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# The Canadian Patent Office

## RECORD




Vol. XIV.—No. 4.

APRIL, 1886.

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

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### INVENTIONS PATENTED.

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

#### No. 23,516. Buggy Boot. (*Coffre de Voiture.*)

John W. Leek, Cincinnati, Ohio, U.S., 2nd March, 1886; 5 years.

*Claim.*—1st. A boot, composed substantially of the skeleton frame adapted to fit the edges of the buggy-body, and covered with fibrous material stretched over and secured to the frame, and finished by the moulding *d* secured upon and over the edges of the frame, substantially as specified. 2nd. In combination with the frame *a*, the leather *C* secured by the hook-seam *l*, substantially as specified. 3rd. In combination with the frame *a*, and the covering *C* secured upon it, the moulding *d*, provided with the hooks *e* bent over the edges of the frame, substantially as specified. 4th. In combination with the buggy *a*, the boot *B*, composed of the frame *a*, and covering *C* secured to the buggy on pivots *n* fixed to the frame, and turning in the sides of the buggy, substantially as specified.

#### No. 23,517. Folio Register for Type Writers.

(*Compte. Folio pour Graphotypes.*)

Harvey W. Yonley, Denver, Col., U.S., 2nd March, 1886; 5 years.

*Claim.*—1st. The combination, in a device for registering folio work on type writers, of the frame consisting of the back *Q*, side and end pieces *N* holding in position a glass plate *P* and dial *A*, dial *A* being fastened to said frame, hand *H* pivoted to axle *A*<sup>1</sup>, said axle terminating in a squared end *U*, ratchet-wheel *B* pivoted to said axle *A*<sup>1</sup>, ratchet-wheel *C* loose on said axle *A*<sup>1</sup>, washers *t* and *T* separating said ratchet-wheels *B* and *C*, and dial *A*<sup>1</sup> hub *B*<sup>1</sup>, separating wheel *B* from back *Q*, lever *D* pivoted on *t*, post *R*, and bearing on its long end the arm *O*, pawl *E* pivoted to said lever *D*, spring *N*, *K*, dogs *F* and *G* pivoted on screw *F* fastened to back *Q*, washers *S* and *T* separating said dogs, and back spring arm and key *I*, cam *M* and post *R*, substantially as shown and described and for the purpose set forth. 2nd. The combination, substantially as hereinbefore set forth, of the dial *A*, the hand *H*, the axle *U*, lever *D*, the post *R*, the spring *K*, the finger *E*, the ratchet-wheels *B* and *C*, the dogs *F* and *G*, the back *Q*, the spring arm and key *I*, the rim *N*, the washers *S* and *T*, the cam *M* and the stop *J* securely attached to the back, as specified.

#### No. 23,518. Wheel. (*Roue.*)

William P. Bettendorf, Peoria, Ill., U.S., 2nd March, 1886; 5 years.

*Claim.*—1st. A hub, in combination with spokes secured in position by a rivet-head within the interior of the hub, and a flange or head on the exterior, substantially as described. 2nd. In a wheel, the combination of the hub, constructed with tubular projections *a*, with the spokes *B* secured in the projections by inner and outer flanges, between which the walls of the projections closely fit, substantially as described. 3rd. A hub, made of a single piece of metal, consisting of a main portion *A*, provided with a series of projections *a* integral therewith, each having an opening *a*<sup>1</sup> and a countersink *a*<sup>2</sup> at its inner end, substantially as and for the purpose specified. 4th. A hub, consisting of a main or body portion *A*, and a series of projections *a*, each having an opening *a*<sup>1</sup>, with a countersink *a*<sup>2</sup> at its inner end, and a countersink *a*<sup>3</sup> at its outer end, substantially as specified.

#### No. 23,519. Grinding Mill. (*Moulin à Moudre.*)

George W. Dryden, Port Perry, Ont., 2nd March, 1886; 5 years.

*Claim.*—1st. A hardened steel disc *B*, inserted between the end of the spindle *A* and disc *C*, substantially as and for the purpose specified. 2nd. A disc *C* attached to the adjustable spindle *D*, having a toothed wheel *E* fixed to it, in combination with the lever *F*, actuated by the spring *G*, substantially as and for the purpose specified.

#### No. 23,520. Hame. (*Attelle.*)

Ezekiah Latchaw, Batavia, N.Y., U.S., 2nd March, 1886; 5 years.

*Claim.*—1st. An improved hame and trace connection, consisting of a plate having hinged connections to a hame, and also adjustable hinged connections to the clip of a trace. 2nd. The combination, with the hame, of a harness, of the eyebolts secured therein, the plate having slots for receiving the heads of the bolts, the said plate also having formed on its surface a series of lugs adapted to secure a bolt, which passes through the clip of the trace to adjust the same for the relief of the horse's neck and shoulders.

#### No. 23,521. Ventilator. (*Ventilateur.*)

Charles Clatbo, Toronto, Ont., 2nd March, 1886; 5 years.

*Claim.*—1st. A casing *B* having a series of openings *a* made in it near its base, and an opening at its top leading through the roof or ceiling of the apartment, in combination with a horizontal partition *H*, located substantially as and for the purpose specified. 2nd. A casing *B*, having a series of openings *a* made in it near its base, and an opening at its top leading through the roof or ceiling of the apartment, in combination with the partition *H* and diagonal partition *T*, substantially as and for the purpose specified. 3rd. A casing *B*, having a series of openings *a* made in it near its base, and an opening at its top leading through the roof or ceiling of the apartment, in combination with the partition *H*, diagonal partition *T* and hinged doors *J*, substantially as and for the purpose specified. 4th. A casing *B*, having a series of openings *a* made in it near its base, and an opening at its top leading through the roof or ceiling of the apartment, in combination with the partition *H*, diagonal partition *T* and hinged doors *J*, operated by the spindles *K*, connected together by the rod *L*, worms *m* and worm-pinion *n*, substantially as and for the purpose specified. 5th. The revolving ventilator *E*, having a side-opening, with flanges *q*, and attached to a sleeve *r*, having a bearing collar *f* lubricated from the oil cup *h*, in combination with the collar *e* formed on the bracket *G*, substantially as and for the purpose specified. 6th. A ventilator, in which the air passages are divided by the horizontal partition *H*, and curved end *s*, in combination with a hinged valve *R*, substantially as and for the purpose specified.

#### No. 23,522. Gate Latch. (*Loquet de Barrère.*)

Albert G. Rockfellow, Ashland, Oregon, U.S., 2nd March, 1886; 5 years.

*Claim.*—1st. An adjustable catch for latches, consisting of a threaded bolt or shank *p*, double inclined circular head *F*, having central groove or notch *F*, provided with end notches *p, p*, and secondary notches or offsets *q*, substantially as specified, whereby the catch is adapted to catch and hold a vertically or horizontally moving latch, as set forth. 2nd. The combination, with the slotted latch case *h*, provided with flanges *h*<sup>5</sup>, of the bolt *h*<sup>2</sup>, spring *h*<sup>3</sup>, rectangular bolt *h*<sup>4</sup>, locked at its lower end, and tumbler *n*, substantially as shown and described. 3rd. The combination, with an adjustable catch for latches, consisting of a threaded bolt *p*, double inclined head *F* having central notch *F*, with end or transverse notches *p, p*, and secondary notches *q*, of the slotted latch case *h*<sup>1</sup>, provided with flanges *h*<sup>5</sup>, bolt *h*<sup>2</sup>, spring *h*<sup>3</sup>, rectangular bolt *h*<sup>4</sup>, hooked at its lower end, and tumbler *n*, substantially as shown and described.

#### No. 23,523. Illuminant Appliance for Gas and other Burners. (*Appareil Réfecteur pour Bees à Gaz et autres.*)

Frederick F. Williams, London, Eng. (Assignee of Carl A. Von Welsbach, Vienna, Austria), 2nd March, 1886; 5 years.

*Claim.*—An illuminant appliance for gas and other burners, consisting of a cap or hood made of fabric impregnated with the substances hereinbefore mentioned, and treated as hereinbefore described.

### No. 23,524. Copying Press. (*Press à Copier.*)

Daniel E. Kempster and James H. Currier, Boston, Mass., U. S., 2nd March, 1886; 5 years.

*Claim.*—1st. The platen, adapted to be swung down into, or nearly, a horizontal position, in combination with and supported by the same mechanism, which is employed to clamp the book when the impression is being taken, as specified. 2nd. In a copying press, the combination, of a bed adapted for attachment to a vertical support, a platen, having a pivotal and sliding connection with said bed at one edge thereof, whereby the platen may be turned away from the bed to allow of the introduction of the copying-book, and to adjust itself thereto when exerting pressure thereon, and means for pressing the platen toward the bed, substantially as set forth. 3rd. The bed, adapted for attachment to a vertical support, a platen having a sliding and pivotal connection therewith, levers pivoted to the bed, and pressure arms pivoted to and actuated by the latter, whereby the platen may be pressed toward the bed, as described. 4th. In a copying press, the bed *a*, with its recesses *t, t*, and the platen *b*, with its bifurcated stems *r, r* for pivotally connecting them, in combination with a means of limiting the outward sliding movement of the platen, for the purpose specified. 5th. The pivoted pressure arm *k*, in combination with and adjustably secured to the slide or projection *k<sub>1</sub>*, for the purpose set forth. 6th. In a copying press, the platen *b*, with lugs *l, l*, bed *a*, pressure arms *k, k* pivoted thereto, and provided with projections *k<sub>2</sub>, k<sub>2</sub>*, combined with the operating levers *e<sub>1</sub>, e<sub>1</sub>*, pivoted to the bed *a*, and provided with studs *e<sub>2</sub>, e<sub>2</sub>*, said projections and studs being so constructed and arranged as to prevent the pressure arms *k, k* from disengaging with the lugs *l, l* when pressure is being applied, substantially as described. 7th. In combination, the bed *a* with its pressure arms *k, k* pivoted thereto, and the jaws or projections *k<sub>1</sub>, k<sub>1</sub>* adjustably connected therewith, in combination with the platen *b* provided with lugs *l, l*, as and for the purpose stated. 8th. The water receptacle *f*, in combination with the bed *a*, for the purpose set forth.

### No. 23,525. Parasol or Umbrella.

(*Parasol ou Parapluie.*)

Daniel C. Fisher and Charles L. R. De Lafontaine, Boston, Mass., U. S., 2nd March, 1886; 5 years.

*Claim.*—A detachable false cover, having a central opening surrounded by a tube and elastic cord, and provided at its border with socket tips, in combination with the frame and cover of a parasol, or an umbrella, substantially as described. 2nd. A detachable false cover, having a central opening surrounded by a tube and an elastic cord, and provided at its border with socket tips, in combination with a parasol or an umbrella, the said cover being larger than the cover proper, substantially as described. 3rd. A detachable cover having a central opening surrounded by a tube, and an elastic cord within the tube, and provided at its border with socket tips, in combination with the frame of an umbrella or a parasol, substantially as described. 4th. A cover, having a central opening surrounded by a tube, in combination with an elastic cord within said tube, the tip of the stick and a ferrule covering the tube and cord, substantially as described.

### No. 23,526. Milk Can. (*Bidon à Lait.*)

Edwin T. Slaght, Gowanda, Frank S. Oakes and Sanford F. Burgor, Cattaraugus, N. Y., U. S., 2nd March, 1886; 5 years.

*Claim.*—1st. A milk can, provided near its top with an interior annular shelf, having an upwardly and inwardly inclined inner face, combined with a cover having a vertical flange, which is outside of the upper edge of the said inclined interior face of said shelf, substantially as set forth. 2nd. A milk can, provided near its top with an interior annular shelf, having an upwardly and inwardly inclined inner face, combined with a doubly perforated cover, having a vertical flange, which is outside of the upper edge of the said inclined interior face of said shelf, substantially as set forth. 3rd. The combination, with a milk can, of a cover having an outer annular flange, and a reticulated or perforated top portion, whereby said cover, when reversed, is adapted to serve as a strainer, substantially as set forth.

### No. 23,527. Table Slide. (*Coulisse de Table.*)

Ezra Plenkhard and Morris Youmans (Assignees of Townsend Shilling), Columbus, Ohio, U. S., 2nd March, 1886; 5 years.

*Claim.*—1st. In a table-slide, having a stop-pin *c*, the combination of the casting *B*, having the web provided with recesses and apertures, rounded flanges, long arm or flange *b<sub>3</sub>* parallel with the greater transverse diameter of the slide, and slotted flange *b<sub>4</sub>*, with slides having grooves *a, a*, and a connecting mortise to receive said arm *b<sub>3</sub>*, substantially as described and for the purpose set forth. 2nd. In a table-slide, a casting *B* having a long arm or flange *b<sub>3</sub>*, in combination with the slides *A, A*, having grooves *a* and *C*, mortise *a<sub>1</sub>* and stop-pin *c*, substantially as described and for the purpose set forth. 3rd. In a table-slide the section *A* having groove *a, a*, mortise *a<sub>1</sub>* and groove *C* for the reception of the stop-pin *c*, a casting *B* provided with a long arm *b<sub>3</sub>* projecting through said mortise, in combination with the section *A* having a central groove that engages with flanges formed upon said casting, and a stop-pin *c* that enters groove *C* and abuts against the long arm *b<sub>3</sub>* of the casting, substantially as described and for the purpose set forth.

### No. 23,528. Sleigh Runner.

(*Patin de Traîneau.*)

Stephen C. Brownell, George H. Seelye and Alviras W. Annis, Lapeer, Mich., U. S., 2nd March, 1886; 5 years.

*Claim.*—The combination, in a sleigh-runner, of the arched bow, the hub gained or grooved in parallel planes above and below, and the connecting-raws and bolts or clips by which the whole is secured together, substantially as and for the purposes specified.

### No. 23,529. Dust Collector.

(*Aspirateur le Poussière.*)

Charles H. Morgan, Buffalo, N. Y., U. S., 3rd March, 1886; 5 years.

*Claim.*—1st. In a dust collector, the combination, with the air spout, of a dust receptacle connected therewith by an aperture, a valve applied to said aperture and opened and closed automatically, and a filter bag having its lower fixed end communicating with said dust receptacle, and having a movable upper end which is lowered to detach the dust from the bag and deliver it into the dust receptacle, substantially as set forth. 2nd. In a dust collector, the combination, with the air spout and the dust receptacle provided with a dust discharge opening, of a filter bag having one end rigidly secured and the other end movable, and a valve whereby the dust discharge opening is automatically opened and closed, substantially as set forth. 3rd. The combination, with the air spout, and the dust receptacle provided with a dust discharge opening, of the filter bag having one end rigidly secured and the other end movable, a valve whereby the connection between the air spout and the filter bag is automatically opened and closed, and a valve whereby the dust discharge opening is automatically opened and closed, substantially as set forth. 4th. The combination, with the air spout and dust receptacle, of a filter bag having its lower end rigidly secured, and its upper end made movable, and a lifting mechanism, substantially as described, attached to said movable end, and whereby the same is raised and lowered, substantially as set forth. 5th. The combination, with the air spout and dust receptacle, of a filter bag having a movable upper end, an air valve interposed between the air spout and the dust receptacle, a dust charge valve, and mechanism, substantially as described, whereby said valves are automatically opened and closed, substantially as set forth.

### No. 23,530. Faucet. (*Canule.*)

Henry G. T. Glazebrook, Woodhouse, Ont., 3rd March, 1886; 5 years.

*Claim.*—1st. In a faucet, the opening *F* formed from the front end inwards to the spigot in a line with the opening *D* of the spigot *C*, and the opening *B* of the faucet *A* by which the rod *H* can be inserted through the entire length of the faucet for removing clogging sediment, all arranged and constructed substantially as and for the purpose specified. 2nd. The combination of the faucet *A*, spigot *C*, opening *F* and plug *G*, substantially as and for the purpose specified.

### No. 23,531. Apparatus for Annealing Wire, etc. (*Appareil pour recuire le Fil de Fer, etc.*)

Samuel Fox, London, Eng., 5th March, 1886; 15 years.

*Claim.*—1st. The arrangement of annealing furnaces and apparatus as herein described, the body of the furnace being divided into two compartments, serving the one as a heating, and the other as a cooling chamber, and containing annealing cylinders to which a rotary motion is imparted, substantially as herein described. 2nd. The arrangement of annealing furnaces and apparatus, consisting of an annealing chamber containing rotating annealing cylinders, each receiving within it an annealing box which approximately fits it and which contains coils of wire to be annealed, substantially as described. 3rd. The employment in annealing apparatus in which rotating annealing cylinders and annealing boxes are employed, of dummy cylinders within such boxes, and within the coils of wire which such boxes contain, substantially as described. 4th. The arrangement of apparatus for annealing wire and metal in other forms, substantially as herein described and represented by the annexed drawings.

### No. 23,532. Apparatus for Preserving Eggs.

(*Appareil pour Conserver les Oeufs.*)

Owen W. Jones, New Cambria, Mo., U. S., 5th March, 1886; 5 years.

*Claim.*—1st. In an egg-preserving apparatus, the combination of an open frame *A*, a sliding frame and a series of independently-journalled grooved rollers *U*, mounted in the sliding frame and having their bearings projected beyond the sliding frame, and provided with bearing wheels *C*, adapted to bear on the track or way of the main frame, and support the sliding frame therein, substantially as described. 2nd. In an egg-preserving apparatus, the combination of an open main frame having a track or way, a sliding frame arranged between the track of the main frame, and the lower edge of the side pieces below the plane of such track, and a series of grooved rollers independently-journalled in the sliding frame, and having bearing-wheels *C*, rigidly secured to the bearings of the rollers, and bearing on the track or way of the main frame, whereby the sliding frame is suspended from the track or way, and the rollers are rotated when the frame is operated, substantially as described. 3rd. In an apparatus for preserving eggs, the combination of a main frame, a sliding frame mounted therein, and having a series of independently-journalled grooved rollers having bearing-wheels *C*, and a stop-pin adapted to limit the movement of the sliding frame, substantially as described. 4th. In an apparatus for preserving eggs, the combination of a main frame, a sliding frame mounted on and suspended from said frame, a series of independently-journalled grooved rollers having bearing-surfaces, and an adjustable stop-pin adapted to vary and limit the movement of the sliding egg-carrying frame, substantially as described. 5th. In an apparatus for preserving eggs, the combination of a main frame, an egg-carrying frame having grooved rollers and arms *W*, adapted to slide on the main frame, and a stop adjustably secured to the main frame and adapted to engage the sliding egg-carrying frame, to limit and vary the movement of the latter frame, as set forth. 6th. In an apparatus for preserving eggs, the combination of a main frame, a sliding frame mounted thereon, and

an adjustable stop to limit and vary the movement of the sliding frame, as set forth 7th. In an apparatus for preserving eggs, the combination of an open main frame A, having a series of tracks or ways A<sup>2</sup>, a series of sliding frames B mounted on and suspended between the tracks of the main frame and having limiting shoulders d<sup>1</sup>, a series of grooved rollers C independently-journalled in the frames B, and having bearing-wheels C<sup>1</sup> at their ends, bearing on the tracks or ways to support the frames B, and revolve the rollers, stop blocks E having holes e, and stop-pins D, removably secured in the holes e and adapted to alternately strike the shoulders d<sup>1</sup> to limit the movement of the frames B, substantially as described.

**No. 23,533. Weigh Bridge. (Balance-Basculé.)**

Joseph Roar, Mount Albert, Ont., 5th March, 1886; 5 years.

*Claim*—1st. In a portable weigh bridge, a series of levers pivoted, as shown, to standards having concave tops and protecting cars or flanges, as shown and for the purpose specified. 2nd. In a portable weigh bridge, the combination of the centre lever pivoted, as shown with the adjusting nut and beam of the scale, as shown, and for the purpose specified. 3rd. In a portable weigh bridge, the combination, with the frame A, B, of the levers D and G, standards e, pivots F, and scale-beam H, all adjusted as shown and for the purpose specified. 4th. In a portable weigh bridge, the hinged rod L, arranged and operating as shown, in combination with the scale-beam H, and lever G, as and for the purpose specified.

**No. 23,534. Water Motor. (Moteur à Eau.)**

John Hughes, Toronto, Ont., 5th March, 1886; 5 years.

*Claim*—1st. The ports C and D, arranged to connect the cylinder and valve-chest as specified, in combination with the check-valves N, arranged substantially as and for the purpose specified. 2nd. A water motor in which the cylinder and valve-chest are connected together by the ports C, D, the chambers L communicating one with each port C, D, in combination with the check-valves N, arranged substantially as and for the purpose specified. 3rd. A water motor provided with parts C, D, the chambers L communicating one with each port C, D, and communicating with the valve-chest F, through holes M, in combination with the check valve N, substantially as and for the purpose specified.

**No. 23,535. Railway Tie.**

(*Traverse de Chemin de Fer.*)

Eben N. Higley, Somersworth, N.H., U.S., 5th March, 1886; 5 years.

*Claim*—1st. In a railway-tie, substantially as described, the slot N having the enlarged section r, and the smaller section s; the smaller section standing at an angle to the larger section, substantially as and for the purpose set forth. 2nd. The bed-plate or chair K, provided with the slots t, in combination with the tie A, substantially as described. 3rd. As a new article of manufacture, the railway chair or bed-plate K, provided with the slots t, and side slots a, substantially as set forth. 4th. In a railway-tie, the bed-plate K, provided with the slots t, and the side slots a, in combination with the slots t, and the side slots a, in combination with the tie A, provided with the slots N, having the sections r, s, and the bolt H having the shoulders b, substantially as described. 5th. In a railway-tie, the bed-plate K provided with the slots t, and the side slots a, in combination with the tie A provided with the slots N, having the sections r, s, the bolts H having the shoulder b, the nuts J, the clamps E, and the rails, substantially as described. 6th. The improved railway-tie herein described, the same consisting of the sections B, C, provided with the flanges m, f, d, having the apertures z, and slots N having the sections r, s, substantially as described. 7th. The improved railway-tie herein described, the same consisting of the sections B, C, provided with the longitudinal flanges m, d, and the transverse flanges f, said flange m being provided with the aperture z, and the slots N, substantially as set forth. 8th. The improved railway-tie herein described, the same consisting of the sections B, C, provided with the longitudinal flanges m, d, and the transverse flange with f, said flange m being provided with the aperture z, and the slots N, having the sections r, s, at an angle to each other, substantially as set forth. 9th. As a new article of manufacture, a sheet-metal railway-tie having its sides inclined to form a spring-rest for the rails, and provided with flanges adapted to engage the earth and hold the tie in position when in use, substantially as described.

**No. 23,536 Apparatus for Extracting Particles of Steel or Iron. (Appareil pour Extraire des Parcelles d'Acier ou de Fer.)**

Frank E. Fisher, Detroit, Mich., U.S., 5th March, 1886; 5 years.

*Claim*—1st. The combination of a magnetic cylinder composed of magnets extending longitudinally the full length of the cylinder, a dynamo for producing a current through the helices of the magnets, substantially as described, for successively breaking the circuit of the magnets, with a hopper located above and extending partially around the revolving magnetic cylinder, as and for the purposes described. 2nd. The combination of a magnetic cylinder composed of magnets extending longitudinally the full length of the cylinder, and arranged parallel to, and annularly around, the shaft of the cylinder, a dynamo for producing a current through the helices of the magnets, and means, substantially as described, for successively breaking the circuit of the magnets, with a hopper located above and extending partially around the revolving magnetic cylinder, as and for the purposes described. 3rd. The combination of the hopper A, the spout A<sup>2</sup>, and the chute A<sup>1</sup>, with the magnetic cylinder located between the hopper and chute, and partially surrounded by the hopper, and composed of magnets extending longitudinally the length of the cylinder, a dynamo for producing a current through the helices of the magnets, and means, substantially as described, for successively breaking the circuit of the magnets as they pass over the chute, as and for the purpose described. 4th. The combination of a magnetic

cylinder comprising electro magnets composed of the loops b, poles b<sup>1</sup>, and insulators or diamagnetic metal b<sup>2</sup>, with the arms wound from end to end, a dynamo for producing a current through the helices of the magnets, a hopper located above and partially surrounding the cylinder, a spout and a chute below the cylinder, and means, substantially as described, for successively breaking the circuit of the magnets as they pass over the chute, as and for the purpose described. 5th. The combination of a magnetic cylinder, comprising electro magnets extending the full length of the cylinder, and composed of loops b, poles b<sup>1</sup>, and insulator or diamagnetic metal b<sup>2</sup>, a dynamo for producing a current through the helices of the magnets, and means, substantially as described, for intermittently breaking the circuit of the magnets, substantially as described.

**No. 23,537. Calendar and Blotting Pad.**

(*Calendrier-Buvard.*)

Hazen Morse, Buffalo, N.Y., U.S., 5th March, 1886; 5 years.

*Claim*—The combination of the calendar, of which A A is a slot, or piece partly cut out, so as to permit the sight of the disc B B eyeletted to top sheet E B, and yearly calendar below, with the sheets of blotting paper fastened together, making a "Combination Calendar and Blotting Pad," substantially as and for the purpose hereinbefore set forth.

**No. 23,538. Refrigerator. (Garde-Manger.)**

Joseph Lalonde, Winnipeg, Man., 5th March, 1886; 5 years.

*Claim*—The combination of the casing having single or double panels forming the space C, the cold air tube F, the shelf E having the perforation O and the outlet pipe G, substantially as and for the purpose hereinbefore set forth.

**No. 23,539. Flour Bolt. (Bluteau.)**

George T. Smith, Jackson, Mich., U.S., 5th March, 1886; 5 years.

*Claim*—1st. In a flour bolt, the combination of the beater shaft, a bearing for the outer end of the beater shaft, the reel head provided with a trunnion surrounding the beater shaft, the driving gears connecting the beater shaft with the trunnion arranged between the beater shaft bearing and the reel head, and a casing surrounding the gearing to prevent the tailings from entering the gearing, substantially as set forth. 2nd. In a flour bolt, the combination of the beater shaft, a bearing for the outer end of the beater shaft, the reel head provided with a trunnion surrounding the beater shaft, gearing arranged between the beater shaft bearing and the reel head, and the casing below the gearing, adapted to receive the oil dropping from the bearings, and prevent said oil from mixing with the tailings, substantially as set forth. 3rd. In a flour bolt, the combination of the beater shaft, the reel head provided with a trunnion surrounding the beater shaft, gearing connecting the beater shaft with the reel head, and a shell surrounding the gearing and made in two parts, of which one part is attached to the casing, and the other part is attached to, and revolves with, the reel head, substantially as set forth. 4th. In a flour bolt, the combination of the beater shaft, the reel head provided with a trunnion surrounding the beater shaft, gears connecting the beater shaft and the reel head, and a casing surrounding the gearing and made in two parts, of which one part is attached to the casing, and the other part is of less diameter and attached to and revolves with the reel head, substantially as set forth. 5th. In a flour bolt, the combination of the beater shaft, the reel head provided with a trunnion surrounding the beater shaft, gearing connecting the beater shaft with the reel head, the casing at the tail end of the bolt, a partition arranged parallel with said casing, and a short distance inside thereof, a flange projecting rearward from the reel head and fitting closely a circular opening in the partition opening through the reel head for the passage of the tailings, and a casing between the partition and the tail end casing of the bolt to prevent material from contact with the casing, substantially as set forth. 6th. In a flour bolt, the herein-described reel head consisting of the trunnion, the circular plate 22, the casing flange 23, the peripheral flange 23, the flour guard 26 and the spokes connecting the peripheral flange with the casing flange, substantially as set forth. 7th. In a flour bolt, the combination, with the beater shaft, and the reel head provided with a trunnion which surrounds the beater shaft, of a metal bridge-tree provided with bearings for the beater shaft, the trunnions and their connecting gears, the bridge-tree and the lower portions of the bearings being in one piece of metal, substantially as set forth. 8th. In a flour bolt, the combination, with the beater shaft and the reel head, provided with a trunnion which surrounds the beater shaft, of a metal bridge-tree provided with bearings for the beater shaft, the trunnions and their connecting gears, the bearings for the trunnion and the bearings for the inner ends of the gear shafts projecting inward beyond the vertical plane of the outer face of the reel head, and having supporting brackets, the bearings and the brackets being all formed in one piece of metal, substantially as set forth. 9th. In a flour bolt, the combination, with the two conveyors arranged side by side, of the sprocket wheels on the conveyor shafts, the sprocket wheel 51, the chain and the adjustable sprocket wheel 52, substantially as set forth. 10th. In a flour bolt, the combination of the conveyors, the sprocket wheels on the conveyor shafts, the shaft 56, gearing connecting the beater shaft with shaft 56, the sprocket wheel 51, and the chain, substantially as set forth. 11th. In a flour bolt, as a means for driving the conveyors, the combination, with the beater shaft and the reel, of a shaft geared to the beater shaft and to the reel and carrying a sprocket wheel, and a chain and sprocket wheels connecting the sprocket wheel on the shaft with the conveyors, substantially as set forth. 12th. In combination with a revolving reel, a conveyor below the reel, a vibrating brush arranged on a line parallel with the axis of the reel, a rock-shaft also arranged on a line parallel with the axis of the reel, and carrying the brush, a rotating wheel arranged within the casing and driven by the conveyor, and means connected to the rock shaft and actuated by the rotating wheel for vibrating the brush, substantially as set forth. 13th. In combination with a revolving reel, a conveyor below the reel, a vibrating brush arranged on a line parallel with the axis of the reel, a rock-shaft

also arranged on a line parallel with the axis of the reel and carrying a brush, the crank wheel arranged inside the casing and connected by gearing with the conveyor shaft, and a pitman connecting the crank wheel with the rock-shaft, substantially as set forth. 14th. In combination with a revolving reel, a conveyor below the reel, a vibrating brush arranged on a line parallel with the axis of the reel, a rock-shaft also arranged on a line parallel with the axis of the reel, a gear wheel mounted on the conveyor shaft a crank wheel provided with a gear, and mounted upon a stud shaft projecting from the conveyor or box, and meshing with the gear of the conveyor shaft, and a pitman connecting the crank wheel with the rock-shaft, substantially as set forth.

### No. 23,540. Manufacture of Felt Stockings, etc. (*Fabrication des Bas de Feutre, etc.*)

Edward Roos, Galt, Ont., 6th March, 1886, 5 years.

*Claim.*—1st. In a track scraper and clearer, consisting in placing on a woven or knitted tube, a layer of wool, which is partially hardened, then sewn at one end, substantially as specified. 2nd. The within-described process, consisting in placing on a woven or knitted tube, a layer of wool, which is partially hardened, then sewn at one end, a welt of hardened wool being placed in the seam, substantially as specified.

### No. 23,541. Track-Scraper for Railroads. (*Grattoir de Chemin de Fer.*)

Harvey M. Littell, St. Paul, Minn., U. S., 6th March, 1886; 5 years.

*Claim.*—1st. In a track scraper and clearer, the scrapers secured to the scraper levers and the rock-shaft, in combination with the arm which serves to operate the rock-shaft and scrapers, substantially as described. 2nd. In a track scraper and clearer, the rock-shaft journaled to the platform and carrying the scrapers and adjustable cross-bar, in combination with the lever arm which operates the rock-shaft and scrapers, substantially as described. 3rd. In a track scraper and clearer, the rock-shaft pivotally secured to the platform or sill by the eye bolts or journal boxes, said boxes having bolts which extend up through the platform, in combination with the scrapers and the outward lever arm and latch which operate the scrapers, substantially as described. 4th. In a track scraper and clearer, the combination of the rock-shaft carrying the scraper levers and scrapers, and the lever arm, which operates in conjunction with a latch to operate the scrapers with the latch and the pawl, substantially as described. 5th. In a scraper and clearer of the character described, the rock-shaft and scraper levers combined, and the lever and latch, said latch having a flattened head, in combination with the slotted platform, and the pawl for engaging the recesses in the latch, substantially as described, whereby the scrapers may be adjusted and held at any desired position with relation to the rail, as set forth. 6th. In a scraper and clearer, the rock-shaft and levers which operate the same and support the scrapers, in combination with the scrapers, said scrapers having the projecting agitators which clear inside the track, substantially as set forth. 7th. In a scraper and clearer, the rock-shaft and levers for operating the same and for supporting the scrapers, in combination with the scrapers, said scrapers having the agitators which scrape inside of the rails, and also having a straight portion which extends diagonally across and scrapes the top of the rail, and throws the debris therefrom, substantially as described. 8th. In a scraper and clearer, the rock-shaft, and levers for operating the same and for carrying the scrapers, in combination with the scrapers, said scrapers having the agitators, and upwardly and outwardly inclined, curved or tapered portions, substantially as described. 9th. In a scraper and clearer, the combination of the rock-shaft provided with the rearwardly extending scraper levers and scrapers, with the forwardly extending lever arm which is slotted to receive the latch, and the latch pivoted to the lever arm in between the projections in the slotted end of the lever arm, where it is protected by said projections, substantially as described. 10th. In a scraper and clearer, the combination of the rock-shaft, the levers and the scrapers with the latch, the slotted platform and the metal-slotted plating for said slot in the platform, substantially as described. 11th. In a scraper and clearer, the combination of the rock-shaft, the eye-bolts or journals, the levers and the scrapers with the cross-bar, which is loosely secured to the scraper levers, and which extends from one to the other and is free to vibrate therewith, substantially as described. 12th. In a scraper and clearer, the rock-shaft and scrapers journaled to the car, in combination with the lever arm which operates the rock-shaft, and the latch which operate the rock-shaft, and the latch which operates said lever arm, said latch and lever arm being provided with means whereby their lengths may be varied, substantially as set forth. 13th. In a scraper and clearer, the rock-shaft and scraper pivoted to the car, in combination with the lever arm which operates the rock-shaft, said lever arm being provided with a locking device, whereby the scrapers may be rigidly held down into contact with the rail at will, substantially as set forth. 14th. In a scraper and clearer, the rock-shaft and scrapers pivoted to the car, in combination with the cross-bar which extends back with and strengthens the scrapers, substantially as set forth. 15th. In a scraper and clearer, the rock-shaft having the crooked arms, provided with scrapers, in combination with the separable journals, substantially as set forth.

### No. 23,542. Forming Cast Iron into Shot, Grains or Globules. (*Conversion de la Fonte en Grenailles, Grains ou Globules.*)

Frederick T. C. Burpee, St. John, N.B., 6th March, 1886; 5 years.

*Claim.*—The method of atomizing or forming cast-iron into shot grains or globules, by means of a steam jet, as above described.

### No. 23,543. Machine for Making Bricks and Tiles. (*Machine pour Faire les Briques et les Tuiles.*)

William Baillo, Sparta, Ont., 6th March, 1886; 5 years.

*Claim.*—1st. The combination of the horse-power shaft B, and main driving wheel C, with the piston driving wheel E, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the piston driving-wheel E, with the piston rods F, F, and plungers G, G, by means of the eccentric pulleys H, H, substantially as and for the purpose hereinbefore set forth.

### No. 23,544. Machinery for Spinning Yarn. (*Machine à Filer.*)

Robert Gemmell, Columbus, Ont., 6th March, 1886; 5 years.

*Claim.*—1st. As an improvement on mechanism for spinning yarn, an endless belt passing from the cylinder or drum round each bobbin-pulley, in combination with a belt-tightener, consisting of a pulley attached to a box sliding within a dove-tail groove, said box being operated by means of a screw working in a fixed nut, substantially as shown and for the purpose specified. 2nd. As an improvement or mechanism for opening yarn, an endless belt passing from the cylinder, as shown, round each bobbin-pulley, in combination with a belt tightener, consisting of a pulley attached to a block sliding in a dove-tail groove, said sliding block being operated and controlled by means of pawls engaging with ratchets, substantially as shown and for the purpose specified.

### No. 23,545. Egg Carrier. (*Boîte à Oeufs.*)

John A. Berry, Detroit, Mich., U. S., 6th March, 1886; 5 years.

*Claim.*—An egg-carrying device, composed of a series of open ended cylinders arranged in concentric series, each series being surrounded by a concentric ring and adapted to fit into a cylindrical outside package, in combination with removable partitions by means of which the devices are separated from each other, substantially as described.

### No. 23,546. Microphone. (*Microphone.*)

Thomas Wallace and Oscar A. Enholm, New York, N. Y., U. S., 6th March, 1886; 5 years.

*Claim.*—1st. In a microphone, a series of polished hard carbon bars resting in contact with one another, and controlling the circuit passing through them, substantially as described. 2nd. In a microphone, the combination, with the diaphragm, of a bridge piece secured thereto, the carbon bars secured to the bridge piece and connected to the circuit, and the carbon bar resting upon the said bars, and completing the electric circuit, substantially as described. 3rd. In a microphone, the combination, with the two fixed polished carbon bars, of the suspended bar resting in contact therewith, substantially as described. 4th. In a microphone, the combination, with the fixed bars, of the suspended bar resting in contact therewith, and having a weighted bar, substantially as described. 5th. The combination, with the diaphragm, of the bridge piece secured thereto, the bars secured to the bridge piece and connected to the line, and the suspended and weighted bar resting on said bars, substantially as described. 6th. The combination, with the bridge piece carrying the carbon bars, of a covering connected to the bridge piece and extending over the bars, substantially as described.

### No. 23,547. Graining or Ornamenting Painted or Colored Surfaces. (*Imitation ou Ornamentation des Surfaces Peintes ou Colorées.*)

Joseph A. Meginn, Liverpool, Eng., 6th March, 1886; 5 years.

*Claim.*—1st. The method of forming grained surfaces, which consists in forming sheets of fibulous or absorbent flexible material, embossing the same with the pattern or graining required, so that the pattern shall stand out in relief, cutting these sheets to the size and shape of the surface to be grained, covering the surface to be grained with wet paint color, or varnish, and pressing the said sheets on the said even surface, whereby the paint under the embossed parts is absorbed, leaving a grained pattern, substantially as described. 2nd. The improvement in the process of manufacturing grained, painted or colored surfaces, which consists in forming the pattern in low relief upon sheets of highly absorbent flexible material, capable of being cut to the size of the surfaces to be grained, substantially as described. 3rd. The improvement in the process of making grained surfaces, which consists in coating them with the wet paint, color or varnish, and then applying sheets of embossed absorbent material thereto, with pressure sufficient to cause the embossed surface to press against the wet paint, or other material, and absorb most of that portion that comes in contact with the raised part of the surface of the absorbent material, substantially as described. 4th. The improvement in the method of graining surfaces mechanically, without unsightly joints, which consists in cutting out from embossed absorbent paper a piece, the same size and shape as the surface to be grained, covering the surface with fresh graining color, or paint, and then pressing the piece of absorbent paper against the same, so as to absorb the color or paint beneath the embossed parts.

### No. 23,548. Auger. (*Taridre.*)

Benjamin Forstnor, Salem, Oregon, U. S., 6th March, 1886, 5 years.

*Claim.*—1st. In an auger, a circular peripheral cutting edge formed of two parts a, a', each provided with a cutting edge c, inclined slots d formed in opposite sides of the cutter, cutting lips e formed along the inclined slots, and a central cutting point c, joining the cutting lips e, substantially as herein specified. 2nd. As an improved article of manufacture, an auger formed of a shaft carrying a slotted disk, having on the circumference thereof peripheral cutters a, a', provided with cutting edges c, inclined cutters e, formed along the sides of the slots of the disk, and the cutting point c, joining the cutters e, substantially as herein specified.

**NO. 23,549. Marine Signal Light.**

(*Feu de Signal en Mer.*)

George T Parry, Philadelphia, Pa., U.S., 6th March, 1886; 5 years.

*Claim.*—1st. In signal lights for vessels, the combination, with the usual port and starboard signal lights, of two auxiliary movable and independent signal lights having screws, one of which is secured upon the vessel with respect to said port light and the other with respect to said starboard light, whereby as the vessel swings off said auxiliary signal lights shall be exposed to view, or shut off from view, at specified times, as described, to indicate the course of the vessel, the said auxiliary lights being adapted to be secured and made fixed above, below, to the rear, or in front of the present fixed port and starboard lights, as circumstances require, substantially as and for the purpose specified. 2nd. In signal lights for vessels, the combination, with the usual port and starboard lights, of two auxiliary or secondary signal lights, one of which is placed in front of said port light, and the other in front of said starboard light, but out of and aft line through said port or starboard light, so as not to obstruct their rays of light, the said auxiliary signal lights having screens, whereby their lights are screened from certain points, as specified, but having outside exposure to the end, that as the vessel turns in her course the auxiliary light on one side is automatically exposed, or shut off from view, thereby indicating the vessel's course, substantially as and for the purpose specified. 3rd. In signal lights for vessels, the combination, with the usual port and starboard lights, of two secondary or auxiliary signal lights, one of which is fixed above said port, and the other above said starboard light, said auxiliary signal light having screens whereby their lights are screened from certain points, as specified, but having outer side exposure to the end that, as the vessel turns in her course the auxiliary light on one side is automatically exposed or shut off from view, thereby indicating the vessel's course, substantially as and for the purpose specified. 4th. An auxiliary signal light for vessels, having screens E, F arranged one on each side of the lantern glass, and one or both of which are horizontally adjustable in a manner to screen the light sooner or later as the vessel turns in her course, substantially as and for the purpose specified. 5th. An auxiliary signal light for vessels having screens E, F, arranged one on each side of the lantern glass, and one or both of which are horizontally adjustable in a manner to screen the light, sooner or later, as the vessel turns in her course, and devices to lock said screen or screens in fixed positions, substantially as and for the purpose specified.

**No. 23,550. Night Light.** (*Lumière.*)

Samuel Clarke, Child's Hill Works, Eng., 6th March, 1886; 15 years.

*Claim.*—1st. As a now manufactured article, a night light, with a plaster case *d* extending more or less up the side of the block *a* of fatty material, and enveloped or not with paper *c*, substantially as described. 2nd. The process of manufacturing night lights, consisting in moulding a block of fatty material *a*, with an enlargement *o* at the end remote from the base, then applying a wrapper *c* around this block and pouring plaster therein thereby forming a plaster case *d* extending more or less up the side of the block *a* of fatty material, substantially as described.

**No. 23,551. Vehicle Running Gear.**

(*Train de Voiture.*)

Mary F. Welch (Assignee of Harlow M. Welch), Sweetsburgh, Que., 6th March, 1886; 5 years.

*Claim.*—1st. The combination, with the body *A*, having a fifth wheel *B*, of the crank axle *C* having arms *D*, rub plate *F* and spring *E*, whereby the axle rocks with the yielding of the ends of the spring and swings on the king bolt, as set forth. 2nd. The combination, with the body *A*, having boxes *S*, of the crank axle *I* journaled therein and having arms *J*, spring *K* shackled to said arms and at the middle attached to the body *A*, as set forth, whereby the arms of the axle are supported by the extremities of the spring, the body bear on the middle of the spring and the axle rock in the boxes secured to the body, as described.

**No. 23,552. Manufacture of Clock Cases, Statuary, Vases, etc., from Plastic Material.** (*Fabrication des Boîtes de Pendules, Statues, Vases, etc., en Matière Plastique.*)

Reese B. Coughlin, Covington, Ky., U.S., 6th March, 1886; 5 years.

*Claim.*—1st. The composition, herein described, composed of Keene's cement, rosin and alum, or its described equivalents, substantially as described. 2nd. The composition, herein described, composed of Keene's cement, rosin, alum, or its described equivalent, and a colouring matter, substantially as described. 3rd. The composition, herein described, for dyeing artificial marble, etc., consisting of extract of logwood, copperas, tincture of iron and water, as set forth. 4th. The method, herein described, of manufacturing clock cases and other articles, consisting in combining Keene's cement, rosin, alum, or its equivalent, and a colouring matter, and then moulding the same into the desired article, then honing the article, subsequently dyeing the same and afterwards finishing the surface, substantially as described. 5th. The method herein described, of making clock cases and other articles, consisting in grinding Keene's cement, and then mixing it in water with rosin and alum, or its equivalent, subsequently adding colouring matter thereto, then adding more cement, then moulding the same and honing the surface of the article, afterward subjecting the same to the action of a hot dye, and subsequently polishing the surface. 6th. A clock-case, made in a single piece from a composition composed of Keene's cement, rosin, alum, or its described equivalent, and a colouring matter, substantially as described. 7th. The mould, composed of the separable back, side, top and bottom plates, in combination with the detachable circular patterns and inner frame, substantially as described. 8th. In

a mould for clock-cases, the combination, with the side plates thereof, of the detachable back plate provided with the detachable frame and circular pattern plate, substantially as described. 9th. In a mould for clock-cases, the combination, with the side plates thereof, of face and back plates, provided with patterns for forming an opening in the face and back of the case, substantially as described.

**No. 23,553. Machine for Making Boxes.**

(*Machine pour Faire les Boîtes.*)

Edward M Jowett, Buffalo, N.Y., U.S., 6th March, 1886; 5 years.

*Claim.*—1st. In a machine for making boxes, or forming stock, the combination of the forming and compressing rollers set in bearings in the frame and connected together by gearing, one of the rollers being adjustable to or from the other, and an adjustable shoe concave in the direction of its width and set in trunnions or bearings, so as to turn and be adjustable thereon, substantially as and for the purpose described. 2nd. In a machine for making boxes or forming stock, the combination of the forming and compressing rollers, their operating and adjusting mechanism, substantially as above described, and an adjustable shoe made concave in the direction of its width and set in movable boxes made adjustable vertically by means of the screw bolts, 20, 21, as and for the purposes described. 3rd. A machine for making boxes, or forming stock, consisting of the forming and compressing rollers, and mechanism for operating them, substantially as above specified, in combination with a concave shoe mounted on adjustable trunnions, set in vertically and horizontally adjustable boxes on its trunnions, or vertically and horizontally, as described. 4th. In a machine for making boxes or forming stock, the forming and compressing rollers, an adjustable concave shoe and mechanism for operating them, substantially as above specified, in combination with a removable receiving and nailing drum for forming, lapping, and nailing the tube, or body of a box, as described. 5th. The combination of the forming and compressing rollers, set in suitable bearings in the frame, a concave shoe, or means for bending the stock as it is carried through the forming and compressing rollers, and a receiving and nailing drum, all combined for joint operation, substantially as described. 6th. The combination of the forming and compressing rollers mounted in bearings in the frame, a means for bending the stock as it is being compressed and carried forward by the forming rollers, a receiving and nailing drum to receive the stock as it is being formed, and swining plate, having a pivoted disk, provided with pins 31, upon which the bottoms or tops are placed, and brought into position to be nailed to the body or top while being formed, substantially described. 7th. In the combination, substantially as above specified, the combination therewith, of a bed piece 28, provided with a series of pins 29, for the purposes described. 8th. In the combination, substantially as above specified, a hollow roller provided with a passage leading through the journal, and secured in a steam-tight box, communicating with a tube leading to a steam boiler, substantially as specified. 9th. The forming and compressing rollers, a means for bending stock as it is carried forward by said rollers, a frame in which the rollers and bending mechanism is mounted, having the side 2 cut away, substantially as specified, in combination with a removable receiving and nailing drum, as and for the purpose described.

**No. 23,554. Pulverizer.** (*Brise-Molle.*)

Orrin S. Richmond, Adair, Mich., U.S., 6th March, 1886; 5 years.

*Claim.*—1st. In a pulverizer, the combination of the bar *A*, cutter blades *B*, carried by said bar, frames *C* carrying the teeth *E*, said frames being pivotally connected to the bar *A*, tongues *F*, dog *I*, standards *J*, and levers *K*, *L*, all constructed, arranged and operating substantially as and for the purposes set forth. 2nd. The combination of the bar *A*, carrying cutter blades *B*, tongue *F* pivoted to said bar, ratchet standard *J* secured to said bar, dog *I* pivoted to a id tongue, frames *C* pivotally secured to the bar *A*, by means of the draw-rods *G*, and carrying the teeth *E*, lever *K* rigidly secured to standard *J*, lever *L* fulcrumed to the lever *K*, and arranged to raise the dog *I*, all substantially as and for the purposes described.

**No. 23,555. Automatic Gate.**

(*Barrière Automatique.*)

William T. Vann, Salem, Oregon, U.S., 6th March, 1886; 5 years.

*Claim.*—1st. In combination, with a hinged or swinging gate provided with an upright stud or pin, and with a pivoted latch bar, a horizontally-movable lever slotted to embrace the stud, and mounted upon a pivot on the gate post, a vertically-movable lever pivoted in a support rising from the horizontally-movable lever, having its forward end connected with the latch bar, and cords or chains extending through eyes at the rear end of the horizontally-movable lever, and thence in opposite directions from the gate, substantially as described and shown. 2nd. In combination with post *A* and gate *B*, provided with stud *f*, and latch-bar *H*, horizontally-movable lever *F*, vertically-movable lever *G* and cords *I*, all constructed and arranged substantially as shown. 3rd. In combination with post *A* and gate *B*, provided with latch *H*, and stud *f*, horizontally-movable lever *F*, pivoted upon post *A*, and provided with eyes at its rear end, vertically-movable lever *G*, connected with latch-bar *H* and pivoted in a support rising from lever *F*, and cords *I*, *J*, provided with buttons *K*, and passing loosely through levers *F* and *G*, substantially as and for the purposes set forth. 4th. In combination, with post *A* and gate *B*, operating lever *F*, and a cap or band *D* adjustably secured to post *A*, substantially as shown and described, and provided with stud or pin *E*. 5th. In combination with a swinging gate, and mechanism such as described and shown, for moving the gate and operating the latch, a keeper for said latch open at its under side, whereby the latch is permitted to be disengaged from the keeper when uncrossed at its locking end, substantially as shown and described. 6th. In combination with post *A*, gate *B*, levers *F*, *G*, and latch *H*, all constructed and arranged to operate substantially as described, a keeper consisting of pivoted dogs *o*, *p*, bevelled on their under faces and of greater weight inside than outside of the pivote, substantially as set forth,

whereby the latch is enabled to pass beneath and elevate the dogs, and to escape from between them by a downward movement, substantially as explained 7.b. In combination with a swinging gate having a latch, the locking end of which is normally held in an elevated position, a keeper consisting of a pivoted dog bevelled on its under face, and having the portion on the inner side of its pivot made heavier than the portion outside thereof, substantially as and for the purposes set forth.

### No. 23,556. Drive Chain. (*Chaîne sans fins.*)

Charles E. Alden, Philadelphia, Pa., U.S., 8th March, 1886; 5 years.

*Claim.*—1st. A coupling or connection for drive-chains, having a V-shaped slot for the insertion and withdrawal of links, substantially as shown and described. 2nd. A link for drive-chains, having recesses at each of its corners, for the reception of the edges of couplings, substantially as shown and described. 3rd. The combination, with a coupling having a V-shaped slot, of links, substantially as shown and described. 4th. The combination, in a drive-chain, of a coupling having rounded edges, with links having concave recesses in their corners for the reception of the edges of the coupling, substantially as shown and described. 5th. A separable drive-chain, composed of links and couplings, in which the links are diminished in thickness at their corners, forming recesses for the edges of the couplings, and weakening said links so they will break before stretching, substantially as set forth.

### No. 23,557. Railway Tie.

(*Traverse de Chemin de Fer.*)

James S. Ammon, Reading, Pa., U.S., 8th March, 1886; 5 years.

*Claim.*—1st. A metallic railway-tie formed by rolling, stamping, or equivalent means, of a reversed V-form in section, the sides or legs of which are made concave on their outer, and convex upon their inner faces, and having the feet notched for clamps, substantially as and for the purpose set forth. 2nd. In combination with a metallic tie, as described, a seat bearing or saddle, constructed in the form shown, connected at the top and sides with the tie provided with loops C, for the passage of the transverse clips colts D, and notches C<sub>2</sub> for the reception of the clips, substantially as and for the purpose declared. 3rd. In combination with a metallic tie, and its saddle or seat, as described, and the rail seated upon the same, the angular-headed gripping-clips E, at opposite sides of the rail flange, with washer-clips F, and the transverse bolt D, substantially as and for the purpose set forth.

### No. 23,558. Broom-Holder. (*Porte-Balas*)

Cyrus Kinney, Windsor, Ont., 8th March, 1886; 5 years.

*Claim.*—In combination with the broom-holder A, a face plate F, having convex and concave loops G, H, connected thereto, the upper loops constituting a hinge and the lower loop a striking-plate, substantially as shown and specified.

### No. 23,559. Self-Acting Car-Coupler.

(*Attelage de Chars Automatique.*)

John D. Ripson, Toronto, Ont., 8th March, 1886; 5 years.

*Claim.*—An improved self-acting car-coupler consisting of an adjustable block B, fitted into the draw-head A, and having a recess C to receive the head of the draw-pin D, substantially as and for the purpose specified.

### No. 23,560. Car-Coupling. (*Attelage de Chars.*)

John Darling, Glasgow, Scotland, 8th March, 1886; 5 years.

*Claim.*—1st. The combination of parts constituting the apparatus for coupling and uncoupling railway vehicles, substantially as and operating in the manner hereinbefore set forth. 2nd. The combination, in apparatus for coupling and uncoupling railway vehicles, consisting of the lock *a*, which is capable of being turned and locked by means of the hand levers *p*, and their attachments situated at the sides of the vehicles, any of the positions necessary for coupling and uncoupling, all operating, substantially as hereinbefore set forth. 3rd. The cams *t*, cam piston *u*, projections *v*, recess *w*, and the spiral or other spring *x*, all operating in combination, for the purpose of locking the coupling hook *d*, in any of its desired positions, substantially as hereinbefore set forth. 4th. The means for raising the coupling chain consisting of the pin *k*, and latch *l*, operating substantially as hereinbefore set forth. 5th. The means for raising the coupling chain, consisting of the forked lever *l*, the flattened rivet or pin *f*, and the stop *n*, all operating substantially as hereinbefore described.

### No. 23,561. Mop. (*Torchon.*)

Eri F. Wilson, Rochester, N.Y., U.S., 8th March, 1886; 5 years.

*Claim.*—1st. A mop cloth, consisting of a base or back ground of closely woven and durable textile fabric, having its ends connected so as to form an endless band, in combination with a covering of absorbent material secured thereon, said covering being shorter than the base, so as to leave part of the base uncovered, substantially as and for the purpose set forth. 2nd. A mop cloth, comprising a base or backing strip, having its ends connected so as to form an endless band, in combination with a covering of suitable absorbent material, said covering being shorter than the base, and a reinforcing strip secured to the base, and to the ends of the covering at each side of the seam in the base, substantially as and for the purpose set forth. 3rd. In a mop, the combination, with the head consisting of two box-shaped castings A and B, the top one of which is provided with a perforated thimble D, and the lower with a slot I, and bolts F with nuts for securing said two castings together, and a tube J, rigidly secured to said thimble D, with a handle K, having its lower portion of less diameter than the tube J, and having a ferrule O of the same

diameter as the inside of the tube J, and a spring catch P in the side of the said handle, as shown and described. 4th. In a mop, the combination, with the handle K, of the ferrule O, and a rod *q* passing from said handle K, down through the head pieces A and B, and terminating in a T-shaped extremity, substantially as set forth. 5th. In a mop, the combination of the set screw W, with the handle K, and tube J, as set forth. 6th. In a mop, the combination of the set screw Z, with the pieces A and B of the head, substantially as hereinbefore set forth.

### No. 23,562. Process of Applying Metallic Wearing Points in the bottoms of Rubber Boots and Shoes.

(*Manière de Poser des Clous aux Semelles des Chaussures en Caoutchouc*)

Judson L. Thomson, Syracuse, N.Y., U.S., 8th March, 1886; 5 years.

*Claim.*—1st. The process of applying rivets and wear plates to the soles and heels of rubber boots and shoes, consisting in cutting or stamping the sole and heel in one piece out of a sheet of unvulcanized rubber, then forcing the attaching prongs of the rivets or wear-plates through said sole and heel from the underside thereof, and clinching them on the upper side of the same, then cementing the combined sole and heel to the bottom edges of the upper and to the usual inner cloth lining of the rubber boot or shoe, with glue on the last and, subsequently vulcanizing the same, substantially as set forth. 2nd. The process of applying rivets and wear-plates to the soles and heels of rubber boots and shoes, consisting in cutting or stamping the soles and heels in one piece out of a sheet of unvulcanized rubber, then cementing on to the upper side thereof a lining of canvas or other suitable material, then forcing the attaching prongs of the rivets or wear-plates through the said sole or heel, and through the lining, and clinching them upon the latter, then cementing the lined side of the sole and heel to the usual inner cloth lining of the boot or shoe, and subsequently vulcanizing the latter, substantially as specified.

### No. 23,563. Harrow Cultivator.

(*Herse-Cultivateur.*)

John A. Bunn, Cayuga, Ont., 8th March, 1886; 5 years.

*Claims.*—1st. The tooth-holder C, having intersecting sockets D, F to receive respectively the tooth, and main bar legs H, I, to clamp the intersecting bars A, B, by a bolt and nut and provided with a set screw G to clamp the tooth and main bar A in the tooth holder, as set forth. 2nd. The combination, in a harrow cultivator, of the main bars A, and teeth E intersecting in a tooth-holder C, and the cross-bar B bolted to the tooth-holder, as set forth.

### No. 23,564. Plough. (*Charrue.*)

William A. Estes, Jackson, Mich., U.S., 8th March, 1886; 5 years.

*Claim.*—1st. In a plough land side or mould board, an upper and lower bar secured to the plough point, and provided with grooves or other analogous means for securing therein a panel or panels, substantially as described. 2nd. In a plough land side or mould board, a series of upright separate detachable plates held at their upper and lower ends in a suitable frame, substantially as shown and described. 3rd. A plough, having its land side and mould board formed of detachable steel plates, held in suitable frames, with spaces between them, and rollers journalled in the frame and projecting between and beyond the plates, substantially as shown and described. 4th. In combination, the plates forming the bearing surface of the landside or mould board of a plough, the bars provided with grooves to receive the upper and lower edges of the plates, and means for drawing the bars toward each other to clamp the plates between them, substantially as shown and described. 5th. In combination with the plates forming the bearing surface of a mould board or landside, the bars provided with grooves for receiving and holding the upper and lower edges of the plates, bolts, rods, passing through and connecting the bars, substantially as and for the purposes described. 6th. In combination with a series of plates forming the bearing surface of the mould board or landside of a plough, bars provided with grooves to receive the upper and lower edges of the plates, bolt, rods, passing through the bars, and rollers journalled thereon, and extending between and beyond the faces of the plates, substantially as shown and described. 7th. In combination, with the upper and lower bars and bolt rod connecting the same, bushings around the rod, an anti-friction roller journalled on the bushings and provided on its upper end with a projection extending up into a recess in the upper bar, substantially as shown and described. 8th. The combination, in a plough, of the roller K having cylindrical projection M, of the bushings H secured in sockets in the ends of the roller, and projecting beyond the same, of the bar E, having recess L, of the bar F and of the bolt H, all substantially as described. 9th. In a plough mould board, having an alternating series of rollers and plates secured between an upper and lower bar, the roller K, having means for adjusting it to different inclinations, substantially as described. 10th. In a plough, having the adjustable roller K, in its mould board, the brace E, secured at one end to the plough beam, and carrying at its opposite end the upper journal of the roller K, said brace being provided with means for lengthening and shortening it, all substantially as described.

### No. 23,565. Horse Poke. (*Carcan de Cheval.*)

William H. Shapley, Brantford, Ont., 8th March, 1886; 5 years.

*Claim.*—In a two-pronged horse poke, the combination of pin E, with spring G and holes F, f, f, substantially as and for the purposes hereinbefore set forth.

### No. 23,566. Furnace Grate. (*Grille de Fourneau.*)

Fred Minior, Sangatuck, Mich., U.S., 8th March, 1886; 5 years.

*Claim.*—1st. A grate, formed of longitudinal bars, with extended

side bars, and a dumping section resting between said extended bars, and pivotally supported thereby, substantially as and for the purpose specified. 2nd A grate, formed of longitudinal bars, with beveled front ends, the extended side bars with webs in the extensions centrally recessed, and a dumping section with one side beveled and the other provided with an eye, said section being formed of a series of connected webs, and supported by pivots which rest in the said recesses, substantially as and for the purpose specified.

**No. 23,567. Metallic Axle and Nave Box for Carriages.** (*Essieu et Boîte d'Essieu Métalliques pour Voitures.*)

Pierre Toupin, St. Jérôme, Que., 9th March, 1886; 5 years.  
*Reclame.*—Dans un bout d'essieu métallique A, la combinaison de l'extrémité G, pourvue d'une rainure longitudinale N, d'une rainure transversale et circulaire H, d'un collet annulaire B et d'un trou E, avec l'enveloppe J, le bourrelet circulaire K, l'essieu F et les rondelles D et S, le tout tel que ci-dessus décrit et pour les fins sus mentionnées.

**No. 23,568. Umbrella Cabinet.** (*Porte-Parapluie.*)

Hyacinthe F. Poirier, Montreal, Que., 9th March, 1886; 5 years.  
*Claim.*—An umbrella cabinet, having a front A and partition C pierced with holes b and d, into which a series of paper tubes e are inserted, and whereby umbrellas can be put away in the said tubes for preservation and convenience of sale, the whole as above described and for the purposes set forth.

**No. 23,569. Appliance for Preventing Dirt from passing into Pipes Conveying Steam, Water, etc., and for the Prevention of Priming.** (*Appareil pour Empêcher les Saletés de Passer dans les Tuyaux de Vapeur, d'Eau, etc., et pour Empêcher la Projection d'Eau.*)

John Kinkaldy, London, Eng., 9th March, 1886; 15 years.  
*Claim.*—The combination of appliances for preventing dirt from passing into pipes or passages, used for conveying steam water or other fluid, and for the prevention of priming, of a hollow chamber formed with an inlet and outlet fitted with a perforated partition, which passes across the interior, and which partition can be withdrawn onwise to admit of its being cleaned whenever required, without disturbing the hollow chamber itself, substantially as described.

**No. 23,570. Manufacture of Artificial Stone.** (*Fabrication de la Pierre Artificielle.*)

Gabriel C. Fowle, Smith's Falls, Ont., 9th March, 1886; 5 years.  
*Claim.*—The chemical compound in making artificial stone, consisting of water, silicate of soda, or water glass, sulphate of potash, carbonate of lime or soda, sulphuric acid added to sand and Portland cement, in the proportions and for the purposes specified.

**No. 23,571. Lead Pipe Coupling.** (*Joint de Tuyau de Plomb.*)

William H. Wilson and Daniel J. Boylo, Buffalo, N. Y., U. S., 9th March, 1886; 5 years.

*Claim.*—1st. In a pipe coupling, the combination, with the pipes A, A', having upset or flanged ends a, a', of sleeves B, B' arranged on the ends of said pipes, and provided with external screw threads, and a coupling sleeve provided with an internal screw thread engaging with the threads of the sleeve B, B', substantially as set forth. 2nd. The combination, with the pipes A, A', having flanged or upset ends a, a', of externally screw-threaded sleeves B, B', having flat sides d, and arranged on the ends of said pipes, and bearing against the flanges a, a', and an internally screw-threaded sleeve C engaging with the threaded sleeve B, B', substantially as set forth.

**No. 23,572. Apparatus for Drying Animal Matters, Fish, etc., applicable also to the Concentration of Liquids.** (*Appareil de Desiccation des Substances Animales, du Poisson, etc., aussi applicable à la Concentration des Liquides.*)

John F. Johnstone, London, Eng., 9th March, 1886; 15 years.  
*Claim.*—The combination, with apparatus, such as described in the specification, of the patent granted to me in Canada on the 12th day of March, 1884, No. 18,849, of cover E and door F fitted with packing arms and screws, so as to be closed air-tight and a vacuum be maintained in it, substantially as described.

**No. 23,573. Automaton Horse.** (*Cheval Automate.*)

Henry Lacasse, Patrick H. Stafford and Joseph Lacasse, Auburn, N. Y., U. S., 9th March, 1886; 5 years.  
*Claim.*—1st. In the mechanism for operating an automaton horse, the combination of a centrally fulcrumed beam lever, of stirrups and stirrup straps attached to one end of the beam lever, and actuated by the rider, of a connecting rod attached to the other end of the beam lever and actuating a cranked axle having driving wheels thereon, substantially as shown as for the purposes specified. 2nd. In the mechanism for operating an automaton horse, a centrally ful-

crumed beam lever, stirrups lever and actuated by the rider, a connecting rod attached to the other end of the beam lever, and actuating a crank made in the sunk portion of an axle, having driving wheels thereon, whereby the sunk portion is made to revolve crank-wise the whole, in combination with the hind legs of the horse, which are attached to the rotating sunk axle, substantially as shown and for the purposes specified. 3rd. In the mechanism for operating an automaton horse, the hind legs hinged to the body of the horse, in combination with the crank crank, whose weight the rider on the back of the horse causes them to turn, substantially as shown and described. 4th. In the mechanism for operating an automaton horse, an interior carrying frame which is adapted to receive and rest on the steering standard a, and on the main axle at t, in the rear, in combination with the body of the horse, which rests and pivots upon the frame at the point m, and by the pivoted hind legs D, D' upon the sunk axle a, g, substantially as shown and for the purposes specified. 5th. The combination of the steering tube, standard bifurcated at its lower end to receive the steering wheel, and of the brake adapted to bear upon the steering wheel, and operated by a rod passing up the interior of the tube standard and held in position by a spring, substantially as shown and for the purposes specified. 6th. The combination of the steering standard, bifurcated at its lower end to receive the steering wheel, and of the collar adapted, by projecting forks to control the steering swing of the wheel, within the operating line of the forelegs, substantially as shown and described. 7th. The combination of the eccentric a, with the sunk crank, the levers c and c', and the knee disc, for giving a proper motion to the legs, substantially as shown and described. 8th. The combination of the knee disc f, the connecting rod g, connected to the disc at h, and the hoof disc to which the connecting rod g, is attached at i, substantially as shown and for the purposes specified. 9th. The combination of the connecting bar u, with the driving lever z, the foreleg lever v and the rod k, which is fixedly attached to the frame at n, and movably fixed to the knee lever v at m, substantially as shown and for the purposes specified. 10th. The combination of the foreleg lever v, with the supporting fixed plate R, which has stops thereon, whereby the back and forward swing of the foreleg is controlled, substantially as shown and described. 11th. The combination of the knee disc f, the gear wheel s, the rack g, and the hoof gear wheel e, substantially as shown and described and for the purposes specified. 12th. The spring bearing, which is adapted to receive the sunk crank g, and is recessed into the hind leg in the manner, substantially as shown and for the purposes described and specified. 13th. The triangularly formed flap of metal, or of other suitable material, which is affixed by one of its edges to the side of the horse, for the purpose hereinbefore set forth, of covering the sward opening made by the extension of the rump and hind legs backwards from the body.

**No. 23,574. Automatic Electrical Circuit Switch.** (*Commutateur Automatique de Circuit Electrique.*)

The Bell Telephone Company, Montreal, Que. (Assignee of Frederic N. Gisborne and David H. Keeloy, Ottawa, Ont., 9th March, 1886; 5 years.

*Claim.*—1st. The method of utilizing the permanent magnetism of a receiving telephone, to actuate an electrical circuit switch, substantially as described. 2nd. The combination, with any magnetic system, of the adjustable soft iron plates P and A, and the pivoted lever E, with the soft iron switch plates K, L, and cover socket hook K, substantially as and for the purpose set forth.

**No. 23,575. Machine for Manufacturing Nails from Wire.** (*Machine pour Fabriquer le Clou avec le Fil de Fer.*)

Henry Campbell and Baron Albert Grant, London, Eng. (Assignees of John S. Follansbee, Bridgeport, Ct., U. S., 9th March, 1886; 5 years.

*Claim.*—1st. The shaft D, carrying cams C, Z, S1 and wheel W2, in combination with the feeding, clamping, cutting and push-out and hammering mechanism, rod U2 and means for pointing the nails, substantially as described. 2nd. The die box arranged to slide vertically within supporting posts, in combination with shaft T2, rod U2, crank pin V2 and shaft D, substantially as set forth. 3rd. The die box and pointing dies, in combination with the shaft T2, rod U2, crank-pin V2, shaft D, carrying cams C, Z, D2 and S1, and the feeding, clamping, heading and cutting mechanism, substantially as hereinbefore set forth and described. 4th. The carrier wheel, recessed in its periphery, in combination with the wheel O2, wheel M2, having worm N2, band A3 and pointing dies Z2, substantially as described. 5th. In a machine for making wire nails, the presser-bars, pivoted as described, and having attached thereto cam-balls arranged one in advance of the other, in combination with the connecting plates clamp bars having the upper pointing and clamping dies contained in their forward extremities, lower pointing and clamping dies, and means for actuating and adjusting said cam balls, substantially as set forth. 6th. In a machine for making wire nails, independent pairs of pointing dies and clamping dies arranged side by side, in combination with means for causing the pointing dies to operate in advance of the clamping dies, whereby the nails may be finished without any change of position, substantially as described. 7th. The guide tube R, adapted to be adjusted close to the lateral faces of the pointing dies, whereby a shear cut may be made, substantially as set forth.

**No. 23,576. Tug Strap Holder for Power Looms.** (*Guide-Courroie pour Métiers Mécaniques.*)

Thomas Kendray and George N. Matheson, Sarnia, Ont., 9th March, 1886; 5 years.



**Claim.**—1st. A slide to which the tug strap is secured, capable of sliding up and down on the picking stick, and rigidly secured thereto when required, for the purposes specified. 2nd. A sliding tug strap holder A, formed with an eye A', and secured to the picking stick D by a bolt E, and nut E', or their equivalent, substantially as shown and described for the purpose set forth. 3rd. A sliding tug strap holder A, formed with an elongated slot F, and eye A', secured to a picking stick D, by a bolt E, and nut E', or other suitable securing device, substantially as shown and described and for the purpose specified.

**No. 23,577. Composition for the Manufacture of Bricks, etc.** (*Composition pour la Fabrication de la Brique, etc.*)

The Consumers Gas Company of Toronto, (Assignee of Stephen J. Plant.) Toronto, Ont., 9th March, 1886; 5 years.

**Claim.**—1st. A composition of petroleum, pitch, gravel and ground cinders compounded together, substantially in the proportions and in the manner herein described. 2nd. As a new article of manufacture, a brick moulded under pressure and composed of a composition of petroleum, pitch, gravel and cinders, prepared in the proportions and in the manner herein described.

**No. 23,578. Machine for Making Wire Nails.** (*Machine pour Faire les Clous avec du Fil de Fer.*)

Clinton Lovell, Somerville, (Assignee of Albert H. Skilton, Somerville, Administrator of the estate of Nathan E. Lewis, Boston,) Mass., U.S., 9th March, 1886; 5 years.

**Claim.**—1st. In a machine for making wire nails, or other like articles, the combination of two duplicate nail-forming organizations, each including a feeding device, a cutter for severing a section of wire, dividing dies located below the plane of said feeding device and cutter duplicate headers or hammers, and operating mechanism, substantially as described, whereby each element of one organization is caused to act alternately with the corresponding element of the other organization, as set forth. 2nd. The combination, with a duplicate cutting off, dividing and head-forming mechanism, of the feeding slides having wire-grasping devices and racks, the segment gears *g*, *g* engaged with said racks, and mechanism, substantially as described, for oscillating said segment gears and thereby reciprocating the slides simultaneously in opposite directions, as set forth. 3rd. The combination of the feeding slides, the gear segments engaging with racks thereon, the rock shaft *w*, adapted to oscillate said gear segments, the connecting rod connected to a crank on the rock shaft, and the driving shaft *l*, having a crosshead, and an adjustable wrist-pin to which the connecting rod is connected, said pin enabling the throw of the connecting rod and the length of the feed movement of the feeding slides to be adjusted, as set forth. 4th. The combination, with a duplicate feeding, dividing and head-forming mechanism, of the cutters *a*, *b*, affixed to the arms *u*, *u*, *g*, the rock shaft *v* supporting said arms, and mechanism for oscillating said rock shaft, whereby the cutters are caused to act alternately, as set forth. 5th. The combination, with duplicate feeding, cutting off and head-forming mechanism, of the fixed half dies 2, 2, the half dies 3, 3 secured to the slides *q*, *q*, the toggle joints *j*, *j*, connected to said slides and to fixed supports, the pivoted oscillating lever *c*, connected, as described, to the toggle joints at opposite sides of its pivot, whereby the dies 3, 3 are moved in unison and caused to act alternately, as set forth. 6th. The combination, with duplicate feeding, cutting off and dividing mechanism, of the four-spring retracted hammers arranged to bear against the ends of two sections of wire held by the dividing mechanism, whereby said hammers are operated two at a time, as set forth. 7th. The combination of the feeding devices, having feed movements of twice the length of a nail, the cutters adapted to sever the wire after each feed movement, two plates *d*, *e*, one fixed and the other movable below the plane of each feeding device and cutter, said plates having their proximate ends formed to present a trough to receive the sections of wire, two dividing half dies 2, 3, one fixed and the other movable, located below each of said troughs, sliding rods *i*, *i*, adapted to be moved by the half dies 3, 3, and arranged to arrest the wire sections falling from the troughs, mechanism for moving said movable plates *d* and dies 3 towards and from the fixed plate *e*, and dies 2, the headers or hammers and operating mechanism therefor, all arranged and operated substantially as set forth. 8th. The headers or hammers arranged with their centres at one side of the line of wire, and adapted to be rotated to present different heading surfaces to the wire, as set forth. 9th. In a wire nail machine, the combination of two blocks or holders, having cavities in their proximate faces, the two cavities fitting the wire from which the nails are to be produced, dies or cutters between said cavities, arranged to sever a blank of wire into two parts by a combined cutting and swaging action, and thereby from two points two hammers arranged in line with the cavities in the blocks or holders, and adapted to move toward and from said dies in the direction of the length of the wire held thereby, and mechanism, substantially as described, to operate said blocks or holders, dies and hammers, as set forth. 10th. The blocks *q*, *q*, having the adjustable cutting and pointing dies, and means for holding said dies in any position to which they may be adjusted. 11th. The blocks *q*, *q*, having cutting and pointing dies, adjustable gripping dies and means for holding said gripping dies in any position to which they may be adjusted. 12th. The blocks *q*, *q*, having cutting and pointing dies and barb-forming dies whereby the nails are barbed while being formed, as set forth. 13th. The rivet dies *k*, *k*, formed substantially as shown, to sever a wire and form blunt ends on the separated portions thereof, as set forth. 14th. The combination of the cutters which sever the wire, lengths from the main wire, the severing and pointing dies located below the cutters, and means for controlling said lengths during their movements from the cutters to the dies, as set forth.

**No. 23,579. Machine for Making Wire Nails.** (*Machine pour Faire les Clous avec du Fil de Fer.*)

Clinton Lovell, Somerville, (Assignee of Albert H. Skilton, Somerville, Administrator of the estate of Nathan E. Lewis, Boston,) Mass., U.S., 9th March, 1886; 5 years.

**Claim.**—1st. In a wire nail machine, the socketed cylinders *g*, *g*, the blocks *k*, *k* swivelled in the sockets of the cylinders, said blocks being flat on their outer surfaces and provided with dies, combined with mechanism for rotating said cylinders step by step, as set forth. 2nd. In a wire nail machine, the combination of the socketed cylinders *g*, *g*, having the swivelled the swivelled blocks, as described, and provided with dies, mechanism for rotating said cylinders step by step, and mechanism for supplying lengths of wire to the cylinders, as set forth. 3rd. In a wire nail machine, the combination of the socketed cylinders *g*, *g*, having the swivelled blocks *k*, *k*, formed as described, and provided with dies, mechanism for rotating said cylinders step by step, mechanism for supplying lengths of wire to the cylinders and two headers and operating mechanism therefor, substantially as described, whereby said headers are caused to upset the ends of the wire held by two of the blocks *k*, *k*, as set forth. 4th. The combination of the cylinder *g*, having swivelled die blocks, provided with pins or holders *n*, *n*, and the cylinder *g*, having corresponding die blocks with recesses *u* to receive the pins *n*, *n*, as set forth. 5th. In a wire nail machine, a rotary die holder, provided with a series of dies in its perimotor, each formed to partially sever and point, a blank of wire centrally and holders accompanying each die, whereby nail blanks may be held in operative relation to said dies, combined with mechanism, substantially as described, for rotating said holders step by step, and thereby bringing each die and the accompanying blank successively to a given point, and the die cooperating with each die in the rotary holder at said given point, whereby blanks are successively severed and pointed, as set forth. 6th. In a wire nail machine, a rotary die holder, provided with a series of dies in its perimotor and holders accompanying each die, combined with mechanism, substantially as described, for rotating said holder step by step, and thereby bringing each die and the accompanying blank successively to a given point, a die cooperating with each die in the rotary holder at said given point, whereby the blanks are successively severed and pointed, and two headers and operating mechanism therefor, substantially as described, whereby the headers are caused to upset the ends of the wires when they reach the point where they are acted on by the dies, as set forth.

**No. 23,580. Apparatus for Burning Naptha, etc., especially applicable for melting Metal difficult of Fusion, etc.** (*Appareil pour Brûler le Naphte, etc., spécialement applicable à la Fonte du Métal de fusion difficile, etc.*)

Thorston Nordenfelt, London, Eng., (Assignee of Ludwig Nobel, St Petersburg,) Russia, 9th March, 1886; 15 years.

**Claim.**—1st. A furnace or combustion apparatus, in which liquid fuel is burnt upon horizontal trough-like fire bars, arranged one over the other, the liquid being maintained on the bars at a uniform depth. 2nd. A furnace or combustion apparatus, in which liquid fuel is burnt upon horizontal trough-like fire bars, arranged one over the other, the liquid being maintained on the bars at a uniform depth by a supply and overflow. 3rd. A furnace or combustion apparatus, in which liquid fuel is burnt upon horizontal trough-like fire bars, arranged one over the other, and in which the flame and vapour from the liquid fuel on the bars enter, a mixing chamber to which air is admitted and from which the gases and air to effect complete admixture pass out through narrow passages into the body of the furnace.

**No. 23,581. Machine for the Manufacture of Rubber Dies or Stamps.** (*Machine pour la Fabrication des Etampes en Caoutchouc.*)

George J. B. Rodwell and Herbert C. Secord, Toronto, Ont., 9th March, 1886; 5 years.

**Claim.**—1st. The pivoted flask A, in combination with a press and type-case arranged substantially as and for the purpose specified. 2nd. A flask A, pivoted at *a*, and arranged to rest upon a bed-plate B, in combination with the pivoted case C, arranged substantially as and for the purposes specified. 3rd. The pivoted flask A, arranged to rest upon the pivoted case C, in combination with the springs J, arranged to support the pivot points of the case C, substantially as and for the purpose specified. 4th. A pivoted flask A, arranged to rest upon the pivoted case C, supported by the springs J, in combination with the lever L, provided with a pivoted plate M, substantially as and for the purpose specified. 5th. The pivoted flask A, arranged to rest upon the bed-plate B, in combination with the follower D pivoted on one of the standards E, and operated by the screw F, substantially as and for the purpose specified. 6th. The pivoted flask A, resting upon the bed-plate B, in combination with the lamp O, arranged substantially as and for the purpose specified.

**No. 23,582. Door Lock.** (*Serrure de Porte.*)

George Pomeroy and Byron Gaffield, Castleton, Ont., 9th March, 1886; 5 years.

**Claim.**—1st. The combination, in a door or shutter fastener, of a pivoted head having a laterally projecting lug, with a keeper having a recess which receives said lug when the door or shutter is closed, all substantially as specified. 2nd. The combination, in a door or shutter fastener, of a pivoted head having a laterally projecting lug, with a keeper having a recess for the reception of said lug, and an inclined bearing surface in advance of the recess, all substantially as specified. 3rd. The combination of the recessed keeper with a pivoted

head, having a laterally projecting lug, the bearing face of which is eccentric in respect to the pivot axis, all substantially as specified. 4th. The combination of the pivoted head, having a laterally projecting lug, with a keeper having a recess for the reception of said lug, and a projection for striking and tilting up the lug as the door is closed, all substantially as described. 5th. The combination of the pivoted head, having a laterally projecting lug, with a keeper having a recess for the reception of said lug, a projection for striking and tilting up the lug as the door is closed, and an inclined surface in advance of the recess, all substantially as specified. 6th. The combination of the pivoted head D, having a laterally projecting lug G, and having a weighted handle J, with a keeper F, having a recess G for the reception of the lug, as and for the purpose set forth.

**No. 23,583. Book Rest for Chairs, etc.**

(*Pupitre pour Fauteuils, etc.*)

David McClure (Assignee of Simon S Johnson, Administrator of the estate of Jesse D. McClure), Jeffersonville, Ind. U. S., 9th March, 1886; 5 years.

*Claim.*—1st. The supporting bar C bent to a crank form, and adapted to be secured in sockets made fast to a chair, or desk, or other suitable support, in combination with the book shelf E and the memorandum table M, as and for the purpose hereinbefore set forth. 2nd. In a book rest, the combination of the supporting bar C, and the supporting lockets B, L, provided with adjusting set screws, substantially as set forth. 3rd. In a book rest, the bookshelf E and supporting rod or bar C, in combination with the supporting socket which holds said book shelf, substantially as and for the purposes hereinbefore set forth. 4th. In a book rest, the combination, with the book shelf E, of the hinge or pivot below the same, with the binding screw J, substantially as and for the purposes set forth. 5th. In a book rest, the combination, with the book shelf E, of the holding arms C and coiled spring H, as and for the purpose set forth. 6th. In a book rest, the combination, with the shelf E and its supporting socket I, of the sector E, as and for the purposes hereinbefore set forth. 7th. In a book rest, the combination of the sliding socket L, with the bar C, whereby the said bar C may be supported and not slide too far down when the set screw of the socket B is loosened to allow the bar C to turn horizontally, substantially as and for the purpose hereinbefore set forth.

**No. 23,584. Device for Fastening Doors, Shutters, Drawers, etc.** (*Appareil pour Fermer les Portes, Contrevents, tiroirs, etc.*)

Patrick J Conroy, Samuel M. Gayley and James W. Algos, Philadelphia, Penn., U.S., 11th March, 1886; 5 years.

*Claim.*—1st. The combination of the frame, or box A, with the slide bolt B, the key-slide C, the stop lever D, the key space E, the springs F, G, the push block G, the notch H and the holding pin J, substantially as and for the purpose hereinbefore set forth.

**No. 23,585. Manufacture of Starch.**

(*Fabrication de l'Amidon.*)

William T Jobb, Buffalo (Assignee of John C. Schuman, Akron), N.Y., U.S., 11th March, 1886; 5 years.

*Claim.*—1st. The herein described method of preparing the grain for reduction, which consists in first steeping the grain, then draining off the water and then drying the grain by an air current, substantially as set forth. 2nd. The herein described method of preparing the grain reduction, which consists in first steeping the grain, then drawing off the water, and then drying the grain by forcing compressed air through the same, substantially as set forth. 3rd. The herein described method of extracting starch from grain, which consists in first steeping the grain, then drawing off the water, then drying the grain by an air current, then reducing the grain and then separating the starch from the offal, substantially as set forth. 4th. The herein described method of extracting starch from grain, which consists in first steeping the grain, then drawing off the water, then drying the grain by forcing compressed air through the same, then reducing the grain and then separating the starch from the offal, substantially as set forth.

**No. 23,586. Combined Pole and Shaft for Vehicles.** (*Yimon et Limonière Combinés pour Voitures.*)

Aaron J. Martin and Holsten T. Cooper, Evansville, Ind., U.S., 11th March, 1886; 5 years.

*Claim.*—1st. The combination of the cross-bar, the draft sections having right-angled arms at their rear ends, horizontal pivots connecting such arms to the cross-bar midway their ends, whereby said arms may turn in a vertical plane, and a clamp arranged and constructed to engage the inner ends of said arms when the draft sections are adjusted for use, as a pole, and the outer ends of said arms when the sections are adjusted for use, as thills, substantially as set forth. 2nd. The combination, with the cross-bar and the draft sections, having at their rear ends right-angled arms, and pivots connecting said arms to the cross-bar, such pivots being located midway the ends of the arms and at points equidistant from the centre of the cross-bar, and a distance apart equal the length of the one of the arms, whereby the inner ends of said arms will abut when such sections are adjusted for use, as a pole, and their outer ends will abut when the sections are adjusted for use, as thills, and a clamp whereby to engage the abutting ends of the arms and connect same to the cross-bar in the different adjustments of the sections, substantially as and for the purposes specified.

**No. 23,587. Sheet Metal Roofing.**

(*Métal en Feuille pour Toitures.*)

Longley S. Sagendorph, Cincinnati, Ohio, U. S., 11th March, 1886; 5 years.

*Claim.*—A holding cleat, consisting of a strip of metal, embodying one or more tongues detached at the sides and at one end from the surrounding metal, and adapted to be bent over the upturned edges of adjacent metal roof sheets, substantially as and for the purposes set forth.

**No. 23,588. Hall Rack.** (*Porte-Manteau.*)

Felix Charbonneau, Ottawa, Ont., 11th March, 1886; 5 years.

*Claim.*—In a revolving clothes rack, the combination of the foot A provided with revolving pole B, on which turns the rack C, having dripping pans F, rubber hooks K, umbrella guards G, walking oar-guard H, glove compartment I, shelf J and hooks L and M, for hats, the whole surrounded by curtain rod N and curtain M, the whole as shown and described and for the purpose hereinbefore set forth.

**No. 23,589. Necklace Fastener.**

(*Agrafe de Collier.*)

Edward W. Smith, Almonte (Assignee of John Duern, Toronto), Ont., 12th March, 1886; 5 years.

*Claim.*—1st. In a jewelry agraffe, the cylinder B having an inner cylinder A, containing a spiral or other spring E, as shown and described for the purpose set forth. 2nd. In a jewelry agraffe, the cylinder B, provided with a ring U at its lower end, and goose-necked or other keepers C, C, as shown and described. 3rd. In a jewelry agraffe, the sliding inner cylinder A, having coiled spring E, in combination with the goose necks C, C, as shown and described for the purpose set forth. 4th. The combination, in a jewelry agraffe, of the cylinder B having ring U and goose necks C, C, cylinder A, provided with coiled spring E, the whole as arranged, shown and described for the purpose set forth.

**No. 23,590. Metal Roof.** (*Toit en Métal.*)

Longley L. Sagendorph, Cincinnati, Ohio, U. S., 12th March, 1886; 5 years.

*Claim.*—1st. A metallic roofing sheet, with a plain or corrugated surface, provided at one edge with full standing V-cripp, and at the other edge with a half-standing V-cripp of same height, and with under surface coated with a non-conducting material, substantially as and for the purposes set forth. 2nd. The combination of roofing sheets C, C, crimped at one edge with a full standing V-cripp, and at the other edge with a half-standing V-cripp, and with under sides coated, as described, with cleats E adapted to lock and hold the sheets together in a standing seam, substantially as and for the purposes specified. 3rd. A metallic roof, consisting of metallic sheets C, C, provided at adjacent edges with full and half-standing V-cripps, as described, with or without coating on the under side, held in contact with each other and to the rafters, by cleats E having standing tongues G, and adapted to be fastened to the rafters, as described, and further adapted to be bent in contact with the inner leg of the full-standing V-cripp, over, under and around the unanchored half-standing V-cripp, for the purpose of forming a hook-joint to hold the sheets together, the whole arranged and combined substantially as described.

**No. 23,591. Mail Bag.** (*Valise à Lettres.*)

Dennis P. Brophy, Nokomis, Ill., U.S., 12th March, 1886; 5 years.

*Claim.*—1st. The combination, with a mail-bag having a flap adapted to close over the mouth, of spring straps secured on the flap and on the bag at the mouth, substantially as herein shown and described. 2nd. The combination, with a mail-bag having a flap at the mouth, of springs secured to the flap and to the bag at the mouth, and a lock plate and casing secured on the flap and bag, substantially as herein shown and described. 3rd. The combination, with a mail-bag, having the flap B at the mouth, of the lock plate K on the flap, the spring straps C secured on the flap, the end pieces D secured on the ends of the flap and hinged on buttons E, the clips H on the bag, in which clips the buttons E are swivelled, the spring straps F on the bag and the lock casing J on the bag, substantially as herein shown and described. 4th. The combination, with a mail-bag having a flap, of end pieces on the ends of the flap clips on the sides of the bag at the mouth, and of buttons swivelled on the clips, in which buttons the end pieces on the flap are pivoted, substantially as herein shown and described.

**No. 23,592. Mechanism for Operating Hatchway Doors for Elevator Shafts.** (*Appareil pour Faire Fonctionner les Portes des Puits d'Ascenseurs.*)

Alexander J. Blaikie, Sterling Valley, N.Y., U. S., 12th March, 1886; 5 years.

*Claim.*—1st. In combination, with an elevator well or hatchway and safety covers or doors fitted in the same, and an elevator car travelling in said well, a system of curved or shear levers arranged on the sides of the elevator well, and adapted for engagement with projections or cams on the elevator car and the safety-covers, substantially as herein set forth. 2nd. The combination of the well or hatchway, the covers or doors fitted therein, the elevator car having the attached diverging arms provided with end rollers or cams, and a system of curved or shear levers arranged on the sides of the well or hatchway for engagement with the said rollers or cams and with the covers or doors, substantially as described. 3rd. The combination of the well or hatchway, the levers or doors hinged therein, and provided with attached projecting lever arms or horns, the elevator car having attached cams or projections and diverging arms provided

with end rollers or cams, and the system of curved or shear levers arranged on the sides of the well or hatchway, substantially as described. 4th. The combination of the vertical pivoted-spring pressed-bars having projections, with an elevator well, an elevator cage having inclines at top and bottom, and pivoted doors or covers arranged in the elevator well, and adapted to be retained and elevated by said pivoted bars and their adjuncts, substantially as herein set forth.

### No. 23,593. Force Pump. (*Pompe Foulante.*)

William Rusk, Paisley, Ont., 12th March, 1886. 5 years.

*Claim.*—1st. In a force pump, the air chamber F, formed inside the tubular body of the pump. 2nd. The combination of the large tube A, and smaller tube B fixed thereto, with the inside pipe D extending down into the tube A so as to form the large air chamber F, as shown and described. 3rd. The combination, in a force pump, of the tubes A, B and D, which connect with the gear work shown in the drawings, for working the piston rod, the frame U and discharge pipe G, all arranged substantially as herein shown and described.

### No. 23,594. Electrical Shell Fuse.

(*Fusée de Bombe Electrique.*)

Edmund L. Zalinski, Fort Hamilton, N.Y., U.S., 13th March, 1886. 5 years.

*Claim.*—1st. In combination, with an explosive shell, a contained electric battery therein, and electrical connections from the same in contact with the fuse-charge. 2nd. In combination with the casing of a shell-tube, a contained electric battery therein, an electric circuit in contact with the fuse-charge, and a movable contact-piece, which closes circuit when the projectile strikes the shell, as set forth. 3rd. In a shell fuse, the combination of percussion-striker and an electric battery, both contained in the shell, and arranged to explode the fuse-charge, when the projectile strikes its target. 4th. In a shell fuse, a time-charge and an electric battery contained in the shell, and arranged to close circuit and ignite the time-charge on the firing of the gun. 5th. In a shell-fuse, the combination of a time-charge, a percussion-charge and an electric battery contained in the shell, and arranged to close circuit through and ignite the exploding charges. 6th. In an electric shell-fuse, wherein an electric battery is contained within the shell, the combination, with the movable pole of the battery of adjustable mechanism, substantially as described, whereby the movement may be made greater or less, and the time of explosion after contact thus regulated. 7th. In a shell-fuse, a contained battery therein, and an electric circuit, some portion of which is in contact with the fuse-charge, and a safety device which holds the poles of the battery apart, against slight shocks, as described.

### No. 23,595. Tread, Step, Mat, Matting, Flooring and other Wearing Surfaces. (*Pas, Gradin, Nattes, Parallaxon, Parquetage et autres Surfaces Usables.*)

Joseph Whiteley, Salford, Eng., 13th March, 1886. 5 years.

*Claim.*—1st. A mat, tread, matting, flooring, or floor covering, formed of raised surfaces of rubber, held in a backing or ground work of hard, tough material, by means of the dovetail shank or backing of the india rubber, substantially as described. 2nd. A mat, tread, matting, or flooring covering, formed of a metallic structure, with projecting pieces of rubber dovetailed into said structure. 3rd. A mat tread, or matting formed of a metallic plate B, with rubber pieces A projecting through holes in said plate, and of larger width on each side of the narrowest section of that hole, whereby a reversible mat is formed with rubber held from coming on either side. 4th. A mat floor covering, or tread formed of a metallic ground work, and projecting of india rubber pressed soft into said ground work and vulcanized therein. 5th. The method of forming mats, floor coverings, or treads, which consists in covering the metal framework with a metallic plate, having holes corresponding in shape to the required shape, of the rubber projections to be formed and placed opposite the holes in the framework, filling said holes in both the framework, and the covering plate with masticated rubber and vulcanizing the same in position. 6th. In combination with a metal, or other tread surface likely to prove slippery, a series of rubber projections, having shanks forced into dovetail holes in the material of the said metal or other surface. 7th. A floor covering, formed of a series of metallic troughs hinged together, so that they can roll up each trough being filled with a projecting dovetail piece of rubber. 8th. The strips of dovetailed rubber plates, in dovetail recesses between pieces of wood held pressed together, substantially as described. 9th. A mat floor covering or tread, formed of rubber and wood, in which projecting pieces of rubber with dovetail or recessed shanks fit into recesses between the strips of wood, in such manner that the rubber projects on each side of the narrowest section of area of said recess, substantially as described. 10th. A reversible floor covering, formed with a smooth wood surface on one side, and ribbed india rubber surface on the other side, substantially as described.

### No. 23,596. Process for Manufacturing Building Material. (*Procédé de Fabrication des Matériaux des Construction.*)

Charles C. Gilman, Eldora, Iowa, U.S., 13th March, 1886. 5 years.

*Claim.*—1st. The process of making building material, which consists in mingling clay or clayey loam with chopped straw in lengths between one-half an inch and two inches, in forming the same by a press into blocks of the required shape, and in subsequently burning the same, substantially as described. 2nd. The process of producing the building material, herein described, which consists in mingling by hand a clay or clayey material, with chopped straw, in expressing the material through a press, and suitable dies and in subsequently burning the same, substantially as described. 3rd. As a new product, a building material which consists of a burned clay or clayey material, having longitudinal apertures therein, formed by the in-

roduction of chopped straw or equivalent material, which has been subsequently removed in the process of burning, substantially as described. 4th. The process of making a building material, which consists in thoroughly mingling a clay or clayey substance, with a combustible carbonaceous material, such as straw, in then forcing the same through a contracting channel by means of a revolving screw, in then passing the material through contracted dies, thereby shaping it into the desired form, and in then burning the material, substantially as described.

### No. 23,597. Rubber Boot.

(*Botte de Caoutchouc.*)

James L. Taylor, jr., Boston, Mass., U.S., 13th March, 1886. 5 years.

*Claim.*—1st. As an improved article of manufacture, a rubber boot having a foot portion formed or constructed of material of ordinary form and thickness, and a leg portion of gossamer or other similar material, of uniform thickness throughout made full at and above the ankle, and having the two lines of lacing devices attached or secured to the outer surface of the leg from the instep upward above the ankle, adapted to be drawn or secured together after the boot has been put on, to gather in the fullness and fit it to the leg of the wearer, all substantially as and for the purpose described. 2nd. A rubber boot, having the foot portion C, a leg portion A of gossamer or other similar fabric, united to the foot and made full at the ankle and immediately above, as described, and stays G, as fastened to the leg of the boot, and supporting lacing devices, and the cord or lacing device B, all substantially as described. 3rd. The rubber, having the foot portion C, the leg A of gossamer or other thin fabric of similar nature made full at the ankle, and section above, two lines of devices attached to the leg for reducing taking in or gathering its fullness, and fitting it to the leg of the wearer, the section A, and the strap A<sub>2</sub>, substantially as described. 4th. A rubber boot, having the foot portion formed or constructed of waterproof material of ordinary form and thickness, a leg portion of waterproof material but lighter than the material of the foot portion, and of uniform or substantially uniform thickness throughout, and means or devices for fitting or shaping, or causing the material of the leg portion to fit the ankle and leg of the wearer of a boot or shoe, substantially as described.

### No. 23,598. Time Register. (*Régistre Horaire.*)

Théodore Bélanger, Montreal, Que., 13th March, 1886. 5 years.

*Claim.*—1st. In a time register, the funnel F, and slotted tube D G, mounted on the hand axis of a clock apparatus, together with the inclined plane E, in combination with the clockwork A, casing H and compartments a a, b b, as above described and for the purpose set forth. 2nd. In a time register, the two rows of compartments B and C provided with slide doors M, and respectively numbering 24 and 60, in combination with the funnel F, slotted tube D G, inclined plane E, clock apparatus A, casing H, and checks N, O, the whole as above described and for the purpose set forth.

### No. 23,599. Bridge. (*Pont.*)

James Hill, Ellenogowan, Ont., 13th March, 1886. 5 years.

*Claim.*—1st. In a wooden bridge, the bowstring tension rods or ropes or cables Q, with their end attachments of shoes, threads and nut, substantially as and for the purpose hereinbefore set forth. 2nd. In a wooden bridge, the bowstring suspension rods N, with saddles M, constructed and placed as shown, as and for the purpose hereinbefore set forth. 3rd. In a wooden bridge, the truss and suspension rods K, with saddles J secured by nuts and placed as shown, substantially as and for the purpose hereinbefore set forth.

### No. 23,600. Attachment for Rocking Chairs. (*Dispositif de Fauteuil à Bascule.*)

William I. Bunker, Chicago, Ill., U.S., 15th February, 1886. 5 years.

*Claim.*—1st. As a new article of manufacture, an attachment for platform rocking chairs comprising two attaching brackets, and a compressible connecting spiral spring, having a downwardly-projecting portion, or flanges t, be connected to the base rail, and the bracket at the lower end of the spring, having an upwardly-projecting portion or flange to be connected to the rocker, substantially as described and for the purposes set forth. 2nd. The combination, with the rockers and base-rails, of a platform rocking chair, of two spiral springs A, one at each side of the chair attached to the rockers and base-rails by brackets B, C, each bracket B having a downwardly-projecting portion, or flanges connected to the base-rail, and each bracket C having an upwardly-projecting portion, or flange connected to the rocker, whereby the spring is compressed by the rocking of the chair, substantially as described.

### No. 23,601. Mail Bag Lock.

(*Serrure de Valise à Lettres.*)

Donnis P. Brophy, Nokomis, Ill., U.S., 15th March, 1886. 5 years.

*Claim.*—1st. In a mail bag lock, the combination, with a casing having apertured longitudinal partitions, of bars having lugs which pass through the apertures in the partitions, springs acting on the bars, and of a top plate having an apertured rib on its under side, which fits between the partitions in the casing, substantially as herein shown and described. 2nd. In a mail-bag lock, the combination, with the casing A, having the apertured B, of the bars D, having the bevelled lugs F, and the flat middle lugs H, the springs E, and the top plate N, having the bevelled apertured rib O, substantially as herein shown and described. 3rd. In a mail-bag lock, the combination, with the plate N, having a key-hole slot, and a ticket-receptacle on said plate to one side of the key-hole slot, of a slide mounted in ways on the plate N, in line with the open end of the ticket-receptacle, and adapted to slide over the key-hole slot, and to

close the open end of the ticket-receptacle, substantially as set forth. 4th. The combination, with the plate N, having a key-hole slot, and a ticket-receptacle at one side of said slot, consisting of undercut ribs S closed at their outer ends, and open at their inner ends, of the ways in the plate N on the opposite side of the key-hole slot, and the sliding plate N having undercut edges working in said ways, and having its ends adjacent to the ribs S rabbeted to secure the ticket in place, substantially as set forth.

**No. 23,602. Refrigerating Apparatus.**  
(Appareil Frigorifique.)

Peter J. McDonald, Gloucester, Mass., U.S., 15th March, 1885; 5 years.

*Claim.*—1st. The boiler A, having the chamber C, flues B and water legs D, in combination with suitable expansion pipes for the purposes set forth, substantially as shown. 2nd. A boiler provided with an interior chamber, and ammonia chamber, in combination with a valve that is adapted to regulate the pressure, both of the steam in the boiler, and the gas in the ammonia chamber, and temperature in refrigerating chamber, substantially as specified. 3rd. The combination of the boiler A, having the chamber C, escape pipe H leading from the boiler, and escape pipe I leading from the ammonia chamber, with the valves B, B<sub>1</sub>, screws B<sub>2</sub>, beam B<sub>3</sub>, and weight B<sub>4</sub>, substantially as and for the purposes set forth. 4th. The combination of the boiler A, having chamber C, escape port H connected with the steam boiler, and escape port C connected with the ammonia chamber, with the valves B, B<sub>1</sub>, screw B<sub>2</sub>, scale beams B<sub>3</sub>, weight B<sub>4</sub>, and scale bearing beam B<sub>5</sub>, substantially as shown and described. 5th. The combination of a boiler, and ammonia gas generator located therein, and suitable expansion pipes leading therefrom through the chamber or chambers, of a vessel or building, for the purposes specified, substantially as described. 6th. The combination of the boiler A, ammonia chamber C, valve B<sub>1</sub>, pipe I, coils I<sub>1</sub>, returning pipe I<sub>2</sub>, and pipe H<sub>1</sub>, with a suitable storing chamber or chambers, of a vessel or building, substantially as set forth. 7th. The combination of the boiler A, ammonia gas generator C, pipe I leading therefrom, chambers S and T provided with the bulk-head R, door V, and a suitable mechanism substantially as here shown, for conveying the fish or fruit through the chamber S, and discharging it into chamber T, whereby the fish or fruit is exposed to a gradual refrigeration in the chamber S, and can be packed compactly in the chamber T, substantially as specified. 8th. The combination of the boiler A, ammonia gas generator C, pipes H, G leading therefrom, chamber S and T, of a building or vessel, and conveyers Q, provided with spur pinions O, and worm Y, substantially as and for the purpose set forth. 9th. The combination of the boiler A, ammonia gas generator C, pipes H, G, expansion pipes I<sub>1</sub>, return pipe I<sub>2</sub>, and the chamber S, T, of a vessel or building, one of said chambers having a conveying mechanism Q, substantially as shown and described. 10th. The combination of a refrigerating chamber, a storage chamber adjacent thereto, expansion pipes extending through said chambers, means for supplying said pipes with ammonia or other vapour, and a mechanism, substantially as here shown, for conveying fish, fruit, etc., backward and forward through the refrigerating chamber, whereby the articles to be preserved are subjected to a freezing temperature before being conveyed to the storage chamber, substantially as described. 11th. The combination of a refrigerating chamber A, storage chamber adjacent thereto, the expansion pipes extending through said chamber means for supplying said pipes with ammonia or other gas or vapour, a valve or cock located in said pipes at the point that divides the chambers, whereby the gas can be confined to the portion of the pipes that is located in the refrigerating chamber, or be permitted to circulate through the pipes in both chambers, and a mechanism, substantially as here shown, for conveying the articles to be preserved backward and forward through the refrigerating chambers before discharging them into the storage chamber, substantially as and for the purposes set forth. 12th. The combination of a refrigerating chamber, having a mechanism inside of it capable of turning the fish or fruit, and exposing the same to the action of the freezing without opening doors or hatches substantially as specified. 13th. In a refrigerating apparatus, the combination, with the refrigerating and storage chambers, of two sets of expansion pipes, each of said pipes being provided with a valve, and a means for supplying said pipes with ammonia, whereby different temperatures can be maintained in the two chambers without changing the pressure in the boiler, substantially as described.

**No. 23,603. Paper Clip.** (Serre-l' papier.)

The Globe Files Company (Assignees of Henry C. Yoiser), Cincinnati, Ohio, U.S., 15th March, 1886; 5 years.

*Claim.*—1st. In combination with a paper-clip, the prong G, having lip E, and hook F for connecting the clip jaw with the holder for retaining the clip jaw in open condition. 2nd. In combination with a paper-clip, the prongs G, G<sub>1</sub>, having hooks G<sub>2</sub>, G<sub>3</sub> to engage the holder, and connected to engage the clip jaw to retain the latter in open position. 3rd. The combination, with a paper-clip having the pivot box holding the closing spring D, acting on the clip jaw C, of the prong G having lip E adapted to be engaged with the heel of the clip jaw, and hook G<sub>2</sub> secured to the base for retaining the clip-jaw in open position. 4th. The combination, with a paper-clip having the pivot-box B, holding the closing spring D acting on the clip-jaw C of the prongs G, G<sub>1</sub>, having hooks G<sub>2</sub>, G<sub>3</sub> secured to the base, and downturned lips E, E<sub>1</sub>, connected by a bar F, adapted to engage the clip jaw to retain the latter in open position.

**No. 23,604. Milk Weighing Can and Conveyer.** (Bidon Galactomètre et Transporteur.)

Pitt W. Strong, Brockville, Ont., 15th March, 1886; 5 years.

*Claim.*—1st. The combination, with the can I, of the bearers 3 and intersecting bars 5, as set forth for the purpose described. 2nd. The

lug 6 for centering the can on the scales, as set forth. 3rd. The conductor 9, having the opening 10 reinforced and strengthened by solid castings 11, as set forth. 4th. The valve, consisting of a rubber plug 14, cap 15 and tapering stem 16, provided with hook 13 connected by the valve rod 17, as set forth. 5th. The conductor 9, provided with a reinforcing ring 13, as set forth. 6th. The lugs 8 and rubber ring 12, in combination with the outlet 7 of the can, as set forth. 7th. The lug 20, secured to the conductor, and engaging with a hole in a spring 19 attached to the can for holding the conductor removably, as set forth. 8th. The perforated cap 21, reinforcing the hole in the can for the passage of the valve rod 17, as set forth.

**No. 23,605. Carriage and Waggon Wheel.**  
(Roue de Voiture et de Char.)

William D. Misener, Waterdown, Ont., 15th March, 1886; 5 years.

*Claim.*—1st. In a wheel for vehicles, the hub A formed with double doctro mortises B in alternate pairs to receive the spokes C, substantially as set forth for the purpose specified. 2nd. In a wheel for vehicles, in combination with the double doctro mortises B and spokes C, of the inner and outer flanged bands D, formed with alternate projections a, with extensions c, and recesses p to fit each pair of spokes, substantially as and for the purpose specified. 3rd. In a wheel for vehicles, the combination of the double doctro mortises B, B in hub A, spokes C, flanged bands D and rivets E, all constructed substantially as and for the purpose specified.

**No. 23,606. Car Coupling.** (Attelage de Char.)

David U. Graveline, Byron, Ill., U.S., 15th March, 1886; 5 years.

*Claim.*—1st. The combination of the hollow draw-head, having the opening F and the stud G, the draw bar fitting in the draw-head, and having the spring hook to engage with the stud G and secure the draw-bar in place, and the spring H bearing on the draw-bar, substantially as described. 2nd. The combination of the hollow draw-head having the opening F, and the stud G, and the draw-bar fitting in the draw-head, and having the spring-hook to engage with the stud G and secure the draw-bar in place, substantially as described. 3rd. The combination of the draw-head, the draw-bar therein, the link secured to the draw-bar, the feathered rod secured to the link and passed through a plate secured to the top of the car, and the hand-levers fulcrumed to the end of the car and connected to the link, substantially as described.

**No. 23,607. Candlestick.** (Chandelier.)

Mary A. Greezy, Ottumwa, Iowa, U.S., 15th March, 1886; 5 years.

*Claim.*—The frame, composed of a series of wires a, fastened at their lower ends by a plate b, and their upper ends by band c, having hook d and pin e, the cap D and band E, constructed as described to receive the spring G, provided with a seat B, substantially as herein shown and described.

**No. 23,608. Valve Adjusting and Reversing Gear for Steam Engines.** (Disposition d'Ajustage et de Renversement de Soupape pour Machines à Vapeur.)

Edward Huber and George W. King, Marion, Ohio, U.S., 15th March, 1886; 5 years.

*Claim.*—1st. The combination, with a hub, provided with recessed flanges, and an eccentric engaging against the outer face of said flanges, of swinging links located in said recesses and pivotally connecting the opposite sides of the eccentric to said flanges, substantially as set forth. 2nd. The combination, with an eccentric supported on swinging links, of a movable collar and devices disconnected from the links and connecting the collar, and eccentric for moving the latter toward and away from the centre of the shaft, substantially as set forth. 3rd. The combination, with an eccentric having an elongated opening therein, and a hub provided with a cylindrical sleeve that extends into said openings, of swinging links for connecting the eccentric to the hub, substantially as set forth. 4th. The combination, with a hub and collar connected by groove and spline, of an eccentric and bell-crank lever, and connections for adjusting the position of the eccentric by imparting an endwise movement to the collar, substantially as set forth. 5th. The combination, with a hub and an eccentric connected therewith by swinging links, of a collar connected to the hub by spine and groove, and devices connecting the collar and eccentric for adjusting the position of the latter, substantially as set forth.

**No. 23,609. Hair Clipper.** (Tondeuse de Barbier.)

Philogene E. Beaudette, Boston, Mass., U.S., 15th March, 1886; 5 years.

*Claim.*—1st. The combination, with the handle d, having the hollow neck d<sub>1</sub>, and the transverse head h arranged at an angle to said neck, the lower blade affixed to said head, the handle c pivoted to the handle d and extended through said hollow neck, and the upper blade a adapted to slide on the lower blade, and engaged as described with the handle c, as set forth. 2nd. The combination of the handle d, having the hollow neck d<sub>1</sub>, and the transverse head h set obliquely to said neck, the lower blade b, having pins i, entering said head, the upper blade a adapted to slide on the lower blade, the bolt j passing through the blades and secured by a nut bearing on the head h, and the handle c pivoted to the handle d and extended through the neck d<sub>1</sub> into a slot in the upper blade, as set forth. 3rd. The combination of the handle d, having the spring chamber f and head h, the lower blade b secured to the head h, the handle c pivoted to the handle d, the upper blade a adapted to slide on the lower blade and engaged with the handle c, and the spring plate m secured to the handle d and bearing against the lower edge of the lower blade b, as set forth. 4th. The combination of the head h, the blades a, b, the connecting bolt j passing through said blades and handle, the chambered nut on said bolt and the spring in said nut, whereby the blades are pressed together, as set forth.

**No. 23,610. Sanitary System. (Système Sanitaire.)**

John R. Bryden, George Town, British Guiana, 15th March, 1886, 5 years.

*Claim*.—1st. As a new article of commerce, the liquid manure formed by causing ordinary faecal matters to stand in a chamber closed above to the external air, and drawing off a part of the liquid portion from time to time the liquid manure in question. 2nd. The process of eliminating or getting rid of faecal matter in a useful manner, which consists in collecting it in a chamber open at the bottom to the soil, and allowing it to percolate out through the same as a subsoil manure. 3rd. A cistern or reservoir for sewage or faecal matter, sunk in whole or in part below the level of the surrounding soil, and open at the bottom to that soil, substantially as described. 4th. The combination of the reservoir D, with the bent pipe E and lower collecting reservoir F, for the purposes described. 5th. The faecal matter collecting reservoir F, with bottom of impervious clay and sides and top closed, substantially as and for the purposes described. 6th. The combination of the underground reservoir D open at the subsoil, with the closet and other drains from the house and stables opening into it through a bowl A, for the purposes described. 7th. In combination with a closed faecal matter collecting reservoir, a pump G, with draw-pipe, having its orifice g at a point a considerable distance above the bottom, but much below the average level of the faecal matters, whereby the liquid matter can be drawn off for use or sale as liquid manure, substantially as described. 8th. The combination of the bowl A, plug B, valve C and reservoir D, substantially as and for the purposes described. 9th. As a simple and cheap plantation closet, the concrete bowl A with plug B, in combination with reservoir D, having a bottom open to the subsoil. 10th. As improvements in the apparatus for clean and safe collection and utilization of the crude excrements, the combinations for insuring the same.

**No. 23,611. Triple Thermic Motor, or Bi-Sulphide of Carbon Engine. (Moteur Triple-Thermique ou Machine à Bi-Sulfure de Carbone.)**

William S. Colwell, Pittsburgh, Penn., U. S., 15th March, 1886: 5 years.

*Claim*.—1st. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon by applying heat thereto, and superheating the vapour under an increased temperature, which is maintained until the power thereof has been applied to the engine, substantially as described. 2nd. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon, by the application thereto of a low degree of heat, and then superheating the vapour by the application of a higher degree of heat applied thereto before it is admitted to the engine, and continuing the same throughout the power-stroke of the piston, substantially as described. 3rd. The method of operating a bi-sulphide of carbon engine, which consists in evolving a vapour from liquid bi-sulphide of carbon by applying thereto a low degree of heat, and automatically controlling the supply of heat at a higher degree of temperature to superheat the vapour, substantially as described. 4th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon by the application of a low degree of heat thereto, controlling the supply of vapour from the generator to the conduit leading to the engine, and applying a higher degree of heat to the vapour contained in said conduit for superheating the same, substantially as described. 5th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon by the application thereto of heat at a low degree of temperature, regulating the supply of vapour from the generator to the conduit leading to the engine, and automatically controlling the supply of heat at a higher temperature to the vapour contained in said conduit, substantially as described. 6th. The method of operating a bi-sulphide of carbon engine, which consists in evolving from liquid bi-sulphide of carbon by applying thereto heat at a low temperature, controlling the supply of vapour from the generator to the conduit leading to the engine, superheating the vapour under a higher temperature before it is admitted to the engine, and continuing the expansion throughout the stroke of the piston, and automatically controlling the supply of said vapour to the engine, substantially as described. 7th. The method of operating a bi-sulphide of carbon engine, which consists in evolving a vapour from liquid bi-sulphide of carbon by applying thereto heat at a low temperature, regulating the supply of vapour from the generator to a conduit leading to the engine, and automatically controlling the supply of heat at a higher temperature to the vapour contained in said conduit, and the supply of vapour to the engine cylinder, substantially as described. 8th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon by applying heat thereto at a low temperature, superheating the vapour under a higher temperature, automatically controlling the supply of vapour to the engine cylinder, and maintaining the vapour under a degree of expansion greater than its initial expansion until the piston has completed its power-stroke, substantially as described. 9th. In a bi-sulphide of carbon engine, the method of controlling the supply of heat to the vapour-evolving chamber, which consists in automatically operating or controlling a valve which regulates the supply of heat to said evolving-chamber, by the pressure of the vapour contained in the generator operating upon one end of a column of water, and the gravity of a suspended weight upon the opposite end of said column, substantially as described. 10th. In a bi-sulphide of carbon engine, the method of controlling the supply of heat to the vapour superheating chamber, which consists in operating the valve which controls said supply by the pressure of the heated fluid in said expanding chamber, moving the valve in one direction, and the gravity of a weight in the opposite direction, substantially as described. 11th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon under a

low temperature, controlling the supply to a conduit where the vapour is superheated under a higher temperature, and conducting the excess of vapour to the condenser, substantially as described. 12th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon, by applying thereto heat at a low temperature, superheating the vapour under a higher temperature, applying the power of said vapour in an engine, condensing the vapour after it leaves the engine, and finally returning the condensed liquid to the generator, substantially as described. 13th. The method of operating a bi-sulphide of carbon engine, which consists in evolving a vapour from liquid bi-sulphide of carbon, by applying heat thereto at a low temperature, superheating the vapour under a higher temperature, applying the energy or power thereof in an engine, condensing the exhaust vapour, returning the condensed liquid to the generator and the air which may be in the condenser charged with vapour, to a vessel containing water, substantially as described. 14th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon by applying heat thereto, superheating the vapour under a higher temperature, which is maintained until it reaches the engine, applying the power thereof in an engine, condensing the exhaust vapour, and reheating and returning the liquid to the generator at nearly the temperature at which it was evolved into vapour, substantially as described. 15th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon under a low temperature, expanding the vapour under an increased temperature, applying the power thereof to an engine, conducting the exhaust vapour by gravity to a condenser, and finally returning the liquid to the generator, substantially as described. 16th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon under a low temperature, expanding the vapour under an increased temperature, conducting it to an engine where the power is applied and the exhaust to a condenser, reheating the liquid and finally returning the liquid to the generator under pressure and at a temperature nearly at the boiling point, substantially as described. 17th. The method of operating a bi-sulphide of carbon engine, which consists in evolving vapour from liquid bi-sulphide of carbon under a low temperature, expanding the vapour under an increased temperature, maintaining until its energy or power has been applied as a motor, condensing the exhaust vapour in a chamber in vacuo, reheating the liquid, and finally returning it to the generator, substantially as described. 18th. The method of operating a bi-sulphide of carbon engine, which consists in generating steam in a suitable generator, conducting a portion thereof at a reduced pressure to a chamber, surrounding a vessel containing liquid bi-sulphide of carbon for evolving vapour, and then expanding the vapour by the heat of steam under a higher pressure applied directly from the generator to the vapour in automatically-regulated quantities, substantially as described. 19th. The method of operating a bi-sulphide of carbon engine, which consists in generating steam in a suitable generator, connecting a portion thereof at a reduced pressure to a chamber, surrounding a vessel containing liquid bi-sulphide of carbon for evolving vapour, and then expanding the vapour by the heat of steam under a higher pressure applied directly from the generator to the vapour in automatically-regulated quantities, before it is admitted to the engine cylinder, substantially as described. 20th. The method of operating a bi-sulphide of carbon engine, which consists in generating steam in a suitable generator, conducting a portion thereof at a reduced pressure to a chamber surrounding a vessel containing liquid bi-sulphide of carbon for evolving vapour, superheating the vapour by the heat of steam under a higher pressure applied directly from the generator to the vapour in automatically-regulated quantities before it is admitted to the engine cylinder, and continued until the piston has completed its power-stroke, substantially as described. 21st. The method of operating a bi-sulphide of carbon engine, which consists in generating steam in a suitable generator, conducting a portion thereof at a reduced pressure to a chamber surrounding a vessel containing liquid bi-sulphide of carbon for evolving vapour, superheating the vapour by the heat of steam under a higher pressure applied directly from the generator to the vapour in automatically-regulated quantities before it is admitted to the engine cylinder, and continued until the piston has completed its power-stroke, substantially as described. 22nd. The method of operating a bi-sulphide of carbon engine, which consists in generating steam in a suitable generator, conducting a portion thereof under a reduced pressure to a chamber surrounding a vessel containing liquid bi-sulphide of carbon for evolving vapour, and then superheating the vapour by the heat of steam under a higher pressure drawn directly from the generator, conducting the vapour to the engine and automatically controlling the supply of steam for evolving the vapour as variations in the work performed by the engine require, substantially as described. 23rd. The method of operating a bi-sulphide of carbon engine, which consists in generating steam in a suitable generator, applying the heat thereof to evolve vapour from liquid bi-sulphide of carbon and to expand the same, utilizing the energy of the vapour in an engine, and returning the water by condensation to the steam generator, with a volume of steam from the chamber which surrounds the vapour-generator, substantially as described. 24th. The method of operating a bi-sulphide of carbon engine, which consists in generating steam in a suitable generator applying the heat thereof to evolve vapour from liquid bi-sulphide of carbon and to expand the same, utilizing the energy of the vapour in an engine, and returning the water of condensation from the chamber surrounding the vapour generator, the supply conduit and the engine cylinder to the steam generator, with a volume of steam from the chamber which surrounds the vapour-generator, substantially as described. 25th. In a bi-sulphide of carbon engine, the method of condensing the exhaust-vapour, which consists in conducting it to a chamber in which the major portion is liquefied, and the air charged with the uncondensed vapour, to a secondary vessel in which the escape vapour from the primary vessel is condensed and the liquid bi-sulphide precipitated, substantially as described. 26th. In a bi-sulphide of carbon engine, the method of condensing the exhaust vapour, which consists in conducting it from the engine to a chamber in which the major portion is liquefied and the air charged with uncondensed vapour, to a secondary vessel containing water through which the escape vapours from the primary vessel pass the liquid bi-sulphide precipitated and withdrawn therefrom, substantially as described. 27th. In a bi-

sulphide of carbon engine, the method of relieving the air, which may be contained in the condenser of the noxious odors of the vapour, which consists in conducting said air charged with vapour from the condenser through a body of water contained in a vessel, precipitating the liquid bi-sulphide and discharging the air into the open atmosphere, substantially as described. 25th. The combination of a heat generator, a vapour generator means, substantially as described, for applying heat to the vapour generator, a vapour conduit, and a superheating or expanding chamber in which a higher degree of heat is applied to the vapour and continued until the vapour has been utilized in an engine-cylinder, substantially as described. 26th. The combination of a steam generator, a vapour generator, a chamber surrounding the vapour generator, a conduit for supplying steam to said chamber at a low temperature, and an automatic pressure reducing valve operated by the vapour acting upon one end of a column of liquid, and the gravity of a suspended weight upon the other end, substantially as described. 27th. The combination of a steam generator, a vapour generator, means, substantially as described, for applying heat thereto, at a low temperature, a vapour superheating conduit and a valve for controlling the supply of steam at a higher temperature to the chamber surrounding said conduit, substantially as described. 28th. The combination of a steam generator, a vapour generator, means, substantially as described, for applying steam at a low pressure to liquid bi-sulphide of carbon to evolve vapour, a conduit for conducting the vapour to the engine and superheating the same, and a valve for controlling the supply of steam at a higher pressure to a chamber surrounding the conduit, and a jacket around the working-cylinder, substantially as described. 29th. The combination of a steam generator, a vessel containing liquid bi-sulphide of carbon, means, substantially as described, for applying steam thereto at a low temperature for evolving vapour, a superheating chamber and an automatic valve for supplying steam at a higher temperature to said expanding chamber and to a jacket around the working-cylinder, substantially as described. 30th. The combination of a steam generator, a vapour generator, means, substantially as described, for applying steam at a low pressure to evolve vapour from liquid bi-sulphide of carbon, a conduit for superheating the vapour with steam direct from the steam generator, and a relief-valve for returning any excess of vapour to the condenser, substantially as described. 31th. The combination of a steam generator, a vapour generator containing liquid bi-sulphide of carbon, means, substantially as described, for evolving vapour therefrom, by applying steam at a low pressure, a conduit for conveying the vapour to an engine and superheating the same, a valve for controlling the supply of vapour to the conduit, and a steam supply-valve for controlling the steam from the generator to the chamber surrounding the conduit, substantially as described. 32th. The combination of a steam generator, a vapour generator containing liquid bi-sulphide of carbon, means, substantially as described, for evolving vapour therefrom, an automatic pressure-reducing valve, a conduit for conducting the vapour to the engine, and superheating the same, an automatic valve for controlling the supply of steam to the chamber surrounding the conduit, and a valve for controlling the supply of vapour to the conduit, substantially as described. 33th. The combination of a steam generator, a vapour generator, and means for applying heat thereto at a low temperature to evolve a vapour from liquid bi-sulphide of carbon, a conduit for conducting the vapour to the engine, a chamber surrounding the conduit, a pressure-reducing valve for supplying steam to the vapour generator, operated by the vapour contained in the generator acting upon one end of a column of liquid, and the gravity of a weight upon the other end, and a valve for controlling the supply of steam direct from the generator to the superheating chamber at a higher temperature operated by the pressure of steam in said chamber, and the gravity of a suspended weight, substantially as described. 34th. The combination of a steam generator, a vessel in which liquid bi-sulphide of carbon is evolved into vapour by the application of heat at a low temperature, a conduit in which it is superheated under heat of a higher temperature automatically supplied and continued throughout the working stroke of the engine, a valve for controlling the supply of vapour to the conduit, and an automatically operated valve for supplying the engine, and cutting off the supply, substantially as described. 35th. The combination of a steam generator, a vapour generator containing liquid bi-sulphide of carbon evolved into vapour at a low temperature, and superheated under a higher temperature by the application thereto of steam direct from a steam generator, an engine in which the energy of the vapour is applied, and a condenser to which the exhaust is returned, substantially as described. 36th. The combination of a steam generator, a vapour generator containing liquid bi-sulphide of carbon evolved into vapour at a low temperature, and superheated at a higher temperature by steam from the generator, said expansion being maintained above its initial expansion until its power has been applied to an engine, a condenser and a washer, into which the air which may be contained in the condenser charged with uncondensed vapour is conducted, substantially as described. 37th. The combination of a steam generator, a vapour generator containing liquid bi-sulphide of carbon, means, substantially as described, for evolving vapour therefrom under a low degree of heat, and superheating the vapour under a higher degree of heat automatically controlled and maintained during the stroke of the engine-piston, a condenser and a vacuum pump, whereby the exhaust vapour is returned to the condenser by gravity, substantially as described. 38th. The combination of a steam generator, a vapour generator containing liquid bi-sulphide of carbon evolved into vapour by the application of heat at a low temperature, and superheated by heat at a higher temperature, automatically supplied and maintained until the power thereof has been applied to an engine, a condenser, a reheater and a pump for returning the liquid bi-sulphide to the vapour generator at nearly the temperature at which it is evolved into vapour, substantially as described. 39th. In a bi-sulphide of carbon engine, the combination of the condenser, the vacuum pump and the washer partly filled with water, substantially as described. 40th. In a bi-sulphide of carbon engine, the washer partly filled with water, a dip-pipe projecting into the water, a receptacle for the precipitated liquid bi-sulphide of carbon, an outlet for said liquid and an escape-pipe for the air into the open atmosphere, substantially as described. 41th. In a bi-sulphide of carbon engine, the combination of the con-

denser, the well, the washer, the vacuum pump, and the liquid pump, for returning the liquid bi-sulphide to the vapour generator, substantially as described. 42th. In a bi-sulphide of carbon engine, the combination of a steam generator, a vapour generator and conduit for conducting the vapour to the engine, the chambers surrounding the vapour generator, the conduit and the cylinder, and means, substantially as described, for conducting steam to said chambers and returning the water of condensation, with a volume of steam from the chamber surrounding the vapour generator to a pump for returning said water to the steam generator, substantially as described. 43th. In a bi-sulphide of carbon engine, the combination of the engine, its exhaust ports, the chamber surrounding the piston and valve-rods, the condenser and a vacuum pump, substantially as described. 44th. In a bi-sulphide of carbon engine, the combination of the chambers surrounding the pistons and valve-rods, the condenser, and a vacuum pump, substantially as described. 45th. In a bi-sulphide of carbon engine, the valve for controlling the supply of steam to the vapour generator, which consists of a balanced valve, a piston and diaphragm, suitable intermediate connections and a suspended weight, in combination with a pipe containing a column of water interposed between the diaphragm and the vapour contained in the vapour generator, substantially as described. 46th. In a bi-sulphide of carbon engine, the valve for controlling the supply of steam in regulated quantities and at a predetermined pressure to the chamber surrounding the vapour conduit, which consists of a balanced valve, a piston, a diaphragm, and suitable intermediate connections, in combination with a pipe connecting with said chamber, to admit steam to the diaphragm to move the valve in one direction, and a lever and suspended weight to return the valve to its normal position, substantially as described.

**No. 23,612. Engine Worked by Elastic or non-Elastic Fluids, or by the Explosion of Mixed Gases, Applicable to Pumping Apparatus.**  
(Machine à Fluides Élastique ou non-Élastique, ou à Gaz Mixte Détonnant, Applicable aux Appareils à Pomper.)

Arthur Rigg, London, Eng., 15th March, 1886; 5 years.

Claim.—1st. A single or double-acting simple or compound revolving engine, or pump, with separate revolving cylinders, having ports or passages for inlet and exhaust in bosses, mounted to revolve upon a central stud, the rods of the pistons of the said cylinders, or their equivalent, being connected to a wheel, or its equivalent, mounted on a centre situated out of the line with the centre upon which the bosses of the cylinders are mounted, substantially as hereinbefore described. 2nd. In revolving engines or pumps, in which revolving cylinders are used, mounting the centre upon which the cylinders revolve and the centre to which the power is imparted or from which it is derived, so that either of the said centres can be adjusted relatively to the other for reversal of motion or regulation of power or stroke, or both, for reversal and regulation, substantially as hereinbefore described. 3rd. The combination, with revolving engines, constructed in accordance with my invention, or of the class herein before mentioned or described, and intended to be driven by elastic fluids, of means for varying the angular relations of their valve, inlet and cylinder ports, each to the other, so as to determine what amount of elastic fluid shall be admitted before being cut off and before commencing to expand, such variation being arranged to be operated by hand, or automatically by a governor, substantially as hereinbefore described with reference to Figs. 15 to 20 of the accompanying drawings. 4th. In revolving cylinder engines, or pumps, supplementary valve faces, used either for distribution of inlet and exhaust, or as intermediate receivers, as well as for distribution of inlet or exhaust, substantially as described with reference to Figs. 2, 7 and 8, and Figs. 25, 27 and 28 of the accompanying drawings. 5th. In revolving cylinder engines or pumps, the prolongation of cylinder ports, so as to pass through bosses of intervening cylinders and reach up to and bear against the main valve faces, substantially as described, with reference to Figs. 13, 16 and 16a of the accompanying drawings. 6th. The combination of elastic fluid engines, constructed according to my invention, with hoisting or hauling apparatus, or the like, for the purposes hereinbefore described. 7th. The several constructions or arrangements of parts, constituting the engines or pumps, hereinbefore described under the several modifications and illustrated by the accompanying drawings.

**No. 23,613. Coal Wagon. (Voiture à Charbon.)**

Gédéon Gagnon, Quebec, Que., 15th March, 1886; 5 years.

Reclame.—L'Essieu conduit E, en combinaison avec un banneton ou botte C, de manière à basculer la voilote au moyen de la broche K formant pivot ou son équivalent, de tout fonctionnement tel que décrit.

**No. 23,614. Dish Washing Machine.**

(Machine à Laver la Vaisselle.)

Horace B. Scoville, Austenburg, Ohio, U. S., 17th March, 1886; 5 years.

Claim.—1st. A dish washing machine, consisting of the water vessel and a removable basket, in combination with a removable vibrating bucket-frame and buckets, a handle for operating them and springs for limiting their vibrating movements each way, as and for the purposes described. 2nd. In a dish washing machine, the combination of a water vessel, a removable basket frame provided with two buckets having a sharp angular form at the back and open at the front, and springs for limiting their vibrating movements each way, as and for the purposes specified. 3rd. In a dish washing machine, the combination of a water vessel provided with a draw off, substantially as specified, a removable basket and a removable vibrating bucket-frame having two sharp angular buckets, and springs for limiting their movements each way, substantially as described.

**No. 23,615. Ladder Bracket.***(Boulin d'Echelle.)*

Reuben L. Hitchcock, Cornwall, Ont., 17th March, 1886; 5 years.

*Claim.*—1st. In a ladder bracket, the T-shaped arm B, having hooks b, b, and having its shank b<sub>1</sub> turned up at right angles, terminated by a hook b<sub>2</sub>, said shank being indented, substantially as shown. 2nd. In a ladder bracket, the V-shaped suspender C, having its ends wrought into hooks c, c, and having at its apex the hook c<sub>1</sub>, substantially as shown. 3rd. As a ladder bracket, the arm B, in combination with the suspender C, said arm and suspender being connected adjustably by a chain D, and being attached to a ladder A, substantially as shown and for the purpose specified.

**No. 23,616. Wheel Felly. (Jante de Roue.)**

Isabella F. Maria (Assignee of Jared Maris), Columbus, Ohio, U. S., 18th March, 1886; 5 years.

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

**No. 23,617. Harrow Cultivator.***(Herse-Cultivateur.)*

J. H. Evans, Cayuga, Ont., 18th March, 1886; 5 years.

*Claim.*—In a harrow cultivator, having the zig-zag bars A and bars B, C, as set forth, the wedge L, in combination with the tooth-holder H having a grooved socket and bolted to the harrow frame for holding the tooth K, as set forth.

**No. 23,618. Apparatus for Levelling Pianos. Billiard Tables, etc. (Appareil pour Nivelles les Pianos, Tables de Billards, etc.)**

Charles A. Gregory and George Daveluy, Montreal, Que., 20th March, 1886; 5 years.

*Claim.*—1st. A device for regulating the level of pianos, etc., consisting of a stand B, a cup A receiving the leg of such pianos and set in the seat B, and having projecting from its underside a pin screwed to intermesh with the thread of an opening in said seat B, all as and for the purposes set forth. 2nd. The combination of the cup A, with threaded periphery and stand B, with correspondingly threaded inner periphery, substantially as described. 3rd. The combination of the cup A, with screwed projection C, stand B, with arms D and pins or studs E, all as and for the purposes described. 4th. The combination of the cup A, with pin C, stand B, with threaded hole b, and pins E, E, all as and for the purposes set forth. 5th. The combination, with the cup A and stand B, of ring A and block F, with pin F<sub>1</sub>. 6th. The combination, with the cup A and stand B, of disc F, pin F<sub>1</sub> and plate G, as and for the purposes described.

**No. 23,619. Harrow. (Herse.)**

William H. Field, Port Chester (Assigned of William J. Lane, Fough-keepsie), N. Y., U. S., 22nd March, 1886; 5 years.

*Claim.*—1st. A harrow, consisting of a pair of frames, each swivelled to the arm set upon the end of the rocking shaft journalled upon the pole, the said frame carrying sets of blades, substantially as described. 2nd. In combination with a rocking shaft of a harrow, and mechanism for adjusting and holding in the described position the frames, composed of angle irons connected by cross pieces and swivelled upon the arms of the shaft, substantially as described. 3rd. In combination with the shaft and its arms, the frames carrying the sets of blades, said frames being composed of side bars connected by cross pieces, and having a bow front cross piece forming the front ends of the side, when they are used as runners. 4th. In combination with the described harrow, having the two sets of blades reversely bent and set alternating with each other, the standard F having locking holes and the lever e, substantially as described. 5th. In combination with the rocking shaft and its arms, swivelled frames composed of side bars connected by cross pieces, each side bar carrying a set of blades or teeth, substantially as described. 6th. In combination with the frames of the described harrow, the rear inclined blades turned in one direction, and the front inclined blades turned in the opposite direction, substantially as described. 7th. In combination with the front and rear bars of the frames pivoted to the shaft, as described, the two sets of blades reversely bent and set alternating with each other, substantially as described.

**No. 23,620. Reclining Chair. (Fauteuil Pliant.)**

Gilbert K. Phillips and Elmer W. Dickerman, Westfield, Mass., U. S., 22nd March, 1886; 5 years.

*Claim.*—1st. In a reclining and folding chair, capable of being folded, and having a swinging-frame to which the back is attached, pivoted at the upper rear ends of the X-frame, the combination, with the latter and with said swinging-frame, of the arm of the chair hinged to the upper front end of the X-frame, and having an open hook at its rear, and engaging with a projecting bolt on the inner side of the upper rear end of the X-frame, substantially as set forth. 2nd. In a reclining and folding chair, the arm b thereof, having the

groove 15 therein, the strap 14 secured to the arm and partly covering said groove, and having the hook 16 thereon, the hinge c connected with the end of said strap and the upper front end of the X-frame, the bolt 17 on the rear upper end of the X-frame engaging with said hook 16, and the hook-piece 19 engaging with said strap, combined and operating substantially as set forth. 3rd. In combination, the X-frame, the swinging-frame D pivoted to the upper rear end of the X-frame, and having the plate 21 thereon provided with the boss 22, and the springs e secured to the X-frame and extending between the latter and the swinging-frame, substantially as set forth. 4th. In a reclining chair, the X-frame, the swinging-frame D pivoted on the latter, the seat of the chair attached near its front end to said X-frame by swivelling links adjustably engaging with link-bars on the seat-frame, and the back of the chair consisting of cords attached to the seat, and said swinging-frame having transverse slats attached thereto, combined and operating substantially as set forth. 5th. In a reclining chair, the X-frame, the swinging-frame D pivoted on the latter, the seat of the chair attached near its front end to said X-frame by swivelling links adjustably engaging with link bars on the seat frame, the back of the chair consisting of cords attached to the seat and said swinging-frame having transverse slats attached thereto, the leg-rest hinged to the chair-frame, and having its lower end movably attached to the lower end of said swinging-frame, combined and operating substantially as set forth. 6th. In combination, with the X-frame and seat of a reclining chair, the links B pivoted to said frame, and the link-bars 12 passing through said links and secured to the seat, substantially as set forth. 7th. In a reclining chair, the seat thereof consisting of a U shaped frame, open at its front edge, transverse straps secured to each side of said frame and extending there across, and flexible slats secured on said straps, whose rear ends extend unsupported beyond the rearmost strap, combined and operating substantially as set forth. 8th. In a reclining chair, the leg-rest, substantially as described, hinged to the seat and connected with the swinging-frame D, having the foot-board in two hinged sections 10, 10, the former being connected to the leg-rest by folding hinges, substantially as described, and having the spring-bars 4 rigidly attached by one end to the upper end of the rest, and having a link-attachment with the foot-board section 10, combined and operating, substantially as set forth. 9th. In combination with the swinging-frame D, and the leg-rest having the grooved bars 7 thereon, the connections 1 having the lips 12 engaging in grooves in said bars, substantially as set forth.

**No. 23,621. Toboggan. (Tobogganne.)**

Henry F. Pierce, Stanstead Plain, Que., 24th March, 1886; 5 years.

*Claim.*—1st. A toboggan composed of runners A, secured at a distance apart to cleats B, and slats G laid up on the cleats and attached thereto, as set forth. 2nd. A toboggan consisting of runners A and slats G, connected by cleats B, and provided with reinforcing slats L, as set forth. 3rd. A toboggan having a raised floor G, as set forth. 4th. In a toboggan, the floor slats G, provided with slots, and secured to the top of cleats B, by screws or bolts, as set forth. 5th. A toboggan consisting of the runners A, slats G having strips K on slats B, as set forth. 6th. The springs M, and slats L, interposed between the runners A and floor slats G, as set forth.

**No. 23,622. Stove Lining. (Doublure de Poêle.)**

Anthony H. Sanders, Yarmouth, N. S., 24th March, 1886; 5 years.

*Claim.*—The iron plate X, having the shaped grooves placed diagonally across the face thereof, and meeting at the centre of the plate, combined with the holes C, C, the flanges d, d, and the top rim v, v, substantially as described and for the purposes set forth.

**No. 23,623. Ventilator and Chimney Cap. (Ventilateur et Chapeau de Cheminée.)**

LaFayette Shauk, Rochester, N. Y., U. S., 24th March, 1886; 5 years.

*Claim.*—The combination of the ventilating flue, having at its exit mouth the upward and outward projecting straight and flangeless rim, the cone supported above the rim, and having its base edge in the same vertical line, or nearly so, as the upper edge of the rim, and the surrounding angular shield, having its upper and lower flanges arranged parallel, or nearly so, to the planes of the cone and the rim respectively, the adjacent edges of the rim and the cone being at right angles, or nearly so, to the edges of the shield, and the edges of the rim, and cone separated from the lower and upper edges of the shield, to create the unobstructed vertical passageway between the said adjacent edges of the rim, the cone and the shield, substantially as shown and described.

**No. 23,624. Rim and Bottom of Pails, etc. (Bord et Fond de Seau, etc.)**

Phillip H. Finkle, Bellorville, Ont., 24th March, 1886; 5 years.

*Claim.*—1st. The formation of the rim by a combination of the bottom and flange b, with the sides a turned over, as represented in c. 2nd. The double seam by which the vessel is made tight, namely the solid end seam on the inside e, and the seam turned over at the extremity of the rim, as shown by C.

**No. 23,625. Moccasin. (Mocassin.)**

Thomas Clearihue, Brockville, Ont., 24th March, 1886; 5 years.

*Claim.*—1st. A moccasin laced at the instep, having an enclosed front of elastic material, and puckered covering G, as set forth. 2nd. A moccasin laced at the instep, having an enclosed front, composed of sections of elastic and inelastic material, as set forth. 3rd. A moccasin having a front consisting of elastic and inelastic sections F, E, and a puckered material G, as set forth for the purpose described.

**No. 23,626. Art and Process of Hardening and Colouring Serpentine Rock.** (*Art et Procédé de Durcissement et de Coloration du Roc Serpentine.*)

John J. Pratt, Wakefield, Mass., U.S., 24th March, 1866; 5 years.

*Claim.*—The hereinbefore described method of treating natural or artificial rock or stone, which is free from lime, and containing asbestos or magnesia in any form for hardening and developing the colour thereof, and rendering the same fireproof, which consists in exposing the material to a gradually increasing temperature of from 100° to 1,000° Fahr., while the material is protective from cold air, and then gradually cooling the same.

**No. 23,627. Art of Quarrying Rock.**

(*Art d'Exploiter une Carrière.*)

John L. L. Kaox, Allegheny, Penn. U.S., 14th March, 1866; 5 years.

*Claim.*—1st. The method of quarrying rock, within which consists in so arranging the charge within a blast hole, having oppositely located equilateral grooves, as to distribute the powder approximately throughout the lengths of the grooves. 2nd. The method of quarrying rock, which consists in arranging the tamping and explosive within a blast hole, having sides angled to regulate the line of clearance, so that an open space shall remain between the tamping and explosive, whereby the throwing of fragments or spalls is prevented. 3rd. The method of quarrying rock, which consists in making a series of blast holes, having oppositely located longitudinal equilateral grooves, a plane bisecting the apices of said grooves, coinciding with the desired plane of clearance, and then charging and exploding same, substantially as and for the purposes described. 4th. The reamer B, having an hexagonal face and provided with receding cutting ends, as and for the purpose described.

**No. 23,628. Separation and Attainment of Oxygen and Nitrogen from Atmospheric Air.** (*Séparation et Obtention de l'Oxygène et de l'Azote de l'Air Atmosphérique.*)

Leon Q. Brin and Arthur Brin, Paris, France, 24th March, 1866; 5 years.

*Claim.*—1st. In the process of separating and obtaining oxygen and nitrogen from atmospheric air, first depriving the air of moisture and carbonic acid, and then drawing or passing the mixed oxygen and nitrogen over or through heated anhydrous oxide of barium or baryta, free from carbonic acid, nitric acid and moisture, substantially as hereinbefore described. 2nd. In the process of separating and obtaining oxygen and nitrogen from atmospheric air, first, depriving the air from moisture and carbonic acid, then drawing or passing the mixed oxygen and nitrogen over or through heated anhydrous oxide of barium or baryta, free from carbonic acid, nitric acid and moisture, and drawing off the nitrogen and subsequently disengaging the oxygen from the said oxide of barium or baryta, substantially as hereinbefore described. 3rd. In the process of separating and obtaining oxygen and nitrogen from atmospheric air, first, depriving the air of moisture and carbonic acid, then drawing the mixed oxygen and nitrogen by aid of a drawing or exhausting operation into a retort or retorts, or vessel or vessels containing heated anhydrous oxide of barium or baryta, free from carbonic acid, nitric acid and moisture, and drawing off the nitrogen, and then disengaging the oxygen from the said oxide of barium by means of a vacuum or exhaust and at an elevated temperature, substantially as hereinbefore described. 4th. The separation and attainment of oxygen and nitrogen from atmospheric air by the process as a whole, conducted substantially as hereinbefore described, in apparatus arranged and operating substantially as hereinbefore described.

**No. 23,629. Plate Printing Press and Wiping Appliance therefor.** (*Presse d'Impression à la Congrève et Appareil pour l'Essuyer*)

Elizabeth R. Milligan, (Executrix of the Will of James Milligan,) Brooklyn, N.Y., U.S., 24th March, 1866; 5 years.

*Claim.*—1st. A device for wiping engraved plates, in which are combined, first, a flat wiping block, second means for carrying a cloth across the face of the block in the direction in which the plate travels, third, appliances constructed to impart to the wiper a reciprocating motion, substantially as set forth. 2nd. The combination of the flat wiper block, its cloth, devices for carrying the cloth across the face of the block, and appliances whereby the plate is carried beneath the wiper in the same direction as the cloth travels, substantially as set forth. 3rd. The combination, in a wiping apparatus, for engraved plates of a wiper consisting of two or more flat wiping sections positively adjusted to different heights, a wiper cloth passing beneath said sections, and means for carrying flat plates, first, beneath the highest, and then beneath the lower sections, as set forth. 4th. The combination, in a wiper block, of two or more sections, device adjusting the same to different heights and limiting their downward movements, and springs pressing said sections downward upon their bearings, substantially as set forth. 5th. The combination of a frame and a wiper block in sections, having spring bearings, and adjusting devices whereby said sections may be separately adjusted to yield independently of each other, substantially as set forth. 6th. The combination, in a mechanical wiper for engraved plates of two or more sections, a cloth crossing the face of all of said sections, and springs and adjusting devices, whereby said sections may be set to bear upon the plate with different pressures, substantially as set forth. 7th. The combination, with two or more pads, of a single wiper cloth, and means for automatically reciprocating the same, as set forth. 8th. The combination, with

two or more independently adjustable wiper pads of a single wiper cloth, substantially as described. 9th. A wiper for plate printing presses, consisting of a single pad and springs, and a backing set to secure a gradually increasing spring pressure towards the back of the pad, and a cloth traversing the face of the pad, substantially as set forth. 10th. The combination of a single wiping pad, a backing constructed to secure increased pressure as the plate passes beneath the pad, adjustable spring bearings for the backing, and appliances for reciprocating the pad in respect to the plate, substantially as described. 11th. The combination, in a mechanical wiper, of a stack pad, a backing consisting of a series of pieces, and means for adjusting end pieces to different heights, substantially as set forth. 12th. The combination of a single pad, the backing, adjustable devices for limiting the vertical movements of the latter, and springs interposed between the backing and its bearings, substantially as described. 13th. The frame carrying a backing consisting of a series of independent pieces, and a single pad extending below the same, in combination with devices for adjusting the pieces independently and with spring bearings, and devices for varying the pressure of the springs, substantially as set forth.

**No. 23,630. Cheese Vat.** (*Cuve de Fromagerie.*)

Pitt W. Strong, Brockville, Ont., 24th March, 1866; 5 years.

*Claim.*—1st. The main shell 1, constructed of detachable sides and ends, removable beams 11 bearing on brackets 12, and provided with a removable floor B, as set forth. 2nd. The main shell 1 provided with bearings 5, and mounted on half-round blocks 6 to tilt by depression of one end, as set forth. 3rd. The main shell 1, provided with rock shaft 7, carrying eccentrics 8, and a lever 9 to lower and raise the end and notched holder 1, as set forth. 4th. The main shell 1, provided with brackets 30, for the reception of removable beams 23, and provided with a tie rod 14 to bind the sides and ends, as set forth. 5th. In a cheese vat, a removable steam pan 2, or a main shell 1, secured to an independent rim, as set forth. 6th. A removable rack within the steam pan, constructed of slotted sleepers 17, inserted board 18, and containing a perforated steam pipe 15, as set forth. 7th. The main shell, steam pan and milk vat, having their edges 26, bevelled as set forth. 8th. The milk vat 3, having a flange 25, soldered to the outside and nailed to the rim, as set forth. 9th. The notched plates 27, having lug and spaces to coincide, and attached to the shell, pan and vat, for the purpose set forth. 10th. The strainer 18, provided with bracket 25, removably clamped to the milk vat by a turn button, or holder 22, as set forth. 11th. The strainer 14, having bevelled flanged collar 19, in combination with the bearing 20, seated on a socket 21, fixed to steam pan 2, for discharge of whey through the bottom of the pan, and provided with a plug 22, for retention of the whey, as set forth. 12th. The milk vat 3, having the rim 28 at one end partly projecting within the steam pan, and the steam pipe 15 passing through a hole in said rim, as set forth.

**No. 23,631. Wash Board Holder.**

(*Appui-Planche à Savonner.*)

Benjamin N. Merrill, Lisbon, Me., U.S., 24th March, 1866; 5 years.

*Claim.*—1st. The combination, with a wash board, of grooved strips on the same pieces, or arms projecting from the strip, and of ball-heads on the ends of the pieces, substantially as herein shown and described. 2nd. The combination, with a grooved strip having notches, of a piece or arm having pivots in one end, and a ball-head on the other end, substantially as herein shown and described. 3rd. The combination, with a grooved strip having notches in one of the ridges formed by the groove, of a forked piece having pivots at the open ends, and a ball-head on the outer end, substantially as herein shown and described. 4th. A wash board attachment, consisting of a strip provided with swinging arms, having ball-heads on the outer ends, substantially as herein shown and described.

**No. 23,632. Bee Hive.** (*Ruche.*)

John M. Shuck, Des Moines, Iowa, U.S., 24th March, 1866; 5 years.

*Claim.*—1st. In combination, with a bee-hive, having horizontal slots in its walls, removable strips fitted in said slots, and removable honey frames in the inside of the hive engaged and fastened by said strips, as set forth. 2nd. The combination of the strips *f*, with the walls of a bee-hive, having horizontal slots *g*, and removable comb frames *h*, as set forth. 3rd. The combination of a bottom C and a cover D, each having fixed strips or bars *k*, with the wall of a bee-hive, and a series of movable honey frames, as and for the purposes specified. 4th. A bee-hive, having horizontal slots in opposite ends *w*, sides, and removable bars fitted in said slots, a removable bottom and a removable cover, each having fixed strips or bars on their inside surfaces, and a series of movable honey frames, arranged and combined to operate in the manner set forth for the purposes stated. 5th. A surplus section for bee-hives, having one open side composed of end-pieces *k*, backs *m*, strips *n* and *o*, substantially as shown and described for the purposes stated. 6th. A surplus box for bee-hives, consisting of a series of three-sided sections *k*, *l*, *m*, having fixed strips *n*, *o* and clamping devices *p*, *q*, *r*, *s*, *t*. 7th. A vertically divisible surplus box for bee-hives, composed of a series of sections having closed backs and closed ends, fixed partitions, laterally projecting strips fixed on the top and bottom edges of the ends and partitions, a loose partition corresponding in size and shape with the fixed backs, and a clamping device for fastening the sections together.

**No. 23,633. Device for Inverting Bee-Hives.**

(*Appareil pour Reverser les Ruches*)

John M. Shuck, Des Moines, Iowa, U.S., 24th March, 1866; 5 years.

*Claim.*—1st. A device for lifting and inverting bee-hives, composed of an oblong frame, having pins projecting inward from the central portions of the side bars of the frame, means for moving the pins longitudinally, and shoes or fulcrums at the lower end of the frame, for the purposes stated. 2nd. In a device for lifting and inverting



bee-hives, the combination of two parallel side bars *k*, *k*, having end pieces *k*<sub>1</sub>, *k*<sub>2</sub>, the latter of which is an iron rod, blocks or shoes *l*, *l*, loosely mounted thereon, two levers *m*, *m* pivoted to the faces of the side bars, and having pins *r*, *r* upon their short arms projecting through holes in the side bars, and springs *n*, *n* fixed to the side bars and pressing against the long arms of the levers, substantially as described. 3rd. In a device for lifting and inverting bee-hives, the combination of the side bars *k*, *k*, the cross piece *ki*, iron rod *k*<sub>1</sub>, tube *k*<sub>2</sub>, and blocks or shoes *l*, *l* mounted thereon and held in position by nuts *l*, the levers *m*, *m* pivoted to the side bars, having pins *r* upon their short arms, and the springs *n* fixed to the side bars and pressing against the long arms to force the pins through holes in the side bars, substantially as described.

### No. 23,634. Shirt. (Chemise.)

Samuel Butz, Easton, Penn., U.S., 24th March, 1886; 5 years.

Claim.—1st. As an article of manufacture, a shirt, having a neck-band provided with means for attaching a detachable bosom upon the sides of the neck-band, as and for the purpose shown and set forth. 2nd. As an article of manufacture, a shirt, having a neck-band provided with a central permanent, or detachable back-button, and with two permanent or detachable buttons at its sides, as and for the purpose shown and set forth. 3rd. The combination, with a shirt, having a neck-band with means of attachment at its sides, and having a stated size of a detachable bosom having a neck-band, of such a size that it will make up any required neck-measure, together with the neck-band of the shirt, as and for the purpose shown and set forth. 4th. In a shirt, the combination of a shirt having a neck-band provided with buttons on its sides, with a detachable bosom having a neck-band provided with button-holes at its ends, as and for the purpose shown and set forth. 5th. In a shirt, the combination of a shirt having a neck-band provided with buttons at its sides, with a detachable bosom having a neck-band extended beyond the side-edges forming button-holed tabs, as and for the purpose shown and set forth. 6th. The combination of a shirt, having a neck-band provided with buttons upon its sides, and having a strap or straps at the lower end of its front, with a detachable bosom having button-holes in the ends of its neck-band, and having loops at its lower end for the strap of the shirt, as and for the purpose shown and set forth. 7th. The combination of a shirt, having a neck-band provided with buttons at its sides, and having buttons at its front, a detachable bosom having button-holes at the ends of its neck-band, and having transverse loops upon its rear side, and a strap provided with button-holes for securing it to the front buttons of the shirt, and passing through the loops upon the rear side of the bosom, as and for the purpose shown and set forth.

### No. 23,635. Garment Fitting Device.

(Appareil pour Ajuster les Vêtements.)

William B. Pollock, Philadelphia, Penn., U. S., 24th March, 1886; 5 years.

Claim.—1st. A measuring and fitting device, comprising a series of separable frames or sections, each composed of separately and independently adjustable flexible straps, pivoted one to the other in triangular form throughout the sections, and means for securing the straps in their adjusted positions, whereby said section may be adjusted to fit the figure of the individual under measurement, and then laid flat upon the goods to be cut, substantially as set forth. 2nd. A measuring and fitting device, comprising a number of frames or sections separable from each other, and composed of separately and independently adjustable straps, all pivoted one with the other, and having openings, studs and fastening devices therefor, as and for the purpose set forth. 3rd. A measuring and fitting device, comprising a number of frames or sections separable from each other, and composed of overlapping and single straps, all pivoted together, and having openings and studs and fastening catches for said studs, substantially as and for the purpose set forth. 4th. A garment measuring and fitting device, comprising a number of frames or sections, separable from each other, and composed of separately and independently adjustable, and single and overlapping straps, one strap of the overlapping straps having a stud, and the other, or its mate, having one or more openings, in combination with a fastening device or catch for said stud, substantially as and for the purpose set forth. 5th. A garment measuring and fitting device, comprising a number of frames or sections separable from each other, and composed of separately and independently adjustable single and overlapping straps, one strap of the overlapping straps having a loop or keeper and a stud, and the other, or its mate, having one or more openings, for engagement with said stud, in combination with a fastening spring-catch, one end of which is secured to the loop and the other engages with said stud, substantially as set forth. 6th. In a garment measuring and fitting device, composed of separable sections, the combination of flexible waist and bust straps, and the adjustable dart straps *B*, *C*, substantially as set forth. 7th. In a measuring and fitting device, composed of separable sections, the combination of bust and waist straps *a* and *c*, each made in section, adjustable dart straps *B* and *C* and brace straps *D*, *E*, as and for the purpose set forth. 8th. In a measuring and fitting device, composed of separable sections, the combination of bust and waist straps *a* and *c*, each made in sections, the adjustable dart straps *B*, *C*, one end of each of which is pivoted to the waist strap, and the other engaging with a fastening device on the bust strap, substantially as and for the purpose set forth. 9th. In a measuring and fitting device, the combination of bust straps *B* and *C*, and waist strap *c* made in sections adapted to be connected together and disconnected, as and for the purpose set forth. 10th. In a combination with a measuring and fitting device, composed of separable sections having independently and adjustable straps, as herein described, of a belt *a*, substantially as and for the purpose set forth. 11th. In a measuring and fitting device, composed of separable sections, the combination of straps *B*, *C*, the bust strap *a* jointed between the darts brace straps *D* and *E*, and a common fastening device for said straps and braces, substantially as and for the purpose set forth. 12th. In a fitting device, the bust straps *a* having openings, the dart straps *B*, *C*, and braces *D*, *E*, having openings, in combina-

tion with a fastening spring *A*, substantially as shown and described. 13th. In a measuring and fitting device, composed of separable sections made up of pivoted or swiveled straps, the arm hole strap *a* composed of sections, one of which has a series of studs *a*<sub>1</sub> for engagement with holes in one of the other sections, as and for the purpose set forth. 14th. In a garment and fitting device, formed of straps overlapping each other, the combination of studs *a*<sub>1</sub>, having lateral openings *a*<sub>2</sub>, the loop or keeper *A* and spring catch or fastener *a*, having pin *b*<sub>1</sub>, substantially as shown and for the purpose set forth. 15th. In a measuring and fitting device, composed of separable sections made up of adjustable straps swiveled or pivoted together by eyelets *a*<sub>1</sub> in combination with the fastening springs *A*, substantially as and for the purpose set forth. 16th. A measuring and fitting device, composed of separable sections or frames, having separately adjustable contour outline dart and bracing straps, pivoted one to another in triangular form throughout the sections, substantially as shown and described.

### No. 23,636. Index for Letter Books.

(Index pour Livres de Correspondance.)

Robert Spurgin, Chicago, Ill., U.S., 24th March, 1886; 5 years.

Claim.—1st. A letter book index, provided with vertical columns headed with letters of the alphabet, singly or in groups, a vertical column headed "subject," a vertical column headed "date," a vertical column headed "page," and horizontal rulings, substantially as described and shown. 2nd. A letter book index, provided with vertical columns headed with letters of the alphabet, singly or in groups, a vertical column headed "subject," a vertical column headed "date," a vertical column headed "page," horizontal rulings and having in the vertical columns headed "page," between the horizontal rulings respectively, printed numbers from one up to that numeral representing the number of pages in the letter book. 3rd. A letter book index, provided with vertical columns, headed with letters of the alphabet, singly or in groups, a vertical column headed "subject," a vertical column headed "date," a vertical column headed "page," horizontal rulings and a tab affixed to the "subject" column side, whereon the date of the corresponding horizontal section may be placed, substantially as described and for the purpose set forth. 4th. A letter book index, provided with vertical columns, headed by the letters of the alphabet, a vertical column headed "page," and a vertical column headed "subject," substantially as shown and for the purpose set forth. 5th. A letter book index, having a series of parallel sections in one direction, of the paper headed by letters of the alphabet, a parallel section headed "page," a parallel section headed "date," a parallel section headed "subject," and rulings transverse to the before described sections, substantially as described and for the purpose set forth. 6th. A letter book index, having a series of parallel sections in one direction, of the paper headed by letters of the alphabet, a parallel section headed "page," a parallel section headed "date," a parallel section headed "subject," horizontal rulings and a tab or tabs affixed to the "subject" column side of the index, whereon the date corresponding to the position of said tab may be entered, substantially as described and shown. 7th. A letter book index, having a series of sections in one direction of the paper headed by letters of the alphabet, a parallel section headed "page," a parallel section headed "date," a parallel section headed "subject," the section headed "date" having printed in it numbers from one up, and sections formed by rulings at right angles to the above described sections, one such section being provided for each of the numerals in the column headed "page," substantially as described and shown. 8th. The combination with an index, in which entries are made in the order of date, of tabs affixed to the outer edges of the pages of said index, and bearing thereon the dates entered in the corresponding parts of the index.

### No. 23,637. Manufacture of Moccasins.

(Fabrication des Moccasins.)

Eugène Balcer, Three Rivers, Que., 21th March, 1886; 5 years.

Claim.—As a new article of manufacture, a moccasin having its top part or cap *c* cut out and made of a single piece and sewed to the uppers *b*, and foot part *a*, in the manner shown and described, and for the purpose set forth.

### No. 23,638. Envelope or Protector for Cards, etc. (Enveloppe ou Etui pour Cartes, etc.)

John Markinsky, Winnipeg, Man., 24th March, 1886; 5 years.

Claim.—1st. An improved envelope or protector for cards, photographs, books and the like, consisting of two enclosing boards, provided with registering perforations formed in of some distance from their edges to leave a protective margin, and securing tape *c*, cord passed through the perforations, substantially as and for the purpose set forth. 2nd. As an improved article of manufacture, the herein-described envelope or protector for cards, photographs, books and the like, consisting of two enclosing boards provided with perforations formed some distance from their edges, to leave a protective margin, and having their corners cut away or bevelled, and securing cord or tape adapted to be passed through the registering perforations, substantially as and for the purpose set forth. 3rd. As an improvement in envelopes, or protectors for cards, photographs, books and the like, the combination, with the board, provided upon its inner face with strips, secured at their ends and having perforations, and cord or tape passed through said registering perforations, substantially as and for the purpose set forth. 4th. As an improved article of manufacture, the herein-described improved envelope, or protector for cards, photographs, books and the like, the two rectangular enclosing pieces of card or paste-board, provided with a perforation centrally disposed at some distance from each of their four edges, to leave a protective margin, and having their corners cut-off or bevelled, one of the boards being provided upon its inner face with strips secured at their ends, and fastening cords or tapes adapted to pass through the registering perforations, substantially as and for the purposes set forth.

**No. 23,630. Saw.** (*Scie.*)

Jean P. Lauer, Buffalo, N. Y., U.S., 24th March, 1886; 5 years.

*Claim.*—1st. The combination, with the saw frame *a*, provided with the slot *b*, and pivot *b* at its outer end, and the slotted recess *c*, *e*, at its inner end, and the catching device *d*, consisting of the screw-threaded rod *d*, the shouldered portion *d*<sub>1</sub> and the catches *d*<sub>2</sub>, *d*<sub>3</sub>, with the slot *d*<sub>4</sub> between them, of the saw having the inwardly-inclining slot *e*, adapted for engagement with the pivot *b*, and the catches *e*<sub>1</sub>, *e*<sub>2</sub>, with the vertical partition *e*<sub>3</sub> between them, adapted for engagement with the catching device *d*, and the spring *d*<sub>4</sub>, and thumb nut *d*<sub>5</sub>, substantially as shown and described. 2nd. In a saw, the combination, with the outer end, of the frame *a* provided with the slot *b*, of the saw *e* provided at its end with the inwardly-inclining recess or slot *e*, substantially as and for the purpose stated. 3rd. In a saw, in combination with the saw provided at its inner end with the catches *e*<sub>1</sub>, *e*<sub>2</sub>, with the vertical partition between them, of the catching device *d*, having the catches *d*<sub>2</sub>, *d*<sub>3</sub>, with the vertical slot *d*<sub>4</sub> between them, the shouldered portion *d*<sub>1</sub>, the screw-threaded rod *d*, with thumb nut *d*<sub>5</sub>, and the spiral spring *d*<sub>4</sub>, all located and operating within the recess *c* of the frame, substantially as and for the purpose stated.

**No. 23,640. Means for Closing Jars, Bottles, etc.** (*Moyens de Boucher les Jarres, Bouteilles, etc.*)

Hervey D. Thatcher and Harvey P. Barnhart, Potsdam, N. Y., U.S., 24th March, 1886; 5 years.

*Claim.*—1st. A moulded vessel of glass, or other vitreous material of contracted form at the neck, the outer wall of which neck is provided with antipodal imperforations or indentations, adapted to form ball seats, the inner surface of the said neck being wholly smooth and uninterrupted, as set forth. 2nd. The combination, with an open mouthed vessel, of a spring-ball axially pivoted thereto, and bearing centrally thereon, an anti-friction sphere or ball, and a cover for the said vessel, provided with a circular depression or concavity for engagement with the said anti-friction ball, as set forth. 3rd. The combination, with a circular open-mouthed vessel, of a spring-ball axially pivoted thereto, and having journalled centrally thereupon an anti-friction ball or globe, and a circular cover for the said vessel's mouth, provided upon its upper central surface with a circular open concavity for engagement with the said ball, whereby the cover may be firmly seated and locked in any position it may be made to take thereupon, as set forth.

**No. 23,641. Carriage and Waggon Jack.**

(*Chèvre de Carrosserie et de Chemin de Fer.*)

Alpheus Hamelin, Almont, Ont., 24th March, 1886; 7 years.

*Claim.*—A carriage and waggon jack, consisting of the standards *A*, fitted into a base *B*, and secured at top to a band *C*, the intervening lifting block *E*, having a guide bolt *G* sliding through, a slot in the standards, and the lever *H*, having a cam *I* interturned on a bolt *J* entering one of a series of holes *K*, vertical with the slots in the standards to vertically lift block *E*, as set forth.

**No. 23,642. Method of Manufacturing Spiral Springs of Steel Wire, and Tools for the same.** (*Mode de Fabrication des Ressorts Spiraux en Fil de Fer et Outils pour cet objet.*)

Johan T. B. Sidén, Nybo, Sweden, 24th March, 1886; 5 years.

*Claim.*—1st. The method of making spiral springs with increased initial bearing capacity, consisting of conducting the steel wire to a mandrel by means of tongs provided with threaded jaws, and of pressing the wire upon the mandrel with the tongs in such a manner that the wire is pressed tightly against the last coiled layer, substantially as herein shown and described. 2nd. The method of making spiral springs with increased initial bearing capacity, consisting of winding a steel wire on a mandrel *N* by means of a pair of tongs *P*, having the prongs *A*, *B*, each of which is provided with one or more threaded jaws *Q*, and of which prongs the prong *B* is provided with the sliding keeper *F*, in which the recessed holder *E* is adjusted by means of the set-screw *G*, substantially as herein shown and described.

**No. 23,643. Night Signalling Apparatus.**

(*Appareil à Signaux de Nuit.*)

Joseph Wall, Bootle, Eng., 24th March, 1886; 5 years.

*Claim.*—1st. The support *a*, table *b*, with its sockets for the reception of the lamps, and its sliding rod *c*, with its obscuring discs *f*, *g*, *h*, as herein set forth. 2nd. The lamp having the outer cylinder *o* and the inner cylinder *n*, the said inner cylinder having the colours, as set forth, and the outer cylinder having the hole and lens for the emission of horizontal parallel rays of light, as herein set forth. 3rd. The revolving table *d*, as herein set forth, with its lamps, as described and for the purposes described. 4th. The lamps *A*, *B*, *C*, with their outer and inner cylinders, doors *e*, and pins *di*, as herein set forth. 5th. The outer and inner cylinders *o*, *n*, united by the spring *U*, as herein set forth. 6th. The outer and inner cylinders *o*, *n*, of the lamps *A*, *B*, *C*, when united by the pin *v*, as herein set forth. 7th. The arrows *p*, in combination with the inner cylinders, as herein set forth. 8th. The combination of the inner cylinders *n*, made as described, the outer cylinders *o*, with their holes and lenses, and the obscuring discs, as set forth. 9th. The middle lamps, as described, having on the back side the direction plate, as herein set forth. 10th. The method of night signalling for vessels, herein described, which consists in making a simultaneous display of lights of different colours, by means of lights differently coloured media, for the transmission of the light, lenses

for emission of horizontal rays, obscuring discs, the said coloured media being adapted to the commercial Code Book for day signals by flags, as herein set forth.

**No. 23,644. Stock Car.** (*Char à Bestiaux.*)

George D. Burton, Now Ipswich, N.H., U.S., 24th March, 1886; 6 years.

*Claim.*—1st. In a stock car, the combination, with feed troughs, of a concave or receding partition, or boxing for inclosing the space below the said troughs to avoid danger of injury to the animals, substantially as described. 2nd. In a stock car, the combination, with feed troughs, of a fastening-rail composed of iron tubing and fastening-rings attached thereto, and a receding or concave partition below the said fastening-rail, substantially as and for the purpose set forth. 3rd. A stock car, provided with compartments for live stock, and feed troughs therein, and a separate compartment for an attendant, combined with a water pipe discharging into the said troughs for supplying the animals with water, and a water tank connected with the said pipe, and having a delivery pipe in the attendant's compartment affording a supply of water for the attendant, substantially as described. 4th. A stock car, having compartments provided with feed troughs for live stock, and a separate compartment for the attendant, and a set basin in the attendant's compartment, and a water pipe for supplying the said feed troughs, combined with a reservoir connected with the said water pipe, and having a delivery pipe leading to the said basin, substantially as described. 5th. In a stock car, the combination, with the water pipe *g* for supplying the animals with water, of the reservoir *h*, and pipe connecting the same with the water pipe, and the valve in the said connecting pipe, substantially as and for the purpose described. 6th. The car-body *o* forming a single compartment, combined with doors *b*, *ci*, at an intermediate point on either side, and centrally pivoted feed troughs, and fastening devices extending from the said doors to the ends of the car along the sides thereof, for accommodating animals standing transverse to the length of the car, and the water receptacle *o* at the middle of the car, and branch pipes leading therefrom to the feed troughs, substantially as described. 7th. In a stock car, the combination, with a centrally pivoted feed trough, of an actuating device for inverting the same, consisting of a flexible cord or chain *k*, connected with the trough near one side, and extending across beneath the trough, and out through an opening in the side of the car, substantially as described. 8th. In a stock car, a feed trough composed of end pieces *i*, provided with journals *j*, and flanges *l*, combined with sheet metal sides *l* secured to the said flanges by rivets, substantially as and for the purpose described.

**No. 23,645. Feed Water Heater.**

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

John J. Hoppes, Springfield, Ohio, U.S., 24th March, 1886; 5 years.

*Claim.*—1st. The combination, with an outer shell or casing, of a series of horizontal troughs placed one above the other, said troughs being closed at each end so that the water received therein will flow over the sides thereof, and in a uniform sheet under the bottom, substantially as and for the purpose specified. 2nd. The combination, with the outer casing provided with removable heads, of a series of troughs or pans arranged one above the other, and closed at each end by end pieces provided on each side with projections adapted to rest on longitudinal rods or ways in said casing, on which said troughs are adapted to slide, substantially as set forth. 3rd. The combination, with the outer casing and the longitudinal troughs or pans, arranged in series one above the other therein, of the longitudinal plate under the said troughs, and the vertical perforated plates under said longitudinal plate, whereby a filtering chamber is formed under said troughs, substantially as set forth. 4th. The combination, with the horizontal troughs supported on longitudinal rods or ways in a cylindrical casing, of a longitudinal water supply pipe above said troughs, a longitudinal plate under said troughs, provided with a head or flange at the rear, and vertical perforated plates under said longitudinal plate, adapted to form therewith a deposit chamber, a filtering chamber and an exit chamber, substantially as set forth. 5th. The combination, with horizontal troughs supported on longitudinal rods or ways in a cylindrical casing, and a water supply pipe above said troughs, of a longitudinal plate under said troughs, provided at its rear end with an upwardly-projecting flange, and vertical perforated plates under said longitudinal plate, adapted to form therewith a deposit chamber, a filtering chamber and an exit chamber, a discharge pipe leading from said deposit chamber, and an exit pipe leading from said exit chamber, substantially as specified. 6th. The combination, with an outer casing, of a series of troughs, adapted to receive a deposit or incrustation from the water running thereover, said troughs being formed of sheet steel to secure a degree of resilience, whereby the incrustations may be readily and easily removed therefrom, substantially as set forth.

**No. 23,646. Fastening for Meeting Rails of Sashes.** (*Arrêtée Croste.*)

Hobart B. Ives, Now Haven, Ct., U.S., 24th March, 1886; 5 years.

*Claim.*—The combination, with the base plate *B*, having central perforation *i*, notch *h*, diagonal edge or guide *g*, of the latch and crank *E*, all constructed and arranged substantially in the manner and for the purpose described.

**No. 23,647. Thill Coupling.** (*Arçon de Lamontre.*)

David Ewing, Warkworth, Ont., 24th March, 1886; 5 years.

*Claim.*—1st. A thill coupling, composed of the plate *A*, having a bracket *C*, provided with a concavity *C*, thill iron *E* having a lateral projection or lug *G*, terminating semi-spherically, and a bolt *I* provided with a screw nut *J* entering a hole in the concavity, and lug for coupling them in the position as set forth. 2nd. In a thill coupling, the combination of the thill iron *E*, having a lateral projection or lug *G* fitting into a corresponding concavity in a bracket *C*, clipped to the axle, and a pivot bolt *I*, as set forth.

**No. 23,648. Lamp Wick Trimmer.***(Taille-Mèche de Lampe.)*

Harry H. Hawley, Malone, N.Y., U.S., 24th March, 1886, 5 years.

*Claim.*—A lamp-wick trimmer, formed of a single piece of malleable wire, bent around at its forward end, so as to hinge together the two side bars A, B, of which the trimmer is formed, and bent upwards at C, so as to form on said bars a convex trimming surface, as described.

**No. 23,649. Adjustable Head Rest.***(Appui-Tête Mobile.)*

William H. Robertson, Toronto, Ont., 26th March, 1886; 5 years.

*Claim.*—The curved wire head-piece A, connected by a stop hinge to the bracket B, which extends at about right angles to the head-piece, and is connected to a socket C fitted into the bar D, in combination with the spring clasp E, connected to the sleeve a adjustably fitted upon the bar D, substantially as and for the purpose specified.

**No. 23,650. Anti Rattler Thill Coupling.***(Arçon de Limonière à Compensation.)*

Donald Cameron, Langside, Ont., 26th March, 1886, 5 years.

*Claim.*—1st. As a new article of manufacture, a coupling arm D, formed with lugs E, E', in which sockets F, F' and slot G is formed, substantially as shown and described and for the purpose specified. 2nd. As a new article of manufacture, the iron A rigidly secured to, or forming part of which is the pivot bolt B, in which a groove C is formed, substantially as shown and described and for the purpose set forth. 3rd. As a new article of manufacture, the spring H rigidly secured to, or forming part of which is the stud I, and shoulder or flange J, substantially as shown and described and for the purpose specified. 4th. A coupling arm D, formed with lugs E, E', in which sockets F, F' and slot G is formed, in combination with the iron A rigidly secured to, or forming part of which is the pivot bolt B, substantially as shown and described and for the purpose set forth. 5th. The iron A, rigidly secured to, or forming part of which is the pivot bolt B, in which the groove C is formed, in combination with a spring H on which is formed the stud I, substantially as shown and described and for the purpose specified. 6th. The coupling arm D, rigidly secured to which, or forming part of are the lugs E, E', in which the sockets F, F' and slot G is formed, in combination with the iron A forming part of, or rigidly secured to which is the pivot bolt B, in which the groove C is formed, and the spring H forming part of, or rigidly secured to which is the stud I, and shoulder or flange J, substantially as shown and described and for the purpose set forth.

**No. 23,651. Gauge and Clamp for Weather Boarding.***(Jauge et Serre-joint pour Lambris de Revêtement.)*

William Ervino, Argentine, Ks., U.S., 26th March, 1886; 5 years.

*Claim.*—A clamp and gauge for weather-boarding, etc., having faces B and C, stops or rests a, a', and flattened ends b, b', formed out of a single piece of wood, or other material, provided with a suitable tongue or spring E, the upper stop or rest a having an adjustable screw F working vertically therein, substantially as and for the purposes described.

**No. 23,652. Rake. (Râteau.)**

Harris P. Lender, Kingfield, Mo., U.S., 26th March, 1886; 5 years.

*Claim.*—1st. The improved rake, herein described, the same consisting of a handle and a head provided with teeth, in combination with a reversible bracket detachably secured at one end to said head, and provided at the other end with a slotted lateral arm projecting from one side thereof, a bolt passing through said handle and engaging said slot, and a bolt passing through said handle and bracket intermediately of the ends of the latter, by which the parts are pivotally connected, substantially as described. 2nd. The improved rake, herein described, the same consisting of a handle and a head provided with teeth, in combination with a reversible bracket, provided at one end with a slotted lateral arm projecting from one side thereof, a bolt passing through said handle and engaging said slot, said bracket being provided at the other end with a screw-threaded stud adapted to pass through said head, and with flat-faced shoulders at the inner end of said stud, against which said head is adapted to rest, a nut on said stud for clamping said head in place, and a bolt passing through said handle and bracket, intermediately of said radial arm and stud by which the parts are pivotally connected, substantially as described.

**No. 23,653. Heater for Household Heating, etc. (Calorifère pour Maisons, etc.)**

William Morrison, Toronto, Ont., 26th March, 1886; 5 years.

*Claim.*—1st. A sectional heater, composed of a series of sections, consisting of tubes, the tubes of one section being set alternately at right angles to the tubes in the adjoining sections located above a furnace, substantially as and for the purpose specified. 2nd. A hot air heater, composed of sections consisting of tubes a, extending through the sections, and having open ends to communicate with the space between the latter and the outer shell B, the tubes of one section being set at right angles to the tubes in the section next to it located above a furnace, substantially as and for the purpose specified. 3rd. A hot water heater, composed of a series of sections, consisting of tubes b, connecting with, and leading into the rectangular chamber D, extending around and forming the outer shell of the section, the tube b of one section being set at right angles to the tubes of the section next to it located above a furnace, substantially as and for the purpose specified. 4th. A hot water or steam heater, composed of a series of sections, consisting of tubes, the tubes of one section being set at right angles to the tubes in the next section and

located above a furnace, in combination with a top section E, extending across the heater and forming a steam or water chamber with which the interior of all the other sections communicate, substantially as and for the purpose specified. 5th. A combined hot-air and hot water or steam heater, composed of a series of sections consisting of tubes a, communicating with the air space between the heater and outer shell B, and a series of sections, consisting of tubes b connecting with the rectangular chamber d arranged above a furnace, substantially as and for the purpose specified.

**No. 23,654. Weighing and Price Scales.***(Balance-Compteuse.)*

Julius E. Pitrat, Gallipolis, Ohio, U.S., 26th March, 1886; 5 years.

*Claim.*—1st. The combination, in a scale, of the lever having a true and indicating series of graduations, and the scale pan having supports and pointers, substantially as set forth. 2nd. In a scale, a lever pivotally supported between its ends, and provided on one side of its support with true graduations a and indicating graduations a', and on the other side of its support with graduations a'', corresponding to graduations a and with graduations a', substantially as set forth. 3rd. The combination of the base, the lever, the pan having a depending rod H, the movable head E, means for clamping such cross-head in position, and a rod II with the cross-head, substantially as set forth. 4th. The combination, with the lever, the pan having depending rod H, and the base having a keeper or keepers F<sub>1</sub> and guides D, of the cross-head having a rod E, the rod H, connecting the rod H and cross-head, and the wedge-bar F, substantially as set forth. 5th. In a computing scale, a lever pivotally supported between its ends, and provided on one end with a true and an indicating series of graduations, and on its other end with a graduation corresponding to the true series, substantially as set forth. 6th. The combination of a graduated lever, a support having a graduation corresponding to that of the lever, and a scale pan supported on the lever and provided with a rod registering with the graduation on the support, substantially as set forth.

**No. 23,655. Propeller. (Propulseur.)**

Henry C. Bender, Montgomeryville, Penn., U.S., 26th March 1886. 5 years.

*Claim.*—1st. A ship's hull, or a boat or vessel, having a wheel case or chamber on each side of the keel, and having ends which extend below the bottom of the hull to form guards, substantially as set forth. 2nd. A ship's hull, or a boat or vessel, having on each side of the keel a wheel case located within the hull or vessel, and having open bottom, the ends of which have depending flanges or guards, substantially as set forth. 3rd. A ship's hull, having a cylindrical-shaped wheel case on each side of the keel, said cases having both their inner and outer side extending below the bottom of the hull, as set forth. 4th. A wheel case, having its bottom provided with an opening about equal to the distance between adjacent blades of the wheel, and having at its inner and outer ends depending flanges or guards, as set forth. 5th. A wheel case, located within the hull or of a vessel, having an open bottom equal in width to the distance between adjacent blades of the wheel, and having its inner and outer sides or ends extending below the bottom of the hull, substantially as set forth. 6th. In vessels having a wheel casing or casings located within the hull of the vessel, the method of preventing back draft of water interfering with the effective action of the wheel or wheels, working in the water through the bottom opening of said casing or casings, which consists in directing such back draft mainly into channels or passages, formed between the keel and the ends of the casing opening or openings, adjacent to the keel, as set forth.

**No. 23,656. Metallic Fastening for Buttons.***(Agrafe Métallique pour Boutons.)*

George Davis, Birmingham, Eng., 26th March, 1886, 5 years.

*Claim.*—1st. In metallic fastenings for buttons, the shank A and stem proper, substantially as described and set forth. 2nd. In metallic fastenings for buttons, the combination, with the shank A and stem proper, the washer E, substantially as described and set forth.

**No. 23,657. Bustle. (Tournure.)**

Annie M. Belden, Fairbury, Ill., U.S., 26th March, 1886, 10 years.

*Claim.*—1st. The combination of the bolt A, the pockets a connected thereto, the springs B placed in the pockets, and the springs G extending across the outer sides of the springs B, and connected at their ends to the bolt, the ends of the springs G being made to form supports for the skirts, beyond the front sides of the springs B, substantially as described. 2nd. The combination of the bolt A, the pockets a connected thereto, the springs B, the cords C, the transverse pockets C and the springs G placed in the pockets C, the front ends of the springs G being fastened to the belt in advance of the springs B, substantially as set forth.

**No. 23,658. Railway. (Chemun de Fer.)**

Joe V. Meigs, Lowell, Mass., U.S., 26th March, 1886; 5 years.

*Claim.*—1st. In a post-supported railway, a girder carrying four tracks at two different levels, the two which support the carrying-wheels at or near the upper horizontal and outer vertical surfaces of the lower boom, and two which take the bearing and grip of the driving-brake, and balancing wheels at or near the vertical outer surface of the upper boom, substantially as and for the purposes described. 2nd. A truck for a post-supported railway, provided with two sets of wheels, each set severally at different levels, and revolving in different planes, viz. carrying-wheels which support the load at the low level, and friction wheels at the high level, whereby the load rests on a low plane of support, and draft or brake power is applied horizontally on a higher plane and nearer the load to sustain, balance and move the carriage, substantially as described. 3rd. A post-supported railway and railway track, having the combination

of lower rails, which carry the load, bearing wheels which roll upon said lower rails, upper vertical rails for the application of draft and braking power, and to receive side thrusts, horizontal wheels to bear against said upper rails, and a truck which straddles the frame girder and carries said wheels, and also supports the body of the carriage upon its upper platform, substantially as described. 4th. The combination of the horizontal wheels, having a peripheral flange at their lower side, with the vertical rails of the upper boom, of the girder made to project over said flange, substantially as and for the purposes described. 5th. The combination of a straddling truck, inclined carrying-wheels, and a girder carrying outside bearing-rails low down on the girder, substantially as described.

**No. 23,659. Furnace. (Fourneau.)**

Absalom Backus, Detroit, Mich., U.S., 25th March, 1886; 5 years.  
*Claim.*—1st. In a furnace, an inclined arch K located in the front of the combustion chamber above the grate, the front of said arch abutting against the front wall of the combustion chamber, beneath the top of said chamber, forming a coking oven in said chamber, substantially as described. 2nd. In a furnace, an arch K inclined from the front towards the rear, said arch located in the front of the combustion chamber above the grate, and leaving an air space above it, and beneath the top of the combustion chamber, substantially as described. 3rd. The combination, in a furnace, provided with a stationary grate E and dumping grate F, of an inclined arch K, located in the front of the combustion chamber, between the grate and the top of said chamber, said arch abutting against the front wall of the furnace, and forming a coking oven in the front of the combustion chamber, substantially as described. 4th. In a furnace, a combustion chamber located entirely underneath the boiler, said chamber provided with an arch located in the front of the combustion chamber above the grate, said arch abutting against the front wall below the top of said chamber, and inclined rearwardly towards the grate, and forming a coking oven in the front part of the combustion chamber, and serving to hold the volatile products of combustion upon the fuel bed in said coking oven, substantially as described. 5th. In a furnace, a combustion chamber located entirely beneath the boiler, and provided with a front wall supporting the front end of the boiler, and in combination therewith, a grate and arch abutting against the front wall, and inclined rearwardly, said arch located in the front of the combustion chamber, between the grate and the boiler, and forming a coking oven in the front part of said chamber, substantially as described. 6th. In a furnace, the combination, with a stationary grate, of a dumping grate located at the rear of said stationary grate, said dumping grate pivoted at its rear edge and provided with a knee joint lever, having an operating bar engaged therewith, substantially as and in the manner described.

**No. 23,660. Fence. (Clôture.)**

Adaline Brock, Dunellen, N.J., U.S., 27th March, 1886; 5 years.  
*Claim.*—1st. A fence-rail composed of a series of short lengths of wood connected together by detachable links, as shown and described, the adjoining ends of said lengths made to overlap each other, and said links made to embrace both of said adjoining ends, so that the latter bear against each other when subjected to lateral pressure, as set forth. 2nd. In a flexible wooden fence, the combination of the lengths a, at, having pins or staples c driven into their ends, with a detachable link C embracing the slightly overlapping ends of said lengths, and a supporting-post A, the whole constructed as shown and described.

**No. 23,661. Paving Block Machine.**

(Machine à Blocs de Pavage.)

Donald G. Ross, East Saginaw, Mich., U.S., 27th March, 1886; 5 years.  
*Claim.*—1st. In a machine for the purpose described, a vertically reciprocating crosshead D carrying curved cutters J, when constructed, arranged and operating substantially in the manner and for the purposes set forth. 2nd. In a machine for the purpose described, the combination of the frame A, bed piece B, crosshead D, cutters J, shaft E, piston F, gear wheels G, and pitman L, when constructed, arranged and operating substantially in the manner and for the purposes described.

**No. 23,662. Pendulum Level.**

(Niveau à Pendule.)

John Murray and Felix Hohmann, Pittsburg, Penn., U.S., 27th March, 1886; 10 years.  
*Claim.*—The herein-described level, consisting of the beam a, and cup c set therein, having the scale or graduations described, a removable central plug or bearing post f placed in the bottom of the cup, the centre g screwed into said plug, and the index h, i, j, swung upon said centre, substantially as described and for the purpose set forth.

**No. 23,663. Vice. (Etou.)**

James Reid, (assignee of John Erust,) Bay City, Mich., U.S., 27th March, 1886, 5 years.  
*Claim.*—1st. In a divided nut, the block a having a chamber c, and a screw b passing through the block and chamber, in combination with the levers d, e, pivoted by one end and within the chamber, and provided with the arms l and l', extending beyond the walls of the chamber, the straps n and n', pivoted to the arm l by one end, and the lever o pivoted by one end to the lever l, and to the opposite end of the said straps n and n', substantially as and for the purpose set forth. 2nd. In a divided nut, the combination, with the levers d, hinged at one end to the supporting block a, and provided with the extended arms l and l', and having in their central portions the threaded recesses e, of the lever o pivoted by one end to the arm l, the straps n and n', pivoted by one end to the lever o, and at the other

end to the lever l, and operating substantially as and for the purpose set forth. 3rd. In a divided nut, the combination, with the levers d, pivoted by one end to a supporting block, and having on their opposite ends the extended arms l and l', and the threaded recesses e in their central portions, a screw b passing through the recesses e, the lever o pivoted by one end to the arm l, the straps n and n', pivoted to the lever o, and the arms l', and the portion f extending from the arm l, of the spring e rigidly secured to the said supporting block, and adapted to bear inwardly upon the lower end of the extended portion l, substantially as and for the purposes set forth. 4th. In a divided nut, the supporting block a, the chamber c within the block, and provided with the side opening u and the side recesses e, and a screw b passing through the said block and chamber, in combination with the levers d, having the rounded pivots e extending from their side edges, and adapted to engage with the recesses e, and with the threaded recesses e, as herein described, for opening and closing the free ends of the said levers, substantially as described, and for the purposes set forth. 5th. In a divided nut, the supporting block a, the chamber c within the block, and having the side recesses e, and openings m and n, the screw b passing through the block and chamber, the levers d on opposite sides of the screw and within the chamber, and having at one end the pivots p projecting from their edges, and engaging with the recesses e, and the threaded recesses e, adapted to engage with the screw, in combination with the pin t passed through the side walls of the chamber, and adapted to retain the pivots p within the recesses, substantially as and for the purpose set forth.

**No. 23,664. Shoe Nail. (Clou de Chaussure.)**

Orril R. Chaplin, Michael J. Flynn, Boston, and George E. Parker, Chelsea, Mass., U.S., 27th March, 1886; 5 years.  
*Claim.*—1st. A nail having a projecting head, the under sides of which, upon different sides of the nail, are at different distances from the ends of the nail. 2nd. A nail having a flattened tapered shank and a projecting head, the under sides of which, on opposite sides of said shank, are at different distances from the pointed end of said shank, said head being provided with a notch cut in the side thereof, to serve as an additional shoulder.

**No. 23,665. Boot or Shoe Jack.**

(Chevalet de Cordonnier.)

The Beaudry Edge Setting and Heat Burnishing Co., Manchester, N.H., (assignee of Zouique Beaudry, Lynn, Mass.,) U.S., 27th March, 1886; 5 years.  
*Claim.*—1st. A jack for boots or shoes, having an arm D arranged on a stand A, and arm M, of lever J pivoted to said stand, and both arranged to hold between them the boot or shoe at or near its toe, for the rotation of the same in this operation of the burnisher or other tool. 2nd. In a jack for boots or shoes, an arm D arranged on a stand A, and carrying a head-piece F, having an arm G, and arranged to swivel on said arm D, in combination with an arm M, of a lever J pivoted to said stand, and operated by its arm N to hold between them the boot or shoe at or near its toe, for the rotation of the same in the operation of the burnisher, or other tool. 3rd. In a jack for boots or shoes, a rod B supported on a stand, and carrying a head-piece F, arranged to swivel thereon, and provided with an adjustable arm G arranged to be set at its adjustment, in combination with means, substantially as described, for holding the boot or shoe against and on said head-piece, and to its arm, substantially as and for the purpose described. 4th. In a jack for boots or shoes, constructed substantially as described, a lever pivoted to the stand, and arranged to hold the boot or shoe against a support on said jack, and to be operated by a loop O or R, in combination with an abutment n or t, substantially as and for the purpose specified.

**No. 23,666. Baking Machine.**

(Appareil de Cuisson.)

Martin Keuth (Assignee of Charles Witzig), Buffalo, N.Y., U.S., 27th March, 1886; 5 years.  
*Claim.*—1st. In a baking machine, the combination, with the stationary baking plate B, provided with a gas burner b and dies G, of a movable baking plate I, provided with a gas burner a, substantially as set forth. 2nd. The combination, with the lower baking plate B, provided with a gas burner b and dies G, of the guide rods H and the upper movable baking plate I mounted loosely on said rods, and provided with a gas burner a, substantially as set forth. 3rd. The combination, with the stationary frame A, A', and lower baking plate B, provided with a burner b and guide rods H, of the upper movable plate I mounted loosely on said rods, and provided with a burner a, and the connecting rod M, treadle N and spring O, whereby the movable baking plate is operated, substantially as set forth. 4th. The combination, with the lower baking plate B, of the supporting frame B', provided with an opening c, having a notch c', a gas burner b provided with a shouldered nipple and a wedge D, whereby the burner is secured in place, substantially as set forth.

**No. 23,667. Composite Metal Bar.**

(Barre de Métal Composite.)

The Neverslip Horse Shoe Company, Boston, Mass. (Assignee of Edwin T. Branard, Manchester, Ct.,) U.S., 27th March, 1886, 5 years.  
*Claim.*—A pile or fagot, formed of two or more wrapping pieces of metal, that have socketed faces, that completely inclose, on the ends as well as sides, a core of harder metal, as steel, all substantially as described.

**No. 23,668. Boxed Demi-John.**

(Bouteille Embottée.)

The Penn Demijohn Company (Assignee of George L. Sulter), Philadelphia, Penn., U.S., 27th March, 1886; 5 years.

*Claim.*—In combination with the cylindrical case A, and the body of the bottle inclosed therein, with its neck projecting through the top of the box, a cover of sheet metal, conical in form, having its base of substantially the dimensions of the case top and resting thereon, and with its pointed top covering the neck of the bottle, all as set forth.

### No. 23,669. Feed and Ensilage Cutter. (Coupe-Paille)

Edwin C. Sherman and Theodore P. Sherman (Assignee of Edwin F. Sherman), Springfield, Mass., U.S., 27th March, 1886; 5 years.

*Claim.*—1st. In a feed-cutter, the combination, with the journalled knife-shaft having removable gear T, of the plate D pivoted concentrically with the lower feed-roll, the driving wheel journalled on said plate, and a securing device L by which the plate may be held in adjusted position, substantially as described. 2nd. The combination, with the journalled knife-shaft and its removable and interchangeable wheel I, of the swinging plate D having a pivot concentric with the lower feed-roll, the driving wheel B and attached gear C journalled on said plate, the train of gears leading from the wheel C to the shaft of the lower feed-roll, and a retaining-screw L, whereby the plate D may be held in adjusted position, as set forth. 3rd. The combination, with the frame of a feed-cutter, of a lower feed-roll journalled therein, a swinging plate pivoted about said feed-roll shaft, the plate having supports b, c for gears, and a curved slot d, gears B, C and W mounted on said supports and in train with gear E on the feed-roll, a gear T on the knife-shaft meshing with gear B, and a set screw L passing through the curved slot, substantially as described. 4th. The combination, with the gear E on the lower feed-roll, of pinions G, H, in train therewith, and mounted on the studs g, h projecting from the side plate, the upper feed-roll supports pivoted in line concentric with stud A, and a feed-roll mounted on said supports, having a gear intermeshing with gear H, substantially as described. 5th. In combination with the studs h, h', and the feed-roll supports J, J' pivoted thereon, the gear H on the stud A, and the gear I on the feed-roll shaft, intermeshing therewith, and springs attached by connecting-rods to the feed-roll supports and acting to draw down the feed-roll, substantially as described. 6th. In combination with the feed-roll supports J, J', pivoted at the sides of the frame, the feed-roll, journalled therein, the rods k, k' attached to said supports, and the springs l, l' bearing against the heads of said rods and against the frame of the machine to depress the feed-rolls, substantially as described.

### No. 23,670. Machinery for Lasting the Up- pers of Boots and Shoes. (Appareil pour Enformer les Chaussures.)

Frank Chase and Orlando E. Lewis, Boston, Mass., U.S., 27th March, 1886; 5 years.

*Claim.*—1st. The combination, with the last clamping devices and the wipers, of a movable plate 1a longitudinally adjustable to different sizes of lasts, vertical guides carried by the plate, a rest for the last movable in said guides and springs for giving a yielding support to the rest, substantially as described. 2nd. The combination, with the last-clamping devices and the wipers, of a rest for one end of the last, a rest or support for the other end of the last, and actuating and equalizing devices, whereby the rests may be simultaneously but independently moved toward or maintained in the plane of the operation of the wipers, substantially as hereinbefore set forth. 3rd. The combination, with the clamps for one of the ends of the last, of the pivoted wipers J arranged in the plane of the bottom of the last, the side wipers and yielding devices, substantially as described, for oscillating the arms in said plane to gather and last the fullness of the upper at the end of the last, in conjunction with, but independently of, the side wipers, substantially as set forth. 4th. The combination of the side wipers and their independent supports pivoted at p, and the equalizing and yielding connections attached to said supports for drawing down the wipers to various distances, so that automatically conform to the bottom of the last and engage with the upper, substantially as set forth. 5th. The combination of the side wipers and their independent supports pivoted at p, the equalizing and yielding connections attached to said supports for drawing down the wipers to engage with the upper, and means, substantially as described, as the springs c, for elevating the wipers and stretching the upper, as set forth. 6th. The combination of lasting devices, or wipers, independently movable relatively to one another, a power wheel or equivalent device common to several of said wipers, and yielding devices, substantially as described, for transmitting power from the wheel to the wipers, whereby the latter may be caused by said wheel to advance upon the last and automatically conform to the same, and to the varying elasticity of the upper, without previous adjustment, substantially as set forth. 7th. The combination, with the two series of wipers for the two sides of the last, of the devices, substantially as described, for actuating each series independently of the other series, a power mechanism, and yielding connections between said power mechanism and the said actuating devices, whereby the two series of wipers may be actuated from a single power mechanism and may still operate independently of one another upon the two sides of the last, substantially as set forth. 8th. The combination, with the side wipers and the end wipers operated from a common power mechanism through yielding devices, which pull upon the wipers simultaneously, but independently of devices, substantially as described, for locking one or more sets of said wipers in their operative position, while the other wipers perform their lasting operation, substantially as hereinbefore set forth. 9th. The combination, with the toe wipers, of a retarding nipper adapted to hold the upper in a folded position over the wipers, and cause a tight and smooth lasting of the upper, substantially as described. 10th. The combination of the toe wipers, the retarder, and the "hold-down," vertically movable independently of said "retarder," substantially as hereinbefore described by reference to Figs. 14 and 15 of the drawings. 11th. The combination of the toe-wipers, the "hold-down," the tilting and longitudinally movable frame carrying the same, the "retarder" mounted and capable of sliding upon said frame to and from the

"hold-down," and pressed towards the same by a spring, substantially as hereinbefore described, by reference to Figs. 14 and 15 of the drawings. 12th. The combination, with a longitudinally movable end clamp for the last, of a support for the last engaging and longitudinally movable within the clamp, an inclined plane forming a bed for the support, and means for adjusting said plane longitudinally, substantially as set forth. 13th. The combination, with the end wipers, of a yielding spring clasp G, arranged just below the plane of operation of the wipers, said clasp being adapted to fit around the end of the last, and to gather evenly and prepare the upper for the operation of the wipers, substantially as described. 14th. The combination, with the lasting wipers adapted to obtain a hold upon the leather, of equalizing mechanism, substantially as described, whereby said wipers are positively forced upwardly simultaneously, but for different distances relatively to one another, thus evenly stretching the upper, substantially as described. 15th. The combination, with the horizontally sliding and pivoted wipers, having means for grasping the leather, of a mechanism for forcing the inner ends of said wipers upwards to stretch the upper, substantially as hereinbefore set forth. 16th. The nipper-wiper, comprising the combination of the stationary jaw, the locking lever pivoted thereto, and the movable jaw pivoted to the locking lever, so that its acting end may, by the movement of the locking lever, be caused to move to and from the acting end of the stationary jaw, the pivots or axes of the said movable jaw and locking lever being arranged relatively to the point at which the jaws nip the leather between them, substantially as and for the purposes hereinbefore set forth. 17th. The combination, with the jaw-support or base, of the nipper jaws swivelled thereto upon a vertical axis, substantially as and for the purposes hereinbefore set forth. 18th. The combination, with the side of the nipper-wiper mounted thereon, substantially in the manner herein shown and described, so that its acting jaws may, as a whole, be capable of bodily oscillation, in both a vertical and a horizontal plane, as and for the purposes hereinbefore set forth.

### No. 23,671. Smoke Armour.

(Vêtement de Pompier.)

John W. Elliot, Toronto, Ont., 27th March, 1886; 5 years.

*Claim.*—An improved dress, consisting of a helmet D, connected by a tube or tubes to one or more pockets C, containing a spongy filter, in combination with one or more pairs of bellows, so arranged that the wearer of the garment can force a supply of the outer air through the filterer into his helmet, substantially as and for the purpose specified.

### No. 23,672. Butter and Lard Knife.

(Couteau pour le Beurre et le Sain-toux.)

John L. Weller, Brighton, Ont. (Assignee of Russell Weller, Buffalo, N. Y., U.S.,) 27th March, 1886; 5 years.

*Claim.*—1st. The open top hollow cylinder (or prism of any desired shape) A, substantially as and for the purpose hereinbefore set forth. 2nd. The knife D, pivoted on the outside of the machine, substantially as and for the purpose hereinbefore set forth. 3rd. The adjusting screw d, substantially as and for the purpose hereinbefore set forth.

### No. 23,673. Device for Controlling Horses.

(Appareil pour Contrôler les Chevaux.)

James C. Gill, Boston, and John M. French, Chelsea, Mass., U.S., 27th March, 1886; 5 years.

*Claim.*—1st. The improved horse controlling device, composed of the nose band having the side-rollers d, d and supporting strap c, and the rein sections adapted to move on said rollers and having means for attachment to a bit, as set forth. 2nd. The nose band, composed of the metal portion having the rigid studs f, f, and the connecting straps 4, and the rollers d on said studs, combined with the rein sections adapted to move on the rollers and the supporting strap, as set forth. 3rd. The combination, with a bridle and its bit, of the controlling device or attachment, composed of the nose band having the side rollers, the supporting strap and the rein sections supported by said rollers and connected to the bit, as set forth. 4th. The nose band, composed of the metal portion having the rigid studs f, the connecting straps 4, the rollers d, d on said studs, and the guard plates c, e, combined with the supporting strap c, and the rein sections supported by the rollers and kept in place by the guard plates, as set forth.

### No. 23,674. Adjustable Trestle.

(Tréteau à Crémaillère.)

E. James Hooper and Burton H. Bateman, South Bay, Mich., U.S., 27th March, 1886; 5 years.

*Claim.*—1st. In a trestle, the combination of the principal legs e, provided with the clasps d, rigidly secured to their lower ends, and with the ratchets u secured to their outside faces, the supplemental legs i passed through the clasps d, and the links l surrounding the legs, and hinged to the upper ends of the legs i, with the levers t projecting from the hinged portion of the links, and the springs m secured to the legs i, and bearing outward upon the levers t, substantially as and for the purpose herein set forth. 2nd. In a trestle, the combination, with the beam and legs, of the sockets b, having an open side and a closed side b', the part at connecting the sockets above the beam, the ears c securing the sockets to the beam, and provided with the downward projecting lugs d, and the supports r secured to the inner sides of the legs e, and pivoted to the lugs d, and provided with the projecting shoulder f beneath the beam, substantially as herein set forth. 3rd. In a trestle, the combination, with the beam, and the legs e adjustably secured to the beam, of the braces A, pivoted at their ends to the lower portion of the legs, and provided with a pivoted joint, their central portion, substantially as herein set forth and for the purpose specified. 4th. In a trestle, the

combination, with the beam, the eye *e* adjustably secured to the beam, and the pivoted braces *A* placed across the trestle, and pivoted to the lower portion of the legs, with a stretcher *g*, having the braced ends *g'* reaching to the outer parts of the braces *A*, and provided with the irons *h*, which reach over and engage with the lugs or pins *h'* projecting from the braces, substantially as herein specified and for the purpose set forth.

**No. 23,675. Railway Signalling Apparatus.**  
(Appareil à Signal de Chemin de Fer.)

Charles D. Tisdale and John D. Gould, Boston, Mass., U.S., 27th March, 1886; 5 years

*Claim.*—1st. In railway signalling apparatus, the combination of the relay *C*, *C'*, and their respective local and line circuit connections, the circuit-closing track-instruments *B*, *B'*, line *J*, branch *k*, relay *C*, whereby the main line *G* is deprived of a ground while a train is passing over the section being protected, as herein specified. 2nd. In railway signalling apparatus, the combination of the insulating blocks *K*, *K'*, curved bar *L*, and straight bar *M*, the contact-point *n*, contact screw *t*, and arm *u*, forming an open and closed circuit track-instrument, as specified. 3rd. In railway signalling apparatus, a colour-disk formed of coloured gelatine or analogous material, inclosed between protecting plates of mica, as herein specified. 4th. The combination, with an electric circuit, of a lamp, a bull's eye or magnifying lens, and a disc or film of transparent coloured material, whereby the disc of film is operated electrically to intervene said lamp, and bull's eye to change the colour of the signal, as set forth.

**No. 23,676. Axle Gauge.** (*Jauge d'Essieu.*)

Hector McQuarry, Allandale, Ont., 27th March, 1886; 5 years.

*Claim.*—1st. In an axle gauge, the combination, with the bar *A*, of the slotted head *B* on the same, the bracket arm *C* pivoted in said head, and provided with the pointer *O* extending over the bar *A*, substantially as herein shown and described. 2nd. In an axle gauge, the combination, with the bar *A*, of the slotted head *B*, the bracket arm *C* pivoted in the same, which arm *C* has the pointer *O* formed on one end, and has the other end forked, and of the forked notched piece *E* pivoted in the forked end of the arm *C*, substantially as herein shown and described. 3rd. In an axle gauge, the combination, with the bar *A*, of the slotted head *B*, the bracket arm *C* pivoted in the same, and provided with the pointer *O*, and of the spoke rule *L*, mounted to turn on the pivot of the bracket arm *C*, in the head *B* below said bracket, substantially as herein shown and described. 4th. In an axle gauge, the combination, with the bar *A*, of the disk rule *K* on the same, the spoke rule *L* pivoted to swing over the disk rule, and of the bracket arm *C* pivoted on the bar *A*, and provided with a pointer swinging above the spoke rule, substantially as herein shown and described. 5th. In an axle gauge, the combination, with the bar *A*, of the disk rule *K* on the same, the curved arm *P* extending over the top of the spoke rule, and provided with the marks *h*, the spoke rule *L* pivoted to swing over the disk rule, and of the bracket arm *C* pivoted on one end of the bar *A*, and provided with the pointer *O*, having the projection or pin *R* adjacent to the arm *P*, substantially as herein shown and described. 6th. In an axle gauge, the combination, with the base or body, and the spoke rule, of the disk rule *K*, having a longitudinal central line *a*, and longitudinal parallel lines *d, d'*, at both sides of the said central line, substantially as set forth.

**No. 23,677. Telephone Instrument.**  
(Appareil Téléphonique.)

The Bell Telephone Company, Montreal, Que., (assignee of Frederic N. Gisborne and David H. Keeley, Ottawa, Ont.,) 27th March, 1886; 5 years

*Claim.*—The arrangement of the magnets *M*, *M'*, of like or unlike polarity, with the central solid adjustable pole pieces *C*, *C'*, upon each side of the magnetic or non-magnetic diaphragm *D*, in combination, with the small iron rod, cylinder or button *A* secured at the centre of, and projecting from both sides of the diaphragm.

**No. 23,678. Machine for Holding and Cutting Rolled Paper.** (*Machine pour Tenir et Tailler le Papier Roulé.*)

William A. Hungerford, Belleville, Ont., 29th March, 1886; 5 years.

*Claim.*—1st. The combination, with the paper roll *a*, of the brackets *f* secured to the board *d* at their upper ends, and curved downward, having fastened at their lower ends, and at right angles to them, the knife *g*, and just above and in the rear of the said knife and running parallel with it, the bar *h*, whereby the paper from the said roll may be held in position and cut off, as and for the purpose set forth. 2nd. The combination, with the paper roll *a* and bar *h*, of the brake/ and springs *k*, as and for the purpose set forth. 3rd. The spools *c*, in combination with the paper rolls *a*, and roller *b*, as and for the purpose set forth.

**No. 23,679. Harvester Binder.**  
(Moissonneuse-Lieuse.)

James Noxon and Thomas H. Noxon, Ingersoll, Ont., 29th March, 1886; 5 years.

*Claim.*—1st. A shelf or delivery-table hinged to the top edge of the binding-table, and having its outer edge connected to the main axle of the machine, substantially as and for the purposes specified. 2nd. A shelf or delivery-table *B*, provided with an angle-strip *a*, and hinged to the top edge of the binding-table *A*, in combination with a rod *C*, arranged to connect the outer edge of the table *B* with the axle *D*, substantially as and for the purpose specified. 3rd. A butter pivoted at one end to mechanism connected with the grain-table, and connected at its other end by means of a lever pivoted on the binding-table, and the hand lever employed in longitudinally adjust-

ing the said binding table. 4th. The butter *E* pivoted in the crank *F* which is connected to the grain-table *G*, a rod *H* connecting the butter *E* to the lever *I*, in combination with the rod *J* arranged to connect the said lever *I* to the hand lever *K*, substantially as and for the purpose specified. 5th. A shaft *L*, located substantially in the position of an ordinary packer-shaft, and having fixed to it a series of rotary packers, arranged to rest on the grain carried by the binding-table during the period that the packer-shaft usually operates. 6th. A harvesting-binder, in which the centre of the grain-wheel is substantially on the centre of the main wheel, the spokes of the grain wheel having an outward set, so as to permit the reaper-knife of the machine to operate inside of the rim of the grain wheel. 7th. A bracket *Q* adjustably attached to the grain-table *G*, and provided with a spindle *e* to carry the sprocket wheel *F*, which *F*, supports the carrier-chain *P*, a block rigidly fastened to the table *G*, in combination with a nut *g*, having a swivel-head *z*, which fits into a dovetailed recess in the end of the bracket *Q*, and a nut *h*, to butt against the block *z*, substantially as and for the purpose specified. 8th. A harvester binder in which the grain is carried towards the binding-table by a series of carrier-chains arranged on the grain-table *G*, graduating the speed of the carrier-chains, so that the chains near the reaper-knife will travel at a greater speed than those located farther from it, substantially as and for the purpose specified. 9th. In a harvester-binder, provided with carrier-chains for conveying the grain on the grain-table towards the binding-table, the combination of a bridge *H*, arranged to support the head-ends of the grain above the teeth of the carrier-chains, at the point where the grain accumulates during the period that the elevated elevators are at rest. 10th. A stripper formed by two plates placed one on each side of the carrier-chain, and having a parting *k* and *l*, extending between the two, substantially as and for the purpose specified.

**No. 23,680. Conveyor for Thrashing Machines.** (*Alimentateur pour Machines à Battre.*)

David H. Good, Canada, Ks., U.S., 29th March, 1886; 5 years.

*Claim.*—1st. In a grain-conveyor, the combination of a trough shaft-hangers, secured upon the sides of them and having rounded lower ends, an endless apron or carrier travelling upon suitable rollers, one of which is a drive pulley therefor, a yoke, a transverse shaft extending through the said yoke, and oblong openings in the lower ends of the said hangers, which are thereby caused to rest upon the yoke without strain upon the shaft, a segmental track, a tubular collar extending downwardly from the said yoke, and a shaft having its bearing in said collar, and gearing with the transverse shaft and conveying motion to the latter, substantially as and for the purpose set forth. 2nd. The combination, with a feed-chute and frame of a thrashing-machine, and a segmental track suitably attached thereto, and composing a pair of semicircular arms, the outer one of which is lower than the inner one of a conveyor, and a supporting yoke provided with a downwardly extending tubular collar screw-threaded at its lower end, and having washers and a nut, whereby it is mounted adjustably upon the said track, substantially in the manner and for the purpose set forth. 3rd. In a conveyor for thrashing-machine feeders, the combination of the machine frame, the double segmental track, the yoke laterally adjustable, and the conveyor frame mounted upon said yoke, as and for the purpose shown and set forth.

**No. 23,681. Car-Coupling.** (*Attelage de Chars.*)

Hubbard W. Tilton, Boston, Mass., U.S., 29th March, 1886; 5 years.

*Claim.*—1st. An automatic car-coupling which consists of a weighted hook suitably mounted on the draw *u*, and in combination with a slotted link arranged in connection with said hook, and hung independently thereof in such manner that it can be readily driven out of place when it is desired that said hook should couple with another link, but is at all times ready to couple with another hook if presented to it, as herein described and for the purpose specified. 2nd. The above described slotted link *C*, mounted on the draw-head, and arranged substantially as herein described and shown.

**No. 23,682. Water Wheel.** (*Roue Hydraulique.*)

Harvey Cooper, Westfield, Mass., U.S., 29th March, 1886; 5 years.

*Claim.*—1st. In a water-wheel, the combination of a wheel or disk having a peripheral groove or recess, a tire fitted around the said wheel or disk and provided with suitably-constructed buckets, and perforations in the said tire registering with the said buckets, and connecting the same with the annular groove or recess, substantially as and for the purpose herein set forth. 2nd. In a water-wheel, the combination of an annularly-grooved wheel or disk, with a rim or tire having perforations communicating with the said annular groove, and a series of buckets secured to said rim, substantially as and for the purpose herein set forth.

**No. 23,683. Swinging Churn.** (*Baratte Oscillante.*)

Joseph Bradley, Hamilton, Ont., 29th March, 1886; 5 years.

*Claim.*—1st. In a swinging churn, the combination of a square box churn *A* and lids *G*, with bevel pieces *I* underneath, and handles *E* with eccentric *F*, substantially as and for the purpose hereinbefore set forth. 2nd. In a swinging churn, the combination of a square box churn *A* resting on iron loops *C*, and the frame *B* to which the iron loops are attached, by means of bearings *D*, thus allowing the churn to swing, substantially as and for the purpose hereinbefore set forth.

**No. 23,684. Harvester.** (*Moissonneuse.*)

John B. Gemmill, Red Bluff, Cal., U.S., 29th March, 1886; 5 years.

*Claim.*—1st. In combination with a supporting standard and an elevator trough of a harvester, a horizontal reel supporting bar pivotally secured to the supporting standard, and having its rear end

adjustably secured to a standard fixed in the frame of the carriage, and an angular reel-supporting arm rigidly secured to the free end and adapted to carry the journal of the reel, substantially as described and for the purpose set forth. 2nd. The reel-supporting bar herein described, adapted to be applied to the elevator side of the harvester, and consisting of the bar *a*, depending vertical arm *d* and horizontal arm *e*, substantially as described and for the purpose set forth. 3rd. The reel-supporting arm herein described, consisting of the arm *c*, provided with means for securing it to the end of arm *c*, provided with bearings for the journal of the reel, substantially as described.

### No. 23,685. Machine for Harvesting.

(*Machine pour Moissonner.*)

George Fiolden, Dundas, Ont., 29th March, 1886; 5 years.

*Claim.*—The combination of the frame *A*, wheel *B*, shaft *C*, clearer *D*, link *E*, bracket *b*, brackets and bearings *F*, *F* and crank *G*, with the slotted hood *H* and roller *K* substantially as and for the purpose hereinbefore set forth.

### No. 23,686. Fluid Meter. (*Compteur à Fluide.*)

Daniel A. Sutherland, Lynn, Mass., U.S., 29th March, 1886; 5 years.

*Claim.*—1st. The described method of ascertaining the quantity of fluid taken from a reservoir or pipe, which consists in discharging the fluid from the reservoir under pressure through two or more parts, under substantially equal conditions of passage, then measuring the quantity of fluid passed through one of said parts, and multiplying this by the number of the parts, provided they are uniform in size, and if they are of unequal size, but graded, as described, then by measuring the quantity passed through the smallest part and multiplying this by the size of such part (less any allowance made to effect the equal conditions of passage, as described,) divided into the size of all the eduction parts added together, substantially as described. 2nd. A device for measuring fluids, having an induction port for receiving fluid, and two or more eduction ports for discharging fluid, said ports being equal to each other in size, or unequal to each other in size, and graded, substantially as specified, whereby they are adapted to discharge proportional quantities of fluid under substantially equal conditions of passage, combined with means for regulating the flow of liquid through said ports, or for shutting it off altogether, in whole or in part, substantially as described. 3rd. A device for distributing fluid, having an induction port for receiving fluid, and two or more eduction ports for discharging fluid, said ports being arranged substantially as described, whereby they are adapted to discharge fluid under conditions of passage, substantially equal means for regulating the flow of liquid through said ports, or for stopping it off altogether, and a measuring device communicating with one of said eduction ports, and adapted to measure the quantity of fluid discharged therefrom, substantially as described. 4th. A device for distributing fluid, having an induction port for receiving the fluid, and two or more eduction ports adapted to discharge the fluid under substantially equal conditions of passage, means for regulating the flow of liquid through said ports and for shutting it off altogether, said means being adapted to set in motion when the delivery faucet is opened, and automatically operate to open the distributing parts, and also set in motion when the delivery is closed and automatically close the distributing parts, substantially as described. 5th. The combination of the distributor having induction ports and eduction ports, as described, the follower and means whereby the follower is operated to open and close the parts of the distributor, substantially as described. 6th. The combination of the distributor *A* having induction and eduction ports, as described, the follower *N* and the described means, consisting of spring *5*, float *10*, tank *T* and connecting rods effecting the movements of the follower, substantially as and for the purposes stated. 7th. A device for distributing fluid, having an induction port for receiving fluid, and eduction ports of equal size to discharge the fluid under conditions of passage, substantially equal, in combination with means for varying equally the size of all the discharge ports, or for closing them altogether, and a measuring device connected with one of said ports and adapted to measure the quantity of fluid discharged therefrom, substantially as described. 8th. A device for distributing fluid, having an interior chamber and an induction port leading to the same, and eduction ports leading therefrom and arranged to discharge fluid under conditions substantially equal, as described, and means located within said chamber and adapted to be operated to stop the flow of liquid through the eduction in whole or in part simultaneously, as set forth, and a measuring device communicating with one of said eduction ports and adapted to measure the quantity of fluid discharged therefrom, substantially as described. 9th. In combination with the buckets, the rock shaft *14* and balancing weight *16* arranged to balance water in the buckets, substantially as described. 10th. The combination of the distributing device *A*, the conical case *E*, and means for regulating the flow of liquid through the distributor, all substantially as described. 11th. The distributor, having ports and interior chamber, as described, and the follower *N* recessed, substantially as stated. 12th. The combination of the follower, the distributor and the cushion *20*, all substantially as described. 13th. In an organized mechanism, of substantially the nature described, and in combination, a measuring device for measuring fluid, a distributing device having an induction port for receiving fluid, and eduction ports for discharging the fluid, a supply pipe communicating with the induction port, and a discharge pipe communicating with all but one of the eduction ports, and independent collateral discharge pipe communicating with the other eduction port, and adapted to convey the water discharged from such port to the measuring device and thence deliver it directly or indirectly into the main discharge pipe, substantially as described. 14th. In an arranged mechanism, of substantially the nature described, and in combination, a device for distributing fluid, having an induction port for receiving fluid, and eduction ports for discharging fluid under substantially equal conditions of passage, as described, a measuring device connecting with one of the eduction ports adapted to measure the fluid discharged therefrom, combined with means for regulating the flow of liquid

through said ports, or for stopping it altogether and varying equally the size of the ports, as described, said means being adapted to be set in motion by opening the delivery port, and operated to open the eduction ports of the distributor, and again set in motion by closing the delivery port and operated to close eduction ports of the distributor, substantially as described. 15th. In an organized mechanism, of substantially the construction described, and in combination, a device for distributing fluid having an induction port for receiving fluid, and eduction ports for discharging fluid, a supply pipe connecting with the induction port and a delivery pipe communicating with all but one of the eduction ports, a measuring device communicating with the one eduction port and adapted to measure the fluid discharged therefrom, a tank communicating with the delivery pipe and adapted to receive fluid therefrom, mechanism for opening and closing the ports of the distributing device, or for shutting it off altogether, and means being in communication with the water in the tank and adapted to be set in motion by the rising and falling of the water, substantially as described.

### No. 23,687. Harness. (*Harnais.*)

Adam King, Colborne, Ont., 29th March, 1886; 5 years.

*Claim.*—1st. In a harness, the combination, with a draft bar and hames, of a clovis attached to said draft bar, and the hinged or pivoted inclined metallic bars *C*, *C* attached to the hames, and having a pivotal connection with said clovis, substantially as described. 2nd. In a harness, the combination of the draft bar *A*, the hames *B*, the clovis *D* secured to the draft bar, the inclined bars *C*, *C* connecting the clovis and hames, and the braces *E*, *E* connecting the hames and bars *C*, *C*, substantially as described.

### No. 23,688. Balmoral Shoe.

(*Soulier à la Balmoral.*)

Peter Kelly and Joseph Kelly, Hagersville, Ont., 29th March, 1886; 5 years.

*Claim.*—As a new article of manufacture, an upper for Balmoral shoes, cut in the form shown at Fig 1 in one piece, with a V-shaped cut *B* out of the upper part of the vamp *D*, and a diagonal slit *a* from the bottom of the said V-cut *B* towards the front, and the curve *c*, *d* on the upper end of the quarter *C* to correspond to the curve *e* *f* on the vamp, when bent over on the dotted line *E*, and the upper part of the vamp *D*, bent over on the line of the slit *a* and dotted line *s*, the vamp and quarter being united on the inner side by stitching or rivets and completed in the ordinary way, substantially as and for the purpose specified.

### No. 23,689. Lamp. (*Lampe.*)

Marmaduke Matthews, Toronto, Ont., 29th March, 1886; 5 years.

*Claim.*—1st. An oil reservoir *H*, having a hole surrounded by a flange *a*, in combination with the plug *J* having a recess made in its cap *b* to fit over the flange *a*. 2nd. An oil reservoir *H* having a hole surrounded by a flange *a*, in combination with the plug *J* having a recess made in its cap *b* to fit over the flange *a*, and an extension-piece *d* to fit into the guide-tube *K* and a button *f* on its end. 3rd. A continuous tube *E* passing through a hole in the head *D* and connecting the wick tube *F* with the cup *G*, in combination with an oil reservoir *H*, designed to fit into the cup *G* and provided with a plug *J* shaped, substantially as and for the purpose specified. 4th. An extinguishing disc *g*, supported on the end of the tube *h*, provided with an end-piece *L* and fingers *J*, in combination with supporting lugs *i* formed upon the inner wick-tube *M*, substantially as and for the purpose specified.

### No. 23,690. Steam Cooker. (*Cuisinière à Vapeur.*)

John H. Parker, Golden, Col., U.S., 29th March, 1886; 5 years.

*Claim.*—1st. A steam-cooker, composed of a body *A*, in combination with the ovens *B*, the valves *C*, the valve-rods *k*, the doors *J* and the pipe *g*, all substantially as described and for the purposes set forth. 2nd. The valves *C* in a steam-cooker, working in combination with the valve-rods *k*, the doors *J*, the ovens *B*, the body *A* and the pipe *g*, substantially as described and for the purposes set forth.

### No. 23,691. Horse Shoe. (*Fer à Cheval.*)

Andrew Dobbin, Dobbinton, Ont., 29th March, 1886; 5 years.

*Claim.*—1st. The horse shoe herein described, consisting of the bar proper *A*, having rim *a*, continuous calk *B* of less radius than said rim, and having inner concavity *b*, for the purpose specified. 2nd. The combination, with the horse shoe herein described, having the area of the bar at the toe part reduced to allow it to spring, of the screwed cross-bar *C*, substantially as and for the purpose described.

### No. 23,692. Fire-Place Grate.

(*Grille de Foyer.*)

William J. Copp, Hamilton, 29th March, 1886; 5 years.

*Claim.*—In a fire chamber of any form or shape, the revolving grate *B*, operated by the crank *I*, on the bar *H*, in connection with the cams *D* and levers *E*, for agitating the side grate or grates *C*, as herein set forth.

### No. 23,693. Apparatus for Soaking, Boiling or Dyeing Textile Materials, or Subjecting them to the Action of Liquids or Gases. (*Appareil pour faire Tremper, faire Bouillir et Teindre les Matières Textiles et pour les Soumettre à l'Action des Liquides ou des Gaz.*)

William Mather, Salford, Eng., 30th March, 1886; 5 years.

**Claim.**—For soaking, boiling or dyeing textile materials, or subjecting them to the action of liquids or gases, apparatus consisting of a vessel A, made when required with a steam casing B, provided with removable end door or doors C, rails R, and supply and discharge pipes, in combination with lattice trucks T, substantially as herein described.

**No. 23,694. Manufacture of Impressed Rolls.** (*Fabrication de Cylindres Gravés.*)

Frank B. Howard, Cedar Hill, Que., 30th March, 1886; 5 years.

**Claim.**—1st. The process of producing a metallic roll, having patterns engraved or carved into its surface, by first forming a cylinder, or pattern in parts, in the manner described, and carving on such cylinder the desired pattern, then moulding the cylinder or pattern, and afterwards withdrawing the cylinder or pattern in the manner described, and afterwards casting the roll, the whole substantially as described. 2nd. The process of producing a metallic roll, having patterns carved into its surface, and embossments added upon its surface, by first forming a cylinder, or pattern in parts, in the manner described, and carving on such cylinder the desired pattern, and adding or attaching upon it the desired embossments, then moulding the cylinder or pattern so prepared, and afterwards withdrawing the cylinder or pattern, in the manner described, afterwards casting the roll, the whole substantially as described. 3rd. The process of producing a metallic roll, having embossed patterns upon its surface, by first forming a cylinder, or pattern in parts, in the manner described, and adding upon its surface embossments, as described, then moulding the cylinder or pattern so prepared, and afterwards withdrawing the cylinder or pattern, in the manner described, afterwards casting the roll, substantially as described.

**No. 23,695. Suction Draft Pipe Organ.**

(*Orgue à Tuyau Aspirant.*)

Arthur Wales, Minneapolis, Minn., U.S., 30th March, 1886; 5 years.

**Claim.**—1st. An air-tight casing, a series of organ-pipes within said casing, an opening for admitting air into said casing through said pipes, and an exhaust bellows or pump for drawing the air from said casing, substantially as and for the purpose set forth. 2nd. An air-tight casing, a diaphragm of rubber cloth, or other similar suitable material forming part of said casing, a series of organ-pipes within said casing, and an opening for admitting air into said casing through said pipes, an exhaust bellows, or pump, for drawing the air from said casing, substantially as and for the purpose described. 3rd. The combination of the air-tight casing B, pipes C, exhaust bellows E, valves b, and keys c, substantially as shown. 4th. The combination of the air-tight casing B, having the diaphragm G, pipes C, exhaust bellows E, valves b, and keys c, substantially as described. 5th. The combination of the air-tight casing B, pipes C, exhaust bellows E, valves b, registers a, and keys c, substantially as set forth. 6th. The combination of the casing B, having the diaphragm G, pipes C, exhaust bellows E, and swell-shutters H, substantially as and for the purpose specified.

**No. 23,696. Calliper and Divider**

(*Compas d'Epaisseur et à Diviser*)

Charles P. Fay, Springfield, Mass., U.S., 30th March, 1886; 5 years.

**Claim.**—1st. In callipers or like instruments, the combination of the legs having a suitable fulcrum, the curved spring engaged at its ends, with the legs either above or below the fulcrum, and an adjusting device for the legs, as set forth. 2nd. The improved callipers or dividers composed of the separable legs, the double-headed fulcrum pin interposed between the proximate sides of the legs, and fitting in sockets formed in the legs, the bow-spring engaged at its end with notches formed in the outer sides of the legs either above or below the fulcrum pin, and the screw with its retaining nut, as set forth.

**No. 23,697. Shovel.** (*Pelle.*)

Christopher H. Watson and Charles E. Adams, Paris, Ont., 31st March, 1886; 5 years.

**Claim.**—1st. A shovel consisting essentially of a blade of wood, or other tight material, and a double-curved sheet-metal head fastened to said blade, and to a handle passing through it, substantially as described. 2nd. The shovel herein described consisting of the blade A, double-curved sheet-metal head C, having lug c<sub>1</sub> stamped out of its substance, and the handle D passing through said head and connected to said lugs and to the blade, substantially as and for the purpose specified. 3rd. The combination, with the blade A, and handle D, of the double-curved sheet-metal head C, having lugs c<sub>1</sub>, c<sub>2</sub> and c<sub>3</sub>, and corrugations D<sub>1</sub>, D<sub>2</sub>, substantially as and for the purpose specified. 4th. The blank forming the stay-head herein described, having two lines of corrugations D<sub>1</sub>, D<sub>2</sub>, openings C<sub>1</sub>, C<sub>2</sub>, and lugs stamped out of said openings for the purpose described.

**No. 23,698. Vehicle Shaft.** (*Limonière.*)

Hosmer F. Jackson, Newport, N.Y., U.S., 31st March, 1886; 5 years.

**Claim.**—1st. The combination, with the thills or shafts, having shouldered ends, of a stiff band or strap, caps secured to said band, and provided with recesses into which the ends of the thills or shafts fit, and a dog secured to each cap and adapted to engage the shoulder of its respective shaft, substantially as set forth. 2nd. The combination, with shafts or thills and the ferrules grooved, as described, and secured to the ends of said shafts or thills, of the band or strap, the caps secured to the opposite ends of said band, and the spring-actuated dogs pivoted within said caps, and adapted to engage the shoulders on the ferrule, substantially as set forth.

**No. 23,699. Waggon Brake.** (*Frein de Char.*)

Thomas H. Moore, Oxenden, Ont., 31st March, 1886; 5 years.

**Claim.**—1st. In combination with the running gear of a waggon,

the box or rack A, having stops C, brake bar D, and shoes E, whereby the breaks will be applied by the forward movement of the bar or rack, as described. 2nd. The spring or cushions F, in combination with the box or rack C, having a reciprocating movement on the running gear of a waggon, for the purpose set forth.

**No. 23,700. Combined Vehicle Shaft and Pole.** (*Limonière et Timon de Voiture Combinés.*)

John Pottinger, Carpontoria, Cal., U.S., 31st March, 1886; 5 years.

**Claim.**—1st. In combined shafts and pole, the combination, with the bent bar or hound A, of the saddles F, I, F, the fastening springs and links G, U, the cross-bar B, provided with the sockets C, and the pivoted shafts D, substantially as herein shown and described. 2nd. In a combined shafts and pole, the combination, with the bent bar or hounds A, and the shafts D, of the cross-bar B, the saddles F, I, and the sockets C, substantially as herein shown and described, whereby the said shafts can be turned into a central or a side position, as set forth. 3rd. In a combined shafts and pole, the combination, with the bent bar or hounds A, and the pivoted shafts D, of the central double saddle I, the side saddles F, F, and the fastening springs, and links G, H, substantially as herein shown and described, whereby the said shafts can be firmly secured in either position, as set forth. 4th. In a combined shafts and pole, the combination, with the bent bar or hounds A, and the cross-bar B, of the draw bar O, provided with the socket S, and the pins P, V, substantially as herein shown and described, whereby a short doubletree, or both a short and a long doubletree, can be applied according as two or three horses are to be used, as set forth.

**No. 23,701. Curtain Fixture.**

(*Suspension de Rideau.*)

Eber C. Byam, Rochester, N.Y., U.S., 31st March, 1886; 5 years.

**Claim.**—In a curtain fixture, the two cord bearings or catches I, I', constructed in one piece, the inner bearing I' projecting outward or away from the casing, so that the curtain can run behind it, as shown and described.

**No. 23,702. Waggon.** (*Wagon.*)

Henry Motcalfe, Paris, Ont., 31st March, 1886; 5 years.

**Claim.**—1st. A waggon, provided with brackets A, secured to its axle and designed to receive the bolster F, in combination with the springs D, arranged substantially as and for the purpose specified. 2nd. A bracket A, secured to the axle B, and having cups a to receive the spring, D, in combination with the plate E, on the bolster F, having cups b corresponding with the cups a, and resting upon the springs D. 3rd. A bracket A, shaped substantially as shown, and secured to the axle B, slots d, in combination with the bolts G, passing through the said slots and designed to secure the bolster F, substantially as and for the purpose specified.

**No. 23,703. Rivet.** (*Rivet.*)

Judson L. Thomson, Syracuse, N.Y., U.S., 31st March, 1886; 5 years.

**Claim.**—1st. A rivet having clinching prongs, each flattened on opposite sides, and arranged with its flat sides directly opposite those of the other, with a space between them, as set forth and shown. 2nd. A rivet having clinching prongs, each flattened on opposite sides, and arranged with its flat sides directly opposite those of the other, and tapered throughout its length in a plane at right angles to the flat sides, substantially as described and shown. 3rd. A rivet having clinching prongs, each flattened on opposite sides, and arranged with its flat sides directly opposite those of the other, and bevelled to a broad chisel point at the free end, substantially as described and shown. 4th. A rivet having clinching prongs, each flattened on opposite sides, and arranged with its flat sides directly opposite those of the other, with a space between them, and tapered throughout its length, and bevelled to a broad chisel point at the free end, substantially in the manner specified and shown.

**No. 23,704. Fertilizer Distributor.**

(*Semoir à Engrais.*)

Elwood G. Macomber, Portsmouth, R.I., U.S., 31st March, 1886; 5 years.

**Claim.**—1st. A fertilizer distributor, consisting essentially of a receptacle, provided with a discharge opening in its bottom, as specified, and having a gate board secured to the exterior of the receptacle, and provided with a sliding gate to close the discharge opening from the outside of said receptacle, a gauge to limit the movement of the gate, and a deflecting plate attached to the receptacle, and arranged below the discharge opening, substantially as and for the purpose set forth. 2nd. A fertilizer distributor, consisting substantially of a pail, having a tapering lower portion provided with a single discharge opening, as specified, the said pail having secured thereto, below the discharge opening, a gate board provided with a sliding gate, to wholly or partially close the discharge opening, a gauge to limit the movement of the gate, and a deflecting plate secured to the gate board, with its upper end to one side of the discharge opening, substantially as specified. 3rd. A fertilizer distributor consisting essentially of a pail, having a tapering lower portion provided with a discharge opening, as specified, the said pail having a gate board secured thereto at the discharge opening, and provided with a sliding gate, a gauge to limit the movement of the gate, a rest or support attached to the gate board, and a deflecting plate D secured to the rest, with its upper end arranged to one side of the discharge opening, substantially as described. 4th. In a fertilizer distributor, the combination, with the receptacle having a tapering lower portion ending in a single discharge opening, as specified, of a gate board secured to the tapered end of the receptacle about the discharge opening, and provided with a sliding gate, the U-shaped



gauge and adjusting screws and nuts, the rest E attached to the gate board to one side of the discharge opening, and the deflecting plate secured to the rest, and made tapering from bottom to top with its upper end arranged to one side of the discharge opening, as specified.

### No. 23,705. Stock Car. (*Char à Bestiaux.*)

John W. Street, Chicago, Ill., U.S., 31st March, 1886; 5 years

*Claim.*—1st A stock car having the upper portions of its side walls attached to hinged bars or uprights, which are movably connected to the car body, substantially as set forth, whereby the upper portion of said body can be expanded or widened, as described. 2nd. In a stock car, the combination, with the lower stationary side wall fixed permanently in position, with an opening or openings above said stationary wall for the outward passage or animal's heads, of an upper swinging wall, held by movable bars, supported upon the car at points below the swinging wall, substantially as described. 3rd. In a stock car, the combination, with the side wall having an aperture or apertures for the passage of animal's head, of a door supported and adapted, substantially as set forth, to have both its lower edge and its upper edge move away from the car side, substantially as described. 4th. In a stock car, provided with an aperture or doorway for the outward passage of animal's heads, the combination of a trough situated entirely outside of the side wall of the car, and a door to close the said aperture or doorway, adapted to be moved towards and from the said aperture, and retaining devices arranged, substantially as set forth, to prevent the door from moving entirely away from in front of the aperture, whereby a door or guard is presented to the animals when their heads are passed outward through the said aperture, substantially as set forth. 5th. In a stock car, having an aperture or doorway formed in the side wall of the car, adapted to permit the outward passage of animal's heads, the combination of a door united to the car, substantially as set forth, whereby it is adapted to move into said aperture to form a part of the side wall, and also to move away therefrom, there being when it is moved away a free space between the lower edge of the door and the wall of the car to permit the movements of the animal's heads, and a stop which prevents the door from moving away from the front of the aperture, substantially as set forth. 6th. In a stock car, having a doorway or aperture in the side of the car to permit the passage of the animal's heads, the combination, with a door or gate united by a hinge with the car, and adapted to swing away from said doorway or aperture to a distance which is limited to prevent it from moving away from the horizontal lines of the said door or aperture, of a food rack secured to the inner side of the door or gate, substantially as set forth. 7th. In a stock car, a side wall formed of uprights A, and slats or rails B, and with an aperture or opening for the outward passage of the animal's heads, in combination with vertical bars united by hinge connection with the car and horizontal bars or boards secured to the said vertical bars or lines corresponding to the aforesaid aperture or opening in the side wall, whereby the last said vertical bars and the horizontal bars or boards secured thereto are adapted to swing into close said aperture, and to swing out therefrom, and a holder, which prevents the last said horizontal bars or boards from moving from in front of the upper open part of the side wall, substantially as set forth. 8th. A stock car, having a side wall formed with a lower slatted or closed portion, vertical studs and an upper unslatted portion, whereby openings or doorways are left between the studs, and having doors or closing devices for the said apertures, or doorways united to the car by hinge connection at or below the lower parts of the said apertures or doorways, and united also by hinge connection to the car at or above the upper parts of the said apertures or doorway, substantially as set forth. 9th. A stock car, having an aperture or opening in the side wall for the passage of an animal's head in combination with a door or closing device, having its lower part united by a hinge connection to the car, and its upper part also united by a hinge connection with the car, said hinge connections being arranged, substantially as set forth, to prevent the door or closing device from moving away from in front of the aperture or doorway, substantially as described. 10th. The combination, with a stock car having in the side wall two or more apertures or doorways for the passage of animal's head, of a door or doors united by a hinge connection, with the car near or below the lower parts of the apertures or doorways, a rock or rotating shaft mounted at or near the top of the car, and flexible connecting devices which unite said shaft at two or more points with the said door or doors, substantially as set forth. 11th. The combination, with the stock car, provided with an aperture or apertures for the outward passage of animal's head, of a closing device for said aperture or apertures, a weighted rock shaft, and a flexible connection between the rock shaft and the closing device, substantially as set forth. 12th. In a stock car, having an aperture or opening in the side wall for the outward passage of an animal's head, a water trough situated entirely outside of the horizontal boards or slats, and below said apertures, in combination with a door or gate adapted to close the said aperture, and united by a flexible connection with the car, and a retaining device which prevents the door from moving away from in front of the aperture, substantially as set forth. 13th. The combination, with a stock car, having a side wall formed with vertical studs, and slats or casing boards secured to the inner sides of the said studs, of an outward tilting and emptying water troughs mounted at the outer edges of the said studs, whereby the contents of the troughs can be emptied in a vertical line entirely outside of any portion of the side of the car, substantially as set forth. 14th. The combination, with the stock car having an aperture or opening for the outward passage of an animal's head, of an outward tilting and emptying water trough below the said aperture, and mounted upon an axis which is situated upon, or inside of the plane, of the centre of gravity of the trough, whereby the weight of the contents can be utilized to assist in emptying it, substantially as set forth. 15th. In a stock car, having an aperture or opening for the outward passage of an animal's head, a tilting water trough below said aperture, adapted to have its outer edge depressed in emptying, and a door or closing device for the aperture, flexibly connected with the said water trough, whereby the latter is operated when the door or closing device is moved, substan-

tially as set forth. 16th. The combination, with a tilting water trough, and an outwardly-moving door, of a link flexibly connected with said trough and door, whereby the latter is caused to push and pull the trough, substantially as set forth. 17th. The combination, with a tilting water trough, and a movable door, of toggle arms, one connected to the car and the other to the door, and means uniting the toggle arms with the water trough, substantially as set forth. 18th. The combination, with the water trough, and the movable door, of the toggle arms, and the link pivoted directly to the trough, and connected with the toggle arms, substantially as set forth. 19th. The combination of the tilting water trough secured to the outside of the car, the door situated above the water trough, and the supporting bars secured to the car below the water trough, and arranged to swing in against the side of the car, beyond the outer edges of the troughs, at its ends, substantially as set forth. 20th. The combination, with the movable water trough, and a water pipe connected therewith and extending downward therefrom, of a valve or closing device for said water pipe situated below the trough, and means for opening said valve or closing device, and adapted to be operated simultaneously therewith, substantially as set forth. 21st. The combination, with the car having an aperture, and the movable door for closing said aperture, of a water trough, a water pipe connected therewith, a valve or closing device which when open permits the pipe to be emptied, and means connected with the movable door for opening said valve or closing device, substantially as set forth. 22nd. The combination, with the water supply pipe, and a valve or closing device, whereby the escape of water is permitted from the pipe, of an operating connection united with the movable parts of the car, substantially as and for the purpose set forth. 23rd. In a stock car, the combination of a trough, a pipe communicating with said trough, said pipe having portions situated in one vertical plane, and other portions in another or other vertical planes, a valve seated in one of the lower portions of the pipe, and a spring to hold the valve or closing device in place, the latter being adapted to be thrown out of place when the trough or pipe is to be emptied, substantially as set forth. 24th. The combination, with a stock car, of a trough or troughs secured to the outside of the wall of the car, a supply pipe situated upon the opposite or inner side of the car wall, and means, substantially as described, for conveying water from said inside supply pipe to the outside trough or troughs. 25th. The combination, with a stock car, of a series of tilting water troughs arranged along the outer side of the car wall, a main water supply pipe separate from, and independent of the said troughs, and situated upon the inside of car wall, and branch pipes communicating with the main supply pipe, and also with passages in the ends of the troughs, substantially as set forth. 26th. The combination, with a stock car, of the tilting water troughs on the outside of the car, the tubular journals or hollow bearings for said troughs, a water supply pipe separate from, and independent of, the said bearings or journals, of the troughs, and one or more branch pipes connecting the supply pipe with the tubular journals or bearings, substantially as set forth. 27th. The combination, with a stock car, having apertures in the side of the outward passage of animal's heads, and having one or more entrance doorways extending to the bottom of the car, of water troughs situated outside of the car, and arranged in series, one series on each side of the aforesaid entrance doorways, and a main supply pipe separate from, and independent of, the said troughs, and carried down beneath and across the said doorways, whereby the troughs may be moved independently of the said bent or curved main supply pipe, substantially as set forth. 28th. The combination, with a stock car, having a trough or troughs on each side, of a water supply pipe extending across the ends of the car, and connected with the water troughs on each side, stop cocks or valves therein, whereby one part of the car can be cut off from the supply independently of the other parts, and means for connecting the end cross pipes with a water supply, substantially as set forth. 29th. The combination, with a stock car, having doors arranged alternately with respect to the transverse lines of the car, of partitions situated respectively opposite the doors, each having the end which is opposite to the door hinged on a vertical axis, whereby it is adapted to swing horizontally, substantially as and for the purpose set forth. 30th. The combination, with the partition, of a hinge connection uniting the partition to the car body, said hinge connection having two axes, one axis being vertical and one being horizontal, a lock which prevents the partition from accidentally moving around the vertical axis, and a second lock which prevents it from moving around the horizontal axis after it has been adjusted, substantially as set forth. 31st. The combination, with the partition, of a horizontal guide, a support for the partition secured loosely to said guide, whereby it can be moved longitudinally, a perforated board or bar and a pin adapted to hold the support in one of several positions, substantially as described. 32nd. The combination, with the partition, of a horizontal guide, a support for the partition hinged to said guide, whereby it is adapted to swing vertically, and the pin or catch secured to the support and adapted to be fastened at one or another of several points longitudinally of the car, substantially as described. 33rd. The combination, with a stock car, of hinged interior casings adapted to be carried near the roof when the car is laden with stock, and to be swung downwardly, to lie against and reinforce the upper part of the said walls when the car is used for other freight, substantially as set forth. 34th. The combination, with a stock car, of interior hinged door reinforcements extending to the bottom of the doorway, and having the lower part thereof permanently closed, and the upper part open for the insertion of freight, substantially as set forth. 35th. In a compartment stock car, having openings upon both sides for the outward passage of the animal's head, the combination of the horizontally-swinging transverse partitions, and water troughs on both sides of the car, and situated entirely outside thereof, substantially as set forth. 36th. In a compartment stock car, the combination of the horizontally-swinging transverse partitions, forming compartments wherein each animal can face in either direction, a holder or holders for hay, arranged along both sides of the car openings through the sides of the car, and water troughs upon both sides of the car and situated outside thereof, substantially as set forth. 37th. In a compartment stock car, the combination of one or more transverse hinged horizontally swinging partitions or gates, whereby the car is divided into compartments in which each animal can stand in either, of two or more

positions, a secondary roof below the top roof for holding hay over the animal's heads, openings in the sides of the car, and the watering troughs attached to the outsides of the car, and situated entirely outside of the enclosed space within the car body, substantially as described. 33th. The combination, with a stock car having a door upon one side, and another door on the other side of the car, situated on transverse lines other than those of the first aforesaid door, of a partition hinged on a vertical axis opposite, or nearly opposite to the first aforesaid door, and a second partition similarly hinged opposite, or nearly opposite, to the second aforesaid door, substantially as set forth. 39th. The combination, with a stock car having a door on each side of said doors, being on different lines transversely of the car, of horizontally swinging hinged partitions respectively opposite, or nearly opposite, to the said doors, and arranged substantially as set forth, whereby the swinging ends are adapted to overlap and to unpinch one upon the other substantially as set forth. 40th. The herein described method of loading live cattle upon a stock car, said method consisting in, first, driving a limited number of cattle into the car at a point near one end thereof, then forcing them by a horizontal swinging gate or barrier into a compartment at the other end of the car, subsequently admitting another limited number to the car and forcing them by another horizontally swinging gate or barrier into a compartment at the opposite end of the car, and finally filling the central portion of the body of the car, substantially as set forth. 41st. In a stock car, the combination of horizontally swinging transverse partitions, arranged substantially as set forth, whereby several compartments are provided in which each animal can face in either direction, with hay racks or holders along both sides of the car and water troughs upon both sides of the car and outside thereof, the car being provided with openings upon each side for the outward passage of the animals' heads, substantially as set forth. 42nd. In a stock car for cattle, the combination of the studs, the permanent wall slats secured to the insides of the studs, and extending partway up toward the top, there being openings in the sides of the car for the outward passage of animals' heads, a series of tilting water troughs mounted upon axis and constructed, substantially as set forth, whereby the inner edges of the troughs are prevented from passing at any time inside of the line of the wall slats, and a stop which prevents the outer edges of said troughs from rocking above the position occupied when the animals are drinking, said outer edges being free to be depressed when the troughs are to be emptied, substantially as described. 43rd. The combination, with a stock car, of tilting water troughs, supply pipes therefor, the rock shaft or rotating shaft the drainage cocks, and operating mechanism connecting the rock shaft or rotating shaft with both the troughs and the drainage cocks, substantially as set forth. 44th. The combination, with a stock car, of the tilting water troughs, the drainage cocks, the doors or closing shutters, the operating mechanism for said troughs, cocks and doors or shutters, and the rock shaft or rotating shaft adapted to operate all of said parts simultaneously, substantially as set forth. 45th. The combination, with a stock car for cattle having vertical studs, openings in the sides between said studs, for the outward passage of animals' heads, and permanent wall slats below the said openings, of a series of water troughs respectively situated in the spaces between the studs, and mounted on journals secured to the outer faces of the studs below said openings, said troughs and journals being constructed and arranged substantially as set forth, whereby the inner edges of the troughs are at all times prevented from passing inside of the studs, and the outer edges are free to be depressed to empty the contents of the troughs outwardly, substantially as described. 46th. The combination, with a stock car having studs outside, of a trough situated in the space between two of said studs, and mounted on an axis above the bottom and between the inner and outer edges, substantially as set forth. 47th. The combination, with a stock car having openings or apertures for the outward passage of animals' heads, of a water trough on the outside of the car, a door or closing device for the aforesaid apertures or openings, a movable cover for the said water-trough, and means for connecting the cover with the said door or closing device, whereby it is moved by the latter, substantially as set forth. 48th. In a stock car, provided with an aperture or opening in the side wall for the outward passage of animals' heads, the combination, with a door adapted to move towards and from the said aperture or opening, of a chain passing over a pulley and means, substantially as described, attached to the chain for counterbalancing the door, as set forth. 49th. In a stock car, provided with an aperture or opening in the side wall, for the outward passage of animals' heads, the combination of a water trough and a counterbalanced cover for said trough, adapted to be moved into such position as to lie opposite the open side of the trough, when the opening in the car wall is closed, and to be moved away from the trough, when the animals are to have access thereto, substantially as set forth.

**No. 23,706. Car-Coupling. (Attelage de Chars.)**

John T. Woods, Southampton, Ont., 31st March, 1886; 5 years.  
*Claim.*—1st. In a car-coupler, the combination upon each car, of the draw-bars A, A, having arrow-heads a, a, bolts b, b, pivoting same to end timbers, and a spring serving to hold said draw-bars normally in a closed position, substantially as described. 2nd. The combination, with the end timbers of a railway car, and with the draw-bars A, A, constructed substantially as shown, of the lever C, pivoted link D, said draw-bars being adapted to open at their forward ends by the action of said lever, substantially as described. 3rd. The improved buffers, herein described, in combination with the levers C, as and for the purpose described. 4th. The combination, with the end timbers B, of a railway car, and with the draw-bars A, A, having slots a, a, of the bolts b, b, blocks b, and springs b, substantially as described.

**No. 23,707. Button Setting Machine.**

(Machine à Poser les Boutons.)

Edward O Ely, Boston Mass., U.S., 31st March, 1886; 5 years.  
*Claim.*—1st. In a button-setting machine, the raceway to guide staples, combined with the guide or carrier located at the end of the

raceway, and adapted to receive the staple with its connected button, substantially as described. 2nd. In a button setting machine, the staple raceway to guide the staples with their connected buttons, combined with the slotted guide or carrier, into which the eye of the button, with its attached staple is directed from the raceway, the anvil block and die, and with means, substantially as described, to move and force the guide or carrier against the material upon which the button is to be attached, substantially as described. 3rd. In a button-setting machine, a raceway to guide the staples with their connected buttons, and the clinching-die, and the movable guide or carrier adapted to receive the staple with its connected button from the said raceway, combined with a driver to drive the staple through the guide or carrier into the material and clinch its prongs, substantially as described. 4th. In a button setting machine, the guide or carrier having inclined inner walls for the reception of the staple, and slotted at d for the reception of the shank of the button, substantially as described. 5th. In a button-setting machine, the guide or carrier slotted at d, and having its shank recessed at j, combined with the raceway to conduct the staple into the guide or carrier, and direct the legs of the staple downwardly, substantially as described. 6th. The raceway for the staples and their connected buttons, and the guide or carrier located at its end and the support A, and anvil-block and die, combined with the driver and with means, substantially as described, to press or force the guide or carrier against the material preparatory to driving the staple from the guide or carrier, as set forth. 7th. In a button-setting machine, the support A, the spindle, its arm and the driver, combined with means to regulate the extent of the descent of the driver, to thus leave more or less of the staple undriven or projecting above the material, as set forth. 8th. The support A, the anvil-block and clinching-die, the guide or carrier located at, and extended below the end of the raceway, and the staple raceway to discharge the staples into the said guide or carrier, combined with the driver having bevelled faces l, and slotted at l<sup>5</sup> to act upon the V-shaped head of the staple, and leave the shank of the button free, substantially as described. 9th. In a button-setting machine, the support A, the anvil-block and its clinching-die and the spindle and its attached arm, combined with the guide or carrier opened at its side, above its end, to receive the staple, and slotted at d, and raised or lowered by the said arm with relation to the said die, and with a driver to drive the said staple down into and out from the lower end of the said guide or carrier, substantially as described. 10th. In a button-setting machine, the raceway to support the attached staples and buttons, the separator having the top 5 and head 6, and the guide or carrier open at one side above its end, to receive the points of the staple, and slotted vertically for the reception of the eye of the button, combined with the driver and a clinching die, to operate substantially as described.

**No. 23,708. Steam Engine. (Machine à Vapeur.)**

George W Price and William J. Hooper, Baltimore, Md., U. S., 31st March, 1886; 5 years.

*Claim.*—1st. In a steam engine, two companion cylinders, as A and C, each having two ports, as a<sup>1</sup> and a<sup>2</sup>, e<sup>1</sup> and e<sup>2</sup>, and one piston arranged, combined and operating with the ports and each other, so that a portion of the steam operating on top of the piston in cylinder A may pass out the port a<sup>1</sup>, when piston a has descended to open said port, and into its companion cylinder C and below the piston c, to force said piston upwardly and pass out of the port e<sup>1</sup>, when the piston c has uncovered the lower end of said port back into cylinder A at the bottom, and under piston a to counterbalance the steam on the opposite side of said piston during its upward stroke. 2nd. In a steam engine, two companion cylinders, as A and C, each having two ports, as a<sup>1</sup> and a<sup>2</sup>, e<sup>1</sup> and e<sup>2</sup>, and one piston arranged, combined and operating with the ports and each other, so that the steam first enters cylinder A and passes thence to cylinder C and under piston c, to propel said piston, and out of cylinder C back again to cylinder A and under piston a, to propel it, substantially as shown and described. 3rd. In a steam engine, two companion cylinders, as A and C, each having two ports, as a<sup>1</sup> and a<sup>2</sup>, e<sup>1</sup> and e<sup>2</sup>, and one piston arranged, combined and operating with the ports and with each other, so that the steam from cylinder A will exhaust through cylinder C direct, and the steam from cylinder C will exhaust through cylinder A and then back through cylinder C on the opposite side of its piston. 4th. A steam engine, having two or more pairs of cylinders, one-half of which have their pistons exposed to direct pressure of the steam on top, and the other half arranged to receive the pressure of steam on the bottom, substantially as described.

**No. 22,709. Saw Mill. (Sawerie.)**

The Stearns Manufacturing Company, Erie, Pa. (Assignee of James S. Miller, Erie, Pa., and Edward Lapham, Cadillac, Mich.), U.S., 31st March, 1886; 5 years.

*Claim.*—1st. In a saw mill, the combination, substantially as set forth, of a reciprocating log carriage, a supporting frame-work at one side of said carriage, a circular saw driving mechanism, and a band saw driving mechanism mounted on said frame-work, in a manner substantially as set forth, whereby the saws driven by said mechanisms will operate in a common vertical plane lying between said carriage and the said frame-work. 2nd. In a saw mill, the combination, substantially as set forth, of the reciprocating log carriage A, with blocks B mounted thereon, the frame-work C, C<sup>1</sup>, C<sup>2</sup>, C<sup>3</sup>, at the side of said carriage, a circular saw arbor D and a band saw, driving shaft E mounted on said frame-work, in position, as shown, to operate the said saws in a vertical plane lying between the said frame-work and the said log carriage.

**No. 23,710. Money Changer. (Casier de Caisse.)**

Arthur L. Pratt, Kalamazoo, Mich., U. S., 31st March, 1885; 5 years.

*Claim.*—1st. In a money-changer, the combination of coin pockets adapted for the bottom coin to be pushed from beneath the coins above, a series of push-forks for pushing out the coins, a series of levers fulcrumed in the lower side of the case and having rear bars connecting with the push-forks, and a series of key-levers provided with suitable projections for operating the levers which connect with

the push-forks, substantially as set forth. 2nd. In a money-changer, the combination of a series of coin-pockets, provided at the open bottom with coin rests, a series of rectangular frame levers, one within the other, and fulcrumed substantially at their centre in the lower part of the case, push-fork having elastic handles connecting with the rear bars of the frame-levers, and a series of key-levers provided with projections for pressing upon one or more of the frame-levers at a single movement, substantially as set forth. 3rd. In a money-changer the combination of coin pockets having the narrow coin-rests below the open bottom of the pockets, push-forks adapted to engage the under face of the coin pocket-block, and to straddle the coin rests during the sweep of said push-forks in pushing out the coins, and stable levers for operating said forks, substantially as set forth. 4th. In a money-changer, the combination of a series of coin pockets, a series of push-forks having downwardly extending handles, a series of levers fulcrumed in the lower portion of the case and having rear bars connecting with the fork handles, springs for assisting the rear part of the fulcrumed levers to fall to place in pulling back the push forks and key-levers having projections for pressing on the fulcrumed levers, substantially as set forth. 5th. In a money-changer, the combination of a coin-pocket provided at the bottom with the narrow coin rest, a lever fulcrumed at the lower side of the case and having a rear bar parallel with said fulcrum, a double push-fork having its handle connecting with said rear bar, and a key lever having a projection for pressing on the fulcrumed lever adapted to cause the double push-fork to push out two coins, substantially as set forth.

### No. 23,711. Art of Reproducing Drawings, etc. (*Art de Fac-Similer les Dessins, etc.*)

Ido Ramsdell, Atlanta, Ga., U.S., 31st March, 1886; 5 years.

*Claim.*—The process herein described of producing transfer points, the same consisting in treating the paper, having the design in printing or other suitable ink, with a solution of glycerine and sulphuric acid properly diluted, rolling or inking up the surface of the design, and transferring the design to another surface, lithographic stone or plate, substantially as specified.

### No. 23,712. Car Spring. (*Ressort de Char.*)

John T. Herschell, Evansville, Ind., U. S., 31st March, 1886; 5 years.

*Claim.*—1st. A car-spring consisting of two arms or parts, the adjacent ends of which are provided with hollow upper portions containing springs, and connected to each other from the ends of said springs, and the lower adjacent portions of which have a spring interposed between them, and a pivot bolt or fulcrum interposed between said adjacent ends of the arms between the upper and lower springs, substantially as set forth. 2nd. A car-spring consisting of two arms having hollow adjacent upper portions, springs in said hollow portions, and a bolt running through and connecting said springs, a pivot-bolt or fulcrum interposed between the ends of the arms, and a spring interposed between the lower adjacent portions of said arms, substantially as set forth. 3rd. The combination, in a car-spring, of the arms or parts C, having open-ended hollow adjacent upper portions C', the rubber springs E inserted in said hollow portions, the followers E' on the outer ends of said rubber springs, the bolt F passing through said springs and hollow portions, and connecting said followers, the pivot-bolt or fulcrum G interposed between the ends of said arms, and the spring D interposed between the ends of the arms below said fulcrum, substantially as set forth.

### No. 23,713. Can. (*Boîte Métallique.*)

Henry P. Humprey, Lowell, Mass., U. S., 31st March, 1886; 5 years.

*Claim.*—A can formed of elastic material, and having a curved inner surface, the curvature of which is of a less radius than that of the outer surface of the shaft to which said can is to be secured, and which inner surface of said can is longer than half the circumference of said shaft, whereby said can may be sprung upon said shaft and retained thereon by its own elasticity, substantially as specified.

### No. 23,714. Seal Hasp Fastening.

(*Manière de Poser les Morillons Scellés.*)

John R. M. Greenfield, Ottawa, Ont., 31st March, 1886; 5 years

*Claim.*—1st. The combination, with the box A, of the plate E having a depression F, a hasp having a coinciding depression K, and a screw M, or other fastening locking through the depressions, so that, when a seal is applied as set forth, unauthorized access to the screw may be detected. 2nd. The plate E provided with a button I in a depression therein, and a hasp having a corresponding depression provided with a slot, whereby the button will lock the plate and hasp together and be flush with the hasp, when turned across the slot to make a temporary lock, as set forth. 3rd. The combination, with the hasp B, having a depression K for holding a seal, the plate E having a corresponding depression and provided with holes for bolting the plate to a box, as set forth.

### No. 23,715. Sash Balance.

(*Contre-Poids de Croisée.*)

Eber C. Byam, Rochester, N. Y., U.S., 31st March, 1886; 5 years.

*Claim.*—In a sash balance, the combination, with the main case, of the socket piece or guide way pivoted at its top but free at its bottom, the straight spring bearing against the bottom of the socket, a clamp sliding over the lower end of the case and embracing the spring, whereby the stiffness of the latter may be increased or lessened, and a roller resting on the inclined body of the socket piece.

### No. 23,716. Sash Lock. (*Arrête-Croisée.*)

Eber C. Byam, Rochester, N. Y., U. S., 31st March, 1886; 5 years.

*Claim.*—1st. In a sash lock, the combination of the open bearing or frame C provided with the cross pin c at its top, and the concentric shoulders f, f' at its bottom, and the catch D provided with the open hook h engaging with the cross pin, the projection n for locking the sash, and the side lugs m, m' engaging with the shoulders of the bearings, as shown and described and for the purpose specified. 2nd. In a sash lock, the combination of the bearing C, with a slotted centre, the catch D fitting in the bearing, and the separate stop E provided with side lugs p, p' that fit in notches in the bottom of the bearing, the whole arranged as described, and operating in the manner and for the purpose specified. 3rd. In a sash lock, the combination, with the bearing C, and catch D, of the wear plate G attached to the rail of the lower sash, said plate having its edges of unequal thickness, and capable of being changed in position with relation to the catch, as herein shown and described.

### No. 23,717. Composition Fuel.

(*Aggloméré Combustible*)

Leon Cline, Chicago, Ill., U. S., 31st March, 1886; 5 years.

*Claim.*—1st. A new article of fuel, composed of charred cork and charcoal, the same being ground or pulverized and combined in substantially the proportions given, as and for the purpose hereinbefore set forth. 2nd. A disinfecting fuel, composed of charred cork, charcoal and chloride of lime, substantially as and for the purpose hereinbefore set forth.

### No. 23,718. Stove for Burning Cark and Charcoal Fuel. (*Poêle à Liège et à Charbon de Bois.*)

Leon Cline, Chicago, Ill., U. S., 31st March, 1886; 5 years.

*Claim.*—A stove or portable heater consisting of an exterior case, in combination with a fuel pan inside thereof, and a space between the top of the pan and the cover C, and shaft port formed in the case above the pan, as specified.

### No. 23,719. Handle for Pitchforks, etc.

(*Manche de Fourche, etc.*)

Marvin S. Cadwell, Hamilton, Ont., 31st March, 1886; 5 years.

*Claim.*—1st. The combination of handle A with truss-rod C, and ferrule B, said ferrule being provided with an opening b, a short distance from its inner end through which said truss-rod is inserted to specially strengthen the handle at the inner end of said ferrule, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of wood handle A, having longitudinal groove a, and diagonal hole a', with ferrule B having opening b, and truss-rod C passing through said groove, diagonal hole an opening, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of wood handle A, having longitudinal groove a, and diagonal hole a', with truss-rod C passing through said groove and hole, substantially as and for the purpose hereinbefore set forth. 4th. The combination of wood handle A, having groove a, and hole a', with ferrule B having opening b, and truss-rod C having bent end c, threaded end c', and nut c'', said truss-rod passing through said groove a, hole a', and opening b, substantially as and for the purpose hereinbefore set forth.

### No. 23,720. Apparatus for Feeding, Watering and Loading Cattle on Cars.

(*Appareil pour Nourrir, Abreuver et Charger les Bestiaux sur les Chars.*)

John W. Street, Chicago, Ill., U. S., 31st March, 1886; 5 years.

*Claim.*—1st. The combination, with the stock-car, having an opening in the side wall for the outward passage of animal's heads, and devices, substantially as described, for feeding or watering, of a guard G adapted to be situated directly in front of said opening to prevent the escape of the animals, substantially as set forth. 2nd. The combination, with a stock-car, having an opening in the side wall for the outward passage of the animal's heads, and means, substantially as described, for feeding or watering, of a guard G supported from the ground independently of the car, and situated directly in front of said opening, substantially as and for the purposes set forth. 3rd. The combination, with a stock-car, constructed, substantially as set forth, to permit the animals to be fed or watered outside of the car, of a guard G movable towards and from the car, and adapted to close the paths of escape for the animals' heads, substantially as set forth. 4th. The combination, with a stock-car, having an opening in the sides of the car for the animals' heads, of a guard situated directly in front of said aperture, a support or frame for said guard, and the wheels or rollers, substantially as set forth. 5th. The combination, with the stock-car adapted to permit the outward passage of the animals' heads, of a guard G, arranged substantially as set forth, whereby it can be inclined to the horizon, as described. 6th. The combination, with a stock-car adapted to permit the outward passage of animals' heads, and a stationary platform by the side of the car, of a movable truck mounted upon said platform and provided with troughs or racks secured thereto, substantially as set forth. 7th. In an apparatus for unloading and feeding or watering stock, the combination, with the car and the platform, of a gang plank supported upon the platform, substantially as set forth, and supported upon the car at points outside of the doorway, substantially as set forth. 8th. In an apparatus for unloading, and watering or feeding stock, the combination, with the car and the platform, of the gang plank hinged to the platform and adapted to be supported upon the car at points outside of the door, substantially as set forth. 9th. In an apparatus for unloading and feeding or watering stock, the combination, with the car and the platform, of a gang-plank hinged to the platform, and provided with the hooks K, to permit its engaging with the car, substantially as described.

**No. 23,721. Steam Vacuum Pump.**

(*Pompe à Vapeur à Vide.*)

The Nye Steam Vacuum Pump Company, (Assignee of George H. Nye,) Chicago, Ill., U.S., 31st March, 1886; 5 years.

*Claim.*—1st. The invertible conical valve *a*, in combination with the chamber *D*, and chain *m* attached to the lower end of the valve, and to the inside of the chamber or seat, as specified. 2nd. The valves for steam vacuum pumps, the invertible conical valve *a*, in combination with the valve seat or chamber *D*, and collar *F*, connected by screws *b*, and the chain *m* connecting the apex of the valve to one side of the chamber *D*, as and for the purpose specified.

**No. 23,722. Combined Iron and Steel Pile.**

(*Trousee Combinée de Fer et d'Acier.*)

The Nevorslip Horse Shoe Company, Boston, Mass. (Assignee of Edwin S. Brainard, Manchester, Ct., U.S., 31st March, 1886; 5 years.

*Claim.*—1st. As an improved article of manufacture, the within-described pile or fagot composed of a tubular jacket of substantially regular outline in cross-section, a central portion of another kind of metal, and having both ends of the tube securely closed by plugs, or the like, all substantially as described. 2nd. As an improved article of manufacture, a fagot or pile composed of a lap-welded tube of iron having a steel centre and closed at the ends by plugs of metal, all substantially as described.

**No. 23,723. Mode of Keeping Chemists' and Druggists' Labels. (Manière de Placer les Etiquettes des Pharmaciens.)**

Ebenezer Miller, Dresden, Ont., 31st March, 1886; 5 years.

*Claim.*—1st. The method of arrangement of the cabinet *A*, in combination with the index board *B* and indicator *C*. 2nd. The index board *B*, and its combination with the cabinet *A* and indicator *C*. 3rd. The indicator *C*, and its combination with the cabinet *A* and index board *B*, substantially as and for the purpose hereinbefore set forth.

**No. 23,724. Attachment to Finger Bars of Harvesters. (Dispositif pour Lames de Moissonneuses.)**

Miles E. Hamilton, Edward L. Perrigo and Morgan A. Perrigo, Auburn, N.Y., U.S., 31st March, 1886; 5 years.

*Claim.*—1st. The combination, with the cutting apparatus of a harvester of a transverse shaft having a series of independently movable sleeves, provided with forwardly-extending rake teeth having rearwardly extending prongs, substantially as and for the purpose set forth. 2nd. The combination, with the cutting apparatus of a harvester, of a transverse shaft having a series of studs, a series of sleeves having vertical slots working upon the said studs, and rake teeth extending forwardly from the said sleeves and having rearwardly extending prongs, substantially as and for the purpose herein set forth. 3rd. The combination, with the cutting apparatus of a harvester, of a transverse shaft, sleeves mounted upon the same and having forwardly extending grooved arms provided with laterally extending flanges and vertical perforators at their inner ends, and the rake teeth attached to the said arms by means of down-turned lugs at their rear ends, substantially as and for the purpose set forth. 4th. The combination, with the cutting apparatus of a harvester, of a transversely arranged rock-shaft having a series of radially movable sleeves provided with forwardly extending arms, and rake teeth attached to the said arms and provided with flexible prongs extending from their points rearwardly over the cutter-bar, substantially as and for the purpose set forth.

**No. 23,725. Rotary Ventilator.**

(*Ventilateur Tournant.*)

John Williams, Quebec, Que., 31st March, 1886; 5 years.

*Claim.*—1st. The combination, with the case *A*, of the cover *I* provided with a catch *H*, having a latch *K* provided with cords *M* and the spring *J*, as and for the purpose set forth. 2nd. The combination, with the case *A*, having bar *G*, provided with stop *N*, of the valves *H*, *I*, as and for the purpose set forth. 3rd. The combination, with the case *A*, having bars *G*, *G*, of the vane-wheel *B*, hub *C* having a hollow stem *D* and spindle *E*, as and for the purpose set forth. 4th. The combination, with the case *A*, of the bars *G*, *G*, bush *F*, spindle *E*, hub *C* having stem *D*, and vane-wheels *B*, as and for the purpose set forth.

**No. 23,726. Machine for Making Coffee.**

(*Appareil à Faire le Café.*)

Edmund K. Sargeant, Brockville, Ont., 31st March, 1886; 5 years.

*Claim.*—1st. The combination, with a water measure *B*, of the coffee reservoir *M* in which is fitted the percolator *K* and the keeper *R*, as shown in drawing. 2nd. The combination in a coffee machine, of the percolator *K* provided with rim *P* on its lower edge. 3rd. The combination, in a percolator, of a coffee keeper with ferromous bottom *L* and the tube *K*, as shown in drawing. 4th. A water measure, for the purpose shown, moving water gauge *D*, steam pipe *G*, tube *I* and cock *H* and heated by furnace *A*, as shown in drawing.

**No. 23,727. Apparatus for Hot Water Heating. (Colorifère à Eau.)**

Adam Clark, Hamilton, Ont., 31st March, 1886; 5 years.

*Claim.*—1st. In a hot water heating apparatus, the longitudinal tubes *B*, set at an upward angle from rear to front about thirteen degrees, and the spring tubes *F* attached to them by elbows; and set on an

incline backwards at or about right angles to the said longitudinal tubes *E*, in combination with the small headers *b*, *d*, large headers *a*, *c* connected to the same by nipples and elbows, substantially as and for the purpose specified. 2nd. In combination, with the tubes *E*, *F*, constructed as shown, of the division plates *f*, and baffle plate *g* for directing the flame and heat upwards towards the outlet header *a*, substantially as specified. 3rd. In combination with the tubes *E*, *F*, placed and constructed as shown, of the sliding damper *K* in the partition *G*, substantially as and for the purpose specified. 4th. In combination with the tubes *E*, *F*, placed and constructed as shown, with inlet and outlet headers to which coils are attached, of the division plates *f*, baffle plate *g*, fire box *A* and exit flue *J* at the bottom of partition *G*, substantially as and for the purpose specified. 5th. The combination of the tubes *E*, *F*, constructed and placed as shown, with inlet and outlet headers *T*, to which coils are attached, the division plates *f*, baffle plate *g*, fire box *A*, exit flue *J* at the bottom of partition *G* and damper *K* at two upper part of partition, substantially as and for the purpose specified. 6th. In combination with the tubes *E*, *F* and inlet and outlet headers, placed as shown, of the outer ones of the said tubes placed down in the sides of the fire box *A*, and the inner ones arranged on a level or arched curved over the fire box, substantially as specified. 7th. In combination with the tubes *E*, *F*, placed and constructed as shown, and fire box *A*, of the clouting door *C* constructed with a non-conductor of asbestos cement packing, or equivalent material, substantially as and for the purpose specified.

**No. 23,728. Field Gate. (Barrière.)**

Jacob H. Moyer, Jordan, Ont., 21st March 1886; 5 years.

*Claim.*—1st. In a field gate, the combination of the pulleys *G*, *G*, crane *F*, gate *C*, *D*, and post *B*, all constructed substantially as and for the purpose specified. 2nd. In a field gate, the combination of the crane *F*, pulleys *G*, *G*, eyes *E*, *E*, post *B* and gate *C*, *D*, all arranged and constructed substantially as and for the purpose specified.

**No. 23,729. Letter Copying Book.**

(*Livre de Correspondence.*)

Edward L. Fargo, New York, N.Y., U.S., 31st March, 1886; 5 years.

*Claim.*—1st. A roller approximately helical in form, and provided with a re-entering groove or rebate longitudinally formed in its periphery, into which groove is fixed the bound edge of a letter copying book, substantially as described. 2nd. A flexible letter copying book, provided with flexible covers and oiled or water-proofed leaves between the book and each of its covers, in combination with a roller into a longitudinal peripheral groove or rebate of which the bound edge of the book is fixed. 3rd. A roller provided with a longitudinal peripheral groove or rebate adapted to receive and hold the bound edge of a copying book, and in combination therewith a tapering or conical hub piece affixed to the periphery of the roller at the base of the attached book, so as to continue the solid platten surface of the roller up to the top at the first roll of the book at its base, substantially as described. 4th. A roller adapted to receive a flexible copying book wound around its periphery, provided with a handle at its outer end by which to rotate it, and a tapering hub at the inner face or end of the handle adapted to fit tightly into the outer end of the enclosing tube, so as to lock or secure the roller against rotation in its enclosing case by the impingement of the sloping or conical faced hub against the inner face of the enclosing tube. 5th. A central roller or platten of a firm material, a flexible copying book wound around the periphery of said roller, a transverse locking bar firmly secured to the outer edge of the outer cover of the book, and adapted to slide longitudinally in an interiorly opening, locking groove formed in the surrounding case, combined and arranged substantially as set forth.

**No. 23,730. Truss Rod for Wagon Axles.**

(*Armature pour Essieux de Wagons.*)

George A. Bain, Woodstock, Ont., 31st March, 1886; 5 years.

*Claim.*—1st. A truss-rod, formed as *C*, in combination with the hooks *a*, formed on the skeins *B*. 2nd. A truss-rod, as *C*, in combination with hooks *a* formed on the skeins *B*, and bridges *D* placed between the truss-rod *C* and axle *A*, substantially as and for the purpose specified.

**No. 23,731. Mechanical Oiler and Journal Box for Shaiting. (Graisseur Mécanique et Boîte à Grasse pour Tourillons.)**

Henry P. Humphrey, Lowell, Mass., U.S., 31st March, 1886; 5 years.

*Claim.*—1st. The journal-box provided with end drip-receivers, inclined grooves on the inside of said box near the top of the same, and leading from points midway between the ends of said box into said drip-receivers, the cover having a chamber, of the inside of the top of the same, an oil-hole leading through the top of said cover into said chamber, and oil passages leading from said chamber into said inclined grooves, as and for the purpose specified. 2nd. The combination of the box proper, provided with end drip-receivers, and the cover having a chamber in the inside of the top of the same, an oil-hole leading through said cover into said chamber, and oil-passages cored out in said cover, and leading from said chamber into said receivers, as and for the purpose specified. 3rd. The combination of the box, its cover having an oil-hole communicating with the interior of said cover and box, the pump having a nozzle, the free end of which extends over said oil-hole, and a sleeve surrounding said free end of said nozzle, and sliding freely thereon, and adapted to enter said oil-hole and fit the same, as and for the purpose specified. 4th. The cam or eccentric provided near its side edges with grooves, and adapted to be wrapped partly around a shaft, and to be held thereon by wires laid in grooves, and fastened around said shaft, as and for the purpose specified. 5th. The cam or eccentric formed of a strip of metal, provided near its side edges with grooves, and scarfed at each end to an edge between said grooves, and adapted

to be wrapped partly around a shaft and to be held thereon by wires laid in said grooves and fastened around said shaft, as and for the purpose specified.

**No. 23,732. Lifting Pump for Deep Oil and other Wells.** (*Pompe Aspirante pour Puits d'Huile Profonds et autres.*)

William F. Yates, Oil Springs, Ont., 31st March, 1886; 5 years.

*Claim.*—1st. The combination of the metal or vulcanized rubber rings F, E, E, with the metal piston or plunger D, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the head C, with the stuffing box J, substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the lock nut G, with the cylinder B, substantially as and for the purpose hereinbefore set forth. 4th. The combination of the cut-off F, and the ports H, H, H, H, substantially as and for the purposes hereinbefore set forth. 5th. The combination of the balls M, M, with the cages I, I, and the cylinders B, B, substantially as and for the purposes hereinbefore set forth. 6th. The combination of the hollow cylinder B, with all other, the combination hereinbefore mentioned, substantially as and for the purposes hereinbefore set forth.

**No. 23,733. Counter Check Book.**

(*Livret de Vente.*)

James Gordon, Stratford, Ont., 31st March, 1886; 5 years.

*Claim.*—1st. In a counter check book, a clip secured permanently to the central portion of the cover, and provided with a spring arranged to draw toward each other to inwardly projecting pins, which penetrate and hold the book body in the cover. 2nd. A check book clip composed of the tube C, having attached to it the back bar D, and having within it the spring c, which controls the sliding arms E, with their holding pins b, and the clasp d. 3rd. The combination of the above-described clip, with the book cover A, and the book body B, substantially as and for the purpose described. 4th. In a counter check book cover, a folding jacket having the leaf e, with its marginal portion f arranged to fold under and hold the block or transfer sheet s, and the whole held closed by the overlapping hook h, of the keeper g which slides in said cover.

**No. 23,734. Axle Journal Box.**

(*Boîte à Graisse.*)

John J. Lappin, Toronto, Ont., 31st March, 1886; 5 years.

*Claim.*—The acting surface of the journal bearings, of revolving shafts or axles, or parts of the surface cast upon a chill, and chilled thereby to increase the durability of the bearings, substantially as shown and described.

**No. 23,735. Surface Condenser, Feed Water Heater, etc.** (*Condensateur de Surface, Réchauffeur d'Eau d'Alimentation, etc.*)

John Kirkaldy, London, Eng., 31st March, 1886; 15 years.

*Claim.*—1st. The combination of the casing A, and the parallel alternately right and left handed spiral worms D, passing through such casing, and arranged with the coils of each worm passing into spaces between the coils of the adjacent worms, substantially as described. 2nd. The combination of the casing A, parallel worms D, plate K, and chambers B and C, substantially as described. 3rd. The combination of the casing A, parallel worms D, tube plates E and F, tubular necks L extending therefrom, covers B and C, one provided with an inlet the other with an outlet, and nuts M, substantially as described. 4th. A feed water heating apparatus for the boilers of steam engines, constructed in such manner that the feed water in its passage from the feed pump of the engine to the boiler is taken into casing A, and therein heated by being brought into contact with tubular coils or worms D to which steam is applied directly from the boiler. 5th. The construction of a feed water heater in such manner that the feed water is passed through a number of parallel coils D, whilst the exhaust steam on its way from the cylinders to the condenser of a steam engine is led through a casing A surrounding these coils, substantially as described.

**No. 23,736. Tongue and Neck Yoke Attachment.** (*Ferrure de Timon et de Volée.*)

Richard T. Cook, Virginia, Montana, U.S., 31st March, 1886; 5 years.

*Claim.*—1st. The combination, with the pole or tongue A, of a vehicle, of the within-described attachment consisting of a hollow cap or socket C applied to the front end of the pole or tongue, and provided with a shoulder f, and a downwardly and backwardly projecting hook b having its nose arranged to occupy a position on the under side of the pole or tongue, and bent upward to within a short distance of the forward end and under side of the cap or socket, the whole for use in connection with the neck yoke B, and the ring or loop d, substantially as described.

**No. 23,737. Hay Carrier.** (*Monte-Foin.*)

Adam Murchey, Joseph Murchey and William Luttrell, Guelph, Ont., 31st March, 1886; 5 years.

*Claim.*—1st. A rail for a hay-carrier, composed of pipes A, connected together by studs C passing through holes in the coupling bracket B, substantially as and for the purpose specified. 2nd. In connection with a hay carrier, a rope E attached at one end to the bail G, and provided at its other end with the ring H, in combination with the snatch-block F, substantially as and for the purpose specified. 3rd. A snatch-block F, having a slot d in it to receive the ring H, and a pivoted hook e to support the said ring H, in combination with the pivoted dog f actuated by the spring g to hold the hook e, substantially as and for the purpose specified.

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

559. G. D. KING, 2nd 5 years of No. 2,570, from the 4th day of April, 1886. Improvements on the Manufacture of Paper Pulp from Wood, 1st March, 1886.
560. G. A. KEENE and C. H. BRECK, 2nd 5 years of No. 23,265, from the 1st day of February, 1891. Improvements on Flour Mops, 1st March, 1886.
561. A. W. MORTON, (executrix), 2nd 5 years of No. 12,520, from the 19th day of March, 1886. Improvements on Gas Heating and Cooking Apparatus, 3rd March, 1886.
562. F. NISHWITZ, 2nd 5 years of No. 12,533, from the 23rd day of March, 1886. Improvements on Combined Harrow and Clod Crushers, 5th March, 1886.
563. H. A. STEARNS, 3rd 5 years of No. 5,920, from the 6th day of April, 1886. Improvements on Railway Crossing Gates, 10th March, 1886.
564. W. STEPHENSON, 2nd 5 years of No. 12,494, from the 12th day of March, 1886. Improvements in Ground Augers, 11th March, 1886.
565. Q. L. and A. BRIN, 2nd 5 years of No. 12,391, from the 7th day of April, 1886. Improvements in the Production of Oxygen Gas and Nitrogen Gas, 11th March, 1886.
566. J. L. JOHNSON, 2nd 5 years of No. 9,896, from the 23rd day of May, 1886. Composition of Matter to be Used Medicinally and as an Article of Food, 14th March, 1886.
567. J. HALL, 2nd 5 years of No. 12,599, from the 7th day of April, 1886. Improvements on Air Brakes for Railway Trains, 15th March, 1886.
568. THE DOMINION ORE CONCENTRATING CO. (assignees), 2nd 5 years of No. 12,325, from the 21st day of March, 1886. Improvements on Ore Concentrators, 15th March, 1886.
569. C. D. DEWEY, 2nd 5 years of No. 12,600, from the 7th day of April, 1886. Improvements on Harvester Rakes, 16th March, 1886.
570. C. D. DEWEY, (assignee), 2nd 5 years of No. 12,757, from the 9th day of May, 1886. Improvements in Mechanism for Controlling the Action of Harvester Rakes, etc., 16th March, 1886.
571. St. G. L. FOX, 2nd 5 years of No. 12,613, from the 11th day of April, 1886. Improvements on and Appurtenant to Electric Lamps and Electric Lighting, 18th March, 1886.
572. F. GOURDEAU and A. STEWART, 2nd 5 years of No. 12,322, from the 19th day of March, 1886. Improvement on Paper Files, 19th March, 1886.
573. C. F. A. W., and A. L. LAWTON, 2nd 5 years of No. 12,529, from the 23rd day of March, 1886. Improvements on Method of and Apparatus for the Manufacture and Purification of Gas for Preserving Purposes, 20th March, 1886.
574. O. I. BERGERON, 2nd 5 years of No. 12,526, from the 21st day of March, 1886. Improvements in Hay Rakes, 20th March, 1886.
575. A. T. WOODWARD, 2nd 5 years of No. 12,544 from the 26th day of March, 1886. Improvements on Plastic Compound, 22nd March, 1886.
576. O. HALES and M. TEAKLES, 2nd 5 years of No. 14,666, from the 26th day of April, 1886. Improvements on Machines for Working Upright Churns, 24th March, 1886.
577. W. SARGENT, 2nd 5 years of No. 12,562, from the 21st day of March, 1886. Load Lifting Machines, 27th March, 1886.
578. F. M. LECUNER and J. A. JEFFREYS, 2nd 5 years of No. 23,703, from the 27th day of April, 1886. Improvements on Machines for Mining Coal, 27th March, 1886.
579. S. FLORSHEIM, 2nd 5 years of No. 12,717, from the 29th day of April, 1886. Improvements on Elastic Gores, Gaskets, etc, 27th March, 1886.
580. G. PYE, 2nd 5 years of No. 12,559, from the 30th day of March, 1886. Improvements on Harvesters, 30th March, 1886.
581. C. GOODYEAR, Jr., 3rd 5 years of No. 6,164, from the 26th day of May, 1886. Improvements on Sewing Machines for Boots and Shoes, 31st March, 1886.
582. C. GOODYEAR, Jr., 3rd 5 years of No. 6,168, from the 26th day of May, 1886. Improvements on Machines for Sewing Boots and Shoes, 31st March, 1886.



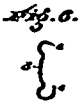
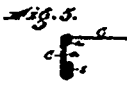
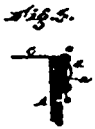
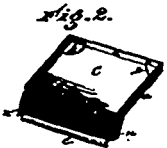
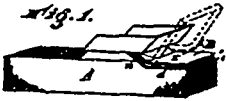
# CANADIAN PATENT OFFICE RECORD.

## ILLUSTRATIONS.

Vol. XIV.

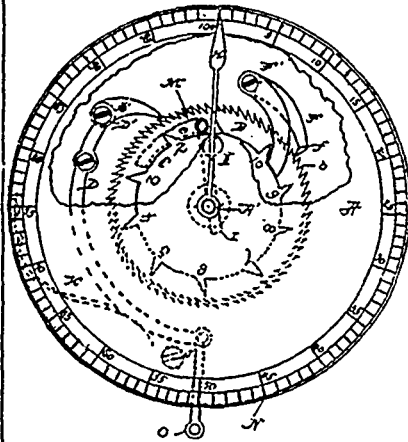
APRIL, 1886.

No. 4.

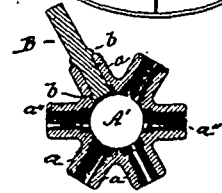
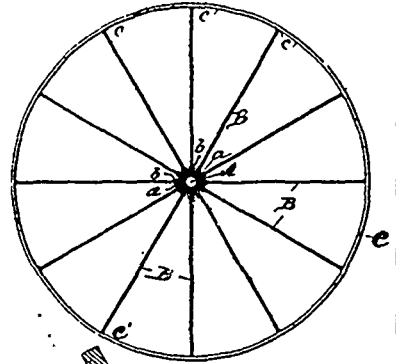


23516

Leek's Buggy Boot.

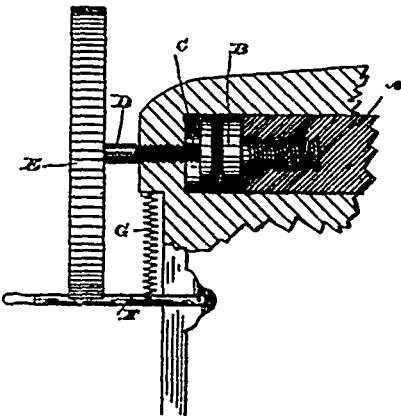


23517 Yonley's Folio Register for Type-Writers.



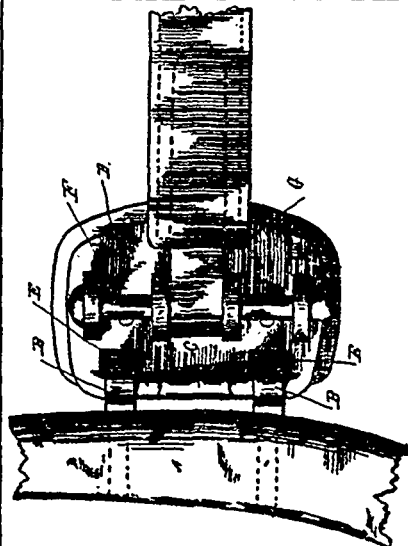
23518

Bettendorf's Wheel



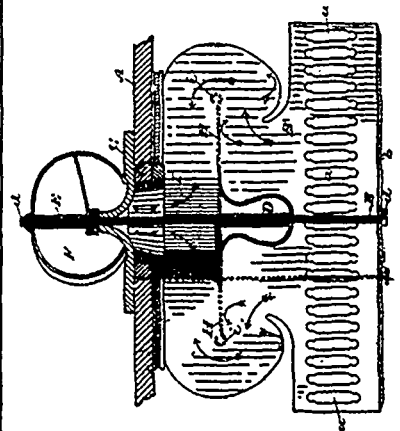
23519

Gryden's Grinding Mill.



23520

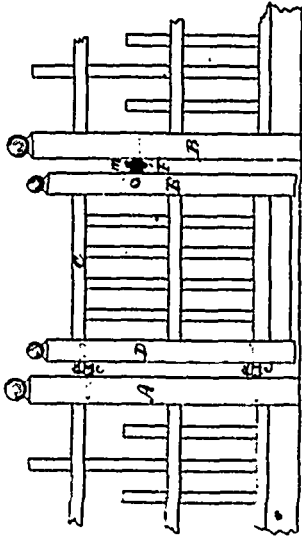
Latahaw's Lamp.



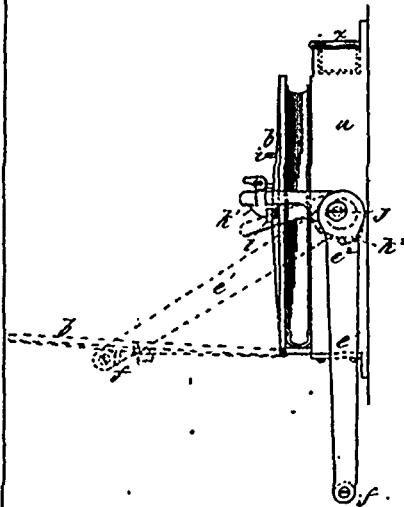
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Clutbo's Ventilator.

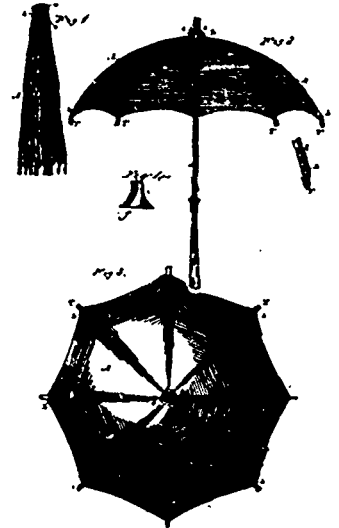




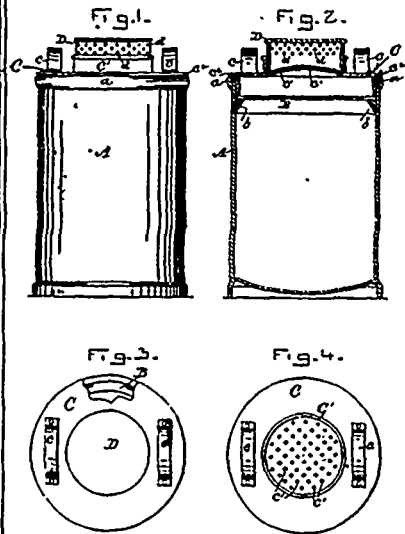
23522 Rockfellow's Gate Latch.



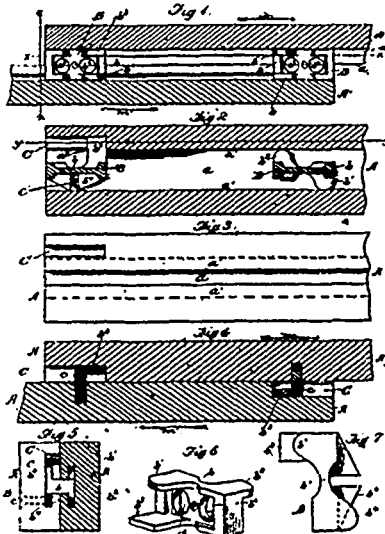
23524 Kempster's Copying Press.



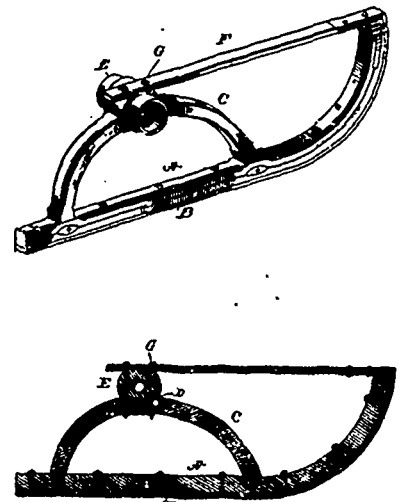
23525 Fichel's Parasol or Umbrella.



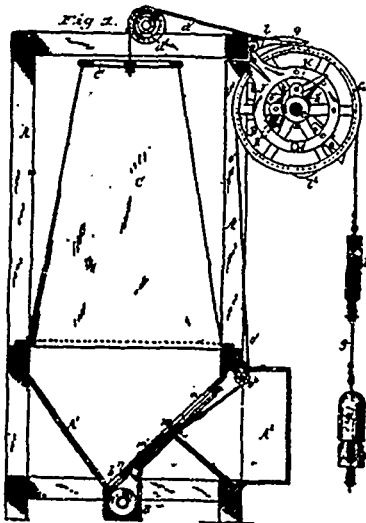
23526 Slaght's Milk Can.



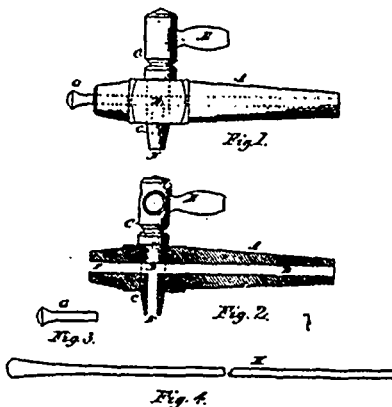
23527 Shilling's Table Slide.



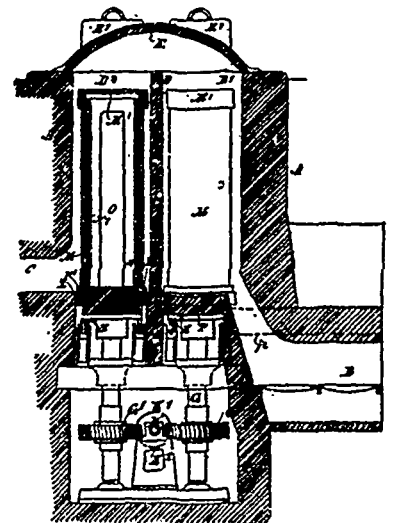
23528 Brownell's Sleigh Runners.



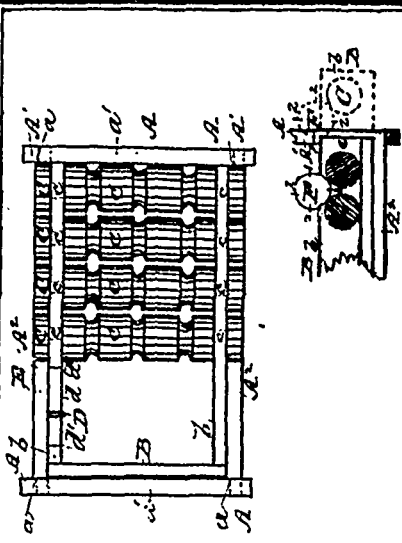
23529 Morgan's Dust Collector.



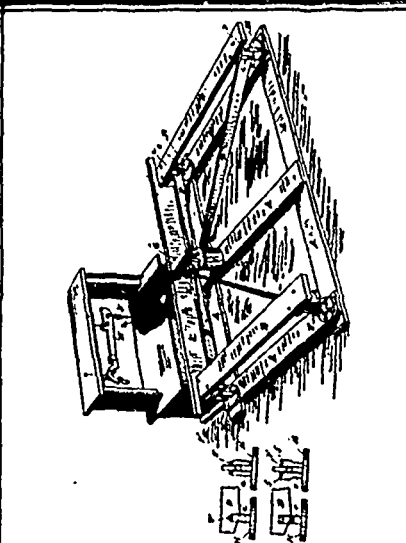
23530 Glazebrook's Faucet.



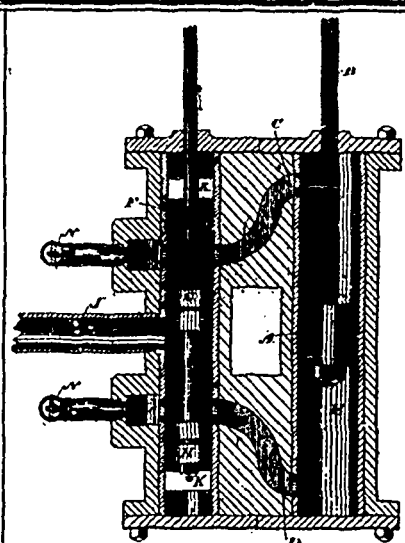
23531 Fox's Apparatus for Annealing Wire and Metal in Other Forms.



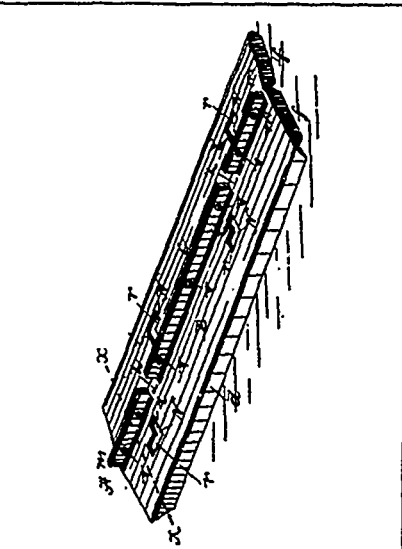
23532 Jones' Apparatus for Preserving Eggs.



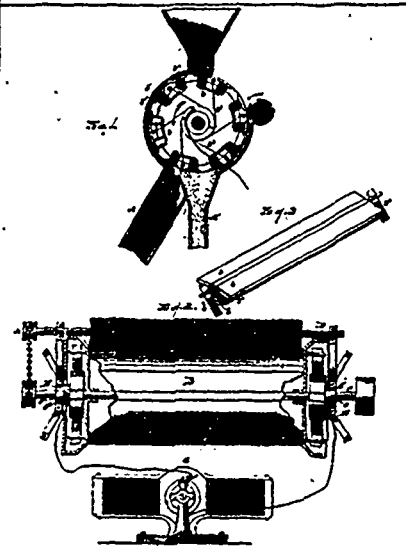
23533 Rear's Weigh Bridge.



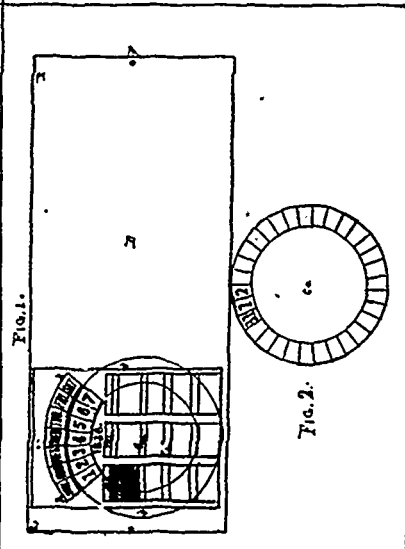
23534 Hughes' Water Motor.



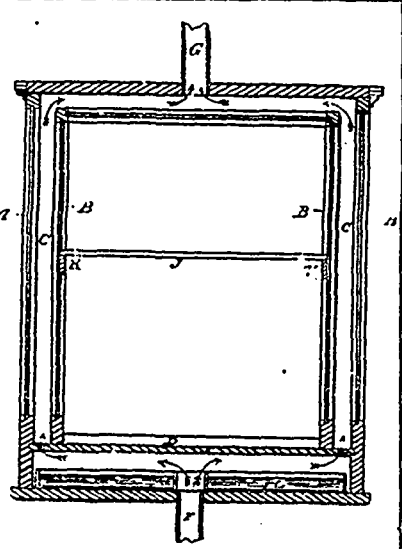
23535 Higley's Railway Tie.



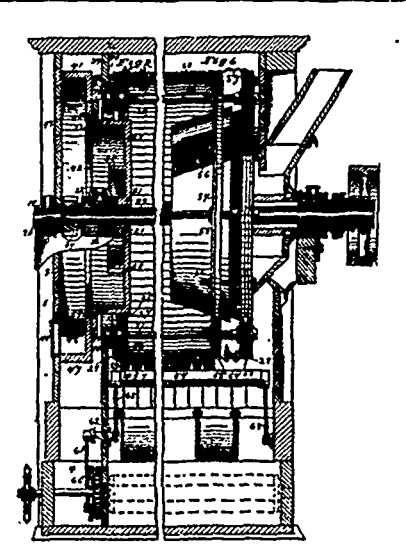
23536 Fisher's Apparatus for Extracting Particles of Steel or Iron.



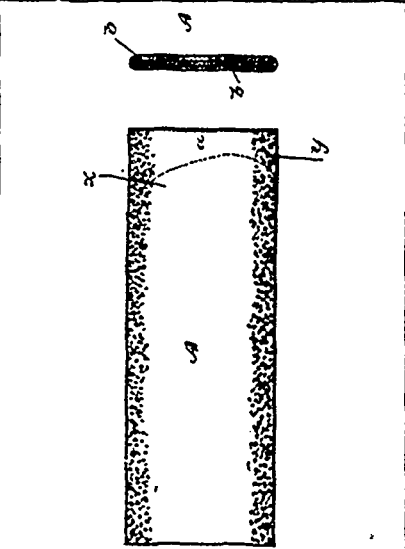
23537 Moise's Calendar and Blotting Pad.



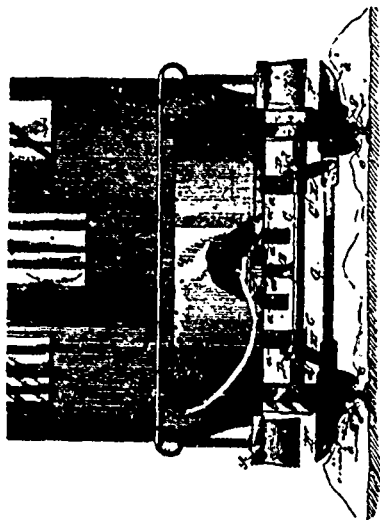
23538 Lalonde's Refrigerator.



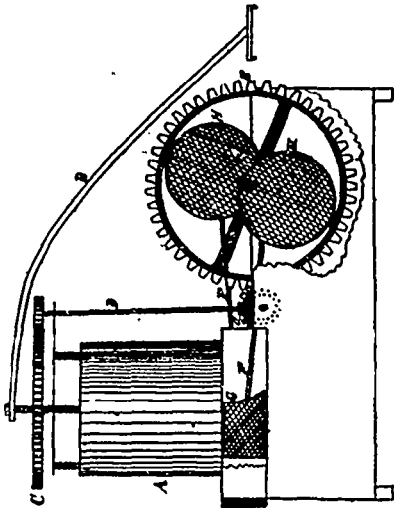
23539 Smith's Flour-Bolt.



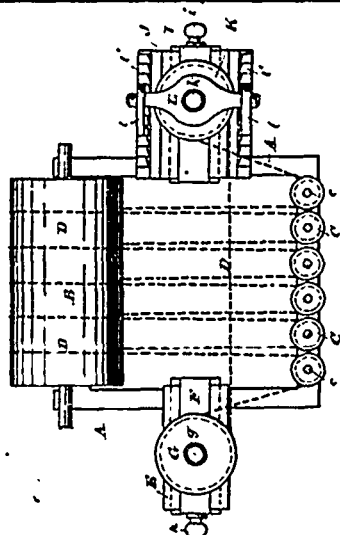
23540 Ross' Manufacture of Felt Stockings, etc.



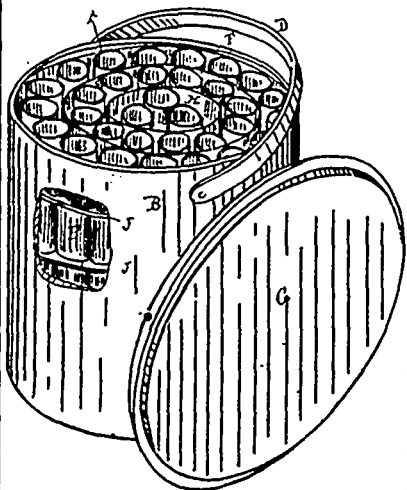
23541 Littell's Track Scraper for Railways.



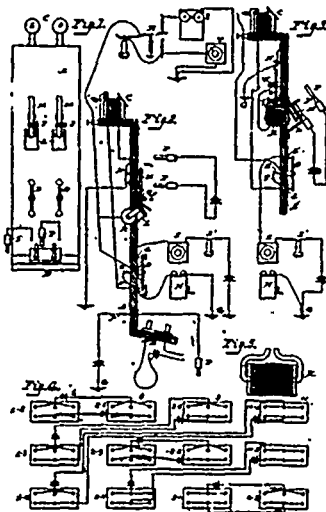
23543 Baillie's Machine for Making Bricks and Tiles.



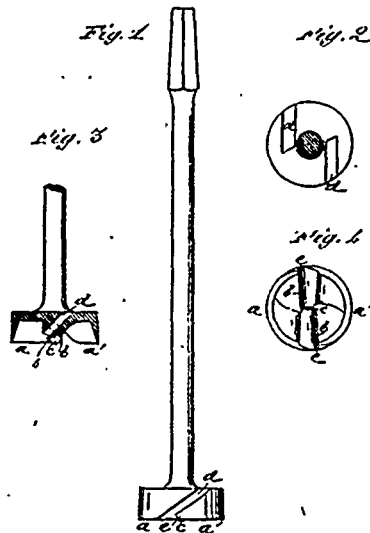
23544 Gemmill's Machinery for Spinning Yarn.



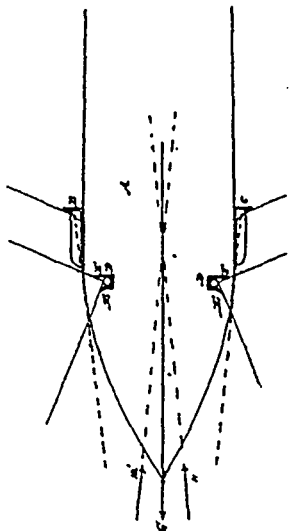
23545 Berry's Egg Carrier



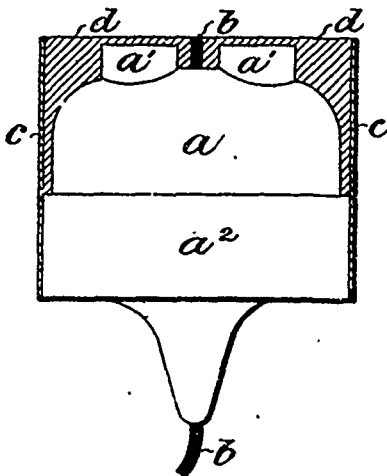
23546 Wallace and Enholm's Microphone.



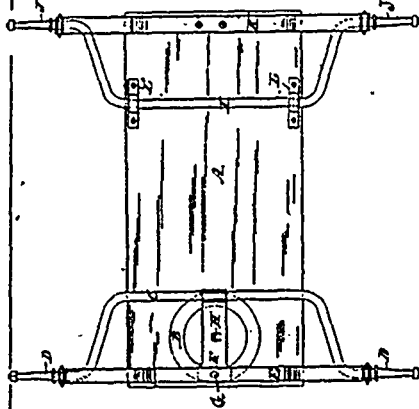
23548 Forstner's Auger.



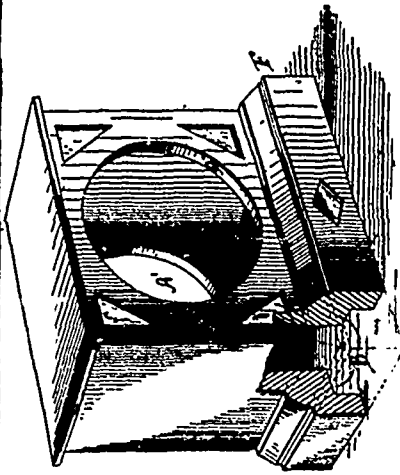
23549 Parry's Marine Signal Light.



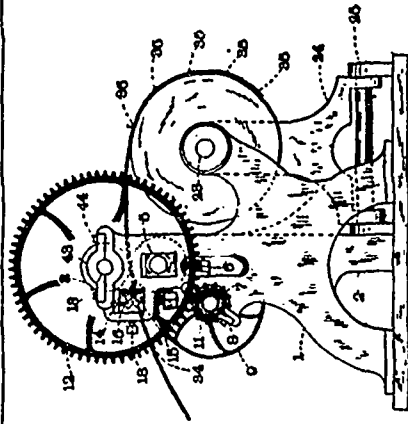
23550 Clarke's Night Light.



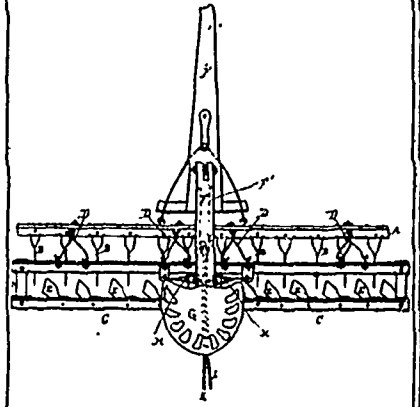
23551 Welch's Vehicle Running Gear.



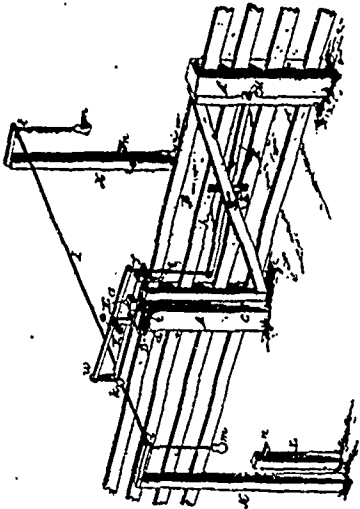
23552 Coughlin's Manufacture of Clock Cases, &c., from Plastic Material.



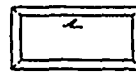
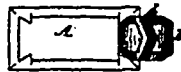
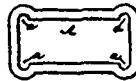
23553 Jewett's Machine for Making Boxes.



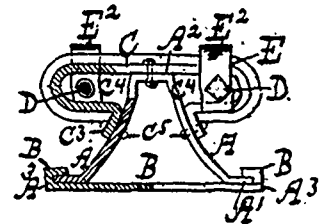
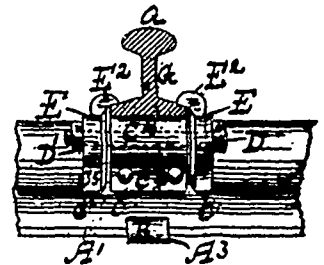
23554 Richmond's Pulverizer.



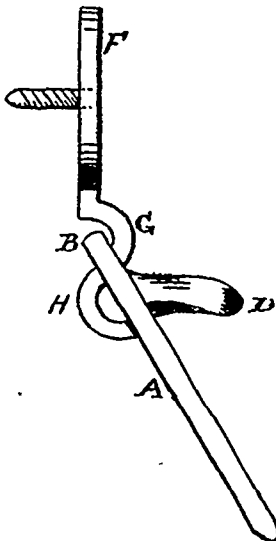
23555 Vann's Automatic Gate.



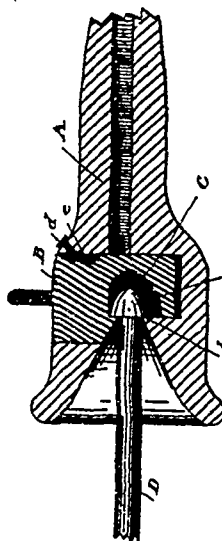
23556 Alden's Drive Chain.



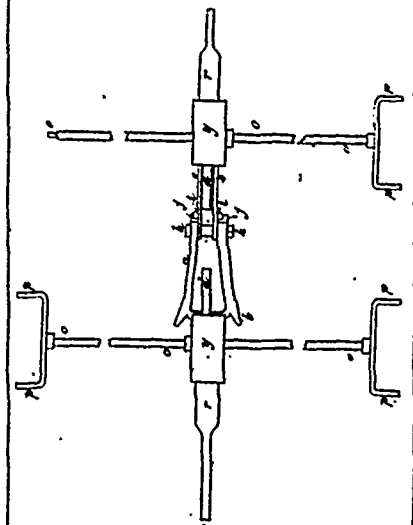
23557 Ammon's Railway Tie.



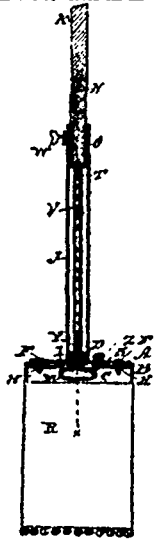
23558 Kinney's Broom-Holder.



23559 Ripson Car-Coupler.

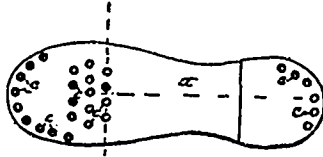
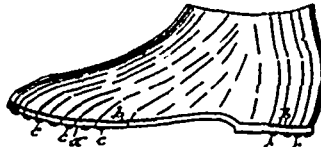


23560 Darling's Car-Coupler.



23561

Wilson's Mop



23562 Thomson's Process of Applying Metallic Wearing Points in the Bottom of Rubber Boots and Shoes.

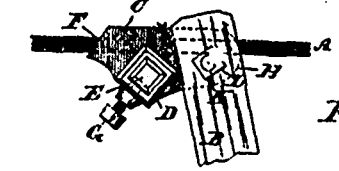


Fig. 1.

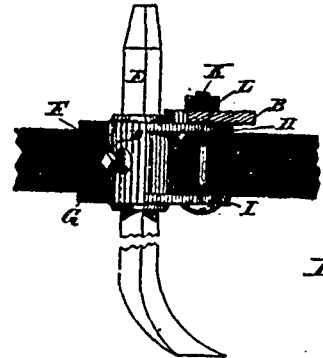
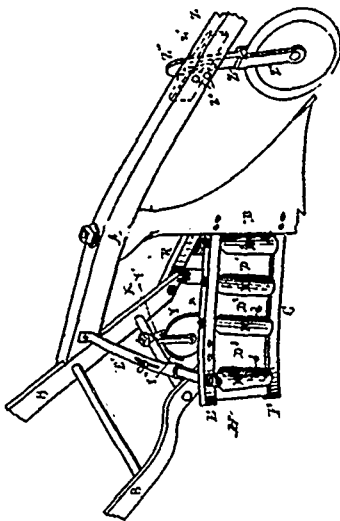


Fig. 2.

23563

Bunn's Harrow Cultivator.



23564

Estes' Plough.

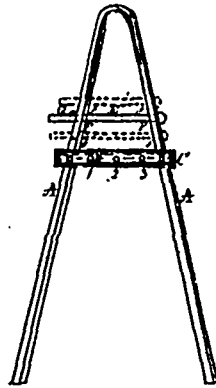


Fig 1

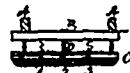


Fig 2

23565

Shapley's Horse Fork.

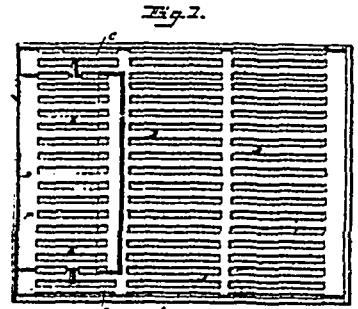


Fig. 2.

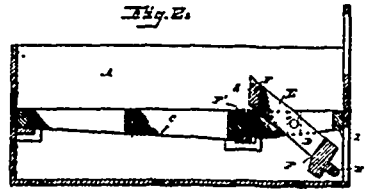


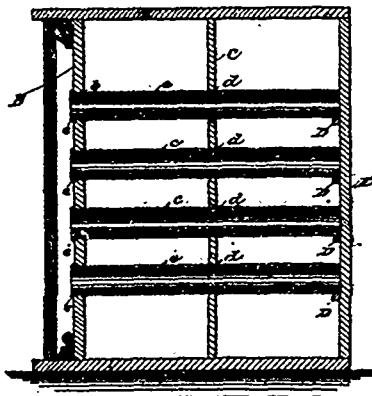
Fig. 3.

23568

Minler's Furnace Grate.

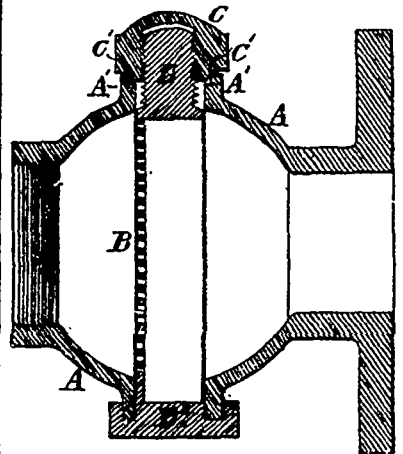


23567 Toupin's Carriage Axle and Nave Box.

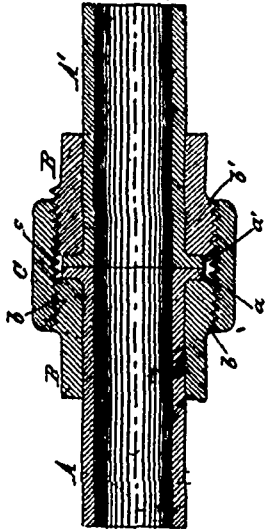


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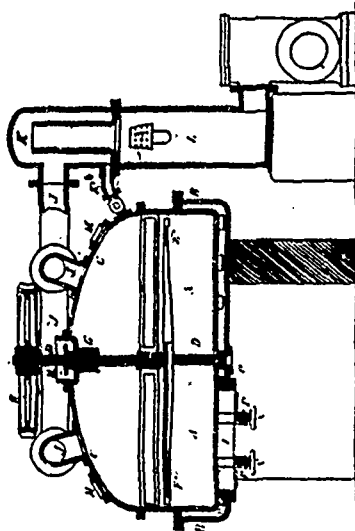
Poirier's Umbrella Cabinet.



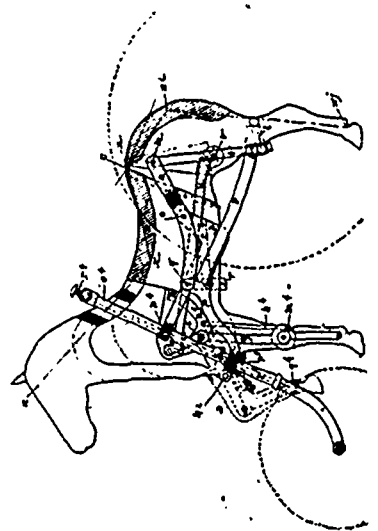
23569 Kirkaldy's Appliance for Preventing Dirt from Passing into Water Pipes, etc.



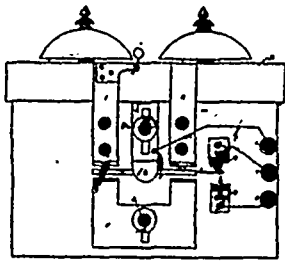
23571 Wilson & Boyle's Lead Pipe Coupling.



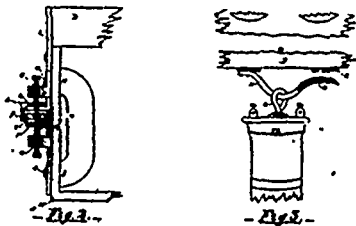
23572 Johnston's Apparatus for Drying Animal Matter and for the Concentration of Fluid.



23573 Lacasso's Automaton Horse.



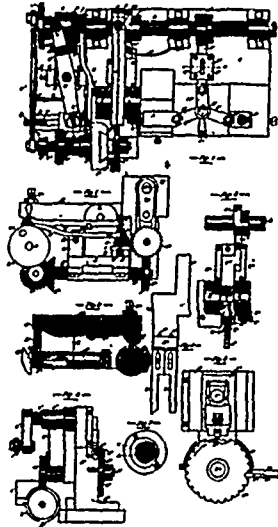
- Fig. 1 -



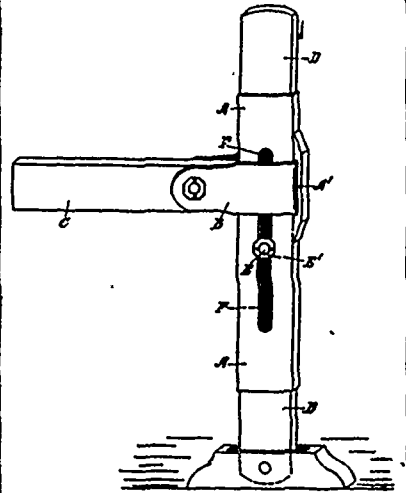
- Fig. 2 -

- Fig. 3 -

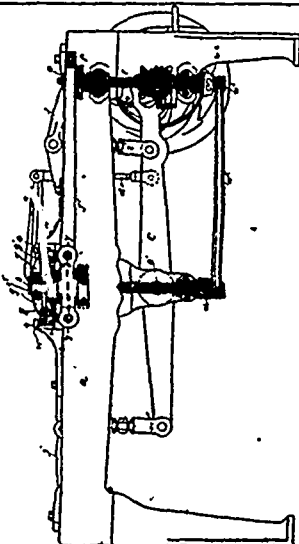
23574 Gisborne & Keeley's Automatic Electric Circuit Switch.



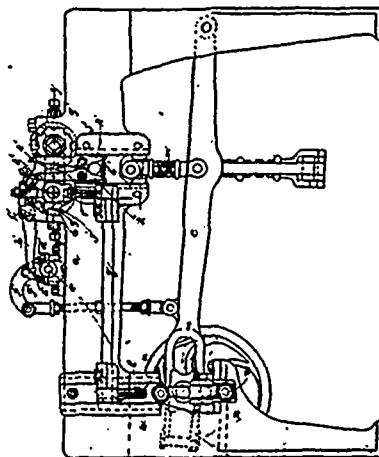
23575 Follansbee's Machine for Manufacturing Nails from Wire.



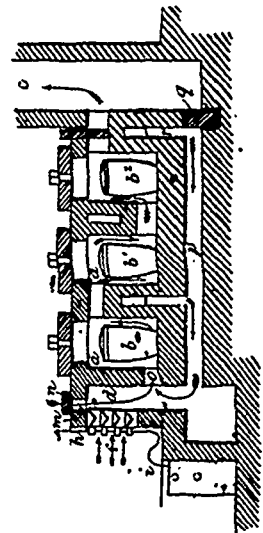
23576 Kendray's Tug Strap Holder for Power Looms.



23578 Lewis' Machine for Making Wire Nails.



23579 Lewis' Machine for Making Wire Nails.



23580 Nobel's Apparatus for Burning Naphtha, etc.

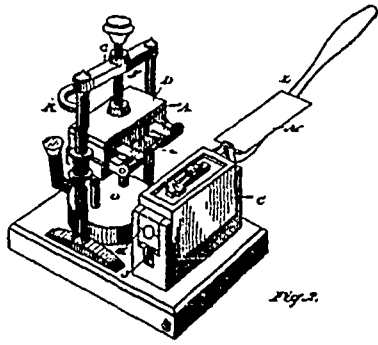


Fig. 1.

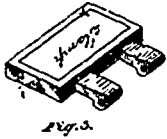


Fig. 2.

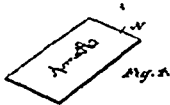


Fig. 3.

23581 Rodwell's Manufacture of Vulcanized Rubber Dies or Stamps.

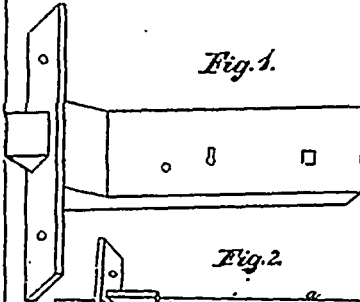


Fig. 1.

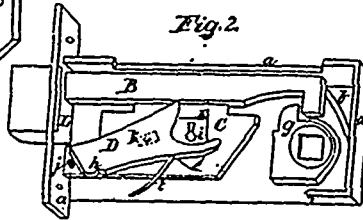
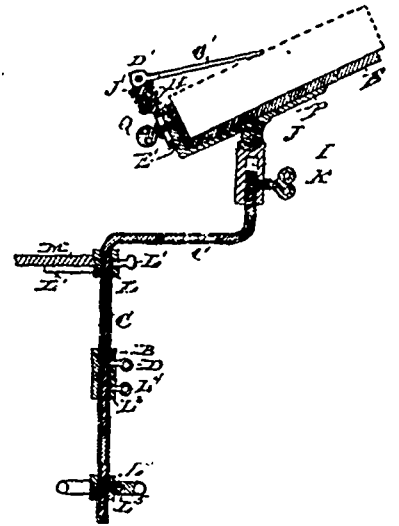
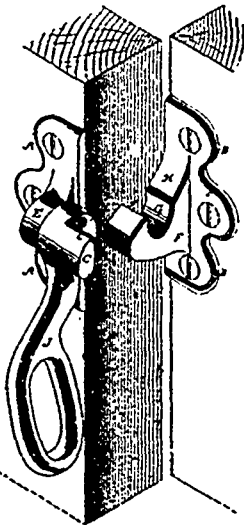


Fig. 2.

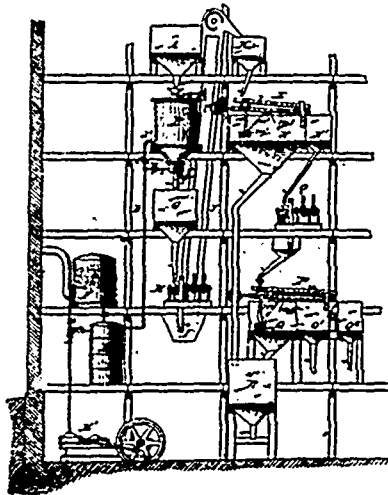
23582 Pomeroy's Door Lock



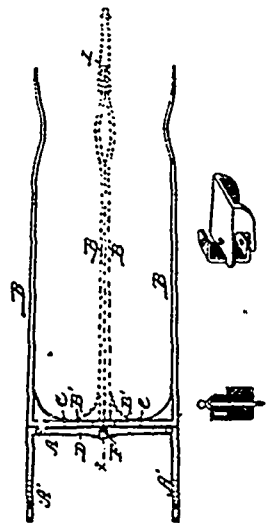
23583 McClure's Book Rest.



23584 Conroy's Device for Fastening Doors, Shutters, etc.



23585 Schuman's Manufacture of Starch.



23586 Martin's Combined Pole and Shaft for Vehicles.

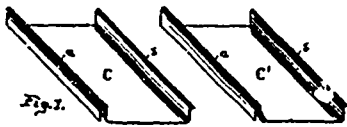


Fig. 1.

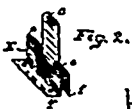


Fig. 2.



Fig. 3.

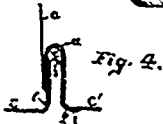


Fig. 4.

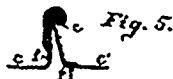
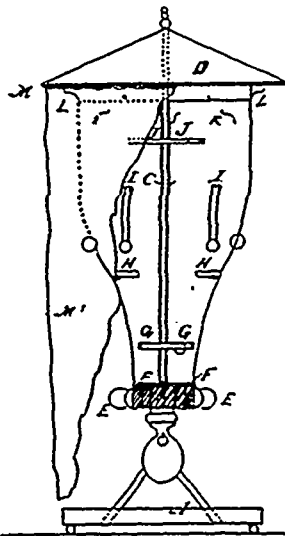
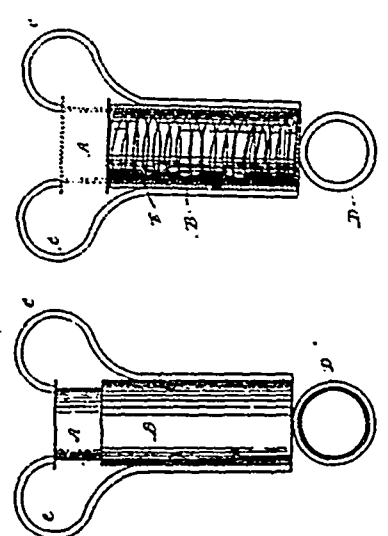


Fig. 5.

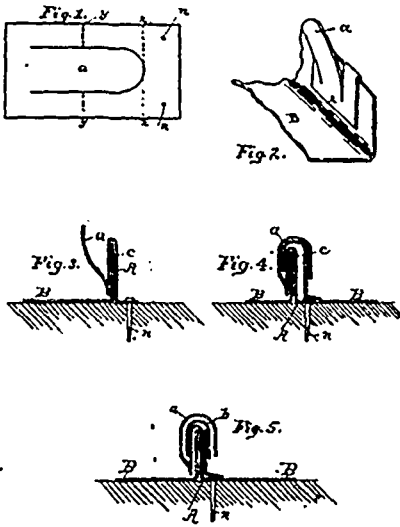
23587 Sagendorf's Sheet Metal Roofing.



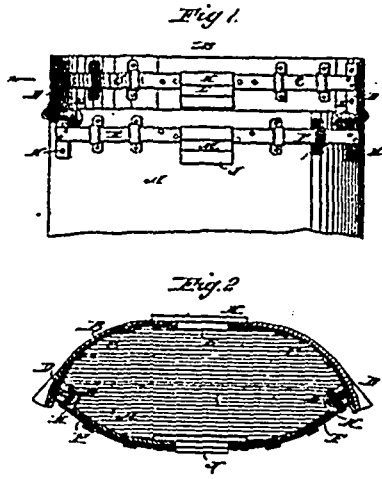
23588 Charbonneau's Hall Rack.



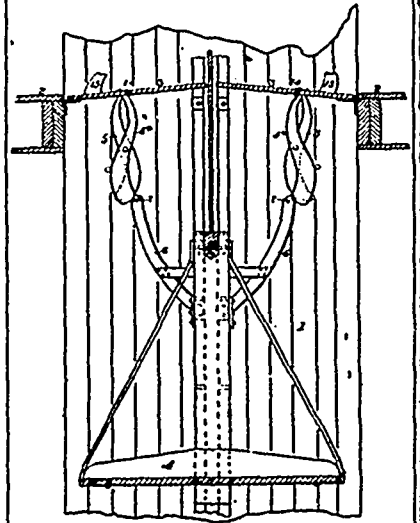
23589 Duern's Necklace Fastener.



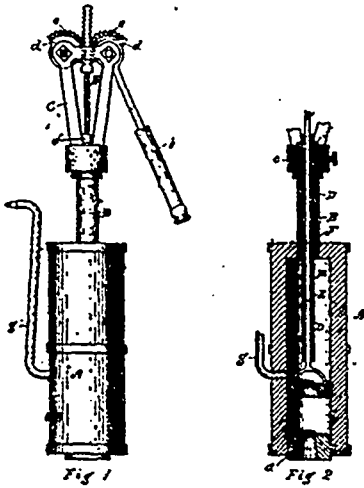
23590 Eagendorph's Metal Roof.



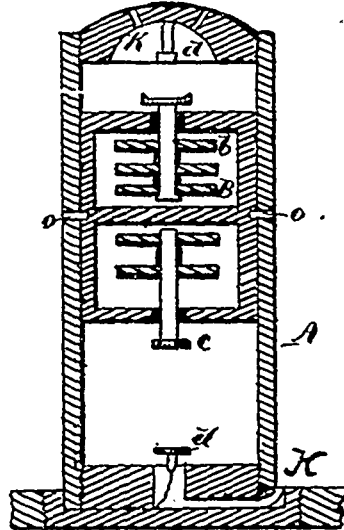
23591 Brophy's Mail Bag.



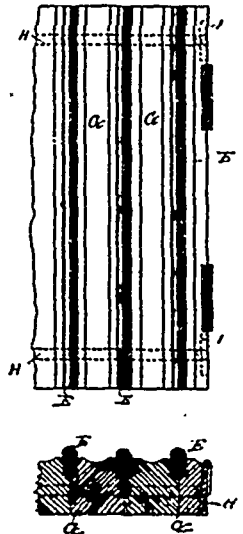
23592 Blakke's Mechanism for Operating Hatchway Doors of Elevator Shafts.



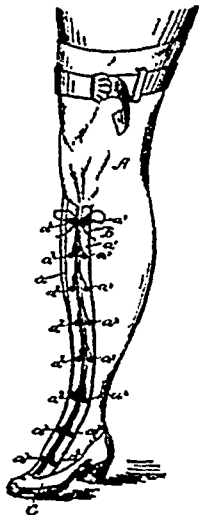
23593 Rusk's Force Pump.



23594 Zalinski's Electrical Shell Fuse.



23595 Whiteley's Wearing Surface.



23597 Tyler's Rubber Boot

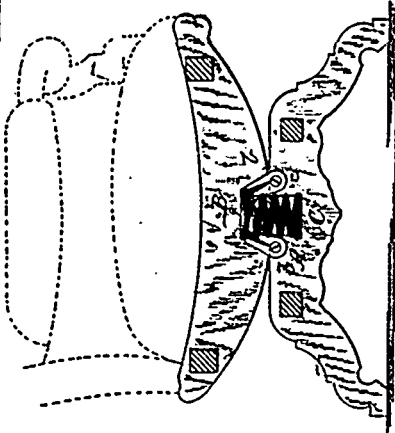


23598 Bélanger's Time Register.

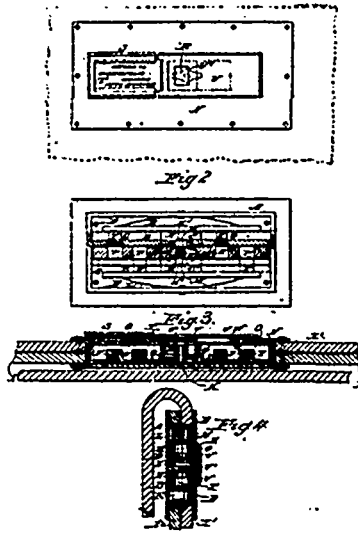


23599 Hill's Bridge.

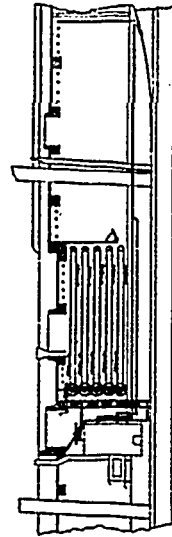




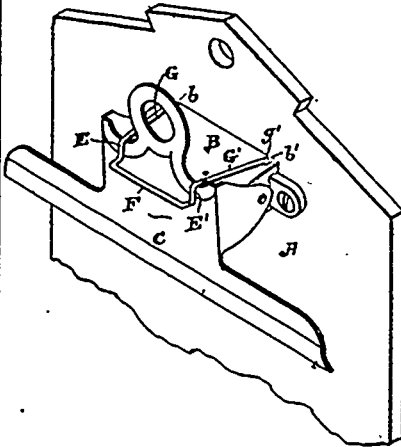
23600 Bunker's Attachment for Rocking Chairs.



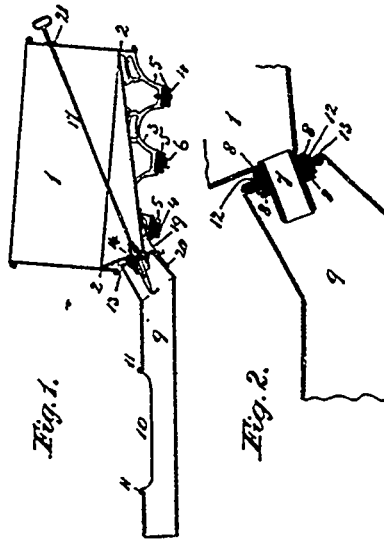
23601 Brophy's Mail Bag Lock.



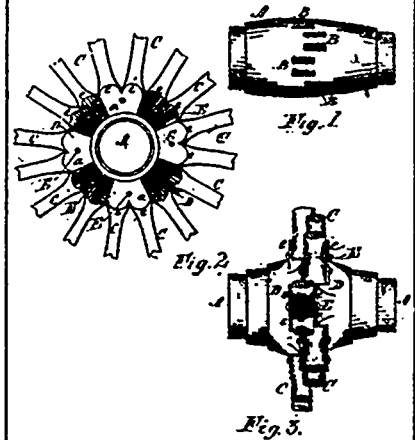
23602 McDonald's Refrigerating Apparatus



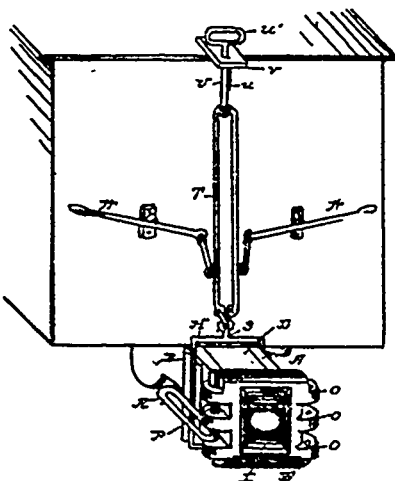
23503 Yelser's Paper Clip.



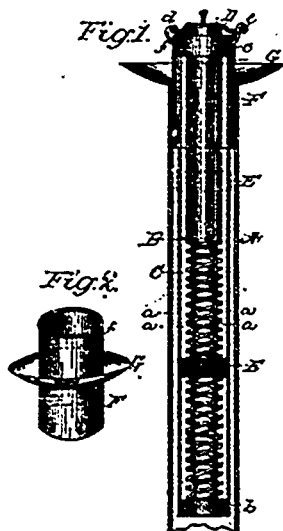
23604 Strong's Milk-Weighing Can and Conveyor.



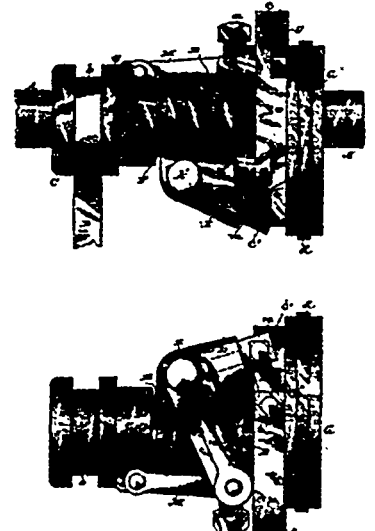
23605 Miscner's Carriage and Waggon Wheel.



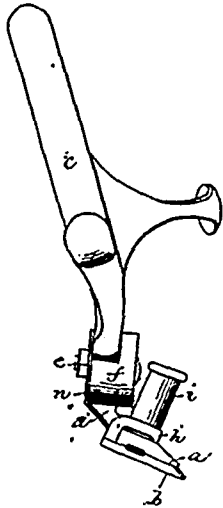
23606 Graveline's Car-Coupling.



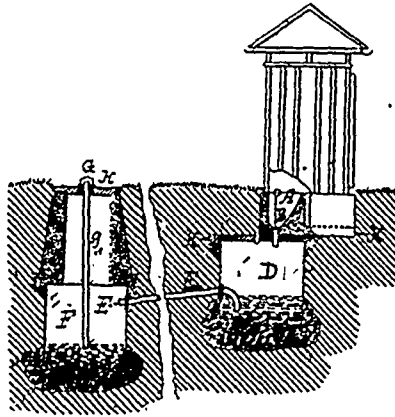
23607 Greeley's Candlestick.



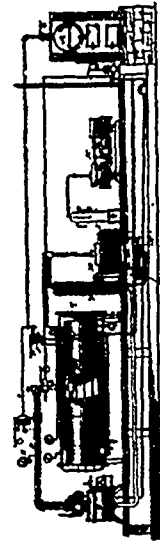
23608 Huber & King's Valve Adjusting and Reversing Gear.



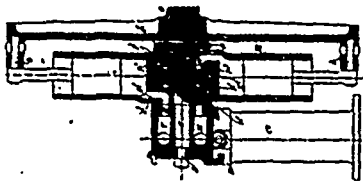
23609 Beaudetto's Hair Clipper.



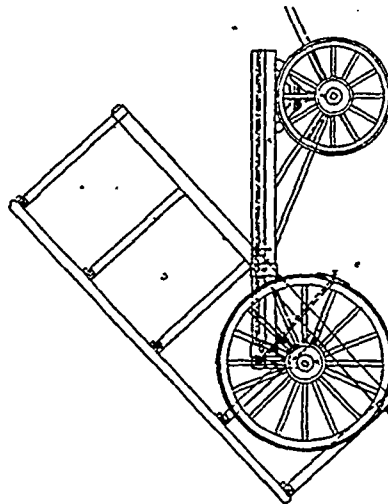
23610 Bryden's Sanitary System.



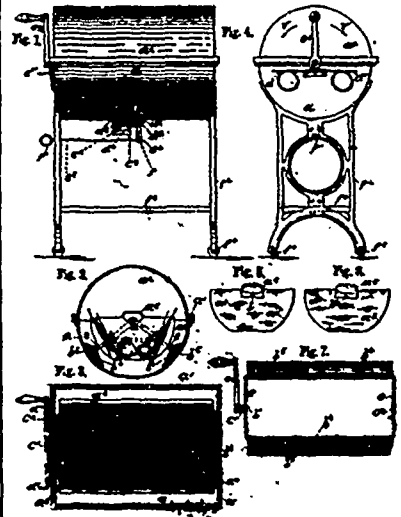
23611 Colwell's Triple Thermal Motor.



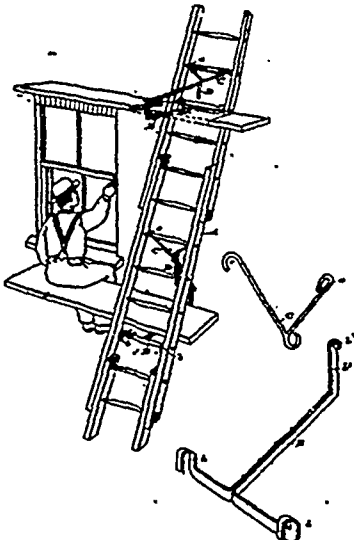
23612 Rigg's Gas and Fluid Engine.



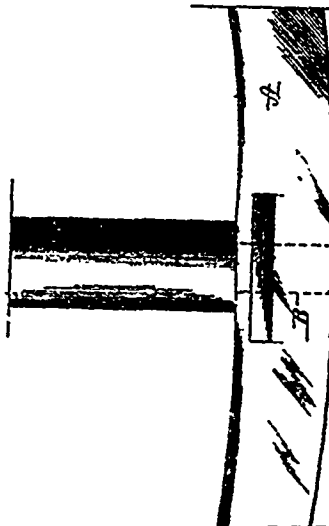
23613 Gagnon's Coal Cart.



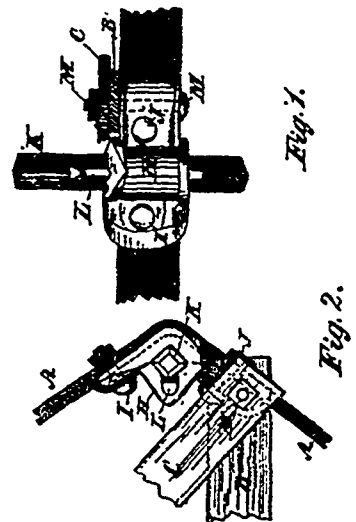
23614 Scoville's Dish-Washing Machine.



23615 Hitchcock's Ladder Bracket.



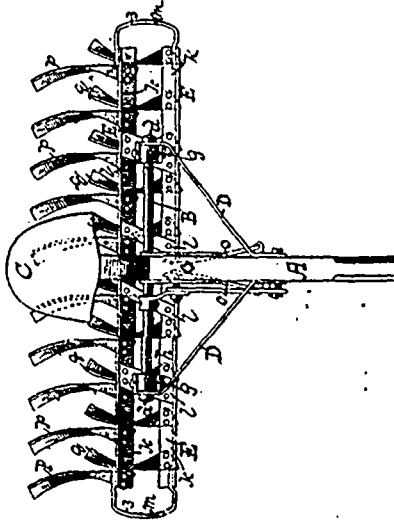
23616 Maris' Wheel Felloe.



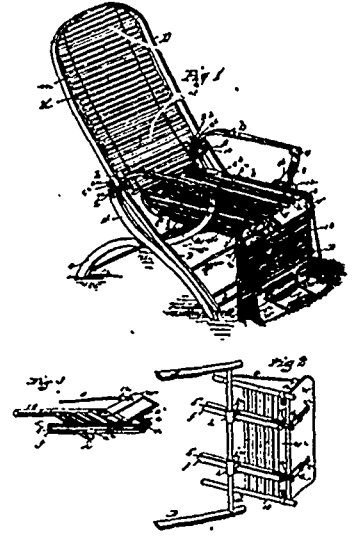
23617 Evan's Harrow Cultivator



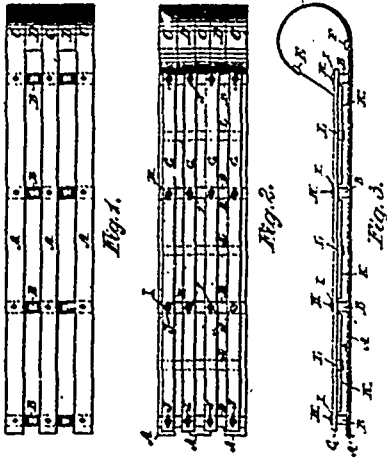
23618 Gregory's Apparatus for Levelling Planes, etc.



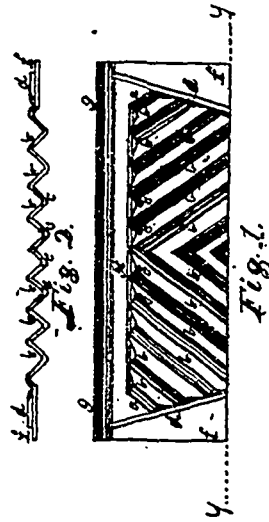
23619 Lane's Harrow.



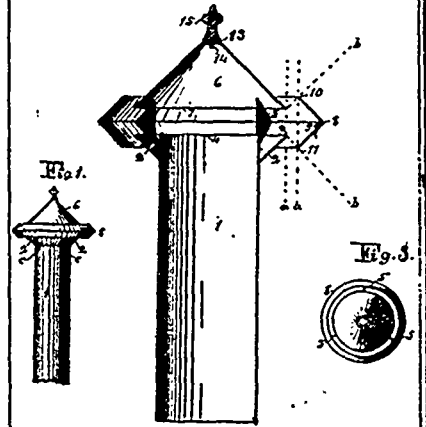
23620 Phillips' Reclining Chair.



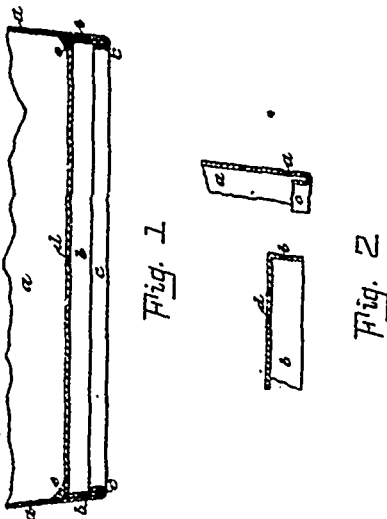
23621 Pierce's Toboggan.



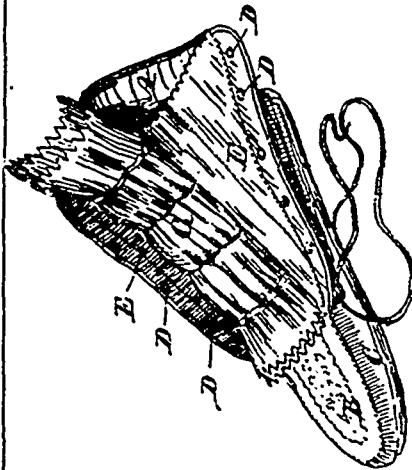
23622 Sanders' Stove Lining.



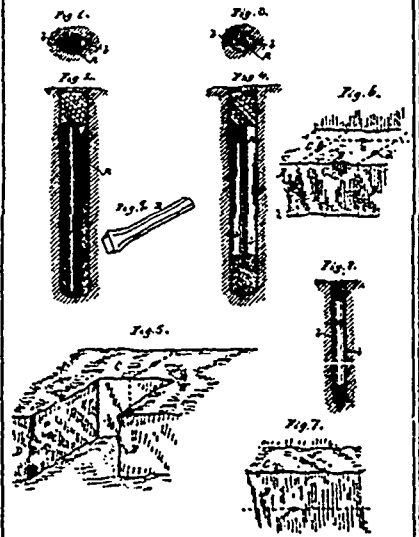
23623 Schanck's Ventilator and Chimney Cap.



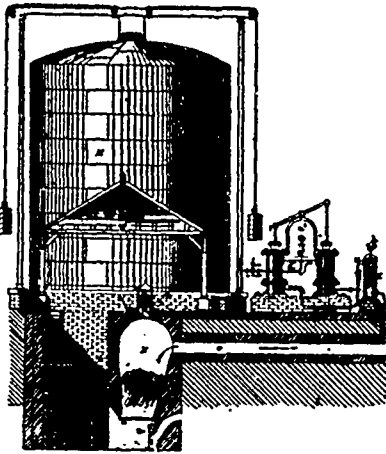
23624 Finkle's Rim and Bottom for Pails, Pans, etc.



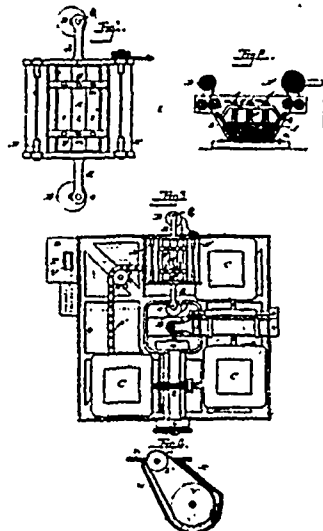
23625 Clearihue's Moccasin.



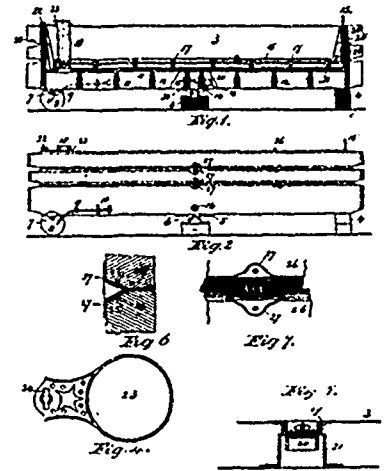
23627 Knox's Art or Process of Quarrying Rock.



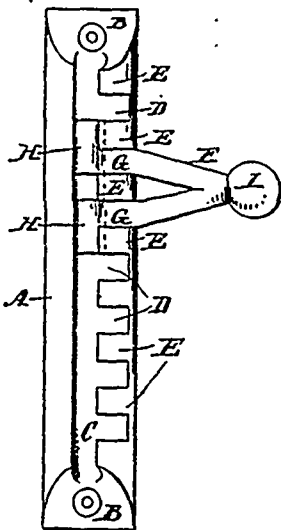
23628 Brin's Separation and Obtainment of Oxygen and Nitrogen from Atmospheric Air.



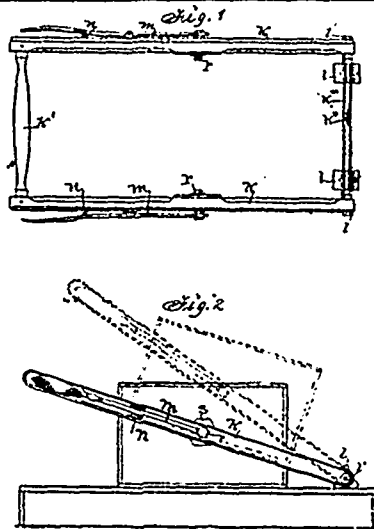
23629 Milligan's Plate-Printing Press and Wiping Appliance.



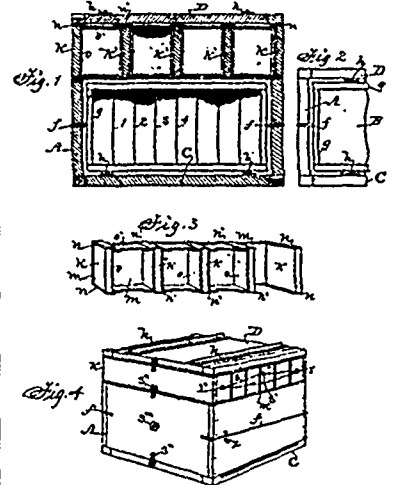
23530 Strong's Cheese Vat.



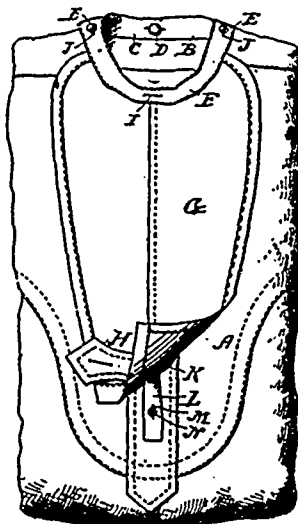
23631 Merrill's Wash-Board Holder



23632 Shuck's Bee-Hive.



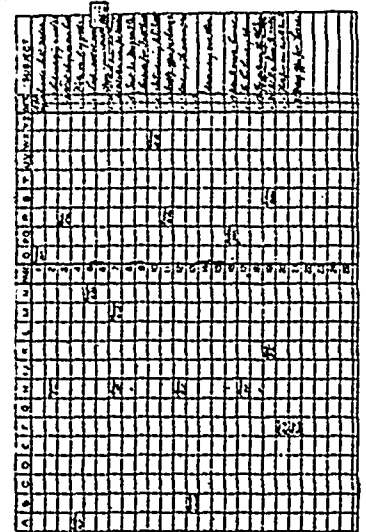
23533 Shuck's Bee-Hive.



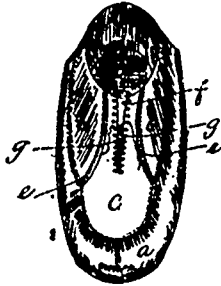
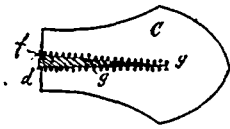
23634 Butz's Shirt.



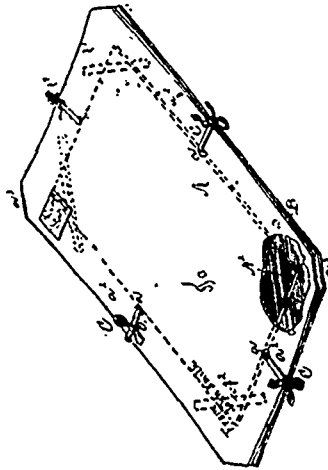
23635 Pollock's Garment Fitting Device.



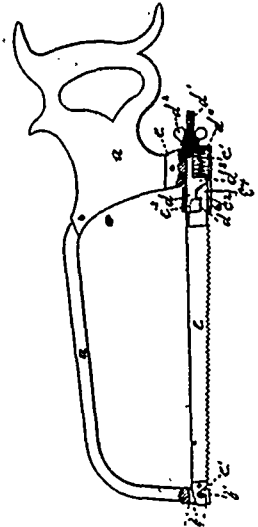
23636 Spurgin's Index for Letter Books.



23637 Balcer's Moccasin.



23638 Markinsky's Envelope for Cards.

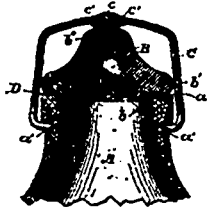


23639 Lauer's Saw.

FIG. 1.



FIG. 2.



23640 Thatcher & Barnhart's Means for Closing Jars, etc.

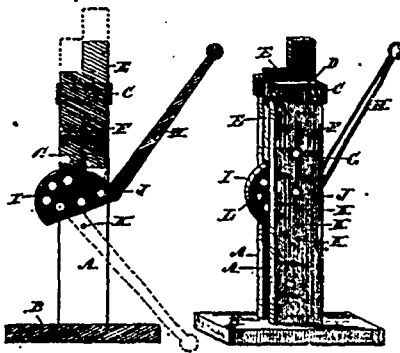
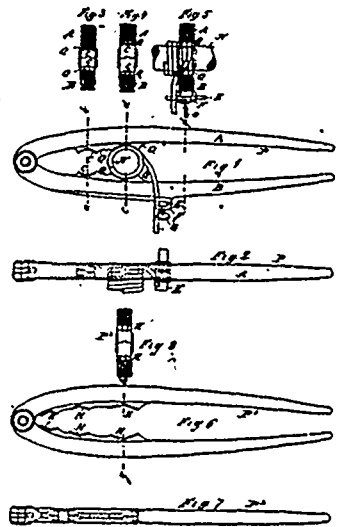


Fig. 2.

Fig. 1.

23641 Hamlin's Carriage and Waggon Jack.



23642 Siden's Method of Manufacturing Spiral Springs and Tools therefor.

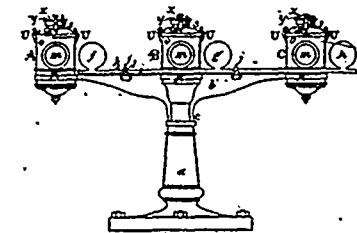


FIG. 1.

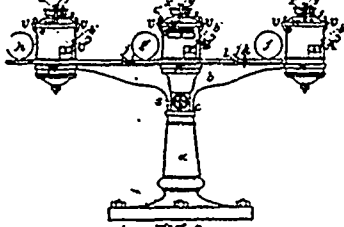
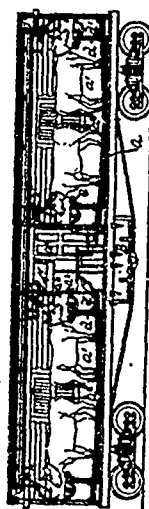
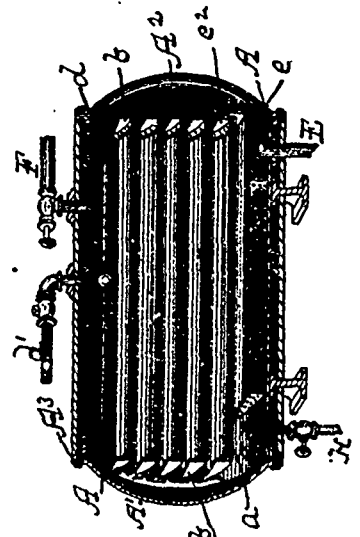


FIG. 2.

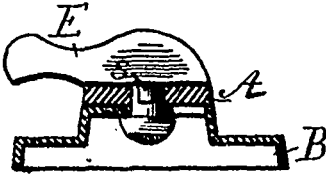
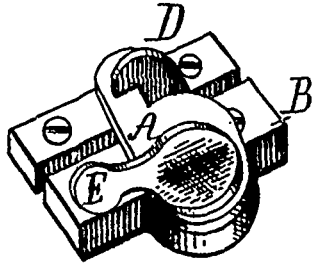
23643 Wall's Night Signalling Apparatus.



23644 Burton's Stock Car.



23645 Hoppes' Feed Water Heater.



23646 Ives' Fastening for the Meeting Balls of Sashes.



Fig. 4.

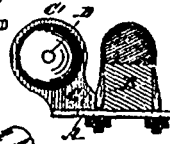


Fig. 3.

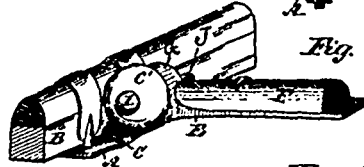


Fig. 1.



Fig. 5.

23647 Ewing's Thill Coupling.

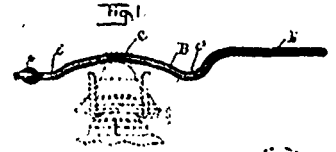


Fig. 1.

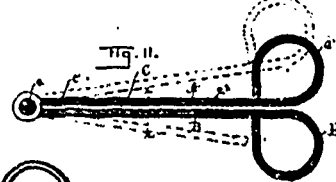


Fig. 2.

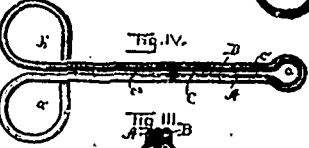
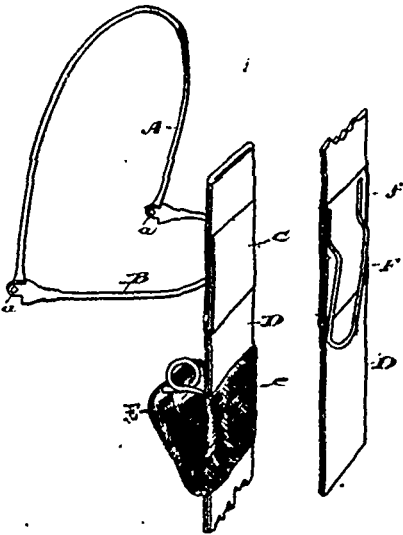


Fig. 4.

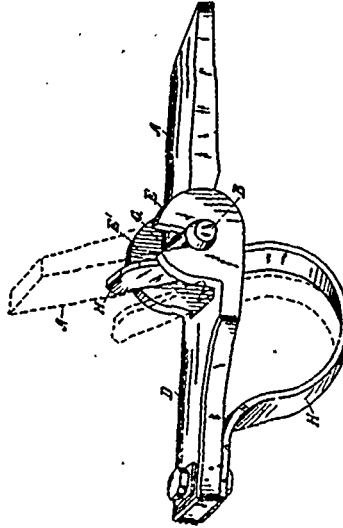


Fig. 3.

23648 Hawley's Lamp Wick Trimmer.



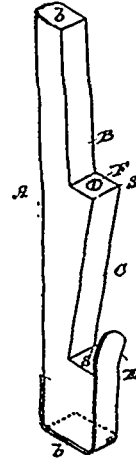
23649 Robertson's Adjustable Head-Rest.



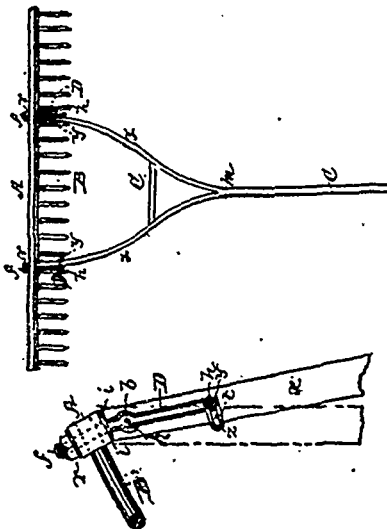
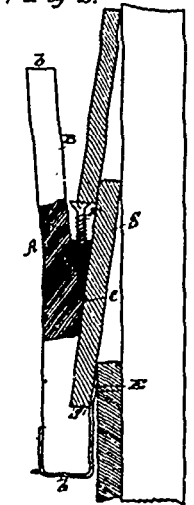
23650 Cameron's Anti-Rattler Thill Coupling.

Fig. 1.

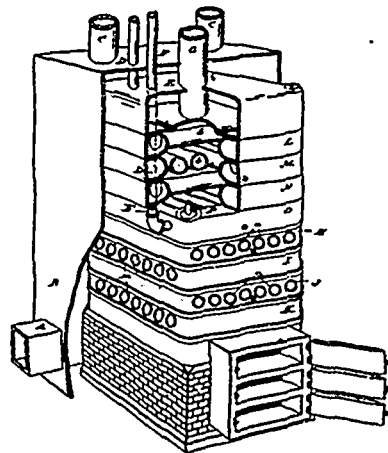
Fig. 2.



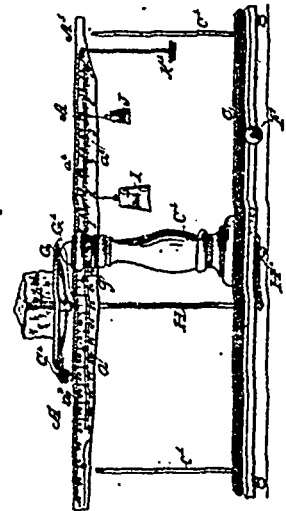
23651 Ervin's Gauge and Clamp for Weather Boarding.



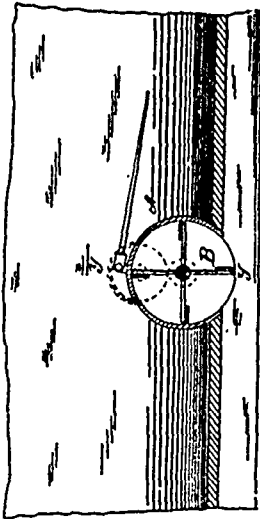
23652 Lander's Rako.



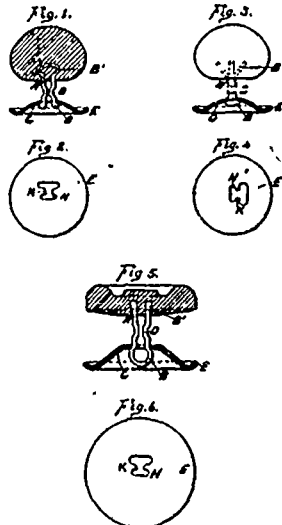
23653 Morrison's Heater.



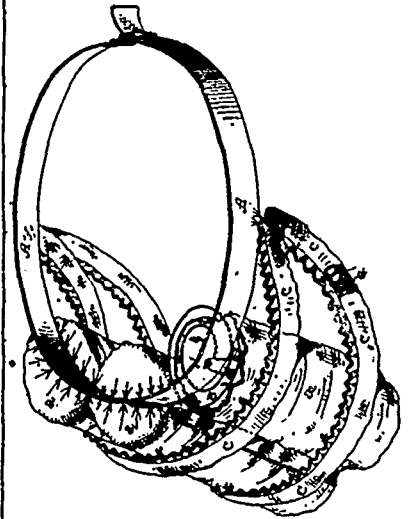
23654 Pitrat's Weighing and Price Scales.



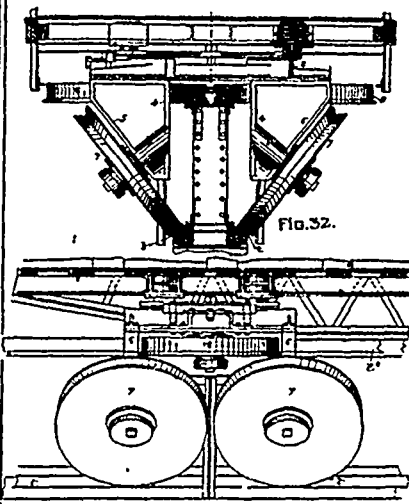
23655 Bender's Propeller.



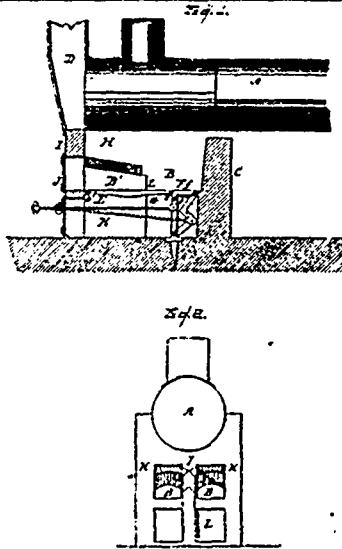
23656 Davis' Metallic Fastening for Buttons.



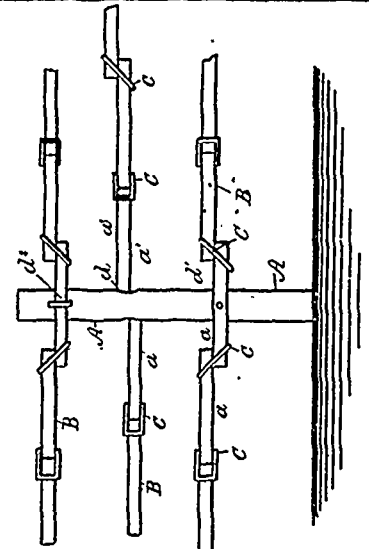
23657 Beiden's Bustle.



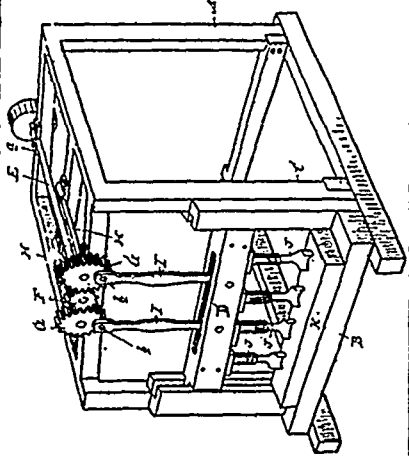
23658 Melgs' Railway.



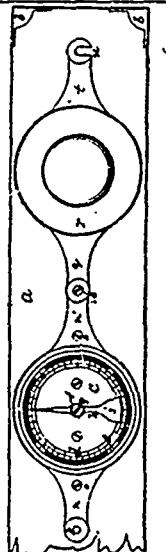
23659 Backus' Furnace.



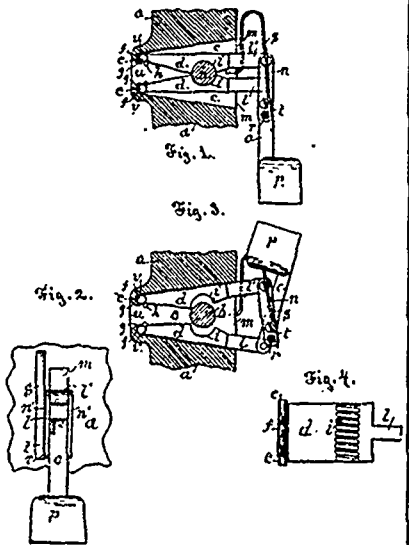
23660 Brock's Fence.



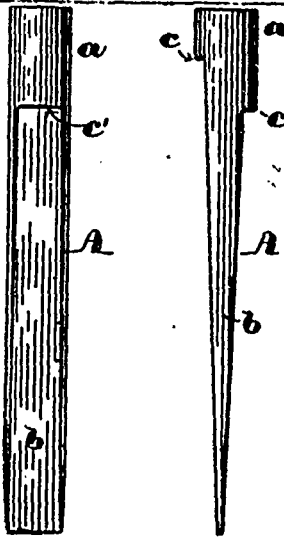
23661 Ross' Paving Block Machine.



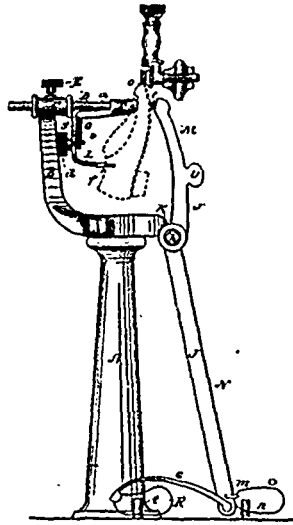
23662 Murray's Pendulum Level.



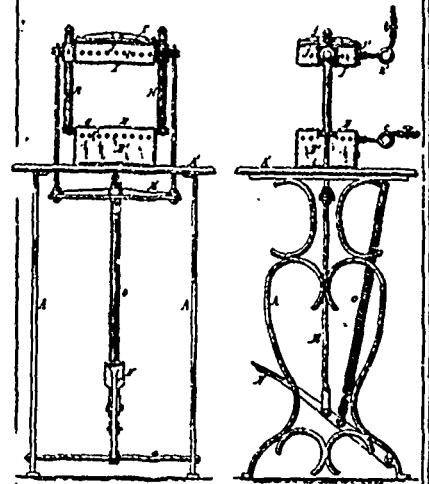
23663 Eurst's Vice.



23664 Chaplin's Shoe Nail.



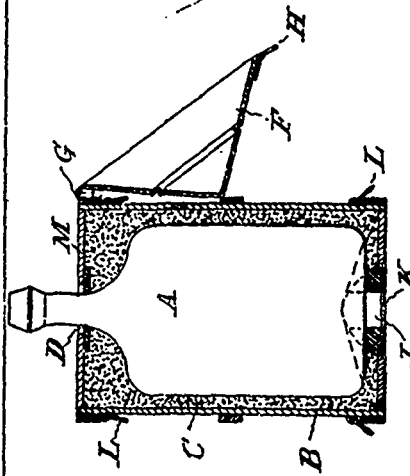
23665 Besudry's Jack for Boots and Shoes.



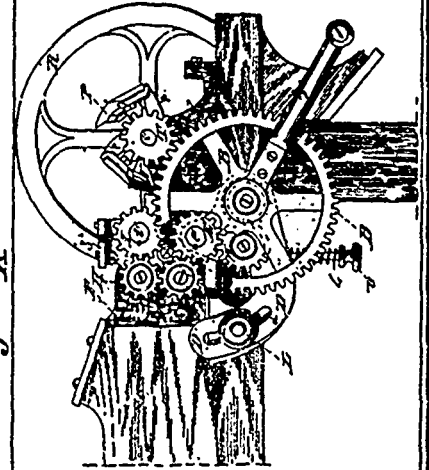
23666 Witzig's Baking Machine.



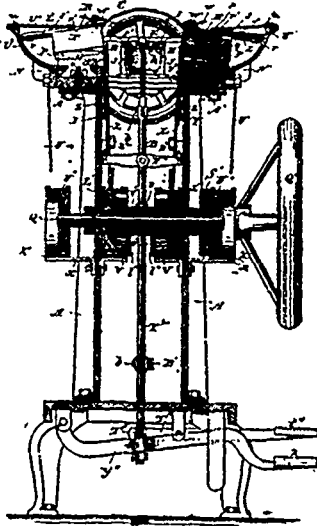
23667 Brainard's Composition Metal Bar.



23668 Solter's Boxed Demijohn



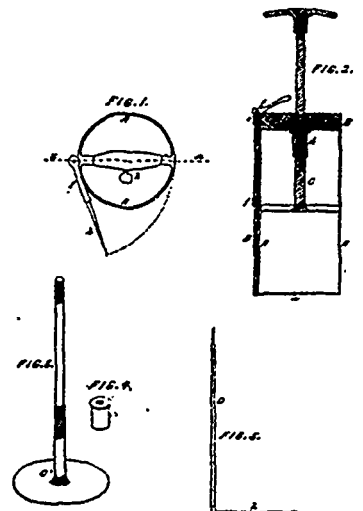
23669 Sherman's Feed and Ensilage Cutter.



23670 Chase's Machinery for Lasting Boots and Shoes.

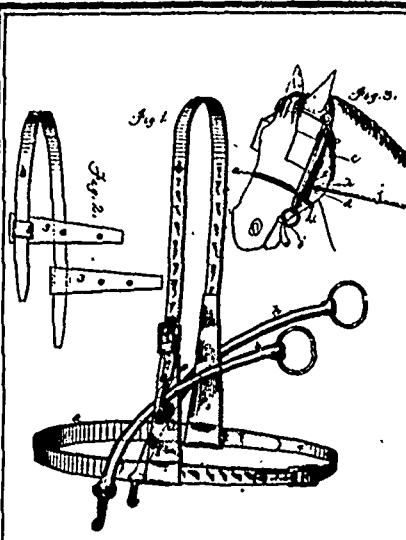


23671 Elliot's Smoke Armour.

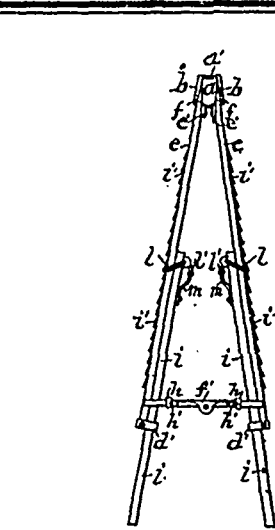


23672 Weller's Butter and Lard Knives.

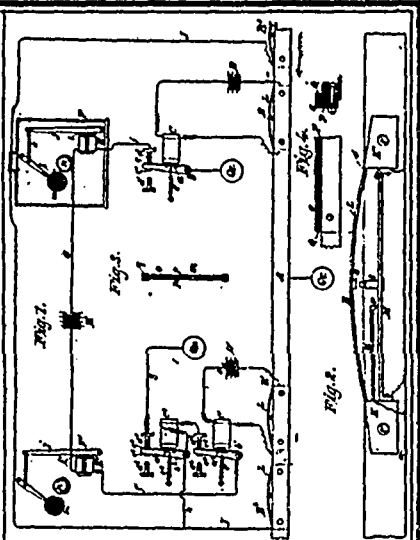




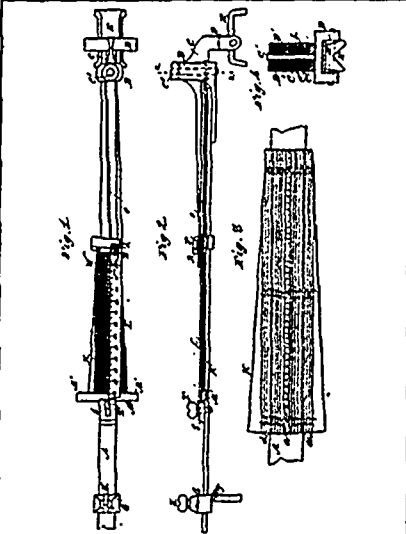
23673 Gill's Device for Controlling Horses.



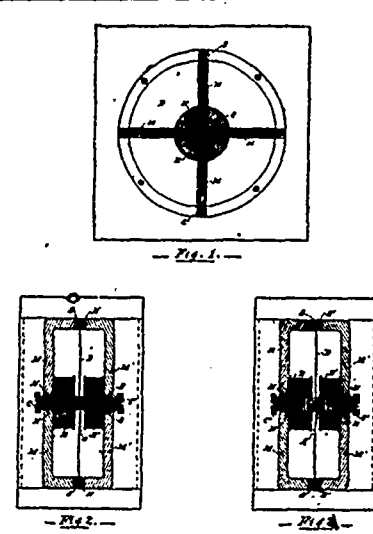
23674 Hooper's Adjustable Trestle.



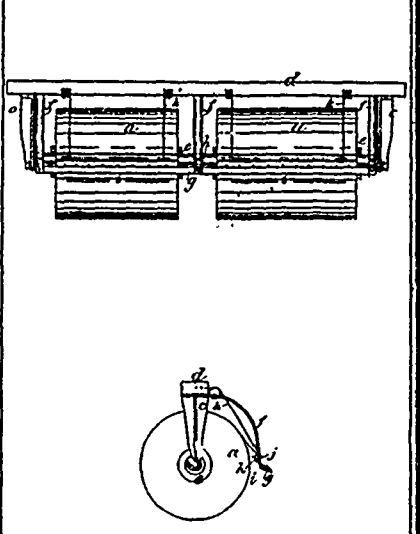
23675 Tisdale's Railway Signaling Apparatus.



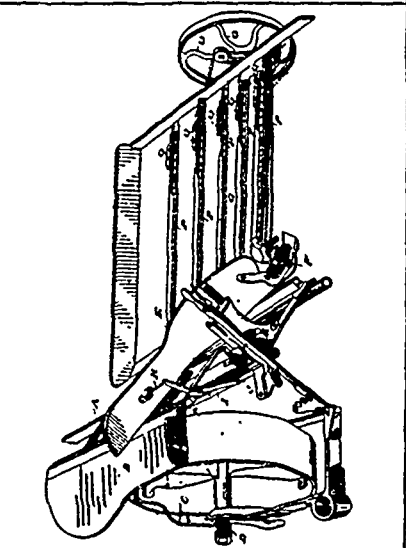
23676 McQuarry's Axle Gauge.



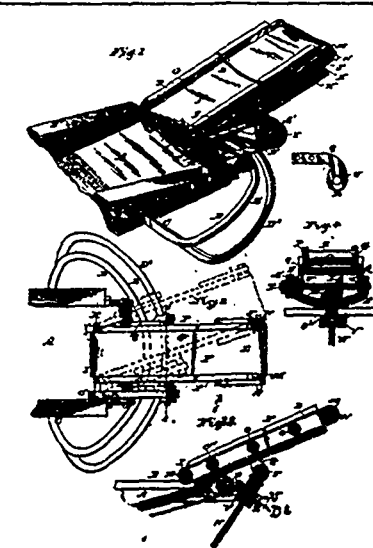
23677 Gisborne & Keesley's Telephone Instrument.



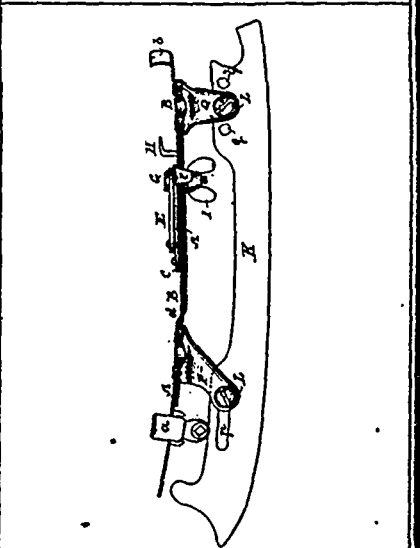
23678 Hungerford's Machine for Holding and Cutting Rolled Paper.



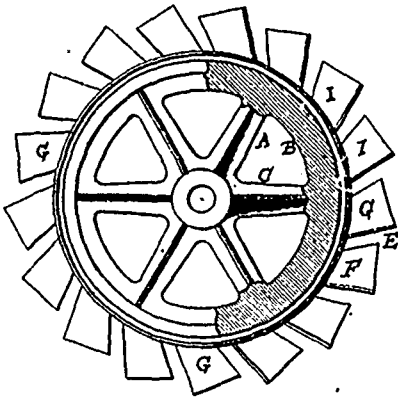
23679 Noxon's Harvester Binder.



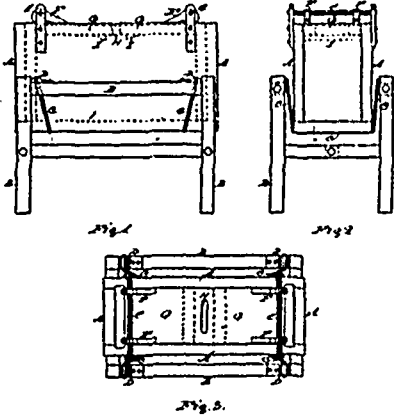
23680 Good's Threshing Machine Conveyor.



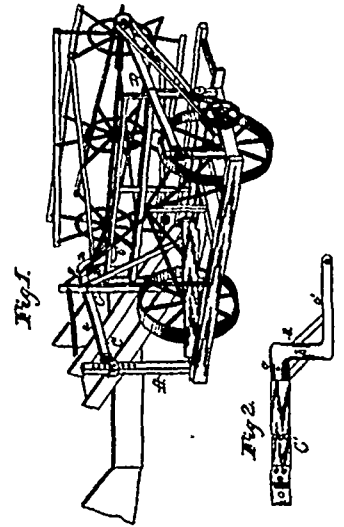
23681 Tilton's Car-Coupling.



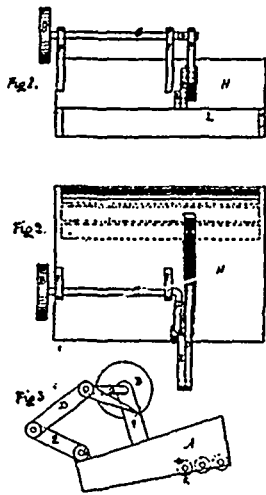
23682 Cooper's Water Wheel.



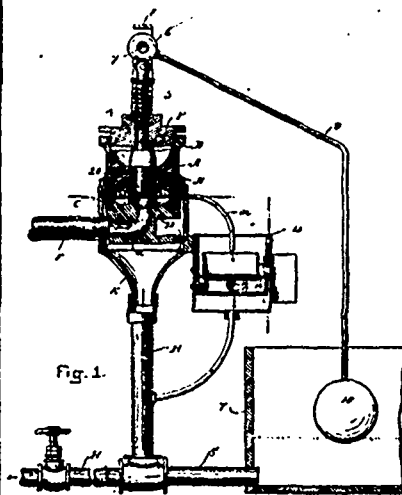
23683 Bradley's Swinging Churn.



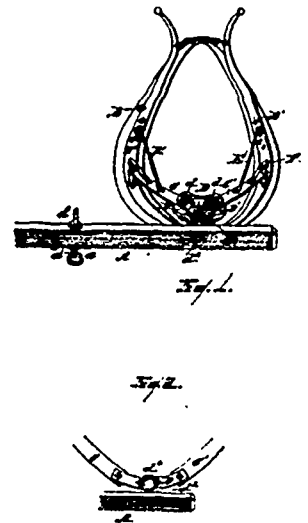
23684 Gemmill's Harvester.



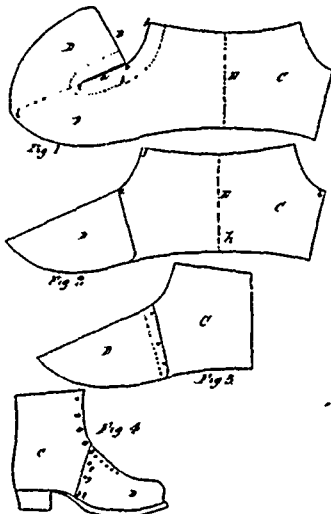
23685 Fielden's Harvester.



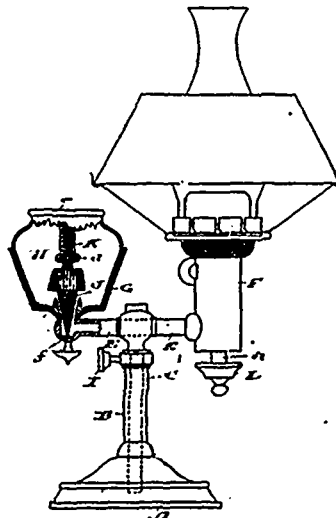
23686 Sutherland's Field Meter.



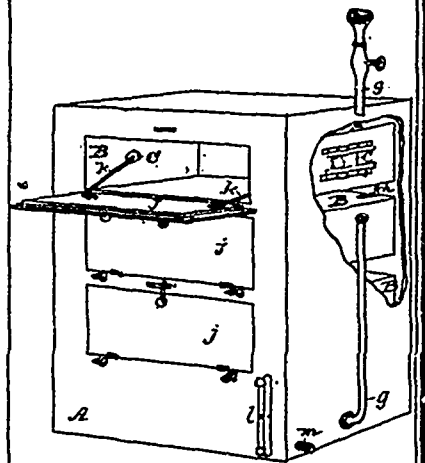
23687 King's Harness.



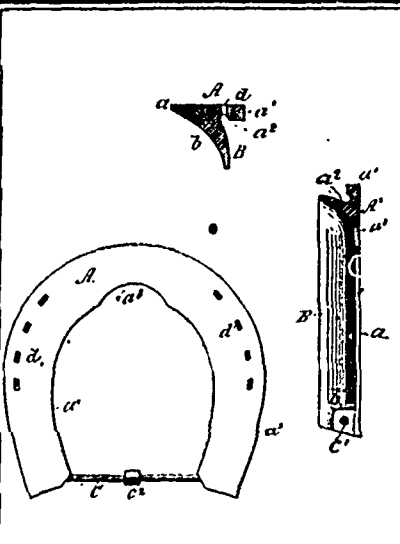
23688 Kelly's Balmoral Shoe.



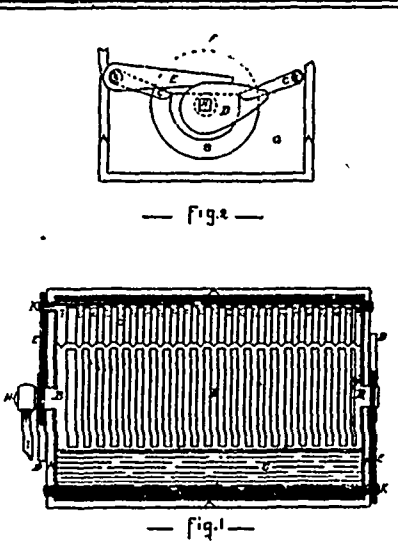
23689 Matthews' Lamp.



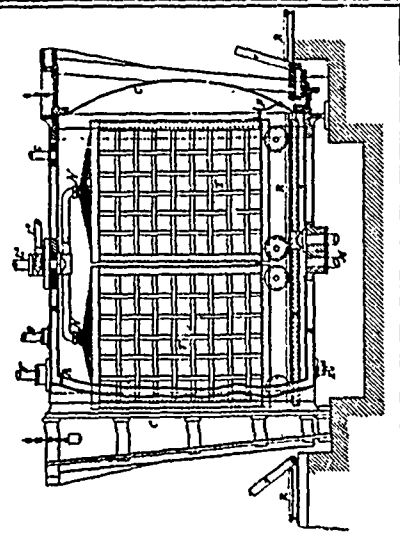
23690 Parker's Steam Cooker.



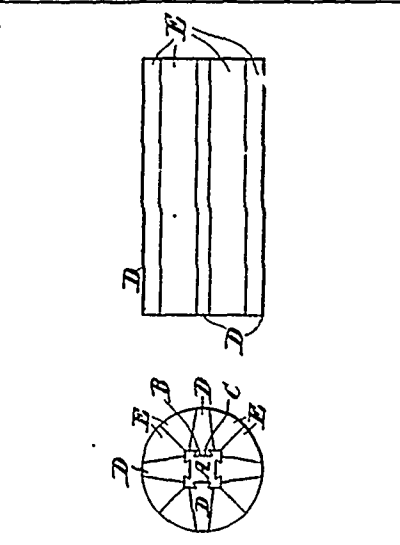
23691 Dublin's Horse Shoe.



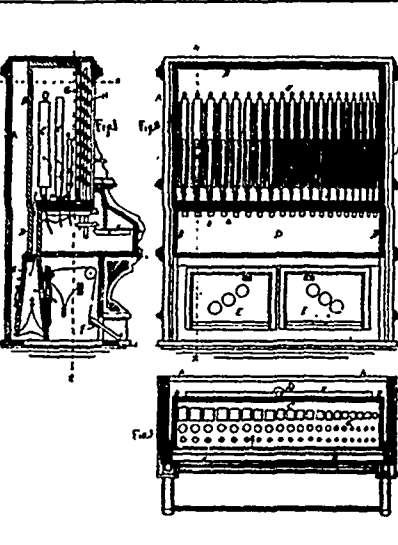
23692 Copp's Fire-Place Grate.



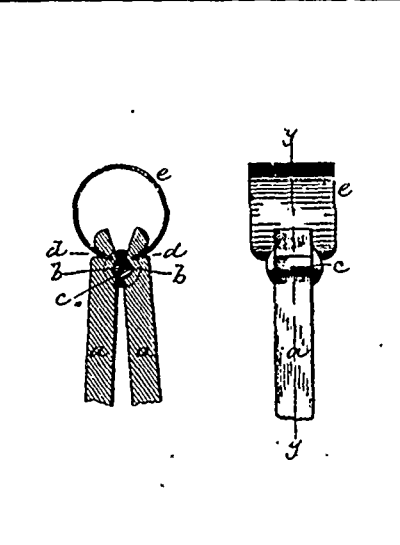
23693 Mather's Apparatus for Soaking, Boiling, and Drying Textile Material.



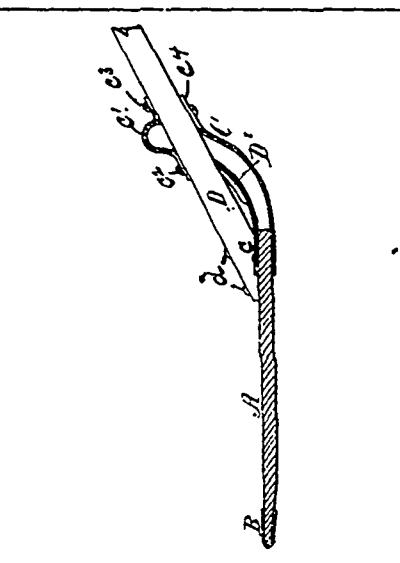
23694 Howard's Impressed Roll.



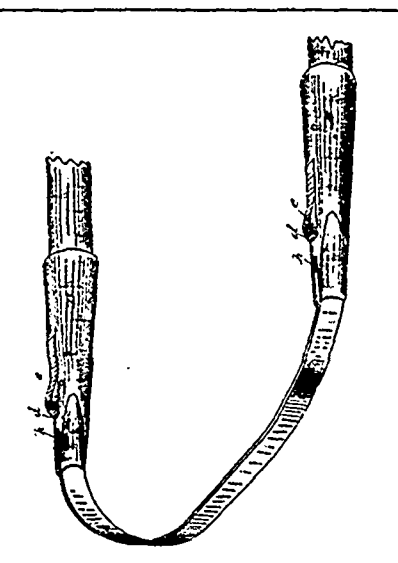
23695 Walce's Organ.



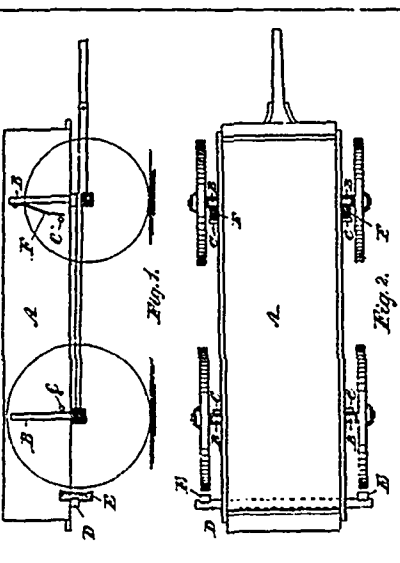
23696 Fay's Callipers and Dividers.



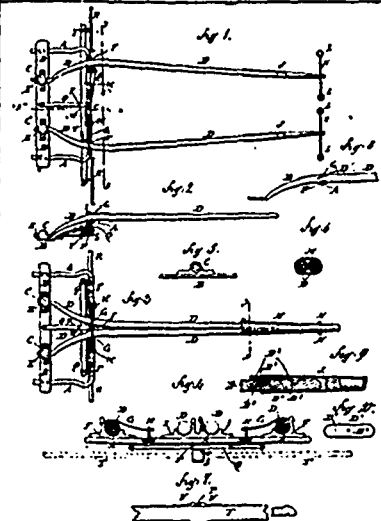
23697 Watson & Adams' Shovel.



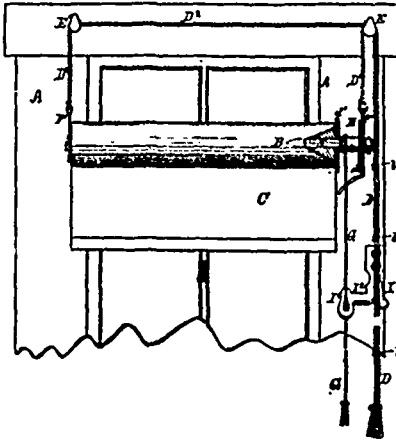
23698 Jackson's Shaft for Vehicles.



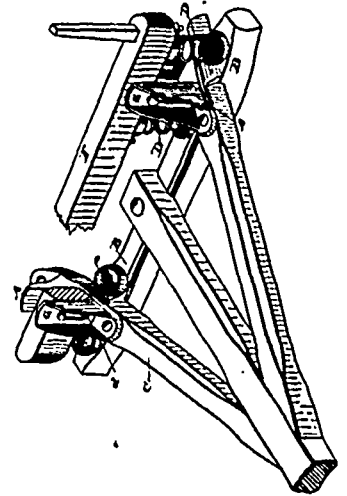
23699 Moore's Wagon Brake.



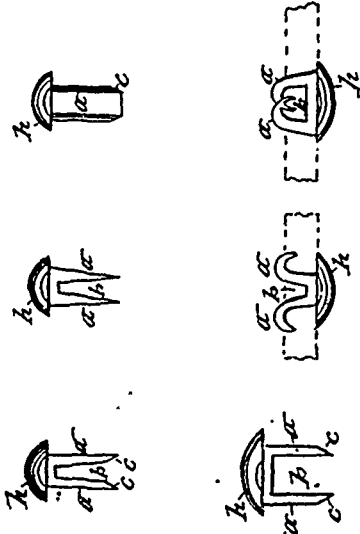
23700 Pettinger's Combined Shaft and Pole for Vehicles.



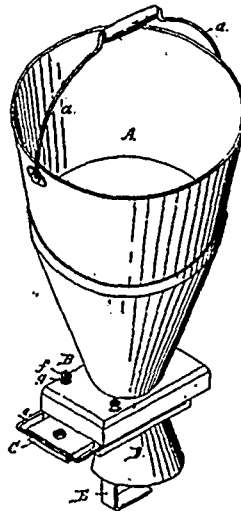
23701 Byam's Curtain Fixture.



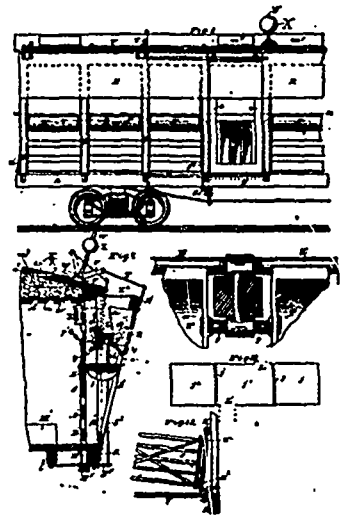
23702 Metcalfe's Waggon.



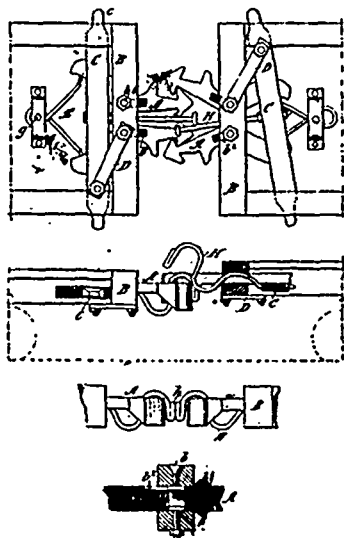
23703 Thomson's Rivet.



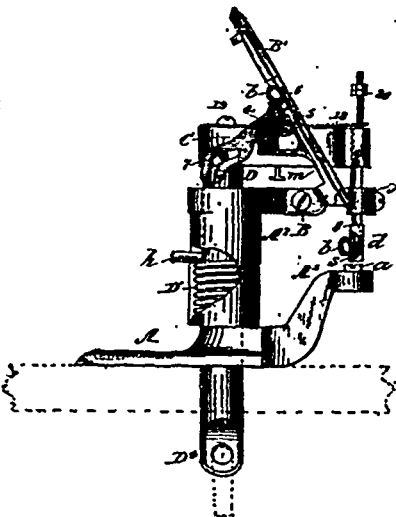
23704 Macomber's Fertilizer Distributor.



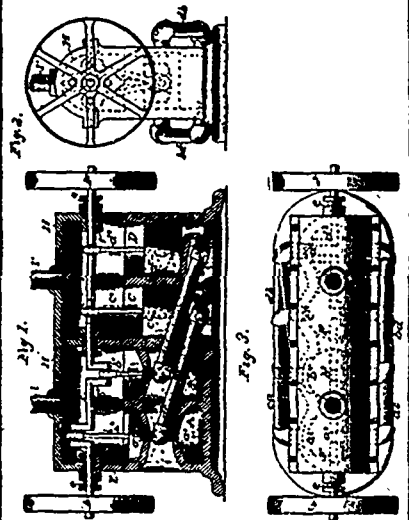
23705 Street's Stock Car.



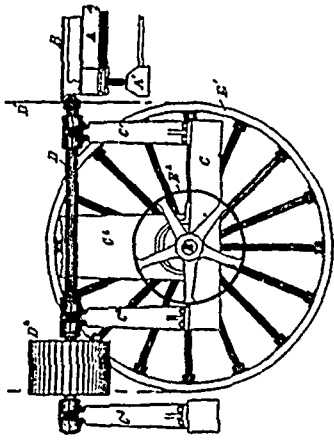
23706 Wood's Car-Coupling.



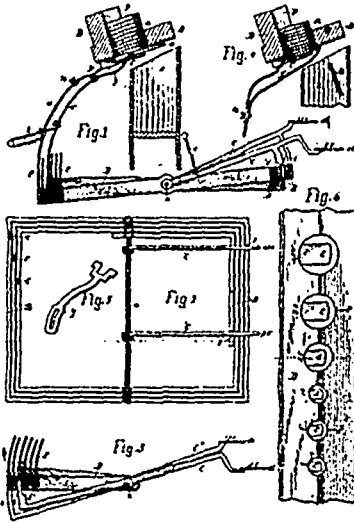
23707 Ely's Button Setting Machine.



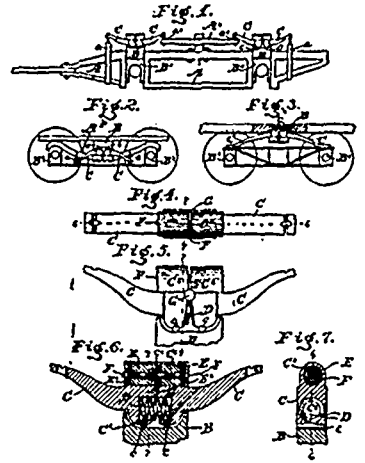
23708 Frico's Steam Engine.



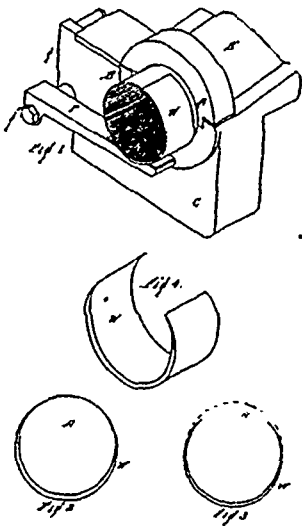
23703 Miller & Lapham's Saw Mill.



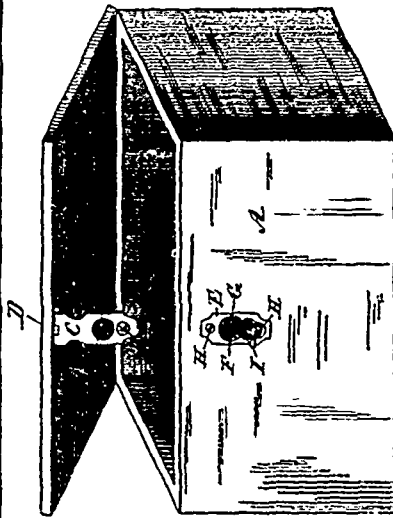
23710 Pratt's Money Changer.



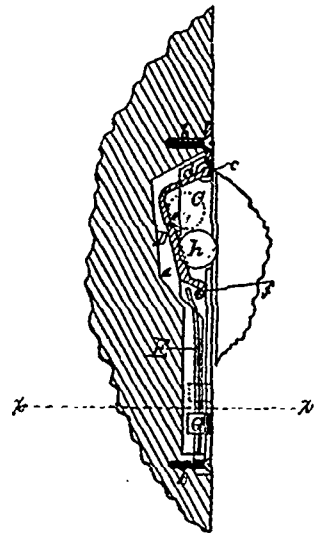
23712 Herchell's Car Spring.



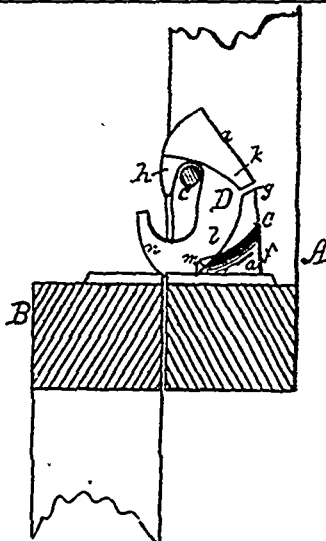
23713 Humphrey's Can.



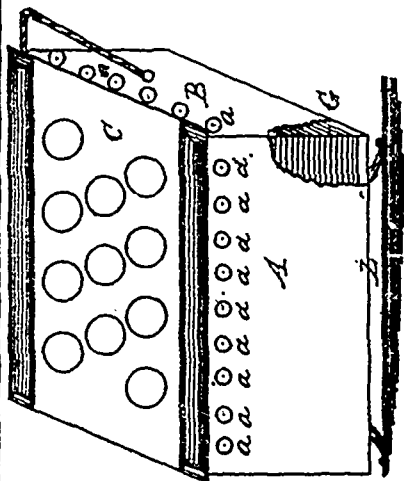
23714 Greenfield's Seal Hasp Fastening.



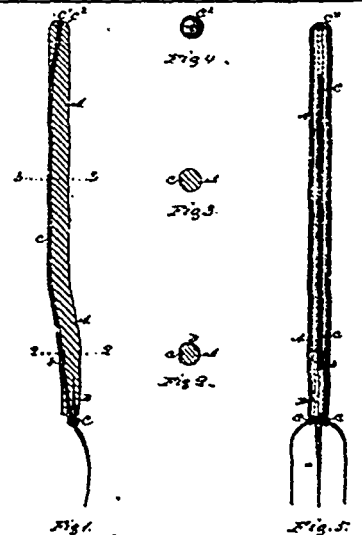
23715 Byam's Sash Balance.



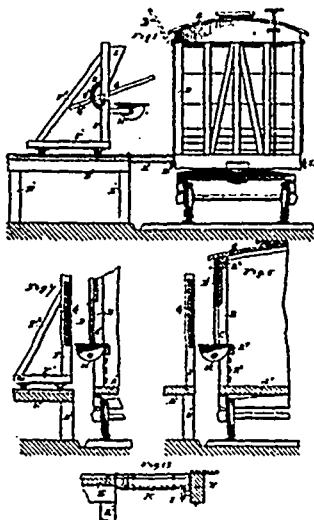
23716 Byam's Sash Lock.



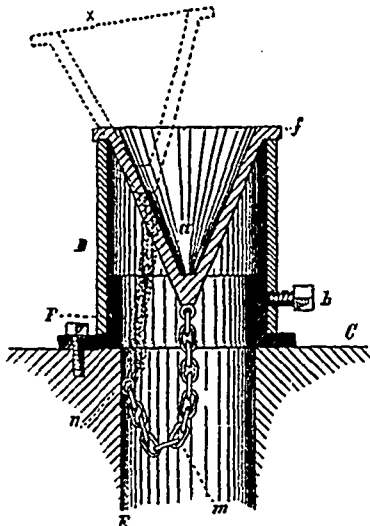
23718 Cline's Stove for Cork and Charcoal Fuel.



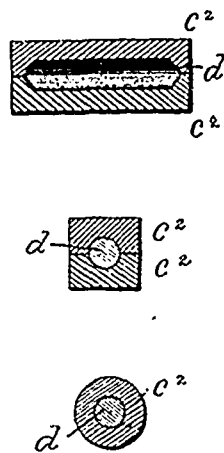
23719 Cadwall's Handle for Pitchforks, etc.



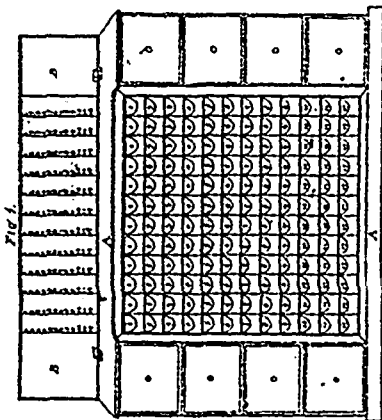
23720 Stroet's Apparatus for Feeding, Watering and Loading Cattle on Cars.



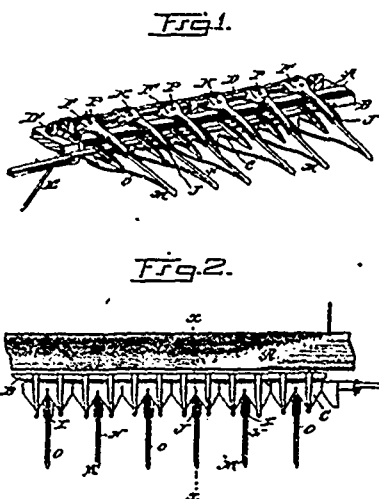
23721 Nye's Steam Vacuum Pump.



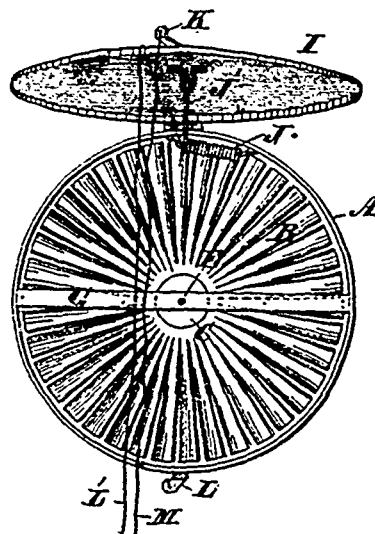
23722 Brainard's Combined Iron and Steel Pile.



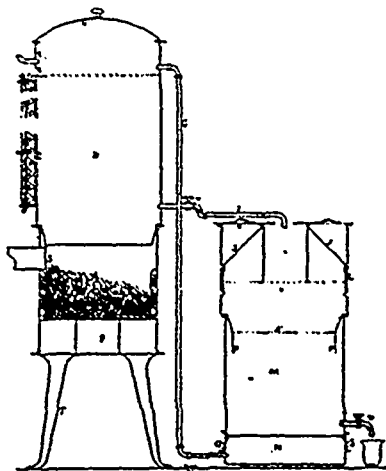
23723 Miller's Mode of Keeping Chemists and Druggists Labels



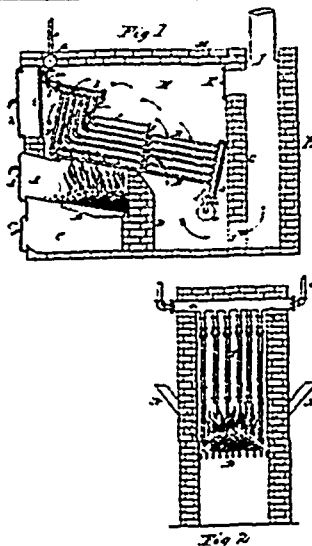
23724 Hamilton & Perigo's Attachment to Finger Bars of Harvesters.



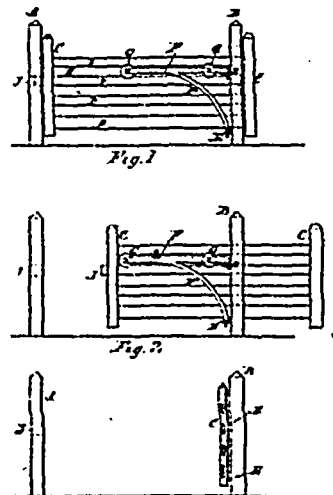
23725 Williams' Rotary Ventilator.



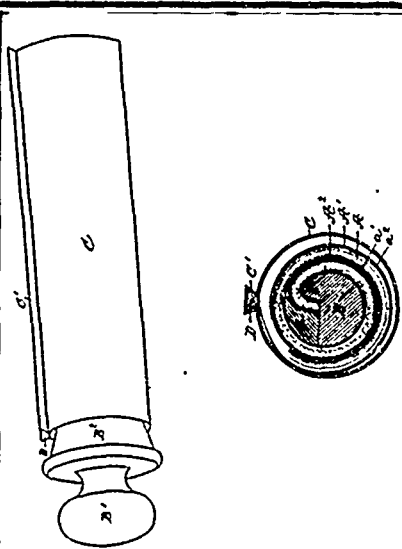
23726 Sargeant's Machine for Making Coffee.



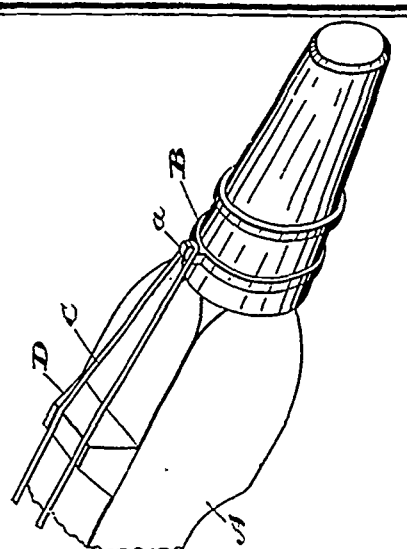
23727 Clark's Apparatus for Hot Water Heating.



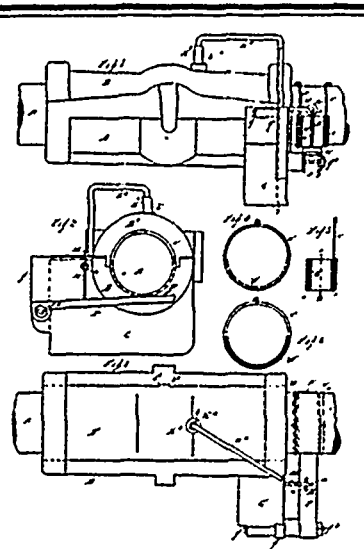
23728 Moyer's Field Gate.



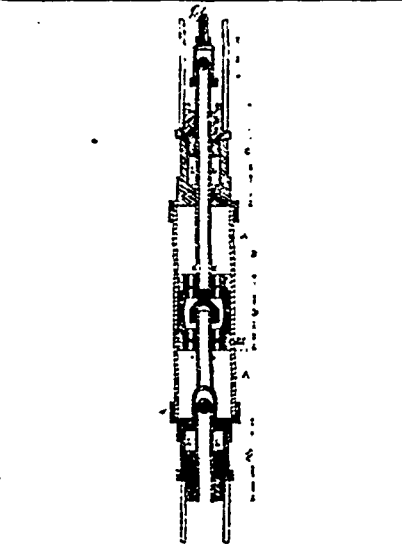
23729 Fargo's Letter Copying Book.



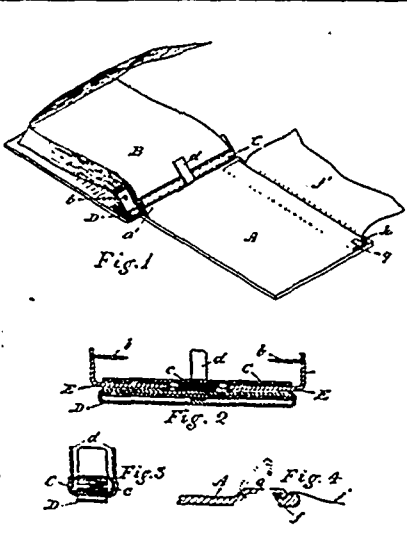
23730 Bain's Truss Rod for Waggon Axles.



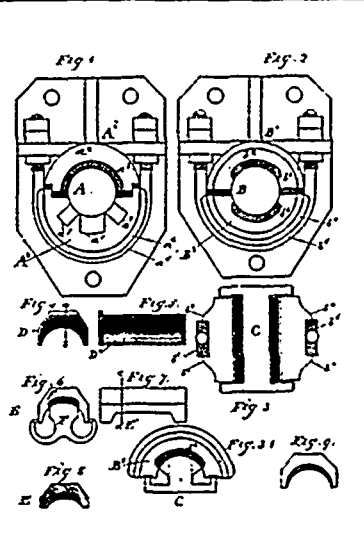
23731 Humphrey's Mechanical Oiler and Journal Box for Shafting.



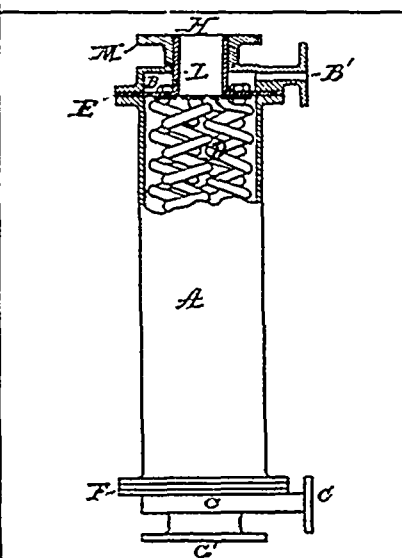
23732 Yater's Lifting Pump.



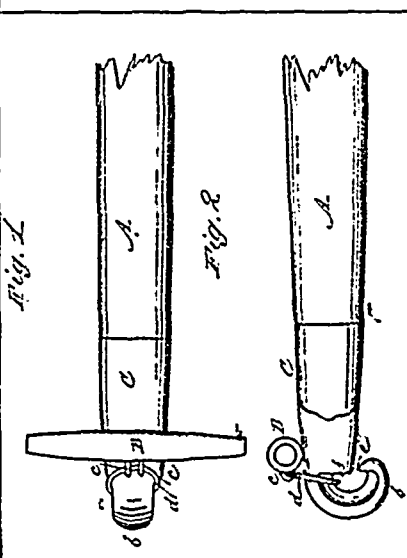
23733 Gordon's Counter Check Book.



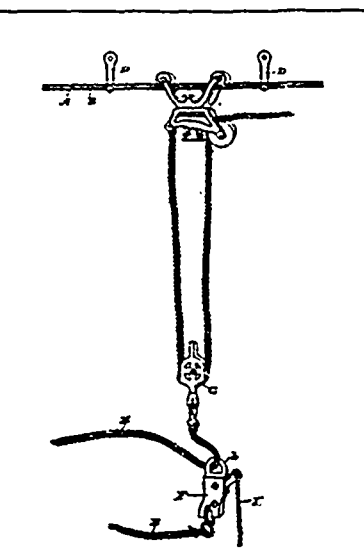
23734 Lappin's Axle Journal Box or Bearing.



23735 Kirkaldy's Surface Condenser



23735 Cook's Tongue and Neck Yoke Attachment.



23737 Murchey and Luttrell's Hay-Carrier.