by the pivoted frame U, and connected by suitable mechanism to the knee push A, in combination with the plungers V suspended within the block N, by mechanism connected to the stops X, so that one or more slides may be connected to the block N, for the purpose of bringing it within the control of the knee push, substantially as and for the purpose specified. 11th. A crank rod, arranged in connection with the slide T, and operated by a block pivoted on a draw stop, in combination with mechanism, arranged to elevate the block clear of the rod, substantially as and for the purpose specified.

No. 34,350. Washing Machine.

(Machine à blanchir.)

Adam Bowman, Hamilton, Ont., 20th May, 1890; 5 years.

Claim—1st. In a washing machine, the body A, formed of sheet metal larger at the top than the bottom, and constructed with a series of horizontal tubes in the roof of said body, and made to pass out to the exterior of the sides, by which the air pressure is regulated, substantially as and for the purpose specified. 2nd. In a washing machine, the combination of the body A, tubes C, wires *d*, rods B and handle *e*, all constructed substantially as and for the purpose specified.

No. 34,351. Tire Setter. (Diablo de forge.)

Sidney W. Smith, Toronto, Ont., 20th May, 1890; 5 years.

Claim—1st. In a tire setter, the combination of the lever F, sleeve E, cams D, lifting jaws *c*, divided clamp composed of two sections A', spindles *a* and shoe B, substantially as and for the purpose set forth. 2nd. In a tire setter, the combination of a clamp, channelled to fit the shape of the spoke with suitable raising cams and lifting jaws, substantially as and for the purpose set forth. 3rd. In a tire setter, the combination of a clamp, channelled to fit the shape of the spoke, and provided with rounded pins or spindles extending outwards, which forms the bearing for the cams and lifting jaws, with suitable raising cams, and lifting jaws and lever arm, substantially as and for the purpose set forth.

No. 34,352. Process of and Machine for Rolling Seamless Tubes and other Tubular Articles from Hollow Ingots. (Procédé et machine de laminage des tubes sans soudures et autres objets tubulaires au moyen de lingots creux.)

Charles Kellogg, Findlay, Ohio, U.S., 20th May, 1890; 5 years.

Claim—1st. In an organized machine, for rolling seamless tubes and similar articles, the combination with the rolls of said machine, of a tapering or conical mandrel projected between said rolls and supports therefor, that grasp the mandrel at several points, and are operated separately to grasp and hold or release the mandrel, in order that an ingot may be passed to and through the rolls without displacing the mandrel, or interrupting the rolling operation, substantially as described. 2nd. The combination with a series of pairs of positively driven rolls, arranged for progressively rolling an ingot into a tube, or similar article of a stationary tapering or conical mandrel, projected between said rolls, suitable supports by which the mandrel is held horizontally and prevented from being drawn between the rolls, substantially as described. 3rd. In an organized machine, for producing seamless tubes and similar articles, from hollow ingots, the combination, with a series of pairs of rolls, provided with consecutively graduated grooves, of a mandrel projected between the said rolls, said mandrel having a straight or cylindrical portion outside of the rolls, and a tapered portion between the rolls, and suitable supports for the mandrel that grasp the cylindrical part of the mandrel, and hold and centre the mandrel in the grooves be-

tween the rolls, one of the supports being detachable from the mandrel, while the other continues to sustain and hold it, as and for the purpose substantially as described. 4th. The combination, with a mandrel of a rolling machine, of grips for grasping and supporting the same, a cylinder and piston for operating each of said grips, and suitable pipes and valves for conducting the operating agent to and away from said cylinder, and controlling its movements, substantially as described. 5th. A grip for grasping the mandrel, consisting of two levers pivoted together near their middles, and provided in their upper ends with recesses of the same shape as the mandrel, combined with a steam cylinder, a piston fitted to operate therein, suitable pipes and regulating devices for controlling the flow of steam or other actuating agent, to and from said cylinder, and connecting devices between the lower ends of the levers, composing the grips and the piston, substantially as described. 6th. The combination, with a hollow mandrel, and a grip for grasping the same, of devices carried by said grips for conducting the water to and away from the mandrel when said mandrel is grasped by the grip, and mechanism for cutting off the supply of water and preventing the escape of the same from said supply, or from the interior of the mandrel when the grip is released from the mandrel, substantially as described. 7th. The grip D, consisting of the two levers *f*, pivoted together near their centres, and provided in their upper ends with recesses *i*, *k*, and *l*, combined with the hollow mandrel C, provided with the orifices *5*, *8*, tubes *6*, *9*, pipes *3*, *7*, *11*, the valves *12*, *13*, *14*, springs for controlling valves *13*, *14*, and means for opening and closing the grips, substantially as described. 8th. The process, of manufacturing seamless metal tubes from hollow ingots herein described, the same consisting in reducing and elongating the heated ingot between a series of exterior rolls, moving with gradually increasing speed, with passes or cavities of gradually decreasing area, and an internal support consisting of a mandrel which tapers to correspond to the said cavities, or passes in the rolls, substantially as described.

No. 34,353. Device for Raising Sand from Water. (Appareil pour tirer le sable de l'eau.)

James L. Allison and Rodney G. Nash, Morrisburg, Ont., 20th May, 1890; 5 years.

Claim—1st. In a device for raising sand from water, the combination of a scow, an upright frame pivoted to suitable arms secured to said scow, a frame slidingly connected to the aforesaid pivoted frame, means of raising and lowering said sliding frame, a centrifugal pump secured to the lower end of said sliding frame and provided with delivery pipe, a shaft journalled near the ends of said sliding frame, and passing through and forming the axle of said pump, a belt pulley with sleeve feathered to said shaft and journalled to the hinged frame, a suction pipe with conical perforated end at the bottom of said pump, the axle of the pump extending into and through said suction pipe, and provided with screw and agitator, substantially as set forth. 2nd. In a device for raising sand from water, the combination of the scow A, arms B secured thereto, hinged frame C, carrying bracket C¹ and bearings *c*, the frame D slidingly connected with the frame C, and having racks D¹, the cross shaft E¹ journalled in the bearings *c*, and having pinions E¹ gearing in the racks D¹, and handwheels E, and the balance weight D², with rope or chain *d* and pulley C², substantially as set forth. 3rd. In a device for raising sand from water, the combination of a scow A, brackets B, a frame C hinged to said brackets, the frame D sliding in the frame C, means for controlling the elevation of the frame D and the tackle L for tilting said frames, substantially as set forth. 4th. In a device for raising sand from water, the combination of the frame D, having the brackets *d*², a centrifugal pump F secured to the lower end of said frame, a shaft G journalled to the brackets *d*², and forming the axle of said pump, substantially as set forth. 5th. In a device for raising sand from water, the combination of the frame C, having the brackets C¹, the frame D slidingly connected to said frame C, and having brackets *d*², the pump F secured to the lower end of said frame D, the shaft G journalled on the brackets *d*² and passing through said pump, and the pulley H, having sleeve *h*¹ journalled to the bracket C¹, and feathered to the shaft G by a key H¹, substantially as set forth. 6th. In a device for raising sand from water, the combination of a frame D, having brackets *d*², a pump F secured to the lower end of said frame, the delivery pipes F¹, F² connected to said pump, the shaft G journalled to the brackets *d*² and passing through said pump, the screw *g* and the agitator *g*¹ at the lower end of said shaft and the suction pipe I, having a conical perforated end, substantially as set forth.

No. 34,354. Clock for Advertising and other Purposes. (Horloge pour annoncer et autres fins.)

Frederick Redman, Oldford, Eng., 20th May, 1890; 5 years.

Claim—In clocks or watches connecting the escape or other wheel by means of an intermediary wheel or wheels, to a secondary dial, containing advertisements, thereby imparting a rotary motion, and displaying the advertisements through an opening or openings cut in the face of the clock or primary dial, substantially as set forth and for the purpose set forth.

No. 34,355. Device for Transmitting Motion. (Appareil de transmission du mouvement.)

Samuel J. Laughlin, Guelph, Ont., 21st May, 1890; 5 years.

Claim—1st. The combination of the lower frame A, having an adjustable tilting base M, and carrying the belt wheel B, the upper frame having its base K rotatively adjustable on top of said frame A, and provided with clamping bolts L and the pulley wheels D, D, having shafts H journalled in boxes *a*, a, adjustably secured to F of said upper frame, whereby said pulley wheels can be inclined to suit

the angle of transmission, as set forth. 2nd. The combination, with the lower frame A, of the revolving upper frame, having a base K, adjustable rotatory on top of said frame A, and having posts F, E, and pulley wheels D, D, mounted on shafts journaled in bearings adjustable in said slots, as set forth.

No. 34,356. Treadle for Foot Power Machine. (*Pédale pour les machines à pied.*)

Frank B. Johnson, Parkville, N. Y., U. S., 21st May, 1890; 5 years.

Claim.—1st. The combination of a treadle, and spring connections pivotally supporting the same from the frame of the machine, the springs being secured to the frame and to the treadle by fixed attachments at their one end, and by pivotal attachments at their other ends, whereby the contraction and expansion of the springs will give to the treadle combined vertical and horizontal movements, as and for the purpose set forth. 2nd. The combination of a treadle and supporting springs, the springs being pivotally secured at one of their ends to the treadle, while their opposite ends are fixed to the frame of the machine, whereby the contraction and expansion of the springs will give to the treadle combined vertical and horizontal movements, as and for the purpose set forth. 3rd. The combination of a treadle and supporting springs, the springs being secured to the frame of the machine and to the treadle, by fixed attachments at their one ends and by pivotal attachments at their other ends, the points of attachment between the treadle and the springs being out of a vertical plane through the axes of the springs, whereby the contraction and expansion of the springs will move the treadle horizontally, as and for the purpose set forth.

No. 34,357. Lock Gate and Dam. (*Porte déclose et barrage.*)

William L. Scaife, Allegheny, Penn., U. S., 21st May, 1890; 15 years.

Claim.—1st. In lock gates or dams, the combination, with a gate, having its axis at the base thereof, of a mechanical lift or motor acting to raise the gate, and prop mechanism acting to support the gate independently of the motor, substantially as and for the purposes set forth. 2nd. In lock gates or dams, the combination, with the gate, of a hydraulic jack provided with a ram or plunger, and a movable connecting rod fitting within, journaled at the base of and swinging within the plunger, substantially as and for the purposes set forth. 3rd. In lock gates or dams, the combination, with a gate having its axis at the base thereof, of a prop formed of a toggle, or two jointed arms connected to the gate and floor, and a mechanical lift or motor for raising the gate, substantially as and for the purposes set forth. 4th. In lock gates or dams, the combination, with the gate having its axis at the base thereof, of the support connected thereto, and the lever having its axis on the floor and engaging with said support, substantially as and for the purposes set forth. 5th. In lock gates or dams, the combination, with a gate having its axis at the base thereof, and a lever pivoted to the floor and engaging with said prop to support it, substantially as and for the purposes set forth. 6th. In lock gates or dams, the combination with the gate having its axis at the base thereof, the mechanical lift or motor having its connecting rod joined to the knee of the toggle, substantially as and for the purposes set forth. 7th. In lock gates or dams, the combination with arms connected to the gate and floor, the mechanical lift or motor having its connecting rod jointed to the knee of the toggle, and the latter having its axis on the sill and engaging with said toggle, substantially as and for the purposes set forth. 8th. In lock gates or dams, the combination with the gate, having its axis at the base thereof, of the support connected thereto, and the lever having its axis on the sill and provided with a hollowed or forked end to engage with the support, substantially as and for the purposes set forth. 9th. In lock gates or dams, the combination with the gate having its axis at the base thereof, of the supporting arms connected to the gate, and the sheaths secured to said arms and extending between two such arms, substantially as and for the purposes set forth. 10th. In lock gates or dams, the combination with the gate, of a hydraulic jack provided with a hollow ram or plunger, a connecting cover plate fitting within and journaled at the base of said plunger, and a plunger, substantially as and for the purposes set forth. 11th. In lock gates or dams, the combination with the gate, of a hydraulic jack within and resting in a pocket at the base thereof, a connecting rod fitting around said rod and sliding at the top of said plunger, and a collar on said connecting rod, under said cover plate, whereby the rod is held within the ram, substantially as and for the purposes set forth.

No. 34,358. Wire Rip-Rap and Jetty Work. (*Barrage et jetée en fil de fer.*)

William H. Harrelson, Kansas, Mo., U. S., 21st May, 1890; 5 years.

Claim.—1st. The improved rip-rap and jetty construction, consisting of a net-work of wires and a series of parallel timbers, to which said wires are connected by means of suitable fastening devices, the whole adapted to be anchored, substantially as herein set forth. 2. The improved rip-rap and jetty construction, substantially as hereinbefore set forth, consisting of a net-work of parallel and longitudinally extending anchor wires C, in combination with a series of cross timbers B, to which each of said series of wires is secured by suitable fastening devices, the ends of said wires being extended past the outer of said series of timbers, and adapted to be lashed to anchorage.

No. 34,359. House for Drying and Smoking Butchers' Products. (*Boucan pour les produits des abattoirs.*)

John H. Schaefer, Baltimore, Md., U. S., 21st May, 1890; 5 years.

Claim.—1st. A house for smoking meat and like articles of provision, having the smoke chamber E, with an opening f in its wall, the steam heater provided with an inlet pipe f and an outlet pipe g, a drawer in the said wall opening, a hood p secured by hinges over the drawer, so as to have a horizontal or vertical position, and a smoke pipe S, having its lower end open directly over the drawers. 2nd. A house for smoking meat and like articles of provision, having the smoke chamber E, means for holding the coals to produce the smoke, steam pipes arranged within the smoke chamber to produce heat, and an inlet pipe and an outlet pipe connected with the steam pipes.

No. 34,360. Turret Machine for Threading Bolts. (*Machine à tourelle pour fileter les boulons.*)

James A. Becher, Mishawaka, Ind., U. S., 21st May, 1890; 5 years.

Claim.—1st. In a screw cutting turret head, the combination of a turret post, with its upper and lower opening and closing turret jaws, and their cutting dies arranged around their peripheries, and mechanism for operating the said jaws, substantially as and for the purpose described. 2nd. In a screw cutting turret head, the combination of a turret post, with its upper and lower opening and closing turret jaws, and their corresponding pairs of dies adjustably secured around their peripheries, substantially as and for the purpose described. 3rd. In a screw cutting turret head, the combination of the receding and approaching turret jaws, mounted and moving freely on a suitable supporting post, with their corresponding pairs of cutting dies arranged around their peripheries, and having their cutting faces turned inwardly, substantially as and for the purpose described. 4th. In a screw cutting turret head, the combination of an upper receding and approaching turret jaw, with a similar lower turret jaw mounted and adapted to rotate on a suitable post, said upper and lower jaws having radial grooves formed on their inner surfaces coincident with radial centers of cutting dies, substantially as and for the purpose described. 5th. In a screw cutting turret head, the upper and the lower receding and approaching turret jaws mounted and adapted to rotate on a suitable post, said jaws having radial grooves formed on their inner surfaces, and arranged in opposite pairs to coincide with openings formed in turret post, in line of centers of cutting faces of dies, substantially as and for the purpose described. 6th. In a screw cutting turret head, the combination of an upper receding and approaching turret jaw and its guide pins, secured perpendicularly to its inner surface with a lower receding and approaching turret jaw, the latter being provided with guide holds formed therein to loosely receive said guide pins, substantially as and for the purpose described. 7th. In a screw cutting turret head, the combination of an upper receding and advancing turret jaw, and its guide pins secured perpendicularly to its inner surface, with a similar lower turret jaw, provided with guide holds, to freely receive said guide pins, said jaws arranged to be rotated simultaneously, substantially as and for the purpose described. 8th. In the screw cutting turret head, of the character described, the combination of an upper turret jaw and its cap secured thereto, and upper cross-head arranged to slide in guides formed in turret post, and having its projecting ends inserted into an annular groove formed between the surfaces of the said turret jaw and its cap, with a lower turret jaw cap and cross head of like construction, and toggle links connecting said cross heads for opening and closing said jaws, substantially as and for the purpose described. 9th. In the screw cutting turret head, the combination of an upper receding and advancing turret jaw, and a lower receding and advancing turret jaw with their expending springs contracting with inner surfaces of said jaws, substantially as and for the purpose described. 10th. In a screw cutting turret head, the combination, with turret posts, the turret jaws and their cross heads, of the character described, of interchangeable stop pins arranged to be inserted into stop holes formed in top turret cap and top cross head, substantially as and for the purpose described. 11th. In a screw cutting turret head, of a character described, the combination, with the post 1, fulcrum 22 carrying turret cap 3, and its upper disengaging jaw 2, having adjustable dies 5 arranged around its periphery, and adjusted by the screws 6 of the lower disengaging turret jaw 7, and its cap 11, said jaw 7, having adjustable dies 9 arranged around its periphery, and adjusted by screws 10, and means for opening and closing the jaws, substantially as and for the purpose set forth. 12th. In a screw cutting turret head, the combination, with the upper disengaging turret jaw 2 and its cap 3 mounted on post 1, and having the guide pin 8 secured thereto, and their spring 26 encircling said pins of the lower disengaging turret jaw 7 and its cap 11, said jaw provided with holes to loosely receive said guide pins, and limited in its motion by its cap 11 connecting with end of said guide pins, substantially as and for the purpose described. 13th. In a screw cutting turret head, the combination of the turret post and its upper and lower disengaging jaws, with the cross piece sliding in the slots 14, and having its ends jaws, with the cross piece 15, the links 18 hinged to bolt 16 by inserted in the annular groove 13, and on their upper ends to the handle 20 by the pin 21, and handle fulcrumed by the pin 23 to the fulcrum 22, sliding in notches 24 formed on the turret post 1, and having its ends inserted in grooves 23 formed on cap 11, all substantially as and for the purpose described.

No. 34,361. Construction of Wooden Bridges. (*Construction des ponts de bois.*)

Ferdinand Walter, Bamberg, Ont., 21st May, 1890; 5 years.

Claim.—1st. A bridge girder consisting of boards A, set edgewise horizontally and having on both sides oblique planking and strutting laid diagonally to one another, and secured by bolts passing

through all the layers, and flanges consisting of planks bound to the girder by bolts, as set forth. 2nd. A bridge girder, having a web A, plank sheeting or strutting B and C, united by bolts D, flanges E and F, secured to the web by bolts G, and suspension rods I, and caps J, as set forth. 3rd. A bridge consisting of girders composed as set forth, and cross beams H, suspended to the lower flange by bolts, suspension rods I, secured to caps J, and braces K, with or without the sheeting L, substantially as set forth.

No. 34,362. Dental Plate. (*Plaque dentaire.*)

John J. Stedman, La Porte, Ind., U.S., 21st May, 1890; 5 years.

Claim.—1st. The method of preparing partial dentures, having a metal base plate and retaining clasps thereon, which method consists in fitting the clasps to the teeth in the mouth, mounting the previously shaped base plate in position therein, taking an impression with said plate and clasps *in situ*, removing the impression with the base plate and clasps together, forming a counter model and transferring the clasps thereto in parting the mould, applying soft rubber between the clasps and metal base, and vulcanising as usual, substantially as described. 2nd. As a new article of manufacture, partial dentures comprising a metal base plate, metal retaining clasps and the intermediate uniting vulcanite, substantially as described.

No. 34,363. Attachment to Centrifugal and other Pumps. (*Appareil pour les pompes centrifuges et autres.*)

Herbert K. Lee and Charles L. Bossé, Montreal, Que., 21st May, 1890; 5 years.

Claim.—1st. An attachment to centrifugal and other pumps, composed of a screening agitator G, having two or more arms B, bent upwards to conform to a half circumference with their cutting edges, dipping slightly downwards forming a lip J, shaft D and bracket E, substantially as described and for the purposes set forth. 2nd. The combination of an attachment to centrifugal and other pumps, composed of a screening agitator G, shaft D and bracket E, with the suction pipe A, substantially as described and for the purposes set forth.

No. 34,364. Pottery Machine.

(*Machine de poterie.*)

Charles McDonagh, Toledo, Ohio, U.S., 21st May, 1890; 5 years.

Claim.—1st. In a pottery machine, the rotary mold having segmental grooves *g* and faces *h*, substantially as described. 2nd. In a pottery machine, the rotary mold having segmental grooves *g*, faces *h* and corrugations or grooves *j*, substantially as described. 3rd. In a pottery machine, the combination, with the rotary mold, of a spring bearing for the top of the pot, substantially as described. 4th. In a pottery machine, the combination of the grooved collar *a*, spring *e* and pins *b*, substantially as described. 5th. In a pottery machine, the combination of the segmental corrugated rotary mold *E*, carrying the movable collar *a* slidingly engaging upon the pins *b* and springs *e*, substantially as described. 6th. In a pottery machine, a detachable lining for the mold, substantially as described. 7th. In a pottery machine, having a revolving former mold and a vertically reciprocating mold of a detachable lining of said mold, substantially as described. 8th. In a pottery machine, a detachable lining for the mold, having apertures *j*, substantially as described. 9th. In a pottery machine, the mold *A*, having groove *m*, and the detachable lining for the mold, having apertures *j*, substantially as described.

No. 34,365. Belt Fastener. (*Agrafe de courroie.*)

James Snow, Cleveland, Ohio, U.S., 21st May, 1890; 5 years.

Claim.—In a belt fastener, a plate having one or more teeth integral therewith and projecting from one side thereof, and one or more detachable teeth, each having an angular portion adapted to be removably secured in an angular opening formed in the plate, the rigid and detachable teeth, each having a chamfered side, the said chamfer commencing midway of a tooth and extending to the point thereof, and located on the side of the tooth opposite to where the draft of the belt comes, substantially as set forth.

No. 34,366. Portable Curtained Hammock Stand.

(*Châssis portatif de hamac à rideau.*)

Alfred J. Weston, Toronto, Ont., 21st May, 1890; 5 years.

Claim.—A hammock stand, composed of two vertical posts A braced together by the detachable rails D and G, and laterally supported by the braes B, the whole being arranged, substantially as and for the purpose specified.

No. 34,367. Strap Fastener and Tightener.

(*Agrafe serre-courroie.*)

Charles Sparks, Sacramento, Cal., U.S., 21st May, 1890; 5 years.

Claim.—1st. In a strap fastener and tightener, an axially rotary bar, which the adjacent ends of the strap engage, whereby as said bar is rotated, the ends of the strap are wound upon it, in combination with a removable key engaging the bar, and holding it in the position to which it is moved, substantially as described. 2nd. In a strap fastener and tightener, the combination of an axially rotary bar, having a longitudinal slot, through which the adjacent ends of the strap pass from opposite directions, whereby as said bar is rotated, the ends of the strap are wound upon it, and a key engaging

the bar for holding it in the position to which it is moved, substantially as described. 3rd. In a strap fastener and tightener, the combination of an axially rotary bar, which the adjacent ends of the strap engage, whereby as said bar is rotated, the ends of the strap are wound thereon, and a bail shaped key, the ends of which are adapted to enter keyways in the ends of the bar, and the body of which passes over the strap thereby holding the bar in the position to which it is mounted, substantially as described. 4th. In a strap fastener and tightener, the combination of an axially rotary bar, having a slot or aperture in its body and keyways in its ends, said slot or aperture receiving the adjacent ends of the strap from opposite directions, whereby as said bar is rotated the strap is wound thereon, and the bail shaped key, the ends of which fit the key ways in the ends of the bar, the body of which passes across the strap, whereby the bar is held in the position to which it is moved, substantially as described. 5th. In a strap fastener and tightener, the combination of an axially rotary bar, having its ends perforated, and adapted to receive a wrench or spanner, by which it may be rotated, keyways in its ends, and a slot or aperture in its body for receiving the ends of the strap from opposite directions, whereby as said bar is rotated the strap is wound thereon, and a key for fitting the keyways and holding the bar in the position to which it is moved substantially as described. 6th. In a strap fastener and tightener, the combination of the bracket, having keyways, the axially rotary bar mounted in the bracket, and having keyways in its ends, and a slot or aperture in its body for receiving the ends of the strap, and a key fitting the keyways of the bracket and bar, whereby the bar is held in the position to which it is adjusted, substantially as described. 7th. The axially rotary bar of a strap fastener and tightener, having a slot in its body, grooves in its ends forming keyways and holes thereon also forming keyways, substantially as described.

No. 34,368. Telegraphy. (*Télégraphie.*)

Patrick B. Delany, New York, N. Y., U.S., 21st May, 1890; 5 years.

Claim.—1st. The combination of a line, relays in said line, a battery at each end in the line by which the circuit is made and broken for the transmission of impulses of current, and means for disconnecting the line from battery at each end after the transmission of an impulse. 2nd. The combination of a line, having terminal and way stations, a relay and a Morse key at each station, connected directly in the line, a battery, from which impulses of current corresponding to the signals to be transmitted, are thrown upon the line by any of said keys, and means for disconnecting the line from the battery at the receiving end, when the circuit is broken at the transmitting key. 3rd. The combination of a line, having terminal and intermediate or way stations, message or signal transmitting devices located at one or more stations in the line, a battery from which impulses of current are thrown upon the line for the sending of messages or signals by said transmitting devices, relays located at the terminal and intermediate stations, and means for disconnecting the line from the battery at a point removed from the transmitter, each time that the circuit is broken. 4th. The combination, substantially as set forth, of a line, a battery at each end thereof, with which the line is normally connected, transmitting and receiving devices at each end of the line, and line opening devices at each end of the line, said devices consisting of separable contacts included in the line, and contact separating devices controlled by the relays, which momentarily separate said contacts and leave the line open or disconnected from earth and battery for a brief period after each interruption of the main circuit. 5th. The combination, substantially as set forth, of a line, a battery, a transmitting key at one end thereof, a receiving relay in the line at a point removed from the transmitting station, and line opening devices controlled by said relay, said devices consisting of separable contacts in the line circuit which are briefly separated to disconnect the line from earth or battery upon the movement of the relay when the circuit is opened at the transmitter. 6th. The combination, substantially as set forth, of a line, a battery transmitting device and a receiving relay at each end thereof, line opening devices controlled by each relay, said devices consisting of separable contacts included in the line, which are briefly separated to disconnect the line from earth or battery, upon the movement of the relay, when the circuit is opened at a transmitter, a relay at an intermediate point in the line, and line grounding devices controlled by said relay, said grounding devices consisting of earth and line contacts, which are momentarily brought against each other upon the movement of the relay, each time that the circuit is broken at the transmitter. 7th. The combination, substantially as set forth, with a line, a battery at each end thereof, with which the line is normally connected, and electro-magnetic receiving devices, and transmitting keys directly in the line of a series of contacts connected with the battery at each terminal station, said contacts being separated by intervening spaces or insulation, a trailer or contact maker actuated by the electro-magnetic receiving devices, to pass from one battery contact across the intervening spaces or insulation, a trailer or contact maker actuated by the electro-magnetic receiving devices, to pass from one battery contact across the intervening space or insulation, thereby opening the line to the next battery contact each time the circuit is opened at a transmitter, and relays or electro-magnetic receiving devices connected in the line at intermediate or way stations.

No. 34,369. Match-Making Machine.

(*Machine à fabriquer les allumettes.*)

Charles J. Donnelly, Philadelphia, Penn., U.S., 21st May, 1890; 5 years.

Claim.—1st. In match-making machinery, a vibrating feed device, substantially as and for the purpose set forth. 2nd. In match-making machinery, the feed device, in combination with the operating crank G and a pocketed drum, substantially as described. 3rd. In match-making machinery, a pocketed drum, in combination with a blade for dividing the splints, said blade being adjustably mounted, substantially as described. 4th. In match-making machinery, a pocketed drum, having guides for the ends of the splints, substan-

tially as described. 5th. In match-making machinery, a blade for dividing the match splints, and means for separating the same, substantially as described. 6th. In match-making machinery, a pocketed drum, in combination with guards T for the splints placed in said drum, substantially as described. 7th. In match-making machinery, a blade for dividing the match splints, and a clearer for the groove in which said blade rotates, substantially as described. 8th. A beam for locking reel, mounted on a swinging or vibrating arm, and a beam for locking said arm when the reel is full, substantially as described. 9th. A match-making machine, having means for feeding the splints, and a finger for automatically stopping the advance of the splints, as stated. 10th. A match-making machine, having a pocketed drum, a feeding device therefor, a reel for winding the splints on webs in coils, a movable arm supporting said reel, a beam adapted to engage with said arm, and a finger connected with said beam, said finger being adapted to automatically stop the advance of splints in the hopper or supply to the drum, all as stated. 11th. In a match-making machine, a reel for coiling splints, a vibrating arm supporting said reel, a sprocket wheel connected with a gear wheel by means of a friction joint, substantially as described. 12th. The reels, having independent motion, substantially as described. 13th. The reels K, with lips K', substantially as described. 14th. The pocketed drum, with openings *b* in its periphery, substantially as and for the purpose set forth.

No. 34,370. Folding Trestle.

(*Tréteau pliant.*)

John T. Miller and Francis B. Orr, Chicago, Ill., U. S., 21st May, 1890; 5 years.

Claim.—1st. A trestle, consisting in the combination of a horizontal top bar C and four legs or standards A, A', B, B', pivoted together in pairs at or near their mid-length by pivots *a, b*, the legs A', B', being pivoted together at or near their upper ends by pivot D, the axis of which is at right angles to the axis of the pivots *a, b*, and the corresponding legs A, B, being arranged adjacent to each other and between the corresponding legs A', B', the parts being adapted to fold together into a compact form, in the manner and for the purpose set forth. 2nd. A trestle, consisting of four legs or standards, A, A', B, B', pivoted together in pairs at or near their mid-length by pivots *a, b*, the legs A', B', being pivoted together at or near their upper ends by pivot D, the axis of which is at right angles to the axis of the pivots *a, b*, in combination with the horizontal top bar C pivotally secured between the upper ends of the legs or standards, whereby the trestle parts are permanently connected together and adapted to fold into a compact form, substantially as herein described and for the purpose set forth. 3rd. The combination of the legs or standards A, A', B, B', pivoted together in pairs and connected together by hinge D, with the corresponding legs A, B, arranged adjacent to each other and between the corresponding legs A', B', top bar C, having a recess, essentially as described, for receiving the upper ends of the legs A', B', and pivot bolt *c*, substantially as described and for the purpose set forth. 4th. The combination of the legs or standards A, A', B, B', pivoted together in pairs, and connected together by hinge D, with the corresponding legs A, B, arranged adjacent to each other, and between the corresponding legs A', B', top bar C, having a recess, essentially as described, for receiving the upper ends of the legs A', B', pivot bolt *c* connecting the end of bar C with the tops of the legs A, B, and strut or brace E, substantially as described and for the purpose set forth.

No. 34,371. Garment Hook.

(*Agrafe de vêtement.*)

Frank E. DeLong and Charles F. DeLong, Philadelphia, Penn., U. S., 21st May, 1890; 5 years.

Claim.—A hook, comprised of a hook proper and a shank, formed of substantially parallel bars, and a tongue, having its free end forming a loop coincident with the bend of the hook, said tongue and loop being intermediate of said side bars, substantially as described.

No. 34,372. Pipe Wrench. (*Clé à tuyau.*)

Everett Cook, Livermore Falls, Me., U. S., 21st May, 1890; 5 years.

Claim.—1st. A wrench, consisting of a stationary jaw, its shank provided with a concave seat, and a movable jaw connected with the stationary jaw and formed with a rounded cam portion to engage the stationary jaw, substantially as described. 2nd. The combination, with rated by a bridge, of the saddle-piece formed with two concave seats separative jaw, and a movable jaw pivotally connected with a transverse pin held in the free ends of the saddle-piece, and formed with a rounded cam end, substantially as herein shown and described and for the purpose specified.

No. 34,373. Cheese Cloth. (*Toile à fromage.*)

Albert A. Ayer, Montreal, Que., 21st May, 1890; 5 years.

Claim.—In the manufacture of cheese cloths, the formation at intervals of marks, creases or division lines, as and for the purposes described.

No. 34,374. Nut Cracker. (*Casse-noisette.*)

Thomas Holmes, Chelsea, Mich., U. S., 21st May, 1890; 5 years.

Claim.—1st. In a nut-cracker, the combination of the base, the cracker arm pivoted to one end of the base and being slightly curved throughout its entire length, and adapted to form an approximately triangular opening between it and the base, when its free end rests upon the latter, and the operating lever pivoted to the other end of said base and adapted to engage the free end of the cracker arm, substantially as described. 2nd. In a nut cracker, the combination

of the base, the cracker arm pivoted to one end thereof, and the operating lever pivoted to the other end of the base, and provided with a recess to receive the free end of the cracker-arm, substantially as described. 3rd. The combination of the base, provided at its ends with ears, the cracker-arm pivoted between the ears at one end of the base, the operating lever pivoted between the ears at the other end of the base, and provided with a curved recess to receive the free end of the cracker-arm, and a projection to limit the free end of said arm, substantially as described. 4th. The combination of the base, provided with the ears *a* and *a'*, the cracker-arm pivoted between the ears *a* and *a'*, and having its free end projecting between the ears *a'*, the operating lever pivoted between the ears *a*, and provided with a curved recess, and a shoulder to limit its upward movement and the projection, substantially as described.

No. 34,375. Heater for Dry Closets.

(*Éluve pour les lieux d'aisance secs.*)

Isaac D. Smead, Toledo, Ohio, U. S., 21st May, 1890; 5 years.

Claim.—1st. A vault heater for dry closets, consisting of the oblong body H, grate G and top plate F, with the elongated throat T at the top of the rear side, and having the double walled hood at its front, substantially as and for the purpose set forth. 2nd. In combination with the vault of a dry closet, having two air ducts, one above the other, a vault heater, substantially as described, said heater being so located as to deliver the heat generated therein directly into the lower duct, substantially as shown and described. 3rd. The combination, in a dry closet, of a vault, composed of two horizontal ducts, one above the other, a heater, substantially as described, located at the mouth of the lower duct, and a hood interposed between said heater and the foul air room or inlet, the combination and arrangement being substantially as herein shown and described. 4th. In combination with the vault of a dry closet, having two horizontal ducts, one over the other, a heater arranged to deliver its heat and smoke into the lower duct, and a double walled hood located in front of said heater and arranged to convey a current of air from the foul air room or inlet into the duct, substantially as and for the purpose set forth. 5th. The combination of a vault for a dry closet, adapted to have a current of air passed through it from end to end, a heater located at the end at which the air enters said vault, and a hood or screen arranged in front of said heater or between it and the overflowing current of air, substantially as and for the purpose set forth.

No. 34,376. Construction of Buildings.

(*Construction de bâtisses.*)

Isaac D. Smead, Toledo, Ohio, U. S., 21st May, 1890; 5 years.

Claim.—1st. A metallic plate, adapted to be set in the wall of a building at the floor line, and cut off the passage of air into the rooms from the exterior of the building, substantially as shown and described. 2nd. A metallic building plate for insertion in the walls of a building, provided along its front face with a groove or flange, adapted to receive the ends or edge of the floor boards, substantially as shown and described. 3rd. A metallic building plate for insertion in the walls of a building, provided with a groove along the top for the reception of the lower end of the wainscoting, substantially as shown and described. 4th. As an improvement in the construction of buildings, the metallic plate inserted in the wall of the building, and made to project from the inner face of said wall sufficiently to form a support for the floor boards, substantially as shown and described, whereby a tight joint is secured at the base of the room. 5th. A ventilating box or flue, constructed substantially as shown and described, whereby it is adapted for insertion in the walls of a building, as and for the purpose set forth.

No. 34,377. Circular Knitting Machine.

(*Machine à tricot circulaire.*)

The Standard Needle Company, (assignee of George Davidson and Richard A. Dixon), Paris, Ont., 21st May, 1890; 5 years.

Claim.—1st. A tension lever carrying the ordinary thread, and supported by a spring of only sufficient strength to resist the ordinary tension on the thread, in such a manner that, should the tension be increased beyond the desired strain, the said lever will drop, and in its downward motion cause a pivoted thread carrier to bring an auxiliary thread into contact with the burr or sinker wheel of the machine, substantially as and for the purpose specified. 2nd. A pivoted thread carrier, arranged to support an auxiliary thread below the burr or sinker wheel of the machine, in combination with mechanism by which the said auxiliary thread is brought into contact with the burr or sinker wheel instantaneously upon the breaking of the ordinary thread, substantially as and for the purpose specified. 3rd. The pivoted rod O, having a loop N formed on its end, and a finger T projecting from the said loop below the burr or sinker wheel of the machine, so as to support a loop of the said thread below the said burr or sinker wheel, a rod P, connected to the pivot of the rod O, and extending to a point where its end may rest upon the finger Q, which is connected to the pivot *a*, in combination with the lever D, connected to the said pivot *a*, and designed to rest upon the thread L, substantially as and for the purpose specified. 4th. A tension lever H, carrying the thread D, and supported by a spring J of only sufficient strength to resist the ordinary tension on the thread, in combination with a pivoted thread carrier, arranged to support the auxiliary thread M below the burr or sinker wheel B, in such a manner that any excess of a predetermined tension on the thread D, shall cause the lever H to fall, and thereby impart movement to the thread carrier, and simultaneously cut the thread by the action of the knife U, substantially as and for the purpose specified. 5th. A carrier C, longitudinally adjustable upon its bracket, substantially as and for the purpose specified. 6th. A tension lever H, carrying the thread D, and supported as described, a pin S, projecting from the said lever, in combination with the rod

P, connected to the pivot of the rod O carrying the auxiliary thread, as described. 7th. The rod O, forming the carrier of the auxiliary thread M, the rod P connected to the pivot of the rod S, in combination with the vertically adjustable stop V, arranged substantially as specified.

No. 34,378. Pen Holder. (*Porte-plume.*)

Lillian L. W. McMurtry, Mattawa, Ont., 21st May, 1890; 5 years.

Claim.—1st. A penholder with a convex pen receiver, and a concave hinged flap, and an indented ring, as shown and described. 2nd. A pen-holder, having a hinged concave flap, in combination with a convex pen-holder, and an indented ring, as shown and described. 3rd. The combination, in a pen-holder, of a hinged concave flap and an indented ring, as shown and described.

No. 34,379. Method of Making Lined Cans.

(*Mode de fabrication des boîtes métalliques doublées.*)

Max Ams, New York, N.Y., U.S., 21st May, 1890; 5 years.

Claim.—1st. The method of making lined cans, which consists in forming rectangular figures of a non-flowing varnish upon one side of a sheet of metal, leaving a free margin *a*¹ along one edge, baking the sheet, cutting out and bending the bodies into shape, soldering the margin upon the outer face of the can body and then securing the varnished and baked heads to the body, substantially as specified. 2nd. The method of making lined cans, which consists in forming rectangular figures *b*, of a non-flowing varnish upon one side of a sheet of metal, with a free margin *a*¹ along one edge and margins *a*² between the figures, baking the sheet, cutting out and bending the bodies into shape, soldering the margin *a*¹ upon the outer face of the can body, and then securing the flanged and varnished heads to the margin *a*², substantially as specified. 3rd. The method of making lined cans, which consists in forming upon one side of a sheet of metal rectangular figures of non-flowing varnish, composed of sandarac, mastic, alcohol and glycerine, by a stencil so as to leave a margin *a*¹ along one edge of such figures, baking, cutting and bending the bodies into shape, and then soldering the heads, substantially as specified.

No. 34,380. Process of Separating Iron or other Magnetic Particles from Non Magnetic Substances. (*Procédé de séparation du fer ou autres particules magnétiques des corps non-magnétiques.*)

Garidon Conkling, Glens Falls, N.Y., U.S., 22nd May, 1890; 5 years.

Claim.—The within described process, for separating magnetic from non-magnetic particles, which consists in expelling a running stream of liquid containing the substances to be separated to the action of a magnet, lifting the magnetic particles carried by said stream up from and out of contact with the stream, and finally conducting the particles which have followed the attraction of the magnet into a suitable receptacle.

No. 34,381. Respirator and Throat and Lung Protector. (*Appareil respirateur et protecteur de la gorge et des poumons.*)

Justus O. Woods, New York, N.Y., U.S., 22nd May, 1890; 5 years.

Claim.—1st. An improved respirator and lung and throat protector consisting of the respirator bag, composed of the longitudinal strips, the vertical strips crossing said longitudinal strips and forming a pocket to hold a medicament, and the strips E, F and G, whereby the bag is held to the head, and the flexible non-absorbent mouth piece placed in the mouth between the lips and the teeth to prevent breathing through the mouth, all combined and arranged to operate, substantially as and for the purposes hereinbefore set forth. 2nd. The mouth piece H, composed of a thin sheet of celluloid or other flexible non-absorbent material formed as described, to be placed in the mouth between the lips and the teeth to prevent breathing through the mouth, and a thread or wire attached to said mouth piece, whereby it may be attached to the teeth, substantially as hereinbefore set forth. 3rd. The mouth piece I, composed of a thin sheet of celluloid or other suitable non-absorbent material formed as described, to be placed in the mouth between the lips and the teeth to prevent breathing through the mouth, as specified.

No. 34,382. Call Bell. (*Timbre d'appel.*)

Albert F. Rockwell, Bristol, Conn., U.S., 22nd May, 1890; 5 years.

Claim.—The combination, with a bell and bell striking mechanism, of a hollow arbor for the main spring which extends up through the bell, a reciprocating push rod extending from above the bell down within the hollow arbor, and projecting out at one side of it through an opening, and a spring against which the push rod bears to depress it and release the bell striking mechanism, substantially as set forth.

No. 34,383. Percolator for Coffee and Tea.

(*Percolateur pour le café et le thé.*)

George Smyth, Hamilton, Ont., 22nd May, 1890; 5 years.

Claim.—The combination and arrangement of the several parts forming the device, namely the perforated body A, cover B, bottom C, spindle D and handle E, all operating and arranged substantially as and for the purposes of a percolator for tea or coffee, as herein set forth.

No. 34,384. Process of Making Reeds and Reed Plates for Musical Instruments. (*Procédé de fabrication des anches et des plaques d'anches pour les instruments de musique.*)

Mellen Bray, Newton, Mass., U.S., 22nd May, 1890; 5 years.

Claim.—The process of forming reeds and reed plates, integral from hard or tempered brass, by cutting from a sheet or ribbon of brass of the required degree of hardness, a blank of the desired size and shape, to form the plate, separating the sides, and an end of the reed or tongue from said plate, and forming the throat by means of suitable dies, bending said tongue at its attached end to move said tongue into a different plane to the plate, trimming the edges of said tongue by planing or cutting away stock therefrom, to give it clearance in the throat, reducing said tongue to the desired thickness to be given thereto by milling or cutting away stock therefrom, and then bending said tongue to bring it into its proper relation to the throat for practical operation in an instrument.

No. 34,385. Condenser. (*Condenseur.*)

Gilbert Moir, Richmond, Ont., 22nd May, 1890; 5 years.

Claim.—1st. The combination, with a boiler having a water gauge, steam cock and draw off cock, of a condenser having an outer and inner chamber, a steam cock and draw off cock, communicating with said inner chamber, the said steam cocks being connected by a flexible tube, substantially as shown and described. 2nd. The combination, with the boiler A, having chamber B, door b, gauge C, draw off cock D, steam cock E, flexible tube K, of the steam cock J, cylinder F, cover f, chamber L, cylinder G, stay rods g, pipe H, draw off cock I, substantially as shown and described.

No. 34,386. Bolt Heading Machine.

(*Machine à entêter les boulons.*)

Ellwood Burdsall, Jr., Port Chester, N.Y., U.S., 22nd May, 1890; 5 years.

Claim.—1st. The combination, with the feed rollers, a tube for the wire, and cutter tube 24, of receiver 59, and a sliding cutter acting between the receiver and tube 24, to sever the blank. 2nd. The combination, with the feed rollers and a tube into which the wire passes, of receiver 59, having an adjustable stop whereby the length of the blank is determined. 3rd. The combination, with the receiver, the cutter tube, and the sliding cutter, of the feed rollers carried by shafts 10 and 11, a bracket to which shaft 10 is pivoted, and a set screw whereby the pressure of the upper feed roller is regulated. 4th. The combination, with the cutter tube, sliding cutter, and grippers, of cross slide 27, to which the sliding cutter is adjustably secured, and slide 31, whereby the cross slide is reciprocated. 5th. Cross slide 27 carrying the grippers, and slide 31 whereby said cross slide is reciprocated, in combination with cross head 36, connected to the cross slide, rod 41, having a check nut, lever 38, and spring 40, whereby the outward movement of the cross slide and grippers is regulated. 6th. The combination, with the cross slide and the grippers, of cross head 36, connected to the cross slide, a lever pivoted to the cross slide and to a link 39, a spring acting to draw the cross slide and cross head outward, and a rod, 41, passing through the cross head and having a nut at its outer end, whereby the outward movement of the cross head and slide is limited, as and for the purpose set forth. 7th. The combination, with tube 24, the cross slide and the grippers, of the cross head connected to the cross slide, lever 38, link 39, spring 40, and rod 41, passing through the cross head and having a nut 41a, whereby the outward movement of the cross slide and cross head is adjusted, so that in the outward movement the grippers will stop at the exact position required to receive the wire from tube 24. 8th. The combination, with the cross slide, block 26, having arms 26a, and the grippers, of screws 28 engaging the cross slide and having a collar engaged by said arms, whereby the grippers may be moved in or out relatively to the cross slide, and a check nut for locking the parts in position after adjustment. 9th. The combination, with the heading die, the cross slide, and block 26, carrying the grippers, of screw 28, engaging the cross slide and having a collar engaging said block, whereby the grippers may be adjusted relatively to the cross slide, so that after forward movement the grippers will stop with the blank exactly before the recess in the heading die. 10th. The combination, with the header, heading die, cross slide, grippers, cutter 25, and tube 24, of screw 28, engaging the cross slide and connected to the grippers, cross head 36, acting to draw the cross slide outward, and an adjustable stop to limit the outward movement of the cross slide, whereby the grippers may be so adjusted as to receive the end of the wire in the outward movement, and to leave the severed blank in front of the die in the inward movement. 11th. The combination, with tube 24 and the receiver, of block 26, the grippers, and the cross slide to which the block is adjustably secured. 12th. The combination, with the heading die and a receiver having an adjustable stop, of the cutter tube and the cross slide carrying cutter 25, and the grippers, whereby the length of the blank is determined, and the severed blank is carried in front of the die. 13th. The combination, with the cutter tube and the cross slide, of block 26, cutter 25, and the spring grippers secured to the block and provided with steel dies 44. 14th. The combination, with the heading die and header, of tube 24, the cross slide, block 26 carrying cutter 25 and spring grippers, and means, substantially as described, for adjusting said block relatively to the cross slide and for adjusting the outward movement of the cross slide. 15th. The combination, with the cutter tube, sliding cutter, and the grippers, of receiver 59, into which the end of the wire passes, and an adjustable stop in said receiver which determines the length of the blank. 16th. The combination in a bolt-heading machine, of an adjustable stop for determining the length of blanks, an indicator moving in exact relation thereto, and a scale for showing the length of blanks produced at any adjustment of the stop. 17th. The combination, in a bolt-heading machine, of an adjustable stop for gaging the size of bolts, an indi-

erator moving in exact relation thereto, and a scale graduated to the sizes of bolts produced by the machine. 18th. In a machine of the class described, the combination, with a stop for determining the length of the blanks, and mechanism, substantially as described and shown, for adjusting said stop, of a scale corresponding with lengths of blanks, an indicator adapted to register with said scale and intermediate mechanism, substantially as described and shown, whereby said indicator is moved by the stop-adjusting mechanism to show the length of blanks produced by the adjustment. 19th. The receiver, having the cutter-tube, sliding cutter and grippers, of carried by the grippers. 20th. The combination, with the cutter-adjustable stop 61, and mechanism, substantially as described, whereby the stop may be adjusted and locked in position after adjustment. 21st. The combination, with the receiver, having a key 59a, and a threaded stop having a groove engaged by said key, of engage the stop, and means, substantially as described, for rotating said gear to adjust the stop. 22nd. The combination, with the receiver, threaded stop 61, and internally-threaded gear 62, engaging said stop, of shaft 64, having a bevel gear 65, and a gear engaging gear 62, a vertical shaft, having a bevel gear engaging gear 65, a tube inclosing the vertical shaft and slotted at its upper end, and a lute nut which clamps the slotted end of the tube upon the vertical shaft to lock the parts in position after adjustment. 23rd. The combination, with receiver 59, adjustable stop 61, shaft 66 and shaft 64, and 126 on shaft 66, longitudinally threaded shaft 128, having a beveled pinion engaging pinion 126, a scale, and an indicator carried by a ment of the stop is changed, the indicator is moved also and shows upon the scale the length of blanks produced by the adjustment. 24th. The combination, with the receiver, the cutter-tube, the sliding cutter and the grippers, of heading die 45 and the header. 25th. The combination, with the heading die and header, of the cutter-tube, the receiver, the sliding cutter, and the grippers, whereby the blank is severed and carried forward ready to be forced into the die by the header. 26. The combination, with the heading die, having a recess in which the bolt-head is formed, and the header, of plunger 73, having a reduced end corresponding in diameter with the blank, a stop 76 and a train of mechanism, substantially as described and shown, which permits said stop to yield in the formation of a bolt head, so that in upsetting the metal it is forced into the forward portion of the recess in the heading die. 27th. The header, slide 48, and eccentric rod 57, in combination with the plunger, stop 76, and a train of mechanism, substantially as described and shown, which permits said stop to yield in the formation of each bolt-head, as and for the purpose set forth. 28th. The header, slide 48, and eccentric rod 57, in combination with the plunger having a collar 87, block 82 which slides on the plunger, and connecting mechanism, substantially as described in said block and slide 48, whereby, in the return movement, said slide engages collar 87 and forces the plunger backward to expel the headed bolt. 29th. The combination with the slide, header, heading die, and the plunger having collar 87, of block 82 sliding on the plunger, lever 83 pivoted to said block and to a link 84, and rod 86 connecting said lever with the slide, as and for the purpose set forth. 30th. In a bolt-heading machine, the combination, with slide 48, eccentric rod 57, the header, heading die, and described and shown, which permits said stop to yield at predetermined times, as and for the purpose set forth. 31st. The combination, with the header, heading-die and plunger, of threaded stop 76, for adjusting the stop in the slide. 32nd. The combination, with 77a, a threaded stop in said slide having a groove engaged by said key, gear 78 socketed in the slide and internally screw-threaded to said gear to adjust, and means, substantially as described, for rotating said gear to adjust the stop in or out. 33rd. The combination, with longitudinally threaded stop 76 for determining the size of headed bolts, socketed gear 78 internally threaded to engage said stop, and socketed gear 79 engaging therewith, of shaft 80, carrying gear 79, but free to slide longitudinally relatively to said gear, and having also a pinion 155, longitudinally threaded shaft 157, having a pinion engaging pinion 155, a scale corresponding to the lengths of headed bolts, and an indicator carried by a sleeve engaging the longitudinally-threaded shaft, and acting in connection with the scale marks to show the length of headed bolts produced by the adjustment of the stop. 34th. The combination, with plunger 73, slide 77, and adjustable stop 76, of angle-block 89 and toggle 93. 35th. The combination, with the header, heading-die, and plunger, of threaded stop 76, slide socketed in the slide, and shaft 80, carrying a gear engaging gear 78, whereby the stop may be adjusted. 36th. The combination, with the stop is carried swinging, plunger and stop 76, of slide 77, by which the slide and angle-block, and toggle 93, engaging the slide, are allowed to yield at a predetermined time. 37th. The combination, with the heading die, plunger and slide 77, carrying a stop, of angle-block 89, cam slot engaged by the angle block and slide 77, slide 96, having a link with arm 58. 38th. The eccentric rod, having arm 58, the header, 89, having a roller 94, toggle 93, engaging slide 77 and the angle-block, slide 96, having a cam groove engaged by said roller, and a rod connecting slide 96 with arm 58, whereby at a certain stage of the heading of a bolt slide 77 carrying the stop for the plunger, is allowed to yield, so that the blank is forced farther backward and a perfect head is formed without danger of binding in the die. 39th. The combination, with the eccentric rod having downwardly-extending arm 58, slide 48, the header, die, and plunger, of slide 77, carrying a stop, angle block 89, toggle 93, slide 96, engaged by the angle block, and an adjustable rod 98 connecting slide 96 with arm 58. 40th. The combination, with the plunger, of slide 77 carrying an adjustable stop, and mechanism, for example, an angle-block, toggle and

slide, which permits the stop to yield at a predetermined time. 41st. The combination, with the plunger, of slide 77, recessed in the frame work, internally threaded gear 73 recessed in said slide, threaded stop 76 engaging the gear and a shaft carrying a gear engaging gear 73, whereby the stop may be adjusted. 42nd. In a bolt-heading machine, the combination, with slide 77, carrying stop 76, of angle-block 89, carrying roller 94, toggle 93 engaging the angle block and the slide and a slide 96 having a cam slot engaged by said roller. 43rd. The frame-work, having recess 100, the stop 76 and slide 77 lying partly within said recess, in combination with the angle-block, toggle and slide 96, whereby the slide and stop are held firmly during the first portion of the operation of heading, and are then allowed to yield as and for the purpose set forth. 44th. The eccentric rod, slide 48, the header, die, and the plunger having a collar 87, in combination with block 82, through which the plunger slides, lever 83 pivoted to the block and to link 84, and an adjustable rod connecting lever 83 with slide 48, whereby the throw of the plunger in expelling the headed bolt may be regulated.

No. 34,387. Fire Escape. (*Sauveteur d'incendie.*)

William S. Coon, Rochester, N.Y., U.S., 22nd May, 1890; 5 years.

Claim.—1st. A fire-escape, consisting of a series of platforms *a, b*, attached to suitable supports, and arranged in a vertical line, said platforms alternating and forming steps, whereby a person can descend by stepping from one to another, as herein shown and described. 2nd. A fire-escape, consisting of vertical bars or rods *A, A*, attached to the face of a building, and a series of platforms *a, b*, attached thereto, alternating in position and forming steps, whereby a person can descend by stepping from one to another, as herein shown and described. 3rd. In a fire-escape, the combination of vertical bars or rods *A, A*, forming a support, a series of platforms *a, b* attached thereto alternating in position, forming steps whereby a person can descend by stepping from one to another, and balconies *B, B*, opening into the back of the cages, as shown and described and for the purpose specified.

No. 34,388. Construction and Method or Process of Working Motor Engines by Hot Gases and Steam.

(*Construction des machines motrices et mode ou procedé de les actionner au moyen des gaz chauds et de la vapeur.*)

Edward Field, London, Eng., 22nd May, 1890; 5 years.

Claim.—1st. The herein described method or process of working an engine with hot gases, such as air or products of combustion, with addition of steam, which consists in passing hot gases through a chamber to clear and dry such chamber, closing said chamber and leaving same full of hot dry gases, admitting steam to said hot gases to form the working mixture, and expanding said mixture into the engine cylinder, and afterwards exhausting the spent mixture from said cylinder, and repeating said processes of clearing and drying said chamber, filling it with hot gases, closing it, admitting steam to its contained hot gases, and expanding the mixture so formed into the engine cylinder for effecting successive strokes. 2nd. In the herein described method or process of working an engine with hot gases, such as air or products of combustion, with addition of steam, the following cycle of operations in a mixing chamber, of each engine after it has supplied mixture, for effecting a stroke of the engine piston and preparatory to the next stroke for which such mixing chamber is to supply the actuating mixture, namely *a*, the coming of said mixing chamber to an exhaust, so as to reduce the contents of said mixing chamber to atmospheric pressure, *b*, the clearing out of said mixing chamber *b*, the drying thereof by hot gases *d*, the closing of said mixing chamber whilst full of hot gases, and *e*, the admission of a supply of steam, sufficient with the gaseous contents of the mixing chamber, to produce a charge of mixture at the desired pressure for propelling the engine piston. 3rd. The herein described method or process of working an engine with hot gases, such as air, or products of combustion, with addition of steam, which consists in admitting alternately to each end of the working cylinder, or of each working cylinder, if there be more than one, a charge of working mixture from a mixing chamber, separate from that whence mixture is supplied to the other end of said cylinder, and in which mixture is supplied to the other end of said cylinder, and in each of which mixing chambers, preparatory to the formation therein of a working charge, is opened to exhaust, has hot gases passed through it to clean and dry it, is closed, whilst full of hot dry gases, has steam admitted to it to mix with said hot gases, and so form the working mixture which, having been expanded into one end of the engine cylinder, and having effected a working stroke is afterwards exhausted from said cylinder, whilst from another similar mixing chamber a like charge of mixture similarly formed is expanded into the other end of said working cylinder, and so forth, the like operations being repeated alternately in each mixing chamber, and in the corresponding end of the working cylinder of the engine, as and for the purpose set forth. 4th. In an engine to be worked with hot gases, such as air or products of combustion, with addition of steam, the combination, with a cylinder or with each cylinder, if more than one, of two mixing chambers, each in connection with one end only of the cylinder. 5th. In an engine to be worked with hot gases, such as air or products of combustion, with addition of steam, the combination, with the working cylinder, of a mixing chamber arranged to be placed in communication with one end only of the cylinder, and with an exhaust passage, and provided with inlet and outlet openings for hot gases, valves for controlling said inlet and outlet openings, and means for operating said valves, a pipe or conduit for hot gases, in communication with said inlet opening, a distributing valve for placing one end of said cylinder in communication alternately with said mixing chamber and with said exhaust passage, a steam chamber with port for placing same in communication with said mixing chamber, a valve for controlling said port, and means for operating said valve, all substantially as herein described for the purposes mentioned. 6th. In an engine to be worked

with hot gases, such as air or products of combustion, with addition of steam, the combination, with a working cylinder, of two mixing chambers, each arranged to be placed in communication with one end only of said cylinder, and with an exhaust passage, and each provided with inlet and outlet openings, a pipe or conduit for hot gases in communication with each of said inlet openings, valves for controlling each of said inlet and outlet openings, and means for operating said valves, distributing valves, each adapted to place one end of said cylinder alternately in communication with one of said mixing chambers, and with an exhaust passage, means for operating said distributing valves, a steam chamber, with inlet for steam and with an outlet opening to each of said mixing chambers, a valve for controlling said ports, and means for operating said valve, all substantially as herein described for the purposes set forth.

No. 34,389. Wheel Hub. (*Moyeu de roue.*)

Edward C. Roberts, Abingdon, Va., U.S., 22nd May, 1890; 5 years.

Claim.—1st. In a vehicle hub, the combination of the box, having the threaded ends, the clamping nuts having the transversely beveled portion, the bearing rings, and the washer, substantially as specified. 2nd. In a vehicle hub, the combination, with the box threaded at its ends, of the clamping nut C, having the beveled portion, the shoulder e, and the rearwardly projecting portion, the nut C, having the beveled portion, the annular shoulder, and the threaded outer end, the cap E, the bearing rings having the oil chamber, the flared opening and the flange, and the rubber washers, substantially as specified. 3rd. A wheel-hub consisting of the box threaded at its ends, the clamping nuts, having the threaded and beveled inwardly projecting portion, the cap E, engaging a threaded portion of the nut C, the bearing rings having the annular recess d, the flared opening and the flange, and the rubber washer, substantially as specified.

No. 34,390. Type Writer. (*Graphotype.*)

John Gardner, Manchester, Eng., 22nd May, 1890; 5 years.

Claim.—1st. In a type writing machine, the construction, combination and arrangement, with the pinion of the type cylinder, of a toothed segment, a rocking shaft carrying the toothed segment, and a diagonal or stepped lever operated by the type keys, substantially as hereinbefore described. 2nd. In a type writing machine, the construction, combination and arrangement of a pinion on the type cylinder shaft, a toothed quadrant gearing therewith, a lever carrying the toothed quadrant, and a diagonal or stepped lever operated by all the keys and operating the toothed quadrant lever, substantially as and for the purpose hereinbefore described. 3rd. In a type writing machine, the construction and arrangement of the diagonal or stepped lever, operated by different type keys at different points, substantially as hereinbefore described. 4th. In a type writing machine, the construction and arrangement of an angular notched lifting lever, and its combination with a detent or locking device, substantially as hereinbefore described. 5th. In a type writing machine, the construction and arrangement of a lifting lever, having an inclined plane or inclined planes thereon, and the combination therewith of a shift key, substantially as and for the purpose hereinbefore described. 6th. In a type writing machine, a shift key adapted to operate a lifting lever so as to move the type cylinder vertically, and to bring the second row of characters in any field into the printing position, the shift key being situated in such a position that it may be struck simultaneously with the type key for printing characters in the second row of a type field, substantially as hereinbefore described. 7th. In a type writing machine, the combination, with a shift key constructed, arranged and operating as set forth in the preceding claiming clause, of a secondary lever having projections thereon, one of such projections being arranged so that it may or may not be depressed with the depression of each type key, substantially as hereinbefore described. 8th. In a type writing machine the construction and arrangement of the type key stems, in such a manner that all the type key stems or limbs of all the type key stems pass through holes in a guide plate in such a manner that any such limb or when depressed will be in the path of a finger or detent, substantially as hereinbefore described. 9th. In a type writing machine, the combination, with the type key stems or the limbs of the type key stems, of a finger or stop secured on the type wheel shaft, and arranged to sweep along and below the stems or limbs with the motion of the type cylinder so as to be stopped by any depressed stem or limb, substantially as and for the purpose hereinbefore described. 10th. In a type writing machine, the combination, with the impression hammer, of a trigger for releasing the hammer, a spring to cause the blow, and a dog engaging with the teeth of the escape wheel, the motion of which resets the hammer, substantially as hereinbefore described. 11th. In a type writing machine, the combination, with the impression hammer or ram, of a trigger for releasing the ram, a spring to cause the blow, an arm on the lever K¹ to release the trigger and reset the hammer, and a resetting spring, substantially as hereinbefore described. 12th. In a type writing machine, the combination, with the impression ram, of a trigger for releasing the ram, a spring to cause the blow, a re-setting lever, a dog engaging with the feed wheel and connected to the re-setting lever, and a lever for liberating the trigger, substantially as hereinbefore described. 13th. In a type writing machine, the combination and arrangement, with a lever depressed by the type keys, of a shaft upon which the lever is fulcrumed, a fast and loose dog carried on the shaft and gearing with the feed wheel, and a release key fixed upon the shaft, substantially as hereinbefore described. 14th. In a type setting machine, the combination, with the paper roller, of the clips and guide 14 for ensuring the rolling of the paper upon the roller, substantially as hereinbefore described.

No. 34,391. Box for Holding Matches, Vest-as, Sweetmeats and other Articles or Things. (*Boite pour les allumettes, les viandes hachées et autres objets ou choses.*)

James Brown, Cambuslang, Scotland, 22nd May, 1890; 5 years.

Claim.—1st. In the construction of boxes, the combination of a lid H, a finger hole and arrow head slits I, J, as described. 2nd. The preparation of blanks for boxes, from one piece of paper board, each blank having a lid H, a finger hole, a long slit I and curved or angled slits J, J therefrom, as described and shown. 3rd. Providing boxes, having the finger hole, and arrow head slits with a false bottom, having two springy legs for pressing the matches if matches be therein, to the top of the box, as described. 4th. Providing a box with a false bottom, which may be corrugated and having an elastic band connected to a lid, and capable of raising the false bottom to the top of the box as described, whether the slits I, J be in the top or without the slits I, J. 5th. Forming boxes from one piece of paper board or other material, with a lid H, whether said lid be used alone or in conjunction with an additional piece referred to. 6th. Providing match boxes, having a finger hole, and arrow head shaped slits, with an elastic band across the opening of or partly encircling the box, and partly the matches as described. 7th. Making a cover, having arrow head shaped slits, and employing it with an ordinary scale board "skellet," the top of which has a finger hole, and a slot formed in it, as described. 8th. Making a cover with finger hole and arrow head slits, also four flaps for attachment to an ordinary scale board drawer of a match box, as described. 9th. Forming a finger hole and slot in the "skellet" of an ordinary scale board match box, and affixing lips to narrow the slot as hereinbefore described, for the purpose set forth. 10th. The formation of a collapsible box from a blank, and the holding of the parts together by an elastic band partially encircling said box and partly encircling the matches within it, as described.

No. 34,392. Adding Machine.

(*Machine à additionner.*)

Ezra E. Witter, Milford Centre, Ohio, U.S., 22nd May, 1890; 5 years.

Claim.—1st. In an adding machine, the combination of a series of vertical key levers of gradually increasing throw, having free lower ends, a horizontal slide engaged by the lower ends of said levers provided with a catch, and the registering wheels operated by said catch, as set forth. 2nd. In an adding machine, the combination of a series of key levers of gradually increasing throw, on an inclined key board, below which said levers are fulcrumed, at or about an equal distance from the top of the board, a slide operated by said levers and provided with a catch, and the registering wheels operated by said catch, as set forth. 3rd. In an adding machine, the combination of a series of vertical key levers of gradually increasing throw having freely swinging lower ends, a slide operated by said levers and provided with a catch, projections on said slide, with which the lower ends of the levers engage, a spring for retracting the slide, and the registering wheels operated by said catch, as set forth. 4th. In an adding machine, the combination of a slide carrying a catch, means for actuating said slide, a spiral spring secured at one end to said slide, a tightening device at the other end, consisting of a yoke or nut and a screw passing through the latter, and the registering wheels operated by said catch, as set forth. 5th. The combination of a series of vertical key levers numbered from 1 to 9 respectively and gradually elongated an inclined key board, through which the levers project, pintles below said board at or about the same distance from the top of said key board, said levers, excepting No. 1, being fulcrumed on said pintles in pairs with the lower ends projecting freely downward, a slide operated by said levers and carrying a catch, and registering wheels operated by said catch, as set forth. 6th. The combination, with a pair of registering wheels, means for actuating one of said wheels and means for actuating the other through the medium of the latter consisting of a pin, a lever engaged by said pin and having a recess, a hook on the lever engaged by said pin below the recess, and a pawl actuated by the lever, as set forth. 7th. The combination, with a units-and-tens wheel, having means of rotation and a pin projecting therefrom, of a lever engaged by said pin to move the lever in one direction, a hook carried by the lever and engaged by said pin to move the lever in the other direction, a pawl moved by said lever, and a hundreds wheel having teeth engaged by said pawl, as set forth. 8th. The combination, with a units-and-tens wheel, positive means for rotating it, and a pin on the wheel, of a lever engaged by the pin for moving the lever in one direction, a hook on the lever engaged by said pin to move the lever in the opposite direction, a pawl moved by said lever, a hundreds wheel having teeth engaged by the pawl, and a detent engaging said teeth, as set forth. 9th. The combination of a units-and-tens wheel having means of rotation, a pin carried by the wheel, a hundreds wheel having a hub, a cord attached to the hub, a lever engaged by said pin, a pawl operated by the lever and engaging the teeth of the hundreds wheel, said cord being adapted to engage said pawl and release it from the teeth of the hundreds wheel, and when pulled, to bring the hundreds wheel back to zero, and a detent also engaging the teeth of the hundreds wheel, all substantially as and for the purposes set forth.

No. 34,393. Supplementary Spring for Road Carts. (*Ressort supplémentaire pour débouligeantes.*)

Wilber M. McCrossen, West Branch, Mich., U.S., and Michael Blake, Portage La Prairie, Man., 22nd May, 1890; 5 years.

Claim.—1st. The combination, with the brackets A and B, of the caps 7, 11, sleeved on bracket A, provided with a shoulder 6, and screw nut 12, the spirally coiled springs 8 and 10, the bearing 9, intervening the springs, the yoke 16, adjustably sleeved on bracket B, and provided with a pinching screw or fastening 14, and the links 15, 15, connecting the bearing and yoke, as set forth. 2nd. The combination, with thills and body of a vehicle, of the bracket A, having caps 7, 11, sleeved thereon, springs 8, 10 intervening the caps, bearing 9, intervening the springs, bracket B, adjustable yoke 16, and links 15, 15, connecting said bearing and yoke pivotally, the bracket A, secured to the cross bar of the thills, and the bracket B, to the floor or body of the vehicle, as and for the purpose set forth.

No. 34,394. Wire Hook or Hanger.*(Crochet ou patère en fil de fer.)*

Robert Gorton, Plainfield, N.J., U.S., 22nd May, 1890; 5 years.

Claim.—1st. The hanger herein described, formed from a continuous piece of wire, having the horizontal portion screw-threaded at its inner end for attachment to a support, the portion *c* extending rearwardly and downwardly to the rear face of the hanger, and downwardly extending vertical part *c'*, the outwardly and upwardly curved parts *d, d'*, forming the lower hook and arranged in the same horizontal lines, and the vertical part *c''* extending up to the horizontal arm in the same transverse plane with the portion *c'*. 2nd. The hanger herein described, formed from a continuous piece of wire, having the horizontal portions screw-threaded at its inner end, for attaching to a support, and rolled or swaged, as at *x*, the portion *c* extending rearwardly and downwardly to the rear face of the hanger, the downwardly-extending vertical part *c'*, the outwardly and upwardly curved parts *d, d'*, forming the lower hook and arranged in the same horizontal lines, and the vertical part *c''* in the same transverse plane with the portion *c'*, and extending up to the horizontal arm. 3rd. The hanger herein described, formed from a continuous piece of wire, having the horizontal portion screw-threaded at its inner end, for attachment to a support, a return portion *c* extending to the rear face of the hanger, the vertical part *c'*, double wires, as *d, d'*, forming the lower hook, and the vertical portion *c''* in the same transverse plane with the vertical part *c'*, and extending up to, and around the inner end of the horizontal portion.

No. 34,395. Package for Containing Fragile Glass or Like Delicate Material. *(Boîte pour emballer le verre ou autres objets fragiles.)*

Daniel B. Stevens, Toronto, Ont., 22nd May, 1890; 5 years.

Claim.—A rubber case, having a fluted interior to form a series of soft cushions surrounding the article it is intended to contain, substantially as and for the purpose specified.

No. 34,396. Speaking Tube. *(Tube acoustique.)*

Hahnemann A. Cutmore, Melbourne, Victoria, 22nd May, 1890; 5 years.

Claim.—1st. In a speaking tube, the combination, with a cock plug *B*, of a hollow branch or arm *B'*, communicating with the interior of the plug and carrying an ear piece *B''*, or mouth piece *A'*, substantially as described. 2nd. In a speaking tube, the combination, with a stop-cock or equivalent device adapted to close or open the tube, of a signalling device, substantially as and for the purpose described. 3rd. In a speaking tube, the combination, with a stop cock *B*, adapted to close or open the tube, of an ear or mouth piece connected with the interior and movable with the plug of said cock, and a mouth or ear piece upon said tube, substantially as and for the purpose described. 4th. In a speaking tube, a cock with a parallel plug, and stops adapted to allow of the plug being inserted into the barrel from either side, substantially as described. 5th. The combination, with a speaking tube, of a cock or equivalent for closing or opening the tube, and operated by an arm or tube which carries the mouth or ear piece, substantially as described. 6th. In a speaking tube, the combination, with means for stopping the tube, of a call whistle or equivalent, substantially as and for the purpose described.

No. 34,397. Flying Toy. *(Jouet volant.)*

Ernest G. Knaepfel, (co-inventor with Louis L. Lichtfield), and John Krobot, Argentine, Kan., U.S., 22nd May, 1890; 5 years.

Claim.—The flying toy, having the flat central portion *B'* with central opening *H*, depending lugs *a*, and whistle *D*, the rounded wings handle having the bolt, and having the whistle *C, C'*, the opening *a'* to receive the lugs *a*, the upper end of the bolt being adapted to enter the opening *H*, and the collar *f* on the bolt to retain the spool thereon, substantially as described.

No. 34,398. Petroleum Engine.*(Machine à pétrole.)*

James Roots, London, Eng., 22nd May, 1890; 5 years.

Claim.—1st. In a petroleum engine, casting grooves or fitting tubes within the cylinder cover through which the petroleum and air are drawn by the pistons out stroke, for the purpose and as described and shown. 2nd. In a petroleum engine, the combination of the grooves or tubes *C* in the cover, with the admission chamber *D* containing the wire gauge to which the petroleum and air heated by casting the channel *K'* in the cover, as described. 3rd. In a petroleum engine, cylinder directly by the valve box *B*, so that the mixture enters the cooling surface in order that there shall be no condensation of the petroleum, as described. 4th. In a petroleum engine, the combination of the grooves or tubes *C* with the channel *K'*, and the valve *K*, immediately adjoining, as described. 5th. In a petroleum engine, the combination of the grooves or tubes *C*, with the channel *K'*, the valve *K* and the chamber *D*, as described. 6th. The construction and arrangement of the appliances forming part of the petroleum engine in which the air is heated on entrance by the waste heat of the exhaust, and then caused to commingle with the petroleum this mixture being superheated, and passed through channels within the cylinder cover and conveyed into the cylinder for power purposes, all as described. 7th. The combination of parts forming the means described for governing the petroleum supply as in figures 1, 2 and 3 of the annexed drawings. 8th. In a petroleum engine, the two valves *P, P'* on one spindle *P* forming a governing apparatus to control the supply of petroleum and air, as described, with reference

to figures 10 and 10a of the annexed drawings. 9th. In a petroleum engine, forming the chimney of a wick lamp of a coil of piping, the upper end of which carries a receptacle into which the petroleum and air are admitted, and the other end of which is fitted into the admission valve box of the engine, the chimney coil being packed round by a non conductor, as described, with reference to figures 1 and 2 of the annexed drawings. 10th. In a petroleum engine, the heating of the igniting tube by the oil lamp *G* or *G'*, by passing the tube down through the flame, the burner being circular, as set forth. 11th. In a petroleum engine, the combination and arrangement of mechanism for the working of the bellows for producing the forced draught for heating the igniting tube by an oil lamp, as described and as shown on the annexed drawings. 12th. In a petroleum engine, the particular combination and arrangement of mechanism shown on the annexed drawings for opening the exhaust valve, and as described.

No. 34,399. Slate. *(Ardoise.)*

The Paragon Slate Company (assignee of Solomon Marks), Cincinnati, Ohio, U.S., 22nd May, 1890; 5 years.

Claim.—1st. A slate, consisting of a frame, having fixed parts 8, 9, 10 formed with slate grooves and the removable parts, and the removable slates secured to the removable parts, substantially as shown and described. 2nd. A slate consisting of the fixed parts 6, 8, 9 and 10, having slate grooves the removable slate 1, having the removable part 4 secured thereto, the slate 3 and the button 12 secured to the fixed part 6, substantially as shown and described. 3rd. A slate consisting of the fixed parts 6, 8, 9 and 10, having slate grooves, the removable slate 1 having the removable part 4 secured thereto, and the slate 3 having the removable part 7 secured thereto, substantially as shown and described. 4th. A slate consisting of the fixed parts 6, 8, 9 and 10, having slate grooves, the removable parts 4, 5 and 7, and the removable slates 1, 2 and 3, secured respectively to the removable parts, substantially shown and described. 5th. A slate consisting of a frame, having grooves for three slates, slates removable from said grooves, the outer slates being removed in the same direction, and the middle slate being removed in a direction at right angles to the outer slates, substantially as shown and described. 6th. A slate, consisting of the parts 4, 5, 6, 7, 8, 9 and 10, which form the frame, said frame having grooves 11 adapted to receive the slates 1, 2, 3, being securely attached to the parts 4, 5 and 6, of the frame, the parts 4 and 5 with the slates attached being secured in position by the button 12, said frame having a socket 13 bored in one side to receive a pencil, substantially as shown and described. 7th. In a draw leaf slate, a slate leaf having a metal binding on three sides, and the fourth side rigidly attached to a side of the frame of said leaf slate, substantially as described. 8th. In a draw leaf slate, a slate leaf having a metal binding for three edges, and a side of the frame of said draw leaf slate for the other edge, substantially as described.

No. 34,400. Type Writing Machine.*(Graphotype.)*

Andrew Devine, (assignee of Charles T. Moore), Washington, D.C., U.S., 22nd May, 1890; 5 years.

Claim.—1st. The method of printing herein described, which consists in designating a character to be printed at one operation, simultaneously setting a feed (corresponding to the width of such character), printing the character previously designated at a second operation, and simultaneously therewith executing the feed corresponding with the imprinted character, substantially as described. 2nd. The method of machine printing herein described, consisting in impressing a character previously designated at one operation, and simultaneously therewith executing a previously set feed, designating another character to be printed, and setting the feed corresponding with the character designated, substantially as described. 3rd. In a type-writing machine, the combination of mechanism for designating a character to bring it to the printing position, mechanism for printing the character previously designated, and double impulse letter-space feed mechanism, constructed to set a feed at one operation, and to execute said feed at another operation, substantially as described. 4th. In a type-writing machine, the combination of mechanism for designating a character to be printed, mechanism for printing the character previously designated, and double impulse letter-space feed mechanism constructed to set a feed corresponding to the width of the designated character, and to execute a feed corresponding to the imprinted character, substantially as described. 5th. In a type-writing machine, the combination of a paper carriage, and a dial with movable pins, for regulating the letter space movement of said carriage, substantially as described. 6th. In a type-writing machine, the combination of a paper carriage, an arm moved by the advance of said carriage, and a series of movable stops to arrest the advance of said carriage through the instrumentality of said arm, substantially as described. 7th. In a type-writing machine, the combination of a paper carriage, and a traveling arm moved by the advance of said carriage, a series of movable stops for arresting the advance of said carriage through the instrumentality of said arm, and a designating arm for projecting said stops into the path of the traveling arm, substantially as described. 8th. In a type-writing machine, the combination of a paper carriage, and a traveling arm moved by the advance of said carriage, and a series of movable stops for obstructing the advance of said carriage, and an arm for severally removing the designated stops from the path of the traveling arm, substantially as described and for the purpose specified. 9th. In a type-writing machine, the combination of a paper carriage, and a traveling arm moved by the advance of said carriage, a series of movable stops for obstructing the travel of said carriage, and advance of said carriage, and a designating arm for severally projecting said stops into the path of the traveling arm, and an arm for severally removing said stops from obstructing the travel of said carriage, substantially as described and for the purpose specified. 10th. In a type-writing machine, the combination of a paper carriage, a traveling arm moved by the advance of said carriage, a series of feed designating stops for arresting the advance of said

carriage, through the instrumentality of the traveling arm, a designating arm for projecting said stops into the path of the traveling arm, and a toothed locking ring, substantially as described and for the purpose specified. 11th. In a type-writing machine, the combination of a paper carriage, a traveling arm moved by the advance of said carriage, a series of feed designating stops for arresting the advance of said carriage through the instrumentality of the traveling arm, a feed designating arm for projecting said stops into the path of the traveling arm, and a clutch for imparting an intermittent rotary movement to the designating arm, substantially as described and for the purpose specified. 12th. In a type-writing machine, the combination of a paper carriage, a traveling arm moved by the advance of said carriage, a series of feed designating stops for arresting the advance of said carriage through the instrumentality of the traveling arm, a feed designating arm for severally projecting said stops into the path of the traveling arm, a clutch for imparting an intermittent rotary movement to the designating arm, and a series of finger keys with connecting mechanism for imparting motion to said clutch, substantially as described, and for the purpose specified. 13th. In a type-writing machine, the combination of the paper carriage, traveling arm, feed designating stops, feed designating arm, clutch, finger keys, toothed locking ring, and the arm for removing the designating stops from the path of the traveling arm, substantially as described and for the purpose specified. 14th. In a type-writing machine, the combination of the paper carriage, the traveling arm, feed designating stops, feed designating arm, clutch and shaft or rod for opening the clutch, substantially as described and for the purpose specified. 15th. In a type-writing machine, the combination of the paper carriage, the traveling arm, feed designating stops, feed designating arm, clutch, shaft or rod for opening the clutch and the toothed locking ring, substantially as described and for the purpose specified. 16th. In a type-writing machine, the combination of the paper carriage, the traveling arm, the feed designating stops, the feed designating arm, the clutch, the shaft or rod for opening the clutch, the toothed locking ring, and the arm for removing the obstructing stops from the path of the traveling arm, substantially as described and for the purpose specified. 17th. In a type-writing machine, the combination of a series of finger keys, a rod common to said keys, a clutch deriving motion from the action of said keys, through the common rod, and connecting mechanism, a shaft or rod for opening said clutch through the action of the cammed lever 109, and the feed designating arm, substantially as described and for the purpose specified. 18th. In a type-writing machine, the combination of a series of finger keys, a rod common to said keys, a clutch deriving motion from the action of said keys through the medium of their common rod and connecting mechanism, the shaft or rod for opening said clutch, the feed designating arm and toothed locking ring, and feed stops, substantially as described and for the purpose specified. 19th. In a type-writing machine, the combination of a series of finger keys, a rod common to said keys, a clutch deriving motion from the action of said keys through the medium of their common rod and connecting mechanism, the shaft or rod for opening said clutch, the feed designating arm and toothed locking ring, and feed stops, substantially as described and for the purpose specified. 20th. In a type-writing machine, the combination of a series of finger keys, a rod common to said keys, a clutch deriving motion from the action of said keys through the medium of their common rod and connecting mechanism, the shaft or rod for opening said clutch, the feed designating rod, toothed locking ring, feed stops, paper carriage, traveling arm moved by the advance of the carriage, and the arm for removing the feed stops from the path of the traveling arm, substantially as described and for the purpose specified. 21st. In a type-writing machine, the combination of a series of finger keys, a feed designating rod 186 common to all of the keys, having varying projections, a cam 109, lever 101, shaft or rod 85, and the clutch, whereby the movement imparted to said key levers operate to open said clutch at points varying in the arc of its travel, substantially as described and for the purpose specified. 22nd. In a type-writing machine, the combination of a series of finger keys, a feed designating rod 186 common to all the keys, cam 109, levers 101, a shaft or rod 85 for opening the clutch, the clutch and feed designating arm, substantially as described and for the purpose specified. 23rd. In a type-writing machine, the combination of a series of finger keys, a feed designating rod 186 common to all the keys, cam 109, lever 101, shaft or rod 85, clutch feed designating arm and toothed locking ring, substantially as described and for the purpose specified. 24th. In a type-writing machine, the combination of a series of finger keys, a feed designating rod 186 common to all of the keys, cam 109, lever 101, shaft or rod 85, clutch feed designating arm, toothed locking ring, feed stops with traveling arm arrested by said stops, the paper carriage and arm for removing the obstructing stops from the path of the traveling arm, substantially as described and for the purpose specified. 25th. In a type-writing machine, the combination of a series of finger keys, a feed designating rod 186 common to all of the keys, cam 109, lever 101, shaft or rod 85, clutch feed designating arm, toothed locking ring, feed designating stops, traveling arm, co-operating with said stops, paper carriage, and the arm for removing the obstructing feed stops from the path of the traveling arm, substantially as described and for the purpose specified. 26th. In a type-writing machine, the combination of the designating stops, the designating arm part 75 of the clutch, the locking lever 106, and connecting mechanism, substantially as described and for the purpose specified. 27th. In a type-writing machine, the combination of the intermittently rotating designator 77, the lever 101, mechanism for connecting the designator and lever, and the automatic locking lever 106, substantially as described. 28th. The combination of the intermittently rotating designator 77, a clutch having an intermittently rotating section with which the designator is connected, and having a vibrating section of finger keys, and mechanism for operatively connecting said keys and clutch, substantially as described. 29th. In a type-writing machine, the combination of an intermittent rotary designator 77, a clutch having a vibratory section, and an intermittent rotary section lever 101, for operating the clutches and locking lever 106, substantially as described. 30th. The combination, with a type-writing machine, of a double impulse letter space feed mechanism, having a reciprocating and intermittently

rotating designator. 31st. In combination with a type-writing machine having a double impulse letter space feed, means for designating a feed space when a character is designated, and means for executing said designated feed when a subsequent character is designated, substantially as described. 32nd. In a type-writing machine, a letter space feed having a clutch, one section of which has an oscillatory movement, and the other an intermittent rotary movement, and a movement parallel with the axis, substantially as described and for the purpose specified. 33rd. In a type-writing machine, the combination of the finger key levers with the feed designating rod 186, the clutch and the cam 109, whereby the variable movements imparted to said designating rods by each several key lever will be transmitted through said cam to uncouple the clutch, and thereby accommodate the uniformly moving parts of the feed mechanism to the variable moving parts, substantially as described and for the purpose specified. 34th. In a type-writing machine, the combination of a series of finger key levers, a presenting the characters to be printed from each lever recessed according to the width of the character or characters it represents, a feed designating rod common to said levers, and a dial containing a series of movable stops and connections, whereby the letter space movement of the paper carriage is regulated according to the varying depth of the recesses in said key levers, substantially as described and for the purpose specified. 35th. In a type-writing machine, the combination of the toothed locking rim beneath the dial of the paper carriage feeding mechanism of the arm co-operating with said rim, the sleeve to which said arm is connected, the vertical shaft operating as described to raise said sleeve and arm, the lever upon which the vertical shaft is supported, and means substantially as described, for raising said lever, as set forth. 36th. In a type-writing machine, the combination, with the toothed rim beneath the dial of the paper carriage feeding mechanism, of the arm co-operating with said rim, the sleeve to which said arm is connected, the springs operating to depress said sleeve and arm, the vertical shaft operating as described, to raise said sleeve and arm, and the lever and connections substantially as described, for lifting said vertical shaft as set forth. 37th. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism, the sliding pins in said dial, the horizontally swinging arm for engaging said pins, the hollow shaft to which said arm is secured, the pinion carrying the friction rim, the friction pawls connecting said friction rim to said hollow shaft, the paper carriage and gearing, substantially as described, between the paper carriage and the pinion bearing the friction rim, whereby the paper carriage is kept in check by the stop pins of the said dial, as set forth. 38th. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism, of the sliding pins in said dial, the horizontal swinging arm normally held against one of the raised pins by the propelling devices applied to the paper carriage through mechanism, substantially as described, the vertically swinging arm for depressing the pins of the dial, the shaft to which said arm is connected, and mechanism, substantially as described, for raising said shaft so as to cause the depression of the pin, the advance of a horizontally swinging arm to the next pin, and the feed of the paper carriage, as set forth. 39th. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism, and the sliding pins in said dial, of the vertically movable shaft, the locking rim, the arm engaging with said rim, and connected with said shaft, as described, and mechanism, substantially as described, operating upon the depression of a key, to first raise the shaft so as to bring the locking arm into engagement with the locking rim, and then cause said arm to raise another stop pin above the dial, as set forth. 40th. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism, and the sliding pins in said dial, of the swinging arm, the vertically moving shaft to which the same is connected, the locking rim, the co-operating locking arm also connected to said vertical shaft as described, and mechanism, substantially as described, operating upon the depression of a key, to first raise the shaft so as to bring the locking arm into engagement with the locking rim, and then by a further movement cause said locking arm to raise another stop pin above the dial, and simultaneously cause the depression of the stop pin that stands beneath the vertically swinging arm, as set forth. 41st. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism, and the sliding pins on said dial, of the horizontally swinging arm normally held against one of the raised pins by the propelling power applied to the paper carriage through mechanism, substantially as described, the vertically swinging arm for depressing the dial pins, the shaft to which said arm is connected, the locking arm, the arm for engaging therewith, and mechanism, substantially as described, for raising the vertical shaft so as to cause the engagement of the locking lever with the locking rim, the raising of a pin in the dial, the depression of the pin with which the horizontally swinging arm is engaged, and the advance of said arm to the next succeeding pin of the dial, and the consequent feeding forward of the paper carriage, as set forth. 42nd. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism, the locking rim, the locking arm for co-operating with said rim, devices, including a clutch, for rotating said arm beneath the locking rim upon the depression of a finger key, and mechanism, substantially as described, for lifting the locking arm into engagement with the locking rim, and at the same time uncoupling the aforesaid clutch, as set forth. 43rd. The combination, with the dial of the paper carriage feeding mechanism, the locking rim, the locking arm for co-operating with said rim, the sleeve on which said locking arm is mounted, carrying one portion of a friction clutch, the vertically movable shaft, the pinion carrying the other portion of the friction clutch, the vibratory gear segment for rotating the pinion; and mechanism, substantially as described, for imparting motion to the gear segment upon the depression of the finger keys; as set forth. 44th. The combination, with the dial of the paper carriage feeding mechanism, the locking rim, the locking arm for co-operating with said rim, the sleeve on which said locking arm is mounted, carrying one portion of a friction clutch; the vertically movable shaft, means substantially as described for raising it, the pinion carrying the other portion of the friction clutch, the vibratory gear segment for rotating the pinion, and mechanism

ism, substantially as described, for imparting motion to the gear segment upon the depression of the finger keys, as set forth. 41st. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism engaging with said stop pins, the horizontally swinging arm for connected, and a supplemental clutch and driving mechanism for mechanism, as set forth. 45th. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism having movable stop pins, the horizontally-swinging arm for engaging with said stop pins, the hollow shaft to which said arm is connected, the supplemental friction pawls connected to said shaft, the supplemental friction rim and its pinion, the vibrating segment arm, and the spring for actuating it, as set forth. 47th. In a type-writing machine, the combination of the dial of the paper carriage feeding mechanism having the movable stop pins, the horizontally swinging arm for engaging with said stop pins, the hollow shaft to which said arm is connected, the friction pawls, friction rim, means, substantially as described, for rotating said friction rim by the paper carriage propelling devices, means, substantially as described, for preventing the rotation of the hollow shaft by the said paper carriage propelling devices, and supplemental devices, substantially as described, for rotating said hollow shaft, and connections, when said last-mentioned devices are rendered inoperative, as set forth. 48th. In a type-writing machine, the combination, with the dial of the paper carriage feeding mechanism having the movable stop pins, as described, of the vertically-swinging arms for depressing said stop pins, the vertically movable shaft to which said arm is connected, the lever supporting said shaft, the two vibratory cam arms for in turn raising said last-mentioned lever, and the keys and intermediate connections for moving said cam arms, as set forth. 49th. In a type-writing machine, the combination, with the lever, the vertically movable shaft, the clutch, the paper carriage feeding mechanism and vibratory cam arms for raising said lever, and an automatic latch or catch for holding the lever when fully raised, as set forth. 50th. In a type-writing machine, the combination, with the lever, the vertically movable shaft, the clutch, the paper carriage feeding mechanism, the automatic catch for locking the lever when fully raised, and the two vibratory cam arms, one of which operates to partially raise the lever and the other to fully raise it and engage it with the locking catch, and afterward automatically disengage it therefrom, as set forth. 51st. In a type-writing machine, the combination of a series of finger key levers, recessed severally to correspond to the width of both the upper and lower case characters represented by said keys, adjustable type-carriers, feed designating rod common to said key levers, and an upper case key operating to adjust said designating rod to co-operate with the upper case recesses in said key levers, whenever the type carriers are adjusted, so as to bring the upper case characters in line with the printing press, substantially as described and for the purpose specified. 52nd. In a type-writing machine, the combination of the upper case key with type carriers, and a lock for retaining the carrier at upper case after the upper case key has been returned to normal position, and the trip for releasing the type carriers from the operation of the lock upon the designation of a lower case character, substantially as described and for the purpose specified. 53rd. In a type-writing machine, the combination of the upper case key with the lock for temporarily retaining the carriage at upper case, as specified, and the trip for releasing the carriers, as specified, whereby the upper case key retains the carriers at upper case until an upper case character has been designated, and a corresponding feed set, and with it, leaving the type-carriers at upper case until the designation of a lower case character causes the upper case character to be printed, the corresponding feed executed and the carrier's release from the operation of the lock, substantially as described and for the purpose specified. 54th. In a type-writing machine, the combination of the adjustable type wheels, a key to bring the upper case characters into line with the press, and means for automatically locking them in position after the release of the upper case key, and 55th. In a type-writing machine, the combination of an upper case key, vibrating arms, feed designating rod arranged in slots in the vibrating arms, and a series of letter designating finger key levers varying width, substantially as described and for the purpose specified. 56th. In a type-writing machine, the combination, with the paper carriage, and means, substantially such as described, for depressing the same, of a dial and stop pins, an arm kept normally advancing mechanism, and supplemental mechanism, substantially as described, for withdrawing said arm from the control of the action of said supplemental devices, and rendering it subject to the action of the stop pin with which the arm is engaged, said arm is enabled to be advanced to the next stop pin without permitting any combination of printing devices or press, with the dial of the paper carriage feeding mechanism, having the movable stop pins of the dial and pawls through which said shaft is rotated by the paper carriage advancing mechanism, the supplementary friction rim and pawls, for rotating said last-mentioned friction rim, and the brake arm for applying friction to the first-mentioned friction rim, substantially as set forth and for the purpose specified. 58th. In a type-writing machine, substantially such as herein described, wherein the characters to be printed are designated by one operation and imprinted by a subsequent operation, I claim the combination of a paper carriage, its propelling mechanism, and correction mechanism by which the letter space movement of the carriage is suspended, while substituting a new or different character for the one previously designated, substantially as and for the purpose specified. 59th. In a type-writing machine, substantially such as herein described, wherein the characters to be printed are designated by one operation and im-

printed by a subsequent operation, I claim the combination of a press for imprinting the characters, correction mechanism for suspending the action of said press, while substituting a new or different character for the character previously designated, substantially as described and for the purpose specified. 60th. The combination of a printing device or press, a paper carriage correcting mechanism for simultaneously suspending the advance of the paper carriage and the action of the printing press, a series of finger keys and a letter space feel, whereby a character erroneously at the printing point may be withdrawn before the impression is made, and the feed therefor executed and a new character may be brought to the printing point, and its proper feed designated, substantially as described. 61st. In a type-writing machine, the combination of a movable paper carriage, a travelling arm and a series of feed designating stops, a connecting clutch for communicating the movement of the paper carriage to the travelling arm, a brake co-operating with the connecting clutch for suspending the action of the paper carriage, a mechanism, consisting substantially of a spring and actuating clutch supplemental to the connecting clutch, for advancing the travelling arm when the movement of the paper carriage has been suspended, substantially as described and for the purpose specified. 62nd. In a type-writing machine, the combination of the correction key with a brake, and connecting clutch for suspending the advance of the paper carriage, and the spring and supplemental clutch for advancing the travelling arm when the travel of the carriage has been suspended, substantially as described and for the purpose specified. 63rd. In a type-writing machine, the combination of the correction key, the spring compressed by the action of said key, the travelling arm actuated by said spring, and means for locking the carriage in position, substantially as described and for the purpose specified. 64th. In a type-writing machine, the combination of a paper carriage, spacing mechanism for regulating the advance of said carriage, a clutch for connecting the space mechanism with the carriage, a correction key for suspending the action of said clutch, a second clutch and means for operating the spacing mechanism through said second clutch, when the action of the carriage has been suspended, substantially as described. 65th. In a type-writing machine, the combination of the correction key, the clutch through which the travelling arm of the feed mechanism derives its movement from the advance of the paper carriage, the paper carriage, the supplemental clutch and the travelling arm, substantially as described and for the purpose specified. 66th. In a type-writing machine, the combination of a movable paper carriage, a connecting clutch through which the movement of said carriage is transmitted to the travelling arm of the feeding mechanism, the correction key, spring compressed by said key, supplemental clutch and travelling arm of feeding mechanism, substantially as described and for the purpose specified. 67th. In a type-writing machine, the combination of the dial for controlling the type wheels with its movable stops, the elastic levers for actuating said stops, finger keys for actuating said levers, and an arm for restoring said stops to their normal conditions, substantially as described and for the purpose specified. 68th. In a type-writing machine, the combination, with the type carriers, of the movable stops for regulating the movements of the type carriers, and the elastic levers for actuating said stops, substantially as described and for the purpose specified. 69th. In a type-writing machine, the combination of the dial for controlling the type-carriers with its movable stops, the elastic levers for actuating said stops, and the finger keys, substantially as described and for the purpose specified. 70th. In a type-writing machine, the combination of the type wheels and their shaft, of the toothed locking wheel on said shaft, the vertically adjustable locking yoke, the guide pins 11 for said yoke, the spring 25 for raising the yoke, and the arm 62 for compressing the same, substantially as described. 71st. In a type-writing machine, the combination, with the dial and its movable stop pins, of the type wheel shaft and the type wheels thereon, the arm mounted on the shaft for engaging with the stop pins, and the vertically moving arm for depressing the raised pins, substantially as described. 72nd. In a type-writing machine, the combination of the movable type carrier, a dial having a series of movable stops, an arm intermediate between the stops and the carrier co-operating to bring the carrier to rest, and the clutch to prevent the contra-action of said carrier when arrested, substantially as described and for the purpose specified. 73rd. In a type-writing machine, the combination of the intermittently rotating type wheel shaft and its co-operating arm, the dial and its movable stops for arresting the movement of said shaft, and a clutch to prevent the contra-rotation of said shaft, substantially as described. 74th. In a type-writing machine, the combination of type carriers, the dial containing the movable stops to control said carrier, and the friction or biting clutch to prevent the contra-action of said carriers, substantially as described and for the purpose specified. 75th. In a type-writing machine, the combination of the movable stop pins with a rotatable type wheel shaft and its type-wheel, the swinging arm mounted on the type wheel shaft for engaging the stop pin, and clutch for preventing the rebound or backlash when said arm comes in contact with either of said stop pins, substantially as described. 76th. In a type-writing machine, the combination of the dial and its movable stop pins, with the type wheel shaft and type wheels thereon, the swinging arm mounted on the type wheel shaft, the vertically movable arm for depressing the raised pins, and the clamping devices for preventing backward movement of the swinging arm and connected parts, when a stop pin is struck by said arm, substantially as described. 77th. In a type-writing machine, the combination of the dial and its movable stop pins, of the vertically moving arm for depressing the raised pins, whereby, when said depressing arm and a raising lever operate upon said pin at the same time, the lever will yield and thus prevent interference with the operation of the machine. 78th. In a type-writing machine, the combination of the type wheel shaft and means for locking it, of the co-operating dial, its movable stop pins, the laterally swinging arm mounted on the type wheel shaft, the vertically moving arm for depressing the pins, and means, substantially as described, for giving a slight forward impulse to the laterally swinging arm, after the pin with which the arm has been engaged is depressed and before the type wheel shaft is unlocked, substantially as described and for the purpose specified. 79th. In a type-writing

machine, the combination of the type wheel shaft and its type wheel, of the dial, and its movable stop pins, the vertically moving arm for depressing the pins, the sleeve to which said arm is connected, the spring for raising it, and means, substantially as described, for lowering it, as set forth. 87th. In a type-writing machine, the combination, with the type wheel shaft, of the drum geared thereto, the hand lever, the cord extended from the hand lever to the drum, the spring fuzee and the cord extending from the drum to said fuzee, whereby the force of the spring within the fuzee is relied upon as the motor to drive the type wheel shaft, and whereby also said spring is kept wound up by the operation of the hand lever through the above described instrumentalities, substantially as described. 88th. In a type-writing machine, the combination, with the finger keys or key levers, of the type wheels, the rod and lever for adjusting said wheels vertically, the bell crank lever co-operating with the pin or projection on said rod to keep the latter elevated, the latch mounted on said bell crank lever, and the lever operated through the instrumentality of the finger keys for striking the latch, and swinging the bell crank lever so as to permit the rod and said type wheels to automatically descend, substantially as described. 82nd. In a type-writing machine, the combination, with the dial of the printing mechanism, the movable stop pins therein, the type wheel shaft and the sleeve on said shaft carrying the arm for depressing said stop pins, of the push rod, and described intermediate connections for lowering at will the sleeve and causing the arm connected thereto to depress the stop pin with which the laterally swinging arm is in engagement, substantially as described. 83rd. In a type-writing machine, the combination of a movable type carrier, a series of separately movable stops, a series of finger keys, connecting mechanism for setting said stops, and mechanism for co-operating with the keys and stops for withdrawing a stop from operative position upon subsequently depressing the same or another key, substantially as described. 84th. In a type-writing machine, the combination of an intermittently rotating type carrier, and a series of separately movable stops with co-operating mechanism to bring the carrier to rest when a stop is in operative position, and mechanism for withdrawing the operative stop when another is set, and mechanism for rotating the carrier from the stop when another is set, and mechanism for rotating the carrier from the stop with drawn to the stop set, substantially as described. 85th. In a type-writing machine, the combination of a series of stops for controlling the movements of the type carrier, and of finger keys for operating said stops, said stops being adapted to remain in operative position when the action of the key has been withdrawn, substantially as described and for the purpose specified. 86th. In a type-writing machine, the combination of a movable type carrier, a series of movable stops, and a travelling arm co-operating with said stops to arrest said carrier, said arm having a slight forward movement independent of said carrier, substantially as described and for the purpose specified. 87th. In a type-writing machine, the combination of a movable type carrier, the lock wheel co-operating with the same, the laterally swinging arm, the laterally swinging and vertically moving arm, and the stops whereby upon the depression of the stop the laterally swinging and vertically moving arms will have a slightly forward movement imparted to them, before the type carrier is released from the control of a locking wheel and lock, which hold it at the printing point for a short period after the depression of the stop, substantially as described and for the purpose specified. 88th. In a type-writing machine, the combination of the laterally swinging arm, the vertically moving arm mounted loosely on the type wheel shaft, and means for stopping and releasing said type wheel shaft, substantially as described and for the purpose specified. 89th. In a type-writing machine, the combination of the type wheel shaft, suitable stops, the laterally swinging arm, the laterally swinging and vertically moving arm mounted loosely thereon, and the arm rigidly attached to the shaft, substantially as described and for the purpose specified. 90th. In a type-writing machine, the combination of stops, the type wheel shaft and the laterally swinging arm, having a movement independent of said shaft, of the laterally swinging arm rigidly attached to said shaft for controlling the independent movement of said first mentioned arm, substantially as described and for the purpose specified. 91st. In a type-writing machine, the combination of a spring normally under tension for propelling the type wheel, a spring normally under tension for propelling the paper carriage, and a winding lever common to both springs for restoring them to normal condition. 92nd. In a type-writing machine the combination, with the paper carriage, of the feed roll mounted thereon, and provided with friction flange, the pivoted arm bearing, the friction pawl, the toggle connected to said arm, and the hand lever, and connecting cords, whereby at each vibration of the hand lever the feed roll will be advanced, and the arm carrying the friction pawl moved back ready for engagement with the flange of the feed roll the next time the hand lever is vibrated, substantially as described. 93rd. In a type-writing machine, the combination, with the paper feed roll having the friction flange, of the arm carrying the friction pawl, the toggle connected to said arm, the cord and lever for operating the toggle, and adjusting devices, substantially as described, for regulating the throw of the toggle, and consequently the distance the paper is fed or the spacing between lines as set forth. 94th. In a type-writing machine, the combination, with the reciprocating bar, of the impression mechanism, the toggle connected thereto, the rod jointed to the toggle, the slide and the rocking disk with which said slide co-operates, substantially as described. 95th. In a type-writing machine, the combination of the reciprocating bar of the impression mechanism, the toggle, the slide and rod connecting it to the toggle, the disk in which said slide works, and means, substantially as described, for rocking the shaft on which said disk is mounted, as set forth. 96th. In a type-writing machine, the combination, with the slide connected to the toggle of the impression mechanism, of the disk in which the slide works, and means substantially as described, for rocking the shaft on which said disk is mounted, and the pin hub cam and spring pressed arm for guiding the slide when the disk is rocked, substantially as described. 97th. In a type-writing machine, the combination, with the reciprocating impression bar, its operating toggle, the connecting rod, the disk 42, slide 43, pin 44, hub 40, cam 48, and spring arm 49, all connected for operationally substantially as described. 98th. In a type-

writing machine, the combination, with the slide connected to the toggle of the impression mechanism, of the disk on which the slide is mounted, means, substantially as described, for rocking the shaft to which the disk is secured, the pin hub cam and spring pressed arm for guiding the slide when the disk is rocked, and the push bar, rock shaft and connecting rods of the correcting mechanism, for adjusting the slide so as to render it inoperative upon the rod connected to the impression mechanism, substantially as described. 99th. In a type-writing machine, the combination, with the reciprocating impression bar, its toggle, and means, substantially as described, for operating said toggle of the locking yoke, for arresting the type wheel, the lever bearing upon said yoke, and the rod connecting said lever to the toggle of the impression mechanism, whereby the locking of the type-wheel is insured while the impression is being made, as set forth. 100th. In a type-writing machine, the combination, with the type wheels of the inking cylinder having the opening, with its side, into which the peripheries of the type wheels project, of a revolving arm carrying an inking roller which travels over the inked inner circumference of the inking cylinder, and applies ink to the type wheels, substantially as described. 101st. In a type-writing machine, the combination, with the inking cylinder and type wheels, of the revolving arm carrying the inking roller, the hand lever by which the paper carriage is drawn back, and intermediate mechanism, substantially as described, whereby, upon the drawing forward of the said hand lever, the inking roller is caused to traverse the inner circumference of the inking cylinder, and apply ink to the type wheel in the plane with it, substantially as described. 102nd. In a type-writing machine, the combination, with the inking cylinder and type wheels, of the revolving arm carrying the inking roller, the hand lever by which the paper carriage is drawn back, and intermediate mechanism, such as described, including a clutch for causing the revolving arm and inking roller to be rotated upon the drawing forward of said hand lever, but to remain undisturbed while the hand lever is returning to normal position, as set forth. 103rd. In a type-writing machine, the combination, with the type wheels, of the inking cylinder, the shaft projecting within the inking cylinder, the sleeve on said shaft, having the straight slot, the arm carrying the inking roller, and having the curved slot in its hub, the pin on the shaft projecting through both said slots, and means for raising the shaft, whereby the shifting of the shaft causes the arm carrying the inking roller to be moved out of or into contact with the type wheel, substantially as described. 104th. In a type-writing machine, the combination, with the type wheels, of the shaft within the inking cylinder, the sleeve on said shaft having the straight slot, the arm carrying the inking roller, and having the curved slot in its hub, the vertical rod by which the type wheels are shifted and connections, substantially as described, whereby, upon the shifting of the type wheels, the arm carrying the inking roller is moved so as to carry the inking roller out of contact with the type wheel, and again into contact therewith, when the shifting operation has been accomplished, as set forth. 105th. In a type-writing machine, the combination, with the type wheels, the inking cylinder having the opening in its side into which the peripheries of the type wheels project, and the revolving arm carrying the inking roller, of the distributing roller for evenly distributing the ink applied by the inking roller, substantially as described. 106th. In a type-writing machine, the combination, with the type wheels, the distributing roller, the pivoted arm on which said distributing roller is mounted, and the rod through which the type are shifted having notches as described, with which the said distributing roller arm co-operates, substantially as described and for the purpose specified. 107th. In a type-writing machine, the combination, with the paper carriage, and the lever by which the same is drawn back, of an inking roller, an inked surface with which the said roller co-operates, and mechanism, substantially as described, between the lever and inking roller, whereby upon the operation of the lever the inking roller is rotated substantially as described. 108th. In a type-writing machine, the combination of the upper case key, inking rollers, and means for automatically removing the ink rollers upon the depression of said key, whereby said rollers are withdrawn from contact with the type carriers while said carriers are moving from lower case to upper case, and while they are making the return movement, substantially as described. 109th. In a type-writing machine, the combination of a type carrier, ink rollers, and means for automatically removing the ink rollers from the type carrier when changing from upper to lower case, substantially as described.

No. 34,401. Axe and Other Edge Tools.

(Hache et autres outils tranchants.)

Isaac L. Woodley and John A. Dent, (assignees of Louis Riocard),
Rockland, Ont., 22nd May, 1890; 5 years.

Claim.—1st. An axe or other edge tool, having a body A and a separate blade B, joined together by projections C, with beveled ends c on diagonal corners, and corresponding recesses D, with undercut bottoms d, and held together by screws E, substantially as set forth. 2nd. In an axe, the combination of the head or poll A, having the eye a, projections C, at the corners diagonally opposite each other, and having beveled ends c, and provided with screw holes, one of which is tapped, and recesses D, having undercut bottoms d, and separated from the projections C, by an oblique line c', and said recesses being the exact counterparts of the projections C, substantially as set forth. 3rd. In an axe, the combination of the blade B, projections C, having beveled ends c, at corners diagonally opposite, and provided with screw holes, one of which is tapped, and recesses D, having undercut bottoms d, and separated from the projections at an oblique line c', and being exact counterparts of the projections C, substantially as set forth. 4th. In an axe, the combination of the head A, having the eye a, and provided with projection C, and recesses D, placed at diagonally opposite corners and separated at an oblique line c', the blade B, having projections C, and recesses D, which are exact counterparts of the recesses and projections from opposite sides, substantially as set forth.

No. 34,402. Automatic Towel Holder.*(Porte-serviette automatique.)*

George W. Stenz, Ashland, Wis., U.S., and William W. Livingston, Carlisle, Ont., 22nd May, 1890; 5 years.

Claim.—In an automatic towel holder, a casing A, having a recess B and aperture G, the grooved pulley C, having a recess L, the cross plate N, and the coil spring S, in combination with the suspender H, provided at each end with the grips I, and the sliding wire rings J, substantially as and for the purpose hereinbefore set forth.

No. 34,403. Extension Table. *(Table à rallonge.)*

Jeronimus Reimers, West Toronto Junction, Ont., 23rd May, 1890; 5 years.

Claim.—1st. An extension table, the enlarging leaves of which are adjustably connected to the main frame of the table, in combination with a vertically adjustable top which is so supported on the frame of the table as to allow of its being slightly raised as the leaves are being drawn out, but which falls flush with the plane of the enlarging leaves when they are out to their fullest extent, substantially as and for the purpose specified. 2nd. The leaves B and C, having secured to them the guide-ways G, which run parallel with and are supported by the guide-ways H on the frame F, in combination with the vertically adjustable top A, having projections a, which pass through holes D in the central cross piece E, substantially as and for the purpose specified. 3rd. The leaves B and C, having secured to them the guide-ways G, each guide-way having a friction roller I secured at its lower end, which roller is adapted to run in a groove h, in the guide-way H, in combination with the guide-ways H secured on the frame F, each guide-way H having a friction roller J secured at its upper end, which roller is adapted to run in a groove g in the guide-way G, substantially as and for the purpose specified. 4th. The leaves B and C, having ledges c projecting from underneath each leaf, the said ledges being supported on the guide-ways G, which run parallel with and are supported by the guide-ways H on the frame F, in combination with the vertically adjustable top A, having projections a, which pass through holes D, in the central cross-piece E, substantially as and for the purpose specified.

No. 34,404. Revolving Brooch.*(Broche tournante.)*

Herman Levy, Hamilton, Ont., 23rd May, 1890; 5 years.

Claim.—1st. The combination of the coil spring S, the wheels C and D, the pivot P, the wheels E and F, and the balance movement H, in casing A, substantially as and for the purpose hereinbefore set forth. 2nd. In a revolving brooch, the casing A provided at its centre with the protruding revolving pivot P, in combination with a brooch J, substantially as and for the purpose hereinbefore set forth.

No. 34,405. Making, Folding and Fastening of Letters and Envelopes Combined in One Sheet. *(Fabrication, pliage et fermeture des lettres et enveloppes formées d'une seule feuille.)*

Everett R. Thompson, Tilsonburg, Ont., 23rd May, 1890; 5 years.

Claim.—The use of a single sheet of paper, cut so as to contain the folding and fastening flaps A and B, and the combination of the same by a special method of folding into a letter and envelope combined, substantially as and for the purposes hereinbefore set forth.

No. 34,406. Multiplex Telegraphy.*(Télégraphie multiple.)*

David H. Keeley, Ottawa, Ont., 23rd May, 1890; 5 years.

Claim.—1st. The combination of induction coils with the polarized relays, and the arrangement of the local contact plates 1d, 2d, etc., the brush L for completing and interrupting the circuit embracing the relays and secondary wires of the induction coils, whereby only one induced effect is communicated to the relays. 2nd. In multiplex telegraphy, the combination, with the duplex transmit and minus currents respectively. 3rd. In multiplex telegraphy, to line commutators at both ends of the line operating to present currents to line concurrently, plus at one end and minus at the other, and the reverse alternately, in combination with an arrangement of keys to line for the currents of one polarity is interrupted, while the path for the currents of the opposite polarity is established, and when the keys are upraised the reverse effect is produced. 4th. In multiplex telegraphy, commutators and batteries at both ends of the line, arranged normally to concurrently send to line from both ends, transmitters, in combination with the arrangement of keys and are depressed to send a current of one polarity uniformly to line, and when the keys are upraised to send a current of opposite polarity to line, and when the keys are upraised to send a current emanating under the normal condition from the distant terminal station. 5th. In multiplex telegraphy, an apparatus located at an intermediate station, operated by means of currents conjointly emanating from the terminal stations or from stations on either side thereof. 6th. The connection of the apparatus at the terminal and intermediate stations, in combination with spring jack switches, whereby a given set of apparatus may be introduced into any one or other of the several operating circuits at pleasure. 7th. The arrangement and connections of the apparatus at the intermediate stations, in combination with duplicate contact plates and brushes, and duplicate spring jack switches and earth plates, whereby the line may be grounded in any one or more of the multiple circuits, without inter-

ference with the others, and the signalling instruments may be introduced into any circuit on either side of the ground plate at pleasure, thus rendering each and every circuit independently available and adaptable as an ordinary single circuit Morse line.

No. 34,407. Wire Chain. *(Chaîne de fil de fer.)*

Alfred D. Westman, London, Ont., 23rd May, 1890; 5 years.

Claim.—As a new article of manufacture, a wire chain link, composed of the parts S, S¹ and S², the parts S¹ and S² being bent outwards laterally in opposite directions, and then returned or bent backwards, and having the portions c¹, c² of the returned parts S¹ and S², respectively encircling the part S, and having the extreme end c¹ bound between the returned part S¹ and the coiled portion c² of the returned part S², and the extreme end c² bound between the returned part S² and the coiled portion c¹ of the returned part S¹, substantially as shown and described and for the purpose specified.

No. 34,408. Electrical Signalling Apparatus for Preventing Collisions between Railway Trains. *(Appareil électrique à signaux pour prévenir les collisions des trains de chemins de fer.)*

Theodor Perls, Wurzburg, Bavaria, and Martin Perls, London, Eng., 23rd May, 1890; 5 years.

Claim.—1st. The combination of the alternately-interrupted conducting wires b, d, and the continuous conducting wire c, with the electrical batteries B, signalling devices C, conducting brushes or rollers E, F, G, conducting wires i, g and k, and resistance devices n arranged upon the engines, and all operating substantially as set forth and shown. 2nd. In combination with the alternately interrupted conducting wires b and d, and the continuous conducting wire c, the diagonal conducting wires f extending from a point behind the interruptions e in one wire b or d, to a point in front of the nearest interruption e in the other wire d or b, substantially as and for the purpose set forth and shown. 3rd. The alternate long and short sections of the interrupted conducting wires b and d, in combination with the corresponding diagonal conducting wires f, and continuous conducting wire c, substantially as and for the purpose set forth and shown in Fig. 6. 4th. In combination with the continuous conducting wire c and main rails A, A, the electrical batteries B, signalling apparatus C contained in signalling stations on the line, and the conducting wires g¹, g¹¹ connected with the continuous wire c, and the conducting wires a¹ connected with the main rails A, A, substantially as and for the purposes set forth and shown in Fig. 1. 5th. In combination with the interrupted conducting wires b and d, continuous conducting wire c, diagonal conducting wires f, main rails A, A, and engines provided with batteries B, signalling apparatus C, conducting brushes E, F, G, conducting wires g, h, k, and resistances n, the signal stations on the line provided with signalling apparatus C, and conducting wires g¹, g¹¹ connected with the continuous conducting wire c, and a¹ connected with the main rails A, A, substantially as and for the purposes set forth and shown.

No. 34,409. Key for Locks. *(Clé de serrure.)*

Herman C. Fischer, New York, William Schwarzwaelder, Brooklyn, Oscar Schwarzwaelder, Flatbush, and Edgar S. Hicks, Brooklyn, N. Y., U.S., 23rd May, 1890; 5 years.

Claim.—1st. A key, provided with a spiral blade, having bittings in its edge, substantially as shown and described. 2nd. A key, comprising a blade made of two or more spiral flanges standing at angles to each other, and provided with bittings in their edges for engagement with the pins or tumblers, substantially as shown and described. 3rd. A key, provided with a blade, comprising a central pin, and one or more flanges held spirally on the said central pin, and having bevelled outer end, substantially as shown and described. 4th. A key, provided with a blade, comprising a central pin, and one or more flanges held spirally on the said central pin, and provided with bittings in their edges for engagement with the pins or tumblers, substantially as shown and described. 5th. A key, provided with a blade comprising a central pin, and one or more flanges held spirally on the said central pin, and provided with bittings in their edges for engagement with the pins or tumblers, the said flanges being bevelled at their front ends, substantially as shown and described.

No. 34,410. Device for the Transmission of Power. *(Appareil de transmission de la force.)*

Charles Davidson, Guelph, Ont., 26th May, 1890; 5 years.

Claim.—1st. In a device for the transmission of power, the combination, with a frame A, having a shaft B journaled therein, on which are secured a bell pulley C and two pulleys D, Dr. having V-shaped grooves, of two vertical shafts E, each having a pulley F secured thereon, these pulleys having U-shaped grooves, the diameter of the bottom flange of these pulleys being greater than the top one, substantially as and for the purpose set forth. 2nd. In a device for the transmission of power, the combination, with a frame A, the shaft B, pulleys C, D, Dr. of the vertical shaft E and pulleys F, substantially as and for the purpose described.

No. 34,411. Chalking Line used in Shingling, Squaring Timber, etc. *(Ligne à tracer pour couvrir en bardeau, équarrir le bois, etc.)*

Philip Williams, Huntsville, Ont., 26th May, 1890; 5 years.

Claim.—1st. The combination of a two-wheeled machine, carrying one or more balls of chalk along a chalk line. 2nd. The aforesaid combination of my first claim combined with a pressure plate feed,

or with a spring feed. 3rd. The combination of my first claim, combined with a spinning motion to the chalk, and the chalk fed to the line by either pressure plate or spring, all substantially as and for the purpose herein set forth.

No. 34,412. Rotary Harrow. (*Herse rotative.*)

Asa C. Brown, Eugene, Oregon, U.S., 27th May, 1890; 5 years.

Claim.—1st. In a rotary harrow, the combination, with a supporting frame, of tilting blocks carried by the frame, and wheels carrying harrow teeth and formed with gudgeons, adapted to enter apertures in the tilting blocks, substantially as described. 2nd. The combination, with a main supporting frame, carrying anti-friction rollers, of trussed harrow teeth, carrying wheels A, gudgeons extending from the wheels A, blocks through which the gudgeons pass, and a pivotal connection between the blocks and the main supporting frame, substantially as described. 3rd. In a rotary harrow, the combination, with a box 11, of a block formed with a central aperture, set screws by which said block is supported within the box, limit screws arranged in connection with the block, and a tooth-carrying wheel formed with a gudgeon, which enters the aperture in the block, substantially as described. 4th. A harrow tooth, formed with a head, having concave faces, as *c* and *d*, and shoulders, as *e*, substantially as described.

No. 34,413. Monkey Wrench. (*Clé à écrou.*)

William H. Kaltenbeck, Stamford, N. Y., U. S., 27th May, 1890; 5 years.

Claim.—The combination of the fixed jaw A, having the prolongation *a*, the jaw being mortised, and the prolongation also being mortised longitudinally, the sleeve B, attached to and arranged to turn upon the prolongation *a*, the handle containing the nut F, provided with sectional screw-threads, and the movable jaw E and tang D, the tang passing through the fixed jaw and the prolongation *a* into the handle, and having within the handle the part with an elliptical cross-section and sectional screw-threads on its narrow edges to coact with the threads in the nut, substantially as and for the purpose described.

No. 34,414. Rocker and Cup for Operating Pumps. (*Bascule et golet de pompe.*)

Joseph Barrett, Petrolia, Ont., 27th May, 1890; 5 years.

Claim.—1st. The combination of rockers B, B, with rocker plate A and cups C, C, substantially as and for the purpose herebefore set forth. 2nd. The combination of rockers B, B, with B, the sleeve wheel, and C, C, the cups, substantially as and for the purpose herebefore set forth.

No. 34,415. Hot Water Heater.

(*Fournaise calorifère à eau.*)

Adrien Blondin, St. Hyacinthe, Que., 27th May, 1890; 5 years.

Résumé.—1o. Dans une section de fournaise, le diaphragme *a* devant l'eau pardessus et la livrant par dessus par les ouvertures *b* et *c*. 2o. Dans une fournaise à sections, l'ouverture avec tube *b* dans chaque section, placé les unes au dessus et vis à vis des autres, pour donner le cour à l'eau d'une section à une autre. 3o. Dans une fournaise à sections, l'ouverture au tube *c* dans chaque section placée les unes au dessus et vis à vis des autres, pour donner le cour à l'eau d'une section à une autre. 4o. Dans une fournaise à sections, un diaphragme placé dans chaque section et ayant les tubes *b* et *c* placés de chaque coté d'elle d'une manière alternative pour recevoir et livrer l'eau, le tout tel que ci-dessus décrit et pour les fins indiquées.

No. 34,416. Machine for Bending Metal Sash. (*Machine à plier les barreaux métalliques des croisées.*)

Willard F. Mills, Kalamazoo, Mich., U. S., 23th May, 1890; 5 years.

Claim.—1st. The combination of a suitable frame or support, jaws pivoted to open and close, and having their gripping ends curved, a clamp for clamping the sash on each flanged side, and means for operating said clamp, substantially as set forth. 2nd. The combination of a suitable support, the jaws having their gripping ends curved, said jaws mounted upon said supports, one of the jaws being pivoted to the other, the latter being stationary, a clamp on each side of the jaws for clamping the flanged sides of the sash, and an adjustable stop to limit the play of the movable jaw, substantially as set forth. 3rd. The combination of a suitable support, the jaws having the curved ends, the pivoted clamp levers arranged to clamp the sash in the jaws between them, the vertically-playing rod attached to the end of one of the clamp levers, a treadle to which the other end is attached, a spring forming a resistance to the downward movement of said rod, a toggle-bar pivoted to the end of the other clamp lever and to the vertically-playing rod, and a toggle-bar pivoted to said rod at one end and to a suitable support at the other end, substantially as set forth.

No. 34,417. Freight Car Door Fastening.

(*Fermeture de porte de char à marchandises.*)

Ralph D. Cleveland, Minneapolis, Minn., U.S., 28th May, 1890; 5 years.

Claim.—1st. The combination, with a railway car, of a segmental ratchet pivoted in the car door and adapted to be rotated in a vertical plane at right angles to the car body, annular grooves arranged in the faces of said ratchet, an eye plate arranged in the car body adapted to receive the rim of the ratchet as rotated, and having lugs

engaging the grooves of said ratchet, and a spring pawl arranged underneath said eye plate adapted to engage the teeth of said ratchet, substantially as described. 2nd. The combination, with a railway car and a sliding door arranged upon the outside thereof, of a segmental ratchet pivoted vertically in said door at right angles with the door of the car, a socket in the body of said car adapted to receive said ratchet when rotated, and a pawl engaging the teeth of said ratchet as turned through said socket, substantially as described. 3rd. The combination, with a railway car and the door thereof, of a ratchet journaled in one, its pawl secured to the other, and means for holding said pawl in engagement with said ratchet, and the door secured in a closed position, substantially as and for the purposes set forth. 4th. The combination, with a railway car and its sliding door, of a segmental ratchet of greater diameter than the thickness of the door, journaled in a suitable box or frame in said door, adapted to be turned in a vertical plane at right angles with the face of the door, an annular groove arranged concentrically of the ratchet in one side thereof, a socket in the car body adapted to receive the projecting rim of the ratchet as rotated, having a lug engaging the groove of the ratchet and preventing its withdrawal from the socket, a spring pawl arranged in said socket and engaging the teeth of said ratchet, whereby, as said ratchet is rotated, a loud noise is produced by the striking of the pawl upon the teeth of the ratchet, and means, substantially as described, for locking said ratchet and sealing the car, as and for the purposes set forth. 5th. The combination, with a railway car and the sliding door thereof, of a wheel journaled in said door and adapted, when said door is closed, to rotate into a socket in the car body, and mechanism tripped by said wheel as rotated and sounding an alarm, substantially as described. 6th. The combination, with a railway car and the sliding door thereof, of a pawl and ratchet connection arranged between them, by means of which the door may be secured in a closed position and cannot be opened without turning the ratchet, substantially as described. 7th. The combination, with a railway car and the door thereof, of a wheel journaled in said door and entering said car body when the door is closed, lugs engaging said wheel and holding the same in engagement with the said car body so as to prevent lateral movement of the door, an alarm attachment arranged in said car body engaged and sounded by said wheel as rotated, a pin passing through said wheel and securing the same in a fixed position while in engagement with said car body, and a seal securing said pin in said wheel, substantially as described. 8th. The combination, with the car body 2 having the socket 4, the eye plate 3 arranged over said socket and having the oppositely arranged lugs 5, the spring 18 arranged in said socket, the box 7 mortised in the car door and having journaled in it, the segmental ratchet 10, having the concentric grooves 12 arranged on either side thereof and having the holes 14 and 20 passing through the web thereof, and adapted, as said ratchet is turned, to register with holes passing through the side walls of said box, and so arranged that when the hole 14 registers with those in the box 7, the ratchet will be in engagement with the lugs 5 and the spring 18, and that, when the hole 20 registers with the holes in said box, the segmental face of said ratchet aligns with the inner face of the door and allows it to be moved laterally, and the pin 13 adapted to be passed through the hole 14 or 20, and the holes in the box 7, whereby said ratchet is locked in either of said positions, substantially as described. 9th. The combination, with the car body 2 and the door 6, of the eye plate 3 rigidly secured to the car body and having the lugs 5 arranged on either side of the eye, the box or case 7 mortised in said door and registering with the eye of said plate 3, and having ears 15, with a hole through each registering with the other, a segmental ratchet 10 having the grooves 12 and the holes 14 and 20, the spring 18 arranged back of said plate 3 and adapted to engage the teeth of said ratchet, the pin 13 adapted to pass through said holes 14 and 20, and the openings in said ears 15 and to lock said ratchet, and the seal 17 securing said pin in said grooves, substantially as described.

No. 34,418. Circular Buttress.

(*Récépuse circulaire.*)

John C. DeWyll, Livonia, N. Y., U.S., 23th May, 1890; 5 years.

Claim.—1st. The circular buttress composed of body A, concave plate B having teeth *b*, band D, with holes *d*, and combined with a suitable handle, and a cutting knife E having a projection *e* to enter the holes *d* of the band D, all constructed and arranged to operate substantially as and for the purposes described. 2nd. In a circular buttress of the nature described, in combination with the body A, plate B, band D with holes *d*, and knife E with end *e*, of the brace C with crocheted end *c* pivoted to the body, substantially as shown and described for the purposes specified.

No. 34,419. Cooking Stove. (*Poêle ds cuisine.*)

Vason M. Barrett, Atlanta, Ga., U.S., 23th May, 1890; 5 years.

Claim.—In a cooking stove, the fire chamber E, the ash chamber F subdivided by partition D, the flue A passing backwardly over the oven, thence downwardly under the oven and ash chamber into the outlet, and the deflectors B, all arranged substantially as and for the purpose set forth.

No. 34,420. Threshing Machine Attachment. (*Appareil de machine à battre.*)

Alfred Roy, Georgetown, Ont., 28th May, 1890; 5 years.

Claim.—1st. A sheaf lifter having a shaft journaled in two standards and controlled by a coil spring, a swinging arm to support a tilting bar pivoted to one of the aforesaid standards and carrying a pair of forks for clamping a sheaf, substantially as described. 2nd. The tilting bar T pivoted in the rocker U operated by the arm V, and carrying the forks X, X, substantially as described. 3rd. The forks X, X supported by the tilting bar T and controlled by the spring A', and the cords B' and C', substantially as described. 4th.

The connection of a threshing machine by means of the shaft B, crank I, chain C and cords B¹, with a sheaf lifter having the tilting bar T arm V and forks X X, substantially as described. 5th. The combination of the shaft S, tilting bar T and forks X X, with a band cutter table having the revolving cutter D, arms F, raised cover H, eccentric sliding block O, grooved clutch J, and crank I, substantially as described. 6th. The combination of a threshing machine with a band cutter having the revolving cutter D, arms F and cover H, and a shaft lifter having the shaft S arm V, tilting bar T and forks X, substantially as described.

No. 34,421. Device for Raising Sunken Vessels. (*Appareil pour relever les vaisseaux coulés.*)

Michael Garland, Bay, Mich., U.S., 29th May, 1890; 5 years.

Claim.—1st. In a device for the purpose described, the inflatable bag A having connection G and vents E, substantially as described and for the purpose described. 2nd. In a device for the purpose described, the inflatable bag A, the netting or ropes B enclosing the same, and the coupling F at the upper end thereof, substantially as described. 3rd. In a device for the purpose described, the inflatable bag A, the netting or ropes B enclosing the same, the coupling F and the vent opening E, substantially as described. 4th. In a device for the purpose described, the inflatable bags A, the flexible hose connection H connecting them in series, the main air and return connections K and L, and the air compressor, substantially as described. 5th. In a device for the purpose described, the inflatable bags A, couplings F thereto and having valved branch connections G, the main air and return connections K and L, the valves in the return connection and the flexible hose connections, substantially as described. 6th. In a device for the purpose described, the inflatable bags A provided with means for attaching the vents E in the lower ends of the bags, the main air pipes K having sections H, the return pipe provided with the safety valve and the air compressor, substantially as described.

No. 34,422. Ice Box. (*Glacière.*)

Francis LeFaibre, Toronto, Ont., 29th May, 1890; 5 years.

Claim.—1st. In an ice box, the combination of the ice chambers A, openings a, spouts b, bottom side C, drainage holes c, legs g having spaces g¹ cut away through this centre, and trough D having a drainage pipe d and openings e, to correspond with the openings a in the walls of the apartments A, substantially as and for the purpose set forth. 2nd. An ice box consisting of any number of apartments A fitted with openings a in the walls, substantially as and for the purpose set forth. 3rd. An ice box, consisting of any number of apartments fitted with openings a in the walls and provided with spouts b, substantially as and for the purpose set forth. 4th. The combination of the ice apartment A, the openings a provided with spouts b, and the trough D provided with openings e to correspond with openings a in the walls of the apartments A, substantially as and for the purpose set forth.

No. 34,423. Egg Tester.

(*Appareil pour mirer les œufs.*)

Franck Herrick, Rhinebeck, N.Y., U.S., 29th May, 1890; 5 years.

Claim.—1st. In an egg tester, the combination, with a box-like body provided with an opening in one side, and adapted to contain a light, of a strip of soft material covering the said opening, and provided with apertures triangularly arranged, substantially as shown and described, whereby three eggs may be tested at once by placing them over the apertures, as set forth. 2nd. In an egg tester the combination, with a box-like body having an opening in one side and capable of containing a light, of a pliable strip covering the opening in the body, provided with three apertures triangularly grouped, and a hood detachably attached to the body, covering the face containing the opening, which hood is provided with a face opening, substantially as shown and described. 3rd. In an egg tester, the combination, with a box-like body having an opening in one side, and means for supporting a lamp, of a strip of pliable material covering the body opening, provided with apertures triangularly grouped, and a damper held to slide beneath the said strip, capable of closing one or more of the apertures therein, substantially as shown and described. 4th. In an egg tester, the combination, with a box-like body, provided with an essentially trefoil opening in one side, and means for supporting a lamp within the body, of a pliable strip covering the body opening, provided with apertures adapted to receive eggs triangularly grouped, a damper held to slide at the back of the apertured strip, capable of closing one or more of the openings therein, and a detachable hood secured to the box, having a face opening and covering that side of the box containing the testing strip, substantially as specified.

No. 34,424. Nut Lock. (*Arrête-écrou.*)

Charles O. Vinyard, Navajo Springs, A. T., U. S., 29th May, 1890; 5 years.

Claim.—1st. A nut lock for a series of adjacent bolts, consisting of a plate or bar provided with a series of apertures to receive the nuts of said bolts and prevent the same from turning, the outer faces of the nuts lying beneath the outer face of said bar, a locking nut upon an end of one of said bolts screwed tightly upon the outer face of the bar, and a thin elongated spring arm formed integral with said nut and extending radially from the same, and adapted to engage the projecting end of an adjacent bolt, and thereby prevent the locking bar and nut from turning, said arm being sprung outwardly when the locking nut is being rotated, substantially as described. 2nd. A locking nut provided with an elongated thin spring arm extending radially from the inner edge of the nut, said nut and arm being formed integral of spring steel, and the arm being adapted to be bent outwardly when the nut is being rotated, and when released to spring to its normal position and engage an adjacent bolt to hold the nut against loosening, substantially as described.

No. 34,425. Painting Apparatus.

(*Appareil pour peindre.*)

Seymour W. Peregrin, Grand Rapids, Mich., U. S., 29th May, 1890; 5 years.

Claim.—1st. In combination, the table, the brush or stainer, consisting of the hollow head, with the staining brush held therein, a reservoir, a connection between said reservoir and the hollow head of the brush, and adjusting screws for varying the size of the staining brush. 2nd. In combination, the table, the reservoir, the bar g, and the brush holders K pivotally secured to said bar g, whereby they may be adjusted in elevation to conform to the surface, being painted, substantially as described. 3rd. In combination, the table, the reservoir, the bar g and the brush holders K pivotally secured to said rod to have vertical adjustment, said brushes being adjustable laterally toward and from each other, substantially as described. 4th. In a machine for painting slats of school seats, etc., a table, a reservoir above the same, a supporting bar g extending across said table, a series of staining brushes pivotally supported on said bar at different points to paint the desired slats, feeding rolls arranged in front or rear of the brushes, and means for operating said rolls, substantially as described. 5th. In a machine for painting slats of school seats, a table, a reservoir above and a reservoir below the same, a supporting bar g extending across above said table, a series of staining brushes pivotally supported thereon at different points to paint the desired slats, a shaft beneath or above the table, painting wheels or rollers supported at different points along said shafts in connection with the lower reservoir, and openings in the table in line with said wheels or rollers, whereby the slats are painted upon both sides at the same time, substantially as described.

No. 34,426. Pad for the Backs of Horses.

(*Bourrelet pour les dos des chevaux.*)

Charles Mudford, Texarkana, Texas, U.S., 29th May, 1890; 5 years.

Claim.—1st. The air-tight cushion, composed of opposite blanks of elastic air-tight material secured along their adjacent edges, and a central longitudinally disposed dividing strip dividing the cushion into opposite compartments, and provided with openings affording communication between the compartments, substantially as specified. 2nd. The air-tight cushion, provided at one end with a centrally located valve, and between the opposite sections of the cushion with a longitudinally disposed non-elastic bellows shaped strip cemented along its opposite edges to the opposite surfaces of the cushion, and dividing the same into opposite compartments, and terminating short of the ends of the cushion, thereby forming opposite openings affording communication between the compartments, substantially as specified.

No. 34,427. Railway Signal.

(*Signal de chemin de fer.*)

Edward S. Piper, Toronto, Ont., 29th May, 1890; 5 years.

Claim.—1st. A device connected to, and operating with a semaphore-arm by which the motion of the said arm to danger shall simultaneously move a switch and set the said switch from the line protected onto a siding prepared for that purpose, or simultaneously place on the said line one or more fog signals, the passing of the train over which fog signals will warn the engineer and train hands that a semaphore at danger has been passed. 2nd. An endless chain or rope C, arranged to connect a sprocket wheel on the semaphore-arm B, with a sprocket wheel D, connected to a pinion E, in combination with a bar F, having teeth formed on it to engage with the pinion E, and connected to a switch L or fog-signal plate L, substantially as and for the purpose specified. 3rd. An endless chain or rope C, arranged to connect a sprocket wheel on the semaphore arm B, with a sprocket wheel D connected to a pinion E, in combination with a bar F, having teeth formed on it to engage with the pinion E, and connected to a switch L or fog signal plate L, pivoted dogs G, G¹, connected to the endless chain or rope C by the cords H, arranged substantially as and for the purpose specified.

No. 34,428. Process for the Manufacture of Illuminating Gas. (*Procédé de fabrication du gaz d'éclairage.*)

Gustaf M. Westman, New York, N.Y., U.S., 29th May, 1890; 5 years.

Claim.—1st. The herein described process for the manufacture of illuminating gas and coke, consisting in circulating part of the gas back through the coal after being superheated in a regenerator, substantially as described. 2nd. The herein described process for the manufacture of illuminating gas and coke, consisting in circulating part of the gas back through the coal after being superheated in a regenerator, and leading the gas through glowing coals before cooling it, substantially as described. 3rd. The herein described process for the manufacture of illuminating gas and coke, consisting in forcing superheated gases through a charge of coal, then passing the resulting gases through glowing coals, and finally superheating part of the gases and passing the same through the coal, substantially as shown and described.

No. 34,429. Pea Harvesting Attachment.

(*Appareil pour récolter les pois.*)

James Whiteman, Amulree, Ont., 29th May, 1890; 5 years.

Claim.—1st. The combination of the guard stay B with the gatherer A, substantially as and for the purpose hereinbefore set forth. 2nd. The attachment of the guard stay B to the cutter bar J, and the guard D, substantially as and for the purpose hereinbefore set forth.

No. 34,430. Door Bell Mechanism.)*(Mécanisme de timbre de porte.)*

Albert F. Rockwell, Bristol, Conn., U.S., 29th May, 1890; 5 years.

Claim.—1st. In a door bell mechanism, the combination of a push button, a push-rod to which the button is attached, a brake connected with the inner end of the push-rod and adapted to be operated by it, a brake pulley upon which the brake acts, an alarm mechanism provided with a pulley, and an endless band working on the said pulley, as set forth. 2nd. In a door bell mechanism, the combination of a single bell, two alarm mechanisms adapted to independently ring the bell, and a main spring having one end connected to and adapted to operate one alarm mechanism, and the other end connected to and adapted to operate the other alarm mechanism, whereby the same bell may be rung by different movements operated by the same power, substantially as set forth.

No. 34,431. Fruit and Clothes Drier Combined. (Etuve à fruits et à linge.)

Jasper Bates, Thornbury, Ont., 29th May, 1890; 5 years.

Claim.—1st. The combination of the post B, provided with a clamp C, for attachment to a stove, the arm D adjustably pivoted to the top of the post by a pin E, and provided with a prop F, and the open bottom tray G suspended from said arm, substantially as described. 2nd. The post B, having a clamp C for attachment to a stove, and provided with removable arms L inserted in the post, and a pocket J and guard K to hold said arms when not in use, as set forth.

No. 34,432. Stump Puller. (Arrache-souche.)

George Harvey, San Francisco, Cal., U.S., 30th May, 1890; 5 years.

Claim.—1st. The combination of the sills, the base block arranged centrally between the same, the ratchet-wheel supported upon the said base and having upwardly-extending lugs, the pawl engaging said ratchet-wheel, the drum provided at its lower edge with recesses to engage said lugs, the frame having the cap at its upper end, the shaft journaled in said cap and in the said base block and extending through the drum and ratchet-wheel, and the clutch mounted slidably upon said shaft and adapted to engage the drum, substantially as set forth. 2nd. In a stump puller, the combination, with a ratchet-wheel having upwardly-extending lugs, of the drum provided at its lower end with recesses to engage said lugs and the pawl engaging the said ratchet-wheel, substantially as set forth. 3rd. In a stump-puller, the combination of the frame, constructed substantially as described, the shaft having a squared portion, the ratchet-wheel having upwardly-extending lugs, the drum having recesses to engage said lugs, the clutch mounted slidably upon the squared portion of the shaft and adapted to engage the upper end of the drum, the adjusting lever engaging an annular groove in said clutch, a catch to support said adjusting lever in a raised position, and a pawl adapted to engage the ratchet-wheel at the lower end of the drum, substantially as set forth.

No. 34,433. Bow Facing Oar. (Rame articulée.)*(Rame articulée.)*

Stephen R. Sweet, Lima, Ohio, U.S., 30th May, 1890; 5 years.

Claim.—1st. The combination with an oar made in two parts, of sockets for the reception of the inner ends of said parts, bars rigidly attached to said sockets at right angles to the oar, bent levers pivotally connecting the diagonal ends of said bars, and a pivotal shank connected to said sockets, substantially as described. 2nd. The combination of two sockets, an oar-handle in one socket, an oar-blade in the other socket, and a cross-bar rigidly attached to each socket, with bent levers pivotally connecting the diagonally-opposite ends of said cross-bars, and a slotted bar connected to said sockets, and bearing the shank or pin pivotally connected thereto, substantially as described.

No. 34,434. Knife Grinding Machine.*(Machine à aiguiser les couteaux.)*

William D. Graves, Jr., Presque Isle, Me., U.S., 30th May, 1890; 5 years.

Claim.—1st. In a knife-grinding machine, the combination, with a knife-carrying table supported to slide with a longitudinally-reciprocable rack bar, of oppositely-threaded worm sleeves adapted to successively engage the rack bar and reciprocate it, and means for rocking the worm sleeves toward the rack bar alternately and revolving them oppositely, substantially as set forth. 2nd. In a knife-grinding machine, the combination, with an upright frame, and a knife-carrying frame engaged by a longitudinally-reciprocable rack bar, of revoluble worm sleeves having oppositely-pitched threads and supported to rock on a driving shaft so as to alternately engage the rack bar teeth, a driving shaft and means for revolving it, substantially as set forth. 3rd. In a knife-grinding machine, the combination, with a frame, a sliding rack bar thereon, a knife-carrying frame on a rocking shaft, and a longitudinally-movable tappet bar on said frame, of a driving shaft revolubly supported on said frame, revoluble worm sleeves threaded oppositely and supported to rock on the driving shaft alternately to engage the rack bar, gearing for rotating the worm sleeves in opposite directions, means for rotating the driving shaft, and a device, substantially as shown, for successively retaining the worm sleeves in gear with the rack bar, substantially as set forth. 4th. In a knife-grinding machine, the combination with an upright frame, a sliding rack bar on said frame, a knife-carrying frame adjustably secured on a rocking and sliding shaft, and a tappet bar mounted on said frame, of oppositely-threaded worm sleeves and a driving shaft on which said worm sleeves are mounted to rock, said worm sleeves being adapted to be alternately thrown into engagement with the rack bar by the conjunctive sliding movement

of the rack bar and rocking movement of the worm sleeves, substantially as set forth. 5th. In a knife-grinding machine, the combination, with an upright frame, having spaced housings and a base, a rack bar supported to reciprocate in said frame, a knife-carrying frame adjustably secured on a shaft journaled on the frame, and a tappet bar mounted to slide on said frame, of a driving shaft revolubly supported on the housings of the upright frame, and carrying a pulley, rock arms loosely mounted on the driving shaft, oppositely-pitched worm sleeves revolubly supported by said arms, a pinion secured on each of said worm sleeves, an intermediate pinion mounted on the driving shaft and meshing with the pinions on the worm sleeves, and a spiral spring on the driving shaft bearing on the intermediate pinion and one rock arm thereon, substantially as set forth. 6th. In a knife-grinding machine, the combination, with the frame and the knife bar, of a bail secured to said frame parallel with the knife bar, a spring fulcrumed on said bail and carrying a roller at its upper end bearing on the knife bar and bent inward and downward below its fulcrum point over the base of the machine, and upturned at its extremity, and means for regulating the pressure of the roller on the knife bar, substantially as shown and described.

No. 34,435. Needle Threader and Thread Cutter. (Enfileur d'aiguille et coupe-fil.)

James Cook, Darlington, S.C., U.S., 30th May, 1890; 5 years.

Claim.—The combination of the presser foot rod and the clamp D placed thereon, with the screw G, the pivoted needle threader I placed upon the screw G and held between the ends of the clamp, the washers placed upon the screw, and the thread cutter which is clamped between the washers and held in any desired position, substantially as shown.

No. 34,436. Machine for Making Metal Sash. (Machine à faire les croisées métalliques.)

Willard F. Mills, Kalamazoo, Mich., U.S., 30th May, 1890; 5 years.

Claim.—1st. The combination of a suitable support, a bracket thereon having a V-shaped recess for the strip of metal to pass through, a roller having an angular peripheral groove and a wheel above in said groove, between which the metal passes, a bracket having a U-shaped recess, through which the metal next passes, and a roller having a peripheral groove and a roller below, between which rollers the U-shaped metal strip passes, substantially as set forth. 2nd. The combination of a suitable support a bracket thereon having a V-shaped recess for the strip of metal to pass through, a roller having an angular peripheral groove and a wheel above in said groove, between which wheel and groove the metal strip passes, a U-shaped recess, through which the metal strip next passes, two rollers, between which the U-shaped metal passes, one having the peripheral groove to receive the stem of the metal strip, the tool having the prong and shoulders for separating the parts of the double stem and turning them over, and the bracket and roller having the U-shaped recess between them, through which the metal finally passes, substantially as set forth. 3rd. The combination of a suitable table or support, a reel on which the metal strip is wound, a V-shaped recess for the metal to pass through, the grooved roller, and wheel in said groove, the U-shaped recess, through which the U-shaped metal passes, the rollers, one of which is grooved and between which the U-shaped metal passes, and the tool having the prong and shoulders, and the end bracket having the block and roller with U-shaped recess, through which the sash is drawn in its completed condition, substantially as set forth.

No. 34,437. Celluloid Collar. (Faux-col de cellulose.)*(Faux-col de cellulose.)*

Adam B. Mitchell, Toronto, Ont., 30th May, 1890; 5 years.

Claim.—As a new article of manufacture, a celluloid collar A, having metallic eyelets B, to strengthen the button holes, substantially as specified.

No. 34,438. Process for Making Gas. (Procédé de production du gaz.)*(Procédé de production du gaz.)*

The Fuel, Gas and Light Improvement Company of America, (assignee of Philip W. MacKenzie,) New York, N.Y., U.S., 30th May, 1890; 5 years.

Claim.—The process for making fuel gas consisting of, first converting hydro-carbon, steam and air or oxygen by combustion into carbonic acid and hydrogen, next passing the product over refractory material to heat the latter to a high temperature, then discontinuing the air or oxygen and increasing the quantity of hydro-carbon, next burning this mixture and passing the products of combustion over the incandescent mass to convert them into a permanent gas by contact with the heated material, substantially as specified.

No. 34,439. Apparatus for the Manufacture of Illuminating Gas. (Appareil pour la production du gaz d'éclairage.)*(Appareil pour la production du gaz d'éclairage.)*

The Fuel, Gas and Light Improvement Company of America, (assignee of Philip W. MacKenzie,) New York, N.Y., U.S., 30th May, 1890; 5 years.

Claim.—1st. In an apparatus for manufacturing illuminating gas, the combination, with a shell or body, of an evaporator and superheater located therein, an oil supply pipe connected therewith, a carbureter and carbonizer above the evaporator and superheater, a pipe or passage affording communication between the evaporator and superheater, and the carbureter and carbonizer, a converter or decomposing chamber above the carbureter and carbonizer and com-

municating therewith, a passage for steam, hydro-carbon and oxygen or air communicating with said converter or decomposing chamber and an outlet for permanent gas through the evaporator and superheater, substantially as specified. 2nd. In an apparatus for manufacturing illuminating gas, the combination, with a shell or body, of an evaporator and superheater located therein, an oil supply pipe connected therewith, a carbureter and carbonizer above the evaporator and superheater comprising a vapor chamber and a mixing chamber communicating with each other through passages or tuyeres, a converter or decomposing chamber above the carbureter and carbonizer and communicating therewith, a passage for steam hydro-carbon and oxygen or air communicating with said converter or decomposing chamber and an outlet for permanent gas through the evaporator and superheater, substantially as specified.

No. 34,440. Apparatus for the Manufacture of Fuel and Illuminating Gas. (*Appareil pour la fabrication du gaz combustible et d'éclairage.*)

The Fuel, Gas and Light Improvement Company of America, (assignee of Philip W. MacKenzie,) New York, N. Y., U. S., 30th May, 1890; 5 years.

Claim.—1st. In a gas apparatus, the combination, with a shell or body, of a converter or decomposing chamber near its upper end, a passage by which mixed hydrocarbon, steam and air or oxygen is admitted to said converter or decomposing chamber, a carbureter and carbonizer below said converter or decomposing chamber comprising a vapor chamber for hydro-carbon, and a mixing chamber communicating therewith, a passage for the products of combustion from the converter or decomposing chamber opening above the vapor chamber, an inlet pipe for hydro-carbon communicating with the vapor chamber, loose refractory material below said carbureter and carbonizer through which the gas from the latter will pass downwardly and an outlet pipe for the gas below said refractory material, substantially as specified.

No. 34,441. Apparatus for the Manufacture of Illuminating Gas. (*Appareil pour la fabrication du gaz d'éclairage.*)

The Fuel, Gas and Light Improvement Company of America, (assignee of Philip W. MacKenzie,) New York, N. Y., U. S., 30th May, 1890; 5 years.

Claim.—1st. In an apparatus for manufacturing illuminating gas, the combination, with a shell or body, of an evaporator and superheater located therein and comprising pipes of refractory material through which the heated gaseous products will pass, a carbureter and carbonizer above the evaporator and superheater, a pipe or passage effecting communication between the evaporator and superheater and the carbureter and carbonizer, a converter or decomposing chamber above the carbureter and carbonizer and communicating therewith, a passage for steam hydro-carbon and oxygen or air communicating with said converter or decomposing chamber, and an outlet for permanent gas below the evaporator and superheater, substantially as specified. 2nd. In an apparatus for manufacturing illuminating gas, the combination, with a shell or body, of an evaporator and superheater located therein and comprising pipes composed of sections, one of which sections is of refractory material and the other of which is of metal through which tubes the heated gaseous products will pass, a carbureter and carbonizer above the evaporator and superheater, a pipe or passage effecting communication between the evaporator and superheater and the carbureter and car-

bonizer, a converter or decomposing chamber above the carbureter and carbonizer and communicating therewith a passage for steam hydro-carbon and oxygen or air communicating with said converter or decomposing chamber, and an outlet for permanent gas below the evaporator and superheater, substantially as specified.

No. 34,442. Train Pipe for Railway Cars.

(*Tuyau de train pour les chars des chemins de fer.*)

The Consolidated Car Heating Company, Wheeling, W. V., (assignee of James F. McElroy, Albany, N. Y.,) U. S., 31st May, 1890; 5 years.

Claim.—1st. In a car heating apparatus, a train pipe having spurs located in proximity to exposed portions of the heating system, substantially as described. 2nd. In a car heating apparatus, a train pipe, a system of heating pipes within the car having portions thereof, outside adjacent to the train pipe, of spurs extending from said train pipe in close proximity to such exposed portions, substantially as described. 3rd. In a car heating apparatus having a main supply or train pipe beneath the car, and heating system within the car having portions thereof outside the car adjacent to the train pipe, of spurs on said train pipe in close proximity to such exposed portions and of a covering common to both of such pipes, substantially as described.

No. 34,443. Telephonic Means and Method of Operating with Electrical Conductors. (*Moyens et mode téléphoniques d'opérer par des conducteurs électriques.*)

The International Electric Company, (assignee of John E. Watson,) Louisville, Ky., U. S., 31st May, 1890; 5 years.

Claim.—1st. The method of telephonic communication, which consists, first in vibrating a transmitter armature in the main voltaic circuit to effect changes in the voltaic current, and secondly by the increment and decrement of current thus effected varying the strength of said current in the main line and a high resistance helix of the receiver electro-magnet, producing a corresponding diminution or increase of the magnetizing action of a constantly closed local circuit, reversely acting in a low resistance helix on the same electro-magnet, and thereby vibrating a receiver armature or diaphragm normally counterpoised in front of the poles of said electro-magnet, to evolve sounds of like character and quality to those whereby the transmitter is vibrated, substantially as specified. 2nd. A telephonic receiver having on the core of its electro-magnet coils of relatively high and low resistance and separately energized by batteries respectively supplying the high resistance coils, and a constantly closed local circuit including the low resistance coils with currents passing in opposite directions, whereby induced currents set up in the high resistance coils through the action of the low resistance coils being in the same direction as the main line voltaic current and opposite in direction to the extra current set up in the main line, and coils by changes in the voltaic current are designed to neutralize such extra current and assist said voltaic line current, substantially as specified. 3rd. A receiver having a diaphragm or armature, an electro-magnet wound with coils relatively of high and low resistance on a soft iron core, and oppositely connected in the main line, and a constantly closed local circuit and adjusting devices to regulate the distance of the diaphragm or armature from the poles of the electro-magnet, in combination with a transmitter in and forming part of the main line circuit, substantially as specified.

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

1787. J. J. SOURS, 2nd 5 years of No. 21,646, from the 12th day of May, 1890. Improvements in Devices for Manifold Copying, 1st May, 1890.
1788. J. BROADHEAD, 2nd 5 years of No. 21,697, from the 19th day of May, 1890. Improvements in Blankets, 1st May, 1890.
1789. I. S. McDUGALL, 2nd 5 years of No. 21,640, from the 11th day of May, 1890. Improvements in the Manufacture or Production of Paper Pulp, and on the apparatus employed therein, 1st May, 1890.
1790. W. C. BRAMWELL, 2nd 5 years of No. 11,243, from the 13th day of May, 1890. Improvements in Machines for Feeding Textile Material to Carding and other Preparatory Mechanism, 1st May, 1890.
1791. THE ROTARY STEAM SNOW SHOVEL CO., (assignee), 2nd and 3rd 5 years of No. 21,730, from the 26th day of May, 1890. Improvements in Rotary Excavators for removing Snow, etc., 2nd May, 1890.
1792. A. J. HEYS and S. SALKELD, 2nd 5 years of No. 21,619, from the 7th day of May, 1890. Improvements on Buttons and Similar Attachments or Fastenings for Garments, 3rd May, 1890.
1793. THE BELL TELEPHONE CO. (assignee), 2nd 5 years of No. 22,352, from the 2nd day of September, 1890. Improvements in Telephone Circuits and Apparatus, 5th May, 1890.
1794. THE BELL TELEPHONE CO. (assignee), 2nd 5 years of No. 22,475, from the 17th day of September, 1890. Improvements in Telephone Circuits, 5th May, 1890.
1795. THE BELL TELEPHONE CO. (assignee), 2nd 5 years of No. 22,491, from the 19th day of September, 1890. Improvements in Metallic Circuit Telephone Systems, 5th May, 1890.
1796. THE BELL TELEPHONE CO. (assignee), 2nd 5 years of No. 22,492, from the 19th day of September, 1890. Improvements in Multiple Circuit Changes, 5th May, 1890.
1797. THE VACUUM BRAKE CO. (assignee), 2nd 5 years of No. 21,791, from the 30th day of May, 1890. Improvements in or Applicable to Automatic Vacuum Brake Apparatus for Railway Brakes, 7th May, 1890.
1798. J. DAIGNEAU, 2nd 5 years of No. 24,318, from the 16th day of June, 1891. Improvements in Bark Presses, 7th May, 1890.
1799. E. T. BLUNT, 2nd 5 years of No. 21,688, from the 18th day of May, 1890. Improvements in Apparatus for Compressing Ensilage, 7th May, 1890.
1800. THE SIMONDS ROLLING MACHINE CO. (assignee), 2nd and 3rd 5 years of No. 22,120, from the 21st day of July 1890. Improvements in Machines for Rolling Metal and Dies therefor, etc., 7th May, 1890.
1801. C. M. RAYMOND, 2nd 5 years of No. 21,613, from the 7th day of May, 1890. Improvements in Roller Skates, 7th May, 1890.
1802. G. T. SMITH, 2nd 5 years of No. 21,902, from the 16th day of June 1890. Improvements on Centrifugal Reels, 8th May, 1890.
1803. T. W. B. MUMFORD & R. MOODIE, 2nd 5 years of No. 21,756, from the 28th day of May, 1890. Improvements on Apparatus for Separating Substances of different Sizes or Specific Gravities, 9th May, 1890.
1804. G. W. SHAVER and J. HALL, 2nd 5 years of No. 22,152, from the 30th day of July, 1890. Improvements in Driers, 10th May, 1890.
1805. G. HASENPFLUG, 2nd 5 years of No. 21,652, from the 12th day of May, 1890. Improvements in Door Holders, 12th May, 1890.
1806. F. W. EDDY and J. D. ARMSTRONG (assignees), 2nd 5 years of No. 21,692, from the 19th day of May, 1890. Improvements in Bolt Fasteners, 12th May, 1890.
1807. F. B. THATCHER and L. GOFF, 2nd 5 years of No. 21,681, from the 15th day of May, 1890. Improvements on Bottle Stoppers, 12th May, 1890.
1808. W. T. HAYDOCK (assignee), 2nd 5 years of No. 12,566, from the 31st of March, 1891. Improvements in Vehicle Springs, 14th May, 1890.
1809. N. McCONNELL, 2nd 5 years of No. 21,774, from the 29th day of May, 1890. Improvements in Hay Elevators, 16th May, 1890.
1810. F. L. SCRIBNER (assignee), 2nd 5 years of No. 29,953, from the 6th day of June, 1890. Improvements in Reed Organs, 16th May, 1890.
1811. CUSHING PROCESS CO. (assignee), 2nd 5 years of No. 21,944, from the 23rd day of June, 1890. Improvements in Condensers, 17th May, 1890.
1812. S. STUART, 2nd 5 years of No. 21,706, from the 20th day of May, 1890. Improvements in Means for Excluding Oil and Grease from Condensers, Boilers and Pumps of Steam Engines, 17th May, 1890.
1813. THE GOODYEAR SHOE SEWING MACHINE ASSOCIATION (assignee), 2nd 5 years of No. 21,849, from the 10th day of June, 1890. Improvements in Sole Sewing Machines, 19th May, 1890.
1814. THE GOODYEAR SHOE SEWING MACHINE ASSOCIATION (assignee), 2nd 5 years of No. 21,850, from the 10th day of June, 1890. Improvements in Sole Sewing Machines, 19th May, 1890.
1815. G. T. SMITH, 2nd 5 years of No. 20,935, from the 22nd day of January, 1890. Improvements on Flour Bolts, 21st May, 1890.
1816. M. G. O'CONNOR (assignee), 2nd 5 years of No. 21,748, from the 28th day of May, 1890. Improvements in Vehicle Springs, 21st May, 1890.
1817. THE PENN LAMP AND LIGHTING CO. (assignee), 2nd and 3rd 5 years of No. 34,021, from the 1st day of April 1895. Improved method of Controlling the Distribution of Hydro-Carbon and other Oils for Lighting Purposes, and in Means or Apparatus for Effecting the Lighting and extinguishing of the lamps used therewith, 21st May, 1890.
1818. D. MUNRO and A. HISLOP, 2nd 5 years of No. 21,779, from the 30th day of May, 1890. Improvements in Connecting Links, 26th May, 1890.
1819. G. BRESSE, 2nd 5 years of No. 22,731, from the 3rd day of November, 1890. Improvements in Mechanism to be used in the Manufacture of Boots and Shoes, 26th May, 1890.
1820. A. CULLON, 2nd 5 years of No. 21,728, from the 26th day of May, 1890. Parturition Shears, 26th May, 1890.
1821. W. McGUIRE and F. JAGER, 2nd 5 years of No. 21,896, from the 16th day of June, 1890. Improvements in Grain Car Doors, 27th May, 1890.
1822. J. W. DOWD and S. D. FISHER (assignees), 2nd and 3rd 5 years of No. 21,855, from the 12th day of June, 1890. Improvements in Dry Closets, 30th May, 1890.
1823. W. S. CROW and L. T. LARKIN (assignees), 2nd 5 years of No. 21,796, from the 3rd day of June, 1890. Improvements in Medical Compounds, 30th May, 1890.
1824. M. KILIANI, 2nd and 3rd 5 years of No. 31,798, from the 23rd day of July, 1891. Improvements in the Method of and Means for Electrolysis of Substances in a State of Fusion, 30th May, 1890.

MAY LIST OF TRADE MARKS.

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3718. D. S. SAGER, of Brantford, Ont. Medicine for Animals, 1st May, 1890.
3719. LA COMPAGNIE MANUFACTURIERE DE CHAUSSURES, de Levis, Que Chaussures, 2 Mai, 1890.
3720. JEAN DAMIEN ROLLAND, Président de la COMPAGNIE DE PAPIER ROLLAND, de Montreal, Que. Papier. 2 Mai, 1890.
3721. ROGERS' COPYING COMPANY, LIMITED, of 20 Ludgate Hill, London, and 11 Cook Street, Liverpool, Lancashire, England. Paper, Stationery and Bookbinding, 6th May, 1890.
3722. JOHN JAMES McLAUGHLIN, of Toronto, Ont. Mineral and Aerated Waters, 7th May, 1890.
3723. E. N. CUSSON de Montreal, Que. Cigares, 7 Mai, 1890.
3724. POTTER BROTHERS, of Montreal, Que. Baking Powder and Spices, 8th May, 1890.
3725. GEORGE WOODS, of Montreal, Que. Amers Kola Bitters, 12th May, 1890.
3726. CHAPMAN AND SMITH COMPANY, of Chicago, Illinois, U.S.A. Chicago Flavoring Extracts, 13th May, 1890.
3727. CHAPMAN AND SMITH COMPANY, of Chicago, Illinois, U.S.A. Chicago Yeast Powder, 13th May, 1890.
3728. CHARLES ALFRED HART, of West Toronto Junction, Ont. Mattresses and Bedding Materials, Wire Mattresses, Iron Bedsteads, 16th May, 1890.
3729. JAMES WHITHAM AND COMPANY, of Montreal, Que. Boots and Shoes, 19th May, 1890.
3730. ROBERT AUSTIN, of Smiths' Cove, Digby Co., N.S. Canned and Cured Fish, 20th May, 1890.
3731. THE RICHFORD CHEMICAL COMPANY, of Richford, Franklin Co., Vermont, U.S.A. A Medicine for Wakefulness, Dyspepsia, Nervousness and all Derangements of the Secretary and Nervous System, 20th May, 1890.
3732. W. CUSHING AND COMPANY, of Foxcroft, Maine, U.S.A. Dyeing Materials, 21st May, 1890.
3733. C. ALFRED CHOUILLOU, de Montreal, Que. Cognac et Eaux de Vie, 22 Mai, 1890.
3734. LOUIS OVIDE GROTHE, of Montreal, Que. Cigars, 23rd May, 1890.
3735. JOSEPH PICKERING & SONS, of Albyn Works, Burton Road, Sheffield, County of York, England.
A Preparation called Blanco.
3736. Polishing Soap.
3737. Polishing Soap.
3738. General Trade Mark.
27th May, 1890.
3739. THE M. LANGMUIR MANUFACTURING COMPANY OF TORONTO, LIMITED, of Toronto, Ont. Trunks, Valises, Travelling Bags, Retioulos, etc., 28th May, 1890.
3740. ENOCH MORGAN'S SONS COMPANY, of New York, N.Y., U.S.A. Cleansing Substances and Detergents of all kinds, 30th May, 1890.

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5350. HOW CAN I BEAR TO LEAVE THEE. Song. Words by G. Hubi Newcombe. Music by J. L. Molloy. Chappell & Co., London, England, 1st May, 1890.
5351. GLADYS. Suite des Valses, par H. H. Godfrey. A. & S. Nordheimer, Toronto, Ont., 1st May, 1890.
5352. STANLEY, AND HIS HEROIC RELIEF OF EMIN PASHA. By E. P. Scott. Wm. Bryce, Toronto, Ont., 3rd May, 1890.
- 5353 } ENTRE NOUS. Gavotte pour piano, par Signor E. Rubini.
5354 } THE CANADIAN GUARDS. Patrol March. By E. Fraliook.
I. Suckling & Sons, Toronto, Ont., 3rd May, 1890.
5355. THE FIRE UNDERWRITERS' TEXT BOOK. Second Edition. By J. Griswold. Richard Wilson Smith, Montreal, Que., 5th May, 1890.
5356. CHURCH'S MINERAL MAP OF NOVA SCOTIA. Ambrose F. Church, Bedford, N.S., 5th May, 1890.
5357. THE COMMERCIAL AGENCY REGISTER FOR THE PROVINCE OF QUEBEC AND MARITIME PROVINCES. Chaput Frères, Proprietors, Montreal, Que., 5th May, 1890.
5358. LA LETTRE OU LECONS DE STYLE EPISTOLAIRE. a l'usage des Ecoles Primaires. Par Mademoiselle A. Germain, Quebec, Que., 8 Mai, 1890.
5359. BRIGHTER SPHERES. By Spiritus, with an Introduction by E. J. C. Ernest John Craigie, Montreal, Que., 9th May, 1890.
5360. EXCHANGE TABLE (book or compilation). Munderloh & Co., Montreal, Que., 9th May, 1890.
5361. BEATRICE. By H. Rider Haggard. William Bryce, Toronto, Ont., 12th May, 1890.
5362. A GUIDE TO THE GOLDEN CITY. By R. Campbell, John A. Campbell, Toronto, Ont., 12th May, 1890.
5363. A HALF-SCORE YEARS IN TORONTO. Clarkson M. Canniff, Toronto, Ont., 12th May, 1890.
5364. A VEXED INHERITANCE. By Annie S. Swan. William Briggs (Book Steward of the Methodist Book and Publishing House), Toronto, Ont., 13th May, 1890.
5365. EQUAL RIGHTS. Words and Music by Alfred Carter, Toronto, Ont., 13th May, 1890.
5366. PROSPECTUS AND PLAN OF THE PIONEERS OF AMERICA UNITY. Elijah Kitchen Barnsdale, Stratford, Ont., 13th May, 1890.
5367. MACKAY ON FIRE INSURANCE (temporary copyright), which is now being preliminarily published in separate articles in "The Legal News," Montreal. Jame Kirby, Montreal, Que., 14th May, 1890.
5368. THE ANGEL'S PROMISE (with violin obligato). Words by Frederick E. Weatherly. Music by A. H. Behrend. The Anglo-Canadian Music Publishers' Association, L'd., London, England, 14th May, 1890.
5369. SANDERSON'S ADVERTISING CHART. Stanley Sanderson, Toronto, Ont., 16th May, 1890.
5370. SONG OF SPRING. Op. 5. By Byron C. Tapley, St. John, N.B., 16th May, 1890.
5371. MAP OF THE CITY OF TORONTO AND VICINITY; MIMICO, ETOBICOKE TOWNSHIP, YORK COUNTY, ONTARIO. Charles Edward Goad, Montreal, Que., 16th May, 1890.
5372. THE DOCTOR IN CANADA. HIS WHEREABOUTS AND THE LAWS WHICH GOVERN HIM. By Robert Henry Wynyard Powell, M.D., Ottawa, Ont., 16th May, 1890.
5373. A BORN COQUETTE. By "The Duchess." The National Publishing Co., Toronto, Ont., 17th May, 1890.
5374. PHOTOGRAPH OF GEORGE TYNDALE. Geo. Tyndale, Toronto, Ont., 19th May, 1890.
5375. } WOE'S ME—WOE'S ME. Words by Thomas Campbell. Music by Clarence Lucas.
5376. } I REMEMBER. Song. Words and Music by Wm. M. Hutchison.
5377. } SUNSET PICTURES. Song. Words by Effie Ayling. Music by Edward St. Quentin.
A. & S. Nordheimer, Toronto, Ont., 19th May, 1890.
5378. L'INDICATEUR DE QUEBEC, ST. SAUVEUR ET LEVIS. (The Quebec St. Sauveur and Levis Directory), 1890-91. T. L. Boulanger et Ed. Marcotte, Quebec, Que., 19 Mai, 1890.
5379. ROSE OF ENGLAND LANCERS. Arranged by Edmund Corlett, Toronto, Ont., 20th May, 1890.
5380. THE WOMEN'S GUIDE. Margaret A. Abram, Hamilton, Ont., 20th May, 1890.

5381. THE JUDICATURE ACT OF ONTARIO and the Consolidated Rules of Practice and Procedure of the Supreme Court of Judicature for Ontario, with Practical Notes. By George Smith Holmsted, and Thomas Langton, M.A., LL.B., Toronto, Ont., 20th May, 1890.
5382. BY CANOE AND DOG TRAIN AMONG THE CREE AND SALTEAUX INDIANS. By Egerton Ryerson Young (Missionary). Wm. Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont. 21st May, 1890.
5383. MAP OF BROCKVILLE, OR THE CITY OF THE THOUSAND ISLANDS. Neville Bentley Colcock, Brockville, Ont., 21st May, 1890.
5384. THE EXHIBITION SCORE CARD. Thomas H. Smelt, Guelph, Ont., 22nd May, 1890.
5385. GOSPEL TENT HYMNS. Edited by Rev. Ralph C. Horner, B.O., Ottawa, Ont., 22nd May, 1890.
5386. THE RETAIL DEALERS' PROTECTIVE UNION REFERENCE BOOK, TORONTO, ONTARIO, 1890-91. George Giles and William John Equi, Toronto, Ont., 23rd May, 1890.
5387. } TONTINE ROTATION TABLE (print).
5388. } THE TONTINE CO-OPERATIVE PAYMENT PLAN CONTRACT (print).
Raymond Walker, Toronto, Ont., 23rd May, 1890.
5389. } MOVE ON. Polka. By Chas. Bohner.
5390. } IMPERIAL MARCH. By H. L. Clarke.
Whaley, Royce & Co., 28th May, 1890.
5391. CANADIAN HOME RULE HERALD. NO. 1, 1890. George Douglas Griffin, Toronto, Ont., 28th May, 1890.
5392. THE SHIELD AND BEAVER AND THE FLOATING GLOBE (print). The Canadian Pacific Railway Co., Montreal, Que., 28th May, 1890.
5393. REAL ESTATE MEMO. (print). Emma E. Hertz, Toronto, Ont., 29th May, 1890.
5394. THE BAFFLED CONSPIRATORS. By W. E. Norris. William Bryce, Toronto, Ont., 30th May, 1890.
5395. CANADA. LAND OF THE MAPLE TREE } Words and Music
5396. THE OLD UNION JACK. } by Alex. Muir, B.A.
I. Suckling & Sons, Toronto, Ont., 31st May, 1890.

THE

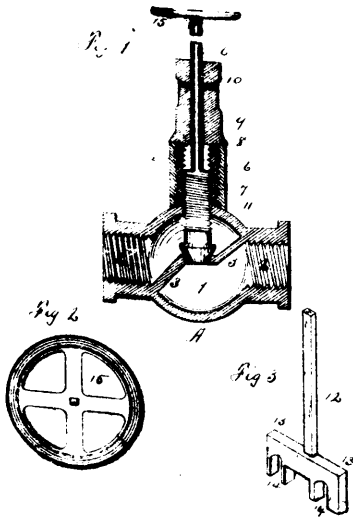
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ILLUSTRATIONS.

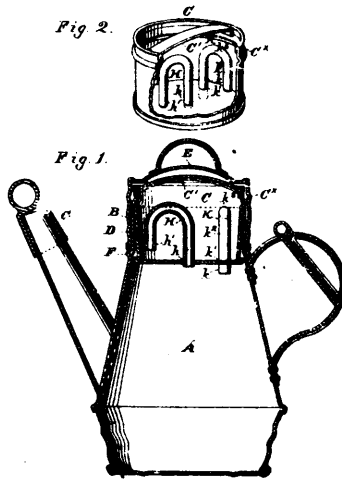
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MAY, 1890.

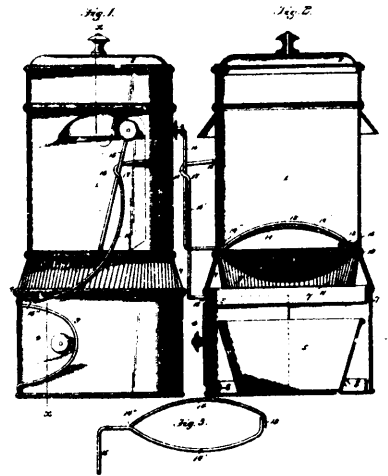
No. 5



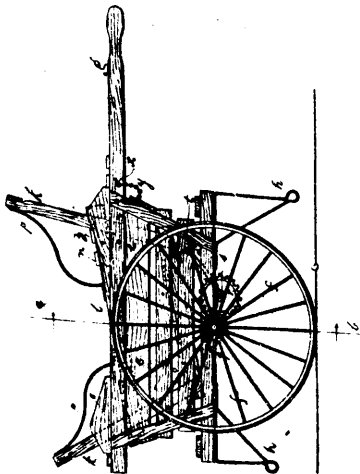
34191 **Tett's Globe Valve.**



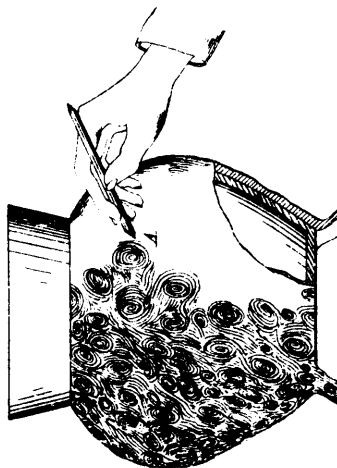
34192 **Mattison's Coffee Pot.**



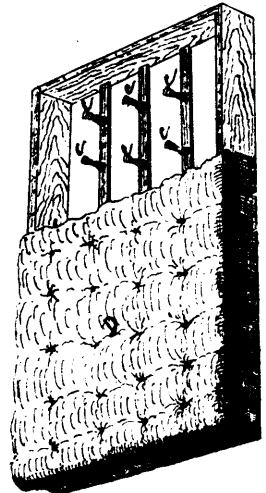
34193 **Crary's Flour Bin, etc.**



34194 **Whiteley's See-Saw, etc., for Children.**



34195 **Cousen's Surface Decorations.**



34196 **Gilmore's Spring Bed.**

FIG. 3.

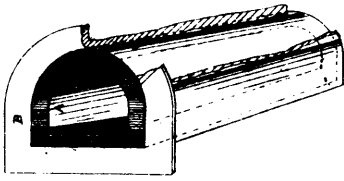
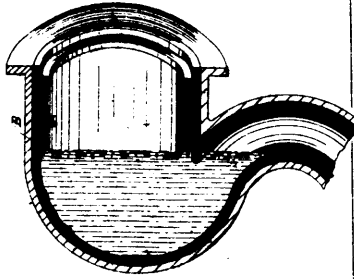
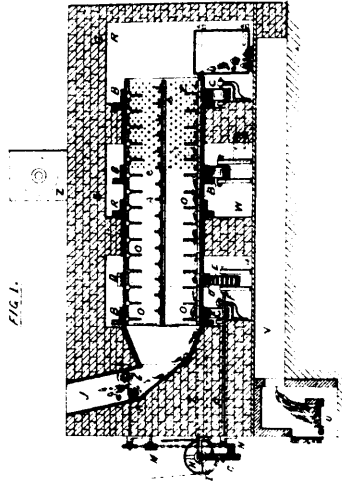


FIG. 4.



34197 Illingworth's Pipe, Gas Retort, etc.

FIG. 1.



34198 Illingworth's Machinery for Carbonizing and Drying Fabrics, etc.

Fig. 1.

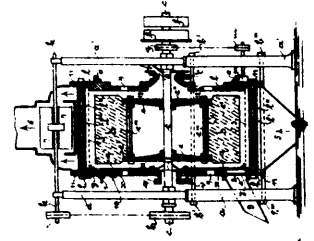
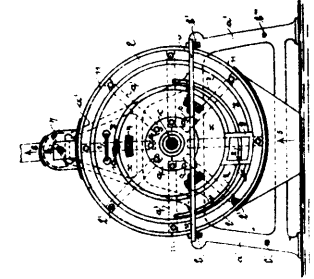
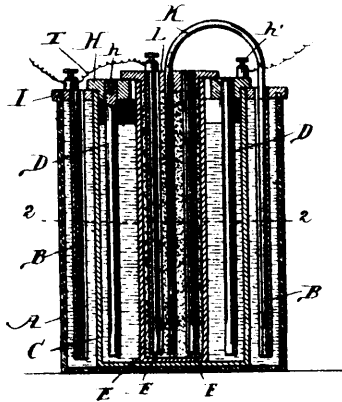


Fig. 2.

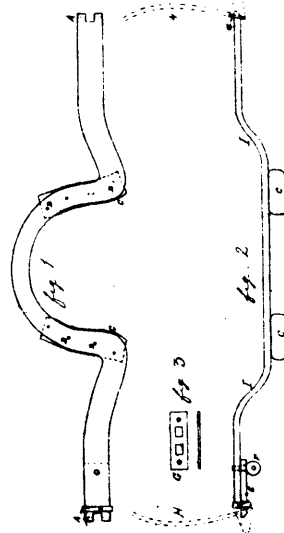


34199 Franzel's Grain Scalper, etc.

Fig. 1.

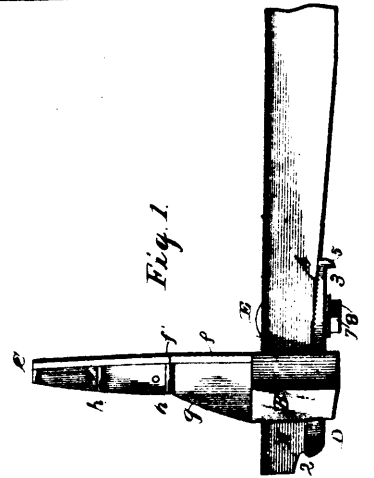


34200 Cross' Galvanic Battery.

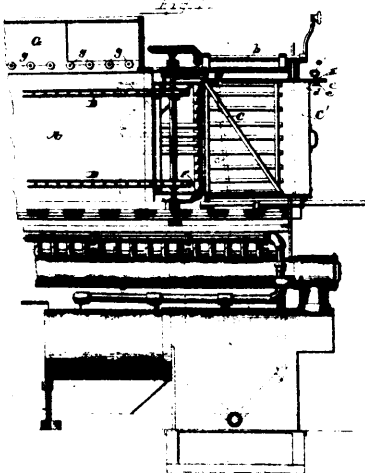


34201 Rinfret's Joug pour Porter les Canots.

Fig. 1.



34202 Graham's Vehicle Standard.



34203 Frick's Drier for Fruit, etc.

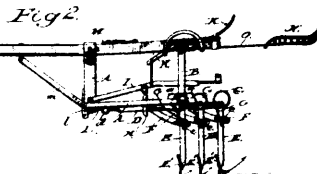
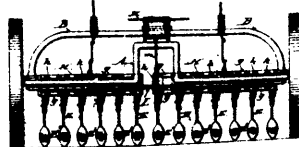
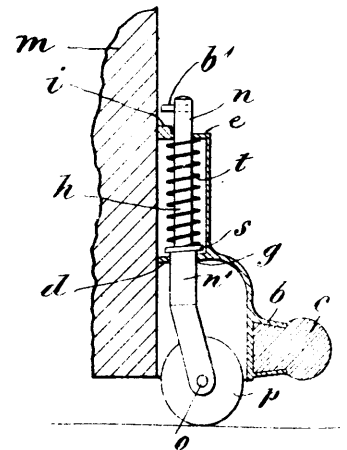


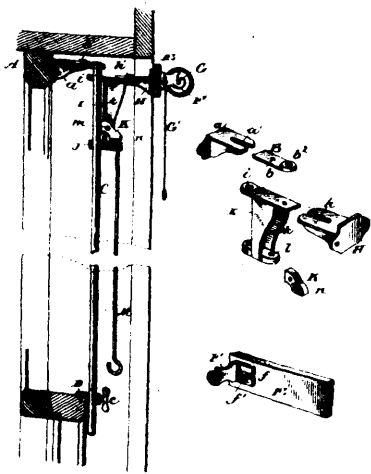
Fig. 3.



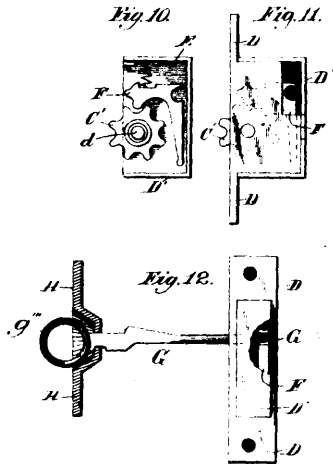
34204 Trump's Cultivator.



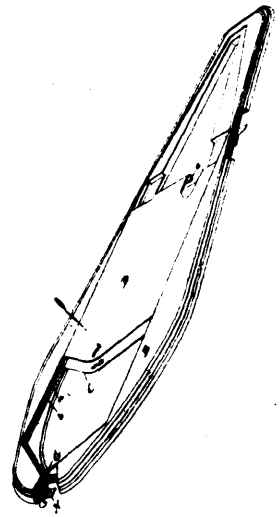
34205 Fee's Door Cushion.



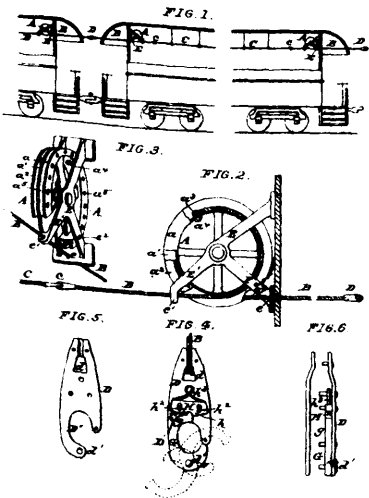
34206 Davis' Curtain Hanger.



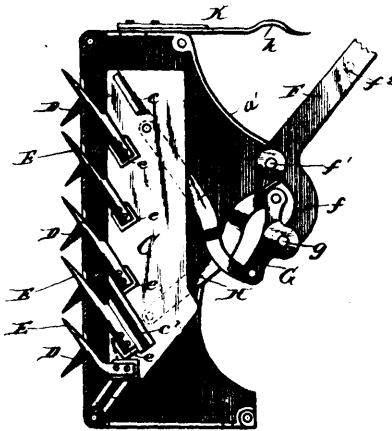
34207 Ross' Sash Lock.



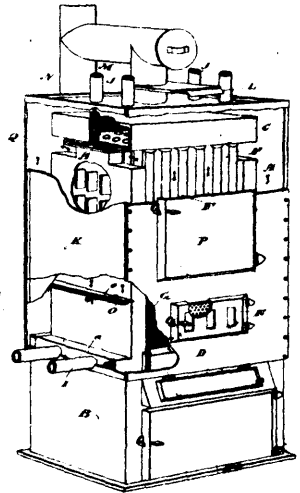
34208 Ripson's Coffin.



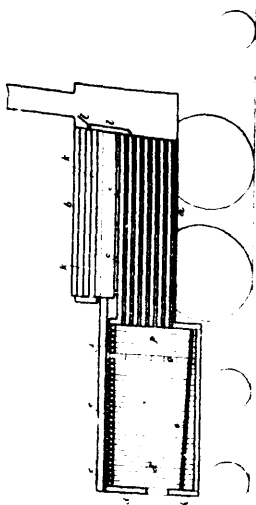
34209 Glasgow's Signal Operating Device.



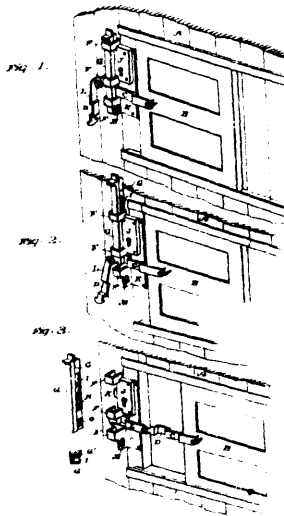
34210 Prescott's Saw Mill Dog.



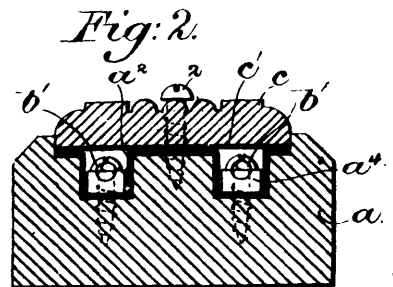
34211 Whitelaw's Hot Water Furnace.



34212 Baird's Steam Boiler.



34213 Merrill's Car Lock.



34214 Patterson's Safety Switch for Electric Circuits.

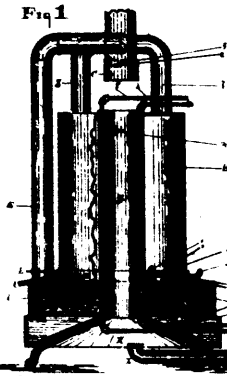
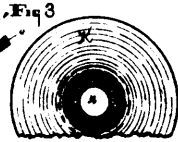
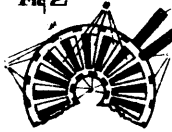
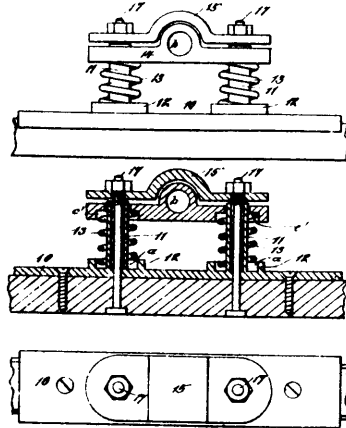


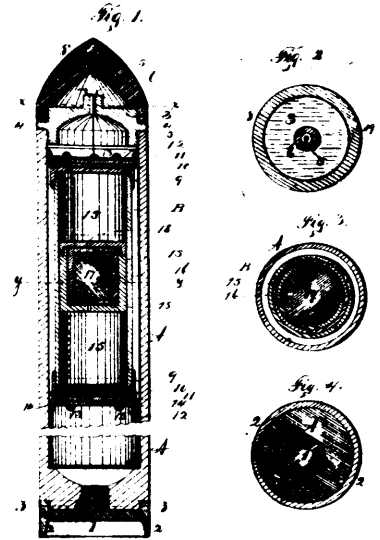
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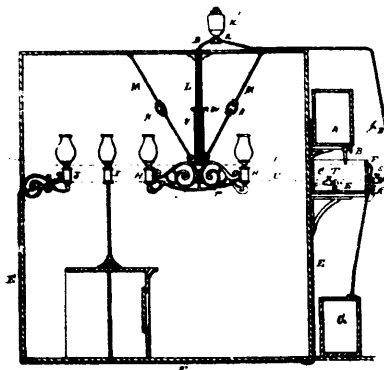
34215 Snow's Ventilating Stove, etc.



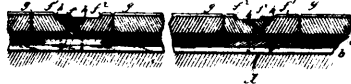
34216 Hill's Pedestal for Vehicles.



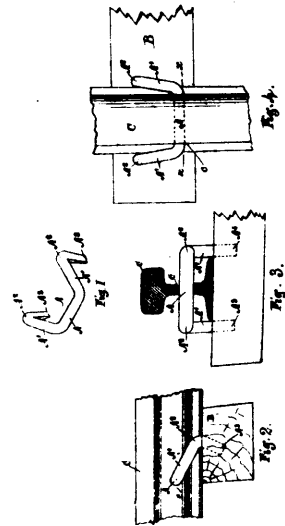
34217 Justin's Shell for High Explosives.



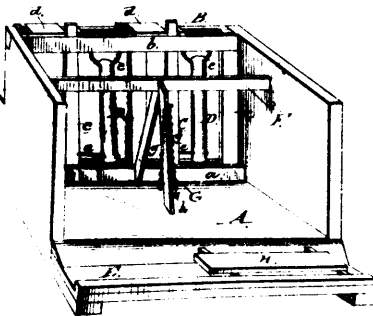
34218 Schulz's Lighting Device.



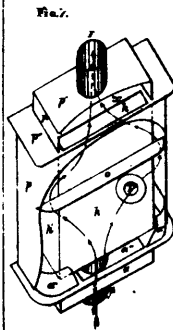
34219 Hallwood's Street Pavement.



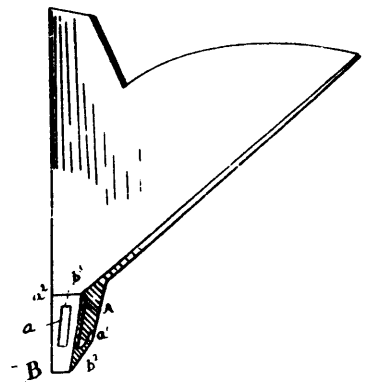
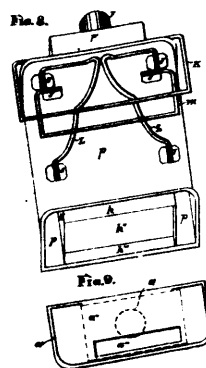
34220 Churchward's Railway Spike.



34221 Taylor's Stanchion.



34222 Phillips' Drum Stove, etc.



34223 Fox's Plough Point.

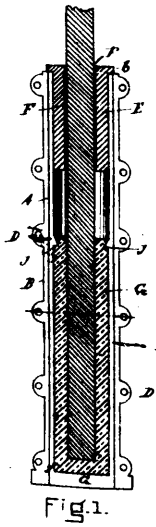
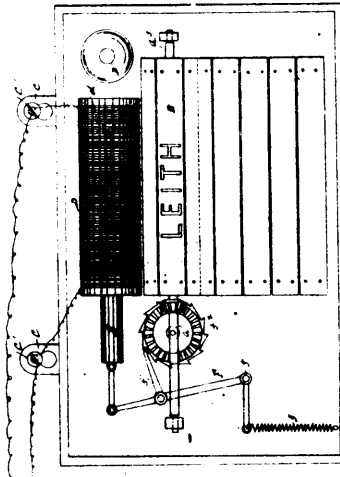
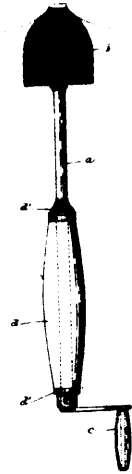


Fig. 1.

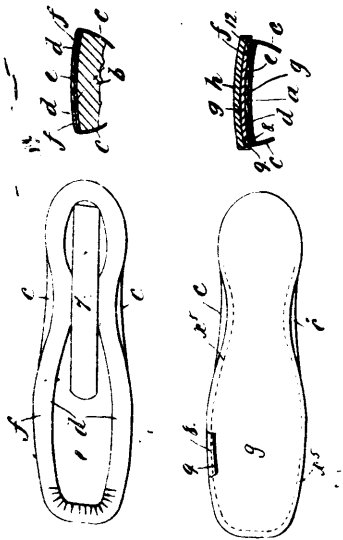
34224 Spooner's Mold for Making Ingots.



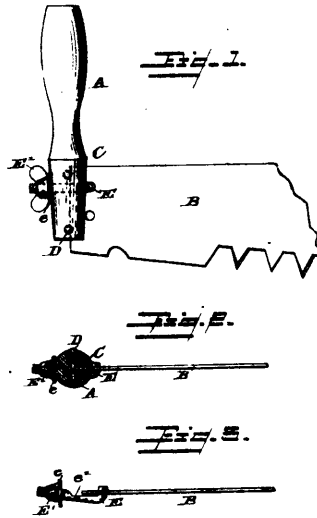
34225 Lane's Indicator for Carriages.



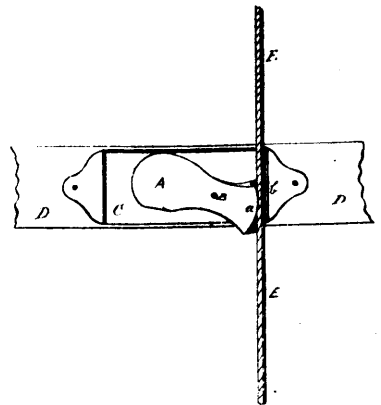
34226 Clark's Rotary Brush.



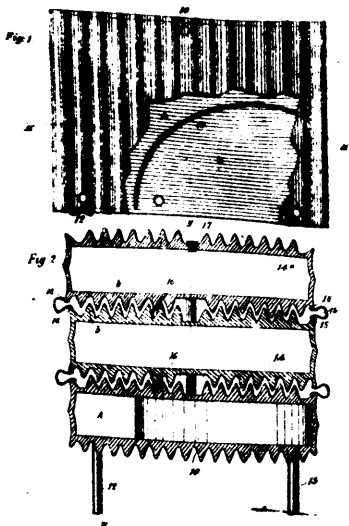
34227 Smardon's Boot and Shoe.



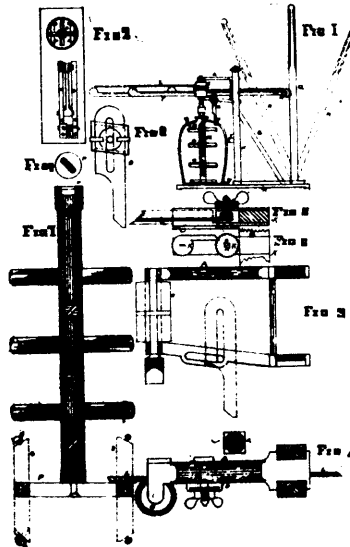
34228 True's Saw Handle.



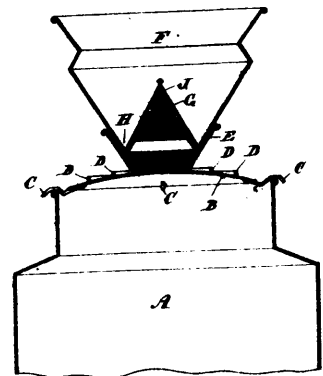
34229 Robbins' Sash Balance.



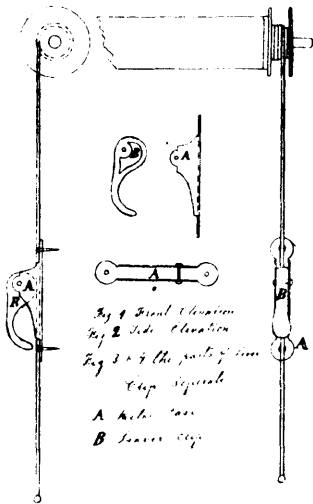
34230 Breadner's Hot Water Radiator.



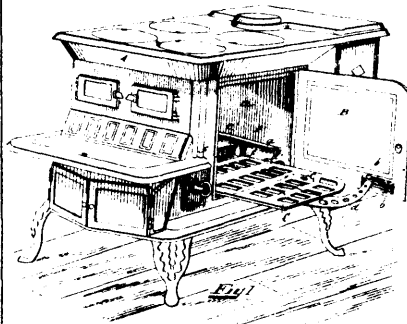
34231 Huff's Churn.



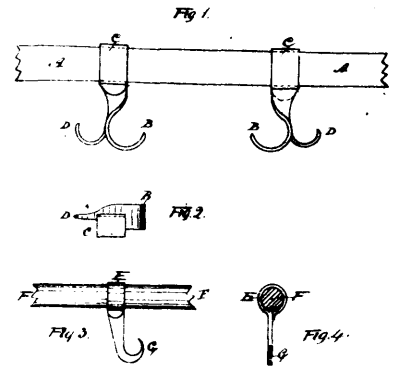
34232 Ryan's Milk Strainer, etc.



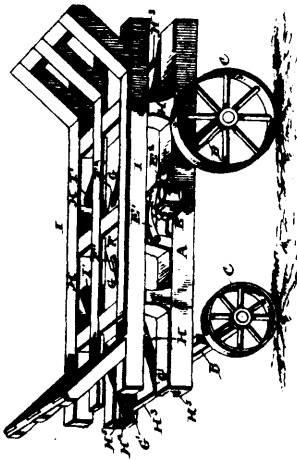
34233 Meakin's Case Roller Attachment.



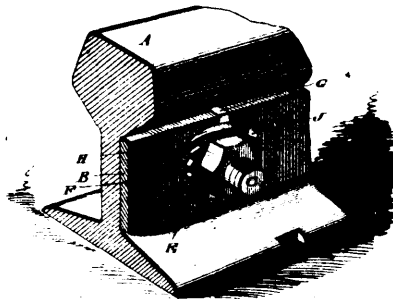
34234 Hoogerzell's Stove Oven.



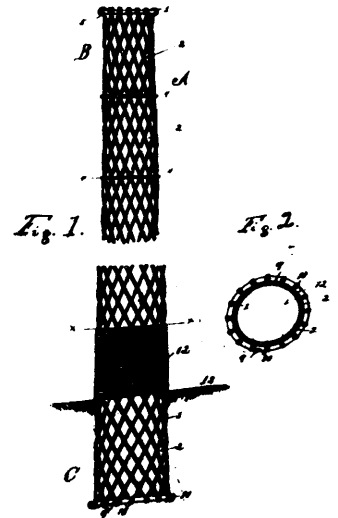
34235 Axon's Bag Holder.



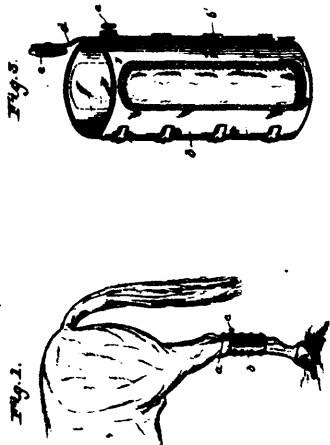
34236 Norris' Baggage Truck.



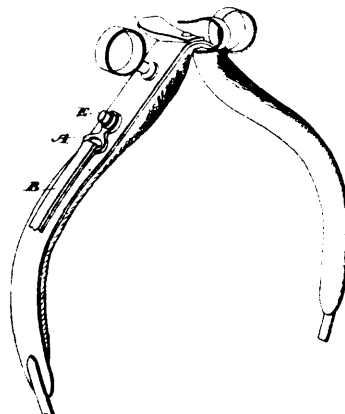
34237 Dobson's Nut Lock, etc.



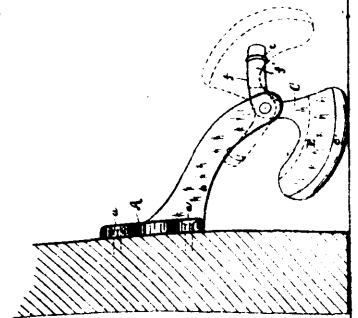
34238 Reinhart's Telegraph Pole.



34239 Cabanne's Curb Compressor for Horses.



34240 Baynell's Saddle Tree.



34241 Clark's Door Check.

Fig 1

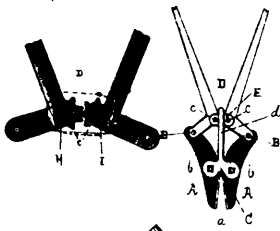


Fig 2

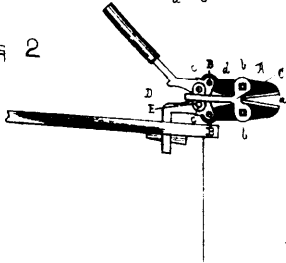


Fig 1

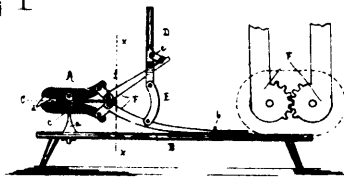
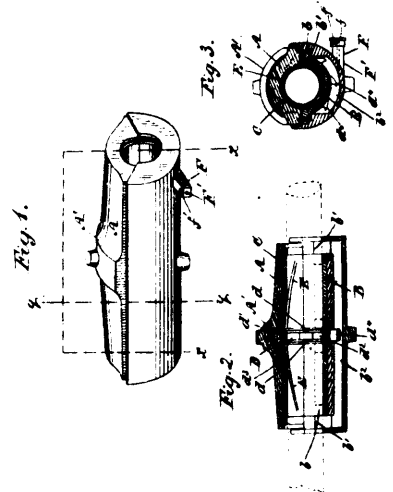
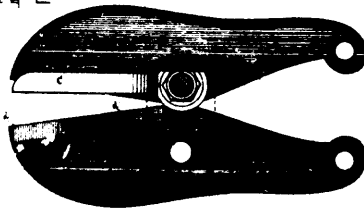


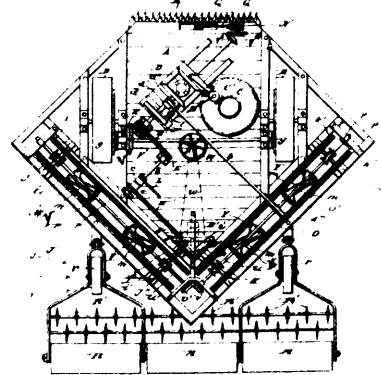
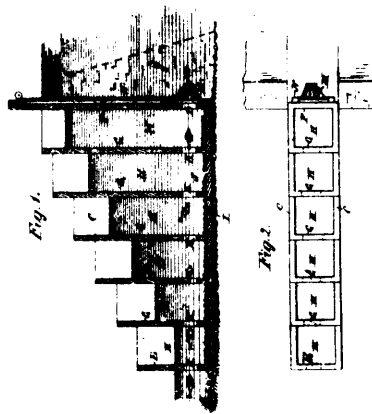
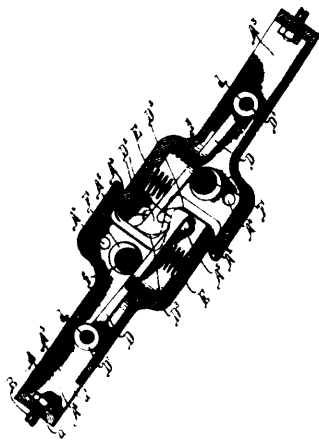
Fig 2



34242 Terry's Iron and Bolt Cutter.

34243 Terry's Iron & Bolt Cutter.

34244 Cox's Journal Box.

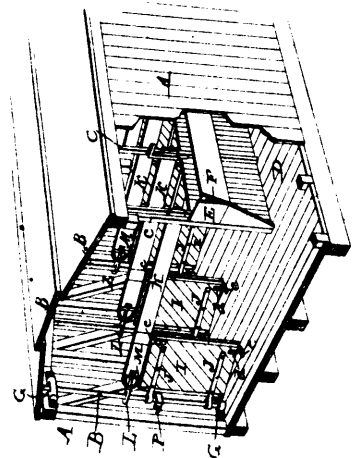
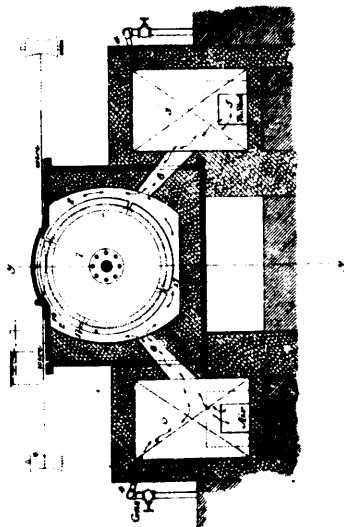
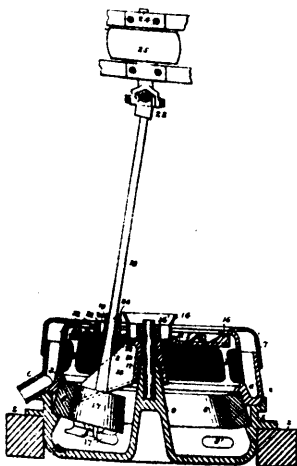


34245 Olds' Car Coupling.

34246 Hockin's Fishway.

34247 Brown's Steam Plough.

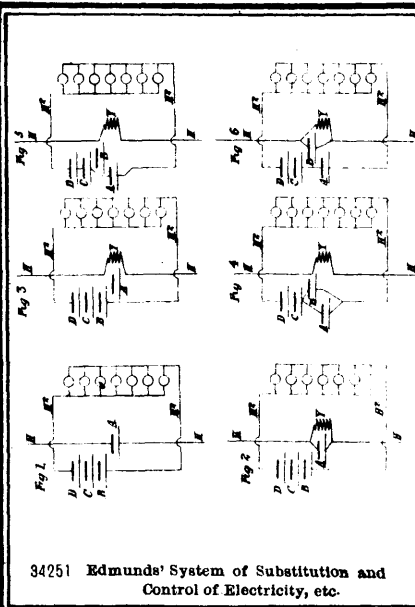
Fig 1.



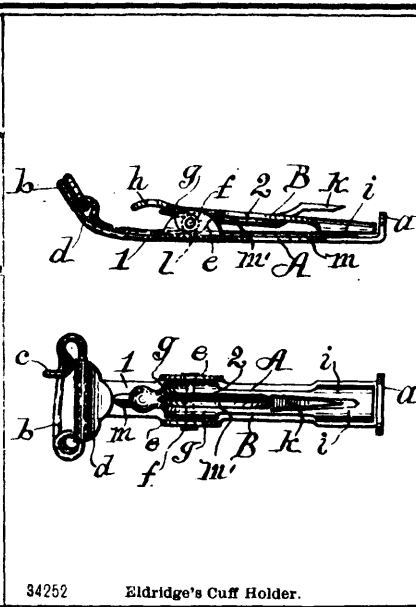
34248 Griffin's Pulverizing Mill.

34249 Roberts' Apparatus for the Manufacture of Wire, etc.

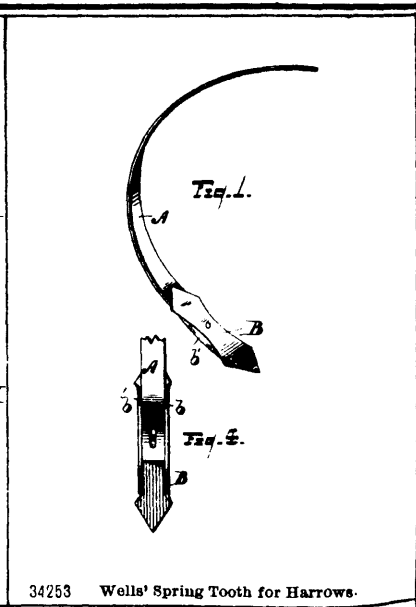
34250 Davis' Railway Car.



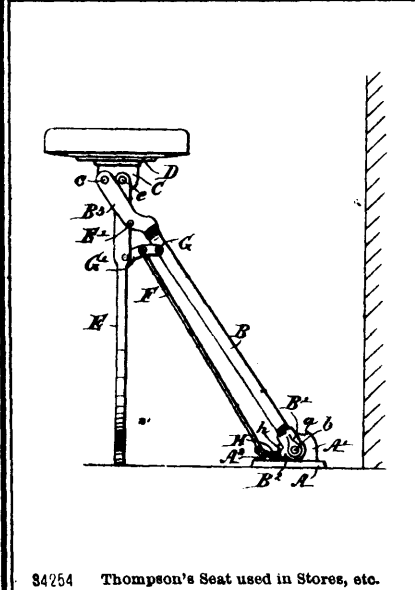
34251 Edmunds' System of Substitution and Control of Electricity, etc.



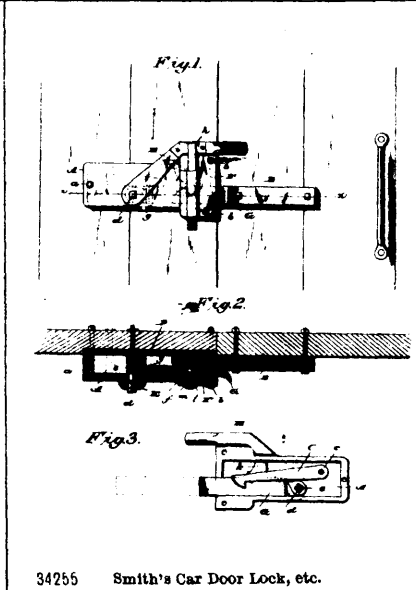
34252 Eldridge's Cuff Holder.



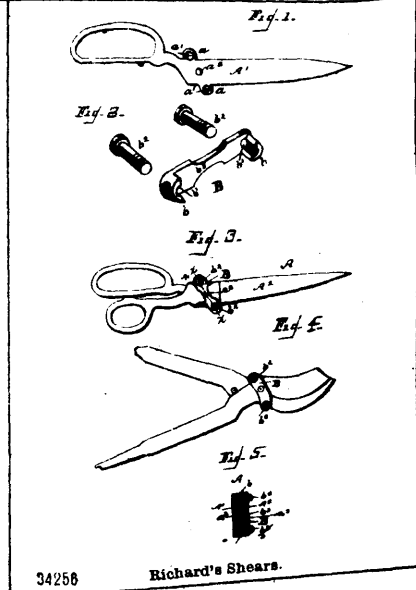
34253 Wells' Spring Tooth for Harrows.



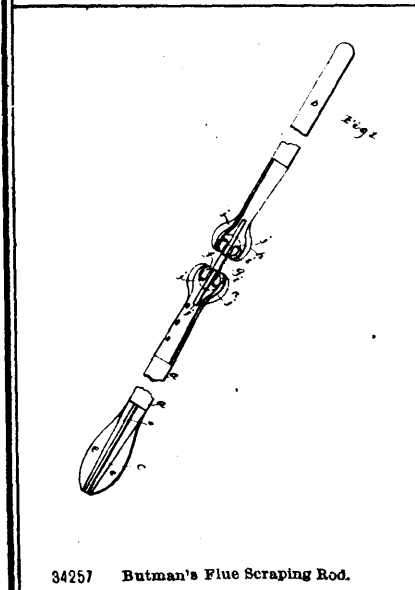
34254 Thompson's Seat used in Stores, etc.



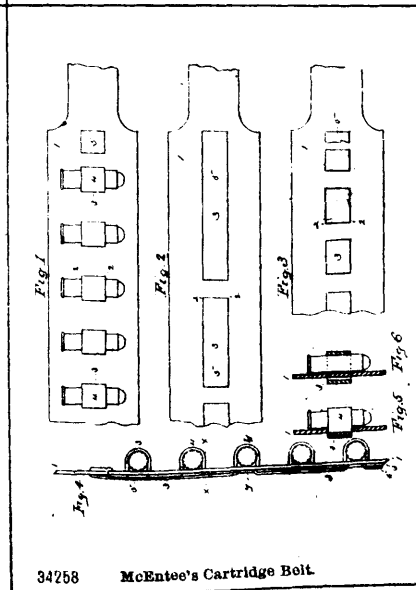
34255 Smith's Car Door Lock, etc.



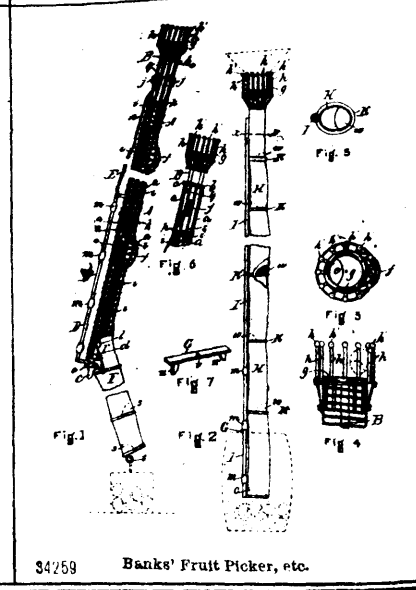
34256 Richard's Shears.



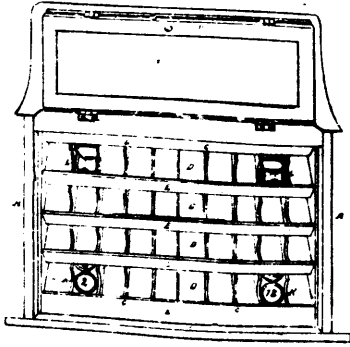
34257 Butman's Flue Scraping Rod.



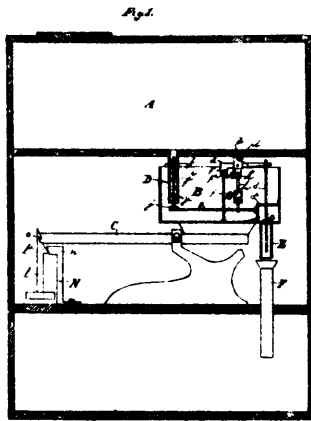
34258 McEntee's Cartridge Bolt.



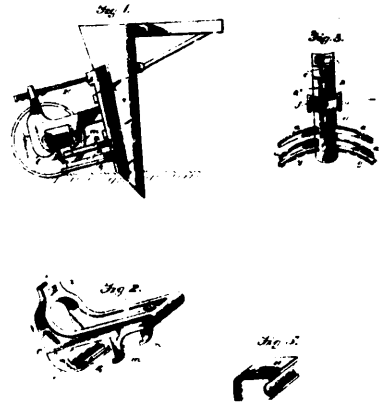
34259 Banks' Fruit Picker, etc.



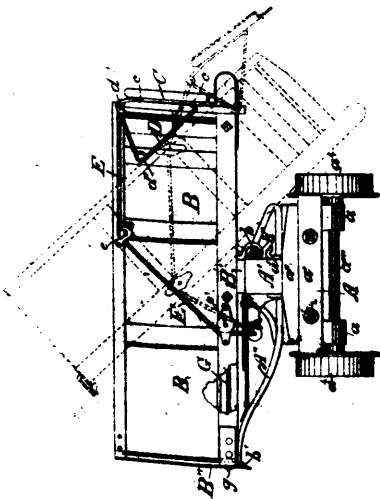
34260 Hope's Case for Spools.



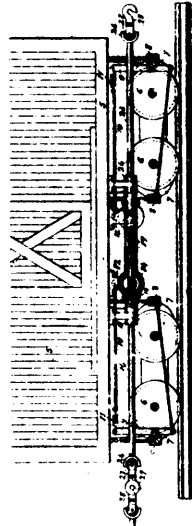
34261 Bachelder's Measuring Tank.



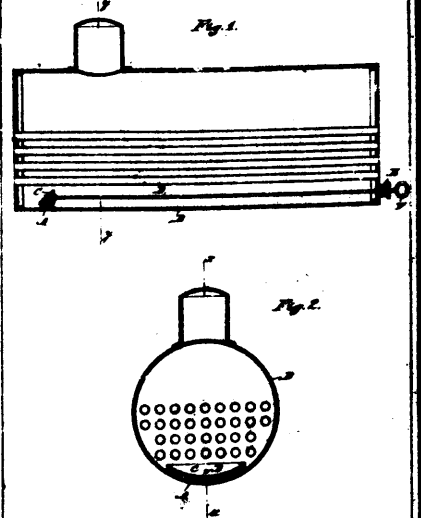
34262 Lathrop's Grain Drill Attachment



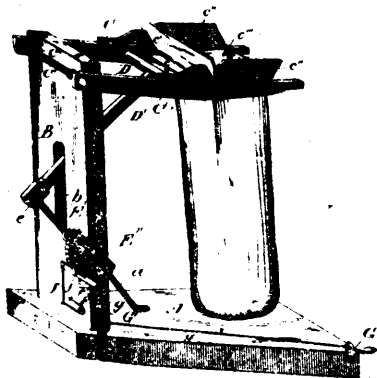
34263 Alfred's Dumping Car.



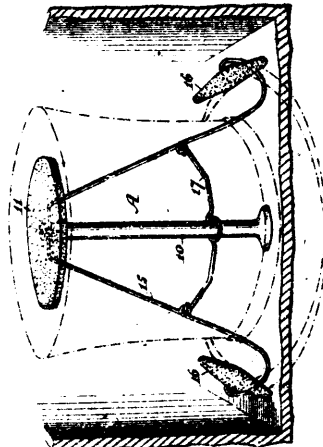
34264 Savage's Railroad Brake.



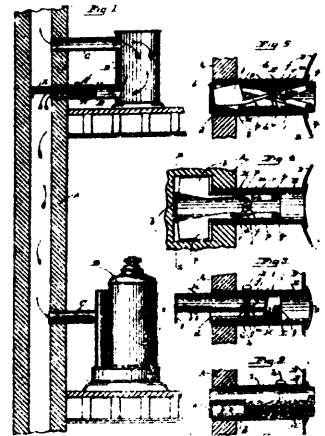
34265 Haney's Boiler Cleaner.



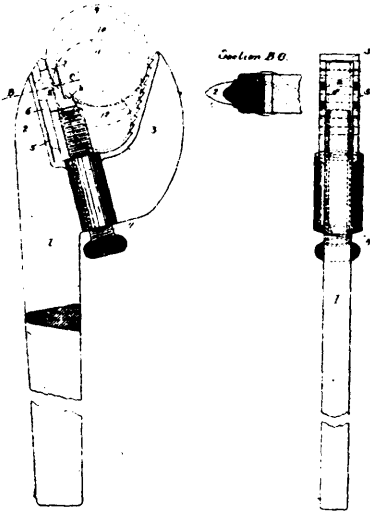
34266 Paterson's Bag Holder.



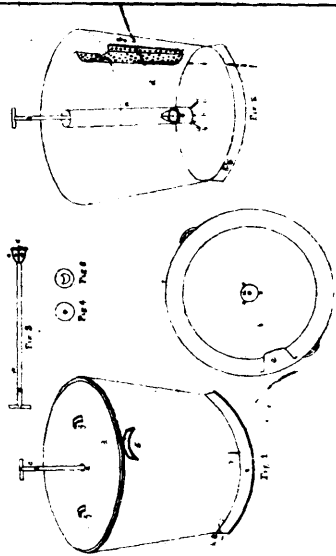
34267 Fuller's Device for Holding Head Gear.



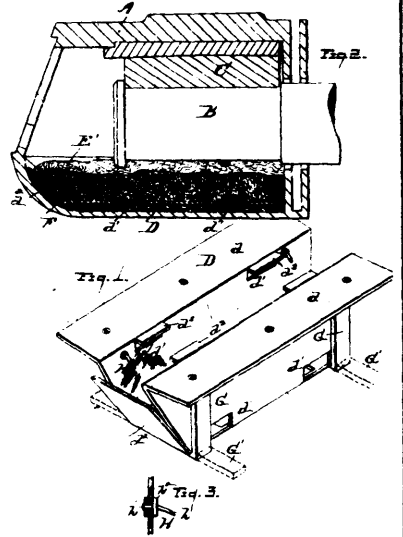
34268 Flint's Heating Apparatus.



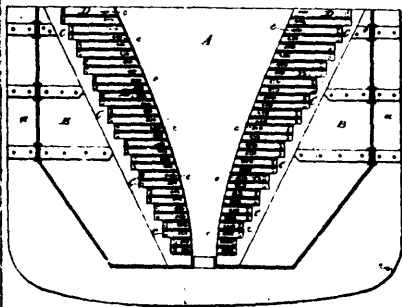
34269 Hawkin's Wrench.



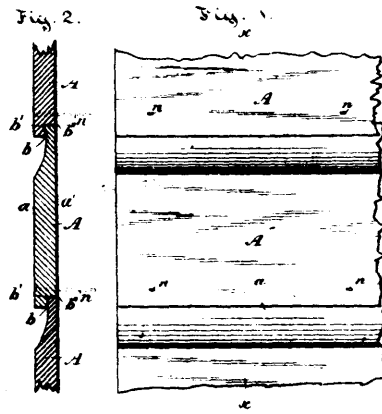
34270 Lent's Machine for Washing Dishes.



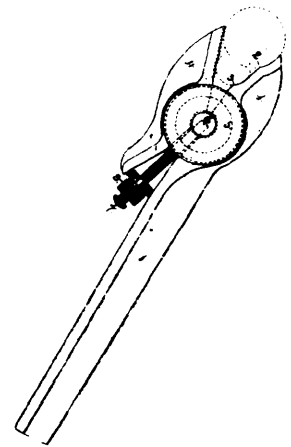
34271 Dewey's Car Axle Lubricator.



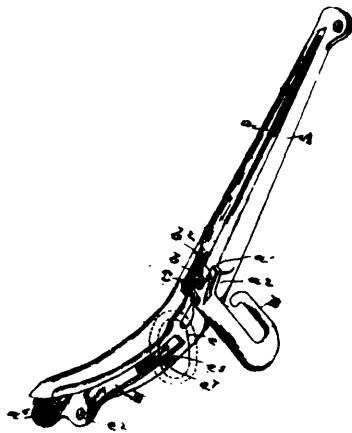
34272 Kirkham's Cofferdam.



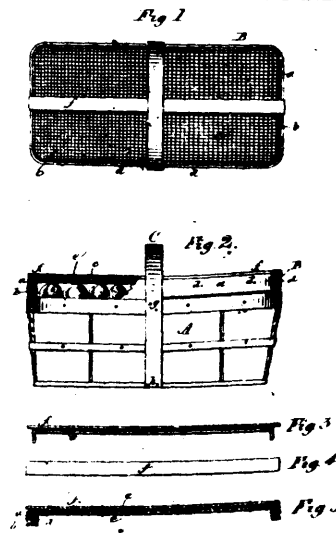
34273 Sword's Sheathing Joint.



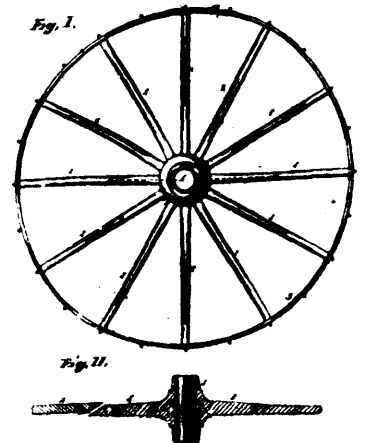
34274 Boynton's Wrench.



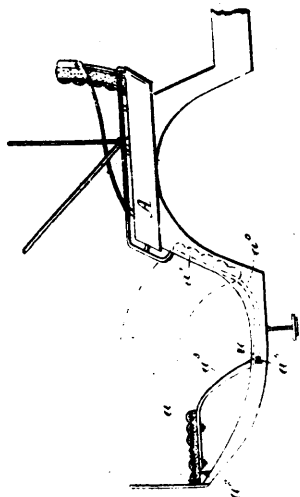
34275 Bull's Hame.



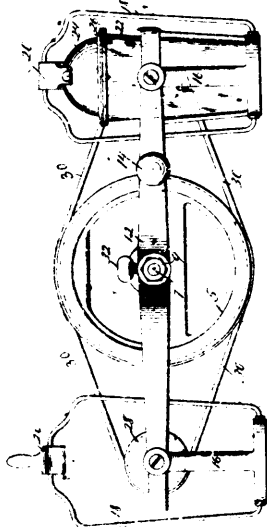
34276 Chilman's Fruit Basket.



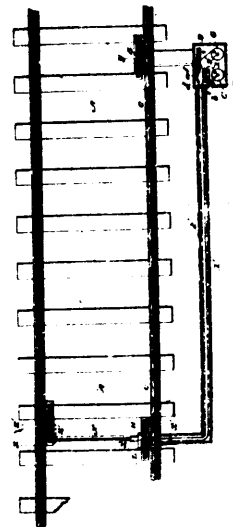
34277 Hill's Metallic Wheel.



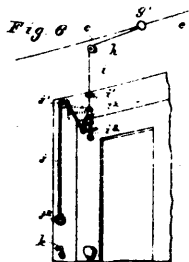
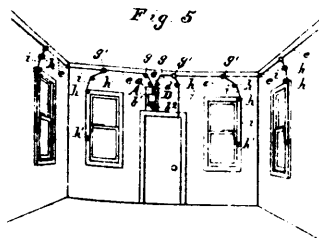
34278 Welle's Vehicle.



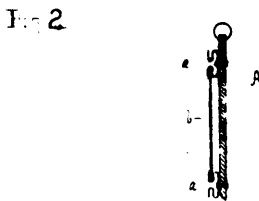
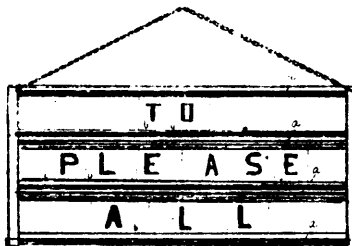
34279 Stubbs' Liquid Shaker.



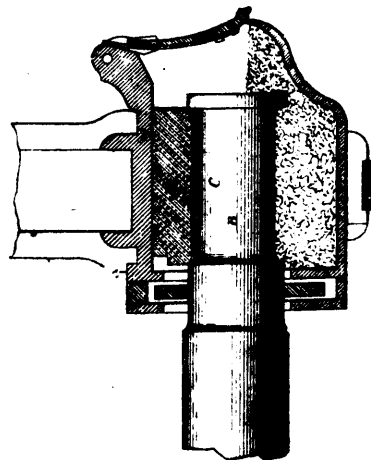
34280 Souder's Railroad Alarm.



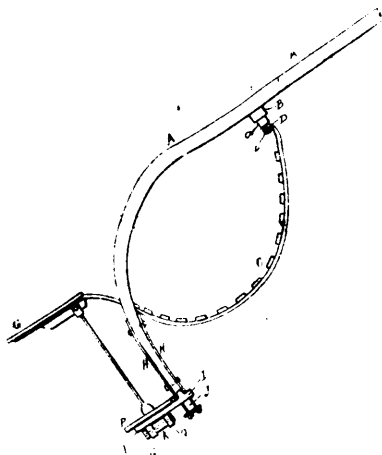
34281 Gordon's Burglar Alarm.



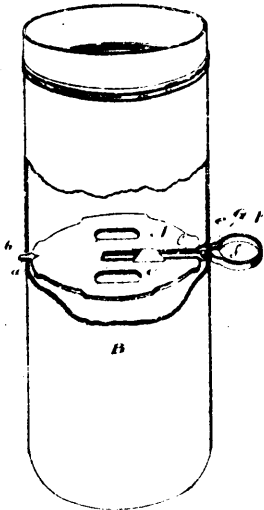
34282 Klase's Sign and Show Card.



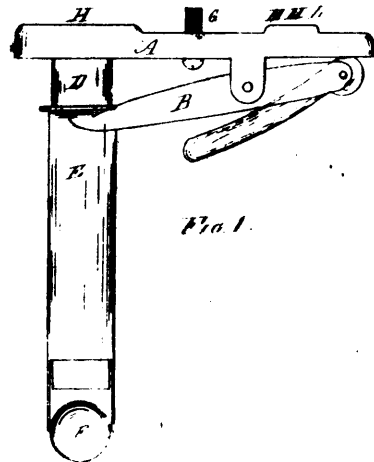
34283 Millhauser's Anti-Friction Bearing.



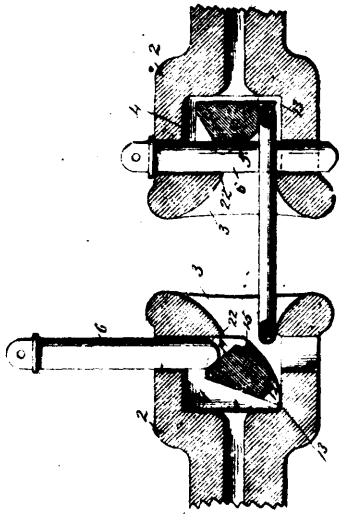
34284 Woods' Road Cart.



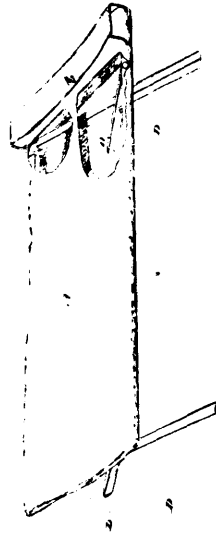
34285 Graham's Damper.



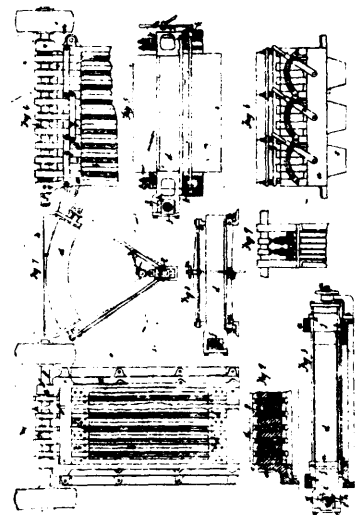
34286 Angell's Conductor of Heavy Liquids from Measuring Faucets.



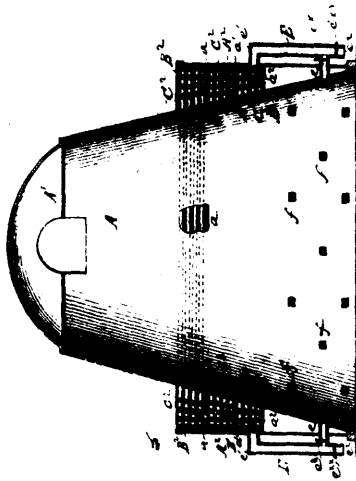
34287 Townsend's Car Coupler.



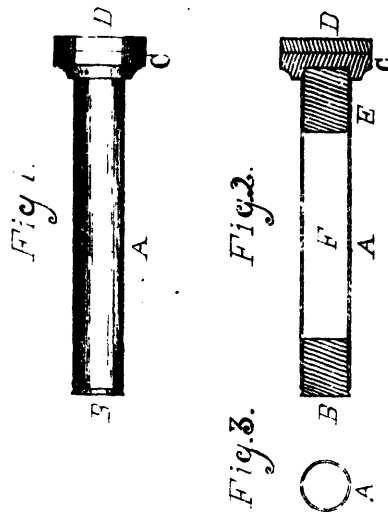
34288 Dick's Camp Bed.



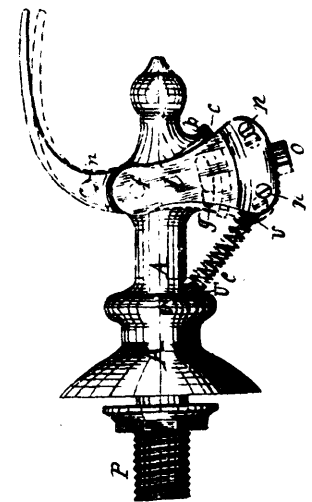
34289 Adair's Grinding Mill.



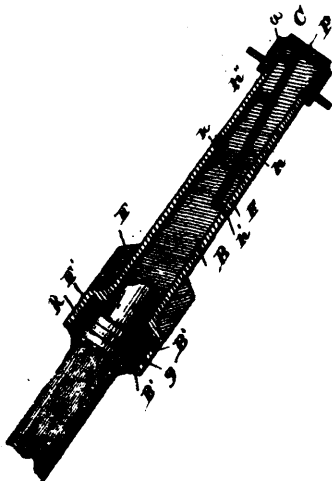
34290 Friedrich's Condenser for Charcoal Kilns.



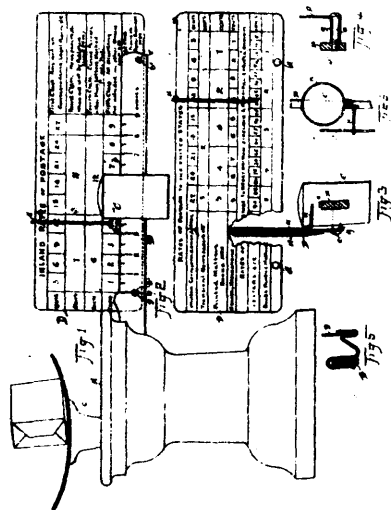
34291 Laughlin's Slate Cleaner.



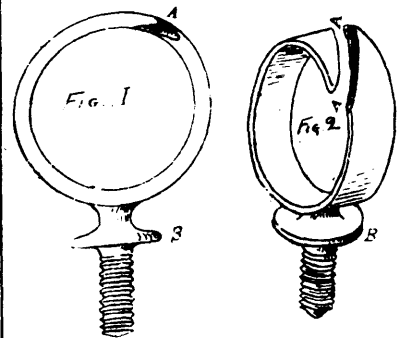
34292 Scoville's Faucet.



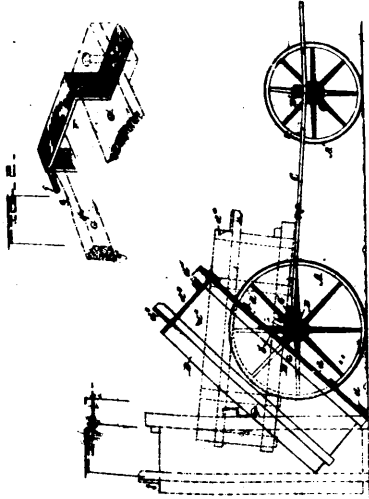
34293 Jones' Oiling of Vehicle Axles.



34294 Blitschofsky's Postal Scale.



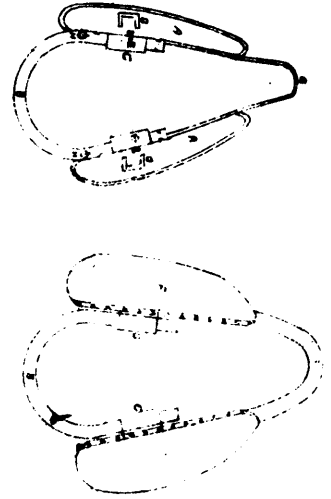
34295 Sanders' Rein Ring, etc.



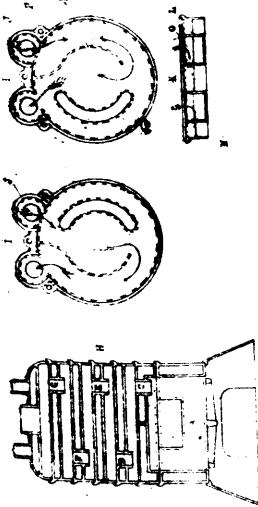
34296 Gibson's Dumping Cart.



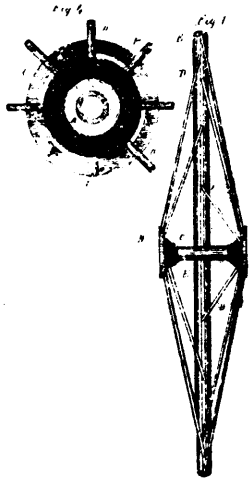
34298 Fredericks' Coal Sifter.



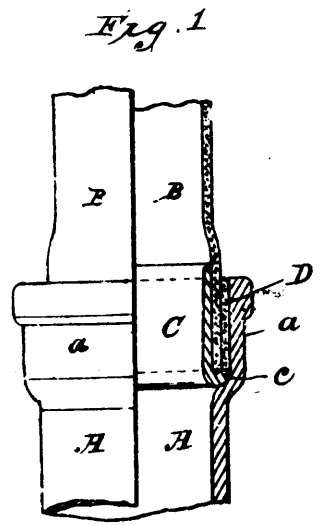
34299 Jackson's Horse Collar.



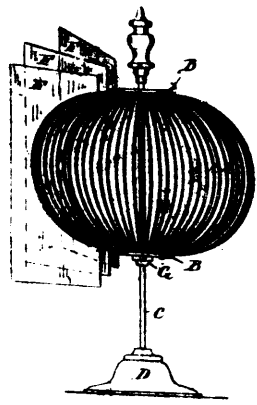
34300 Manny's Fournaise & Eau Chaud.



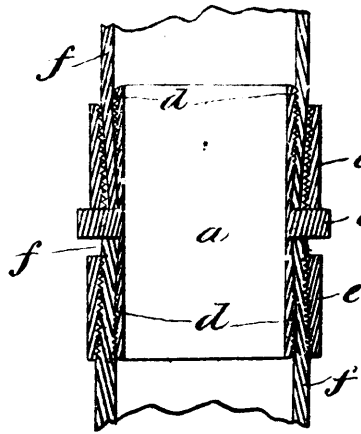
34301 Newhouse's Vehicle Wheel.



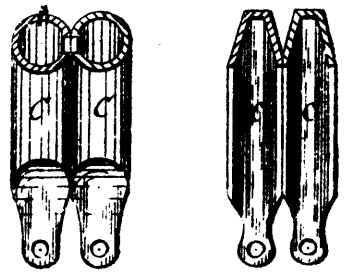
34302 Lane's Pipe Joint.



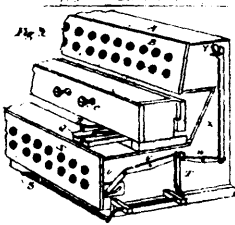
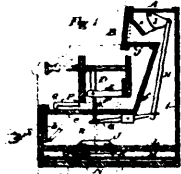
34303 Mirfield's Paper Back and Holder.



34304 Decarie's Hose Attachment.



34305 Kelly's Animal Trap.



34306 Blatchford's Reed Organ.



Fig. 1.

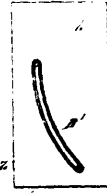


Fig. 3.

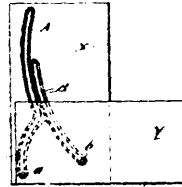
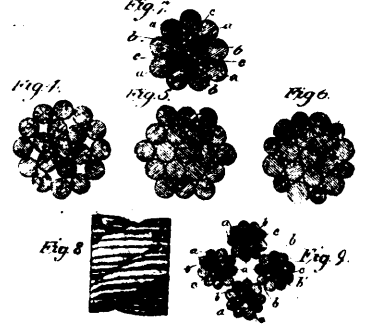


Fig. 2.

34357 Larson's Desk.



34308 Stone's Wire Rope.

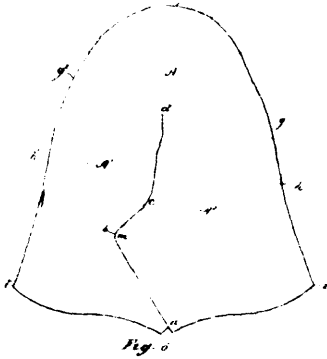


Fig. 6.

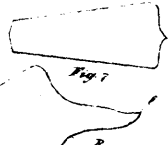
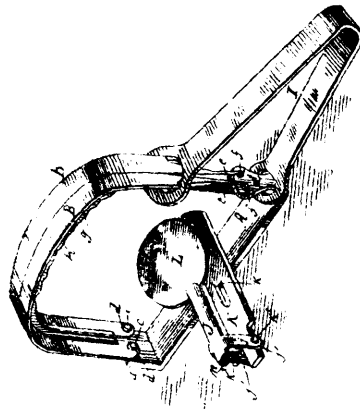


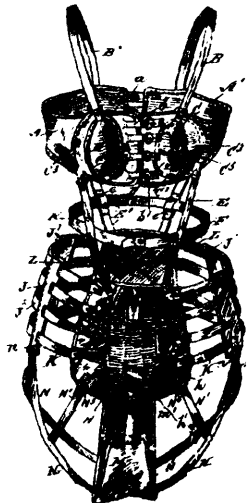
Fig. 7.

Fig. 8.

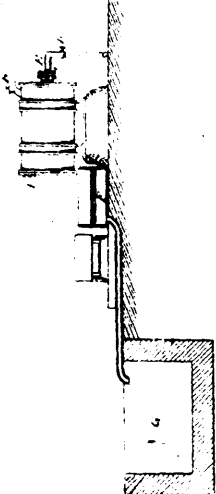
34309 Vincent's Empeigne de Chaussures.



34310 Jameson's Animal Trap.



34312 Ferris & Woods' Abdominal Supporter, &c.



34313 Pollock's Chlorinating Gold Ores.

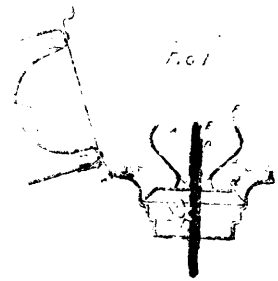


Fig. 2.

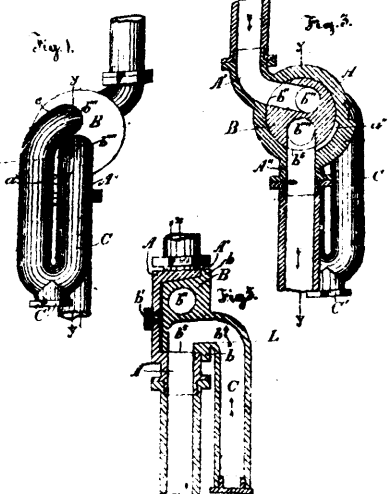


Fig. 3.

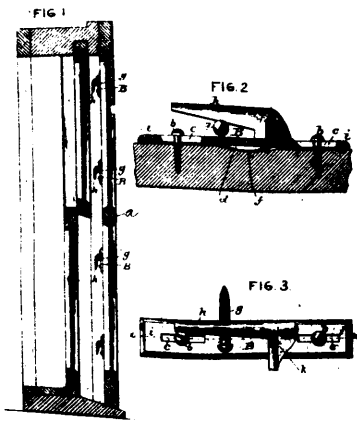


Fig. 4.

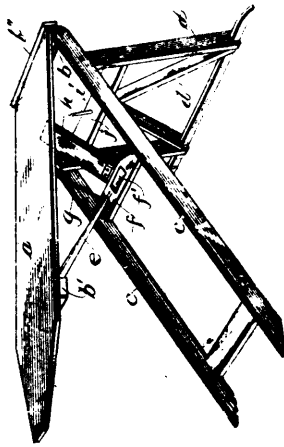
34314 Stark's Extinguisher for Oil Lamp.



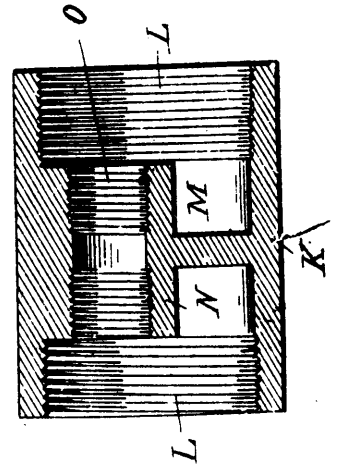
34317 Bowerman's Sewer Trap.



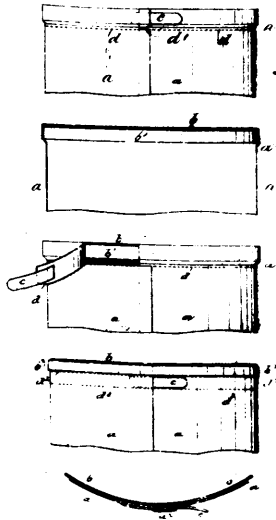
34318 Moore's Fastening for Storm Windows.



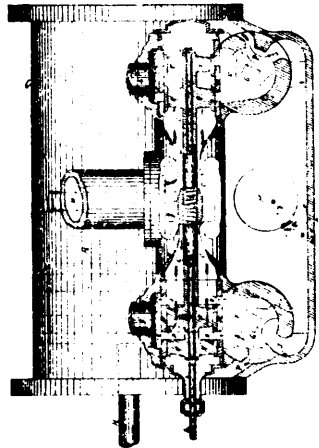
34319 Kimball's Ironing Table.



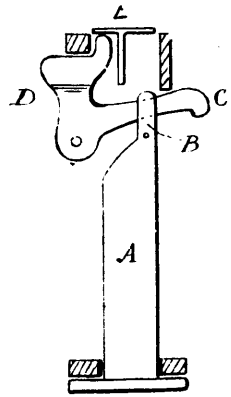
34320 McElroy's Heating System.



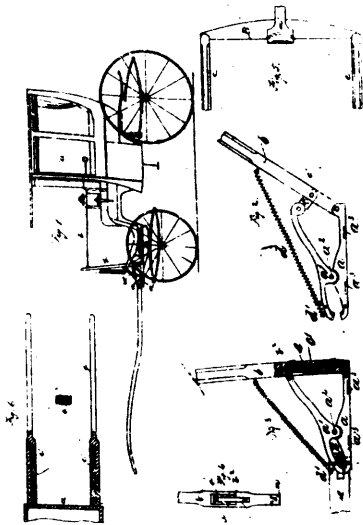
34321 Ains' Metal Can.



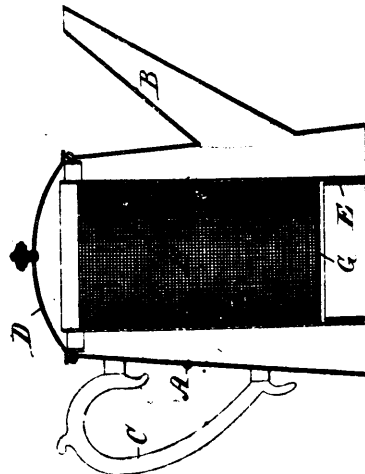
34322 Waterous' Valve for Steam Engines.



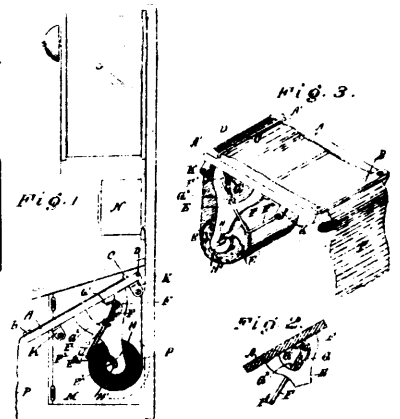
34323 Mathieson's Hay Car.



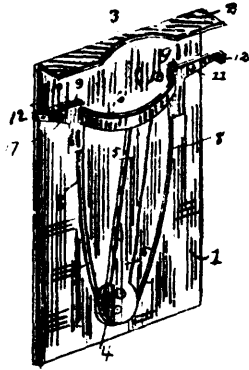
34324 Stoneham's Hose Detacher.



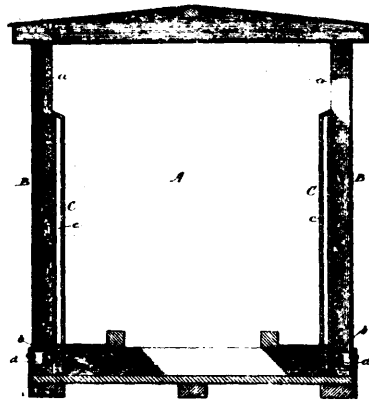
34325 Smith's Coffee Pot.



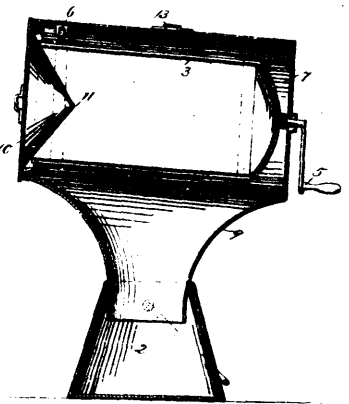
34326 Morris' Tablet for Telephones.



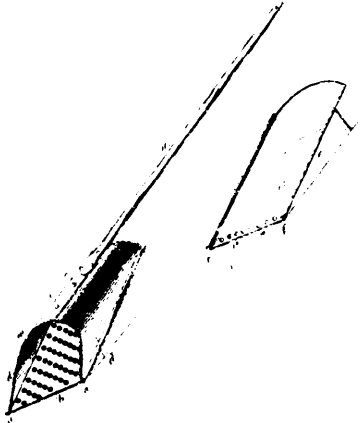
34327 Moore & Schreyer's Bouquet Holder.



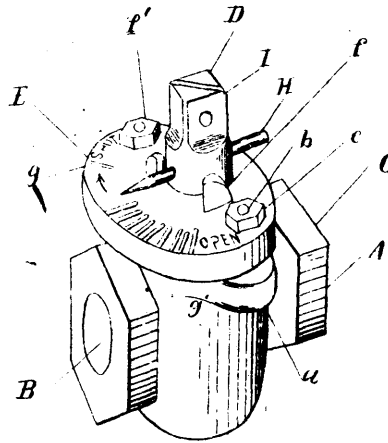
34328 Morton & Andrews' Lumber Drier.



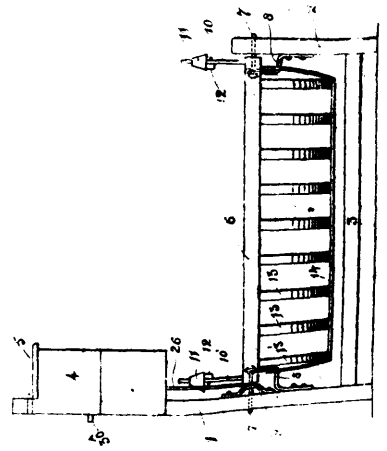
34329 Hanley's Ash Sifter.



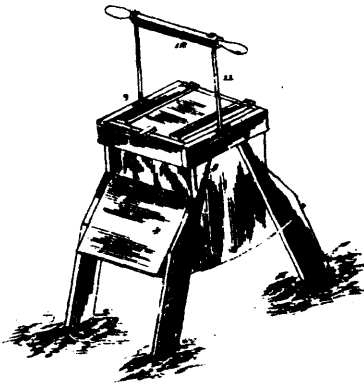
34330 Fleming's Sifter Shovel.



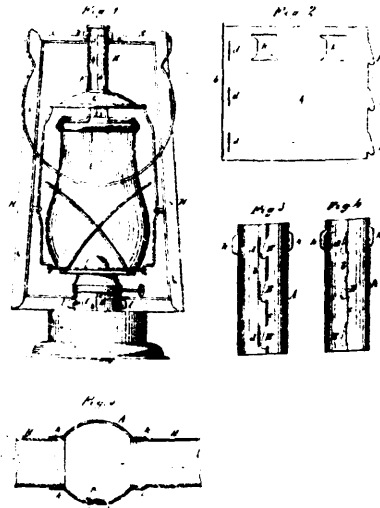
34331 McElroy's Stop Cock.



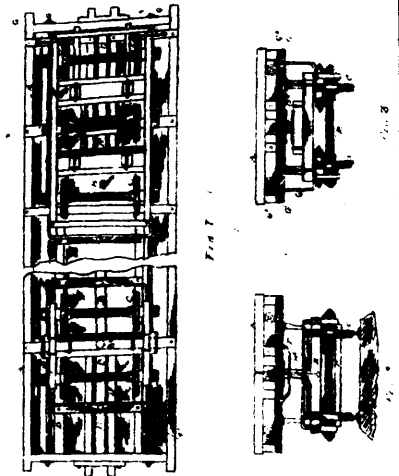
34332 Leas' Baby Cradle.



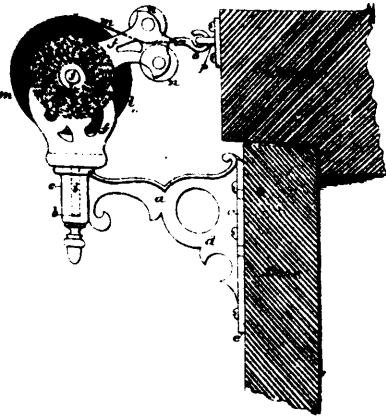
34333 Japhet's Churn.



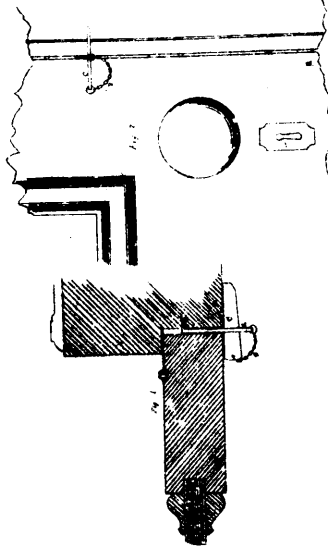
34334 Betts' Metallic Tube.



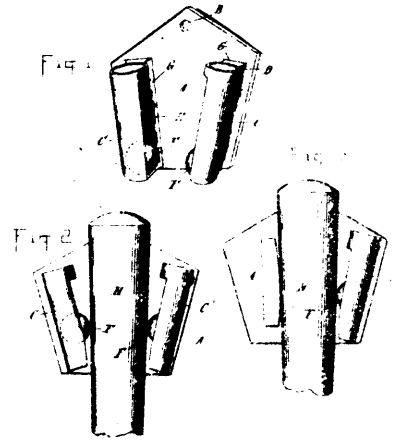
34335 Elliott's Car Truck.



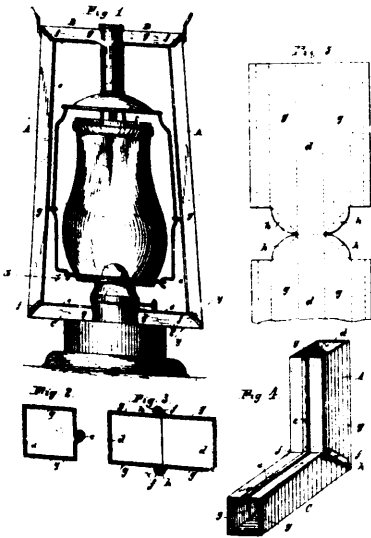
34336 Williams' Door Spring.



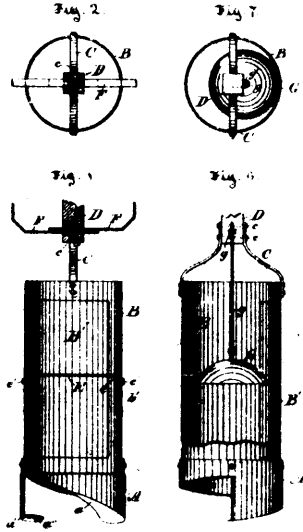
34337 Barclay's Door Lock, etc.



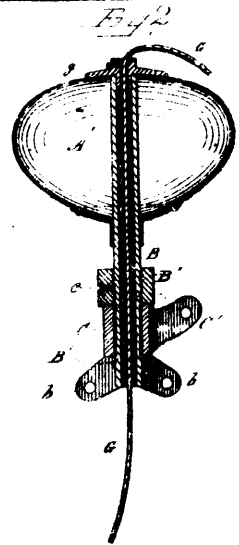
34338 Griffin's Holder for Brooms, etc.



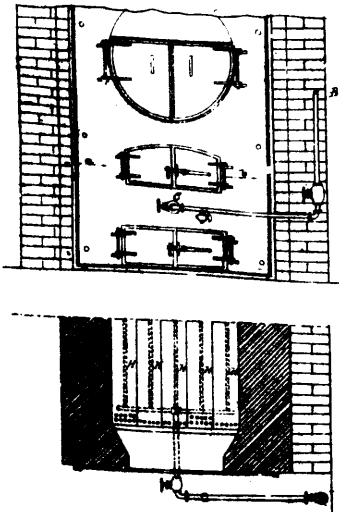
34339 Erb's Metallic Tube.



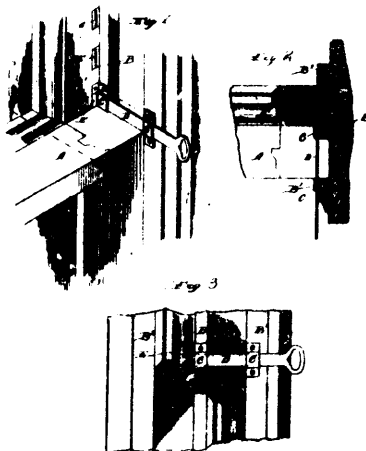
34340 Burroughs' Earth Auger.



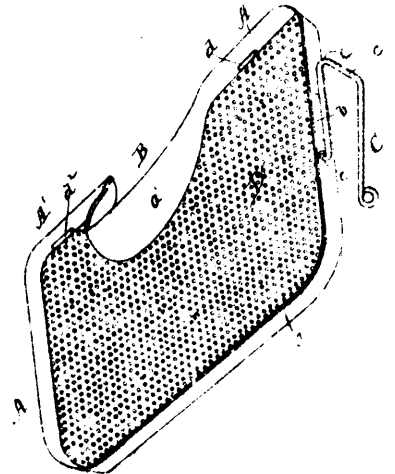
34341 Paine's Ocean Signal Station.



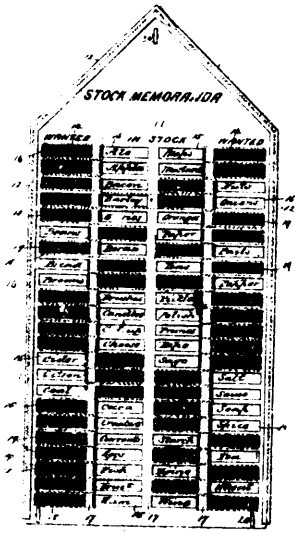
34342 Jarest et Chagnon's Foyer de Machine à Vapeur.



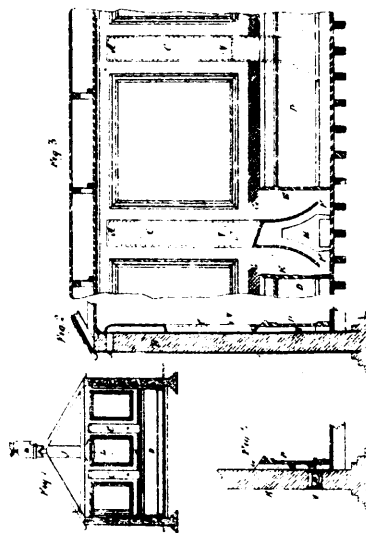
34343 Ferree's Fastener for the Meeting Rails of Sashes.



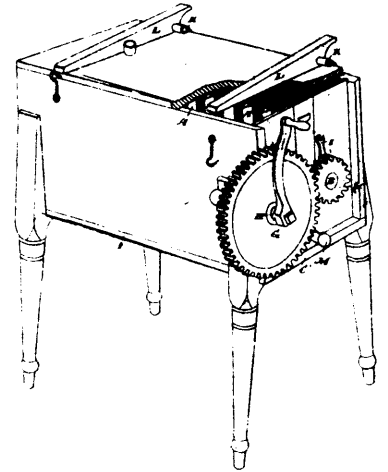
34344 Wagand's Child's Tray.



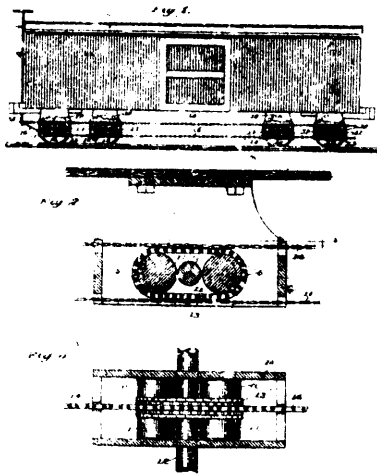
34345 Dick's Stock Memoranda Tablet.



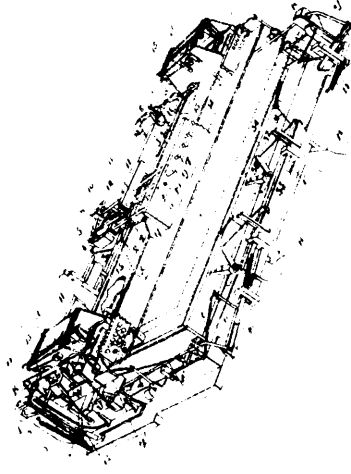
34346 Hoy's Ventilating Halls, &c.



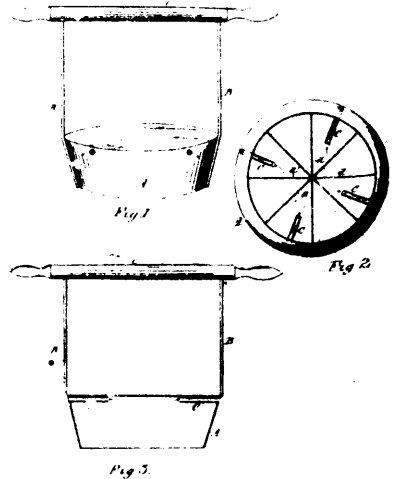
34347 Simpson's Churn.



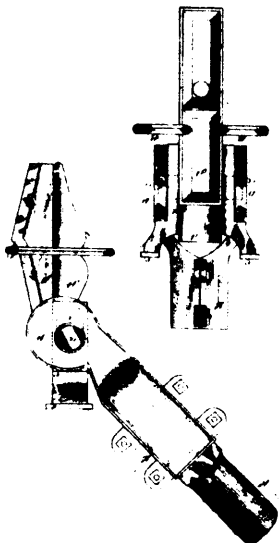
34348 Brunquest's Car Brake.



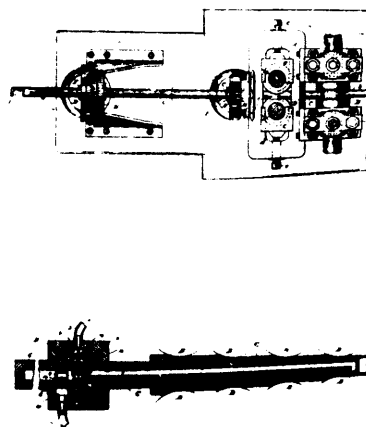
34349 Callender's Organ Action.



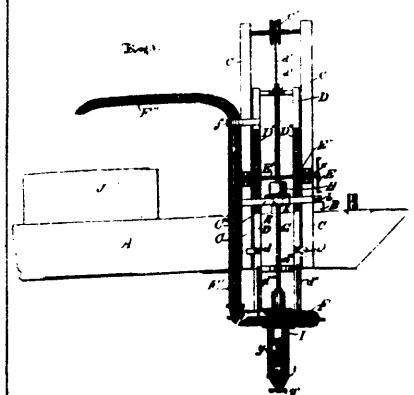
34350 Bowman's Washing Machine.



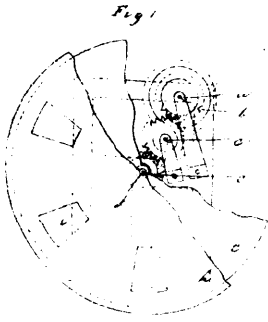
34351 Smith's Tire Setter.



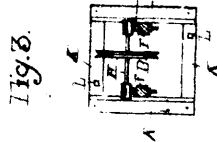
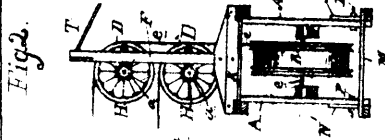
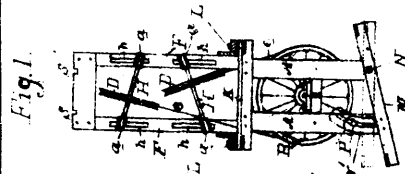
34352 Kellogg's Machine for Rolling Seamless Tubes, etc.



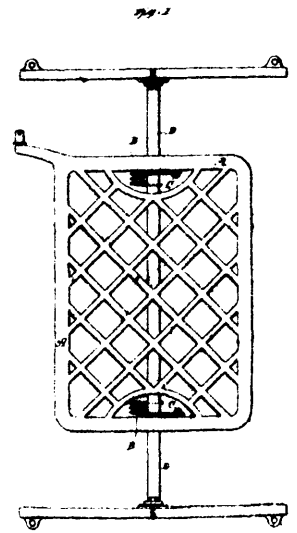
34353 Allison & Nash's Device for Raising Sand from Water.



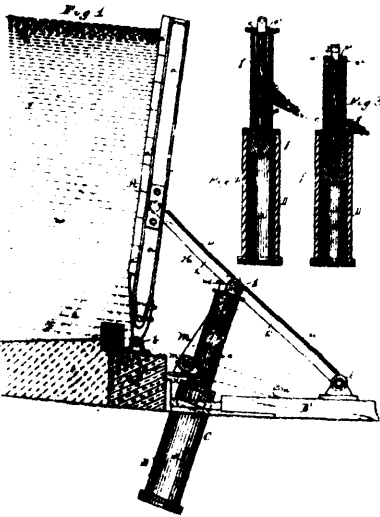
34354 Redman's Clock, etc.



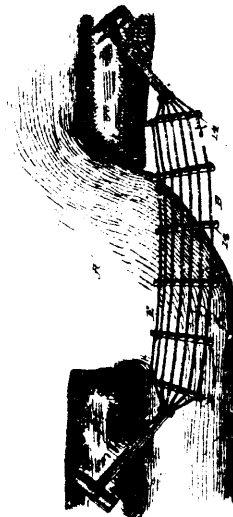
34355 Laughlan's Device for Transmitting Motion.



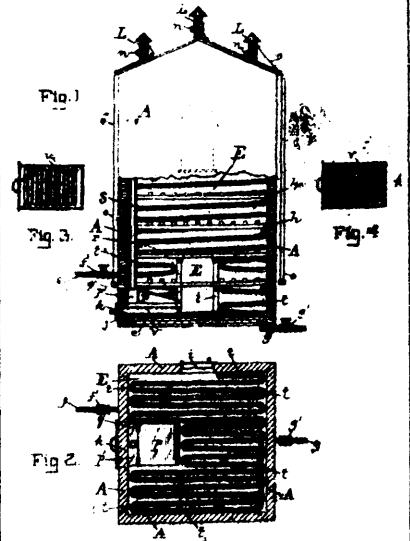
34356 Johnson's Treadle.



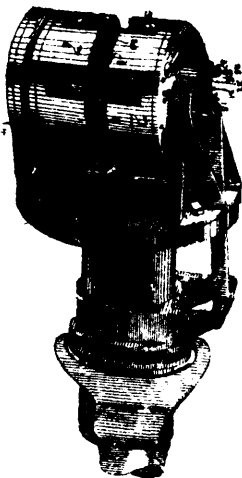
34357 Sealfe's Lock Gate, etc.



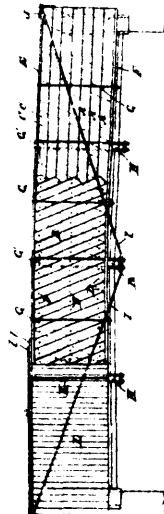
34358 Harrelson's Wire Rip-Rap, etc.



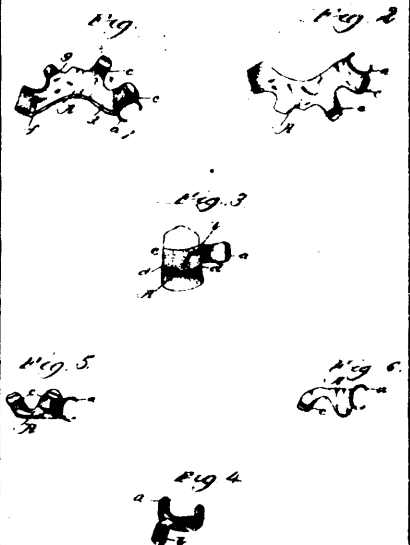
34359 Scharfer's House for Drying and Smoking Butchers' Products.



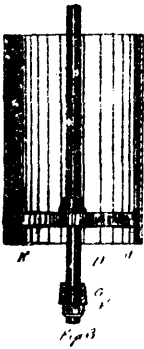
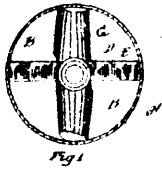
34360 Becher's Turret Machine for Threading Bolts.



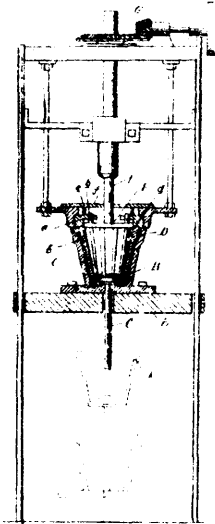
34361 Walter's Wooden Bridge.



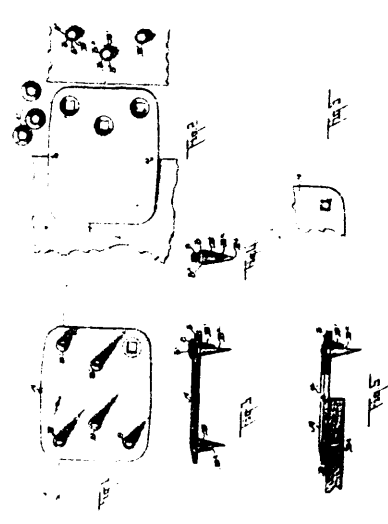
34362 Stedman's Dental Plate.



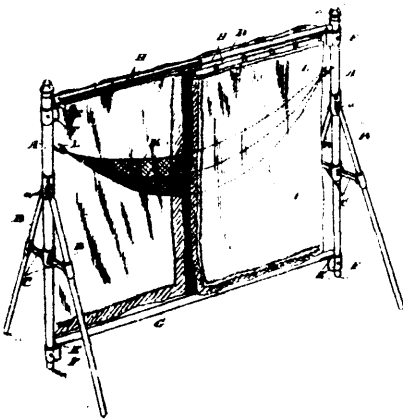
34363 Lee's Attachment to Pumps.



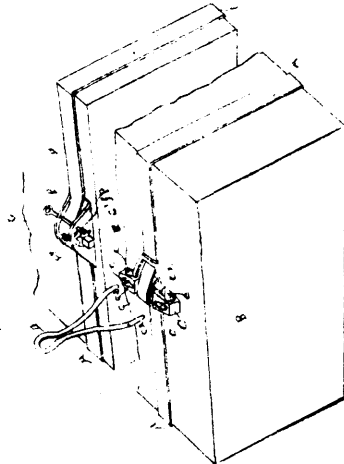
34364 McDonagh's Pottery Machine.



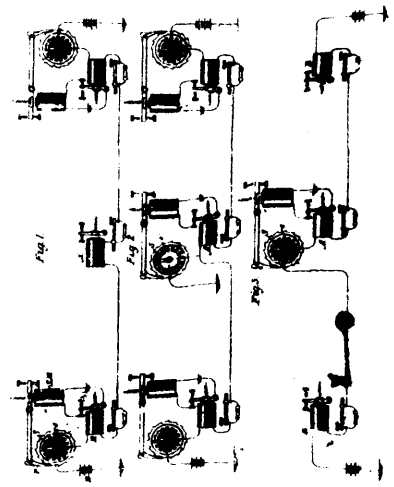
34365 Snow's Belt Fastener.



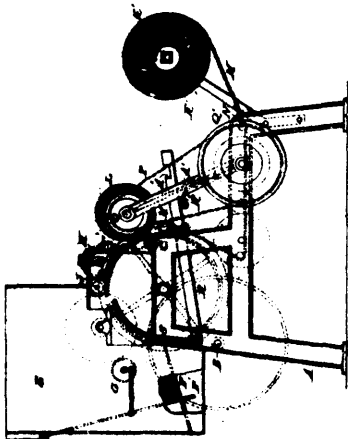
34366 Weston's Hammock Stand.



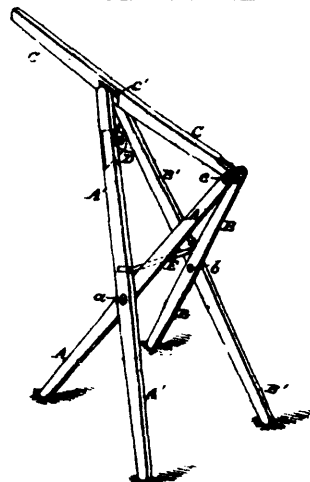
34367 Sparks' Strap Fastener, etc.



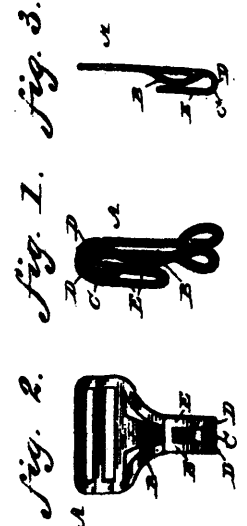
34368 Delaney's Telegraphy.



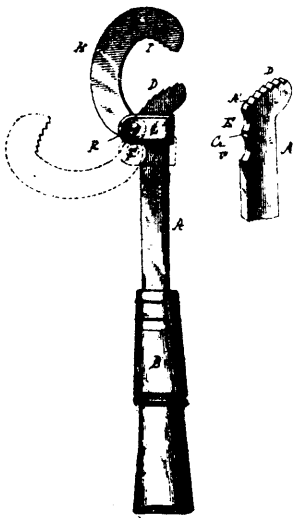
34369 Donnelly's Match Machine.



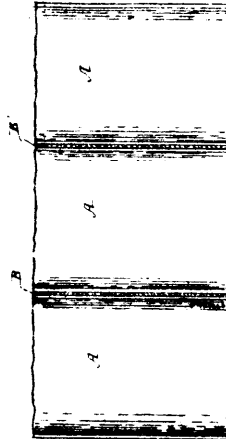
34370 Miller's Folding Trestle.



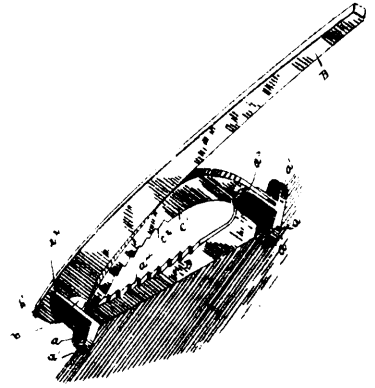
34371 De Long's Garment Hook.



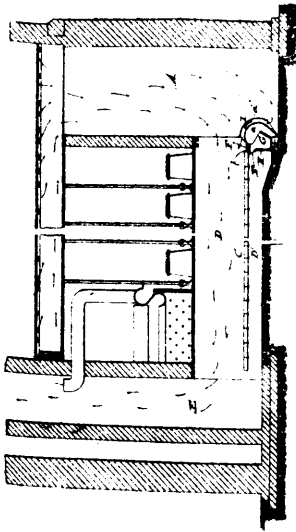
34372 Cock's Pipe Wrench.



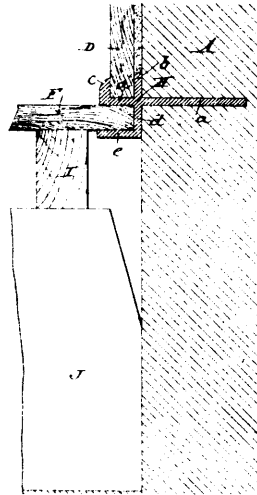
34373 Ayer's Cheese Cloth.



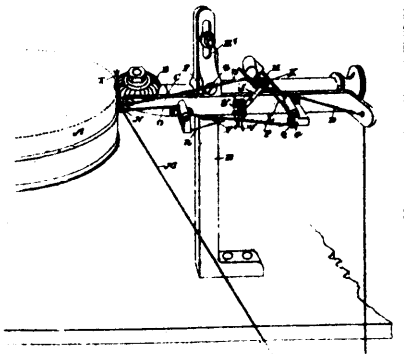
34374 Holmes' Nut Cracker.



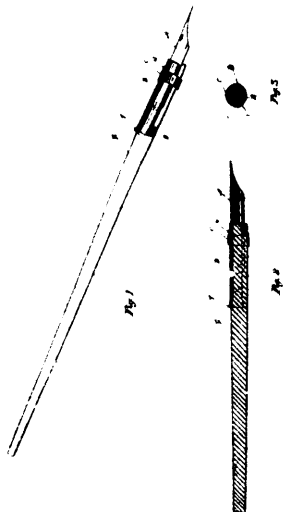
34375 Smead's Heater for Dry Closet.



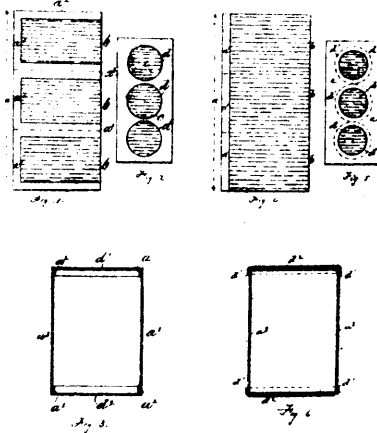
34376 Smead's Building



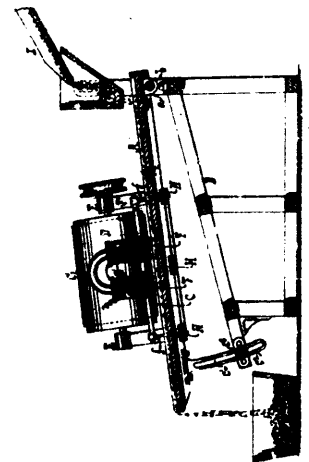
34377 Davidson & Dixon's Knitting Machine.



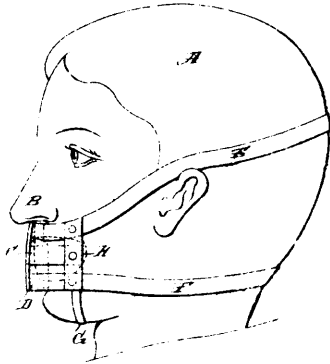
34378 McMurty's Pen Holder.



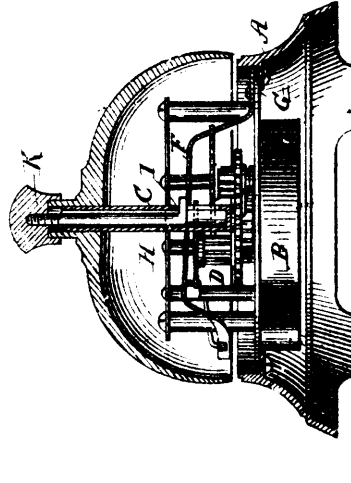
34379 Ames' Method of Making Lined Cans.



34380 Conkling's Process of Separating Iron, etc., from Non-Magnetic Substances.



34381 Woods' Respirator, etc.



34382 Rockwell's Call Bell.

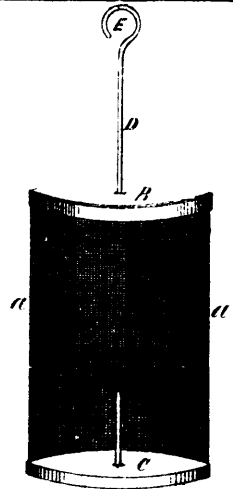


Fig. 1

34383 Smyth's Percolator for Coffee and Tea.

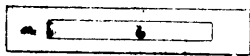


Fig. 3.

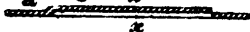


Fig. 4.



Fig. 5.

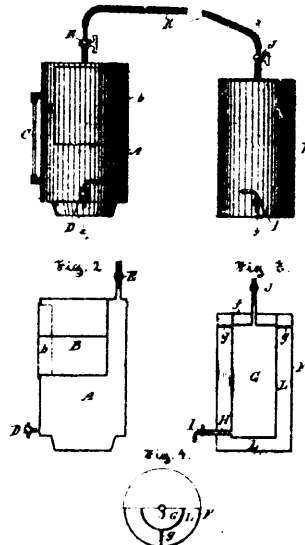


Fig. 6.

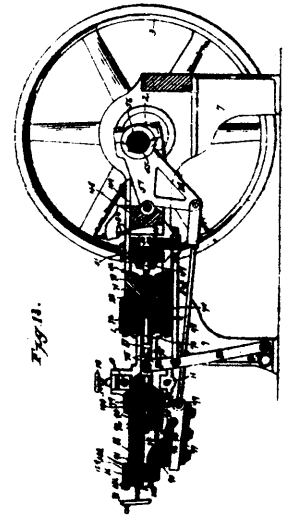


Fig. 7.

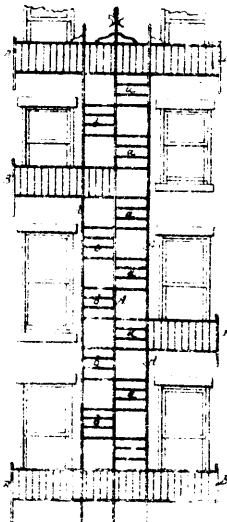
34384 Bray's Reed and Reed Plate.



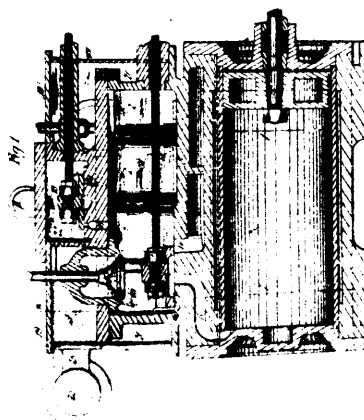
34385 Moir's Condenser.



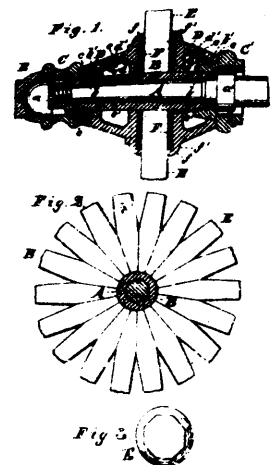
34386 Burdall's Bolt Heading Machine.



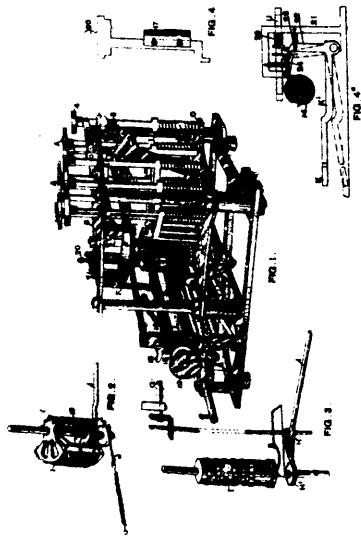
34387 Coon's Fire Escape.



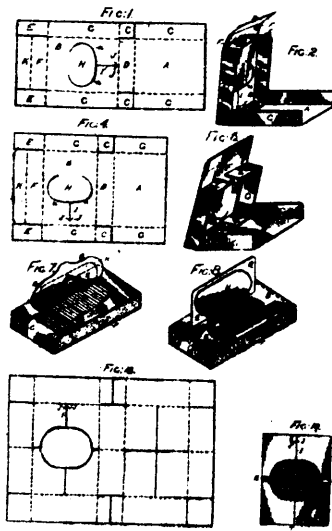
34388 Field's Motor Engine.



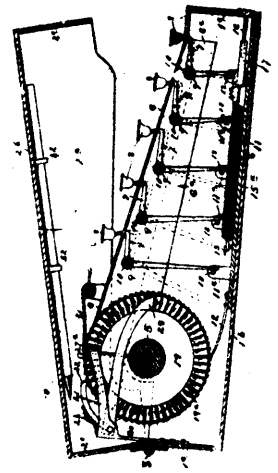
34389 Roberts' Wheel Hub.



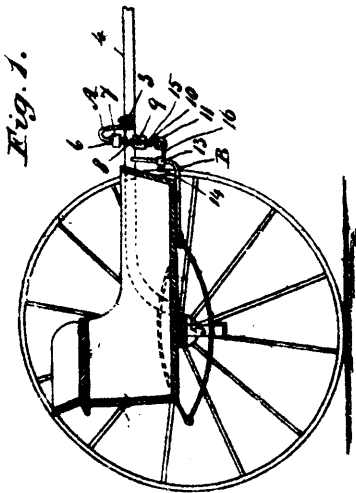
34390 Gardner's Type Writer.



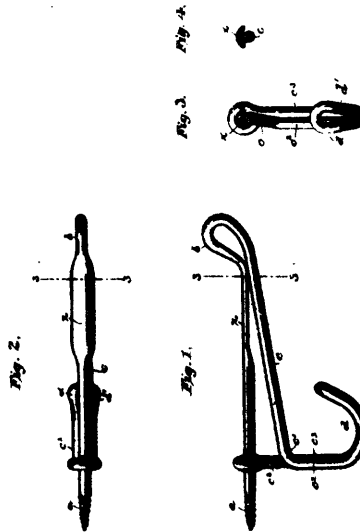
34391 Brown's Box for Holding Matches, etc.



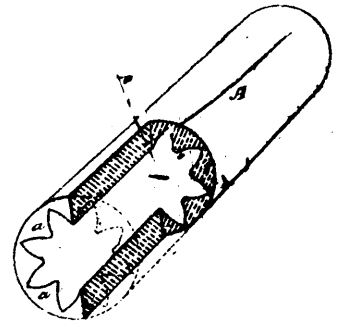
34292 Witter's Adding Machine.



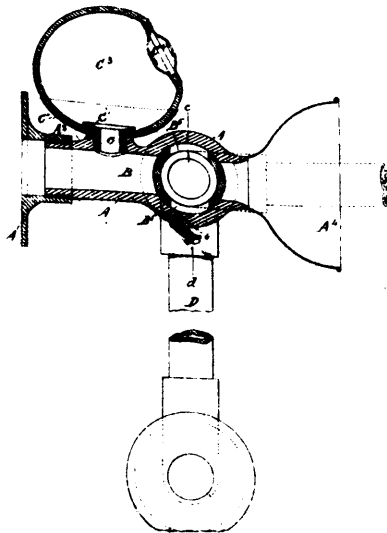
34393 McCrossen's Spring for Road Carts, etc.



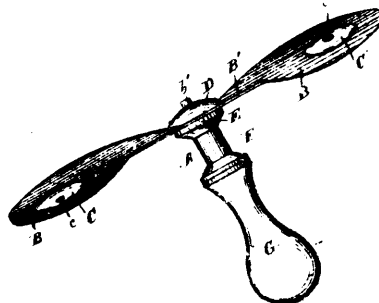
34394 Gorton's Wire Hook



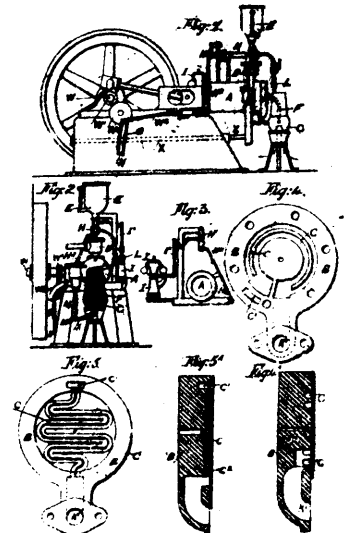
34395 Stevens' Package for Glass, etc.



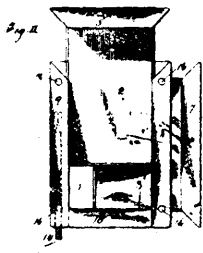
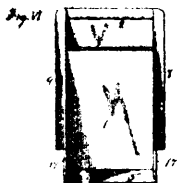
34396 Cutmore's Speaking Tube.



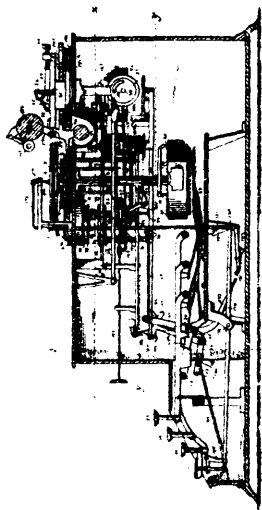
34397 Knoepfel & Lichtfield's Flying Toy.



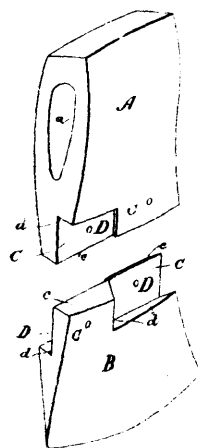
34398 Pierce's Sewing Machine.



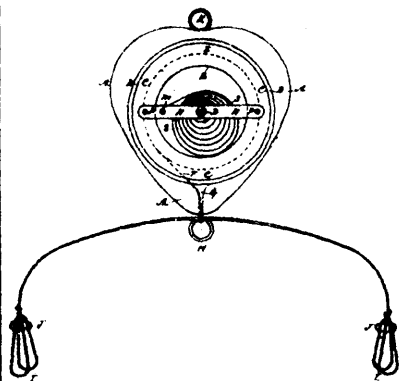
34399 Marks' Slate.



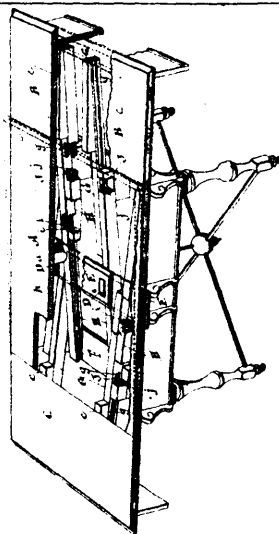
34400. Moore's Type Writing Machine.



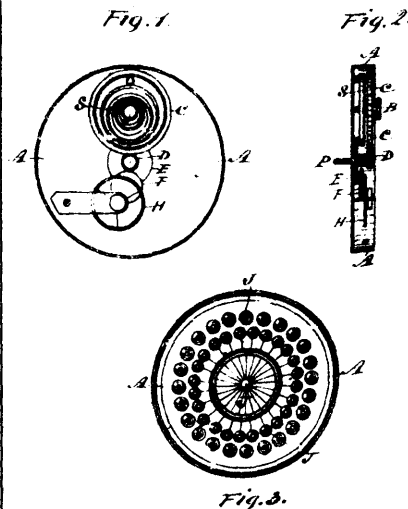
34401 Ricard's Axe, etc.



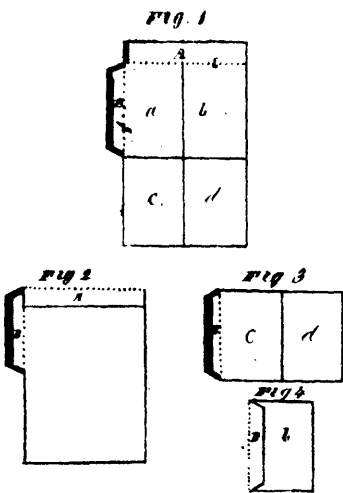
34402 Stenz's Towel Holder.



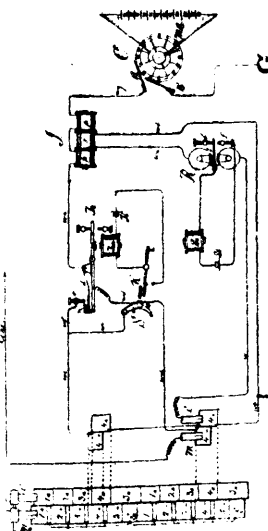
34403 Belmer's Extension Table.



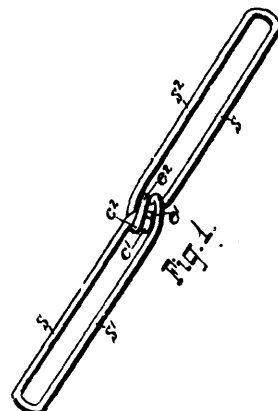
34404 Levy's Evolving Brooch.



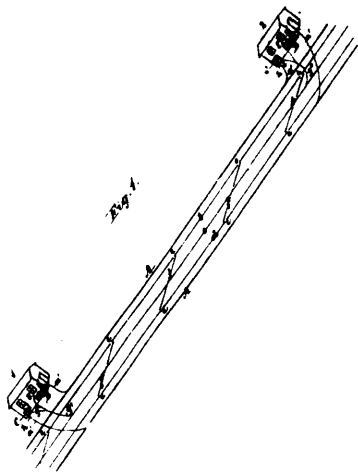
34405 Thompson's Letter and Envelope Combined, etc.



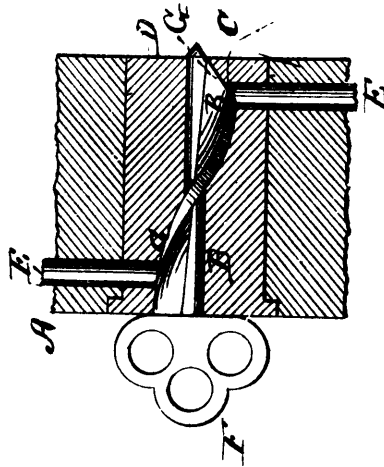
34406 Keely's Multiplex Telegraphy.



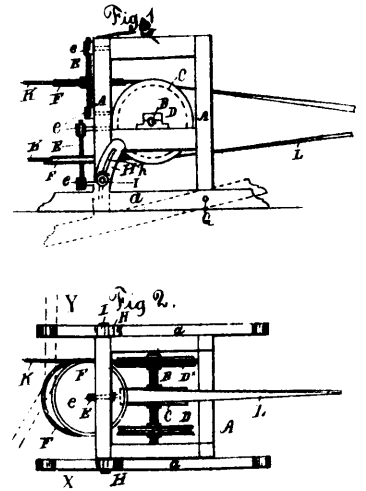
34407 Westman's Wire Chain.



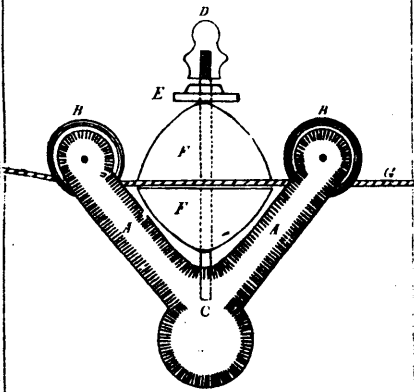
34408 Perls' Electrical Signaling Apparatus.



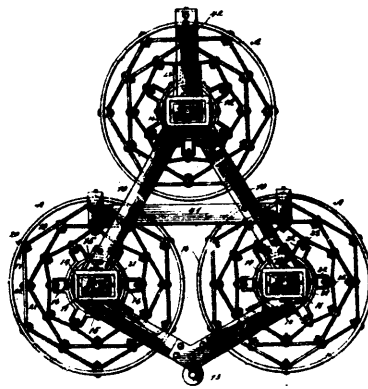
34409 Fischer's Key for Locks.



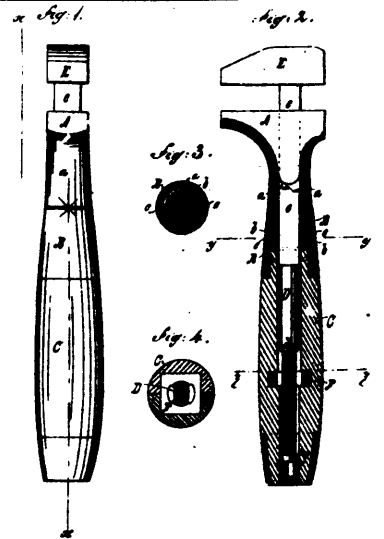
34410 Davidson's Device for Transmission of Power.



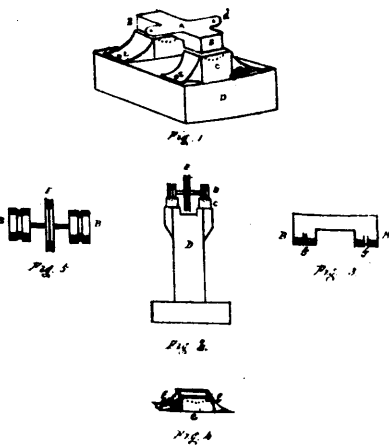
34411 Williams' Chalking Line.



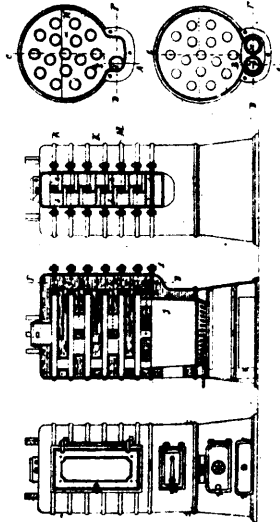
34412 Brown's Rotary Harrow.



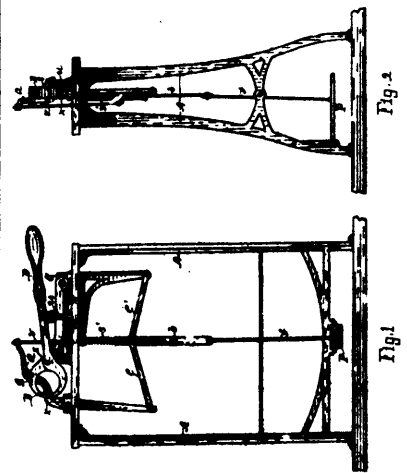
34413 Kaltenbeck's Monkey Wrench.



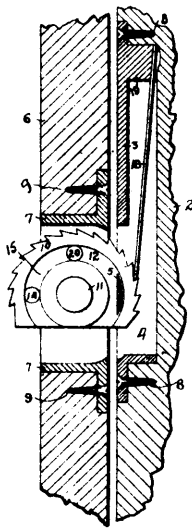
34414 Barrett's Becker and Cup for Operating Pumps.



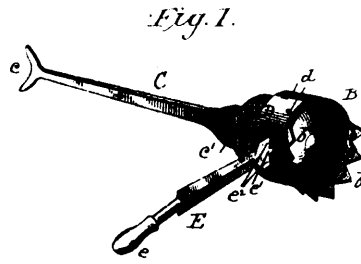
34415 Blondin's Fournaise à Eau Chaude.



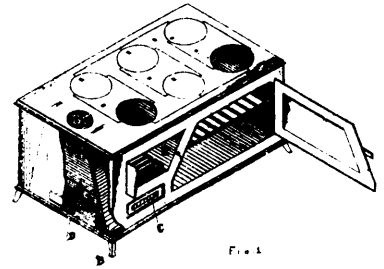
34416 Mills' Machine for Bending Metal Sash.



34417 Cleveland's Car Door Fastening



34418 De Wvell's Circular Lintress



34419 Barrett's Cooking Stove

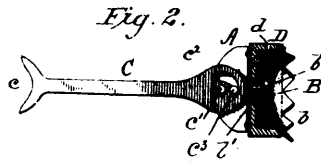
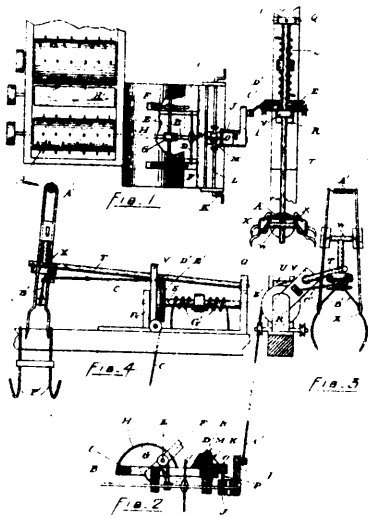
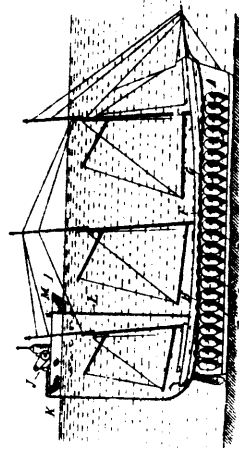


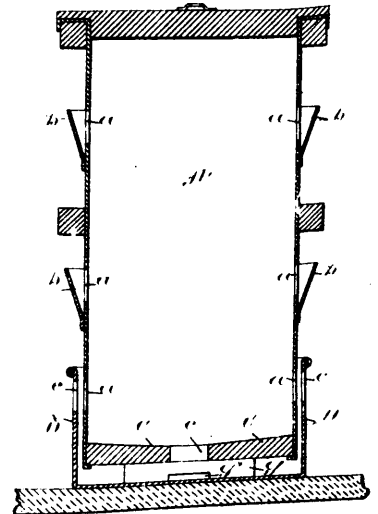
Fig. 2.



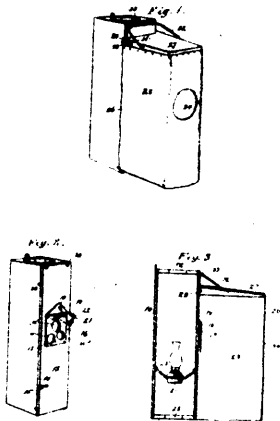
34420 Roy's Threshing Machine.



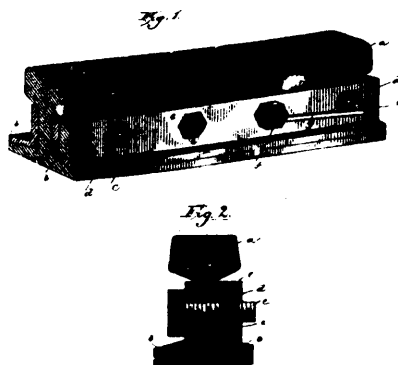
34421 Garland's Device for Raising Sunken Vessels.



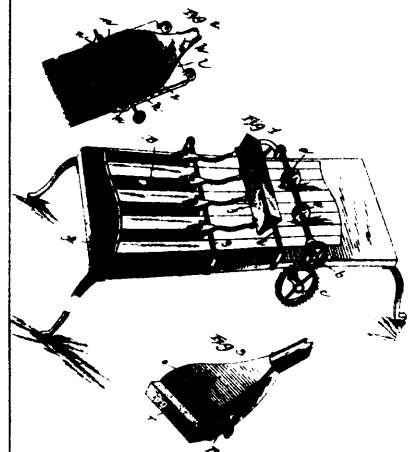
34422 Le Fabre's Ice Box



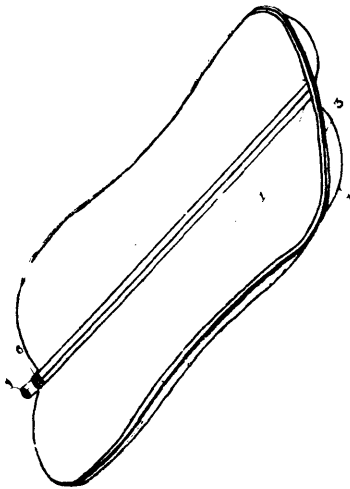
34423 Herrick's Egg Tester



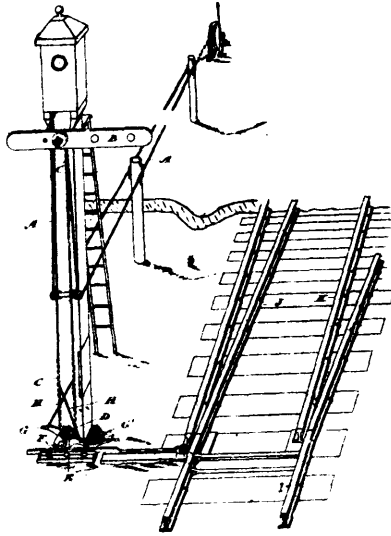
34424 Vinyard's Nut Lock.



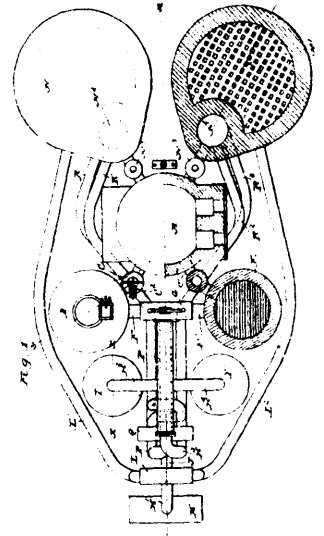
34425 Peregrine's Painting Apparatus



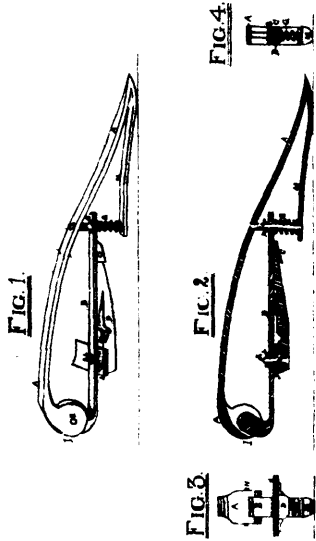
34426 Mudford's Patent Horses



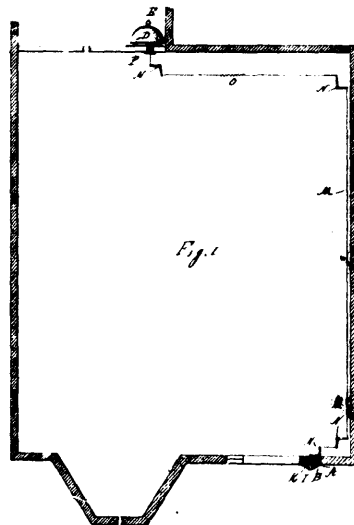
34427 Piper's Railway Signal



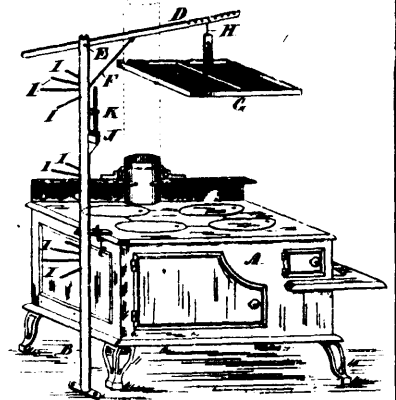
34428 Westman's Manufacture of Gas



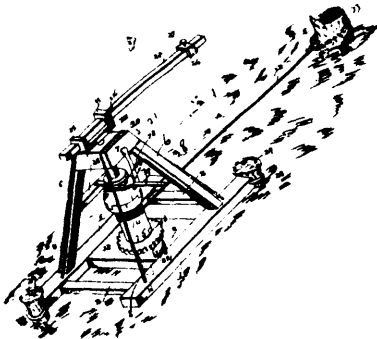
34429 Whiteman's Pea Harvesting Attachment



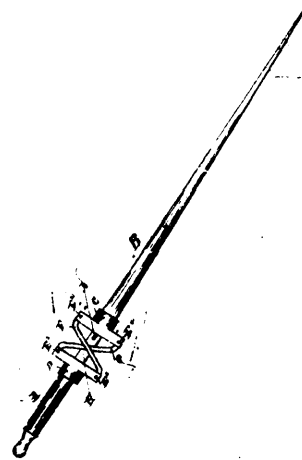
34430 Rockwell's Door Bell Mechanism



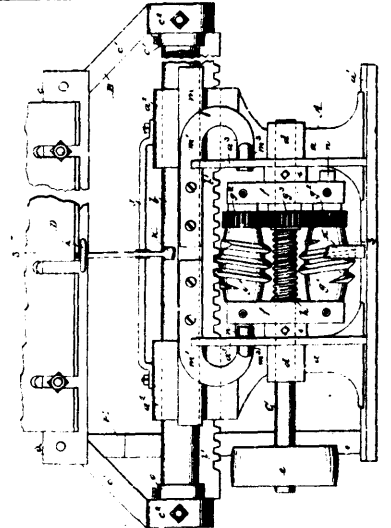
34431 Bates' Fruit and Clothes Drier



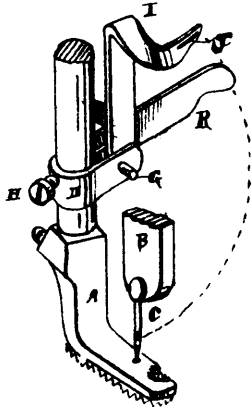
34432 Harvey's Stump Puller



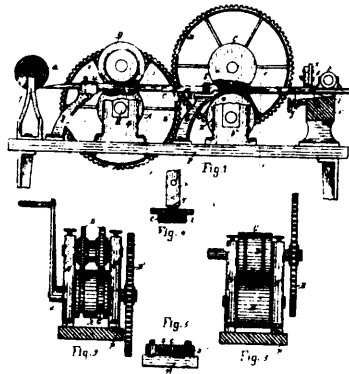
34433 Sweet's Bow Facing Oar



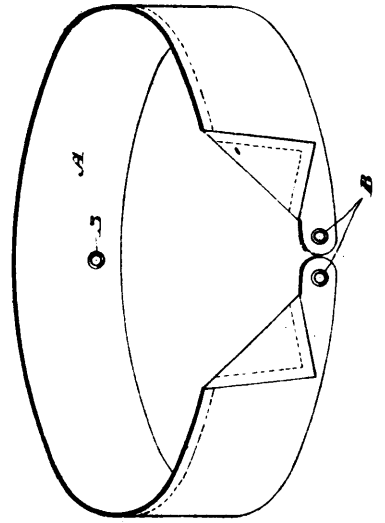
34434 Graves' Knife-grinding Machine



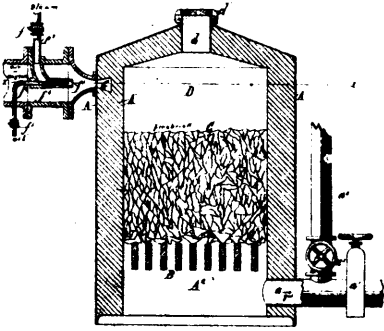
34435 Corli's Needle Threader, etc



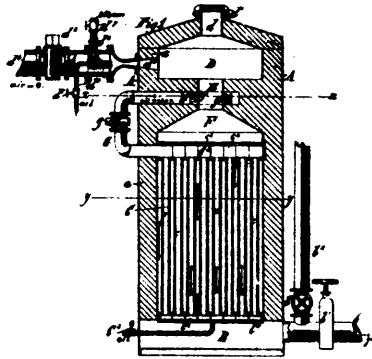
34436 Mills' Machine for Making Metal Sash



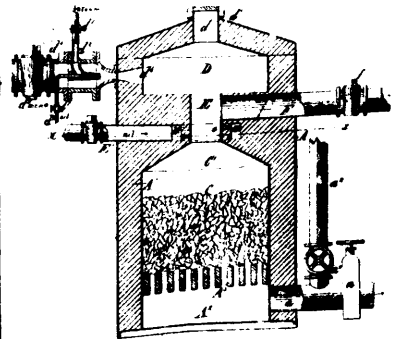
34437 Mitchell's Celluloid Collar.



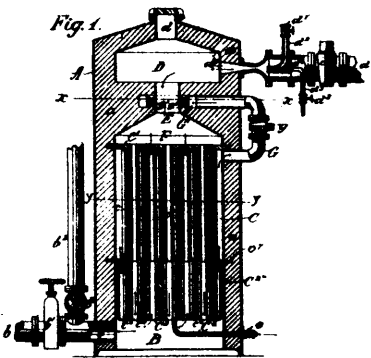
34438 Mackenzie's Process for Making Gas.



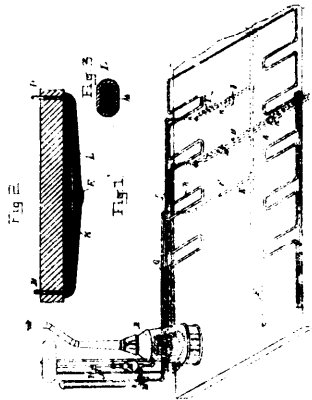
34439 Mackenzie's Apparatus for the Manufacture of Gas.



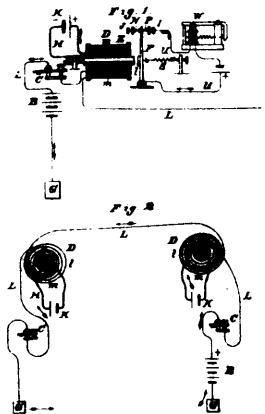
34440 Mackenzie's Apparatus for the Manufacture of Gas.



34441 Mackenzie's Apparatus for the Manufacture of Gas.



34442 McElroy's Train Pipe for Cars.



34443 Watson's Telephonic Means and Method of Operating with Electrical Conductors.