

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/  
Couverture de couleur

Coloured pages/  
Pages de couleur

Covers damaged/  
Couverture endommagée

Pages damaged/  
Pages endommagées

Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées

Cover title missing/  
Le titre de couverture manque

Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées

Coloured maps/  
Cartes géographiques en couleur

Pages detached/  
Pages détachées

Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/  
Transparence

Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur

Quality of print varies/  
Qualité inégale de l'impression

Bound with other material/  
Relié avec d'autres documents

Continuous pagination/  
Pagination continue

Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/  
Comprend un (des) index

Title on header taken from:/  
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/  
Page de titre de la livraison

Caption of issue/  
Titre de départ de la livraison

Masthead/  
Générique (périodiques) de la livraison

Additional comments:/  
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
								/			

# The Canadian Patent Office

## RECORD




Vol. XVIII.—No. 12.

DECEMBER, 1890.

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

### INVENTIONS PATENTED.

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

#### No. 35,538. Case for Instruments and Medicine. (*Coffre pour instruments et médicaments.*)

Pleasant Austen Lilly, Irvine, Kentucky, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—1st. In an instrument case, a rigid central partition having recesses as *a*, for the reception and protection of instruments, substantially as described. 2nd. In an instrument case, the combination of the case having rigid end walls and central partition, and a compartment *A*<sup>3</sup> formed by an extension of said partition, substantially as described. 3rd. An instrument case consisting of the side *C*, pocket *C*<sup>1</sup>, bottom *A*, end walls *A*<sup>1</sup>, partition *A*<sup>2</sup>, having the loops *a* and *a*<sup>1</sup>, and the recesses *a*<sup>2</sup>, receptacle *A*<sup>3</sup>, side *B*, padded as described, loops *B*<sup>2</sup>, cushion *B*<sup>3</sup>, flaps *B*<sup>2</sup>, top *D*, and flap *D*<sup>1</sup>, substantially as described. 4th. In an instrument case, a case having rigid end walls and a central partition, with a compartment *A*<sup>3</sup>, which is an extension of said partition, and spaced for the reception and retention of a capsule box, one end of said compartment being formed by a portion of one of the rigid end walls of the case, substantially as described.

#### No. 35,539. Scaffold. (*Echaffaud.*)

John Downie, Vancouver, British Columbia, Canada, 2nd December, 1890; 5 years.

*Claim.*—1st. In a scaffold, the combination of the posts *A*, having rabbits *a*, and provided with bolts *B*<sup>1</sup> and braces *B*, having slots near the ends adapted to engage the bolts *B*<sup>1</sup>, substantially as set forth. 2nd. In a scaffold, the combination of the posts *A*, having rabbits *a*, adjustable braces *B*, secured to said posts, collars *I*, sliding upon said posts and provided with thumbscrews *i* and lugs *i*<sup>1</sup>, supporting stays and the stays *I*, secured to said lugs and provided with fastenings *i*<sup>2</sup>, substantially as set forth. 3rd. In a scaffold, the combination of the posts *A*, having rabbits *a*, adjustable braces *B*, secured to said posts, brackets *C*, secured slidably to said posts, angle plates *C*<sup>1</sup>, secured to said brackets by the lips *c*<sup>1</sup>, and having friction rollers *c*<sup>2</sup>, and the feet of brackets *D*, secured to said brackets by the branches *d* and *d*<sup>1</sup>, provided with friction rollers adapted to run in the rabbits *a*, substantially as set forth. 4th. In a scaffold, the combination of the posts *A*, having rabbits *a*, brackets *C*, having angle plates *C*<sup>1</sup>, brackets *D*, secured to the upper part and right ends of the bracket *C*, and having branches *d*, *d*<sup>1</sup>, and friction rollers *c*<sup>2</sup>, adapted to run in the rabbit *a*, the upper parts *D*<sup>1</sup>, having shaft *E*, journaled in said shaft bolt *D*<sup>111</sup>, connecting said brackets, crank drum *E*<sup>1</sup>, and ratchet wheel *E*<sup>11</sup>, fast on said shaft, rope *F*, end of the post *A*, and the dog *G*, engaging the ratchet wheel *E*<sup>11</sup>, substantially as set forth. 5th. In a scaffold, the combination of a shaft bolt *D*<sup>111</sup>, connecting said parts *D*<sup>11</sup>, forming a bearing for a pulley and ratchet wheel, the drum *E*<sup>1</sup>, carrying drum brake *E*<sup>11</sup>, upon the shaft *E*, the dog *G*, pivoted to the upper parts *D*<sup>11</sup>, opposite the ratchet, and having the cross bar *g*, the lever *H*, pivoted to one of the upper parts *D*<sup>11</sup>, opposite the brake pulley, and adapted to press on the cross bar of the dog *G*, and carrying a brake shoe adapted to bear on said brake pulley, substantially as set forth. 6th. The combination of posts *A*, having rabbits *a*, adjustable braces *B*, secured to said posts, bracket *C*, provided with angle plates *C*<sup>1</sup>, having lips *c*<sup>1</sup> and friction rollers *c*<sup>2</sup>, brackets *D*, secured to the brackets *C*, and having branches *d*, *d*<sup>1</sup>, and friction rollers *c*<sup>2</sup>, upper parts *D*<sup>1</sup>, having lips *d*<sup>11</sup>, bolt *D*<sup>111</sup>, and bearing for shaft, shaft *E*, carrying drum *E*<sup>1</sup>, ratchet wheel *E*<sup>11</sup>, and adapted for engagement by a crank *E*<sup>111</sup>, ropes *F*, secured to the upper ends of the posts, and the drum *E*<sup>1</sup>, and to be wound thereon, dogs *G*, adapted to engage the ratchet

wheel, collar *I*, with set screw *i*, lugs *i*<sup>1</sup>, carrying stay rods, the stay rods *I*<sup>1</sup>, provided with fastenings *i*<sup>2</sup>, and stay rods *L* and *L*<sup>1</sup>, secured to the bracket *C*, substantially as set forth.

#### No. 35,540. Compound for Preserving or Embalming. (*Composé pour embaumer et preserver.*)

James R. Bates and Frederick W. Owen, both of Detroit, Michigan, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—A preservative embalming compound composed of sulphur, three parts; carbon (consisting of pulverized hard wood charcoal), three parts; borax, two parts; chloride of sodium, two parts; and chloride of calcium, two parts, in combination with suitable means for combustion, and the bringing of the fumes or gases of such combustion into contact with the animal body to be preserved, substantially as set forth.

#### No. 35,541. Automatic Railway Signal.

(*Signal automatique de chemin de fer.*)

Daniel Grant, Bath, Ontario, Canada, 2nd December, 1890; 5 years.

*Claim.*—1st. In an automatic railway signal, the combination of a long slightly curved depression lever *A*, pivoted at one end to a fixed support outside the track and close to the rail, and rising at its highest point slightly above the rail, a bracket *A*<sup>1</sup>, supporting one end of said lever pivotally, a rocking shaft *C*, having a crank *c*, with pin *c*<sup>1</sup>, and a crank or lever *c*<sup>2</sup>, set at a right angle, a link *B*, connecting said lever at the free end by the pin *c*<sup>1</sup>, and the rocking shaft by the pin *c*<sup>2</sup>, the bearings *C*<sup>1</sup>, carrying said shaft provided with stops *C*<sup>2</sup>, and the spring *C*<sup>3</sup>, controlling the lever *A*, and keeping the stops *C*<sup>1</sup>, and *C*<sup>2</sup>, in contact, substantially as set forth. 2nd. In an automatic railway signal, the combination of a lever *A*, placed outside the track close to the rail and pivotally supported at one end, a link *B*, connecting the free end to the crank of a rocking shaft, a rocking shaft *C*, having a crank *c*, connected by the link *B*, to the lever *A*, and having a long crank or lever *c*<sup>1</sup>, bearings *C*<sup>2</sup>, supporting the shaft *C*, and having stops *C*<sup>3</sup>, collars *C*<sup>4</sup>, upon said shaft, and having stops *C*<sup>4</sup>, a spring *C*<sup>5</sup>, drawing the lever *A*, to one side, and the shaft against the stops, the bell cord *i*, with the springs *i*<sup>1</sup>, and a bell or gong *I*, with suitable striking apparatus, substantially as set forth. 3rd. In a striking apparatus of an automatic railway signal, the combination of a frame *E*, *E*<sup>1</sup>, *E*<sup>2</sup>, a rocking shaft *F*, with rocking lever *F*<sup>1</sup>, and spring pawls *F*<sup>2</sup>, journaled in said frame, a ratchet wheel *G*, journaled upon said rocking shaft adapted to be turned in one direction by the pawls *F*<sup>2</sup>, pawls or detents *G*<sup>1</sup>, pivoted to said frame, and adapted to prevent said ratchet wheel from turning back, pin *g*, on said ratchet wheel adapted to operate a striker, or striker *H*, pivoted to said frame *E*, and adapted to be operated by said spring *g*, a spring *H*<sup>1</sup>, drawing said striker against the bell, a bell *I*, adapted to be struck by said striker, a traversing bar *K* having adjustable collars *K*<sup>1</sup>, adapted to slide in the frame *E*<sup>1</sup>, a spring *K*<sup>2</sup>, drawing the bar *K*, in the opposite direction, the bell cord *i*, adapted to draw the bar *K*, with the rocking lever *F*<sup>1</sup>, and means of connecting said bar with the rocking lever *F*<sup>1</sup>, and transmitting its movement thereto, substantially as set forth. 4th. In a striking apparatus of an automatic railway signal, the combination of the frame *E*, *E*<sup>1</sup>, *E*<sup>2</sup>, a rocking shaft *F*, journaled in said frame and having the rocking lever *F*<sup>1</sup>, with spring pawls *F*<sup>2</sup>, *F*<sup>3</sup>, and connecting lever *F*<sup>3</sup>, a traversing bar *K*, having adjustable collars *K*<sup>1</sup>, and slot *k*, adapted to engage the lever *F*<sup>3</sup>, and operated by a spring *K*<sup>2</sup>, and bell cord *i*, and the buffer springs *E*<sup>111</sup>, substantially as set forth. 5th. In a striking apparatus of an automatic railway signal, the combination of the frame *E*, *E*<sup>1</sup>, *E*<sup>2</sup>, a rocking shaft *F*, having rocking lever *F*<sup>1</sup>, with pawls *F*<sup>2</sup>, a ratchet wheel *G*, journaled upon said rocking shaft and adapted to be turned in one direction by the pawls *F*<sup>2</sup>, and having pins *g*, pawls or detents *G*<sup>1</sup>, pivoted to said frame *E*, and gearing in said ratchet wheel, a striker *H*, adapted to be operated by the pins *g*, and a spring *H*<sup>1</sup>, drawing said striker in one direction, substantially as set forth.

### No. 35,542. Composition for Making Matches. (*Composition pour faire les allumettes.*)

Ludwig Oltosy (assignee of Johann Lutz), both of Vienna, Lower-Austria, Empire of Austria-Hungary, 2nd December, 1890; 5 years.

*Claim.*—1st. A match without a visible head, consisting of a splint of wood having one end impregnated with a solution adapted to be ignited by friction upon a specially prepared friction surface. 2nd. A match without a visible head, consisting of a splint of wood having one end impregnated with a solution of chlorate of soda, sulphate of ammonia, and a carbon-hydrate, as and for the purposes specified.

### No. 35,543. Cutter for Bolts and Rods.

(*Cisailles pour couper les barres et boulons.*)

Alexander C. Watt and William G. Mathew, both of Gananoque, Ontario, Canada, 2nd December, 1890; 5 years.

*Claim.*—1st. The combination, with the cutting jaws A, B, of the connecting straps N, O, and fulcrum bolts P, Q, passing through said jaws and straps, and a friction roller S, intervening said jaws in alignment with said bolts, as set forth for the purpose described. 2nd. The combination, with the jaws A, B, having circular recesses or bearings T, in a roller or cylinder seated in said bearings, straps N, O, connecting said jaws and covering the ends of the roller and bolts P, Q, passing through said jaws and straps, as set forth, said roller preventing one jaw forging ahead of the other, and preserving the equalization of both jaws when operated, as described.

### No. 35,544. Poke for Horses. (*Carcan pour chevaux.*)

William W. Huntoon, Norridgewock, Maine, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—A device for restraining a horse's head and neck, consisting of a smaller forward collar, a larger rearward collar, and a series of rigid rods or bars extending from the one collar to the other, substantially as set forth.

### No. 35,545. Strainer for Tea and Coffee Pots. (*Couloir pour théières et cafetières.*)

Charles Bean, George Washington Watson, Mowry Ballon Cole, all of Pawtucket, Rhode Island, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—1st. A strainer for tea or coffee pots, comprising a pail-shaped body having a spout near its bottom, a detachable strainer proper adapted to be inserted in the mouth of said body, and mechanism for securing said body to the pot-nose, substantially as described. 2nd. A strainer for tea or coffee pots, comprising a pail-shaped body provided with a spout near its bottom and a hood or guard at its rim, a detachable strainer proper adapted to be inserted in the mouth of said body, and mechanism for securing said body to the pot-nose, substantially as described. 3rd. A strainer for tea or coffee pots, comprising a pail-shaped body having a spout near its bottom and a lug at its opposite side, a detachable strainer proper adapted to be inserted in said body, and an attaching spring adjustably secured in said lug, substantially as described. 4th. The body provided with the spout and hood, in combination with the strainer proper, and the wire loop C, adjustably clamped to said body, substantially as described. 5th. The body provided with the spout and clamp, in combination with the strainer proper and the wire spring loop C, substantially as described. 6th. The combination of the body provided with the spout with the strainer proper, and an attaching spring adjustably secured to said body, said spring comprising a wire bent or folded upon itself to form a loop for the pot-nose, substantially as described. 7th. The strainer B, comprising the body f, provided with the spout g, and clamp z, the strainer proper D, and attached to spring C, arranged, substantially as described. 8th. The body f, provided with the spout g, clamp z, and hood h, in combination with the strainer D, and attaching spring C, arranged to operate, substantially as described.

### No. 35,546. Sash Balance. (*Contre-poids de croisée.*)

The Marshall Improved Window Furniture Co., San Francisco, California, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—1st. In a sash balance or analogous device, the torsional spring herein described, consisting of a single coiled piece returned within itself, having one of its ends fixed to a non-rotary bearing, and the other secured to a piece that has a rotary movement. 2nd. In a sash balance or analogous device, an axially moving rod, and a rack and pinion for operating the same, in combination with a torsional spring returned within itself, having one of its ends secured to the axially moving rod, and the other fixed to a non-rotary piece, substantially as described.

### No. 35,547. Machine for Forging Horse Shoe Nails. (*Machine pour forger le clou à cheval.*)

Ann Maria Putnam, Boston, Massachusetts, U.S.A., and George Nichols Fletcher, Detroit, Michigan, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—1st. The combination, with the hammers arranged to operate alternately in pairs, of the cam-wheel D, adapted to actuate the hammers in both directions and having a groove e, for the reception of the hammer-helves provided with recesses or enlargements f, whereby the hammers are released from the control of the cam

previous to giving their blow, and left free after striking the heated nail-rod to instantly rebound or recede from the same before being again brought under the control of the cam, substantially as and for the purpose set forth. 2nd. The combination, with the lower vertical sliding cutter-bar t, provided with a lug or plate c', having a cam slot b', of the oscillating head K, carrying the feed rolls and their connected shafts, and having a pin a' fitting within the cam-slot b', of the lug c', whereby the movement of the sliding cutter-bar t, is communicated directly to the oscillating carrier-head K, substantially as and for the purpose described. 3rd. The combination, with the reciprocating bar M, having at its front end an enlarged portion or cam-plate L, provided with two oppositely-inclined cam-slots u, v, of the vertically-sliding cutter-bars s, t, carrying the cutters q, r, and provided at their lower ends with screws or pins 18, 20, fitting within the slots u, v, of the cam-plate L, all operating, substantially in the manner and for the purpose set forth. 4th. The combination of the hammers and their operative cam-wheel D, the vertically sliding cutter bars s, t, and their cutters q, r, the feed rolls g, g, with their connected shafts and oscillating carrier-head K, the latter connected directly with the lower cutter-bar t, by a pin a', and cam-slot b', the horizontal reciprocating bar M, with its notch h', connected with and operating the cutter bars s, t, the rocker lever P, adapted to engage the notch h', of the bar M, the cam N, on the driving shaft B, engaging with the rocker lever P, the lever i', connected with the bar M, by a spring p', the cam n', on the shaft q', the ratchet wheel r', on said shaft q', and its actuating pawl s', pivoted to the lever P, all operating substantially in the manner and for the purpose described.

### No. 35,548. Wrench. (*Cle à écrou.*)

Daniel Robert Porter, Chelsea, and John Thomas Blades, Boston, both of Massachusetts, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—1st. A wrench, comprising in its construction, a movable jaw and its shank, a fixed jaw and handle, a shoe provided with ears, a fulcrum and retaining bar pivoted to one of said ears and provided with a shoulder or abutment and an adjusting nut and encircling the shank of the movable jaw and the said bar, as set forth. 2nd. A wrench, comprising in its construction, a movable jaw, having a screw threaded shank provided with a groove, a fixed jaw and handle, a shoe provided with ears, a fulcrum and retaining bar pivoted to one of said ears and provided with a rib adapted to operate in the groove of the shank of the movable jaw, said bar being also provided with a shoulder or abutment, and an adjusting nut encircling the shank of the movable jaw and the said bar, as set forth. 3rd. A wrench comprising in its construction a handle or lever provided with ears i, and having a jaw c, a jaw a, and its screw threaded shank, and adjusting nut f, engaged with said shank and adapted by its rotation to move the shank endwise and in operating as a wrench to bear on the ears i, and a bar or lever pivoted to the said ears and engaged by the said nut, as set forth. 4th. A wrench, comprising in its construction, a handle or lever provided with ears i, and having a jaw, a jaw a, and its screw threaded shank, a bar connected with said ears, and an adjusting nut constructed and arranged to engage said bar and screw threaded shank to move the latter and the jaw a, as set forth.

### No. 35,549. Apparatus for Straightening Teeth of Burr Cylinders. (*Appareil pour redresser les dents de cylindre à ébarber.*)

Furgus Oswal Groves Newton, Lower Falls, and Joseph Sykes Cording, Boston, both of Massachusetts, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—1st. A device for straightening the teeth of burr-cylinders, burr-doffers, etc., consisting of a handle or support and a plurality of blades c, adapted to pass the spaces existing between the lines or rows of the teeth of the cylinder, as the latter is revolved, substantially as set forth. 2nd. A device for straightening the teeth of burr-cylinders, burr-doffers, etc., a handle provided with a socket, alternate blades c, and spacing pieces e, secured in the said socket, as set forth.

### No. 35,550. Brake Beam. (*Sommier de frein.*)

William Augustus Pungs, Detroit, Michigan, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—1st. A metallic brake beam, having the brake lever passed through the beam at an oblique angle and secured by a bolt passed through lugs on the beam, substantially as described. 2nd. A metallic brake beam having its ends provided with fittings so shaped as to be adapted to receive the ordinary brake head such as is applied to wooden beams, substantially as described. 3rd. A metallic brake beam provided at its middle with a fitting through which the brake lever is passed at an oblique angle with the beam, said lever secured by a bolt passed through the lever at substantially right angles, and engaged in a lug on the fitting, substantially as described.

### No. 35,551. Apparatus for Operating Covers of Ink Wells, etc. (*Appareil pour fermer et ouvrir les couvercles d'encrier et autres.*)

James Hubbard Hayden and Henry Bliss Hayden, both of Colorado Springs, Colorado, U.S.A., 2nd December, 1890; 5 years.

*Claim.*—1st. A self closing cover for ink-wells and the like, the same closing the opening in the well, by means, substantially as herein set forth. 2nd. A device for closing ink-wells or other receptacles, consisting of a lid attached to the outer end of a gravitating bar, substantially as described, whereby the lid is caused to as-

sume its normal position automatically, as set forth. 3rd. In combination, with a standard or other support, a bar pivoted thereto, and provided at one end with a cover, and having the other end weighted, whereby a gravitating movement is imparted, causing the lid to assume its normal position in closing an ink-well or other receptacle, substantially as described. 4th. In combination, an adjustable clamp adapted to grasp the ink well, a standard, adjustably attached to said clamp, and a pivoted beam or gravitating bar, having a lid or cover attached to one end thereof, substantially as described. 5th. The herein described device for automatically closing an ink-well or other receptacle, consisting of an adjustable clamp composed of two angular bars adapted to be secured to an ink-well or other receptacle, and a standard, horizontally adjustable upon one of these angular bars and a beam or bar pivoted to this standard, and provided with a cover, all substantially as and for the purposes set forth.

### No. 35,552. Rubber Overshoe.

(*Soulier de caoutchouc.*)

John Francis O'Brien, Montreal, Quebec, Canada, 3rd December, 1890; 5 years.

*Claim.*—1st. A rubber overshoe, having a heel counter portion of desired height, and a rim adapted to clasp the sole of the boot. 2nd. In a rubber overshoe, the combination of a heel counter portion, a rim adapted to clasp the sole of the boot, and a band connecting the sides of overshoe under the boot, as and for the purpose set forth.

### No. 35,553. Device for Propelling Vessels.

(*Appareil de propulsion pour vaisseaux.*)

Jacob Cochrane, Hill City, South Dakota, U. S. A., 5th December, 1890; 5 years.

*Claim.*—1st. In a propelling device for boats, the U-shaped, reversible swinging bucket 22, having pivots at its inner open end and stops 23, at opposite sides of its closed end, substantially as set forth. 2nd. In a device for propelling boats, the U-shaped, reversible swinging bucket 22, having stops 23, at the sides of its closed end, lugs 20 on its free open end for connection of the sides of the bucket with an endless carrier, and having apertures to receive the pivot-bar 19, said bar being adapted for connection with an endless carrier, substantially as set forth. 3rd. In a device for propelling boats, the combination, with chain wheels, and endless chains carried by said wheels, of stirrup-like buckets pivoted at their inner ends to the endless chains, the outer ends of the buckets being free to swing in either direction to permit them to automatically reverse, substantially as shown and described, and for the purpose specified. 4th. In a device for propelling boats, the combination, with chain wheels, and endless chain belts carried by said wheels, of stirrup-like buckets pivoted at their inner ends between the endless chains, and provided with stop-pins at their sides near their outer swinging ends to limit the movement of the outer free ends of the buckets, substantially as shown and described. 5th. In a device for propelling boats, the combination, with chain wheels having spurs formed thereon, a peripheral recess between each spur, and chain belts carried by the said wheels, comprising a series of pivoted links, each alternate link being provided with an aperture to receive the spurs of the wheels, the other links being solid and adapted to enter the recesses between the spurs, of cross-bars connecting the solid links of the chain belts, and stirrup-like buckets detachably attached to the said bars and provided with stop-lugs at their sides, substantially as shown and described, and for the purpose specified. 6th. In a device for propelling boats, the combination, with endless belts and means for revolving said belts, of stirrup-like buckets pivoted between the links of the belts, whereby the said buckets are free to turn in direction of either the front or the rear of the vessel and act upon the water to propel the said vessel forward or to back the same, substantially as shown and described.

### No. 35,554. Cable or Electrical Elevated Railway.

(*Chemin de fer élevé à câble ou à électricité.*)

Adolphus Davis, London, England, 5th December, 1890; 5 years.

*Claim.*—1st. In an elevated railway, the combination, with a series of single posts, of a girder resting upon them, and carrying on its bottom chord cross ties, supporting the longitudinals and rails, all as herein set forth. 2nd. In an elevated railway, the combination of a single girder, rails carried by cross pieces resting on the lower chord of such girder, a propelling cable resting on the top chord of such girder, and means secured to bottom of the car and actuated therefrom for gripping and releasing the cable, all as herein set forth. 3rd. The combination, with the bottom of the car, and with the top chord B, of the girder, of guards D, D', as and for the purposes set forth. 4th. The combination, with the posts J, of the girder resting on top of same, cross pieces H, carried on top of chord C, cross plates G, connected with girder by diagonal stays F, longitudinals L, and rails M, as and for the purposes described. 5th. The combination, with the cable A, of gripping wheels O, O', mounted on the ends of pivoted levers U, a train of gearing operating such gripping wheels, and an electric motor, governed from the car, operating such train, all substantially as herein set forth.

### No. 35,555. Apparatus for Treating Sewage.

(*Appareil pour le traitement des vidanges d'égouts.*)

Oluf E. Meyer and Charles E. Weck, both of Milwaukee, Wisconsin, U. S. A., 5th December, 1890; 5 years.

*Claim.*—1st. The combination, in sewage apparatus, of a settling-chamber into which the sewage is discharged, and a conduit having open ends and closed sides leading laterally out of the side of said

settling-chamber, above the bottom thereof, and divided by transverse screens into compartments which are filled with suitable filtering material, said conduit having movable sections, whereby the filtering material in each compartment may be renewed without disturbing that in the other compartments, in sewage apparatus, of the purpose set forth. 2nd. The combination, in sewage apparatus, of two settling chambers connected by branches with the sewer main, a gate arranged to direct the sewage into either branch and exclude it from the other, or direct it into both branches at the same time and conduits leading laterally out from the sides of each settling-chamber, above the bottom thereof, and divided by upright screens into compartments which are filled with suitable filtering material, substantially as and for the purpose set forth. 3rd. The combination, in sewage apparatus, of two settling chambers connected by branches with the sewer main, a valve or gate at the junction of said branches with the main, arranged to divert the sewage into either branch and cut it off from the other, a separate elevator-well somewhat deeper than said settling-chambers, provided with hoisting apparatus, a conduit leading from the bottom of each settling-chamber into said well, downwardly inclined filtering-conduits leading laterally out from the sides of said settling-chambers, above the bottom thereof, and divided transversely by upright screens into compartments which are supplied with filtering material, and a well into which said filtering conduits discharge, substantially as and for the purpose set forth. 4th. The combination in sewage apparatus, of a settling chamber into which the sewage is discharged, a downwardly-inclined filtering-conduit leading laterally out from the side of said chamber, above the bottom thereof, and provided with upright screens between which is interposed filtering material, a well provided with a cage having closed sides and horizontal screens between which is interposed filtering and deodorizing material and upon which said conduit discharges means for removing the water from from said settling-chamber and means for removing the sediment. The said well, substantially as and for the purpose set forth. 5th. The said well, substantially as and for the purpose set forth, and connected by branches with the sewer main, a gate or valve arranged to close either branch and open the other, an elevator-well somewhat deeper than said settling-chambers and provided with hoisting apparatus and communicating through openings with the lowest parts of the settling chambers, the bottoms of which are inclined downwardly toward said openings, cut-offs arranged to open and close the openings from the settling chambers into the elevator-well, filtering-conduits leading laterally out of the sides of said chambers and divided by upright screens into compartments which are filled with filtering material movable sections in said conduits, whereby access is had to said screens and filtering material, and a well into which said conduits open and their discharging ends, substantially as and for the purposes set forth.

### No. 35,556. Spike for Railways.

(*Chevilletes de chemin de fer.*)

Elias Dietrich, Rochester, New York, U. S. A., 5th December, 1890; 5 years.

*Claim.*—1st. The herein described spike, comprising a primary and secondary spike, arranged face to face, the secondary spike being wedge shaped, and the two spikes provided near their upper ends with registering grooves formed in their inner walls, and a removable locking pin inserted in the opening formed by the grooves when the primary and secondary spikes are placed face to face, substantially as specified. 2nd. The herein described spike, the same consisting of the main spike, having the outer plain wall, and the head, the rear end of which is flush with said wall, and the front end of which is formed to overlap the base of a rail, the supplemental wedge shaped spike terminating at its upper end in a head oppositely disposed to the head of the main spike, and having its inner end flush with the wall of the secondary spike, and its opposite end formed to rest upon a tie, the adjacent edges of the heads being bevelled or cut away, as at 15, and the adjacent faces of the spikes being transversely grooved below the heads, and a split locking pin of spring metal inserted in the opening formed by the said grooves when the primary and secondary spikes are placed face to face, substantially as specified.

### No. 35,557. Tile Post.

(*Poteau artificiel.*)

Joseph Fillmore Marshall, Hanoverton, Ohio, U. S. A., 5th December, 1890; 5 years.

*Claim.*—The herein described composition or tile post, consisting of a post moulded of clay, fire clay or cements, and provided with a base or foot, as a new article of manufacture, substantially as and for the purposes set forth.

### No. 35,558. Fastener for Watch Bows.

(*Agrafe pour pendants de montre.*)

Ezra Charles Fitch, Newton, Massachusetts, U. S. A., 5th December, 1890; 5 years.

*Claim.*—A watch case pendant, having orifices in its sides, combined with the smooth-surfaced or unthreaded bow-securing pins inserted in said orifices, and having heads within the pendant larger than the orifices, the collar  $g$  inserted within the pendant and provided with recesses or seats  $g'$  formed to support the heads of the pins and prevent inward movement thereof, and the bow having socketed ends formed to receive the projecting portions of the pins, as set forth.

### No. 35,559. Stud for Shoe Lacings.

(*Ailette pour lacets de chaussures.*)

William Henry Smidt, City of New York, New York, U. S. A., 5th December, 1890; 5 years.

*Claim.*—1st. A shoe lacing stud, having a tubular settling eyelet, a circumferential flange at the top of said eyelet, a diminished neck,

and a head surmounting said neck, all formed from a tubular shell open at both ends, substantially as shown and described. 2nd. A shoe-lacing stud, having a tubular setting eyelet and a hollow open head, both formed from a tubular shell open at both ends, substantially as set forth. 3rd. A lacing stud, formed from a tubular shell, open at both ends, and having a tubular setting eyelet, a flange extending circumferentially around the latter, a diminished neck, and an overhanging head, substantially as set forth. 4th. The method of making shoe lacing studs from tubular sheet metal shells, open at both ends, consisting in first swaging said shells at or about the centre, whereby a circumferential flange is formed, and then compressing the shell immediately above said flange, whereby a diminished neck and an overhanging head are formed, substantially as set forth. 5th. The method of making shoe lacing studs from tubular sheet metal blanks, consisting in first forming a flange circumferentially around the blank, and subsequently shaping the upper part of the blank to afford a diminished neck, and an overhanging head, substantially as shown and described.

### No. 35,560. Truss. (*Bandage herniaire.*)

Orlando E. Miller and George S. Bennett, both of Denver, Colorado, U.S.A., 5th December, 1890; 5 years.

*Claim.*—1st. The combination, with the body band of a truss, of a pad, a post for supporting the same and terminating at its rear end in a head, a plate encircling the post and provided with a socket for the reception of the head, a binding disk, having an opening smaller than and adapted to partially receive the head, said opening having sharp angular edges adapted to bind upon the head, a clamping disk mounted on the binding disk and the two embracing opposite sides of the band, and binding screws inserted through the three disks at opposite sides of the head, substantially as specified. 2nd. The combination, with the body band of a truss, of a pad, a post for supporting the same and terminating in a soft metal spherical head, a plate or disk encircling the post and provided with a socket for the reception of the head, a binding disk formed of steel and having an opening smaller than and adapted to receive the head and provided with sharp angular edges adapted to bite into the soft metal of the head, a clamping disk mounted upon the binding disks and with the same embracing the body band, said clamping disk being provided with a transverse groove for the reception of the band, and binding screws located at each side of the band and threaded in openings formed in the three disks, substantially as specified.

### No. 35,561. Steam Boiler.

(*Chaudière à vapeur.*)

James Edwin Wilson and Frank Wilson, both of Easton, U.S.A., 5th December, 1890; 5 years.

*Claim.*—1st. The combination, with the casing A<sup>1</sup>, of the detachable covering plate a<sup>2</sup>, having exit openings for the products of combustion, and the pendent vertically-detachable boiler B, having central vertical imperforate interiorly unobstructed dividing chamber b, extending from front to rear of the combustion chamber, and provided with the series of right and left horizontal water tubes b<sup>1</sup> and b<sup>2</sup>, extending to the walls of such combustion chamber, whereby the interior space is divided centrally into two vertically right and left upwardly-discharging chambers. 2nd. The combination, with the casing A<sup>1</sup>, and with its detachable covering plate, provided with smoke exit opening, of the pendent upwardly-detachable boiler B, having central rectangular closely-fitting chamber b, extending from the front to rear of the interior space, and dividing the same into two separate right and left chambers, which discharge upwardly, and provided with horizontal water-tubes b<sup>1</sup> and b<sup>2</sup>, extending from the central chamber across the separated parts of the combustion space, the supply pipe b<sup>3</sup> extending through the casing at one side thereof, and the return pipe b<sup>4</sup> extending through the casing at the opposite side thereof. 3rd. The combination, with the casing A<sup>1</sup>, having vertical ways in the front and rear walls thereof, extending from the top of the wall downwardly, and terminating in seats a<sup>5</sup> and a<sup>7</sup>, of the boiler B, having projecting lugs B<sup>2</sup> and B<sup>3</sup>, adapted to the vertical ways and to the seats a<sup>5</sup> and a<sup>7</sup>. 4th. The pendent upwardly-detachable steam generator B, having central imperforate dividing chamber b, right and left outwardly-closed horizontal water tubes b<sup>1</sup> and b<sup>2</sup>, and superposed superheating chamber or steam-drum B<sup>1</sup>, in combination with the inclosing casing A<sup>1</sup>, the combustion chamber of which is of like horizontal area with the boiler and its tubes, and with the detachable covering plate or cap a<sup>2</sup> of such casing. 5th. In a steam boiler, the combination, with an inclosing casing, which is provided with a detachable covering plate and with supporting bearings or seats, of a boiler, which is provided with projecting lugs, which engage the supporting bearings in the casing, whereby the boiler, in its entirety, is rendered vertically removable and replaceable.

### No. 35,562. Brush. (*Brosse.*)

Robert Hill Crowden, London, assignee of James Oates West Parade, Huddersfield, Yorkshire, both of England, 5th December, 1890; 5 years.

*Claim.*—The application to, or combination with, paint or varnish brushes, of a hook, such as b, employed in the manner and for the purposes described and shown.

### No. 35,563. Curtain Fixture.

(*Gousset porte-rideau.*)

David T. Graham, Henry Fleming and John Coyle, all of Trenton, Missouri, U.S.A., 5th December, 1890; 5 years.

*Claim.*—1st. In a curtain fixture, an upper spring roller and a lower movable spring roller, connected thereto by flexible straps, and carrying a shade, substantially as set forth. 2nd. In a curtain fixture, an upper spring roller, a lower movable spring roller carry-

ing a shade, and having the positive and reversed end pawls J, J, and O, O, and flexible straps connecting the upper and lower rollers, and adapted to be wound upon the upper roller, substantially as set forth. 3rd. The combination of an upper spring roller bearing slides, flexible straps, connecting said slides with the upper roller, and adapted to be wound upon said roller, and the lower spring roller carrying a shade and having positive pawls J, J, and reversed pawls O, O, substantially as set forth. 4th. The combination of the upper spring roller, the vertical guides, the bearing slides, the flexible straps connecting said slides with the upper roller, and adapted to be wound upon said roller, and the lower spring roller carrying a shade mounted in the said bearing slides and having the positive pawls J, J, and the reversed pawls O, O, substantially as set forth.

### No. 35,564. Coupling for Whiffletrees.

(*Joint de palonnier.*)

Oliver J. LaBaie, Buffalo, New York, U.S.A., 5th December, 1890; 5 years.

*Claim.*—1st. The combination, with the plate B, having the apertured projection and flange at its rear extremity, and the grooved projection on its upper surface, of the plate B<sup>1</sup> having the projection on its lower surface engaging said grooved projection, and the pivot at its rear extremity formed integral with said plate B<sup>1</sup>, and engaging said apertured projection, in a manner, substantially as set forth. 2nd. The combination, with the plate B, having the projection D, and groove d, the projection C<sup>1</sup>, having the aperture c and groove c<sup>1</sup>, and the flange C, of the plate B<sup>1</sup>, having the flange E and groove d<sup>1</sup>, the pivot F and nose f, substantially as and for the purpose set forth.

### No. 35,565. Lawn Mower.

(*Faucheuse de pelouse.*)

Colborne Powell Meredith, Toronto, Ontario, Canada, 9th December, 1890; 5 years.

*Claim.*—As a collector attachment for lawn mowers, the sides A, connected together by the bottom B and cover F to form a receptacle open only at the front, the bearings C secured to said collector, the roller D carried by said bearings to support the collector, and the bifurcated strips H, secured to the said sides, as a means for securing the whole to a lawn mower, substantially as shown and described.

### No. 35,566. Joint for Furniture.

(*Joint pour les meubles.*)

The Globe Furniture Company, Walkerville, Ontario, Canada, assignee of Francois R. Beal, Northville, Michigan, U.S.A., 9th December, 1890; 5 years.

*Claim.*—1st. In a device for the purposes set forth, the combination of a wooden part, as C, having a series of key-hole shaped mortises, with an undercut along the necks of said mortises, and a series of lugs formed integral with a metal frame, said lugs adapted to register and to interlock with the mortises, as and for the purposes specified. 2nd. In a device for the purposes set forth, the combination of the wooden part C, having a series of key-hole shaped mortises, with an inclined undercut a<sup>1</sup> along the necks of the mortises, and being cut gradually deeper from the point e<sup>1</sup> to the point m, the series of conical lugs Z, formed integral with the metal frame, having ledges a, said lugs adapted to register and to interlock with the mortises, substantially as set forth. 3rd. The combination, with the flanges supporting the seat or back, of a series of buttons formed in one piece with the said frame and projecting into said recesses in the seat or back, the said recesses being undercut at the sides and forward ends to engage the sides of the buttons, the undercut recesses gradually increasing in depth from one end to the other, and the lateral edges of the recesses thereby converging toward one end, substantially as set forth.

### No. 35,567. Truss Pad.

(*Tampon de banlage herniaire.*)

The Leonard Truss Company, Manchester New Hampshire, assignees of Charles Seward Leonard, Glover, Vermont, all of U.S.A., 9th December, 1890; 5 years.

*Claim.*—1st. In a truss pad, the combination, with the circular holder, having an annular flange, of an elastic cushion held under said flange and adapted for use, so that the said cushion may bear upon the hernia while the said annular flange bears upon the surrounding parts, substantially as and for the purpose described. 2nd. In a truss pad, the combination, with the holder, having a convex outer face and a concave inner face, and provided on the concave side with an annular inwardly-projecting flange, of the convex elastic cushion, provided with an air vent and held in place with its periphery under said annular flange, the convexity of said cushion projecting beyond said flange, the whole device being adapted for use, as stated. 3rd. In a truss pad, the combination, with the annular flange having a support on the surrounding parts, substantially as described.

### No. 35,568. Car Coupler. (*Attelage de chars.*)

Albert Mailman, Liverpool, and Cyrus A. Perkins, Annapolis, both of Nova Scotia, Canada, 9th December, 1890; 5 years.

*Claim.*—In a car coupler, the combination, with the draw-bar head, having the cross-pin f, the pin C and a suitable recess, of the block or tumbler B, having the slotted hole b, the groove d, the tongue D, having the slotted hole e, and a suitable pin made one with the block B, which retains the tongue D, to slide in the groove d, substantially as and for the purposes set forth.

**No. 35,569. Electrical Conductor.***(Conducteur électrique.)*

Edison General Electrical Company, City of New York, New York, assignees of William A. Phillips, Brooklyn, New York, all of U.S.A., 9th December, 1890; 5 years.

*Claim.*—1st. The combination, with a wire, of flat strips of absorbent insulating material applied longitudinally to said wire, the strips being individually in a folded condition, substantially as set forth. 2nd. The combination, with a wire, of flat strips of paper applied longitudinally to said wire, the strips being individually in a folded condition, substantially as set forth. 3rd. The combination, with a wire, of an insulation therefor, composed of two or more strips of fibrous material applied longitudinally to the wire and impregnated with an insulating compound or material, substantially as set forth. 4th. The combination, with a wire, of an insulation therefor, composed of two or more strips of an insulating material, applied longitudinally to said wire and folded and compressed thereon, substantially as set forth. 5th. The combination, with a wire, of an insulation therefor, composed of two or more strips of fibrous material applied longitudinally to such wire and provided with adhesive material for holding them together, substantially as set forth. 6th. The combination, with a wire, of an insulation therefor, composed of two or more strips of fibrous material, applied longitudinally to the wire, and provided with an adhesive compound of resin and vaseline for holding them together, substantially as set forth.

**No. 35,570. Track Laying Machine.***(Machine à poser les rails.)*

Ferdinand F. Voigt, Chicago, Illinois, U.S.A., 9th December, 1890; 5 years.

*Claim.*—1st. The combination, with a track-laying machine provided with a forward extension-frame, of a carrier working on said frame, and a gear connection between the said carrier and the axle of the machine, whereby the forward movement of the machine will cause the carrier to be advanced, substantially as described. 2nd. The combination, with a track-laying machine provided with a forward extension-frame, and a carrier working on said frame, of a power-shaft, a sprocket-wheel mounted thereon, a sprocket-chain secured at its ends respectively to the carrier and working around said wheel, and a sprocket-wheel and chain connection between said shaft and the axle of the machine, substantially as described. 3rd. The combination, with a track-laying machine provided with a forward extension-frame, a carrier working on said frame, and means for advancing and withdrawing said carrier, of an automatic stop device for limiting the movement outwardly of said carrier, substantially as described. 4th. The combination, with a track-laying machine provided with a forward extension-frame, and a carrier working on said frame, of a power-shaft, a connection between said shaft and carrier including a separable clutch device, whereby the rotation of said shaft will operate the carrier, and mechanism attached to said carrier for automatically unshifting the clutch and stopping said carrier, substantially as described. 5th. The combination, with a track-laying machine provided with a forward extension-frame and a carrier working on said frame, of a power-shaft, a sprocket-wheel mounted thereon, a sprocket-chain attached at its ends respectively to the carrier and working around said wheel and shaft, a clutch-lever, and a projection or incline on the carrier adapted and arranged to actuate the lever so as to shift the clutch, substantially as described. 6th. The combination, with a track-laying machine provided with a forward extension-frame, and a carrier working on said frame, of a power-shaft, a sprocket-wheel mounted thereon, a sprocket-chain attached at its ends respectively to the carrier and working around said frame, a clutch connecting said wheel and shaft, a clutch-lever, and a projection or incline on the carrier adapted and arranged to actuate the lever so as to shift the clutch, and a connection between said shaft and an axle of the machine for actuating the former, substantially as described. 7th. The combination, with a track-laying machine provided with a forward extension-frame, of a carrier, means for advancing and withdrawing the same, a tilting track-section mounted on said carrier, and means for automatically tilting said section, substantially as described. 8th. The combination, with a track-laying machine provided with a forward extension-frame, of a carrier working on said frame, means for advancing and withdrawing said frame, a tilting track-section, a lock device therefor, and means for automatically withdrawing said section when the carrier reaches the limit of its forward movement substantially as described. 9th. The combination, with a track-laying machine provided with a forward extension-frame and a carrier working on said frame, of a tilting track-section on said carrier, a spring actuated lock device therefor, a rod for operating said device and a fixed projection on the machine engaging said rod when the carrier reaches the limit of its forward movement, whereby the lock device will be automatically unlocked, substantially as described. 10th. The combination, with a track-laying machine provided with a forward extension-frame, a carrier working on said frame and a tilting track-section on said carrier, of means for advancing and withdrawing said carrier, an automatic stop device for limiting the outward movement of the carrier, and means for automatically and simultaneously tilting said track-section, substantially as described. 11th. The combination, with a track-laying machine provided with a forward extension-frame, and a carrier, of an overhead return-track, hinged end sections on said track adapted and arranged respectively to receive the trucks from the carrier when extended, and deliver them at a point to the rear of the machine, substantially as described. 12th. The combination, with a track-laying machine provided with a forward extension frame and a carrier working on said frame, of overhead return-tracks having hinged end sections supplemental tracks parallel therewith, and travelers working on said tracks provided with block and tackle and grappling-hooks for carrying the rails, substantially as described.

**No. 35,571. Horse Collar. (Collier de cheval.)**

Alexander McKenzie, Manchester, Ontario, Canada, 9th December, 1890; 5 years.

*Claim.*—1st. The combination, with the hinged metal rim of a horse-collar, consisting of metal sections united to form a circle and a rigid core of lighter material filling one section, of a strip of flexible material clamped between the said core and metal section, and a pad secured to the said flexible strip, whereby the strip constitutes an integral portion of the pad, substantially as shown and described. 2nd. The combination, with the hinged metal rim of a horse-collar, consisting of metal sections united to form essentially a circle, and a core of lighter material filling one section, of a strip of flexible material clamped between the said core and the contiguous face of the metal section, a pad secured to the said flexible strip, and an apron covering the union of the said strip and pad, substantially as shown and described. 3rd. In a horse-collar, the combination of a metal rim consisting of two longitudinal sections united to form an essentially circular body, and a pad jacket having one of its edges held between the said sections, substantially as described. 4th. In a horse-collar, the combination of a metal rim consisting of two longitudinal sections secured together, the pad-jacket section *b*, of leather or equivalent flexible material having one edge secured between the said sections, and the pad-jacket section *e*, secured to the free end of the section *b*, and to the bend of the said section adjacent to the rim, substantially as shown and described.

**No. 35,572. Conduit for Electric Railways. (Conduit pour chemins de fer électriques)**

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. A tubular conductor enclosed in insulating material, and contact making devices extending from the exterior to the interior thereof. 2nd. A tubular conductor permanently enclosed within an insulating envelope, and having contact making devices extending through both the insulation and the conductor to make contact with the interior of the conductor, and removably sustained in the wall thereof. 3rd. The combination of a tubular conductor enclosed within an insulating envelope, a contact device comprising an insulating support extending through the wall of the conductor, a movable contact, a spring for retracting the same, and a traveling current collector arranged to move the contact into engagement with the interior of the conductor. 4th. The combination, with a slotted sub-surface conduit, of a hollow conductor or conductors contained within said conduit and provided with an exterior insulating envelope, and contact devices extending from the exterior to the interior thereof, and a traveling collecting device or devices extending through the slot of the conduit into engagement with the contact devices upon the conductor or conductors. 5th. The combination, with a slotted sub-surface conduit, of a hollow conductor or conductors formed of tubular sections united by tubular couplings provided with brackets for attachment to the wall or walls of the conduit, sustained within said conduit and provided within an exterior insulating envelope, and contact devices extending from the exterior to the interior thereof, and a traveling collecting device or devices extending through the slot into engagement with the contact devices upon the conductor or conductors. 6th. A sub-surface conduit comprising a metallic trough having one edge turned inwardly and one outwardly, road bars sustained upon said edges to form a surface slot adjacent to one side of the conduit, said inwardly turned edge being indented to give greater access to the conduit when the road bar is removed, and a suitable conductor sustained within the conduit under the inwardly turned edge.

**No. 35,573. Artificial Slate. (Ardoise artificielle)**

Jean Baptiste Morin, Quebec, Province of Quebec, Canada, 10th December, 1890; 5 years.

*Claim.*—The improvements made on the artificial slate by joining to it a book of models, the idea of having combined the two, namely the artificial slate and the models forming by their union a whole entirely different from the two taken separately, which combination of the slate and of the book of models, of letters, ciphers, and drawings thus grouped, I intend to design under the name of "model slate," for the purpose hereinbefore set forth.

**No. 35,574. Bed Bottom. (Sommier élastique.)**

Walter Bryant Noyes, Toronto, Ontario, Canada, 10th December, 1890; 5 years.

*Claim.*—1st. The combination, with the side rails, of the bed bottom frame provided with bearings, of a stretching roller, caps secured to the ends of the stretching roller and provided with hollow journals seated in the bearings of the said rails or brackets, and hollow journals, and entering the ends of the stretching roller, whereby the journals are held in their bearings, and the said rails are drawn toward the ends of the stretching roller, substantially as set forth. 2nd. The combination, with the frame of the bed bottom having a tension device, of a woven wire or other flexible support attached at one end to said roller or end piece, and a supporting rod passing through the longitudinal edges of the flexible support, and provided with a spiral spring, whereby the rod is rendered yielding, substantially as set forth. 3rd. The combination, with the frame, of the bed bottom and roller or end pieces B, B, one or more dowels or cross bars A, for holding the supporting spring D, D, whereby the fabric is prevented from becoming so easily depressed, substantially as set forth.

**No. 35,575. Water Gauge.** (*Indicateur d'eau.*)

Frederick Samuel Thring, New York, State of New York, U. S. A., 10th December, 1890; 5 years.

*Claim.*—1st. The combination, with the gauge tube and the castings at the ends thereof, provided with the longitudinal apertures or openings 6, of the globe valves or cocks connecting said castings to the boiler, and the leaf spring valves 7, secured to the end castings within the adjacent stems of the cocks with their free ends arranged to close on the apertures or openings 6, under steam or water pressure, when the gauge tube is broken, substantially as specified. 2nd. The combination, with gauge tube, the castings at the end thereof having the apertures or openings 6, the cocks connecting the said castings to the boiler, and the leaf spring valves 7, of the screw cap 9, on the top of the upper casting and the pet cock 10, at the bottom of the lower casting.

**No. 35,576. Shovel.** (*Pelle.*)

James Telfer, Jr., Bleinheim, Ontario, Canada, 10th December, 1890; 5 years.

*Claim.*—As a new article of manufacture, a wooden shovel having the body or blade A, shaped as shown, with an upward curve or arch *a*, to form a bed for the shank *b*, of the curved handle B, which is riveted to the under side of the body A, by rivets *c*, and *d*, the rivet *c*, passing through the strap C, which is also riveted to the body by rivets *e*, and *f*, substantially as specified.

**No. 35,577. Holder for Mattresses and Bed Clothes.** (*Accroche-matelas et couvertures de lit.*)

Legrand D. Harding, Halifax, Nova Scotia, Canada, 10th December, 1890; 5 years.

*Claim.*—1st. In a bedstead, the combination, with the slats, of a clamp pivoted in the slats, parallel bars on the slats and connected to the clamps by wires, and a lever for actuating the bars and clamps, substantially as described. 2nd. In a bedstead, the combination, with the slats, of clamps pivoted therein, wires connected to the clamps, parallel bars on the slats, a lever having flexible connection with the bars, and means for locking the lever in its clamping position, substantially as described. 3rd. In a bedstead the combination, with the slats, clamps pivoted therein, parallel bars having flexible connection with the clamps, a lever having flexible connection with the bars, a spring on the slats in the path of the lever, a cam stirrup on the end of the lever, adapted to engage the spring and unlock the lever from position, and cords for actuating the lever extending to the outside of the bedstead, substantially as described.

**No. 35,578. Appliance for Railways.**

(*Appareil pour chemins de fer.*)

Edwin David Graff, New York, State of New York, U. S. A., 10th December, 1890; 5 years.

*Claim.* The combination, with the air-pipe, of a suitable air-brake system of a valve or cock, an approximately vertical arm or lever having a horizontal pivot or fulcrum, and having its lower end depending in proximity to the earth, and a link or arm permanently connecting the said lever to the valve or cock, whereby upon deceleration of the train the lower end of the lever may be vibrated rearwardly longitudinally of the train by contact with the earth, and the upper end thereof thrown forwardly, and by the link or arm positive connection operate to turn or move the cock or valve in the air-pipe.

**No. 35,579. Sun Bonnet.** (*Chapeau-parasol.*)

Nellie Leanmore Butler, Frankfort, Kansas, U. S. A., 10th December, 1890; 5 years.

*Claim.*—1st. The herein described sun bonnet, the same comprising a wire frame, surrounding the head at its top and sides, and having upwardly bent tongues at its rear edge, and a cloth covering thereon passing from the rear edge thereof over said tongues, and falling thence downwardly, as set forth. 2nd. In a bonnet, the combination, with a frame of wire netting covering the top and sides of the head and having tongues at the rear edge thereof, the periphery of said frame and tongues being covered with strips connected thereto, of a cloth covering upon said frame and over said tongues, as set forth.

**No. 35,580. Thill Coupling.**

(*Armon de limonière.*)

George William Busch and James William Johnson, both of Walkerville, Ontario, Canada, 10th December, 1890; 5 years.

*Claim.*—1st. The combination of the ears C, having open slots *c*, in their lower edges, the latch block E, pivoted at its upper end to the ears, provided at a point below its pivot with a locking cavity *e*, to receive and lock the shaft iron, and having a pendent arm *e'*, a spring *e''* acting on the shaft iron, and having a pendent arm *e'*, a connection F leading from the pendent arm to press it forward, and a connection G leading from the latch block to draw the latter rearward, substantially as described. 2nd. The combination of the shaft iron with a shoulder *d*, and the spring actuated block E, with a shoulder *e'*, whereby the shafts may be held upright, substantially as described.

**No. 35,581. Hinge for Gates.**

(*Penture de barrière.*)

Robert C. Garvin, Smith's Falls, Ontario, Canada, 10th December, 1890; 5 years.

*Claim.*—A gate hinge, consisting of a fixed member, having a plate A, and integral projection B, provided with converging and inclined planes C, D, terminating in an eye F and A, swinging member having a plate G, integral with a T-shaped projection H, the horizontal arm of said projection carrying an anti-friction wheel or roller J, as and for the purpose set forth.

**No. 35,582. Reflector Lamp and Cover for Globes for Gas Lights.** (*Réverbère*

*pour lampes et couvercle pour globes de gazeliers.*)

Joseph Shaw, Lockwood, Yorkshire, England, 10th December, 1890; 5 years.

*Claim.*—1st. In a gas light reflecting lamp, the use of gas burners placed at an angle, in combination with a double cone-shaped body and an adjustable reflector, and annular opening or aperture, such as *d*, all arranged as described and shown in Figs. 1 and 2. 2nd. In a gas light reflecting lamp, the use of gas burners placed at an angle, in combination with a single cone-shaped body and an adjustable reflector, and annular opening or aperture *d*, all arranged as shown in Fig. 3. 3rd. The combination of the disc B, cone D, arranged to leave an annular groove or space *d* to be used in connection with globes surrounding gas lights, in manner substantially as described.

**No. 35,583. Hook for Lacing Shoes.**

(*Agrafe de laçet de chaussure.*)

Thomas B. Benwell, Newark, New Jersey, U. S. A., 10th December, 1890; 5 years.

*Claim.*—1st. The mode of covering perforated heads and shanks of shoe lacing hooks, with pyroxyline or other suitable material, consisting in compressing said heads and shanks and pyroxyline together in heated dies, substantially as set forth. 2nd. The mode of covering shoe lacing hooks with pyroxyline or other suitable material, consisting in compressing said hooks and material between heated dies, which are conformed to the shape of the hook, said material being placed within said dies in the form of a pellet, and caused to fuse and flow around the hook during the compressing action of the dies, substantially as set forth. 3rd. The mode of covering shoe lacing hooks, with a pyroxyline material, which necessitates the provision of a pair of dies, having complementary recesses, which jointly conform to the finished hook, the placing of the pyroxyline material in the form of a pellet within the recess in the lower die, the assembly of the hook in proper position immediately above said pellet, and the heating and compressing of the dies, whereby said material is fused and caused to flow around the hook and firmly united to the latter, substantially as shown and described. 4th. The mode of covering the perforated heads and shanks of shoe lacing hooks with pyroxyline material, consisting in forcing said material through and around said heads and shanks by dies which are conformed to the shape of the finished head and shank, substantially as set forth. 5th. The mode of covering shoe lacing hooks with pyroxyline material, consisting in forcing said hooks within a confined space against a plastic mass of said material, substantially as set forth. 6th. The herein described means for covering the heads and shanks of shoe lacing hooks, consisting of a lower die having a depression, an intermediate bar cut away and concaved, whereby the combined contours of said depression cut away and concaved portions conforms to the shape of the finished hook head, and an upper die having perforations to accommodate the eyeslets of the hooks, substantially as set forth. 7th. The combination of the shape of dies and intermediate bar cut away and conformed to the shape of the finished hook head, substantially as set forth. 8th. The combination of the lower die, which contains the pyroxyline material, and the upper intermediate bar to which the hooks are attached, and the combination, die, substantially as shown and described. 9th. The combination, with the hook-carrying bar, of the dies having as set forth. 10th. The cut away to enclose said bar, substantially as set forth and surrounding combination of the die A, having depression *a*, the intermediate bar B, having *b*, the die D, having perforations *c*, the intermediate bar B, having concavity *c*, and cut-away edge *d*, and the dowel pins extending from the die A through the die D and intermediate bar, substantially as set forth.

**No. 35,584. Reciprocating Electric Engine.**

(*Machine électrique à mouvement réciproque.*)

Charles Joseph Van Dopeole, Lynn, Massachusetts, U. S. A., 10th December, 1890; 5 years.

*Claim.*—1st. A reciprocating electro-magnetic engine, having constantly energized motor coils, and a supplementary coil or coils in which the current alternately rises and falls, the combined coils reacting upon and imparting reciprocating motion to a magnetic piston movable therein. 2nd. An electro-magnetic reciprocating engine, comprising a magnetic piston and a constantly energized coil or coils reacting thereon, and an additional intermittently energized coil or coils disturbing the field of force of the magnetic piston. 3rd. A reciprocating movement of the magnetic piston, a motor coil or coils reacting thereon, and constantly in circuit with a source of continuous current, an additional coil or coils arranged to shift the field of force of the main coil or coils, and means for intermit-

tently energizing the additional coils and thereby reciprocating the magnetic piston. 4th. A reciprocating engine, comprising a plurality of motor coils and a magnetic piston, one of said coils being constantly energized to magnetize the piston, a source of continuous current, and means for causing the supply current to rise and fall in part of the motor coils to produce reciprocations of the magnetic piston. 5th. In a reciprocating engine, a plurality of motor coils, a sectional commutator and source of continuous current, connections between the free terminals of part of said coils and the main commutator-brushes, a movable commutator brush, and connections between said moving brush and the other terminals of the motor coils, whereby the current is raised and lowered from maximum to zero in part of the said motor coils.

### No. 35,585. Reciprocating Electric Engine. (Machine électrique à mouvement réciproque.)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. In a reciprocating electric engine, the combination, with a motor coil or coils, of a magnetic piston adapted to be reciprocated therein, and a magnetic extension upon said piston for causing said piston to move with greater force in one direction than in the other. 2nd. In a reciprocating electric engine, the combination with a motor coil or coils, of a magnetic piston, a tool-holder connected thereto for carrying the tool, and a magnetic extension upon said piston for imparting a preponderance of power to the stroke in one direction. 3rd. In a reciprocating electric engine, the combination with motor coils, of a magnetic piston adapted to be reciprocated therein, and a magnetic continuation extending from one end of said piston, whereby the stroke of said piston is caused to preponderate in power in one direction. 4th. In a reciprocating electric engine, the combination, with motor coils and a magnetic piston adapted for reciprocation therein, of an exterior casing for said coils and extensions from the ends of said piston, said extensions passing through suitable bearings in the ends of the casing for guiding said piston in its movement. 5th. In a reciprocating electric engine, the combination of motor coils, a magnetic piston adapted to reciprocate in said coils, a casing inclosing the coils and having bearings at its extremities, extensions upon the piston passing through said bearings for guiding the piston in its movement, one of said extensions being of magnetic material and forming a magnetic extension of the piston, thereby acting to produce a preponderance of power in one direction. 6th. In a reciprocating electric engine, the combination of motor coils, a magnetic piston adapted to be reciprocated therein, an exterior shell or casing, metallic heads connected to the casing and provided with central bearings, a non-metallic lining upon the interior of the motor coils, and guide rods extending from the ends of the piston through the ends of the casing and guiding said piston in its movement, thereby keeping the same out of contact with the non-metallic lining. 7th. A reciprocating electric engine, comprising a motor coil or coils, a magnetic piston adapted to be reciprocated therein, an exterior shell incasing the coils and heads thereof, an extension from the piston for connection with the tool, an extension from the opposite end of the piston, and an adjustable spring upon said last-named extension for modifying the action of the piston. 8th. In a reciprocating electric engine, motor coils and a magnetic piston adapted to be reciprocated therein, a casing inclosing said coils and piston, and counter-balancing springs at each end of said piston. 9th. In a reciprocating electric engine, motor coils, a magnetic piston adapted to be reciprocated therein, an exterior casing having apertured heads, extensions from said piston passing through said heads and guided therein, and an adjustable spring or springs between the casing and piston. 10th. In a reciprocating electric engine, motor coils, a magnetic piston adapted to be reciprocated therein, an exterior casing, having apertured heads, extensions from said piston passing through said heads and guided therein, and adjustable springs placed between the casings and the extensions of the piston. 11th. In a reciprocating electric engine, a magnetic piston provided with an extension at each end adapted for connection to a tool-holder, one of said extensions being formed of magnetic and the other of non-magnetic material. 12th. In a reciprocating electric engine, a hollow magnetic piston provided with an extension at each end adapted for connection to a tool-holder, one of said extensions being formed of magnetic metal. 13th. In an electric reciprocating engine, actuated by rising and falling currents, the combination, with a rotatable tool-actuating piston, of magnetic, or electro-magnetic, means for imparting an intermittent rotary movement thereto. 14th. In an electric reciprocating engine, a rotatable piston, an intermittently energized stationary magnet, an armature therefor, and detachable connections between said armature and the piston. 15th. In an electric reciprocating engine, actuated by rising and falling currents, a tool operating piston and electro-magnetic means for rotating the magnet, and a detachable connection between the piston and actuating magnet, said detachable connection comprising a magnetic body. 16th. In an electric reciprocating engine, the combination with a motor coil or coils, and suitable casing therefor, of a magnetic piston for reciprocation therein, said piston having a tool-holding extension at one end and a guiding extension at the other, a ratchet engaging the guiding extension, an armature having pawls adapted to engage the ratchet, and an electro-magnet arranged to be energized intermittently to attract the armature and operate the ratchet, thereby imparting rotary movement to the guiding extension, the piston and tool holder. 17th. The combination, with an engine or device to be supported, said device provided with a friction disk having a beveled edge, of a support provided with a corresponding disk, and an adjustable clamp engaging the disks and forcing them together. 18th. The combination, with an engine or device to be supported, said device provided with a friction disk, having a beveled edge, of a support provided with a corresponding disk, and an adjustable grooved clamp engaging the edges of the disks to force them into frictional contact.

### No. 35,586. Train System for Electric Railways. (Système de convoie pour chemins de fer électriques.)

Charles Joseph Van Depoele, Lynn, Massachusetts, U. S. A., 10th December, 1890; 5 years.

*Claim.*—1st. An electrical railway train system, comprising a supply circuit carrying current of relatively high tension along the line of way, a motor car provided with a current converter arranged to receive and be operated by the high tension current, one or more vehicles connected and moving with the motor car and carrying conductors connected to form a local circuit supplied by the converter with current of relatively low tension, and propelling motors upon a plurality of the vehicles, all connected in and supplied with current by the local circuit. 2nd. In an electric railway train system, a circuit supplying continuous current of relatively high tension extending along the line of way, a traveling vehicle, a continuous current converter arranged to give current of variable electro-motive force, one or more additional vehicles carrying a local circuit or circuits arranged and connected to receive the secondary currents of the converter and traveling therewith, a motor or motors in said local circuit, and adapted to propel the vehicle or vehicles, and a traveling connection between the supply circuit and the primary of the converter. 3rd. In an electric train system, a continuous current supply circuit extending along the line of way, a motor car, a continuous current converter upon said car arranged to give current of variable electro-motive force, a local circuit or circuits arranged and connected to receive the secondary current of the converter and traveling therewith, a continuous current motor or motors in said local circuit and adapted to propel the vehicle or vehicles, a traveling connection between the supply circuit and the primary circuit of the converter, and means in said primary circuit for conveying the supply of current to the local circuit. 4th. In an electric railway system, the combination of a relatively high potential supply circuit along the line of way, one or more traveling continuous current motors, a local circuit including all of said motors and traveling therewith, a traveling tension reducing device moving with the motors and supplying current of reduced tension to the local circuit, and a traveling connection between the primary of the tension reducing device and the supply circuit. 5th. In an electric railway train system, the combination, with a secondary source of current traveling therewith, of a circuit extending throughout the train, a plurality of electric motors arranged and adapted to propel the train, and circuits and connections, whereby all the motors may be simultaneously thrown into operation in the desired direction. 6th. In an electric railway train system, the combination, with a secondary source of current traveling therewith, of a local circuit extending throughout the train from said secondary source of current and including the field magnet circuits, of a plurality of motors carried by the train and arranged to propel the same, a separate local circuit extending from the said secondary source and including the armature circuits of the propelling motors, and a current reversing switch in one of said motor circuits, whereby the direction of rotation of all the motors can be controlled from a single point.

### No. 35,587. Conduit for Electric Conductors. (Conduit pour conducteurs d'électricité.)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. A closed slotted conduit, comprising a slotted exterior casing inclosing an electric conductor, and elastic cushions fitting in the slot and normally in contact to close the slot. 2nd. A conduit for electric conductors, comprising a slotted exterior casing, flexible or yielding slot-closing strips normally in contact to close the slot, insulating supports within the conduit, and an electric conductor thereon. 3rd. A slotted conduit for electric conductors, comprising an exterior slotted casing having an insulating lining, an electric conductor within the lining, elastic cushions for closing the slot, and a thin traveling contact device extending upward from the conductor and acting to forcibly separate the elastic cushions during its passage. 4th. A slotted conduit for electric conductors, comprising an exterior casing, an interior insulating lining or support, an electric conductor or conductors upon said support, flexible or yielding insulating slot-closing strips located between the edges of the casing and the interior insulation, and a thin traveling contact device extending upwardly from the conductor and acting to forcibly separate the slot-closing strips during its passage. 5th. A slotted conduit for electric conductors, comprising a protective casing, an insulating lining therefor, an electric conductor supported within the insulating lining, surface or capping plates forming a part of the casing, and continuous flexible strips of insulating material between the surface plates and the insulating lining for insulating the said casing from the surface plates, and closing the conduit. 6th. A conduit for electric conductors, comprising a slotted exterior casing, said flexible insulating slot-closing strips normally in contact to close the conduit, insulating supports within the conduit and an electric conductor thereon, a traveling contact device engaging the conductor and comprising rubber surfaces, and a thin metallic plate extending upward between the adjacent edges of the slot-closing strips, whereby the said conducting plate is insulated from the edges of the metallic casing. 7th. A closed conduit, comprising a slotted protective casing, an interior lining or groove or channel therein, a material formed with a continuous groove or channel, and flexible insulating strips located below the edges of the slot in the casing, and having their edges held normally in close contact with the edges of the said metallic casing. 8th. A conduit for electric conductors, comprising a slotted exterior casing, flexible or yielding slot-closing strips of fibrous material normally in contact to close the conduit, insulating supports within the conduit, and an electric conductor or conductors thereon. 9th. A contact device for slotted conduits, provided with non-conducting slot-closing packing, comprising an elongated bare metallic conductor provided at its lower portion with



contact devices for engaging the conductor or conductors within the conduit, and connections secured to the portion of the contact device exterior to the conduit for propelling it therealong. 10. h. A conduit for electric railways, having an insulating conductor-supporting body, and a metallic exterior protective casing composed of metallic bars or pieces inclosing the conductor supporting body, and forming a slotted exterior casing therefor, and suitable chairs adapted to receive and to unite the conductor supporting body or casing. 11. h. A conduit for electric railways, having an insulated conductor supporting body, a metallic exterior casing composed of two trough-shaped metallic parts inclosing the said body from opposite sides, and forming a slotted exterior casing therefor, and suitable chairs for receiving and holding the body and its protective casing. 12. h. A closed slotted conduit for electric railways, having an insulated conductor supporting body formed with a groove therein to receive the conductor, flexible strips of non-conducting material attached to the conductor supporting body and arranged to close the conductor containing groove therein, metallic troughs fitted sidewise upon the conductor supporting body to inclose the same and form a slotted exterior casing therefor and hold the grooved closing packing in position, and suitable chairs for receiving and sustaining the conductor supporting body and its protective casing.

### No. 35,588. Pouch for Tobacco. (*Sac à tabac.*)

William James Cussen, Richmond, Virginia, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. A bag for tobacco and other moist materials, constructed with an extension at one side, the entire upper edge of the bag and extension having a hem and a gathering-string extending through said hem, whereby the bag may be gathered, closed and sealed at the mouth and securely fastened, substantially as specified. 2nd. A tobacco pouch, consisting of a bag provided with a series of eyelets in its rear side, a cord attached to one side of the bag, and adapted to be passed around the same and interlaced in the said eyelets, substantially as and for the purpose described. 3rd. A bag having one of its sides extended to form a flap, and provided with a series of holes in its rear side, in combination with a string or braid attached to the said flap and adapted to be passed around the bag, and fastened by being interlaced in the said series of holes, substantially as and for the purpose described.

### No. 35,589. Trace Fastening for Safety Whiffletrees. (*Accroche-trails pour pa-lonniers.*)

Peter Henry Cox, Paris, Ontario, Canada, 10th December, 1890; 5 years.

*Claim.*—In a safety whiffletree trace fastening, the stud A, having a slit in it, and having the pivoted end B located in said slit, and pivoted on the rivet E, the pivoted end B, having a pointed end, substantially as and for the purpose hereinbefore set forth.

### No. 35,590. Storm Rig for Vessels.

(*Grément de tempête pour vaisseaux.*)

Isaac Paine, administrator of Alvin Francis Paine, South Wellfleet, Massachusetts, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. The combination, with a vessel and its rig, of an independent stay-band and stay secured to said stay-band, and to which a storm sail independent of the ship's regular rig may be bent or secured, substantially as described. 2nd. The combination, with the mast of a vessel, of a stay-band encircling the mast and a stay secured to said stay-band, substantially as described. 3rd. The combination, with the mast of a vessel, of a detachable stay-band encircling the mast and a stay secured to said stay-band, substantially as described. 4th. The combination, with a vessel and its rig, of an independent stay-band and a yard secured to or suspended from said stay-band, substantially as described.

### No. 35,591. Spring for Vehicles.

(*Ressort pour voitures.*)

Frank Dupee, Lawrenceville, New York, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. In a vehicle gear, the combination of the frame, the transverse bars B, the coupling box connecting the inner ends of the bar and provided with an adjusting screw, and the coiled springs arranged on the transverse bars, and each having one end secured to the frame, and the other end arranged to be engaged by an adjusting screw, substantially as described. 2nd. In a vehicle gear, the combination of the frame, the transverse bars journaled on the frame, the coiled springs arranged upon the bars and each having one end secured to the frame, and the brackets arranged upon the bars and provided with adjusting screws engaging the springs, substantially as described. 3rd. In a vehicle gear, the combination of the frame, the transverse bars journaled in suitable bearings of the frame, the coiled springs arranged on the bars and each having one end secured to the frame, and the brackets mounted upon the bar and composed of perpendicular plates, and provided with arms having adjusting screws engaging the spring to regulate the tension thereof, substantially as described.

### No. 35,592. Machine for Sharpening Knives, etc. (*Machine pour affiler les couteaux, etc.*)

Alfred Bidwell Benedict, Buffalo, New York, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. The combination, with a holding frame, of a spring case provided with a hub or sleeve extending from one side and mounted loosely on a stationary shaft, and carrying a coil spring

having one end secured to the shaft, and the other end secured to the case, a strap connected with the hubs of the case having an operating stirrup at its free end, a roller clutch rigidly connected to the opposite end of the hub or sleeve, and a grinding wheel connected loosely on said hub, provided with a cam case, and cam rollers located with the cam within the cam case, and cam rollers for the purposes described. 2nd. The combination, with a holding frame, of a spring case provided with a hub or sleeve carrying a roller clutch at one end, and the spring case carrying a coil spring at the other end, the whole mounted loosely on a fixed shaft secured in the frame, the coil spring having an end secured to the stationary shaft, and the other end to the spring case, and a grinding wheel loosely mounted on the hub or sleeve, a cam case connected to the wheel inclosing the cam and its rollers, and a strap provided with a stirrup connected to the spring case hub, substantially as described.

### No. 35,593. Magnetic Transmitter.

(*Transmetteur magnétique.*)

Austin Devos, Hamilton, Ontario, Canada, 10th December, 1890; 5 years.

*Claim.*—In a magnetic transmitter, the double bar magnet D, with spool E attached, having insulated wire E, the encasement A, having vertical slots J, and attached standards K, the cover B, adapted to said case and recessed to admit the magnet keeper C, all formed, arranged and combined, substantially as and for the purpose hereinbefore set forth.

### No. 35,594. Belt Fastener. (*Agrafe de courroie.*)

William Lyon Kinsey and Harlan Henry Hill, both of Lowell, Vermont, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. In a belt fastener, the combination, with the clamping plates, substantially S-shaped in cross section, whose clamping edges are roughened or serrated and adapted to receive the ends of the belt between the inner faces thereof, and also provided with a series of apertures, of a coupling link provided with a series of inwardly extending teeth passing into the apertures of the clamping plates, the inner ends of said teeth being flush with the inner edges of the apertures in the clamping plates, substantially as set forth. 2nd. In a belt fastener, the combination, with a coupling link provided with a series of inwardly extending lugs or projections, and a central strengthening piece or cross bar, of clamping plates inserted between the sides of the link, said plates being substantially S-shaped in cross section, and provided with central notches, into which fit the central strengthening piece, and also provided near their upper convex edges with a series of apertures adapted to receive the inwardly extending lugs or projections, substantially as set forth. 3rd. In a belt fastener, the combination, with the herein described coupling link provided with a transverse strengthening strip of clamping plates substantially S-shaped in cross section, provided at their upper edges with lateral inwardly extending teeth, and also provided with vertical notches for the reception of said strengthening piece, and having end horizontal notches to receive the end pieces of the coupling, and support the plates in position within the same, substantially as set forth.

### No. 35,595. Mechanical Accountant.

(*Calculateur mécanique.*)

The American Arithmometer Company, assignees of William Seward Burroughs, all of St. Louis, Missouri, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. The combination of a series of numbered independent indicators, a series of independent keys to each indicator, connections between each of the series of keys and each indicator, said connections being arranged to insure the movement of each indicator upon the movement of any key of its series, and including a series of stops to each series of keys adjustable by but independent of the keys arranged to vary the extent of the movement of the indicator, according to the position of the key struck, substantially as described. 2nd. The combination of a series of independent indicators, a series of keys to each indicator, connections whereby any key of indicator is operated on the movement of any key of its series, connections whereby each indicator on completing a revolution turns the adjacent indicator of higher order one step, and means for disconnecting the indicators from the connections, after each number is registered, to permit the connections to assume a position to operate the indicators to register another number, substantially as described. 3rd. The combination of the series of independent numbered indicators, and a series of independent keys, having uniform movements connected with each indicator, and constructed to operate two or more of the indicators simultaneously when released by the action of two or more keys, and locking and releasing devices operated by but independent of the keys for releasing and regulating the movement of the indicator operating devices, substantially as described. 4th. The combination, with the series of indicators and with a series of keys connected with each indicator, of a series of levers, each connected to turn the indicator by its movement, and locking and releasing and regulating devices arranged between each lever and its keys, whereby the lever is released and its movement regulated according to the position of the key struck, substantially as set forth. 5th. The combination, with the indicators and pinions and independent keys arranged in series of actuating levers, carrying racks engaging with the pinions, and regulating devices between each lever and each series of keys, the keys capable of movement, independently of said devices, substantially as specified. 6th. The combination, with the keys, indicators and intermediate operating connections between each key and each indicator, of means, substantially as described, for moving the indicators to throw them out of gear with the said connections upon their return motion, substantially as set forth. 7th. The combina-

tion, with one or more keys, a series of levers, indicators and pinions, of devices for throwing the indicators out of connection with the levers, after the indicators have been operated by the movements of the keys, substantially as set forth. 8th. The combination, with the indicators and pinions, and with the operating levers and racks, of appliances for throwing the pinions and racks out of gear after the movement of the indicators, for the purpose specified. 9th. The combination, with the indicators, a series of keys to each indicator, and a series of levers for operating the indicators of appliances for throwing the indicators out of gear with the operating devices, when the latter are moved in one direction, substantially as specified. 10th. The combination, with the keys, a series of independent rack-levers, and indicators, of a frame supporting the indicators and adjustable to and from the said levers, substantially as set forth. 11th. The combination, with the series of operating rack-levers, the shaft  $a^2$ , and indicators supported by said shaft  $a^2$ , of a vibrating frame provided with edges bearing against the shaft and constructed to move the latter to and from the levers, substantially as specified. 12th. The combination, with the indicators, keys, and a series of levers acting upon the indicators, of a cross-bar, and means for moving the bar to restore the levers to their normal positions, substantially as specified. 13th. The combination, with the indicators, a series of independent operating rack levers, and series of keys of a cross-bar arranged to move the levers to their normal position after they have been lifted by the action of the keys, substantially as set forth. 14th. The combination, with the indicators and actuating levers and independent keys, of a frame carrying a cross-bar arranged to strike the actuating levers, and a handle connected to operate said frame, substantially as set forth. 15th. The combination, with the indicators and a series of independent rack levers, of a frame carrying a cross-bar for moving said levers and devices, whereby to throw the said indicators in and out of gear with the levers, substantially as specified. 16th. The combination, with the indicators, a series of independent keys to each indicator, and a series of independent intermediate connections, of a regulating device between the said connections, and the keys constructed to insure and determine the movement of the connections, substantially as set forth. 17th. The combination, with the indicators and a series of independent keys to each indicator, of a separate connection for moving each indicator, and a lock connected to be operated by each key of the series, whereby each connection is held in its operative position, substantially as set forth. 18th. The combination, with the series of keys, indicators and intermediate connections, of a lock for securing each connection, and connections between each key and the lock, whereby said lock is operated by each key of the series, substantially as specified. 19th. The combination, with the series of independent indicators, a series of keys in each indicator, and an operating lever to each series of keys, of a locking plate and connections between each key and said plate, substantially as set forth. 20th. The combination, with the indicators, keys operating connections and locks of stops, each connected to be operated by one of the keys and arranged to limit the movement of the operating connections, accordingly to the key depressed, substantially as specified. 21st. The combination, with the indicators, keys and operating connections, of a series of stops for limiting the movements of said connections, each connected to and movable by one of the keys, substantially as set forth. 22nd. The combination, with the operating lever, and a series of keys of a corresponding series, of stops arranged to limit the movements of the lever, and connections between each key and one of the stops, substantially as specified. 23rd. The combination of the operating lever, carrying an arm, provided with a lip 2, a series of stops, and connections between the stops and keys, whereby any one of the stops may be thrown into the path of the lip, substantially as specified. 24th. The combination, with the operating lever and a series of keys, of a lock for securing the lever in its elevated position, a series of stops for limiting the downward movements of the lever, and connections between each key and the lock and one of the stops, substantially as specified. 25th. The combination of a frame, having a stationary shoulder, the operating lever keys, notched bar, stops connected to be operated by the keys, and a strip  $b^2$  pivoted to the lever, constructed to engage with said stationary shoulder on the frame, and provided with a lip 2 arranged to engage with the stops, substantially as specified. 26th. The combination, with each indicator, and a series of keys to each indicator, of a series of independent, intermediate connections, a spring for operating each connection to a limited extent, independently of the key, a detent, and means for releasing the latter to permit the connection on one indicator to move independently of the key, and operate its indicator when the adjacent indicator completes its revolution, substantially as specified. 27th. The combination, with the series of indicators, a series of keys and connections, of means for operating the latter upon the movement of any key or keys, the said connections being provided with parts capable of a limited movement, independent of the other as each indicator completes a revolution, independent of the latter, substantially as set forth. 28th. The combination, with a series of indicators, of a corresponding series of actuating devices and connections, whereby the actuating device of the indicator is moved one step, whether in motion or at rest, as the adjacent indicator completes its movement, substantially as set forth. 29th. The combination, with the series of indicators and series of keys, and series of independent actuating connections between the keys and indicators, of means, substantially as described, for turning each indicator one step, independently of the key action, as the next low indicator completes a revolution, substantially as described. 30th. The combination, with the indicators and keys of actuating levers, constructed to move the indicators under the action of the keys, and each lever consisting of two parts, one having a limited movement independent of the other, under the action of a spring, a lock for holding the two parts in connection, and connections between the indicators and locks, whereby each movable portion is released to automatically actuate the adjacent indicator, as the next indicator completes its revolution, substantially as set forth. 31st. The combination, with the indicating disks and keys, of levers, each provided with a part geared with one of the indicators and capable of a limited movement to turn the latter, with a locking lever and connections between the latter, and the

adjacent indicator, substantially as and for the purpose set forth. 32nd. The combination, with the indicators of operating levers in two parts, and locking levers  $B^1$ ,  $B^2$ , substantially as specified. 33rd. The combination, with a series of indicators, keys and intermediate connections, of one or more additional series of indicators, and means for throwing either series into connection with the operating devices, substantially as set forth. 34th. The combination of a series of indicators, a series of keys in each indicator, and connections whereby each indicator may be set by the action of any key of one series, and a device for restoring the connections to their normal positions at the will of the operator, substantially as set forth. 35th. The combination, with the series of keys, of two or more registering devices, each consisting of a series of numbered indicators, and series of intermediate independent operating connections, and means for turning the registering devices to bring either one of the same into connection with the operating devices, substantially as set forth. 36th. The combination of a series of indicators and operating keys, and connections for moving said indicators and operating appliances, independent of the keys and indicators, whereby each indicator is moved one step by said appliances, independently of the keys, as the adjacent indicator completes its revolution, and devices, operated by the indicators for throwing said appliances into action, as each indicator completes its revolution, substantially as described. 37th. The combination, with two or more series of keys, of a series of printing indicators and independent connections, whereby each indicator is controlled by each key of one of the series, and means for throwing the indicators out of gear with the connections, substantially as set forth. 38th. The combination, with the series of keys and registering device operated therefrom, of an independent printing recorder and connections, whereby the latter is moved from the same keys and to the same extent as the said registering device, and means for throwing each register out of gear with the connections, substantially as described. 39th. The combination, with the series of disks provided with lateral pins, of levers  $B$ , racks hung to said levers and locking levers  $B^1$  and spring  $c^1$ , substantially as described. 40th. The combination of the disks, provided with pins  $a^2$ , levers carrying racks pivoted thereto, springs  $c^1$ , locking levers  $B^1$  and levers  $B^2$ , substantially as described. 41st. The combination, with the register and the recorder, of levers, each carrying two series of racks capable of independent movement, one gearing with the register and the other with the recorder and rack-operating devices, substantially as described. 42nd. The combination, with the levers  $B$ , carrying racks pivoted thereto and locking levers  $B^1$ , of two adjustable registers and levers  $B^2$ , constructed to operate with the disks of each register, substantially as described. 43rd. The combination of the keys, indicating register, intermediate connections, and printing recorder frame  $B^2$ , carrying the same, and toggle levers  $d^3$ ,  $d^4$ , substantially as described. 44th. The combination, with the independent keys arranged in series, and indicators and connections, of levers  $d^2$ , slotted plate  $c$  and rods  $d$  connected to the levers and having terminal stops, substantially as described.

### No. 35,596. Feed Box for Cattle. (*Crèche.*)

James Fleury and Arthur O'Leary, both of Lindsay, Ontario, Canada, 10th December, 1890; 5 years.

*Claim.*—A combination feed box, consisting of the compartment B, the feed box A connected therewith, and the slide or shutter C, all formed, arranged and combined, as and for the purpose hereinbefore set forth.

### No. 35,597. Washing Machine.

(*Machine à blanchir.*)

Leonidas Clay Branch, San Francisco, and William L. Morrow, Stockton, assignees of Enos Churchill, all of California, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. The rocking or oscillating containing-vessel A, having its interior space contracting to each end, and an air chamber a opening out of and rising above said ends, and in which the air is compressed by the movement of the vessel's contents, substantially as described. 2nd. The combination of the rocking or oscillating containing-vessel A, having its interior space contracted toward each end, and provided with a cap-controlled entrance opening in its top center, upwardly turned ends forming air chambers  $a$ , whereby air is compressed in said chambers by the action of the vessel's contents, the handle for rocking said vessel, and the assisting spring beneath the bottom of the vessel, substantially as described. 3rd. The rocking or oscillating containing-vessel A, having its interior space contracted toward each end, and its ends upwardly turned, forming air chambers, and a ridge formed across the bottom of the interior of the vessel, whereby the clothes are retarded, substantially as described.

### No. 35,598. Car Wheel. (*Roue de chars.*)

William Hailes, John B. Thacher and George H. Thacher, all of Albany, New York, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. A cast metal car wheel, which has a web or wall portion, as D, provided with the circular series of corrugations  $d$ , alternating and having their projections and depressions extended substantially radially from the hub towards the plain web portion C, neighboring the rim and integral with said hub and web portion C, substantially as and for the purposes set forth. 2nd. A double plate or cast metal car wheel, which has one of the web plates or wall portions, as D, of the chamber E, provided with the circular series of corrugations  $d$ , which alternate and have their projections and depressions extended substantially radially from the hub towards the web C, neighboring the rim and are integral with the said hub, its opposite side plate or wall of said chamber E and the web C, substantially as and for the purposes set forth. 3rd. A double plate or hollow cast metal car wheel, which has both wall sections D and D<sup>1</sup>, of the chamber E, provided each with a circular

series of corrugations, as *d, d,* and *d', d'*, which have their projections and depressions alternating and extended, substantially radially from the hub to the web C at the rim, and is integral with said hub, each other and the said web C, substantially as and for the purposes set forth. 4th. A double plate or hollow cast metal car wheel, which has one of the walls, as *B,* provided with corrugations, as *d, d,* extended radially from the hub and integral with it, the opposite side wall, as with *D',* and with the web C at the rim, and provided with a series of brackets *F, F,* arranged across the said web C and integral with it, and the wall of the chamber and the rim *B,* substantially as and for the purposes set forth.

### No. 35,599. Steam Engine.

(*Machine à vapeur.*)

Nathan Huntley Edgerton, Philadelphia, and Charles Meigs Rhodes, Wayne, both of Pennsylvania, U.S.A., 10th December 1890; 5 years.

*Claim.*—1st. In a steam engine, having a reciprocating and rotary piston, a driving shaft passing through said piston, and a cross-bar with rollers on said shaft for engagement with said piston, substantially as set forth. 2nd. The combination of a cylinder A, piston C, driving shaft B, passing through said cylinder and piston, and rollers *b, b,* on said shaft for engagement with said piston, substantially as set forth. 3rd. The combination of cylinder A, having adjustable trunnion-head *f,* tubular piston C, having recesses or slots in its bore, and a circumferential spiral groove engaging with said trunnion head, a driving shaft passing through said cylinder and piston, and a roller engagement between said shaft and recesses in the bore of the piston, substantially as set forth. 4th. The combination of cylinder A reciprocating and rotary piston C, having packing rings *c',* and heads *c,* driving shaft B, passing through said cylinder and piston, and a cross-bar with rollers on said shaft for engagement with said piston, substantially as set forth. 5th. The tubular piston C, having circumferential spiral groove *c,* annular corner recesses *c',* packing rings *c'* in said recesses, heads *c'* for the piston and longitudinal recesses *c'* in the bore of the piston, substantially as set forth. 6th. The combination of cylinder A, having screw-plug *F,* provided with trunnion-head *f,* and jam-nuts *f',* the piston C, having a spiral groove *c,* of the form of a frustrum of a cone in cross-section, and a driving shaft passing through said cylinder and piston, substantially as set forth. 7th. The combination of a reciprocating and rotary piston, a driving shaft in gear therewith, and rotating cut-off valves on said shaft, substantially as set forth. 8th. In combination with cylinder A, the reciprocating and rotary cylinder shaft B and rotary valves *G* and *G',* substantially as set forth. 9th. The combination of cylinder A, reciprocating and rotary piston C, shaft B, disk-valves *G* and *G'* on said shaft and port seats for said valves within said cylinder, substantially as set forth. 10th. The combination of cylinder A, the reciprocating and rotary piston C, shaft B, valves *G, G'* on the said shaft, and non-rotary sliding seats *H* and *H',* having steam and exhaust ports for said valves, substantially as set forth. 11th. The engine cylinder A, enclosing the piston valves or cut-offs and seats with ports therefor, and supporting a driving shaft, substantially as set forth. 12th. In combination, with a reciprocating and rotary engine piston, and rotating driving shaft of rotary cut-off valves, substantially as set forth. 13th. The combination of cylinder A, piston C, valves *G* and *G',* having notches or recesses *g* on said shaft, and sliding port-seats *H* and *H',* substantially as set forth. 14th. The combination of cylinder A, piston C and valves *G* and *G'* at each end of the cylinder and mounted upon a shaft passing through said cylinder and piston, substantially as set forth. 15th. The combination of cylinder A, piston C, and valves *G* and *G',* having notches *g,* with adjustable sides *g'* and seats *H* and *H',* substantially as set forth.

### No. 35,600. Ballot Box. (*Boîte à scrutin*)

Levi Sargent Gardner and Edward E. Harvey, both of Detroit, Mich., U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. In a ballot or voting box, the combination, with the case and two or more wheels or disks, provided with a consecutive series of numbers, said case provided with slots or openings, whereby a single number on each wheel is exposed at a time, means for revolving each wheel a single space or number at a time, mechanism for releasing said wheels, and means for returning them to their normal positions when released, substantially as described. 2nd. In a ballot or voting box, the combination, with the case and two or more wheels or disks located therein and provided with a series of consecutive numbers, said case provided with slots or openings whereby a single number on each wheel or disk is exposed at a time, of a key for each wheel, projecting outside of the case, each key adapted when struck to engage and revolve its respective wheel a single space or number, means for releasing each wheel when desired, and means for returning the wheels to their normal positions when released, substantially as described. 3rd. In a ballot or voting box, the combination, with the case and two or more wheels or disks provided with a series of consecutive numbers, said case provided with openings or slots, whereby a single number on each wheel or disk may be exposed at a time, of a ratchet or notched surface on each wheel or disk, a pivoted key projecting beyond the case and provided with a pawl for engaging said notched or ratchet face, a pawl for engaging and holding the wheel, after it has been moved, means for disengaging the pawl from the wheel, when desired, and means for returning the wheel to its normal position when the pawl has been disengaged therefrom, substantially as described. 4th. In a ballot or voting box, the combination, with the case provided with indicating wheels or disks, having a series of consecutive numbers, said case provided with slots, whereby a single number on each wheel is exposed at one time, of a movable cover on the case whereby the slots may be covered from view at will, substantially as described. 5th. In a ballot or voting box, the combination, with the case, two or more indicating wheels or disks located therein, said case provided with slots whereby a single number on each wheel is exposed at a time, of guides upon the case for each wheel, whereby a card or

tablet containing the desired name may be inserted for each wheel, substantially as described. 6th. In a ballot or voting box, the combination, with the indicating wheels or disks, the keys for actuating the same, and the pawls for engaging and holding the wheels or disks, of the plunger *L* for disengaging said pawls, and means for returning the wheels to their normal position when so released, substantially as described. 7th. In a ballot or voting box, the combination, with the indicating wheels or disks, means for revolving said disks, means for holding them when revolved, and means for releasing them from said holding mechanism, of a spring or elastic band for returning said wheels to their normal position when released, substantially as described.

### No. 35,601. Printing Machine.

(*Machine à imprimer.*)

Horace Greely Bender, John Grether, and George W. Sieber, all of Akron, Ohio, U.S.A., 10th December, 1890; 5 years.

*Claim.*—1st. In a printing machine, a flexible form, composed of separate leather characters, and a flexible apron to the surface of which the said characters are removably adhered, substantially as described. 2nd. In a printing machine, a flexible form consisting of a flexible apron and separate characters made out of leather temporarily adhered directly to the surface of said belt, in combination with cylinders on which said form is supported, and a revolving bed, substantially as described. 3rd. In a printing machine, a flexible form-carrier and a flexible form stretched upon said carrier and fastened thereto at its ends, and cylinders or rolls on which said carrier is supported, substantially as described. 4th. In a printing machine, a flexible form carrier, in combination with a flexible form stretched upon said carrier the entire length of the carrier, and having its ends temporarily fastened to the carrier, substantially as described. 5th. In a printing machine, a flexible carrier for a printing form, provided with parallel strips on its face, between which the said form is adapted to rest, substantially as described. 6th. In a printing machine, a flexible form carrier provided with parallel strips on its outer surface, and a flexible form lying between said strips, substantially as described. 7th. In a printing machine, a carrier and a form stretched, one upon the other, and fastened together, supports or guides for the form to keep it in alignment, a cylinder and roller on which the carrier and form are supported, and a revolving bed, substantially as described. 8th. In a printing machine, a flexible carrier provided with temporarily attached strips, forming lateral supports or guides to keep the form in alignment, in combination with a flexible form stretched over the carrier belt, between said strips and cylinders or rolls, on which said parts are supported, substantially as described. 9th. In a printing machine, a feed frame supported on rollers on the main frame and provided with gear, in combination with a flexible carrier, provided with gear meshing with the gear on said frame and a carrying cylinder and revolving bed arranged to work between said feed bars and gears, substantially as described. 10th. In a printing machine, a flexible carrier and a feed frame and gear on the edge of the said carrier meshing with gear on the edge of the said frame, and means to carry the frame back to its starting point, substantially as described. 11th. In a printing machine, a flexible carrier, provided with flexible gear along a portion of its edge, and a flexible form stretched over said carrier, in combination with a feed table, having feed gear meshing with the gear on the carrier, a revolving bed, and a support for the carrier and form, substantially as described. 12th. In a printing machine, a form-carrier, in the shape of an endless belt, having gear along a portion of its edges on its outer surface and parallel strips on said surface, serving as guides for the type form, substantially as described. 13th. In a printing machine, an endless flexible carrier, stretched over a carrying cylinder, and an idler and an endless type-form stretched over said carrier, in combination with a revolving bed, substantially as described. 14th. In a printing machine, a revolving bed, a carrying cylinder and an idler, in combination with an endless carrier, supported on the carrying cylinder and idler, and provided with guides to keep the type form in alignment, and a type-form stretched lengthwise between said guides, substantially as described. 15th. In a printing machine, a stationary feed-table and a revolving bed, in combination with a movable feed frame at the sides of said table, provided with an adjustable feed-regulating device and gear, a carrying cylinder, and a flexible form carrier on said cylinder, having gear meshing with the gear on the feed frame, substantially as described. 16th. In a printing machine, a movable feed frame provided with an adjustable device to regulate the feed of the material printed upon, and gear along its sides, in combination with a form carrier, having gear to mesh with the gear on said frame, and a form on said carrier, a carrying cylinder and a revolving bed, substantially as described.

### No. 35,602. Wagon Brake. (*Frein de wagon.*)

Peter Shimer Criswell, Wheeling, West Virginia, U. S. A., 11th December, 1890; 5 years.

*Claim.*—In a wagon brake, the arms *g', g',* connected with the bottom of the wagon body by ropes passing over pulleys on the axle, combined fixedly with a crank-shaft *G,* which is journaled on the bottom of said body, as and for the purpose set forth.

### No. 35,603. Dash Board. (*Garde-crotte.*)

George Walter Powell, Lockport, New York, U.S.A., 11th December, 1890; 5 years.

*Claim.*—1st. A dash board, consisting of a rigid frame, a covering of uncoated manilla boards applied to opposite sides thereof and secured by lines of stitching, and an impervious coating applied to the stitched covering, whereby the latter is finished and the stitching and needle holes are protected and sealed, substantially as set forth.

**No. 35,604. Heel Stiffener Machine.***(Machine à renforcer les talons de chaussures.)*

Louis Coté, St. Hyacinthe, Quebec, Canada, 11th December, 1890; 5 years.

*Claim*—1st. In a machine for forming boot or shoe counter stiffeners, the combination of a former composed of a fixed heel-section and two side sections pivoted together, and to the bed or table at a point near the heel end of said former, two mold-like jaws having their inner faces shaped to conform to the longitudinal and vertical curves of the side sections of said former, and pivoted at or near the middle of their lengths to slides, one upon each side of said former, a spring or springs arranged to press said slides toward each other, and a revolving wedge, constructed and arranged to pass between the free ends of the pivoted side sections of the former, and move them about their common fulcrum, and compress the forward portions of the counter between said side sections of the former and the mold jaws. 2nd. The combination of the bed L, a former composed of the fixed portion  $r^2$ , and the two pivoted portions  $r, r^1$ , having a portion of their inner or contiguous faces bevelled, as at  $s, s^1$ , the slides M fitted to guideways in said bed, the spring N, the mold-sections O, O, pivoted to the slides M, M, the springs  $t, t$ , the revolving shaft P and the segmental wedge n mounted upon said shaft and constructed and arranged to act upon the inner bevelled sides of the pivoted sections of the former, and move them in opposite directions, substantially as and for the purposes described. 3rd. The combination in a machine for forming boot or shoe counter stiffeners, of a pair of fluted rolls for corrugating one edge of the blank, a revolving spherical or spheroidal former, and a fixed mould for imparting to the blank longitudinal and transverse curves in the form of arcs of circles, a revolving disk, having a semicircular edge, and a fixed mould co-operating therewith to reshape the rear portion of the counter-stiffener, a mechanism for reshaping the forward part of the counter-stiffener, comprising a former in sections, two of which are pivoted together at one end, two side moulds pivoted to slides pressed towards each other and said former, by a spring or springs and a segmental revolving wedge, constructed and arranged to intermittently act upon said pivoted sections of the former, and force them apart and press the forward portions of the counter-stiffener between said former and the side moulds, and reshape them.

**No. 35,605. Furnace for Hot Water.***(Fournaise à eau chaude.)*

Eugene Solomon Manny, Montreal, Quebec, Canada, 12th December, 1890; 5 years.

*Résumé*.—10. La combinaison avec une fournaise à eau chaud d'un siphon injecteur H, ayant à son intérieur un tube suspendu J, l'espace concentrique K, le passage L, le conduit à la fournaise M et les ouvertures d'entrée superposées N et O, tel que ci-dessus décrit et pour les fins indiquées. 20. Dans une fournaise à eau chaude, la combinaison du pot a feu B, avec la section P, coulés d'une seule pièce, tel que ci-dessus décrit. 30. La combinaison avec les sections C, D, E, F, du passage central R, avec le diaphragme Q et les plaques de divisions S, tel que décrit. 40. Dans une fournaise à eau chaude la combinaison des sections C, D, E, F, traversées au milieu et retenues ensemble à l'aide d'un boulon central V, dont la tête est engagée dans une pièce de résistance X, à l'intérieur de la fournaise et l'écrout au sommet, tel que décrit. 50. Dans une section de fournaise à eau chaude, les passages pour la fumée en forme d'étoile, tel que décrit. 60. Dans une fournaise la combinaison de la grille en trois pièces A, B, C, D, (Fig 5), la pièce du centre reposant sur la barre d'appui E et supportant à son tour à l'aide de son axe D et des coussinets H, H, les deux pièces extérieures B, C, les quelles sont maintenues à la position horizontale par les tenons W, W, emboîtés dans les guides I, tel que décrit et pour les fins indiquées.

**No. 35,606. Concentrator for Ore.***(Concentrateur de minerai.)*

Marcelin Castelnau, Paris, France, 12th December, 1890; 5 years.

*Claim*—1st. In an ore concentrator, an endless travelling belt placed at an angle in the direction of its width, means for operating the same, means for supplying ore and water thereto, and means for separately removing the different grades of material therefrom. 2nd. In an ore concentrator, the combination, with an endless travelling belt placed at an angle in the direction of its width with means for operating same, and means for supplying ore and water thereto, of a gutter or channel, and along the length of the belt having pipes passing under, so that the material is separately collected, substantially as described.

**No. 35,607. Crutch. (Béquille.)**

John Dorney, Toronto, Ontario, Canada, 12th December, 1890; 5 years.

*Claim*—1st. The combination, with a crutch, of an adjustable rod B, provided with locking mechanism to lock it in position, substantially as and for the purpose specified. 2nd. The rod B, inserted in the crutch A, having a rubber block C, held in its end, in combination with a spring F, lugs  $f$ , and recessed block E, substantially as and for the purpose specified. 3rd. The rod B, inserted in the crutch A, and projecting through a hole made in the rubber block C, which is held in position by the tapered ferrule D, in combination with the lugs  $f$ , fitting into the recessed metal block E, a spring F, located between the end of the metal block E, and the collar G, fixed to the rod B, substantially as and for the purpose specified.

**No. 35,608. Method of Cutting Metal by Electricity. (Mode de couper le métal par l'électricité.)**

Benjamin C. Tilghman, Philadelphia, Pennsylvania, U.S.A., 12th December, 1890; 5 years.

*Claim*—1st. The process of cutting or abrading metals, which consists in heating by an electric current successive small portions of the metal surface, and simultaneously removing the heated metal by an abrading tool. 2nd. The process of cutting or abrading metals, which consists in passing a current of electricity through the successive points of contact of the metal being treated and the abrading tool. 3rd. The process of cutting or abrading metals, which consists in passing a current of electricity through the successive points of contact of the metal being treated and a rotating abrading tool.

**No. 35,609. Car Coupler. (Attelage de chars.)**

Heinrich Sommerfeld, Canton, Kansas, U.S.A., 13th December, 1890; 5 years.

*Claim*—1st. In a car coupler, the combination of the draw head B, B, with the orifices G, G, through the walls of the draw head, with the levers  $g, g$ , as fully set forth and described. 2nd. In a car coupler, the combination of the draw head, with the semi-circular mouth piece H, extending horizontally across the lower portion of the mouth of the draw head, with the links E, E, connecting levers D, D, to coupling pin F, as fully set forth and described. 3rd. In a car coupler, the combination, with the levers D, D, and the buffers C, C, levers  $g, g$ , completing the combination as fully set forth and described.

**No. 35,610. Jack for Lifting. (Cric.)**

Arthur Harris, Independence, Missouri, U.S.A., 13th December, 1890; 5 years.

*Claim*—1st. A lifting jack with hoisting shaft E, side bars I, uprights G, D, as fully set forth and described. 2nd. A lifting jack with hoisting shaft E, lifting lever C, operating, in conjunction with pulley H, so constructed when unfolded in a horizontal position, hoisting shaft is forced upward with pulley H, firmly resting in depression K, holding the combination in a locked position, as set forth and described.

**No. 35,611. Wheel. (Roue.)**

Alexander Craig Mather, Montreal, Quebec, Canada, 13th December, 1890; 5 years.

*Claim*—1st. The combination in a wheel and axle of a vehicle, of the axle having grooved collars adapted for anti-friction balls to roll in the grooves of the collars, and pairs of flanges  $d, d^1$ , and  $d^2, d^2$ , adapted to form between each pair a groove for the anti-friction balls to roll in, the flanges  $d^1, d^1$ , being further provided with projections  $e$ , for the spokes to engage with, sleeve 2, adapted to hold the plates  $d^1$ , apart and the spokes tight, with the spokes and rim, the whole substantially as and for the purposes set forth. 2nd. The combination in a wheel and axle of a vehicle, of the axle having grooved collars adapted for anti-friction balls to roll in, with anti-friction balls, hub plates made in two pairs, each plate of the pairs having a portion of a groove adapted for the anti-friction balls to roll in, said hub plates, being further adapted for the spokes to engage with, with a retaining sleeve adapted to hold the pairs of hub plates apart and keep the spokes tight with the spokes and rim, the whole substantially as described. 3rd. The combination in a wheel and axle of a vehicle, of the axle having grooved collars with a set of anti-friction balls provided to each collar and adapted to roll in the grooves of the collars with a pair of hub plates provided with a groove for each set of anti-friction balls to roll in, and adapted to connect with the spokes of the wheel, the whole substantially as described.

**No. 35,612. Improved Ballot Paper or Voting Ticket. (Bulletin.)**

Thomas Trimble, assignee of Chauncey King Adams, all of Montreal, Quebec, Canada, 15th December, 1890; 5 years.

*Claim*—1st. In a ballot paper or voting ticket, the combination of the sheet proper for candidates' names folded over, means for closing same, and a detachable visible certificate forming part of said sheet, all as and for the purposes set forth. 2nd. The combination in a ballot paper or voting ticket, of the ballot paper proper A, with fold at B, line of perforations C, certificate strip D, and gummed corner E, all arranged and operated as herein set forth.

**No. 35,613. Suspensory. (Suspensoir.)**

Helen Adele Wells (assignee of Arthur James Wells), both of Syracuse, New York, U.S.A., 15th December, 1890; 5 years.

*Claim*—1st. The combination, with a suspensory pouch A, of a pouch supporting strap D, a loop E, and a protecting apron F, substantially as and for the purpose set forth. 2nd. The combination, with a suspensory pouch A, of a pouch supporting strap D, a loop E, and an apron F, projecting beyond the loop E, substantially as and for the purpose specified.

**No. 35,614. Car Coupler. (Attelage de chars.)**

George William Smille, Newark, New Jersey, U.S.A., 16th December, 1890; 5 years.

*Claim*—1st. In a car coupler, the combination, with a draw head provided with two arms or extensions, and with an opening or recess

<sup>22</sup>, therein, of an S-shaped or nearly so locking device pivoted to one of said arms or extensions, the forward arm of which locking device forms a locking jaw for connection with an engaging coupler, and the rear hook shaped arm of which projects into and is adapted to engage the front wall of said opening or recess <sup>b</sup>, in a manner and for the purpose set forth, and a locking pin adapted to engage the said locking device, substantially as described and for the purpose set forth. 2nd. In a car coupler, the combination, with a draw head provided with two arms or projections, of an S-shaped locking device hinged to one of said arms or extensions, provided with a front arm forming the locking jaw, and a rear arm or extension <sup>c</sup>, the latter being provided with notches therein, and a pawl adapted to engage the notches in said arm <sup>c</sup>, of said locking device to lock the latter, substantially as described and for the purpose set forth. 3rd. The combination in a car coupler, of a draw head provided with a pivoted locking device, substantially in form of an S adapted to form connection with counterparts or projections with which such draw bar is provided, and retain such connection in the event of the breakage or undue removal of the pivot or locking pin, or both, in a manner substantially as described and for the purpose set forth.

### No. 35,615. Heating Apparatus.

(Appareil de chauffage.)

Russell Bottsford, Cleveland, Ohio, U.S.A., 16th December, 1890: 5 years.

*Claim.*—1st. A heating furnace for the purpose described, comprising a combustion chamber with a closed top, and a magazine section partially enclosing the said combustion chamber and feeding fuel down upon two sides thereof, substantially as and for the purposes specified. 2nd. A heating furnace or stove, consisting of a grate section, a fire pot section and a combustion chamber partially enclosed within a magazine section, in combination with a manifold consisting of a plurality of water conducting tubes communicating with a head at either end common to all of said tubes, the parts being constructed, arranged and operating substantially in the manner and for the purpose set forth. 3rd. In a heater of the character described, a stove or furnace provided with a combustion chamber, and a magazine section, in combination with a manifold consisting of a plurality of tubes communicating to and with a head at either end of said tubes, said manifold being placed in an inclined position partially or wholly within said combustion section and adapted to be connected with a system of circulating water pipes, substantially in the manner and for the purposes described.

### No. 35,616. Mode of Extracting and Extractor for Ores. (Mode et machine pour extraire les minerais.)

William Augustus Merralls, Kansas, Missouri, U.S.A., 16th December, 1890: 5 years.

*Claim.*—1st. The within described method or process of treating the concentrated placer mine or deposit gold, intermediate its passage from the concentrating mechanism to the amalgamator proper, consisting in collecting the flowing gold along with any remaining fine sand, and the water carrying the same, draining off the water and settling the pulp, mixing with the pulp a chemical solution consisting of chloride of sodium, cyanide of potassium, chloride of mercury, and water, and agitating by rotation the mixture until the gold is deoxidized or cleaned, and becomes coated with a film of mercury, substantially as and for the purpose described. 2nd. The within described method or process of treating the concentrated placer mine or deposit gold in its passage from the concentrators to the trap or traps of the amalgamator proper, consisting in collecting the flowing gold along with any remaining fine sand, and the water carrying the same, draining off the water and settling the pulp, mixing with the pulp a chemical solution consisting of chloride of sodium, cyanide of potassium, chloride of mercury, and water, placing pieces of iron amidst the mixture and agitating by rotating the whole until the gold is deoxidized or cleaned and becomes coated with a film of mercury, substantially as described. 3rd. The within described method or process of treating the concentrated placer mine or deposit gold in its passage from the concentrators to the trap or traps of the amalgamator, consisting in collecting the flowing gold, fine sand, overflowing gold slimes, and water carrying the same, draining off the water and settling the pulp, mixing with the pulp a chemical solution consisting of chloride of sodium, cyanide of potassium, chloride of mercury, and water, placing pieces of iron in the mixture, agitating the mixture until the gold is deoxidized or cleaned, and becomes coated with a film of mercury, bringing the mixture containing the thus prepared gold in contact with mercury or mercury covered surfaces, bringing water in contact with the flowing mixture, and finally subjecting the water used to a filtering operation and returning it clean for use, substantially as described. 5th. The combination of successively lower and finer revolving screens, stationary lateral sluiceways, inclined aprons, water settling deoxidizing cylinder having a man-hole, one or more water drains, cocks or faucets, and a pulp discharge cock or faucet, substantially as described. 6th. The combination of successively lower and finer rotary screens, lateral sluiceways, stationary inclined aprons, water supply distributing pipes connecting gutter at end of last apron, a revolving settling deoxidizing cylinder having a man-

hole, an overflow passage or man-hole, one or more water drain cocks, a pulp discharge faucet or cock, and an overflow stationary settling box having a skimmer, substantially as described. 7th. The combination of successively lower and finer revolving screens, lateral sluiceways, stationary inclined aprons, water distributing pipes connecting gutter at end of last apron, a revolving settling deoxidizing cylinder having a man-hole, water drain cocks, and a pulp discharge faucet or cock, a chemical solution chamber, and an amalgamation consisting of a perforated trough, a vertical chamber having zigzag amalgamation plates, inclined amalgamation plates, one of which is formed with a side well for surplus mercury, and an endless chain mercury elevator, substantially as described. 8th. The combination of successively lower and finer revolving screens, lateral sluiceways, stationary inclined aprons, water supply distributing pipes, connecting gutter at end of last apron, a revolving cylinder having a man-hole water drain, cocks on different horizontal planes, a pulp discharge faucet or cock, an overflow passage or man-hole, drain pipes from the settling deoxidizing cylinder, stationary settling boxes, overflow pipes, a filter, filtered water return pipes, and a pump, substantially as described. 9th. The combination, with the revolving settling deoxidizing cylinder, having a man-hole, drain cocks, and a pulp discharge cock of water distributing pipes, and a chemical solution chamber having: a connecting pipe, substantially as described. 10th. The combination of the revolving settling deoxidizing cylinder, having a supply man-hole and overflow passage or man-hole, drain cocks, drain gutter, stationary settling boxes, overflow drain gutters and pipes, water filter and return water pipes, substantially as described. 11th. The combination of successively lower and finer screens, lateral sluiceways, stationary inclined aprons, connecting gutters at end of last apron, a gate for changing the course of the water, and substances passed off from the aprons, two revolving settling, deoxidizing cylinders, each having an inlet and an outlet man-hole, water drain cocks, and a pulp discharge cock or faucet, substantially as described.

### No. 35,617. Railway Gate.

(Barrière de voie de fer.)

Mortimer Birdsill Mills, Chicago, Illinois, U.S.A., 16th December, 1890: 5 years.

*Claim.*—1st. In a gate, the combination of a hollow post, a swinging arm supported on a shaft C, journaled in the post and carrying a pulley D<sup>1</sup>, a bell-crank, pivotally supported inside the post and having its arm *q*, connected with the said pulley by a chain, or the like, a collapsible air-receiver, having a rod *k*, secured at one end to its diaphragm and at its opposite end to the arm *q* of the bell-crank, and air-pressure mechanism communicating with the said collapsible air-receiver, substantially as described. 2nd. In a gate, the combination of a hollow post, a swinging arm supported on a shaft C, journaled in the post and carrying a pulley D<sup>1</sup>, a bell-crank, pivotally supported inside the post and having its arm *q*, connected with the said pulley by a chain, or the like, a collapsible air-receiver supported outside the post near its base, a rod *k*, secured at one end to the diaphragm of the said receiver, passing thence into the post and pivoted at its opposite end to the arm *q* of the bell-crank, and an air-pump H, communicating controllably with the said collapsible air-receiver, substantially as described. 3rd. In a gate, the combination of the hollow posts A, and A', having journaled in them the shafts C, carrying inside the post, pulleys D, and supporting underground between the posts, and pulleys D<sup>1</sup>, and supporting the arms B, and B', bell-cranks E, and E', pivotally supported, respectively, in the posts A, and A', and connected, from their arms *g*, with the pulleys D<sup>1</sup>, collapsible air-receivers G, and G', each having a rod *k*, secured at one end to its diaphragm and at its opposite end to the arm *q* of a bell-crank, and air-pressure mechanism communicating controllably with the collapsible air-receivers, substantially as described. 4th. In a gate, the combination of the hollow posts A, and A', having journaled in them the shafts C, each carrying, inside its posts, pulleys D, and D<sup>1</sup>, and supporting the arms B, and B', a tube F, extending underground between the posts and having chambers F<sup>1</sup>, at its opposite ends, containing pulleys G, through means, substantially as described, connecting the pulleys D, through the tube F, and chambers F<sup>1</sup>, bell-cranks E, and E', pivotally supported, respectively, in the posts A, and A', and connected, from their arms *g*, with the pulleys D<sup>1</sup>, collapsible air-receivers G, and G', each having a rod *k*, secured at one end to its diaphragm and at its opposite end to the arm *q* of a bell-crank, and air-pressure mechanism communicating controllably with the collapsible air-receivers, substantially as set forth. 5th. In a gate, the combination of the hollow posts A, and A', having journaled in them the shafts C, each carrying, inside its post, pulleys D, and D<sup>1</sup>, and supporting the arms B, and B', a tube F, extending underground between the posts and having chambers F<sup>1</sup>, at its opposite ends, containing pulleys G, through means, substantially as described, connecting the pulleys D, through the tubes F, and chambers F<sup>1</sup>, bell-cranks E, and E', pivotally supported, respectively, in the posts A, and A', and connected, from their arms *g*, with the pulleys D<sup>1</sup>, collapsible air-receivers G, and G', each having a rod *k*, secured at one end to its diaphragm and at its opposite end to the arm *q* of a bell-crank, and air-pressure mechanism communicating controllably with the said collapsible air-receivers, substantially as set forth. 6th. A gate comprising, in combination, hollow posts A, and A', shafts C, journaled in the posts and having, each, as integral parts thereof, a pulley D, and a pulley D<sup>1</sup>, arms B, and B', supported on the said shafts, G, extending underground between the posts and pulleys D, through means, substantially as described, connecting the pulleys D, through the tubes F, and chambers F<sup>1</sup>, bell-cranks E, and E', pivotally supported, respectively, in the posts A, and A', and connected, from their arms *g*, with the pulleys D<sup>1</sup>, collapsible air-receivers G, and G', at its opposite ends, containing pulleys G, tubes F<sup>1</sup>, in the tube F, from the said chambers into the posts, a rod *n*, in the tube F, with opposite ends of the rod *n*, and passing through the tubes F<sup>1</sup>, with opposite ends of the rod *n*, in the chambers F<sup>1</sup>, bell-cranks E, and E', and over the pulleys G, in the posts A, and A', and pivotally supported, respectively, in the pulleys D<sup>1</sup>, collapsible air-receivers G, and G', supported near the bases of the posts and each having a rod *k*, secured at one end to its diaphragm, extending

thence into a post and pivotally connected therein, at its opposite end, with the arm  $q'$ , of a bell-crank, and an air-pump H, communicating controllably with the said collapsible air-receivers, substantially as described.

### No. 35,618. Draft Regulator.

(*Régulateur pour le tirage.*)

Charles Dezang Howard, Syracuse, New York, U.S.A., 16th December, 1890; 5 years.

*Claim.*—The combination with the backing, and a saddle secured thereto, of a chain passing over the saddle, and having its ends connected to the draft and check dampers respectively, of the spring 7, bearing upon and holding the chain in frictional contact with the saddle, said spring being secured at both ends to the studs 6, and the studs 6, substantially as described for the purposes set forth.

### No. 35,619. Cigarette Machine.

(*Machine à cigarettes.*)

The American Tobacco Company, Newark, New Jersey, U.S.A., (assignees of Oscar William Allison, Rochester, New York, U.S.A., 17th December, 1890; 5 years.

*Claim.*—1st. The combination, with the endless flexible band provided in its face with a continuous longitudinal groove, of a device so constructed as to distend the continuous groove in the band, substantially as set forth. 2nd. The combination, with the endless flexible band provided in its face with a continuous longitudinal groove, of a carrying-pulley provided with a raised ridge over which the band passes, and whereby the band is bent transversely, thereby distending the groove, substantially as set forth. 3rd. The combination with the endless flexible band provided in its face with a continuous longitudinal groove, of carrying-pulleys provided with raised ridges, whereby the band is bent transversely and its groove is distended, and a supporting-table arranged between said pulleys upon which table the band is carried in its normal straight form, substantially as set forth. 4th. The combination, with suitable tobacco feeding mechanism, of paper-supply rollers, the endless flexible band provided in its face with a continuous longitudinal groove, and a distending device, whereby the band is bent transversely to distend its groove for receiving the paper and filler, substantially as set forth. 5th. The combination, with the endless flexible band provided in its face with a continuous longitudinal groove, and a device for distending the groove in the band, of the paper-former rollers, and the paper former arranged between the supply rollers, and the grooved belt, substantially as set forth. 6th. The combination, with the endless flexible band provided in its face with the continuous longitudinal groove, and a device for distending the groove in the band, of the paper former  $f$ , arranged to act on the paper before it passes into the distended groove, a paper supply roll, and suitable paper-guide rolls arranged between the supply rollers and the paper former, substantially as set forth. 7th. The combination, with the feed-box  $N$ , of the elevator  $C$ , having its casing open at the bottom below the feed-box, substantially as described. 8th. The combination, with the rotary feeding cylinder  $D$ , of the slotted stationary plate  $R$ , and the rotary toothed picker  $E$ , of the teeth of which operate in the slot or slots of the plate, substantially as described. 9th. The combination, with the rotary feeding-cylinder  $D$ , stationary slotted plate  $R$ , and toothed picker  $E$ , working in the slot or slots of the plate  $R$ , of the revolving supports  $v$ ,  $v$ , substantially as described. 10th. The combination, with the rotary feeding cylinder provided with internal pins  $v$ , of the stationary slotted plate  $R$ , and the rotary picker wheel  $E$ , working in the slot or slots of the plate  $R$ , substantially as set forth. 11th. The combination, with the stationary slotted plate  $R$ , provided with rings  $w$ , and  $z$ , the latter being cut away at  $z'$ , of the rotary feeding cylinder  $D$ , having one or more pins  $v$ , adapted to revolve in the annular groove between the said rings, substantially as described. 12th. The combination, with the rotary feeding cylinder  $D$ , of the slotted plate  $R$ , arranged at an angle with the axle, of the cylinder and the rotary toothed picker  $E$ , having teeth working in the slot or slots of the plate, substantially as described. 13th. The combination, with the receiving wheel  $S$ , having a spherical or convex face, and provided with a flange  $Q$ , of the compressing-ring  $T$ , mounted obliquely upon the face of the receiving wheel, and the covering ring  $U$ , arranged obliquely upon the flange  $Q$ , of the receiving wheel, substantially as set forth. 14th. The combination, with the receiving wheel  $S$ , having a spherical face and provided with a flange  $Q$ , of the compressing ring  $T$ , mounted obliquely upon the face of the receiving wheel, the covering ring  $U$ , arranged obliquely upon the flange  $Q$ , of the receiving wheel, and supporting or guide rollers whereby the compressing and covering rings  $T$ ,  $U$ , are held in position, substantially as set forth. 15th. The combination, with the receiving wheel  $S$ , having a spherical face and provided with a flange  $Q$ , of the compressing ring  $T$ , arranged obliquely upon the face of the receiving wheel, supporting rollers  $3$ , a supporting roller  $6$ , mounted in an adjustable arm or bracket, and the covering ring  $U$ , mounted obliquely upon the flange  $Q$ , of the receiving wheel, substantially as set forth. 16th. The combination, with the receiving wheel  $S$ , provided with a flange  $Q$ , of the compressing ring  $T$ , arranged obliquely upon the face of the receiving wheel, the covering ring  $U$ , mounted obliquely upon the flange, of the receiving wheel, and an endless belt  $V$ , arranged on the front or descending side of the receiving wheel and adapted to cover the space between the flange  $Q$ , and the compressing ring  $T$ , substantially as set forth. 17th. The combination, with the continuously revolving receiving wheel  $S$ , having a spherical exterior surface, and carrying an upwardly projecting flange, of the obliquely arranged revolving compressing ring  $T$  fitted upon wheel  $S$ , and adapted to compress the tobacco against the flange projecting beyond the spherical surface of the wheel, and suitable mechanism for retaining the tobacco in the tapering space while being compressed, substantially as described. 18th. The com-

ination, with the receiving wheel  $S$ , of a spherical shape on its exterior and provided with projecting flange  $Q$ , of the outer obliquely arranged ring  $T$ , fitted to the spherical surface of the wheel  $S$ , and traveling in the same direction, and the endless traveling apron or belt  $Z$ , arranged and adapted to close the space between the wheel and ring on the descending side thereof, and to complete the compression of the tobacco filler, substantially as shown and described. 19th. The combination, with the receiving wheel  $S$ , of a spherical shape on its exterior, and provided with projecting flange  $Q$ , of the obliquely arranged ring  $T$ , fitted to the spherical surface of the wheel  $S$ , and traveling in the same direction, and the endless traveling apron or belt  $Z$ , arranged and adapted to close the space between the wheel and rings on the descending side thereof, and to complete the compression of the tobacco filler and the roller 20, substantially as shown and described.

### No. 35,620. Cigarette Machine.

(*Machine à cigarettes.*)

The American Tobacco Company, Newark, New Jersey, U.S.A., (assignees of Oscar William Allison, Rochester, New York, U.S.A., 17th December, 1890; 5 years.

*Claim.*—1st. The combination, with the endless carrying apron  $b$ , supported at its delivery end by roller  $c^2$ , and the pressure roller  $c$ , arranged over the delivery end of the apron of the inclosing casing  $C^2$ , provided with discharge throat  $c^3$ , the upper picker-wheel  $C$ , arranged at the delivery end of the carrying apron, and a picker-wheel  $C^1$ , arranged in the throat  $c^3$ , below the picker-wheel  $C$ , and the carrying apron  $b$ , substantially as set forth. 2nd. The tobacco feeding mechanism, consisting essentially of the endless tobacco carrying apron  $b$ , supported by roll  $c^1$ , at its delivery end, the pressure roller  $c$ , arranged over the delivery end of the apron, the inclosing casing  $C^2$ , provided with discharge throat  $c^3$ , the upper picker wheel  $C$ , arranged at the delivery end of the carrying apron, a picker wheel  $C^1$ , arranged in the throat  $c^3$ , below the picker wheel, and the carrying apron  $b$ , in combination with a grooved and flexible band  $D$ , substantially as described. 3rd. The combination, with the tobacco feeding mechanism, of a traveling endless flexible receiving band provided with a continuous longitudinal groove which receives the loose tobacco from the feeding mechanism, a wedge faced wheel over which said band passes, and whereby its groove is distended, inclined rollers or wheels arranged on opposite sides of said band, and bearing against the base portions thereof, whereby the groove is held distended, and flat-faced rollers, whereby the band is returned to its normal condition, substantially as set forth. 4th. The combination, with the tobacco feeding mechanism, of the traveling endless flexible receiving band  $D$ , provided with a continuous longitudinal raised rib  $d$ , having continuous groove  $d^1$ , and base flanges  $d^2$ ,  $d^2$ , and rollers so constructed as to distend the groove and then return it to its normal condition, substantially as described. 5th. The combination, with the tobacco feeding mechanism, of the traveling endless flexible receiving band  $D$ , provided with the continuous longitudinal raised rib  $d$ , having continuous groove  $d^1$ , and base flanges  $d^2$ ,  $d^2$ , suitable rollers for carrying the band so constructed as to distend the groove in the rib, and then return it to its normal condition, and the endless flexible compressing band  $H$ , running in the groove of the receiving band, substantially as described. 6th. The combination, with the tobacco feeding mechanism, of the traveling endless flexible receiving band  $D$ , provided with a continuous longitudinal raised rib  $d$ , having continuous groove  $d^1$ , and base flanges  $d^2$ ,  $d^2$ , suitable rollers for carrying the band so constructed as to distend the groove in the rib, the compressor wheel  $g$ , operating to compress the tobacco in the groove, and the endless flexible compressing band  $H$ , running in the groove, substantially as described. 7th. The combination, with the feeding mechanism, of an endless flexible receiving band provided with a continuous longitudinal groove, which receives the loose tobacco from the feeding mechanism pulleys, whereby the groove of said band is distended and returned to its normal condition, and an endless compressing band which runs in the groove of the receiving band after the latter has been returned to its normal condition, substantially as set forth. 8th. In a cigarette machine, the herein described mechanism for drawing the cigarette rod, consisting of the horizontally arranged endless flexible bands  $J$ ,  $J$ , running face to face around pulleys on a suitable support, each band being provided at its upper corner with a continuous longitudinal recess, the two recesses forming the groove  $J^1$ , for receiving the cigarette rod, substantially as described. 9th. The combination in a cigarette machine, of a mechanism for drawing the cigarette rod, consisting of the horizontally arranged endless flexible bands  $J$ ,  $J$ , running face to face around pulleys on a suitable support, each band being provided at its upper corner with a continuous longitudinal recess, the two recesses forming the groove  $J^1$ , for receiving the cigarette rod, and the pressure roller  $J^2$ , arranged over said groove, whereby the tobacco filler is held down in the groove at or near the meeting point of the bands, substantially as described. 10th. The combination in a cigarette machine, of mechanism for drawing the cigarette rod consisting of the horizontally arranged flexible bands  $J$ ,  $J$ , running face to face around pulleys on a suitable support, each band being provided at its upper corner with a continuous longitudinal recess, the two recesses forming groove  $J^1$ , for receiving the cigarette rod, the pressure roller  $J^2$ , arranged over said groove, whereby the tobacco filler is held down in the groove and the paper folder  $M$ , and rotating paper folder brush  $S$ , also arranged over the groove, substantially as described. 11th. The combination with the paste table and a reciprocating frame, of paste grinding rollers mounted in said frame, a wiper and a paste roller, whereby the paste is applied to the wiper, substantially as set forth. 12th. The combination, with the paste table and the grinding rollers, of a reciprocating frame in which said rollers are mounted, a rock-arm whereby said frame is actuated, a rotary wiper, a paste roller whereby the paste is applied to said wiper, and a pawl-and-ratchet mechanism connected with said reciprocating frame, whereby an intermittent rotary movement is imparted to said paste roller, substantially as set forth.

**No. 35,621. Churn.** (*Baratte.*)

Henry Mulholland and Thomas E. Morrow, both of Jarvis, Quebec, Canada, 17th December, 1890; 5 years.

*Claim.*—1st. A churn having a water jacket or casing N, surrounding the sides and bottom of a rectangular cream chamber B, a vertical shaft or spin *le* D, provided with a beveled cog pinion E, and dasher sections Q, a removable top or cover F, provided with a bearing H, supporting a shaft J, carrying a cog wheel K, and meshing with said cog pinion, as set forth, for the purpose described. 2nd. A churn having a rectangular cream chamber B, a surrounding jacket or casing N, forming an external water chamber, and a rotary vertical dasher composed of a series of sections Q, having oppositely beveled faces from near the middle to the end, and arranged to produce opposing currents in the cream chamber, as set forth.

**No. 35,622. Retainer for Overshoes.**

(*Appareil pour retenir les claques.*)

James Louis Heffernan, Newcomb, Tennessee, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. The combination, with an overshoe, of the plates secured to the overshoe-counter, the securing loop E, formed with the flattened apertured ends and curved backward at its center, the end sleeves E<sup>1</sup>, having the apertures e<sup>2</sup>, and pivoted at their ends to the plates B, and the elastic bands secured to the loop E, and the sides of the overshoe, substantially as set forth. 2nd. The combination, with an overshoe, the plates secured to the overshoe-counter, the securing loop E, formed with the apertured ends curved backward at its center and having the handle e<sup>1</sup>, the apertured end sleeves pivoted at their ends to the said plates, the elastic bands secured to the loop E, in its lowered or depressed position, substantially as set forth. 3rd. The combination of an overshoe, the plates secured to the overshoe-counter and having the stop projections, the securing loop E, formed with the flattened apertured ends, the apertured end sleeves pivoted to the said plate and having its ends adapted to engage with the said stop projections on the plate, and the elastic band secured to the loop E, and to the sides of the overshoe, substantially as set forth. 4th. The combination of an overshoe, the plates B, secured to the counter of the overshoe and having the stop pins C, and the pivot pins D, the securing loop B, formed with the flattened apertured ends, the apertured end sleeves formed at their lower ends with the slots E<sup>3</sup>, and the end notches E<sup>4</sup>, and the rubber bands F, secured to the loop E, and to the sides of the overshoe, substantially as set forth.

**No. 35,623. Drawing Board.** (*Planche à dessin.*)

John Thomas Warden, Philadelphia, Pennsylvania, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. The combination of the drawing board support, a board therefor, with a straight edge and two sets of levers pivoted at fixed points, links connecting the levers to the straight edge, and links connecting the two sets of levers, substantially as set forth. 2nd. The combination of the drawing board support therefor, a straight edge, two sets of levers pivoted to said support, a weight to which the levers are linked, with links connecting the levers to the straight edge, substantially as described. 3rd. The combination in a drawing board support, of the base, the worm mounted thereon, a vertical rack bar carrying the frame, with a gear wheel meshing with the rack, and with the worm, whereby the frame is raised and lowered, substantially as described. 4th. The combination of the quadrangular frame E<sup>1</sup>, the spider E, having arms, levers pivoted to said arms, links securing the short arms of said levers to a weight, with links securing the long arms of said levers to a straight edge, which is adapted to travel over the face of the drawing board mounted on the frame, substantially as described.

**No. 35,624. Chromatic Pitch Pipe.**

(*Diapason chromatique.*)

Charles Harris Congdon, St. Paul, Minnesota, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. A pitch pipe, comprising, in combination, a grooved base, a plate secured upon said base and having reed openings there-through, series of reeds arranged upon said plate, and above said grooves respectively, an inclosing cover having notches or openings on the several sides thereof, connecting respectively with the grooves of the base, and a vent through the top of said cover, substantially as and for the purposes set forth. 2nd. In a device of the class described, the combination of the base 2, having grooves 3 and 4, the plate 5, secured thereon, and having reed openings 10, arranged in pairs respectively over said grooves 3, the series of reeds 7, arranged upon one side of said plate, and over said reed openings, and the cover 11, fitting over and inclosing the said plate and base, and provided with the common vent 14, and with the notches 13, opening respectively into the grooves 3 and 4, substantially as and for the purposes set forth.

**No. 35,625. Art of Pairing Stockings and Board Therefor.** (*Manière d'accoupler les bas et appareil à cet effet.*)

William Hanson Howard, Lowell, Massachusetts, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. The art of commercially folding and assembling stockings in pairs, which consists in creasing each stocking along the sides of the leg, and around the point of the heel, along the sides of the foot, and around the toe, folding the top or instep portion of the foot against the forward part of the leg, and pairing the stockings so folded by laying the face of the back leg portion of one

against or in juxtaposition with the face of the corresponding portion of the other stocking, and tacking and tagging the pair at the heel point, as set forth. 2nd. A stocking bag consisting of two pieces, namely, a flat leg board and a flat board, the latter shaped at its edges to resemble the outline of the sole of the human foot, said boards being hinged together, the end edge of one upon the surface of the other, as set forth, and with one of the boards projecting beyond the other at the heel part, as described.

**No. 35,626. Potato Digger.** (*Arrache-patates.*)

Frank Manly Thorn, Orchard Park, New York, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. In a potato digger, the combination, with a double mold board plow, a frame upon which the plow is hung, and bearing wheels supporting the axle of the plow, of a double series of vibratory rods or fingers adapted to receive from each adjacent mold board the contents of the hills, and sift and separate the dirt from the potatoes, substantially as set forth. 2nd. In a potato digger, the combination, with a plow and frame upon which the latter is hung, of bearing wheels supporting the axle of the plow, and vibratory rods or fingers carried by the wheels and adapted to receive the contents of the hills and sift and separate the dirt from the potatoes, substantially as set forth. 3rd. In a potato digger, the combination, with a plow and frame upon which the latter is hung, of bearing wheels having a series of vibratory rods or fingers attached thereto, at or near the fellies, substantially as set forth. 4th. In a potato digger, the combination, with a plow and frame upon which the latter is hung, of bearing wheels supporting the axle of the plow, vibratory rods or fingers carried by the wheels, and devices for vibrating the rods or fingers, substantially as set forth. 5th. The combination, with a plow and frame upon which the latter is hung, of bearing wheels supporting the ends of the axle, vibratory rods or fingers carried by the wheels, and roller frames over which the ends of the rods or fingers pass, whereby they are temporarily retarded and slightly and briefly separated, substantially as set forth. 6th. The combination, with a plow and frame upon which the latter is hung, of bearing wheels supporting the ends of the axle, vibratory rods or fingers attached to the wheels at or near the fellies, and roller frames depending from the frame of the machine over which roller frames the fingers pass, said frames having devices thereon for temporarily retarding and vibrating the fingers, substantially as set forth. 7th. The combination, with a plow frame upon which the plow is hung, and bearing wheels supporting the ends of the axle, of vibratory rods or fingers attached to the fellies of the wheels, and roller frames depending from bars attached to the frame of the machine, said roller frames having rollers thereon over which the fingers pass in order to have a vibratory motion imparted to them, substantially as set forth.

**No. 35,627. Drill for Railway Tracks.**

(*Foret de chemin de fer.*)

Aaron Richard Paulus, Villisca, Iowa, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. The combination, with the drill, of the operating mechanism therefor, and pivoted holding arms constructed to be thrown back with a portion of the operating mechanism, as set forth. 2nd. The combination, with the frame and the drill holder, of the screw shaft and intermediate devices for revolving said shaft by the movement of the drill holder, as set forth. 3rd. The combination, with the frame and the drill holder, of the screw shaft, the ratchet wheel thereon, a pawl engaging the said wheel, and a cam on the drill holder adapted to actuate said pawl, substantially as specified. 4th. The combination, with the frame and the drill holder, of a cam carried by the drill holder, a pawl, a rock shaft carrying the pawl, and an arm on the rock shaft actuated by engagement of the cam, substantially as specified. 5th. The combination, with the frame and the drill holder, of the screw shaft connected with the drill holder by a swivel connection, a ratchet wheel on the screw shaft, and a pawl engaging the ratchet wheel and actuated by the movement of the cam, as set forth. 6th. The combination, with the drill and the drill holder, of the screw shaft connected with the drill holder by a swivel connection, a ratchet wheel having screw engagement with the screw shaft, a rock shaft, an arm on one end thereof engaging the cam, and a pawl on the other end engaging the ratchet wheel, as set forth. 7th. The combination, with the screw shaft having longitudinal slot of the cross-bars A<sup>1</sup>, a pin thereon engaging the said slot, and a ratchet wheel having screw engagement with the shaft, substantially as specified. 8th. The combination, with the frame, the drill holder and the band pinion therein, and carrying a cam of the screw shaft, the ratchet wheel thereon, and movable relatively to the length thereof, the operating mechanism for said bevel pinion, the rock shaft, the arms thereon, and the pawl carried by one of the said arms, substantially as specified. 9th. The combination, with the frame and the drill holder, of the upright frame pivoted to the support of the drill holder, the toggle connection between the upright and horizontal frames, and the hooked arms carried by the horizontal frame, substantially as specified. 10th. The combination, with the horizontal frame of the drill holder, the uprights pivoted to the horizontal frame, the shaft and pinions carried by the said uprights, the bevel pinion on the drill holder, and the toggle connection between the uprights and the frame, substantially as specified. 11th. The combination, with the frame and the drill holder and the bevel pinion thereon, of the washer and the cross stay rod bearing against said washer, substantially as specified. 12th. The combination, with the base plate, the frame C<sup>1</sup>, thereon, and the drill holder and screw shaft connected by a swivel connection, of the ratchet wheel having screw engagement with the screw shaft, the bevel pinion and cam on the drill holder, the rock shaft, the arms thereon, the pawl carried by one of said arms, and the operating devices for the said bevel pinion, substantially as shown and described.

**No. 35,628. Colter for Plows.***(Coutre de charrue.)*

Hugh Gourlay, Carp, Ontario, Canada, 18th December, 1890; 5 years.

*Claim.*—A colter having a straight stem A, a rearwardly and downwardly curved bend B, terminating in a point C, in alignment with the stem and having a barb or wing D, turned from the front upwardly and diagonally across the path of the curved portion B, toward the furrow side of the plow, and a beveled cutting edge from one side extending from the barb or wing to the point C, as set forth.

**No. 35,629. Cross Welding Machine.***(Machine à souder.)*

George Ross Green, East Orange, New Jersey, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. In a machine for cross welding skelps, the combination, with clamps for holding the skelps, of a movable carrier having an anvil fixed rigidly thereon, and a hammer vibrated to and from the anvil, as and for the purpose set forth. 2nd. In a machine for cross welding skelps, the combination, with clamps for holding the skelps, of a movable carrier having an anvil fixed rigidly thereon, a lower furnace fixed upon the carrier adjacent to the anvil, an upper furnace supported movably over the fixed furnace, and a hammer vibrated to and from the anvil, as and for the purpose set forth. 3rd. A cross welding machine, comprising a bed having clamps at opposite sides to hold the skelps, a carrier fitted to slide upon the top of the bed between such clamps, a lower furnace fixed upon the carrier near one end of the same, a fulcrum near the end of the carrier, an upper furnace with an arm and balance weight pivoted upon such fulcrum, a fulcrum bearing fixed upon the carrier near its opposite end, a hammer with arm having pivot projected at one side and fitted to such fulcrum bearing, and means connected with the movable carrier for vibrating the hammer arm, as and for the purpose set forth.

**No. 35,630. Projectile. (Projectile.)**

Daniel Baird Wesson, Springfield, Massachusetts, U.S.A., 18th December, 1890; 15 years.

*Claim.*—1st. A projectile, having a reservoir for a lubricant in its rear portion, and a duct leading from said reservoir to the outer surface of the projectile, and opening near the front of that part of the projectile which has a bearing on the walls of the gun, whereby pressure on the rear of the projectile may expel the lubricant during the passage of the projectile along the gun barrel, substantially as described. 2nd. A projectile, having in its rear portion a reservoir containing a lubricant, and one or more ducts communicating with said reservoir and with the exterior of the projectile, and provided with a cap fitting and movable forwardly in the rear of said reservoir and adapted to receive the impact of the firing charge, for the purpose set forth. 3rd. A projectile, having a lubricant reservoir therein, and one or more ducts communicating with said reservoir, and extending thence to the base of a recess in the surface of the projectile, combined with a movable cap closing the open end of said reservoir, substantially as set forth. 4th. A projectile, having a lubricant reservoir therein, and one or more ducts communicating with said reservoir and extending thence to the surface of the projectile, combined with a movable cap closing the open end of said reservoir, having a border extending at right angles to the plane of the cap, substantially as set forth. 5th. A projectile, having a lubricant reservoir therein, and one or more ducts communicating with said reservoir and extending thence to the surface of the projectile, combined with a movable cap closing the open end of said reservoir, having its central portion of convex form, and a border extending at right angles to the plane of the cap, substantially as set forth.

**No. 35,631. Snow Shovel. (Pelle à neige.)**

Victor Lemieux, Quebec, Province of Quebec, Canada, 18th December, 1890; 5 years.

*Résumé.*—La forme de la secoupe B, la forme du manche A, l'épaulement a découpé dans le manche A, et le dit manche A, vissé à la secoupe B, tel que montre et spécifié pour les fins décrites.

**No. 35,632. Art of Preventing Oxidation of Metals. (Art d'empêcher l'oxydation des métaux.)**

George Wyckoff Cummins and James Henry Coleman, both of New York, State of New York, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. The hereinbefore described process of treating metals to prevent their oxidation while in a heated state, consisting of subjecting such metals in an air-tight vessel to an atmosphere composed of the gases derived from passing atmospheric air over incandescent carbonaceous material in a retort, after earlier gaseous products of distillation have been removed from said carbonaceous material, substantially as and for the purposes set forth. 2nd. The hereinbefore described process of treating metals to prevent their oxidation while in a heated state, consisting of subjecting such metals to an atmosphere composed of nitrogen and carbonic oxide, with or without carbonic acid, the carbonic oxide being in sufficient excess to overcome any tendency of the carbonic acid, if present, to oxidize the metal, substantially as set forth.

**No. 35,633. Coupling for Pipes.***(Joint de tuyaux.)*

David Kennedy, Erie, Pennsylvania, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. In a pipe coupling, the combination, with the heads

or collars  $\alpha$ , each provided at its outer end with a suitable packing, of movable coupling sleeves surrounding said heads and provided at its outer end with a series of projecting segments, the segments on one of said sleeves interlocking with the segments on the opposing sleeve, whereby the two sleeves are held from turning in opposite directions, and which form together a continuous sleeve enclosing both heads with its joint overlapping the meeting end of the two heads, said sleeves being free to turn on said heads, when coupled, and having a limited lengthwise movement thereon, and a locking lever pivoted to one of said sleeves and engaging with the opposing sleeves, whereby the two sleeves are drawn together, substantially as set forth. 2nd. In a pipe coupling, the combination, with the heads or collars  $\alpha$ , each provided at its outer end with a suitable packing, of coupling sleeves surrounding said heads, and provided with interlocking segments which together form a continuous sleeve, enclosing both heads, a connecting shank formed on each sleeve, and engaging between lugs formed on the opposing sleeve, and locking levers pivoted to each sleeve and engaging with the shank of the opposing sleeve, whereby the two sleeves are drawn together, substantially as set forth. 3rd. The combination, with two adjacent pipes, provided at their ends with heads or collars  $\alpha$ , of the coupling sleeves D, surrounding said heads, a shank or connecting bar  $h$  arranged on one of said sleeves and engaging between two jaws on the opposing sleeve, and a locking lever J, attached to said last-mentioned coupling sleeve and bearing against the connecting shank  $h$ , substantially as set forth. 4th. The combination, with two adjacent pipes provided at their ends with heads or collars  $\alpha$ , of the coupling sleeves D surrounding said heads, and each provided on diametrically opposite sides with a connecting shank  $h$ , and a pair of jaws or lugs  $i$ , and with a cam lever J, pivoted between said jaws, substantially as set forth. 5th. The combination, with two adjacent pipes, each provided at its end with a head or collar  $\alpha$ , of coupling sleeves D, D, respectively surrounding the heads and provided with interlocking segments  $d$ , a pair of jaws  $i$  arranged on one side of each coupling sleeve, a cam lever J pivoted between said jaws, a connecting shank  $h$  and recessed lug  $k$ , arranged on the opposite side of the coupling sleeve, and a spring catch, whereby the cam lever J, of one coupling sleeve is attached to the lug  $k$ , of the opposite coupling sleeve, substantially as set forth. 6th. In a pipe coupling, the combination, with the heads  $\alpha$  and coupling sleeves D surrounding said heads, of a connecting shank  $h$  secured to each sleeve and engaging between a pair of jaws  $i$ , formed on the opposing sleeve, and a cam lever J, pivoted to each sleeve between said jaws, and provided with an adjustable wear plate which bears against the shank of the opposing sleeve, when the sleeves are secured together, substantially as set forth.

**No. 35,634. Stretcher for Curtains.***(Métier à rideau.)*

David Eastman, Detroit, Michigan, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. A frame, consisting of crossing rails, and means for locking the rails at the crossing points, said rails having a channel in their upper faces, and a pocket communicating therewith, a rod suspended over the channels, and a series of hooks loosely mounted on said rod, as and for the purpose specified. 2nd. A frame, consisting of the crossing rails R, B, and means for locking said rails at the crossing point, the channels and pockets formed in the upper face of the rails, the rods suspended over the channels, the hooks on said rods and plates covering said pockets, substantially as specified.

**No. 35,635. Road Cart. (Désobligeante.)**

George Henry Fowler, Faughannock Falls, New York, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. In a vehicle, the combination, with the axle, thills, and body, with seat attached, of the double-armed crank-rod, having their central longitudinal portions journaled in bearings attached to the vehicle body, in order to support said body, the ends of their front arms journaled in bearings secured to the thills, and the rearwardly bent projections of their rear arms journaled in bearings attached to the axle, substantially as specified. 2nd. In a vehicle, the combination, with the axle, the thills, the vehicle body and the bearing irons I, J, secured to said body at suitable points, and respectively provided with the bearing slots  $i$  and  $j$ , of the boxes or blocks G, clipped to the axle at the inner sides of the thill-irons and provided with the bearing openings  $g^1$ , the bearing brackets K secured to the thills on the inner sides thereof, and the crank rods H, having the central longitudinal parts  $h$ , journaled in the slots  $i$ ,  $j$ , of the bearing irons, the arms  $h^1$ , provided with the journals  $k$ , mounted in the brackets K, the arms  $h^2$ , and the rearward projections  $h^3$ , journaled in the boxes G, substantially as specified. 3rd. In a vehicle, the combination with the axle, the thill, the body, and the bearing irons I, J, secured to the body at proper points, of the bearing boxes G, secured to the axle, the bearing brackets K secured to the thills, the crank rods H, journaled in the bearing irons I, J, and in the boxes G and brackets K, and consisting of a central portion  $h$ , the front arm  $h^1$ , having the journals  $k$  and the rear arm  $h^2$ , having the extension  $h^3$ , and the spring  $f$ , with its ends looped and attached to the extensions  $h^3$ , and its central part clipped to the spring bar, secured to the back of the vehicle body, substantially as specified.

**No. 35,636. Wind Mill. (Moulin à vent.)**

Evert DeWitt, Hanford, California, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. In a wind mill, the combination, with the frame, having an upright U, a lever H, pivoted between its ends to said upright, and the pump-rod H<sup>1</sup> connected to the inner arm of said lever, of the wind-wheel, the crank-shaft M, rotated thereby, the pitman rod P, connected at one end to the crank of said shaft, a yoke X<sup>1</sup>, embracing the outer arm of said lever, and having boxes  $h$ ,



h above and below said arm, a pin p pivotally connecting the upper end of the pitman with said yoke, and means, substantially as described, for moving the yoke longitudinally upon the lever, as and for the purpose set forth. 2nd. In a windmill, the combination with the frame having an upright U, a lever H, pivoted between its ends to said upright, and the pump-rod H<sup>1</sup>, connected to the inner arm of said lever, of the wind-wheel, the crank-shaft M, rotated thereby, the pitman rod P, connected at one end to the crank of said shaft, a yoke X<sup>1</sup>, embracing the outer arm of said lever and having boxes h, h above and below said arm, a pin p, pivotally connecting the upper end of the pitman with said yoke, the supplemental vane V pivoted in said frame at an angle to be struck by the wind, and the connecting rod I, between said vane and yoke, whereby the force of the wind will cause the automatic adjustment of the latter longitudinally upon the lever, as and for the purpose set forth. 3rd. In a windmill, the combination, with the L-shaped framework F, pivotally mounted upon the support S, of the upright rod k, mounted in said frame, the bracket K pivoted on said rod, the tail A carried by said bracket, a chain C connecting said bracket with the front arm of the frame, a stud D on said bracket, a cord O leading from said stud over pulleys on the frame and down the standard S, and the wheel and devices operated thereby, mounted upon said frame, as and for the purpose set forth. 4th. In a windmill, the combination, with the L-shaped framework F, pivotally mounted upon a support S, the wheel, and the devices operated thereby, all supported upon said frame, of the upright rod k, in the rear arm of said frame, the tail A, the bracket K supporting said tail, said bracket being pivoted upon said rod and extending forward of the same, as at K<sup>1</sup>, an L-shaped lever Q pivoted in the front arm of said frame, a chain c<sup>1</sup> connecting the upper arm of said lever with said extension K<sup>1</sup>, and an adjustable weight Z upon the other arm of said lever, as and for the purpose set forth. 5th. In a windmill, the combination, with the L-shaped framework F, and the wind-wheel and devices operated thereby, all supported upon said frame, of the tail A, the bracket K supporting said tail, said bracket being pivoted to the rear arm of said frame and extending forward of its pivot, as at K<sup>1</sup>, a stud D on said bracket, a cord O leading from said stud over wheels on the frame to the ground, a lever Q pivoted to said frame, a chain c<sup>1</sup> connecting said lever with said extension K<sup>1</sup>, and an adjustable weight Z on said lever, all as hereinbefore set forth.

### No. 35,637. Holder for Cuffs.

(*Bouton de manchette.*)

William Thomas Wood, Nashville, Tennessee, U.S.A., 18th December, 1890; 5 years.

*Claim.*—1st. A cuff-holder, constructed of a single piece of metal doubled and provided with jaws 2 and 3, having their ends 5 and 6 arranged at an angle to the body of the holder, the end of the jaw 2 being bent inward toward the jaw 3, and crimped and forming a curved recess 7, and the jaw 3, being provided with a curved or rounded end, and being adapted to be sprung laterally to engage the curved recess 7, substantially as described. 2nd. A cuff-holder, constructed of a single piece of metal, doubled and provided with jaws 2 and 3, having their ends arranged at an angle, the jaw 2, having the projection or loop 8, and having its end bent inward toward the jaw 3, and provided with the curved recess 7 and the jaw 3, having its end rounded or curved at the edge and adapted to be sprung aside to engage the curved recess, substantially as described.

### No. 35,638. Attachment for Devices for Drawing Water. (*Appareil pour puiser l'eau.*)

George F. Beebe, Hornellsville, New York, U. S. A., 18th December, 1890; 5 years.

*Claim.*—1st. An attachment provided with a tubular casing adapted for connection at its extremities with the tubing of devices for drawing water, a pump cylinder formed within said casing, a plunger provided with a spring valve and placed in said cylinder, a valve-seat fixed in said casing below said cylinder, and provided with vertical guides, a valve provided with a stem and placed loosely in said seat, said valve being provided with a retaining spring, filtering material placed within said casing below said valve, and devices adapted to prevent said filtering material clogging said valve and the water passage at the lower end of the casing, substantially as set forth and described. 2nd. The combination, with a tubular casing adapted for connection with pump tubing, of a plunger provided with an annular plate having a perforated bar extending across its centre, a circular valve-seat surrounding the central opening in said plate, and provided with vertical guides, a valve loosely placed in said seat, said valve being provided with a head having a bearing surface of elastic material, and a stem extending downward through a guide formed of said perforated bar, and provided with a spring placed on said stem, substantially as set forth and described. 3rd. The combination with a tubular casing adapted for connection at its extremities with the tubing, of devices for drawing water, of a valve-seat fixed in said casing, a spring valve provided with a stem and seating in said seat with the stem extending downward through a guide, suitable filtering material in said casing below said valve, and devices placed in the casing adapted to prevent the filtering material clogging said valve and the water passage, substantially as and for the purposes described. 4th. The combination, with the casing, of an annular plate provided with a perforated bar extending across its centre, a circular valve-seat surrounding the central opening in said plate, a series of vertical guides about said valve-seat, a valve loosely placed in said seat, said valve being provided with a head having a layer of rubber for its bearing surface, and a stem extending downward through a guide formed of said perforated bar, and provided with a spiral spring adapted to hold the valve in its seat, substantially as set forth and described. 5th. The combination with the casing formed of parts A, and B, of an annular plate f, provided with outer flanges c, and packing e, a circular valve-seat h, with guides i, surrounding said seat, and a perforated bar d, a valve

E<sup>1</sup>, provided with a stem which extends downward through said bar d, and a retaining spring on said stem, a filling of filtering material in casing B, sponge being placed above and below said filtering material, and springs g, and for the purpose of the sponge in place, substantially as and for the purposes described.

### No. 35,639. Electric Gas Lighter and Extinguisher. (*Allumoir et éteignoir électriques pour gaz.*)

George A. Sanders, and Samuel J. Willett, (assignees of Nelson Newman), all of Springfield, Illinois, U. S. A., 19th December, 1890; 5 years.

*Claim.*—1st. The combination of the time mechanism having the moving tappets, the gas valve having the tappet arms, and the electric sparking apparatus, having the operating lever or arm also adapted to be operated by the tappets, substantially as described. 2nd. The time mechanism having the moving tappets, in combination, with the electric sparking apparatus having the contacting arm e, and the lever or arm f, to operate said contacting arm, and arranged in the path of the tappets, substantially as described. 3rd. The time mechanism, having the revolving disk provided with the concentric series, of openings a, b, d, the adjustable tappet pins a<sup>1</sup>, b<sup>1</sup>, d<sup>1</sup>, in said openings respectively, the gas valve having the tappet arms in the paths of the tappets a<sup>1</sup>, b<sup>1</sup>, and the electric spark producing apparatus, having the lever or arm in the path of the tappet d<sup>1</sup>, all in combination, substantially as described. 4th. The time mechanism, having the revolving disk provided with the tappets arranged at different distances from its centre, in combination with the gas valve having the tappet arms extending in opposite directions and arranged in the paths of the respective tappets, whereby the valve will be automatically opened and closed, and the electric spark producing apparatus operated by the time mechanism, substantially as described. 5th. The electric spark producing apparatus, having the vibrating contact arms, forming electrodes, adapted to alternately meet and separate, and the devices, substantially as set forth, to set them in motion. 6th. The combination of the time mechanism having the moving tappets, the valve having the levers or arms, and the vibrating contact arms, having the lever to engage the tappets, and the pendulum to keep said arms in motion, substantially as described. 7th. The combination of the pivoted contacting arm e, having the lever arm f, the pivoted contacting arm O, having the pendulum, the rod connecting said pendulum with said arm e, and the moving tappet to operate the arm or lever f, substantially as described.

### No. 35,640. Feeder for Band Saws.

(*Alimentateur pour scies sans fin.*)

Abram B. Springstead and William W. Sigler, both of Kalamazoo, Michigan, U.S.A., 19th December, 1890; 5 years.

*Claim.*—1st. In a work feeder for band saws, the combination, with the base-clamp, of a horizontal bar which slides in the grooved upper portion p, of said clamp, a frame or work carrier G, which is pivoted to and swings horizontally on the outer end of said bar, and horizontal arms which slide in said work carrier and are provided with spurs for engaging the stuff to be sawed, all substantially as shown and described, to operate as specified. 2nd. In a work feeder for band saws, the combination, with the saw table, of a detachable clamp A, a transverse bar E, adjustable on the clamp over the table, a carrier frame G, fastened to the bar E, and radially adjustable arms on the said carrier frame having stops on their outer ends, substantially as described. 3rd. In a work feeder for band saws, the combination, with the saw table, of a clamp A, a transverse bar E, adjustable on the clamp A, a segmental frame G, pivoted to the bar E, and provided with radial dove-tail slots and holes and radially adjustable stop arms J, J<sup>1</sup>, and sealed measuring arms I, I<sup>1</sup>, adjustable in said holes and slots, substantially as described.

### No. 35,641. Cleaner for Boiler Tubes.

(*Nettoyeur de tubes de chaudières.*)

Harmon Gilmore and Arthur J. Aker, both of St. Williams, Ontario, Canada, 19th December, 1890; 5 years.

*Claim.*—A boiler tube cleaner, consisting of a piece of sheet steel cut to shape and bent to form a hollow conical head A, having two free overlapping edges from base to apex, and a handle B, projecting from the smaller end, of the conical head, and secured thereto to admit of the larger end being contracted and expanded, said end preserving a circular continuity during such contraction and expansion, as set forth.

### No. 35,642. Dress Stay. (*Busc de corset.*)

Augusta Dacus, San Antonio, Texas, U.S.A., 20th December, 1890; 5 years.

*Claim.*—The herein described garment stay, the same comprising a resilient body, a fabric cover secured around the same, and flexible wire fasteners whose bodies stand between the stay-body, and the inner face of the cover and whose pointed ends extend outwardly through the resilient body and through the outer face of the cover, the whole being adapted for use substantially as set forth.

### No. 35,643. Vehicle Wrench. (*Clé de voiture.*)

John A. Miller, St. Louis, Missouri, U.S.A., 20th December, 1890; 5 years.

*Claim.*—1st. As an improved article of manufacture, a permanent or detachable nut socket for wrenches, provided with sections of different dimensions, one of which is located adjacently below the other, as and for the purposes specified. 2nd. As an improved

article of manufacture, a permanent or detachable socket for wrenches, provided with approximately quadrangular sections of different dimensions, the smaller of which sections is situated adjacently below the larger, substantially as set forth. 3rd. As an improved article of manufacture, a permanent or detachable socket for wrenches, provided with approximately hexagonal sections of different dimensions, the smaller of which sections is situated adjacently below the larger, substantially as set forth.

### No. 35,644. Curry Comb. (*Etrille.*)

Theodore S. Sherman, Castleton, Vermont, U. S. A., 20th December, 1890; 5 years.

*Claim.*—1st. A curry-comb or brush, consisting of a leaf or plate, and series of tubular rigid bell-mouthed teeth secured by their flared shanks to such plate, and having their mout-ends projecting from one side of such plate, substantially as described. 2nd. In a curry-comb or brush, the combination, with a flexible plate, of a series of rigid teeth secured thereon, and severally provided with an air-chamber open on their face ends, and surrounded by a sharp edge, and a backing plate secured to the back of the teeth-supporting plate, substantially as described.

### No. 35,645. Riding Saddle. (*Selle.*)

Charles Woods Beard and George Felix Crummett, both of Academy, West Virginia, U.S.A., 20th December, 1890; 5 years.

*Claim.*—1st. In a saddle, the combination, with the saddle tree provided with the opposite depending hanger plates, the girth passed through said plates and depending from the sides of the tree, and the stirrup straps connected to the ends thereof, of the rear girth connected to the saddle, and an adjustable regulating strap connecting the same with the front girth, substantially as specified. 2nd. The combination, with a saddle tree having opposite hanger plates, of a girth strap mounted in each of said hanger plates and so as to ride therein, said straps being doubled upon themselves and having their terminals depending at each side of the plates, a rear pair of girth straps connected to the rear sides of the saddle, rings mounted at the ends of the rear girth straps and the inner ends of the front girth straps, a connecting regulating strap having its ends engaging the rings, depending girth strap sections connected to the rings, front and rear girths having their ends adjustably connected with the girth strap sections, and stirrup straps mounted in links located in the outer ends of the front pair of girth strap sections, substantially as specified.

### No. 35,646. Meat Cutter. (*Hache-viande.*)

Oliver Dwight Woodruff, Southington, Connecticut, U. S. A., 20th December, 1890; 5 years.

*Claim.*—1st. The combination of the combined forcer and cutter, of the case having the inclined feeding ribs 11, and longitudinal knives 10, intersecting each other on the front side of said longitudinal knives, substantially as described and for the purpose specified. 2nd. The combination of a case having longitudinal knives and spiral ribs, and inclined feeding ribs, the combined forcer and cutter having the longitudinal knives 14, and forcing ribs 15, on the front or cutting edge of said longitudinal knives, substantially as described and for the purpose specified. 3rd. The combination of the case having the longitudinal knives 10, the feeding ribs 11, extending to the front or cutting edge of said knife, and the combined forcer and cutter having the longitudinal knives 14, and forcing ribs 15, merging into the cutting edge of said longitudinal cutters, substantially as described and for the purpose specified. 4th. The combination of a case provided with feeding and cutting ribs, the combined forcer and cutter working against said ribs, and an annular discharge between them at the delivery end of the case, substantially as described and for the purpose specified. 5th. The combination of the case having tapering portion, the combined forcer and cutter fitted thereto, the crank shaft projecting from the large end of said combined forcer and cutter, the cap 5, having a bearing for said crank shaft, and the hub 6, fitted to the large end of said case, the case and cap being provided with engaging lugs for holding and forcing the parts together, and the dog 6, for locking said cap in place, substantially as described and for the purpose specified. 6th. In a meat cutter, the combination of the case, the holding cap fitted thereto, and having serrations *h* at the edge, the dog 6, and crank pin or eccentric by which it is secured to the case, substantially as described and for the purpose specified.

### No. 35,647. Steam Boiler. (*Chaudière à vapeur.*)

John Gamage, London, England, 20th December, 1890; 5 years.

*Claim.*—1st. In an internal flue boiler, the combination, with a flue tube of an upward continuation having a gradually decreasing passage for the water, and an outlet at the upper end of said passage adapted to discharge the water in an approximately horizontal direction above the water level of the boiler, substantially as set forth. 2nd. In an internal flue boiler, the combination, with a flue tube, of an upward continuation consisting of an outer tube and an inverted inner cone, the said outer tube and inner cone forming between them a gradually decreasing passage for the water, and the outlet of said passage being adapted to discharge the water in an approximately horizontal direction above the water level of the boiler, substantially as set forth.

### No. 35,648. Hand Car. (*Char à bras.*)

William H. Engels, Farmington, Arkansas, U. S. A., 20th December, 1890; 5 years.

*Claim.*—The combination, with the axle and the transverse shaft, of the intermeshing gear wheels secured thereon, the spur-pinions

at the ends of the axle, and the shaft the levers loosely mounted on the axle, and the shaft, and having their lower ends bifurcated the connecting rod between the upper ends of the levers, and the reversible pawls pivoted within the bifurcations at the lower ends of said levers and engaging the spur-pinions, as specified.

### No. 35,649. Fire Alarm and Heat Indicator. (*Avertisseur d'incendie et indicateur de la chaleur.*)

Stoner, Myers & Company (assignees of Anthony Iske and Albert Iske), all of Lancaster, Lancaster Co., Pennsylvania, U.S.A., 20th December, 1890; 5 years.

*Claim.*—1st. A heat indicator, consisting of two bulbs and their connecting tube inclosing volatile liquid in vacuo, the said bulbs and tube being pivoted on a line passing through the lower bulb, substantially as set forth. 2nd. A heat indicator consisting of two bulbs and a connecting tube containing volatile liquid in vacuo, the whole being pivoted as an integral device, in combination with an adjusting screw for regulating the position of the same, and consequently regulating the leverage of the upper bulb, substantially as set forth. 3rd. A heat indicator, consisting of two bulbs and a connecting tube containing volatile liquid, the whole being pivoted as an integral device, in combination with a spring which is arranged to hold the upper bulb against descending while empty, substantially as set forth. 4th. A heat indicator, consisting of two bulbs and a connecting tube containing volatile liquid in vacuo, the whole being pivoted as an integral device on an axis passing through the lower bulb, and the said lower bulb being provided with a projecting stud, in combination with a spring having a catch to engage with said stud, substantially as set forth. 5th. A heat indicator, consisting of two bulbs and a connecting tube containing volatile liquid in vacuo, the whole being pivoted as an integral device on an axis passing through the lower bulb, in combination with an alarm and necessary connections, for the purpose set forth. 6th. A heat indicator, consisting of two bulbs and a connecting tube containing volatile liquid in vacuo, the whole being pivoted as an integral device, in combination with a lever supported by the upper part of said heat indicator and descending therewith, a slide attached to said lever, a catch supported by said slide, and the pull cord of an alarm set free by the withdrawal of said slide from said catch, substantially as set forth. 7th. A pivoted heat indicator, consisting of two bulbs and a connecting tube containing volatile liquid, in combination with an adjusting screw, said tube being provided with a laterally extending arm *Z*, arranged to come in contact with said screw, substantially as set forth.

### No. 35,650. Pocket Lamp. (*Lampe de poche.*)

William Maybaum, Philadelphia, Pennsylvania, U.S.A. (assignee of John Harvey Farrel, Camden, New Jersey, U.S.A.), 20th December, 1890; 5 years.

*Claim.*—1st. A pocket lamp provided with a divided housing and cover, an oil retainer therein having a wick holder and scraper, a retainer adapted to hold a narrow percussion tape strip or ribbon, a stud pin supported adjacent to said scraper for said tape, strip, or ribbon to travel over, and a toothed disc extending through the casing at one side and adapted to permit of said tape strip and the said disc provided with a pin adapted to permit of said tape, strip, or ribbon being wound thereon, substantially as set forth. 2nd. A pocket lamp provided with a two-part housing and a hinged cover, an oil retainer adapted to support in position a wick and scraper, a pin or lug adapted to hold a narrow tape, strip, or ribbon provided with caps or pellets, a stud pin provided with a milled sleeve, a toothed disc journaled in said housing and provided with means adapted to permit of said tape, strip, or ribbon being wound thereon, and a spring normally engaging with a tooth of said disc, substantially as and for the purposes set forth. 3rd. A pocket lamp provided with a divided housing, an oil absorbent retainer therein provided with a tube adapted to expose a wick, a scraper, a retaining pin, a tape, strip, or ribbon provided with fulminating pellets or caps mounted thereon, a pin provided with a sleeve, a toothed disc partially exposed beyond said housing and provided with means to permit of said tape, strip, or ribbon being wound thereon, and a spring to prevent a reverse movement of said disc, substantially as and for the purposes set forth. 4th. A pocket lamp provided with an oil and absorbent material receptacle having a wick tube and a scraper, a retainer located in the lower part of the lamp casing, a toothed disc extending through one side of said casing and provided with a pin or lug adapted to receive an ignitable strip, tape, or ribbon, a stud pin in the upper part of said casing having a loose sleeve mounted thereon, and said disc by the actuation thereof causing said strip, tape, or ribbon to contact with said scraper, substantially in the manner set forth.

### No. 35,651. Learing Mechanism for Warp Dressers. (*Envergure pour ourdissoirs de mlier.*)

Joseph Michael Simoneau and Edward Parsons Morse, both of Ware, Massachusetts, U.S.A., 20th December, 1890; 5 years.

*Claim.*—1st. The combination, with a slasher or dresser provided with an extension frame, of a set of reeds, each comprising a series of reed rods having spaces and abutments in the arrangement specified, and a carrying frame for said reeds in which said reeds are vertically movable and guided, said reed frame being removably supported on said extension frame, and a bearing support for the section rolls which is also adapted to be removably connected to and supported on said extension frame, for the purpose set forth. 2nd. The combination, with a slasher or dresser provided with an extension frame, of a reed guiding frame which has at its opposing sides vertical ways and at its bottom vertically movable and independent reed supports, a set of reeds, each reed thereof comprising a series

of reed rods having spaces and abutments in the arrangement specified, and resting on said supports and constrained to move in said vertical ways, a separate lever for each reed support, whereby each reed may be raised and lowered independently of another, for the purpose set forth. 3rd. In a lease forming mechanism, substantially as described, a set of reeds each of which comprises a series of reed rods suitably supported, which rods are spaced or separated from each other and open to their top ends, whereby entrance to said spaces may be had thereat and every reed rod having at its upper end an extension or shoulder 14, projecting against but unsecured to the next adjacent reed rod, the alternate spaces in each reed being provided intermediate of the lengths thereof and below said shoulders with yarn engaging abutments, and the relatively intermediate spaces being free or unobstructed with respect to their middle portions, for the purpose set forth. 4th. In a lease forming mechanism a set of reeds, each reed comprising a series of reed rods suitably supported on an outer frame, which rods are spaced or separated from each other and open to their upper portion, whereby entrance to said spaces may be had thereat, and every reed rod having at its upper end an extension or shoulder 14, projecting against but unsecured to the next adjacent reed rod, and the top of each extension or shoulder being obliquely formed, the alternate spaces in each reed being provided intermediate of the lengths thereof and below the said shoulders with yarn engaging abutments, and the relatively intermediate spaces being free or unobstructed with respect to their middle portions, and the movable cap n, for covering and steadying the upper extremities of the said reed rods, for the purpose set forth.

### No. 35,652. Stick for Booms. (*Estacade.*)

William Goldie, West Bay City, Michigan, U. S. A., 20th December, 1890; 5 years.

*Claim.*—A boom stick consisting of three longitudinal timbers secured around central supports at an equal distance from each other, and provided with an open space between the timbers and between the ends of the said central supports, substantially as set forth.

### No. 35,653. Coupling for Boom Sticks.

(*Accouplage d'estacades.*)

William Goldie, West Bay City, Michigan, U. S. A., 20th December, 1890; 5 years.

*Claim.*—The combination, in a boom stick, with the timbers provided on their adjacent ends with centrally located longitudinal chambers, and with transverse openings for the coupling pins, of a coupling device consisting substantially of two rigid arms passed into the said chambers, and with their outer adjacent ends joined or connected together by a flexible joint or central link, and with their inner ends provided with eye openings, the coupling pins passed transversely through the timbers and through the said eye openings in the arms, substantially as and for the purpose set forth.

### No. 35,654. Grain Binding Machine.

(*Machine à engerber les grains.*)

George Greenlee, Belvidere, Illinois, U. S. A., 23rd December, 1890; 5 years.

*Claim.*—1st. The combination of the grooved cam fixed on the overhanging arm of the binder supporting frame, a dog carrying arm fixed on the binder shaft, a constantly driven wheel loosely mounted on said shaft, a pin on said shaft wheel, a dog pivoted to the arm and adapted to traverse the groove in the cam, and a sliding bolt in the cam groove for withdrawing the nose of the dog from engagement with the pin, and thereby unlocking the said arm, and hence the binding shaft, from the driving wheel, substantially as set forth. 2nd. The combination, with the binding mechanism, the binder shaft, and a suitable support for the same, of a grooved cam located on the shaft support, a dog secured to the shaft in position to traverse the cam groove, a driven wheel loosely mounted on the shaft in position to engage the free arm of the dog, and thereby cause the shaft to rotate with the wheel, an endwise sliding bolt mounted in the shaft support to control the action of the dog, a gavel receiving arm in engagement with the endwise sliding bolt, and a spring to hold the gavel receiving arm, substantially as set forth. 3rd. The combination, with the grooved cam fixed on the overhanging arm, of the supporting frame, the binder shaft, a dog to traverse the cam groove fixed to rotate with the shaft, a driven wheel loosely mounted on the shaft, an endwise moving bolt entering the cam groove to control the movements of the dog to throw it into or out of engagement with the driven wheel and the gavel receiving arm, substantially as set forth. 4th. The combination, with the trip lever, a gavel receiving arm pivoted centrally to the long arm of the lever, the upper end of the gavel receiving arm having an engagement with the lever to limit the rearward movement of its upper end, and a spring in engagement with the gavel receiving arm adapted to act directly upon the gavel receiving arm and through the gavel receiving arm of the lever, substantially as set forth. 5th. The combination of a hinged binding table, a guard board pivoted to the lower edge of the binding table and provided with an arm fixed thereto and depending below the hinge between the board and table, as described, a link connecting said arm with the supporting frame, so that as the table descends the link and the arm on the board fold inward, and means for raising and lowering the hinged binding table, substantially as set forth. 6th. The combination of a hinged binding table, a guard board pivotally secured to the lower edge of the table and provided with an arm fixed thereto and depending below the hinge between the board and table, as described, a link connecting the depending arm with the supporting frame, so that as the table descends the link and the arm on the board fold inward, a rock shaft, a jointed connection between the rock shaft and the free end of the hinged binding table, and means for operating the rock shaft, substantially as set forth.

### No. 35,655. Appliances for Railways.

(*Appareil à l'usage des chemins de fer.*)

Edwin David Graff, New York, U. S. A., 23rd December, 1890; 5 years.

*Claim.*—1st. The combination, with a fixed or permanent railway bridge, of a trip adapted to co-operate with a portion of the brake mechanism of a railway train, and a rod or cable connected to the bridge and to the trip and fusible at one or more points at a comparatively low temperature and means, substantially as described, for throwing said trip into operative or working condition the instant said rod or cable is divided or sundered. 2nd. The combination, with a railway bridge, of a rock shaft, means connecting the rock shaft with the bridge and adapted to actuate the same in case of accident to the bridge, a lifter on each side of said rock shaft, and a guided trip to co-operate with the air brake mechanism of a railway train. 3rd. The combination, with a rock shaft and means for actuating the same, of a lifter extending outwardly on each side of the rock shaft, and a guided trip having a convex or cam surface for engagement by said lifter in either direction of its movements.

### No. 35,656. Appliances for Railways.

(*Appareil à l'usage des chemins de fer.*)

Edwin David Graff, City of New York, New York, U. S. A., 23rd December, 1890; 5 years.

*Claim.*—The combination of a transverse rock shaft, a crank arm, and a trip attached to said rock shaft, a horizontally arranged bell crank, a longitudinally arranged connecting rod, attached to the crank arm and to one arm of the bell crank, a transverse rod connected to the other arm of the bell crank and protruding beyond the track, a spring operating to move said rod endwise in one direction and through the described connections to maintain the trip in an elevated position, and a draw or swiveling bridge adapted to contact with the protruding end of said transverse rod and to move the same endwise in the opposite direction against the tension of said spring and also adapted through said connections to depress the trip.

### No. 35,657. Separating Machine.

(*Machine à séparer.*)

Orville Marion Morse, Jackson, Michigan, U. S. A., 24th December, 1890; 5 years.

*Claim.*—1st. The combination, with a closed tapering separating chamber, provided at its large end with an outlet for the heavy material, and at its small end with an outlet for the light material, of a feeder which delivers the material to be separated into the chamber, and a rotating air propelling device arranged within the chamber, whereby the air contained in the chamber is caused to circulate from the axial portion of the chamber to the peripheral wall at the large end, thence along the peripheral wall to the small end, and thence back to the large end through the axial portion of the chamber, thereby separating the heavy from the light material and discharging the products of the separation respectively from the large and small ends of the separating chamber, substantially as set forth. 2nd. The combination, with a closed chamber tapering upwardly and provided with an outlet for the light material at its upper end, and an outlet for the heavy material at its lower end, of a feeder delivering the material to be separated into the upper portion of the separating chamber, and a rotating air propelling device arranged within the separating chamber, whereby the air contained therein is caused to circulate in the same along the peripheral wall to the upper end, and through the axial portion back to the lower end, substantially as set forth. 3rd. The combination with a closed tapering separating chamber, provided with an outlet for the light material at its small end and an outlet for the heavy material at its large end, of a feeder, whereby the material to be separated is delivered into the separating chamber, a rotating shaft arranged axially in the separating chamber, and an air propelling device mounted on said shaft in the large portion of the separating chamber, whereby the air is caused to circulate within the chamber along the peripheral wall to the small end, and through the axial portion back to the large end, substantially as set forth. 4th. The combination with the body of air separating chamber, provided with means whereby the air in the chamber is caused to rotate therein, of a feeder whereby the material to be separated is delivered into the chamber and outlets for the heavy and light material, arranged at different distances from the axis of rotation, substantially as set forth. 5th. The combination with an upwardly tapering separating chamber, provided with means whereby the body of air in the chamber is caused to rotate therein, of a feeder whereby the material to be separated is delivered into the chamber, an outlet for the heaviest material arranged at the bottom of the chamber, near its periphery, and an outlet for lighter material arranged in the bottom of the chamber, near its centre, substantially as set forth. 6th. The combination with an upwardly tapering separating chamber, provided with means whereby the body of air in the chamber is caused to rotate therein, of a feeder whereby the material to be separated is delivered into the chamber, an outlet for the heaviest material arranged at the bottom of the chamber, near its periphery, an outlet for lighter material arranged in the bottom of the chamber, near its centre, and an outlet for the lightest material at the top of the chamber, substantially as set forth. 7th. The combination with a circular separating chamber, provided with a feeder whereby the material to be separated is delivered into the chamber, and with an outlet for the heavy material at its bottom and an outlet for the light material at its top, of rotating blades arranged obliquely in the separating chamber, whereby the material is deflected upwardly, substantially as set forth. 8th. The combination with a tapering separating chamber, provided with a feeder, whereby the material to be separated is delivered into the chamber, and with an outlet for light material near its small end and with an outlet for heavy material near its large end, of a rotating shaft arranged axially in the chamber, and oblique blades connected with said shaft whereby the material is

deflected toward the small end of the chamber, substantially as set forth. 9th. The combination with an upwardly tapering separating chamber, provided with a feeder whereby the material to be separated is delivered into the chamber end, with outlets for the heavy and light material at different distances from the axis of the chamber of a rotating shaft arranged centrally in the chamber, a circular plate secured to said shaft, and wings or blades secured to said plate, substantially as set forth. 10th. The combination with a tapering separating chamber, of a feeder whereby the material to be separated is delivered into the chamber, means whereby the body of air in the chamber is caused to rotate therein, an outlet for solid matter, and an adjustable gate applied to said outlet, substantially as set forth. 11th. The combination with a closed tapering separating chamber, provided with outlets for the heavy and light material located respectively at its large and small ends, of a feeder, whereby the material to be separated is delivered into the chamber, a rotating air propelling device arranged within the chamber, and causing the air contained therein to circulate along the peripheral wall to the small end of the chamber and through the axial port back to the large end, and a rotating cleaner sweeping the inner surface of the separating chamber, substantially as set forth.

### No. 35,658. Money Changer.

(Appareil pour changer la monnaie.)

William Henry Staats, Chicago, Illinois, U.S.A., 24th December, 1890; 5 years.

*Claim.*—1st. In a money changer, the combination of an upright lever, having a lip and rod end, a spiral spring on the rod end, an ejector slide hinged to the lever, a key-lever having an upright standard, and a coin-holder having a rear lug, substantially as shown and described and for the purpose set forth. 2nd. In a money-changer, an ejector slide, having flanged arms, curved ends, and a spring, in combination with an upright lever and a frame, having coin-seats and openings, whereby the coin is ejected and the slide returned to its normal position and the lever operated, substantially as shown and described. 3rd. In a money-changer, the frame D, having coin seats  $d^1$ , spaces  $d^2$ ,  $d^3$ ,  $d^4$ ,  $d^5$ ,  $d^6$ ,  $d^7$ , flange  $d^8$ , raised surface  $d^9$ , guide-braces  $d^10$  and lugs  $d^11$ , all in one piece, substantially as shown and described. 4th. In a money-changer, the ejector slide E, having the forked arms  $e$ ,  $e'$ , brace  $e^1$ , and raised ledges  $e^2$ ,  $e^3$ , and spring  $h$ , the ends of the arms cut out circularly, substantially as shown and described. 5th. In a money-changer, the key lever K, having the shield  $a^1$ , opening  $r$ , standard  $n$ , having rubber cushion  $s$  and thumb key  $t$ , substantially as shown and described and for the purpose set forth. 6th. In a money-changer, the combination of the coin-holder C, having perforated lugs  $h^1$ , the frame D, having coin seats and openings, the key-lever K, the ejector-slide E, the lever H, and spring  $h$  and  $h^1$ , all constructed, arranged and operating substantially as shown and described. 7th. In a money-changer, the frame D, having coin seats  $d^1$ , spaces  $d^2$ ,  $d^3$ ,  $d^4$ ,  $d^5$ ,  $d^6$ ,  $d^7$ , flange  $d^8$ , raised surfaces  $d^9$ , guide-braces  $d^10$  and lugs  $d^11$ , all in one piece, in combination with cushions  $a^1$ , located between the lugs  $d^11$ , substantially as shown and described. 8th. In a money-changer, the lever H, having a lip and rod end, and its lower end having the rod  $e^1$  all formed in one piece, substantially as shown and described. 9th. In a money-changer, the slide E, having the lugs  $e^1$ ,  $e^2$ , formed with channel or slots, in combination with the rod  $e^1$ , cast or formed in one piece, with the lever H, substantially as shown and described, and for the purpose set forth.

### No. 35,659. Cure for Rheumatism.

(Composition médicinale pour la guérison du rhumatismes.)

John Bell, Hamilton, Ontario, Canada, 24th December, 1890; 5 years.

*Claim.*—A medicinal compound, to be used as a cure for rheumatism, consisting of stone sulphur, saltpetre, cream of tartar, and with or without liquorice, in or about the proportions specified.

### No. 35,660. Manufacture of Metallic Cartridges. (Fabrication des cartouches métalliques.)

Asa Norman Whitney, Melbourne, Australia, 24th December, 1890; 5 years.

*Claim.*—1st. The method of manufacturing the tubular portion or body of a cartridge case by stamping and drawing a thin metal disc or blank of comparatively large diameter, substantially as hereinbefore described. 2nd. The method of manufacturing a cartridge case, consisting in, first, forming the tubular portion by stamping and drawing a thin metal disc or blank of comparatively large diameter, and then securing a separately formed base to the said tubular portion, by means of a cap chamber, substantially as hereinbefore described. 3rd. A metallic cartridge, the body or tubular portion of which is formed by stamping and drawing a thin metal disc or blank of comparatively large diameter, substantially as hereinbefore described. 4th. A metallic cartridge, the case or shell of which has a seamless body or tubular portion, and the base or head of which is secured to the said body or tubular portion by means of the cap chamber. 5th. The strengthening disc J, in combination with the body A, base B and cap chamber C reinforcing the base of the cartridge from within, as set forth.

### No. 35,661. Machine for Making and Printing Envelopes. (Machine pour fabriquer et imprimer les enveloppes.)

Charles Henry Heywood, Springfield, Massachusetts, U.S.A., 24th December, 1890; 5 years.

*Claim.*—1st. In an envelope machine, the combination, with a blank supporting table, a gumming bed and a carrying support for said bed, which at one end is pivotally hung, of a rock-shaft linked to said bed-carrying support, and means for conveying blanks from said blank-supporting table to said gumming-bed, substantially as and for the purpose set forth. 2nd. The combination, with a gumming-bed and movable supports therefor, whereby said gumming-bed may be raised and lowered, of the horizontally-reciprocating slide fingers 75, provided with abutment lugs, upper and lower slide strips 79 and 80, having abutment gages, and the feed-in tapes, 77 and 78, substantially as and for the purpose described. 3rd. The combination, with a gumming-bed and movable supports therefor, whereby said gumming-bed may be raised and lowered, of horizontally-reciprocating slide fingers 75, provided with abutment lugs, upper and lower slide strips 79 and 80, having abutment gages, the feed-in tapes 77 and 78, and one or more blank-adjusting dogs 103, mounted and adapted to have a horizontally-reciprocatory and a vertical tilting movement, substantially as and for the purpose described. 4th. In combination, a gumming-bed having an aperture therein, a platen above said aperture, a vertically-moving type-carrying bed adapted to present the face of its type through said aperture, and a reciprocating gummer, the said gummer and type bed being arranged for their reciprocatory movements in lines embraced within the area on said gumming-bed, to be covered by the blank to be gummed and printed thereon, whereby such blank resting on said gumming-bed may be gummed and printed without being moved, substantially as described. 5th. The combination, with a gumming bed, having an aperture 89 therein, and automatic vertically movable supporting means therefor, substantially as described, of a platen above said aperture and a vertically-movable type-carrying bed adapted to present the face of its type through said aperture, substantially as and for the purposes set forth. 6th. The combination, with a gumming-bed and automatic vertically movable supporting means therefor, substantially as described, a pneumatic picker and two pairs of slide strips, each comprising upper and lower strips 79, 80, provided with abutment gages 90, and supporting and actuating means, substantially as described, whereby the upper strip of one pair may be automatically raised and lowered, of the reciprocating fingers 75, feed-in tapes 77 and 78, the reciprocating adjusting dogs 103 and reciprocating gummers 44, a creasing frame located toward the rear end of the machine from said gumming-bed, and having adjusting gages 276, upper and lower tapes for conveying blanks from said gumming-bed to said creasing frame, one of said tapes being movably supported at its portion toward said gumming-bed, substantially as described, whereby it may be intermittently made to run in and out of contact with the adjacent portion of the other tape, and fingers 269 for adjusting the blanks upon the creasing frame, substantially as described. 7th. In an envelope machine, the combination, with a bed formed and supported to sustain blanks thereon, with a portion thereof overlying one edge of the bed, and with blank folding mechanism, of devices intermediate of said bed, and blank folding mechanism, and adapted to convey blanks from the former to the latter, consisting of the supporting rolls 252, 253 and the endless tape 255, supported thereon and running by a portion of its course over the position of said portion of the blank overlying the edge of the said bed, a roll 258, and a swinging arm, the centre of oscillation of which is coincident with the axis of said roll 258, and a roll 259, carried by said arm, an endless tape carried on said rolls, and means, substantially as described, for securing a reciprocating swinging motion of said roll-carrying arm, whereby the portion of the endless tape carried thereon may be carried into and out of a position for engagement with the portion of a blank overlying the said bed, substantially as described. 8th. The combination, with a gumming-bed and the supporting arms 110 therefor, by one end pivoted to a fixed support, of a rock-shaft provided with one or more radial arms 113, linked to said arms, and having a radial arm 115, a cam 117, and a thrust-rod 116, operated thereby, and engaged with said radial arm 115, substantially as and for the purpose described. 9th. The combination, with a gumming-bed, provided with an aperture 174, and having the supporting arms 110, by one end pivoted to a fixed support, of a rock-shaft provided with one or more radial arms 113, linked to said arms, and having a radial arm 115, provided with a lateral stud 182, a cam 117, and a thrust-rod 116, having a spring-sustained angular pawl-lever 177 pivoted thereto, one end of which is hooked and adapted normally to support the said radial arm pin, and the other arm of which is provided with a lateral stud 179, and a rock-shaft 170, provided with radial arms 172, 175, the former having a downward extension in the plane of said gumming-bed aperture, and the latter having a lateral abutment extension, all adapted and arranged for operation, substantially as and for the purpose described. 10th. The combination, with the rock-shaft, radial arm 145 and a shaft or arbor 67, of a loose collar thereon and a connecting rod 146 secured by one end to said radial arm and by the other end pivoted to the side of said collar, a curved arm 145, pivoted by its one end to said collar and by its other fastened to the end of a spring, and so arranged that the spring strain on said arm may have a tendency to turn said collar in either direction, according as the pivotal point of said arm is at either side of the line of the spring, substantially as and for the purpose described. 11th. The combination, with the gumming-bed, having an aperture 89 therein, supported and vertically movable, substantially as described, of a reciprocating bridging slide 150 and actuating means therefor, substantially as described, for projecting said slide forward to partially support a fed-in blank when the gumming bed is lowered, substantially as described. 12th. In combination, a horizontally-supported rock shaft 84, having a pinion 155 and a spur gear 153 thereon, a guide shoe K, comprising a back plate 158, and perforated ear pieces 159, loosely surrounding said shaft and embracing said pinion, a racked thrust-rod 156, guided in said shoe and meshing with said pinion, a cam 107 and spring for reciprocating said thrust-rod, and the horizontally movable racked bridging slide 150, all substantially as and for the purpose described. 13th. The combination, with the upper slide strip 79, of one set of slide strips comprised in the devices for guiding the blanks to the gumming-bed, having a downwardly-extending abutment gage 93 thereon and pivotally supported by its forward end, of a lever swinging from a fixed center of oscillation, as the shaft 84, and

pivotaly engaging by its forward end the rear end of said strip, a cam, and a rod 88, operated thereby and connected to said swinging lever, substantially as and for the purpose described. 14th. The combination, with the table having an aperture 289, of a front flap folder and a movable support therefor, whereby said folder and its support may be located in said aperture to perform its folding operation and then removed therefrom leaving said aperture unobstructed for a forward and downward discharge through same of a folded envelope from the bed, substantially as described. 15th. The combination, with the table having thereon an immovable folding bed and provided with an opening in advance thereof, of a swinging frame 290 and means, substantially as described, for securing its oscillation, a hinged front flap folder supported on and movable with said swinging frame, means, substantially as described, for opening and closing said flap folder, and one or more discharging fingers 2, for moving a folded envelope forwardly and downwardly. 16th. The combination, with the table having an aperture 289, and an immovable folding bed at one side thereof, provided with vertical slots 311 therein, of one or more pivoted discharging fingers 2, normally disposed within said slots, and each having a hook 310 extending above and to the rear of said folding bed and having a radial arm and a cam and thrust-rod for operating said fingers, substantially as described. 17th. The combination, with the apertured table, and the immovable folding bed, of the intermediately pivoted frame 290, having one end 292 formed for an abutment-stop and its other normally supported in said aperture, and provided with a radial arm 296, the cam 301, swinging lever 298, and connecting rod 297 for oscillating said frame, the hinged front flap folder 298, supported on said frame, a swinging lever 303, connecting rod 302 between same and said flap folder, a cam 305, and rod 304, operated thereby and secured to said swinging lever 303, all substantially as shown, and for the purpose described. 18th. The combination, with a frame T, substantially as described, comprising, essentially, a rear plate 332, having an aperture 363 therein, of the reciprocating pusher W, having the supporting bar 336, a ratchet wheel having a given number of teeth, a pallet-carrying arm 367, having an extension 370, and means for securing a regular reciprocating motion of said arm, a rocker-shaft 373, provided with a hooked radial arm 375, capable of being swung into engagement with the said extension 370, and a radial arm 374, a swinging radial arm 377, and means, substantially as described, for securing a reciprocatory movement thereof, a slotted connecting rod 380 between said arms 377 and 375, a rock-shaft 360, having a feeler-finger 359 and a radial arm 361 thereon, and a connecting rod 362 between radial arms 361 and 374, substantially as and for the purpose described. 19th. The combination, with the stud 357 and the sleeve 356, having the shifter-blades movable thereon, and the spring 393, of the counter ratchet wheel provided with the abutment 384, a rocker-shaft 386, provided with radial arms 385 and 387, and an angular lever by one arm engaged with said radial arm 387 and by its other with an extension of said sleeve, substantially as and for the purpose described. 20th. The combination, with a frame T, substantially as described, comprising, essentially, a rear plate 352, having an aperture 363 therein, of the reciprocating pusher W, having the supporting-bar 336, a ratchet wheel having a given number of teeth, a pallet-carrying arm 367, having an extension 370, and means for securing a regular reciprocating motion of said arm, a rocker-shaft 373, provided with a hooked radial arm 375 capable of being swung into engagement with the said extension 370, and a radial arm 374, a swinging radial arm 377, and means, substantially as described, for securing a reciprocatory movement thereof, a slotted connecting rod 380 between said arms 377 and 375, a rock-shaft 360, having a feeler-finger 359 and a radial arm 361 thereon, and a connecting rod 362 between radial arms 361 and 374, an abutment on said ratchet, a rocker-shaft 386, provided with radial arms 385 and 387, the shifter-blades and a sliding carrying-sleeve therefor, and an angular lever engaging said radial arm 387 and said shifter-sleeve, substantially as described. 21st. The combination with the horizontally-guided pusher *w*, of a cam 392, a rod 390, actuated thereby and connected to said pusher and the spring 393, substantially as described.

### No. 35,662. Washing Machine.

(*Machine à blanchir.*)

William George Boston, David City, Nebraska, U.S.A., 24th December, 1890; 5 years.

*Claim.*—The combination, with the tub, a metallic support secured thereto, and a spring secured at its lower end to the body of the tub and at its upper end to said support, of the yoke, whose shank is journaled in an upright hole through said strap and spring, a lever pivoted between the upper ends of the side arms of the yoke, a shoulder on said lever adjacent to its pivot and a pounder connected to said lever, substantially as described.

### No. 35,663. Oil Can. (*Bidon à huile.*)

James D. Newton, Thayer, Missouri, U.S.A., 24th December, 1890; 5 years.

*Claim.*—The combination, with the can 1, having the opening 4, the transverse rock shaft 8, journaled in and having one end extended through the wall of the can and terminating in a thumb lever, the rock arm mounted upon the shaft, and the rod 23, pivoted to the arm and provided at its upper end with a threaded socket, of the bushing 6, internally threaded and mounted in the opening 4, the coupling 15, threaded in the upper end of the bushing, the spout 14, fitted over the upper end of the bushing, a bored cap fitted over the upper end of the spout and having a reduced threaded upper end, a centrally bored plug threaded on said upper end, a discharge spout mounted thereon, a valve rod having its lower end threaded in the socket of the rod 23, a valve plug secured to the upper end of said valve rod and taking into a seat formed in the lower end of said cap 18, and the coiled spring 13, connected to the free end of the rock arm 12, and to the lower end of the bushing 6, substantially as specified.

### No. 35,664. Holder for Lanterns.

(*Porte-lanterne.*)

Edwin G. Annable, Norwick, Vermont, U.S.A., 24th December, 1890; 5 years.

*Claim.*—In a lantern holder, a stationary support fitting the tube portion of said lantern at one side, and a movable clasp adapted to close upon the opposite side, and means substantially as described for automatically locking said clasp thereon.

### No. 35,665. Machine for Applying Rings to Hub Bands. (*Appareil à assujétir des anneaux sur les boîtes de moyeu.*)

Thomas J. Reid, Gananoque, Ontario, Canada, 24th December, 1890; 5 years.

*Claim.*—1st. The combination, with the segmental former A, made up of segments having their outer faces corresponding in configuration to the interior, of a hub-band, a carrying-plate B, having radial slots, bolts connecting the segments to the plate and movable radially in said slots, and springs seated in said carrying plate for normally forcing inward the bolts to contract the sections carried thereby, and a wedge-shaped pin for expanding said former-section, substantially as set forth. 2nd. In combination with a former A, made up of four or more segments, a plate B, having slots through which pass bolts which engage with the segments of the former, rods passing through said bolts, springs on said rods to press against the bolts, said plate B having a central opening of greater diameter than the central opening in the former when the segments are in contact, and a tapered pin for expanding the segments, said segments having inclined faces, substantially as set forth.

### No. 35,666. Railway. (*Chemin de fer.*)

Herbert L. Stillman, Charlestown, Rhode Island, U.S.A., 24th December, 1890; 5 years.

*Claim.*—1st. The improved railway herein described consisting of the compound beveled stringers with transverse apertures. 2nd. The rail of the approximately T form and the separating washer, secured by the bolts and cross ties, substantially as submitted.

### No. 35,667. Game. (*Jeu.*)

Charles William Munz, Detroit, Michigan, U.S.A., 27th December 1890; 5 years.

*Claim.*—1st. A game comprising a receptacle, a cage placed eccentrically therein, a runway formed beside said cage, apertures or pits in proximity to said runway and a sphere or spheres in said receptacle, substantially as described. 2nd. A game comprising a receptacle, a cage placed therein, a runway formed beside said cage, apertures or pits in proximity to said runway, a chamber with which the pits communicate, communication from said chamber into the receptacle, and a sphere or spheres, substantially as described. 3rd. A game comprising the receptacle A, having floor apertures D, and chamber K, the cage E, having apertures F, arranged in the runway between the apertures D, substantially as described. 4th. A game comprising a receptacle and spheres in said receptacle adapted to be moved into a cage by manipulation of the receptacle, of a runway for said spheres, a turnstile, across said runway, adapted to be moved by said spheres, an index turned by said turnstile and a chart around said index, substantially as described. 5th. In combination with a receptacle, a sphere or spheres designed to be moved to an inner receptacle, and a fortune telling index and chart operated by the movement of said spheres, substantially as described. 6th. A game comprising the following elements: a receptacle, the bottom B, floor C, chamber K between, pits D, cage E, apertures F therein, runways L, M, turnstile N, O, shaft P, index finger O, and chart R, substantially as described.

### No. 35,668. Supporter for Garments.

(*Bretelle.*)

William Henry Plumb, Ansonia, Connecticut, U.S.A., 27th December, 1890; 5 years.

*Claim.*—A garment supporter comprising two independent members, each provided with gripping edges at their lower ends, and means for their attachment at their upper ends, one of said members being provided with a stud on the body of its shank and the other with a key-hole slot and adapted to be applied to a webbing and to operate substantially as and for the purpose specified.

### No. 35,669. Attachment for Gang Saws.

(*Appareil pour les scies verticales.*)

Dexter Hazard, Marquette, Michigan, U.S.A., 27th December, 1890; 5 years.

*Claim.*—1st. The combination with a gang saw of a series of guides located adjacent to and in alignment with said saws, substantially as described. 2nd. The combination, with a gang saw, of a series of guides located adjacent to and in alignment with said saws, and means for grooving the under side of the log in advance of the saws, substantially as described. 3rd. The combination, with a gang saw and a series of guides located adjacent to and in alignment with said saws, of a series of knives in alignment with the saws and adapted to groove the under side of the log in advance of the saws, substantially as described. 4th. The combination, with a gang saw, of a series of guides in advance of said saws and in alignment therewith, and a series of cutters in advance of the guides and in alignment therewith, substantially as described. 5th. The combination, with a gang saw, of a series of guides in advance thereof and in alignment with the saws, and a series of knives in advance of the

guides and in alignment therewith, substantially as described. 6th. The combination, with a gang saw, of two series of guides, one on each side of the gang saw, said guides and saws being in alignment with each other, substantially as described. 7th. The combination, with a gang saw, of a series of guides located adjacent thereto and in alignment therewith, said guides being adjustable horizontally along the frame to vary the distance between them, substantially as described. 8th. The combination, with a gang saw, of a series of guides located adjacent to and in alignment with said saws, said guides being adjusted vertically, substantially as described. 9th. The combination, with a gang saw, of a series of advance cutters, between them, substantially as described. 10th. The combination, with a gang saw, of a series of advance cutters, said cutters made adjustable vertically to vary the depth of cut, substantially as described. 11th. The combination, with a gang saw, of a series of knives attached to a revolving cylinder or frame, said knives being adjustable along said revolving frame, and adjustable also up and down, whereby the distance between the knives and the depth of cut may be regulated, substantially as described. 12th. The combination, with a gang saw, of an upright guide roller located in advance of the saw, against which the side of the log may bear, substantially as described. 13th. The combination, with a gang saw, of an upright guide roller located in advance of the saw, against which the side of the log may bear, and a horizontal roller adapted to bear on the log to force it against the upright roller, substantially as described.

### No. 35,670. Nursing Bottle. (*Biberon*.)

Joseph William Rose and Clyde Chester Balston, both of Brooklyn, New York, U.S.A., 27th December, 1890; 5 years.

*Claim.*—1st. The nursing bottle composed of the separable sections carrying at their meeting portions a packing, substantially as set forth. 2nd. The nursing bottle composed of the separable sections carrying at their meeting portions a packing, combined with a fastening device for securing said sections together, substantially as set forth. 3rd. A bottle consisting of the separable sections, combined with the clamping wires and catch by which the sections are held together, substantially as and for the purposes set forth.

### No. 35,671. Frame for Fancy Work.

(*Cadre pour ouvrage de fantaisie.*)

Granville S. Decatur, Hamilton, Ontario, Canada, 27th December, 1890; 5 years.

*Claim.*—1st. In a fancy work frame, the rollers E, pivoted in a frame A, in combination with the ratchet wheels J, pawls I, and the support K, with its brace M, substantially as and for the purpose hereinbefore set forth. 2nd. In a fancy work frame, the combination of the sides A, having ends B, slotted horizontally to receive a bolt C, the telescoped rollers E, the cranks F, pawls I, ratchet wheels J, and the support K, with its brace M, all arranged substantially as and for the purpose hereinbefore set forth.

### No. 35,672. Pulley. (*Poulie.*)

George William Dryden, Port Perry, Ontario, Canada, 27th December, 1890; 5 years.

*Claim.*—1st. A pulley, having its hub bored larger than the diameter of the shaft it is intended to be applied to, in combination with hubs bored to fit the shaft, detachably connected one on each side of the permanent hub of the pulley, substantially as specified. 2nd. In combination with the spokes of a pulley, of a ring F fitted in it as well as made in the ends of the spokes and arranged to support the wooden rim of the pulley, substantially as specified. 3rd. A pulley, having its hub bored larger than the diameter of the shaft it is intended to be applied to, in combination with a detachable hub bored to fit the shaft, and having a recess or projection formed on it to engage with the projection or recess formed on the permanent hub, substantially as and for the purpose specified.

### No. 35,673. Pulley for Clothes Lines.

(*Poulies pour cordes à linge.*)

Emma Gelinas and Hermina Fauteux, both of Montreal, Quebec, Canada, 27th December, 1890; 5 years.

*Résumé.*—Un nouvel article de manufacture, une poulie, composée de la roue A, b, c, d, avec essieu e, recouverte d'une enveloppe de métal laminé, B, B', B'', ayant la forme g, h, i, j, k, l, m, l', n, o, p, q, r, et les ouvertures a', a', a', a', f, f, en combinaison avec la bande G, a', a', a', a', et l'essieu F, s, t, t', t', t', le tout tel que ci-dessus décrit et pour les fins sus mentionnées.

### No. 35,674. Candy Chain, and Process and Apparatus for its Manufacture.

(*Procédé et appareil pour la confection des bonbons.*)

Maximilian Jacker, Chicago, Illinois, U.S.A., 27th December, 1890; 5 years.

*Claim.*—1st. In a machine for making continuous chains from candy, the combination with the system of die rollers A and means for supporting and revolving them, of a conveyer to receive the chain from the die rollers and conduct it away, and driving mechanism imparting movement to the conveyer at a rate of speed corresponding with that of the chain, when issuing from the die rollers, substantially as described. 2nd. In a machine for making continuous chains from candy, the combination with the system of die rollers A, and

means for supporting and revolving them, of a conveyer, having depressions corresponding with the projections of the chain, to receive the chain from the die-rollers, and conduct it away, and driving mechanism imparting movement to the carrier at a rate of speed corresponding with that of the chain when issuing from the die-rollers, substantially as described. 3rd. In a machine for making candy chains, the combination with the system of die-rollers A and means for supporting and revolving them, of the tube N, supported in the line of discharge from the rollers, and having the projections m fitting the bevelled recesses formed by the peripheries of the rollers, an endless carrier, having depressions to correspond with projecting parts of the chain, and driving mechanism for imparting movement to the carrier at a rate of speed corresponding with that with which the chain issues from the die rollers, substantially as described. 4th. In a machine for making candy chains, the combination with the die rollers A and means for supporting and revolving them, of the carrier Q, formed in sections overlapping each other, and extending back and forth in alternate directions, and driving mechanism for imparting movement to the carrier at a rate of speed corresponding with that at which the chain issues from the rollers, whereby the chain, after being formed by the die-rollers, is received upon the first section of the carrier, deflected around the terminal pulley thereof, thus breaking the fin of candy left by the rollers between adjacent links, delivered inverted upon the second section, and finally deposited, substantially as described. 5th. The combination with the fixed disk G, of the bevelled gear rim H, revolvably mounted upon the periphery of the disk G, rotary shafts B mounted in bearings fixed upon the disk G, bevelled gear wheels D fixed upon the outer ends of the shafts B and meshing with the gear-rim H, die rollers A, fixed upon the inner ends of the shafts B, and gear-wheels I connected with the power and meshing with the gear-rim H, substantially as described. 6th. The combination, with the fixed disk G, of the bevelled gear-rim H, revolvably mounted upon the periphery of the disk G, rotary shafts B, mounted in sleeve bearings C, adjustably secured to the disk G, bevelled gear-wheels D, fixed upon the outer ends of the shafts B and meshing with the gear-rim H, die rollers A, fixed upon the inner ends of the shafts B and gear-wheel I, connected with the power and meshing with the gear rim H, substantially as described. 7th. The combination, with the supported disk G and revolvable bevelled gear rim H mounted upon the periphery thereof, of the sleeve-bearings C, provided upon one side with webs s, having flanges bolted to the disk G, and upon the other side with lugs o, plate K bolted to the lugs o and having a central opening for the feed, shafts B mounted in the sleeve-bearings, die-rollers A fixed to the inner ends of the shafts B, bevelled gear wheels D, fixed to the outer ends thereof and meshing with the gear rim H, and bevelled gear wheel I, connected with the power and meshing with the bevelled gear rim H, substantially as described. 8th. The combination, with the supported disk G and revolvable gear rim H mounted upon the periphery thereof, of the sleeve-bearings C, provided upon one side with lugs o, and upon the other side with webs s, having upon their inner ends the feet r and strengthening flanges p, and upon their outer ends the feet r' with the lugs l, bolts g passing loosely through the feet r and r', and securing them to the disk G, nut-bolts k', passing through the lugs l, and impinging against the edges of the flanges p, plate K, having the lugs l', bolts g' passing loosely through the plate K and securing it to the lugs o, nut bolts k passing through the lugs l' and impinging against the lugs o, shafts B mounted in the sleeve bearings C, bevelled gear-wheels D fixed to the outer ends of the shafts B and meshing with the bevelled gear-rim H, die rollers A fixed to the inner ends of the shafts and bevelled gear wheel I, connected with the power and meshing with the gear-rim H, substantially as described. 9th. In combination with the supported disk G, having upon its periphery the gear-rim H, shafts B mounted in bearings upon the disk G and carrying upon their inner ends the die-rollers A and upon their outer ends the gear-wheels D meshing with the gear-rim H, and gear wheel I mounted on a shaft in bearings and meshing with the gear-rim H, the driving pulley P for the carrier, mounted upon a shaft in bearings in position to receive the chain as it emerges from the discharge opening, a power pulley and shaft, and connected gearing, connecting the power shaft with both the gear-wheel I and pulley P, substantially as described. 10th. In a machine for making candy chains, the combination with the die rollers A, mechanism for supporting and driving them, a travelling carrier receiving the chain from the die rollers, and mechanism for imparting movement to the carrier at a rate of speed corresponding with that with which the chain issues from the die rollers, of an artificial cooling device for cooling the chain as it is advanced by the carrier, substantially as described. 11th. In a machine for making candy chains, the combination with the die rollers A, mechanism for supporting and driving them, and travelling carrier Q receiving the chain from the die-rollers, of the slotted receptacle S, over which the carrier moves, and air-blast pipe R entering the receptacle S, substantially as described. 12th. In a machine for making candy chains, the combination with the die rollers A, mechanism for supporting and driving them, and travelling carrier Q receiving the chain from the die-rollers, of the slotted receptacle S, over which the carrier moves, and valved air-blast pipes R, and R', leading the one into the receptacle S and the other to the die-rollers, substantially as described. 13th. The carrier belt, formed of the flexible bands g, in combination with the metal cross-plates f, having the depressions e and d, substantially as described.

### No. 35,675. Wrench. (*Cil à écrou.*)

Gawen Gilmore, Cote St. Paul, Quebec, Canada, assignee of Oramel Charles Stanley, of Essex Junction, Vermont, U.S.A., 29th December, 1890; 5 years.

*Claim.*—1st. In a wrench, the combination with the shank having a rigid jaw, and with the movable slide on such shank, of an opening and concave seat formed in such slide, a jaw having a shank, the end of which is convexed to fit such seat, and a spring connection for holding such jaw in place, as set forth. 2nd. In a wrench, the combination, with the shank, partially screwed and having a rigid

jaw, and with the movable slide on such shank, of an opening and concave seat formed in such slide, a jaw having a shank, the end of which is convex to fit such seat, a spring connection for holding such jaw in place, a thumb nut adapted to travel on the screwed portion of the shank, and a loose tongue, and a groove connection between said slide and nut, as set forth.

### No. 35,676. Lighter and Extinguisher for Gas. (*Allumoir et éteignoir pour le gaz.*)

George A. Sanders and Samuel J. Willett, assignees of Nelson Newman, all of Springfield, Illinois, U.S.A., 29th December, 1890; 5 years.

*Claim.*—1st. In an automatic gas lighter and extinguisher, the combination, with a main burner, its supply pipe and a regulating valve, of a revoluble dial, provided with means for automatically opening and closing said regulating valve, and an auxiliary burner which receives its supply of gas from the supply pipe below the regulating valve therein, substantially as described. 2nd. In an automatic gas lighter and extinguisher, the combination, with a main burner and its supply pipe, of a regulating valve carrying a lever, and a revoluble dial provided with projections which are adapted to impinge against the lever at suitable intervals, and an auxiliary burner, substantially as described. 3rd. In an automatic gas lighter and extinguisher, the combination with a main burner and the supply pipe, of a revoluble dial having the pins set at different distances from its centre, a valve, the stem or shaft fixed to the valve and carrying a lever, having its arms of varying length and arranged in the paths of the pins on the dial, and an auxiliary burner, substantially as described.

### No. 35,677. Tire Tightener. (*Lien de jante.*)

Albert Nelson, assignee of George C. Richards, of Sissons, California, U.S.A., 29th December, 1890; 5 years.

*Claim.*—In combination with a felly having a socket and a spoke having a tenon fitting said socket, a protecting plate fitting around the spoke socket and extending up along each side of the felly to prevent the splitting of the same, a sleeve upon the spoke tenon, having a head provided with a concave seat adapted to receive a convex portion at the base of the tenon, a nut upon the threaded portion of the sleeve, having a flange *F* on its under surface, and a split washer between the nut end head of the sleeve, said washer being held in position by the flange and a curved surface on the upper and outer surface of the head, substantially as herein described.

### No. 35,678. Knotting Mechanism for Binding Sheaves, etc. (*Machine à nouer pour lieuses à grain.*)

Richard Hornsby & Sons, assignees of James Hornsby, John Innocent, Isaac Trolley and John Henry Smith, all of Grantham, England, 29th December, 1890; 5 years.

*Claim.*—1st. The combination of the knotted *c*, the notched disk *g* and plate or plates in close proximity to its sides, so disposed that when the string is laid across the disc and into one of the notches and a partial turn is given to the disk, the string is carried between the side or sides of the disc and the plate or plates, and is thereby held and carried towards the knotted. 2nd. The combination of the knotted *c*, the notched disk *g* and plate or plates held in close proximity to its side or sides, and mechanism for giving a complete turn to the knotted and at the same time a partial turn to the disc whenever a knot is to be formed. 3rd. The combination of the frame *a*, knotted cam *d*, knotted *c*, pinion *c'* on its axis rotated by teeth *d'* on the cam *d*, the notched disc *g* rotated at the same time by teeth *d'* on the cam, gearing into pinion *b'* on its axis *b*, and a plate or plates held in close proximity to the side or sides of the notched disc, substantially as described. 4th. The combination of the frame *a*, knotted cam *d*, knotted *c*, pinion *c'* on its axis rotated by teeth *d'* on the cam *d*, the notched disc *g* rotated at the same time by teeth *d'* on the cam, gearing into pinion *b'* on its axis *b*, and the plate *h* pressed against the face of the disc *g* by coiled spring *i* surrounding the axis *b*. 5th. The combination of the frame *a*, knotted cam *d*, knotted *c*, pinion *c'* on its axis rotated by teeth *d'* on the cam *d*, the notched disc *g* rotated at the same time by teeth *d'* on the cam, gearing into pinion *b'* on its axis *b*, the plate *h* pressed against the face of the disc *g* by coiled spring *i*, the knife *e*, the lever *e'* that carries it and a cam surface on the cam *d* for acting upon the tail end of the lever. 6th. The string gripper, consisting of a notched disc upon a rotating spindle and a presser plate movable along the spindle and pressed by a spring towards the disc. 7th. The knotting hook, formed of a spindle with fixed jaw extending outwards from it and a movable jaw jointed to one side of the fixed jaw, substantially as described.

### No. 35,679. Type-Writing Machine. (*Graphotype.*)

Frank Burns, Westfield, New York, U.S.A., 30th December, 1890; 5 years.

*Claim.*—1st. The combination, in a type-writer, of a tapering type socket or shank, and a member provided with a guide-hole corresponding in shape and dimensions with the base of the type-shank, substantially as described. 2nd. The combination of a type for type-writers, having a cylindrical conoidal shank or socket, and a centering plate having a cylindrical guide-hole, substantially as described. 3rd. The combination, in a type-writer, of a loosely-mounted type-bar, a type having a tapering shank, as described, and a perforated centering plate, substantially as described. 4th. A key-lever and key-lever spring formed integral with each other, of thin spring metal plate, having the flat surface of the spring part at right angles with the flat surface of the lever part, substantially as described. 5th. In a type-writer, the combination of a round rear track, a cylinder carriage, and grooved rollers connected with the carriage and embracing the round track, substantially as described. 6th. The combination, in a type-writer, of an intermittently-driven shaft carrying inter-gearing devices, a pair of spool-carrying shafts mounted to reciprocate in the direction of their length, a vibrating lever connected with the spool-carrying shafts, and a spring-stop, whereby the inking ribbon is mounted and operated step by step and reversed, substantially as described. 7th. The combination, in a type-writer, of a carriage, a platen mounted in movable boxes, and a yoke or lever pivoted to the carriage, flexibly connected with the platen, and extending to the front of the machine to a point for conveniently raising and turning said platen, and thereby bringing the work to view, substantially as described. 8th. The combination, in a type-writer, of a carriage having risers provided with "key-hole" slots, movable boxes fitted to reciprocate and rotate in said slots, an impression cylinder mounted in the boxes, and a yoke connected with said boxes for raising and swinging the cylinder to bring the writing into view, substantially as described.

### No. 35,680. Trap for Catching Mice, Rats, and other small Animals. (*Piège à rats, etc.*)

Augustus Brawn, Pleasant Hill, Nebraska, U.S.A., 30th December, 1890; 5 years.

*Claim.*—1st. In a trap, substantially as described, the combination of the casing or framing, the pivoted dump, having side plate *u* and bottom *K*, the latch supported in the casing or framing, and arranged to engage and secure the dump and movable into and out of such engagement, and the platform or tripper arranged immediately above the bottom *K* and pivoted between its ends, such platform being provided with a rigid arm or portion arranged to engage the latch and release same from the dump when the platform is tilted, substantially as set forth. 2nd. The improved trap herein described, consisting of the casing, having partitions *S* and *V* and bait holder *L*, the dump having pivoted platform or tripper *J*, provided with an arm or portion *W*, arranged to engage the latch *D*, the counterpoise connected with the dump and the latch *D*, all substantially as and for the purposes set forth. 3rd. In a trap, the combination of the casing, a dump pivoted or journaled to said casing and having a side plate *u*, and provided in a plane approximately at right angles to plate *u*, with a tilting platform pivoted between its ends, a counterpoise whereby such dump, when once turned to discharge the trapped animal may be returned to its normal position, a detent engaging the dump and arranged to hold the same in its normal position and an arm or portion on the tilting platform arranged to engage the detent, all substantially as described, whereby the weight of the trapped animal may tilt the platform, release the detent and turn the dump to dump the animal, after which the counterpoise will return the dump to normal position, substantially as set forth. 4th. In a trap, substantially as described, the combination of the casing, the dump formed of side plate *u* and base plate *K*, and journalled at the juncture of plates *u* and *K* to the casing, the counterpoise whereby to secure the dump in normal position, the counterpoise connected with the dump and adapted to return it to its normal position, and the tilting platform or trip arranged directly over the plate *K*, pivoted between its ends to the dump, and having an arm or portion by which to engage and release the detent, all substantially as and for the purpose specified.

### No. 35,681. Board of Composite Material. (*Planche de matière composée.*)

Adolf Mack, Ludwigsburg, German Empire, 30th December, 1890; 5 years.

*Claim.*—1st. A board or slab, composed of vegetable stalks and a plastic mass, and having perforations extending from end to end, substantially as described. 2nd. A board or slab, composed of vegetable stalks, a plastic mass provided with perforations extending from end to end parallel with the said stalks, and a base of tarred felt or card-board, substantially as described.

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

2005. SAMUEL MAY, 3rd five years of No. 12,081, from the 6th day of December, 1890. Improvements on Biliard Cushions, 1st December, 1890.
2006. CHARLES J. SHIRREFF, 2nd five years of No. 22,961, from the 9th day of December, 1890. Improvements in Window Screens, 4th December, 1890.
2007. THE McDONALD STONE CUTTING MACHINE COMPANY (assignee), 2nd 5 years of No. 22,954, from the 7th day of December, 1890. Improvements in Machinery for Cutting and Dressing Stone, 5th December, 1890.
2008. BERNARD J. COGHLIN, 2nd five years of No. 22,990, from the 11th day of December, 1890. Improvements in Springs for Railway Cars, etc., 5th December, 1890.
2009. THE THETIS COMPANY (assignee), 2nd five years of No. 23,003, from the 16th day of December, 1890. Improved Method of Rendering Cloth, Wood, Paper, and the like, Waterproof, but not Airtight, 5th December, 1890.
2010. LORENZO M. BROWN, 2nd five years of No. 22,992, from the 15th day of December, 1890. Improvements in Seeders and Cultivators, 5th December, 1890.
2011. JOSEPH S. GUTHRIE and ELIZABETH GUTHRIE, 3rd five years of No. 12,111, from the 11th day of December, 1890. Improvements on Corsets, 9th December, 1890.
2012. JOHN I. THORNYCROFT, 2nd five years of No. 23,232, from the 18th day of January, 1891. Improvements on Arrangements for Steering Vessels, 9th December, 1890.
2013. JOSEPH S. SCHOTT, 2nd and 3rd five years of No. 26,226, from the 14th day of March, 1892. Improvements in Hame Tugs, 9th December, 1890.
2014. CHARLES FAWCETT, 2nd five years of No. 23,204, from the 15th day of January, 1891. Improvements in Culinary and Agricultural Boilers, 10th December, 1890.
2015. AARON P. GOULD and HERBERT R. SPENCER, 2nd five years of No. 23,067, from the 4th day of January, 1891. Improvements in Surgical Chairs, 11th December, 1890.
2016. HENRY F. CLARK, 2nd 5 years of No. 22,993, from the 15th day of December, 1890. Improvements in Torpedo Railway Signals, 11th December, 1890.
2017. JOHN G. C. SIEFKER, 2nd five years of No. 23,811, from the 14th day of April, 1891. Improvement in Organ Sounding Boards, 17th December, 1890.
2018. GEORGE B. FARMER, 2nd five years of No. 23,354, from the 5th day of February, 1891. Improvements in Rubbers, Rubber Boots and Rubber Shoes, 19th December, 1890.
2019. JOHN B. ARMSTRONG, 2nd five years of No. 23,198, from the 15th day of January, 1891. Improved Running Gear for Sleighs and Cutters, 20th December, 1890.
2020. HENRY D. CUSHMAN, 2nd five years of No. 23,239, from the 19th day of January, 1891. Improvement on Inhalers, 20th December, 1890.
2021. BENTON, WALDO AND CO. (assignees), 2nd and 3rd five years of No. 23,254, from the 21st day of January, 1891. Improvements in Punch Cutting Machines, 22nd December, 1890.
2022. ALDERIC FORTIN, 3rd five years of No. 12,147, from the 24th December, 1890. Machine for Measuring Leather, 22nd December, 1890.
2023. GEORGE F. C. EYRE, 2nd five years of No. 23,034, from the 22nd day of December, 1890. Improvements in Wooden Jugs, 22nd December, 1890.
2024. JESSE O. WISNER and WAREHAM S. WISNER, 3rd 5 years of No. 12,211, from the 15th day of January, 1891. Improvements on Grain Drill Distributors, 23rd December, 1890.
2025. J. and J. TAYLOR (assignees), 2nd five years of No. 23,186, from the 14th day of January, 1891. Improvements in Fireproof Safes, 23rd December, 1890.
2026. WILLIAM F. GARDNER, 2nd five years of No. 23,066, from the 4th day of January, 1891. Improvements in Time Controlling and Correcting System, 28th December 1890.
2027. HUGO, KRANZ and HENRY ALETTER, 2nd five years of No. 23,136, from the 11th day of January, 1891. Improvements in Stretchers for Felt Boots, Shoes and Stockings, 26th December, 1890.
2028. JAMES S. EDWARDS and J. EDWARDS, 2nd and 3rd five years of No. 29,701, from the 20th day of August, 1893. Apparatus for Drying Waste Animal Matter and for like uses, 27th December, 1890.
2029. THOMAS HILL, 2nd and 3rd five years of No. 35,331, from the 3rd day of November, 1895. Improvements on Waggon, 27th December, 1890.
2030. ALFRED R. UPWARD and C. W. PRIDHAM, 2nd and 3rd five years of No. 29,550, from the 24th day of July, 1893. Improvements in Galvanic Batteries and in Apparatus connected therewith, 27th December, 1890.
2031. CALEB H. COGGESHALL, 2nd and 3rd five years of No. 29,987, from the 13th day of October, 1893. Improvements in Dumping Carts or Waggon, 27th December, 1890.
2032. THOMAS HILL, 2nd and 3rd 5 years of No. 34,216, from the 1st day of May, 1890. Improvements in Pedestals for Vehicles, 27th December, 1890.
2033. CALEB H. COGGESHALL, 3rd five years of No. 17,810, from the 3rd day of October, 1893. Improvements in Dumping Carts, 27th December, 1890.
2034. GUILLAUME BOIVIN, 2nd five years of No. 23,060, from the 13th day of December, 1890. Improvements in the Manufacture of Boots and Shoes, 27th December, 1890.
2035. J. O. WISNER, SON & CO., (assignees), 2nd five years of No. 23,224, from the 16th day of January, 1891. Improvements in Seeding Machines, 30th December, 1890.
2036. CHARLES W. ADAMS, 2nd five years of No. 23,158, from the 13th day of January, 1891. Improvements on Slashed Metallic Screening, 31st December, 1890.
2037. C. W. ADAMS, 2nd five years of No. 23,427, from the 15th day of February, 1891. Improvement in the Process of Making Metallic Screening Material, 31st December, 1890.
2038. C. W. ADAMS, 2nd five years of No. 23,480, from the 23rd day of February, 1891. Improvement in Machines and Process for Simultaneously Cutting and Expanding Slashed Metallic Screening, 31st December, 1890.



## DECEMBER LIST OF TRADE MARKS.

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

3884. BLONDEAU & CIE., of Ryland Road, Kentish Town, London, England. An emollient cream for the skin, for toilet and medical purposes, toilet and medical soaps, (including shaving soaps), and toilet powder, 1st December, 1890.
3885. BISSELL CARPET SWEEPER CO., of Grand Rapids, Michigan, U. S. A. Carpet Sweepers, 1st December, 1890.
3886. F. R. ARNOLD & CO., of New York, N. Y., U. S. A. General Trade Mark, 3rd December, 1890.
3887. JOHN McCHESNEY CHAPMAN, of New York, N. Y., U. S. A. Cocoa and Chocolate, 3rd December, 1890.
3888. DICK, RIDOUT & CO., of Toronto, Ont. Bags, 9th December, 1890.
3889. DICK, RIDOUT & CO., of Toronto, Ont. Twine, 9th December, 1890.
3890. JOHN FRANCIS O'BRIEN, of Montreal, Que. Rubber Overshoes, 10th December, 1890.
3891. CHAPMAN & MEEHAN, of New York, N. Y., U. S. A. Prepared Soups, 10th December, 1890.
3892. THE ENGLISH PORTLAND CEMENT CO., L'd., of London, England. Portland Cement, 11th December, 1890.
3893. EDWARD D. HOWARD AND CLARENCE M. HOWARD, of Buffalo, N. Y., U. S. A. Pile Remedy, 13th December, 1890.
3894. AMBROSE KENT AND BENJAMIN KENT, of Toronto, Ont. Watches, Clocks, Fancy Wares, etc., 13th December, 1890.
3895. JOHN E. HETHERINGTON, of New York, N. Y., U. S. A. Medical Preparation, 13th December, 1890.
3896. THE CLARK JOHNSON MEDICINE CO., of New York, N. Y., U. S. A. A Remedy for Corns and other Callosities, 13th December, 1890.
3897. SALUTARIS WATER COMPANY, of 236 Fulham Road, London, England. Distilled Water and Artificially Aerated, 15th December, 1890.
3898. JOHN UNDERWOOD & CO., of New York, N. Y., U. S. A. Ribbons for Typewriting Machines, 17th December, 1890.
3899. ARNOLDUS CORNELIUS ALOISIUS NOLET, of Schiedam, Holland. Gin, 18th December, 1890.
3900. THE CANADA SUGAR REFINING CO., L'd., of Montreal, Que. Sugar, 18th December, 1890.
3901. LEWIS S. LEVEE, trading under the name of T. A. SLOCUM, of Toronto, Ont. Cod Liver Oil Preparations or Emulsions, 19th December, 1890.
3902. CHARLES STANSFELD HICKS, of London, England. Tea, 22nd December, 1890.
3903. TYER RUBBER CO., of Andover, Mass., U. S. A. Druggists' Rubber Goods, 22nd December, 1890.
3904. HAZEN MORSE, of International Bridge, Ont. A Certain Cod Liver Oil Preparation known as "Consumption Cream," 22nd December, 1890.
3905. } THE E. & C. GURNEY CO., L'd., of Toronto, Ont.  
3906. } Stoves and Ranges, 23rd December, 1890.
3907. } THE BREITHAUP LEATHER CO., L'd., of Berlin, Ont.  
3908. } Leather, 24th December, 1890.
3909. GIBSON & GIBSON, of Toronto, Ont. Icing Sugar, 27th December, 1890.
3910. WARDEN KING & SON, of Montreal, Que. Hot Water Heaters, 30th December, 1890.
3911. JOHN ANDERSON ROYD, of Montreal, Que. Weekly Publication, 30th December, 1890.
3912. JOHN LANGSTAFF, of Thornhill, Ont. Mineral Water, 31st December, 1890.
3913. S. G. SHEPPARD & HENRY WILLIAM FRY, of London England. Breadstuffs, 31st December, 1890.

## COPYRIGHTS.

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

5670. **THE BROCK FAMILY**, by A. L. O. M. Wm. Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 1st December, 1890.
5671. **ECHOES OF A SUNDAY-SCHOOL**, by W. E. Dyer, Oshawa, Ont., 1st December, 1890.
5672. **THE BELL TELEPHONE COMPANY OF CANADA, OTTAWA EXCHANGE, SUBSCRIBERS' DIRECTORY, DECEMBER, 1890**. The Bell Telephone Company of Canada, Montreal, Que., 2nd December, 1890.
5673. **THE LIFE PROFITS FUND: Option Scrip, Bond and Stock Systems of Investment. (Circular.)** Geo. Tomkins, Toronto, Ont., 2nd December, 1890.
5674. **THE BALLAD SINGER**. Composed by George Linley.
5675. **CRADLE SONG**. (Wiegenlied.) Composed, (and English words) by Clarence Lucas. }  
 5676. **L'ADIEU**. Nocturne par René Favarger. }  
 5677. **THE SONG OF MY HEART**. (Mien Herzensliedchen.) Idylle for Pianoforte, by }  
 Carl Hause.
- I. Suckling & Sons, Toronto, Ont., 3rd December, 1890.
5678. **EQUINE MYOLOGY**, by A. H. King, V. S. J. A. Carveth, Toronto, Ont., 3rd December, 1890.
5679. **BY-LAWS AND RULES OF THE NEW WORLD UNIFORM COLLECTING COMPANY, AND PRIVATE DETECTIVE BUREAU**. Thurston & Co., Toronto, Ont., 4th December, 1890.
5680. **CANADIAN ALMANAC AND MISCELLANEOUS DIRECTORY, 1891**. The Copp, Clark Co., L'd., Toronto, Ont., 5th December, 1891.
5681. **ATLANTIS MARCH**, by Harry Gilbert. M. W. Glendon, Toronto, Ont., 5th December, 1890.
5682. **IMMERGRUN**. (Evergreen.) Gavotte in C, for the Pianoforte, by Wilhelm Koehler. J. L. Orme & Son, Ottawa, Ont., 6th December, 1890.
5683. **THE HISTORY OF CANADA**. Vol. IV. (1756—1763), with Maps, by Wm. Kingsford, Ottawa, Ont., 6th December, 1890.
5684. **LE VÉNÉRABLE FRANÇOIS DE LAVAL**. Premier Evêque de Quebec et Apôtre du Canada. Sa Vie et Ses Vertus par l'Abbé Auguste Gosselin. St. Féréol, Que., 6 Decembre, 1890.
5685. **DOMINION ILLUSTRATED CHRISTMAS NUMBER, 1890**. The Sabiston Lithographing & Publishing Co., Montreal, Que., 9th December, 1890.
5686. **THE PEOPLE'S ALMANAC, 1891: Facts and Figures for the Electors of Canada**. Richard White, Montreal, Que., 9th December, 1890.
5687. **LA ROSÉE DU SOIR**, par W. Kuha.
5688. **POLKA RUSTIQUE**, par Arthur E. Fisher.
5689. **CHARGE OF THE CAVALRY**, by C. A. E. Harriss. Arranged for four hands, by }  
 Theodore Martens. }
5690. **OLD FOLKS AT HOME**. Arranged for the piano, by Brinley Richards.
5691. **CAMERONIAN SCOTTISH RIFLES GALOP**, by I. Suckling.
- I. Suckling & Sons, Toronto, Ont., 10th December, 1890.
5692. **IRENÉ**. A Baby Love Song. Words by Llewellyn A. Morrison. Music by T. A. Blakeley. L. A. Morrison, Toronto, Ont., 10th December, 1890.
5693. **FERGUSON'S IMPORTERS' PRICE BOOK**. John Bowerman Ferguson, Winnipeg, Man., 10th December, 1890.
5694. **QUATRE NOELS ANCIENS**. Avec textes français et anglais Harmonisés à quatre parties, par R. Octave Pelletier, Montreal, Que., 11th Decembre, 1890.
5695. **INSURANCE POLICIES: 1st THE ORDINARY LIFE PLAN with Guaranteed paid up values without surrender or further endorsement, 2nd THE COMMON SENSE RENEWABLE TERM PLAN, and 3rd THE INSTALMENT BOND**. Henry Sutherland, Toronto, Ont., 11th December, 1890.
5696. **AGENTS' MANUAL OF THE TEMPERANCE AND GENERAL LIFE ASSURANCE COMPANY OF NORTH AMERICA**. Henry Sutherland, Toronto, Ont., 11th December, 1890.
5697. **NIGHT HYMN AT SEA**. Vocal Duet in C. Words by Mrs. Hemens. Music by A. Goring Thomas. The Anglo-Canadian Music Publishers' Association, L'd., London, England, 11th December, 1890.
5698. **HISTOIRE DU CHEVALIER D'IBERVILLE, 1663-1706**. Joseph Moise Valois, Montreal, Que., 11th Decembre, 1890.
5699. **CRINGAN'S CANADIAN MUSIC EXERCISE BOOK, PART II**. W. J. Gage & Co., Toronto, Ont., 12th December, 1890.
5700. **NAME AND FAME**, by Adeline Sergeant. John Lovell & Son, Montreal, Que., 12th December, 1890.

5701. LIFE AND TRAVELS OF JAMES FISHER, Sergeant Major Scots Greys Military Train, Army Service Corps, British Army. An Autobiography. James Fisher, Toronto, Ont., 13th December, 1890.
5702. CHRISTIANITY AND SOME OF ITS EVIDENCES. An Address by the Hon. Oliver Mowat, Premier of Ontario. Williamson & Co., Toronto, Ont., 13th December, 1890.
5703. FACTS FOR TRUTH LOVERS, by Mrs. Elizabeth Honey Bradley, Toronto, Ont., 13th December, 1890.
5704. RAISE THE FLAG. Song and Chorus, by Edwin G. Nelson, St. John, N. B., 13th December, 1890.
5705. A MODERN EXODUS, by Faye Huntington. Wm. Briggs, (Book-Steward of the Methodist Book and Publishing House,) Toronto, Ont., 13th December, 1890.
5706. HENDERSON'S BRITISH COLUMBIA GAZETTEER AND DIRECTORY, 1891. The Henderson Directory Co., Victoria, B. C., 15th December, 1890.
5707. ABIDE WITH ME. Sacred Song, by F. H. Torrington, Arranged for Quartette and Solo, by W. A. Forsyth. I. Suckling & Sons, Toronto, Ont., 15th December, 1890.
5708. CHRIST HAS COME. Christmas 1890. Llewellyn A. Morrison, Toronto, Ont., 15th December, 1890.
5709. THE HITTITES: Their Inscriptions and their History. Volumes I and II, by John Campbell. Williamson & Co., Toronto, Ont., 16th December, 1890.
5710. THOU ART MY QUEEN. Song. Words by A. Monro Grier. Music by Emma Fraser Blackstock. The Anglo-Canadian Music Publishers' Association, L'd., London, England, 18th December, 1890.
5711. THE ONTARIO REPORTS, Volume XIX, Containing Reports of Cases decided in the Queen's Bench, Chancery and Common Pleas Divisions of the High Court of Justice for Ontario. Editor: James F. Smith, Q. C. Reporters: Queen's Bench Division, E. B. Brown; Chancery Division, A. H. F. Lefroy, George A. Boomer; Common Pleas Division, George F. Harman; Barristers-at-Law. The Law Society of Upper Canada, Toronto, Ont., 18th December, 1890.
5712. SYDNEY, by Margaret Deland, (book). Wm. Bryce, Toronto, Ont., 18th December, 1890.
5713. SWEET BABY MINE. Words by Edward Oxenford. Music by J. E. Birch. I. Suckling & Sons, Toronto, Ont., 19th December, 1890.
5714. STORIES. Words by Mary Mark Lemon. Music by A. H. Behrend. }
5715. STORIES WALTZ. Arranged by Edward St. Quentin, from A. H. Behrends Popular Song "Stories." }
- The Anglo-Canadian Music Publishers' Association, L'd., London, England, 19th December, 1890.
5716. TEN YEARS OF UPPER CANADA IN PEACE AND WAR, 1805-1815, being the Ridout Letters with Annotations, by Matilda Edgar. Wm. Briggs, (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 19th December, 1890.
5717. MEMORIAL SERMONS AND ADDRESSES, by the late Rev. S. J. Hunter, D. D., with a brief memoir by the Rev. W. J. Hunter, D. D. Wm. Briggs, (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 19th December, 1890.
5718. PAPA BE TRUE TO ME. Song and Chorus. Words by Hon. H. J. Coggeshall, Music by John Marchant Whyte, Toronto, Ont., 20th December, 1890.
5719. CERISE. Waltz, by Charles Deacon. }
5720. WOODLAND FLOWERS. Schottische, by Felix Burns. }
5721. TRIP AWAY. Waltz, by Felix Burns. }
5722. AFTERWARDS. Song, by Mary Mark Lemon. Music by John W. Mullen. }
- The Anglo-Canadian Music Publishers' Association, L'd., London, England, 20th December, 1890.
5723. ROYAL BROWN SOAP. (print). The Royal Soap Co., Winnipeg, Man., 23rd December, 1890.
5724. CANADIAN NATIONAL AND PATRIOTIC SONGS. Edited by Theo. Martens. I. Suckling & Sons, Toronto, Ont., 23rd December, 1890.
5725. UN CHANT D'AMOUR. Valse, by Felix Burns. }
5726. THE GOLDEN STAIR. Words by R. S. Hichens. Music by H. Trotère. }
5727. LEONORE. Words by Clifton Bingham. Music by H. Trotère. }
- The Anglo-Canadian Music Publishers' Association, L'd., London, England, 23rd December, 1890.
5728. VIEW OF ST. JOHN CITY AND HARBOR. (print). Manchester, Robertson and Allison, St. John, N. B., 23rd December, 1890.

5729. MONTHLY REDEMPTION BONDS. The Best, Most Profitable and Safest Investment for Large and Small Investors of Any System or Enterprise now before the Public. (pamphlet). George Tomkins. Toronto, Ont., 23rd December, 1890.
5730. MA TOUTE BELLE. Serenade. English Words by Edward Oxenford. French Words by Henri Lyon. Music by Francis Thomé. Chappell & Co., London, England, 24th December, 1890.
5731. SWEET THÉRÈSE. Song from the Opera "Captain Thérèse." Words by F. C. Burnand. Music by R. Planquette. Hopwood & Crew, London, England, 24th December, 1890.
5732. DAILY EXERCISES FOR PIANO, by Byron C. Tapley, St. John, N.B., 24th December, 1890.
5733. BRITISH COLUMBIA: Its Agricultural and Commercial Capabilities and the advantages it offers for Emigration Purposes, by Prof. Henry Tanner, M.R.A.C., F.C.S. Dawson Bros., Montreal, Que., 26th December, 1890.
5734. GEORGE S. FERGUSON'S SAVINGS AND BENEFIT CHART. George S. Ferguson, Windsor, Ont., 26th December, 1890.
5735. CARTER'S NEW TABLE OF CALCULATIONS: Giving the waist widths and width of darts for any size bust and waist measure. James Carter, Toronto, Ont., 26th December, 1890.
5736. THE WESTERN WORLD, Vol. 1. No. 8. October, 1890. Acton Burrows, Winnipeg, Man., 26th December, 1890.
5737. CANADIAN PEN AND INK SKETCHES, by John Fraser, Montreal, Que., 27th December, 1890.
5738. IN SYLVAN GLADE. Song, by Edward Oxenford. Music by }  
Walter W. Hedgcock.
5739. HE'S A GOOD OLD "Has Been." Words and Music by Harry }  
Dacre. Arranged by Henry E. Pether.
- The Anglo-Canadian Music Publishers' Association, L'd., London, England, 27th December, 1890.
5740. LE PAYS DES RÊVES. Valse Chantée. Poesie de Armand Sylvestre. }  
Musique de Ernest Lavigne.
5741. SÉRÉNADE MELANCOLIQUE. Paroles de Armand Sylvestre. }  
Musique de Ernest Lavigne.
- Ernest Lavigne, Montreal, Que., 29th Decembre, 1890.
5742. THE STARS OF JUNE. River Song. Words by Frederic E. Weatherly. }  
Music by Frances Allitsen.
5743. THOUGHTS AND TEARS. Song. Words by Clifton Bingham. Music }  
by Hope Temple.
5744. GUIDING LIGHT. Song. Words by G. Clifton Bingham. Music by }  
John Henry.
- The Anglo-Canadian Music Publishers' Association, L'd., London, England, 29th December, 1890.
5745. THE LIGHT THAT FAILED, by Rudyard Kipling. The National Publishing Co., Toronto, Ont., 29th December, 1890.
5746. BOECK'S PIANO AND ORGAN CHART. Charles Boeck, Toronto, Ont., 30th December, 1890.
5747. JACQUES CARTIER AND HIS FOUR VOYAGES TO CANADA. An Essay with Historical, Explanatory and Philological Notes, by Hiram B. Stephens, B. C. L. W. Drysdale & Co., Montreal, Que., 30th December, 1890.
5748. A LAY SERMON, by John Russell, the Excommunicated. John Russell, Goderich, Ont., 31st December, 1890.
5749. SUPPLEMENT NO. 2 TO SHARP'S CIVIL CODE OF LOWER CANADA, from 1st October, 1889, to 1st October, 1890, by Wm. Prescott Sharp, B. C. L. W. P. Sharp and A. Périard, Montreal, Que., 31st December, 1890.
5750. THE SONG OF THE BUTTERFLY, from the Opera "Captain Thérèse." Words by F. C. Burnand. Music by Robt. Planquette. Hopwood & Crew, London, England, 31st December, 1890.
5751. ONE DAY MARGOT, (or Three to One.) Song from the Opera "La Cigale." Words by F. C. Burnand. Music by E. Audran. The Anglo-Canadian Music Publishers' Association, L'd., London, England, 31st December, 1890.
5752. TRIFLE NOT WITH LOVE. Song introduced into the Opera "La Cigale." Words by F. C. Burnand. Music by Ivan Caryll. The Anglo-Canadian Music Publishers' Association, L'd., London, England, 31st December, 1890.
5753. INSURANCE PLAN OF TORONTO, ONTARIO, Vol. V. Charles Edward Goad, Montreal, Que., 31st December, 1890.



THE

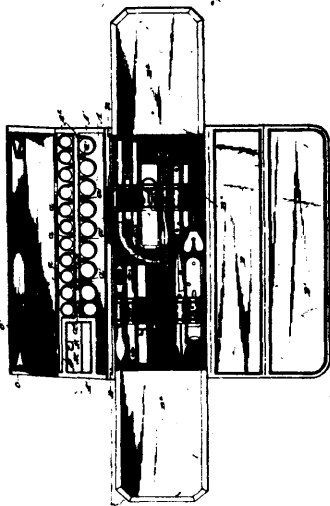
# CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

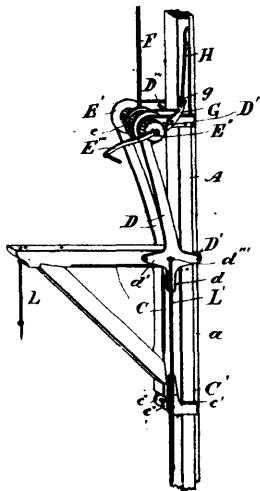
Vol. XVIII.

DECEMBER, 1890.

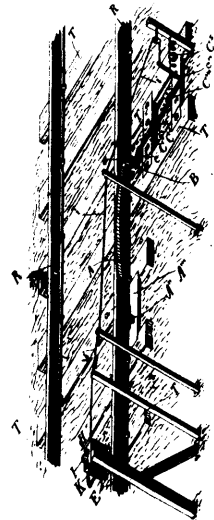
No. 12.



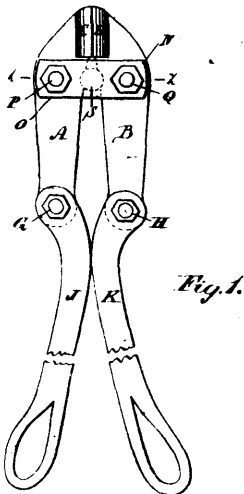
35538 Lilly's Case for Instruments and Medicine.



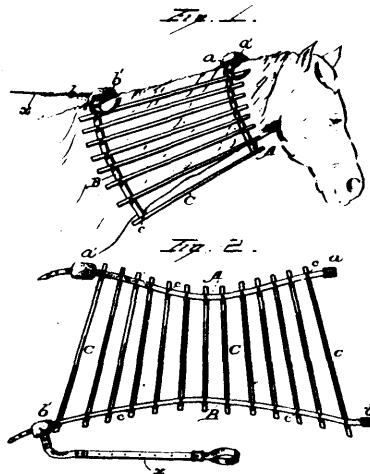
35539 Downie's Scaffold.



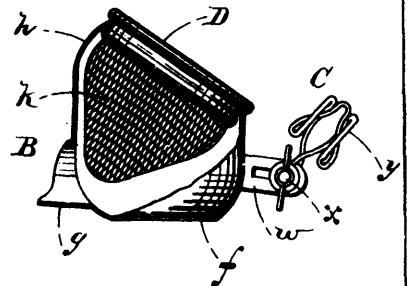
35541 Grant's Automatic Railway Signal.



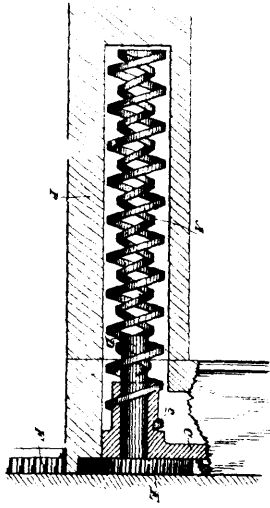
35543 Watt's Bolt and Rod Cutter.



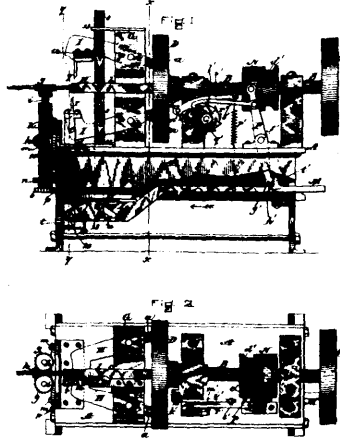
35544 Huntoon and Perkins' Horse Foke.



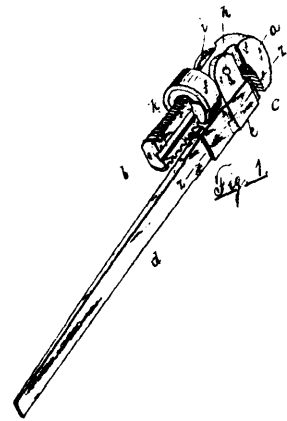
35545 Bean, Watson and Cole's Strainer.



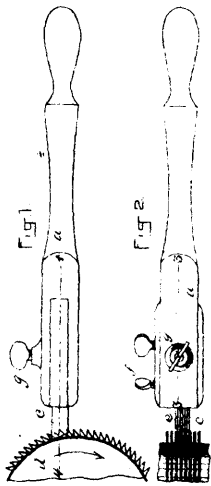
35546 Johnson's Sash Balance.



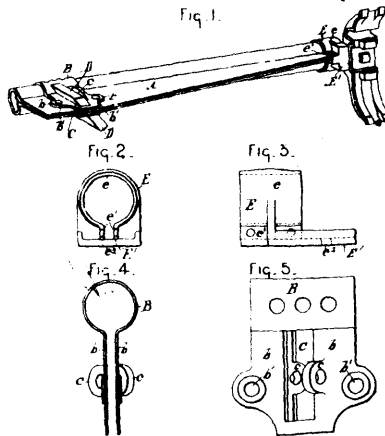
35547 Moore's Machine for Forging Horse Shoe Nails.



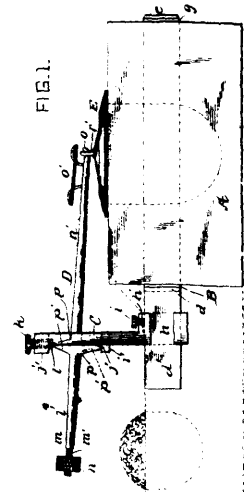
35548 Porter's Wrench.



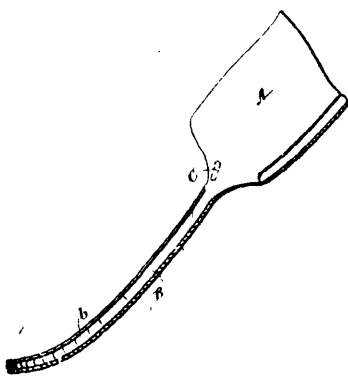
35549 Groves' Device for Straightening the Teeth of Bur Cylinders.



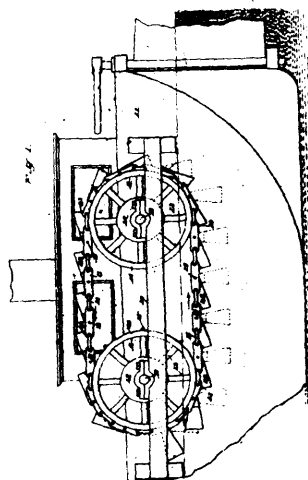
35550 Punge's Brake Beam.



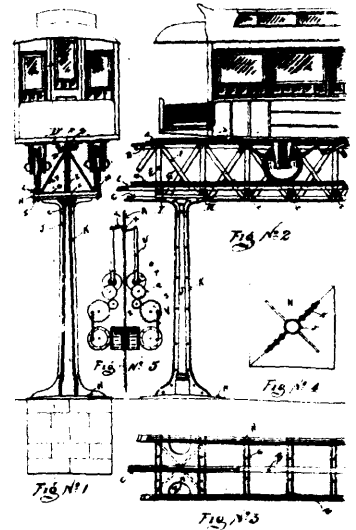
35551 Hayden's Device for Closing and Opening Covers for Ink Wells, etc.



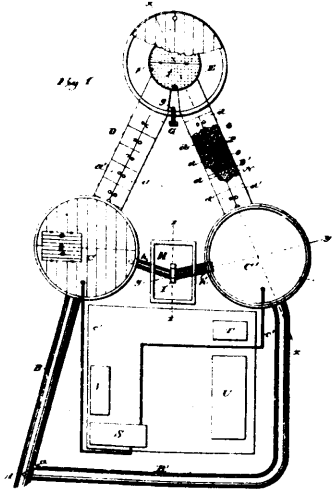
35552 O'Brien's Rubber Overshoe.



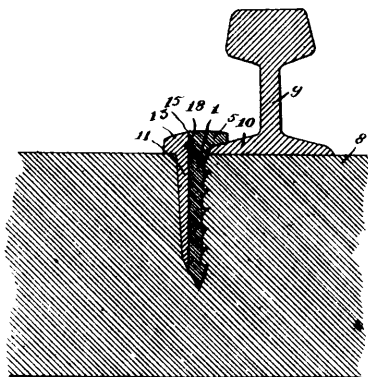
35553 Cochrane's Propelling Wheel.



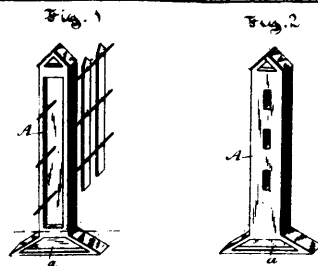
35554 Davis' Electrical Elevated Railway.



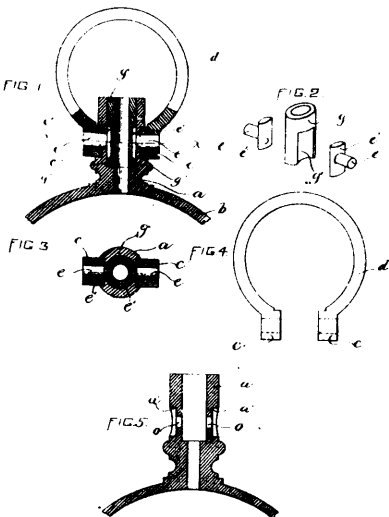
35555 Meyer and Weck's Apparatus for Treating Sewage.



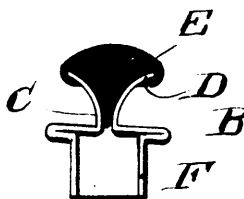
35556 Dietrich's Railroad Spike.



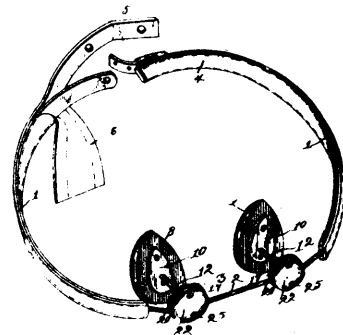
35557 Marshall's Tile Post.



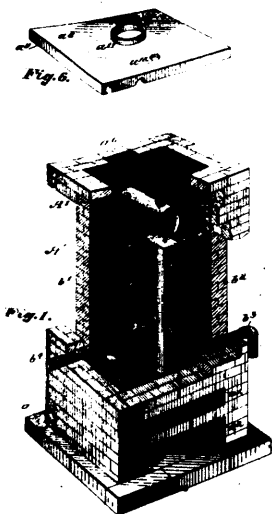
35558 Fitch's Watch-Bow Fastener.



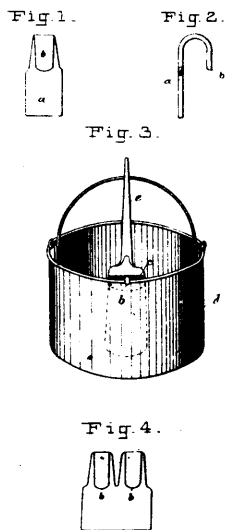
35559 Smidt's Shoe Lacing Stud.



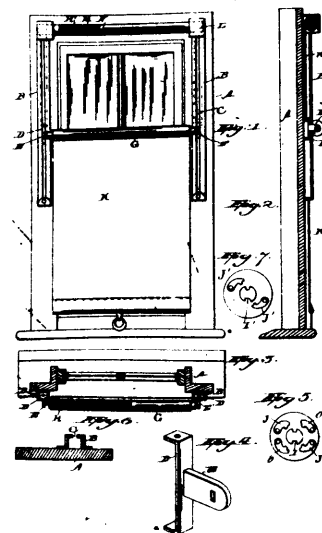
35560 Miller and Bennett's Truss.



35561 Wilson's Steam Boiler.

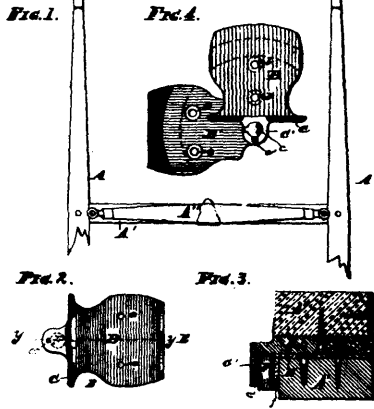


35562 Oates' Brush.

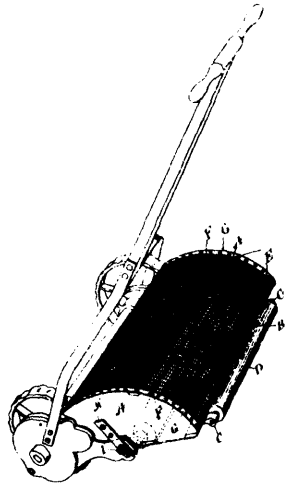


35563 Graham's Curtain Fixtures.

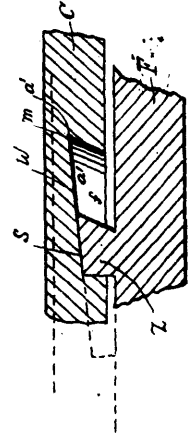




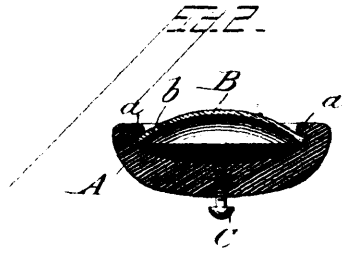
35564 LaBaie's Whiffletree Coupling.



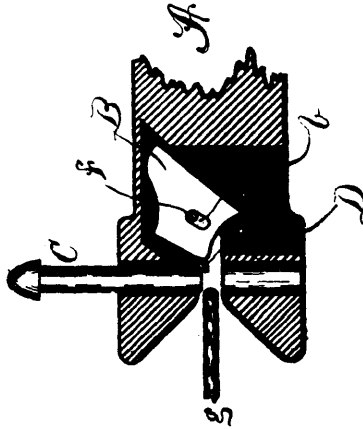
35555 Meredith's Lawn Mower.



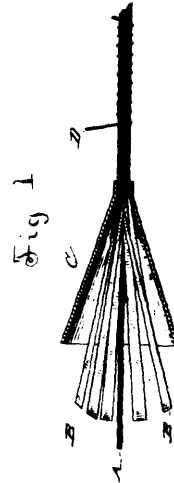
35566 Beal's Furniture Joint.



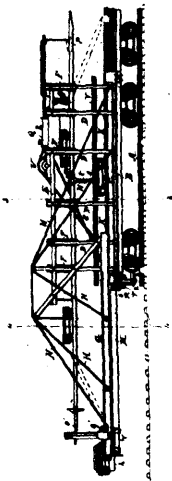
35567 Leonard's Truss Pad.



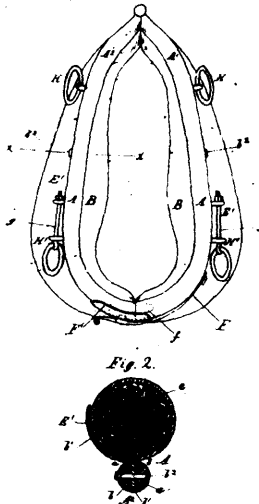
35568 Mailman's Car Coupler.



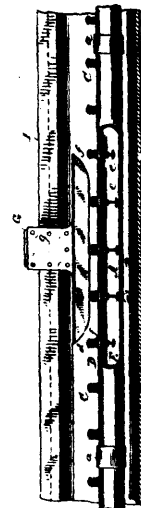
35569 Phillips' Electrical Conductor.



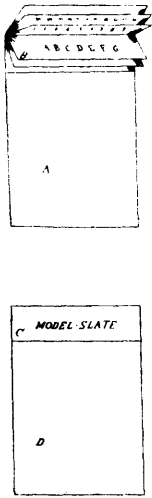
35570 Voigt's Track Laying Machine.



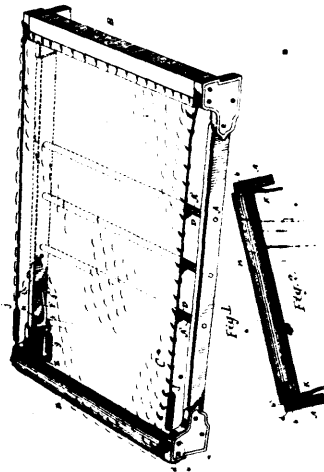
35571 McKenzie's Horse Collar.



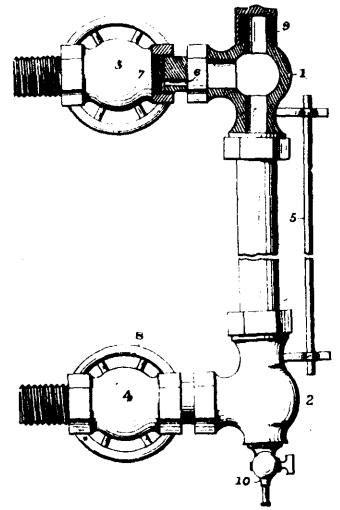
35572 Van Depoele's Electric Railway Conduit with Closed Tubular Conductor.



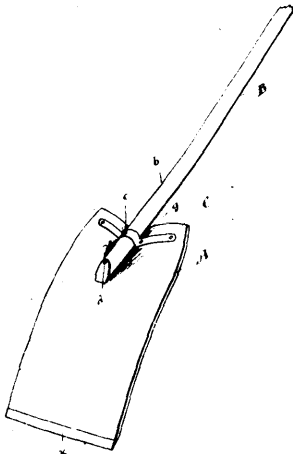
35573 Morin's Artificial Slate.



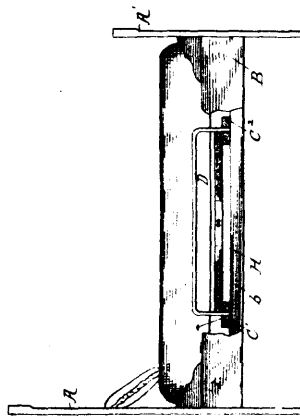
35574 Noyes' Bed Bottom.



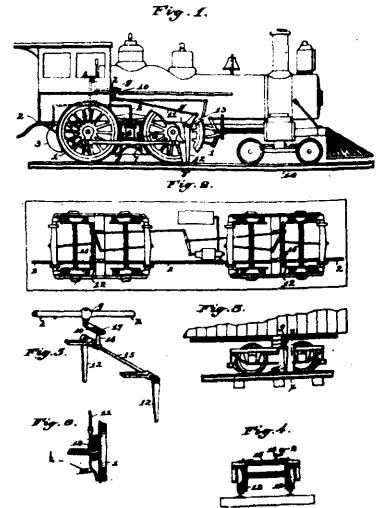
35575 Thring's Water Gauge.



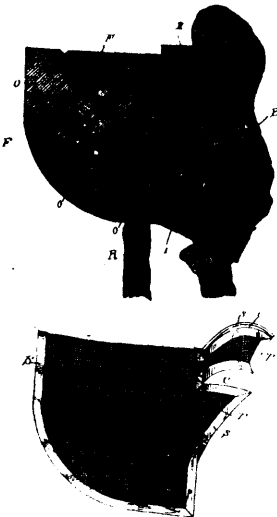
35576 Telfer's Shovel.



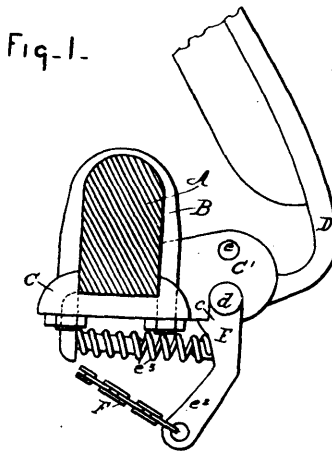
35577 Harding's Holder for Mattresses and Bed Clothes.



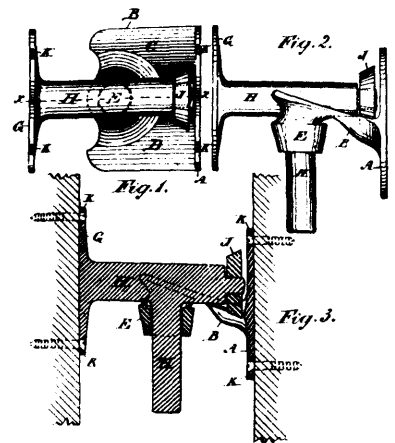
35578 Graff's Railway Appliance.



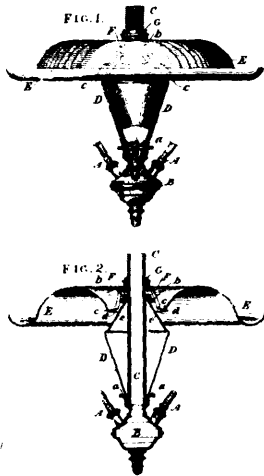
35579 Butler's Sun Bonnet.



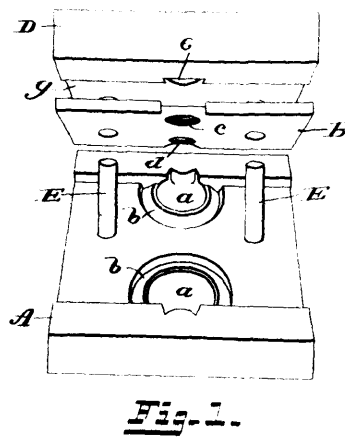
35580 Busch and Johnston's Thill Coupling.



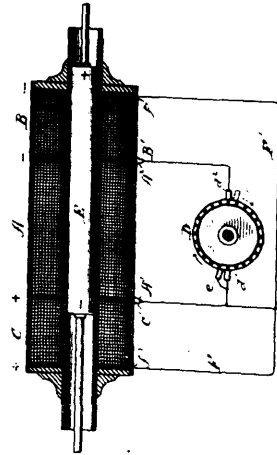
35581 Garvin's Gate Hinge.



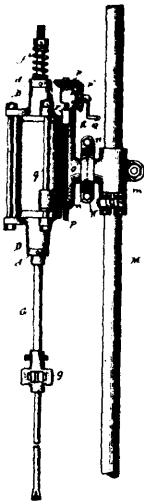
35582 Shaw's Reflector Lamps for Gas Lights and also Cover for Globes Surrounding Gas Lamps.



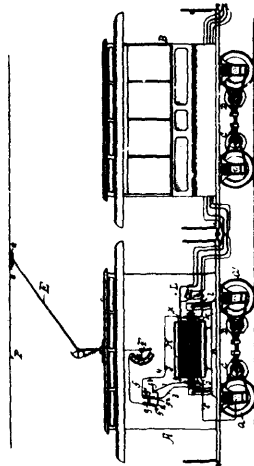
35583 Benwell's Covering Shoe Lacing Hooks.



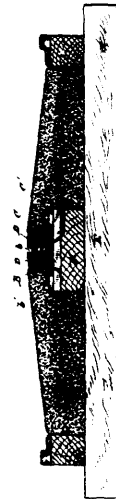
35584 Van Depoele's Reciprocating Electric Engine.



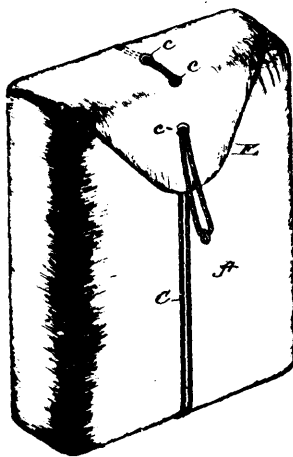
35585 Van Depoele's Reciprocating Electric Engine.



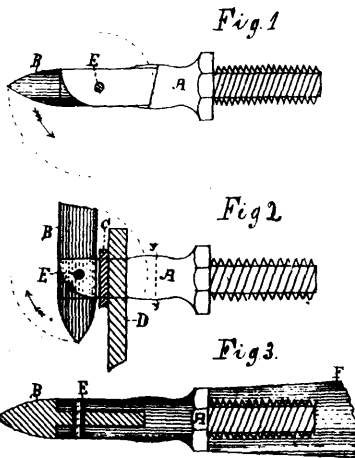
35586 Van Depoele's Electric Railway Train System.



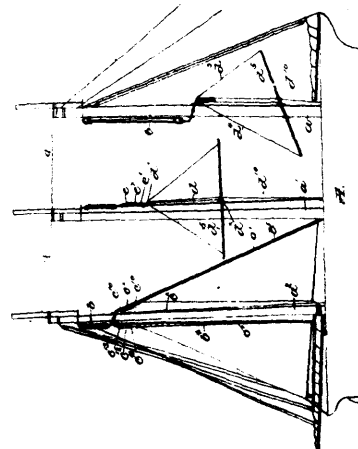
35587 Van Depoele's Closed Conduit for Electric Conductors.



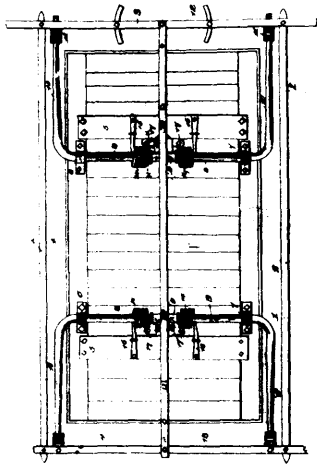
35588 Cussen's Tobacco Pouch.



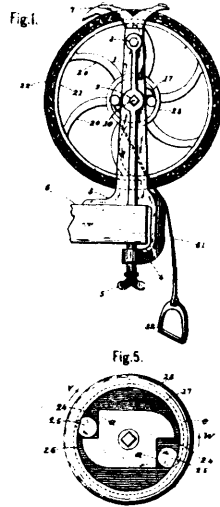
35589 Cox's Safety Whiffree Trace Fastening.



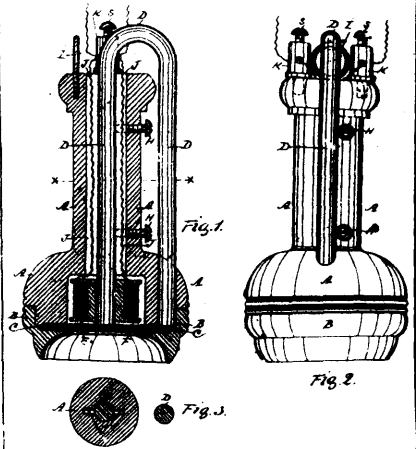
35590 Paine's Storm Rig for Vessels.



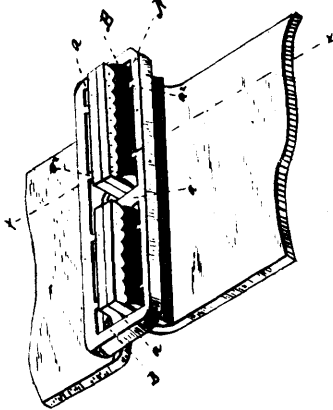
35591 Dupree's Vehicle Spring.



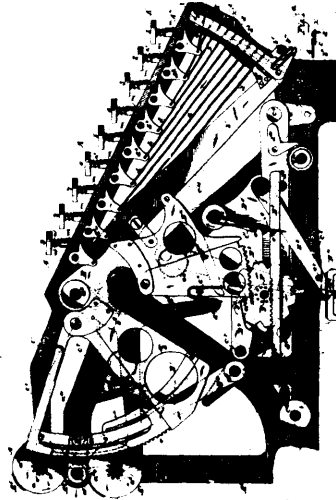
35592 Benedict's Machine for Sharpening Knives, etc.



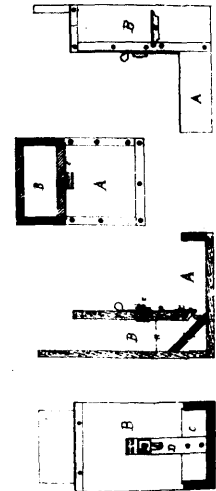
35593 Devoe's Magnetic Transmitter.



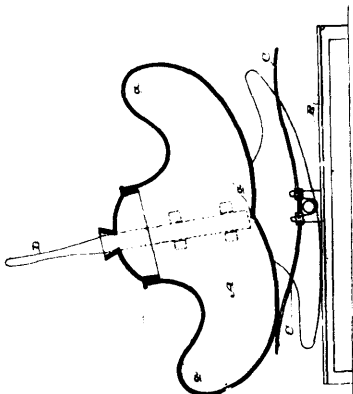
35594 Kinsley's Belt Fastener.



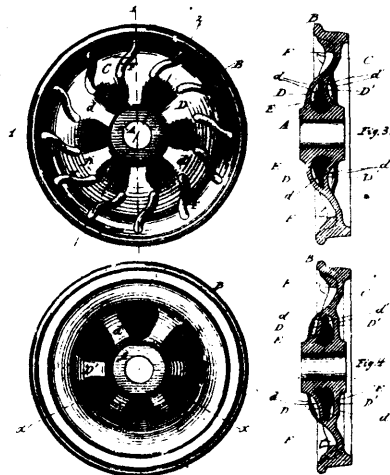
35595 Burroughs' Mechanical Accountant.



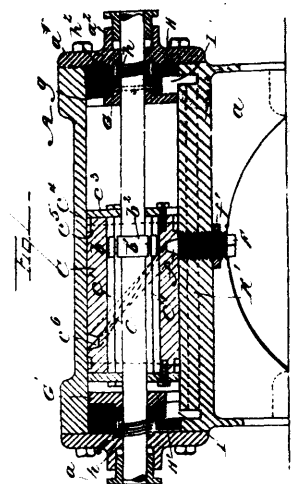
35596 Fleury and O'Leary's Feed Box.



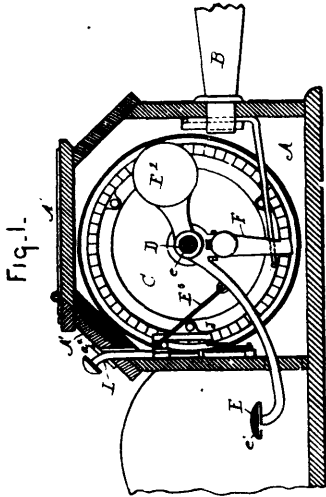
35597 Churchill's Washing Machine.



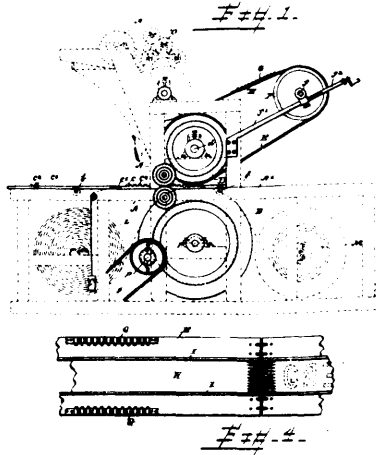
35598 Halles, Maker and Thacher's Cast Metal Car Wheel.



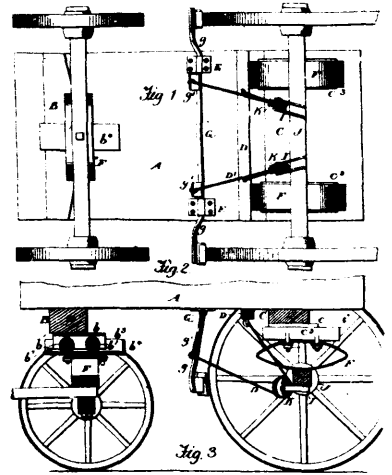
35599 Edgerton's Steam Engine.



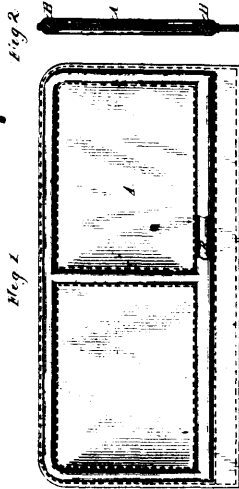
35800 Gardner's Ballot Box.



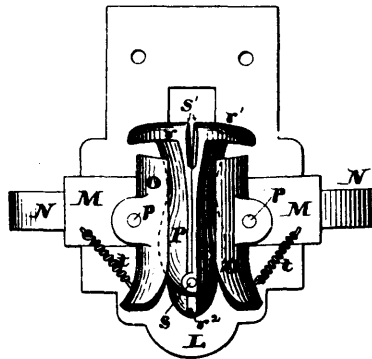
35801 Bender's Printing Machine.



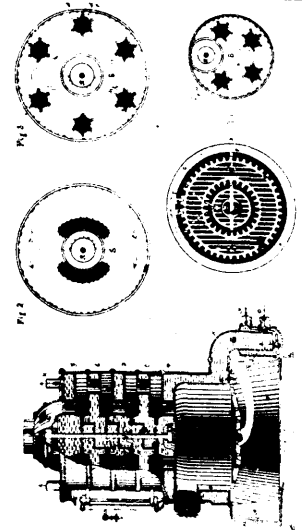
35802 Criswell's Wagon Brake.



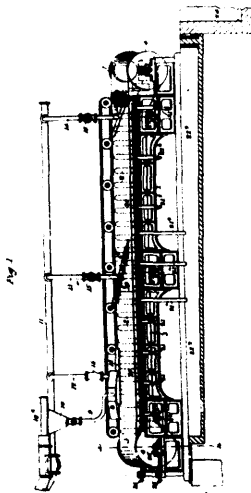
35803 Powell's Dash Board.



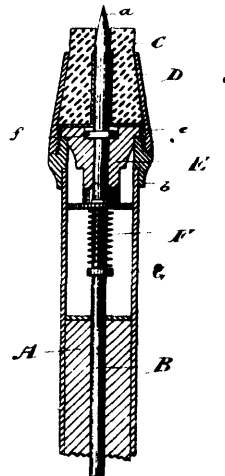
35804 Coté's Heel Stiffener Machine.



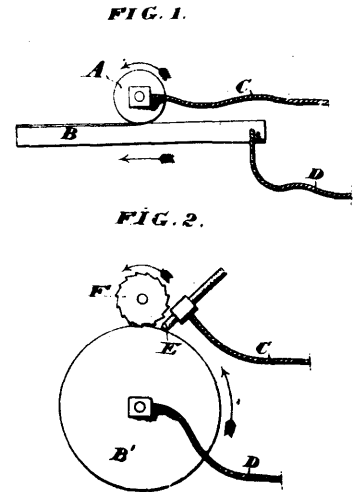
35805 Manny's Hot Water Furnace.



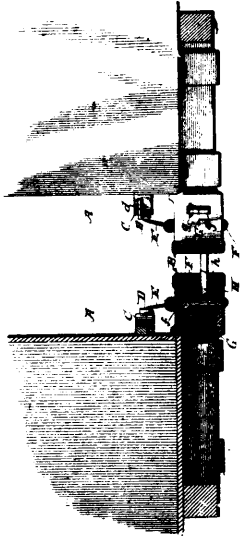
35806 Castleman's Ore Concentrator.



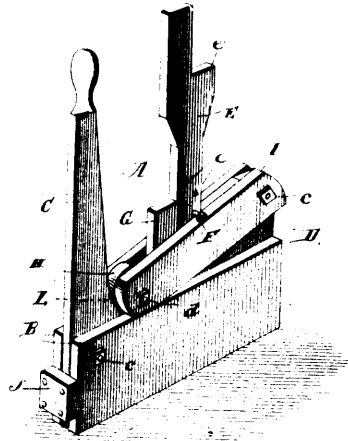
35807 Dobney's Crutch.



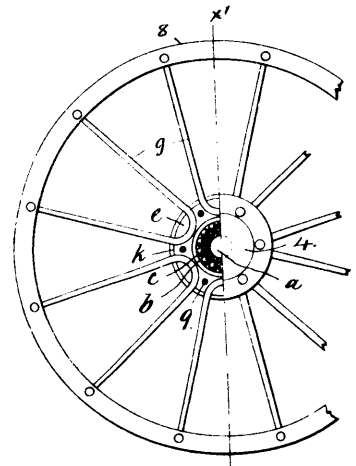
35808 Thigman's Apparatus for Cutting Metal by Electricity.



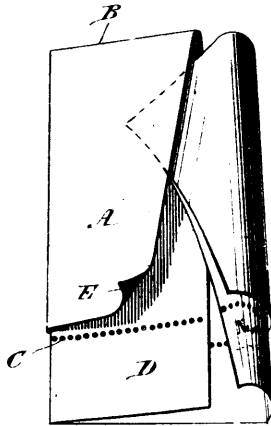
35609 Sommerfeld's Car Coupler.



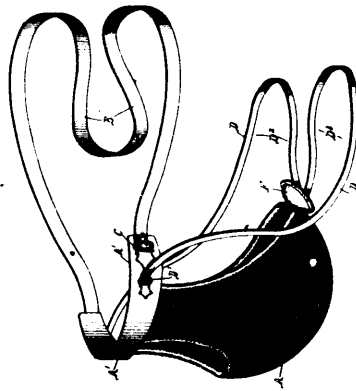
35610 Harris' Lifting Jack.



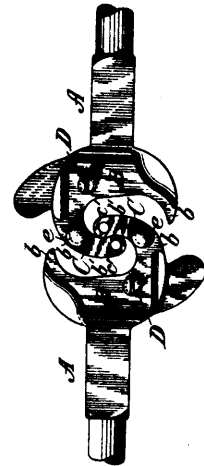
35611 Craig's Wheel.



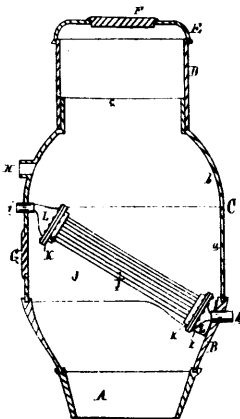
35612 Adams' Voting Ticket.



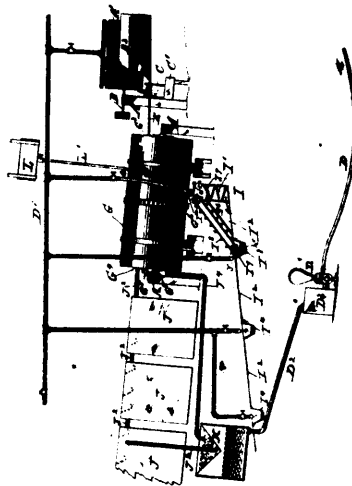
35613 Wells' Suspensories.



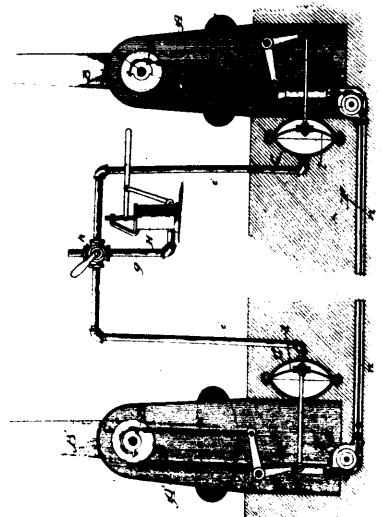
35614 Smillie's Car Coupler.



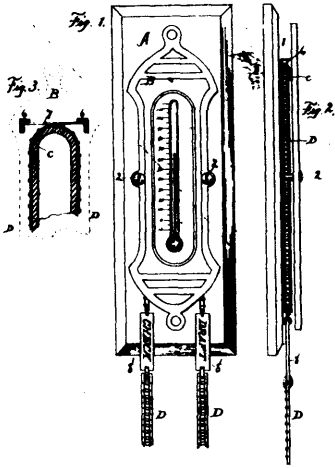
35615 Bottsford's Heating Apparatus.



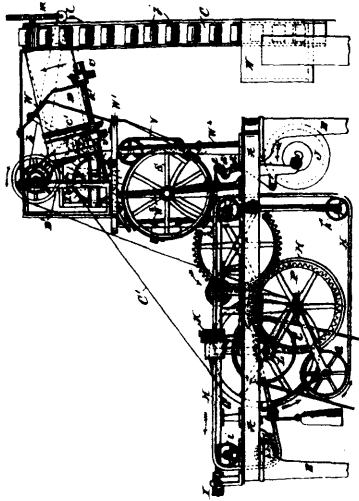
35616 Merralls' Extractor for Ores.



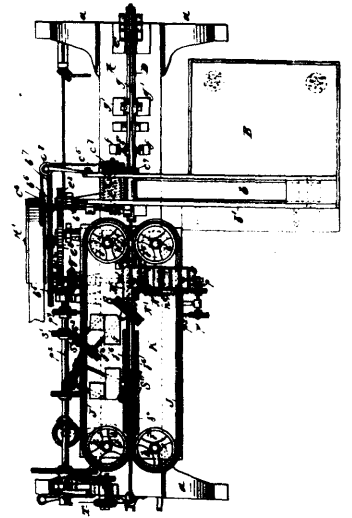
35617 Mills' Railroad Gate.



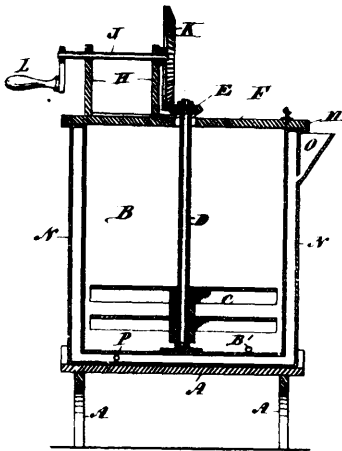
35618 Howard's Draft Regulator.



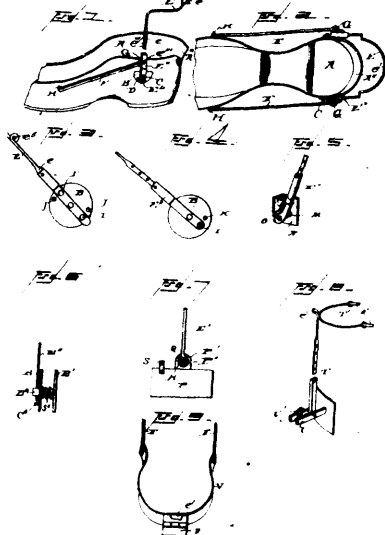
35619 Allison's Cigarette Maker.



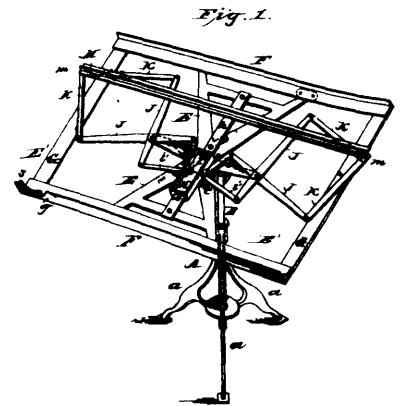
35620 Allison's Cigarette Maker.



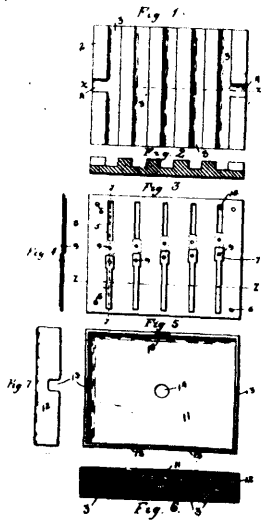
35621 Mulholland's Churn.



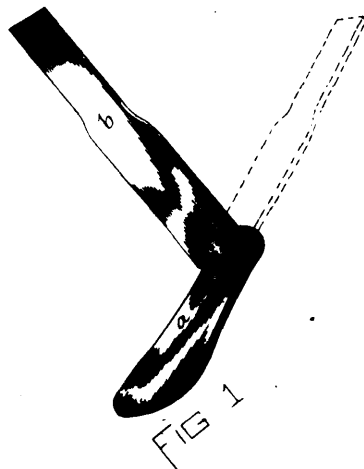
35622 Heffernan's Overshoe Retainer.



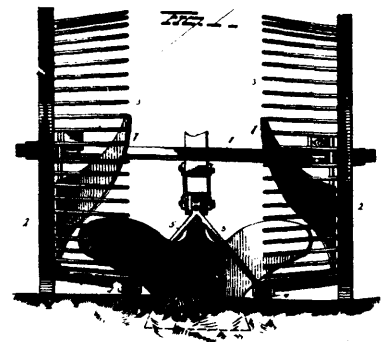
35623 Warden's Drawing Board.



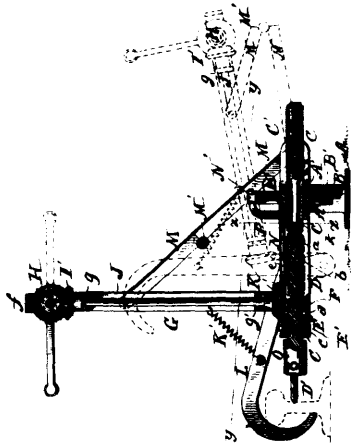
35624 Congdon's Chromatic Pitch Pipe.



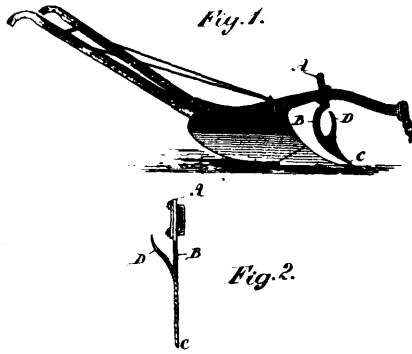
35625 Howard's Board for Coupling Stockings.



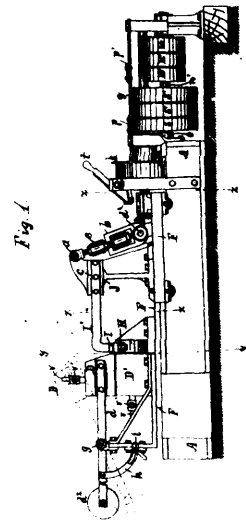
35626 Thom's Potato Digger.



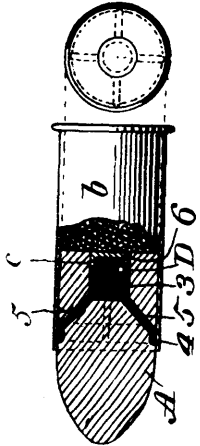
35627 Paulus' Railway Track Drill.



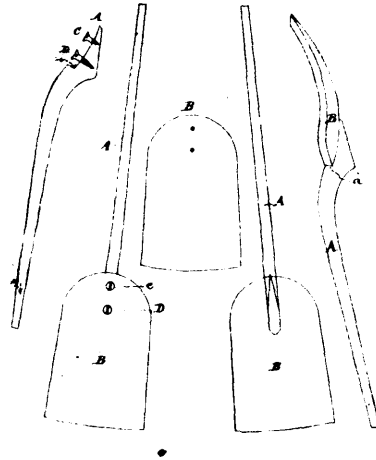
35628 Gourlay's Plow Colter.



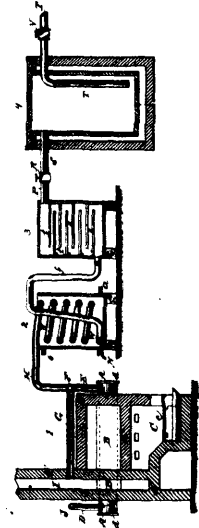
35629 Green's Cross Welding Machine.



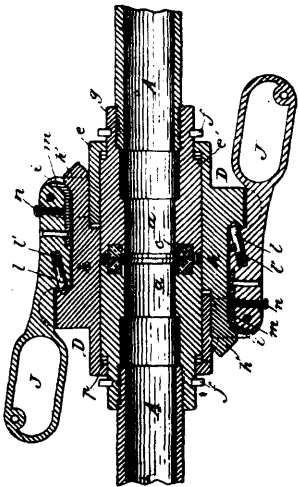
35630 Wesson's Projectiles for Fire Arms and Ordnance.



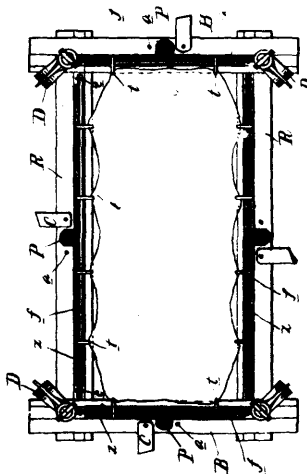
35631 Lemieux's Snow Shovel.



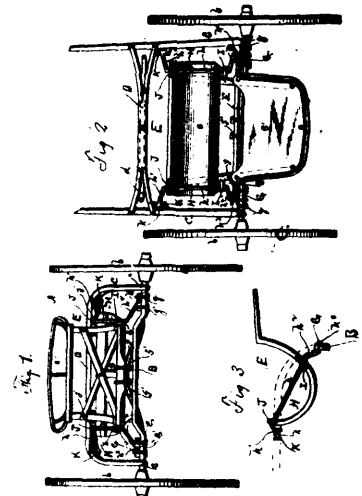
35632 Cummings and Coleman's Apparatus for Preventing Oxidation of Metals while in a Heated State.



35633 Kennedy's Pipe Coupling.

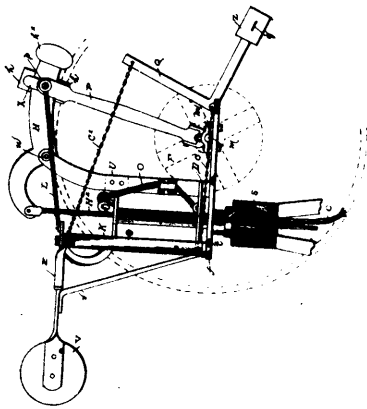


35634 Eastman's Curtain Stretcher.

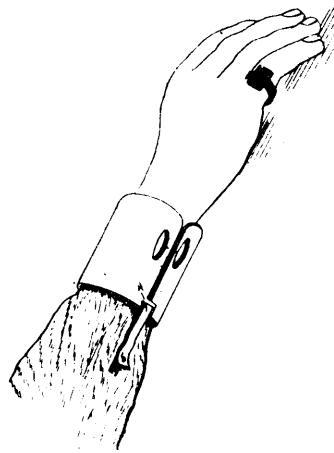


35635 Fowler's Road Cart.

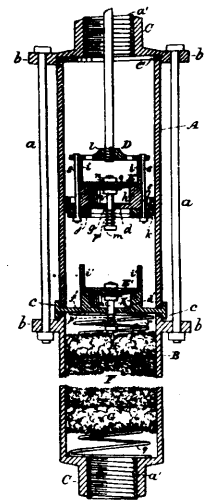




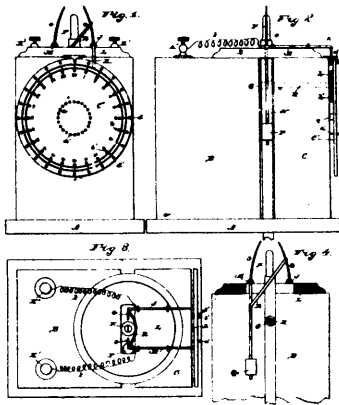
35636 Witt's Wind Mill.



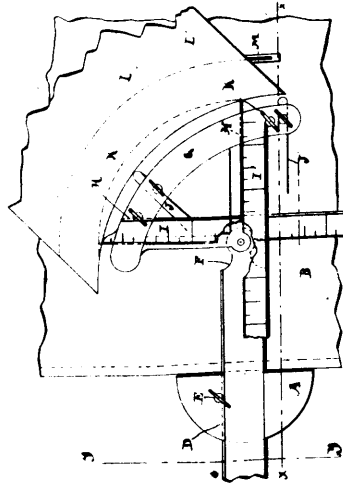
35637 Wood's Cuff Holder.



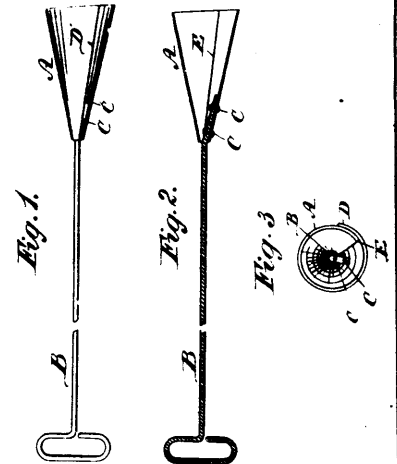
35638 Beebe's Pumps, Hydrants and other Devices for Drawing Water.



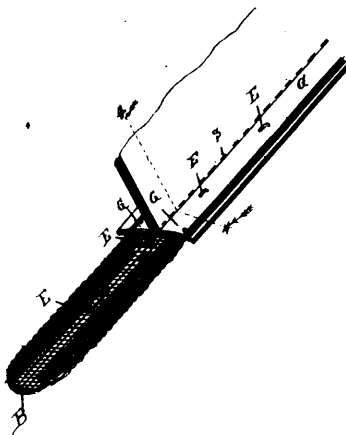
35639 Sanders and Willett's Electric Gas Lighter and Extinguisher.



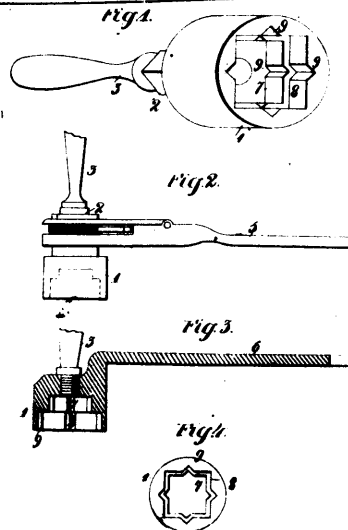
35640 Springstead's Work Feeders for Band Saws.



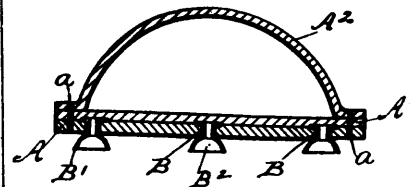
35641 Gilmore's Boiler Tube Cleaner.



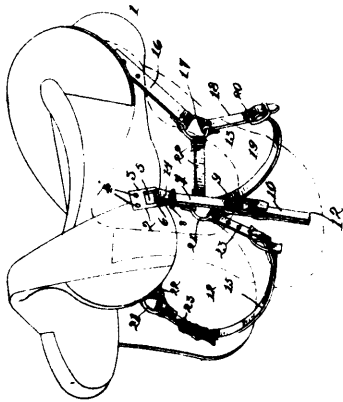
35642 Dacus' Dress Stay.



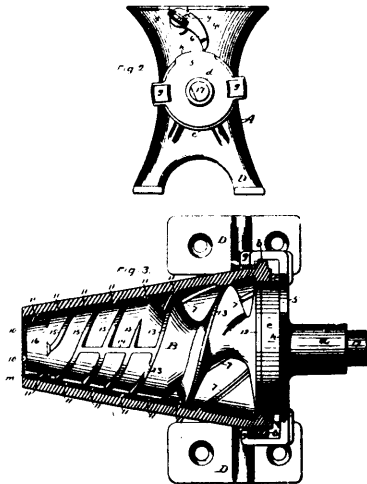
35643 Miller's Vehicle Wrench.



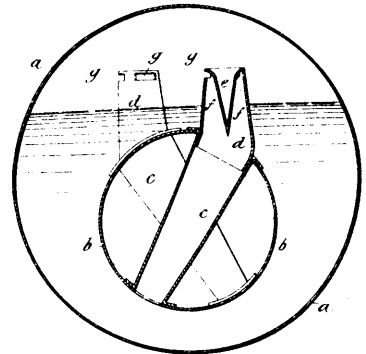
35644 Sherman's Curry Comb.



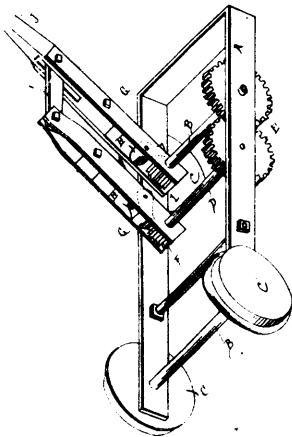
35645 Beard and Crummett's Riding Saddle.



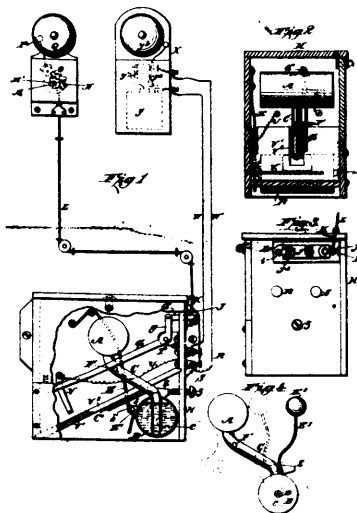
35646 Woodruff's Meat Cutter.



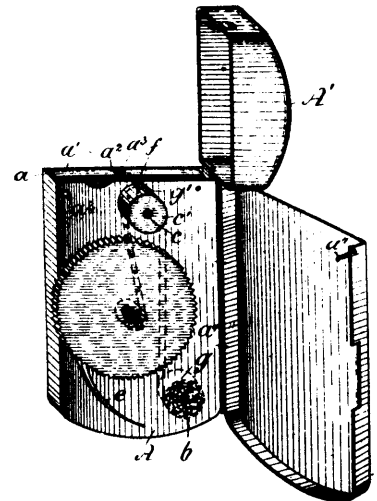
35647 Gangee's Steam Boiler.



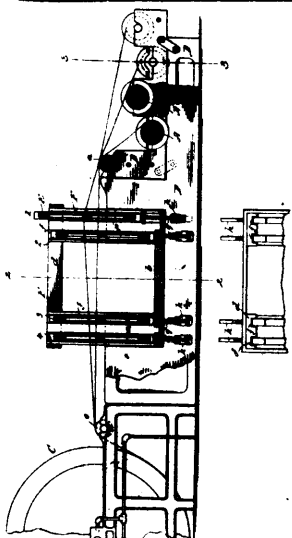
35648 Engel's Hand Car.



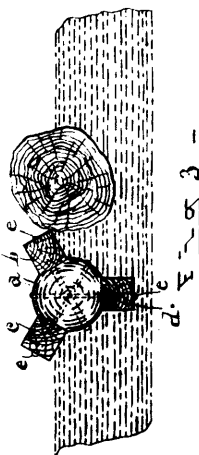
35649 Iske's Fire Alarm and Heat Indicator.



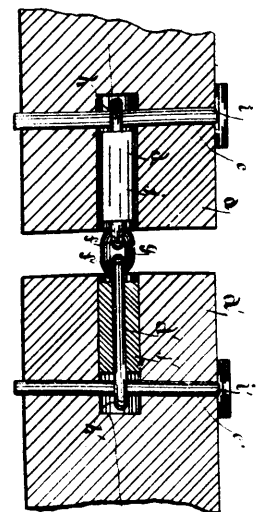
35650 Farrel's Pocket Lighting Device.



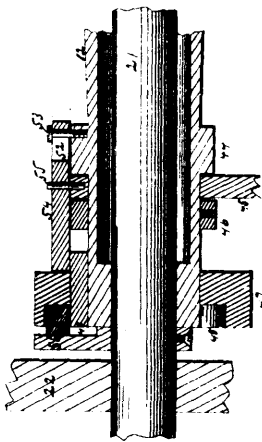
35651 Simoneau & Morse's Leasing Mechanism for Warp Dressers.



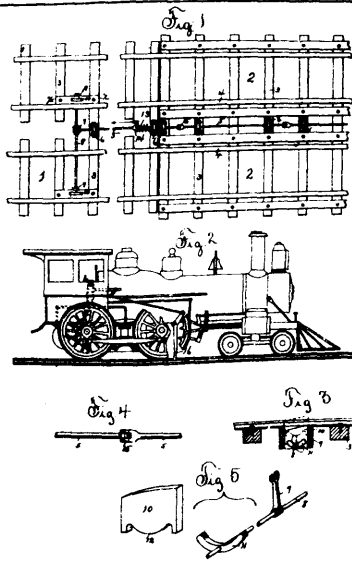
35652 Goldie's Boom Stick.



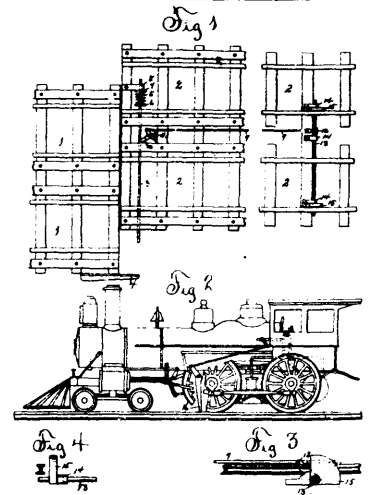
35653 Goldie's Boom Stick Coupling.



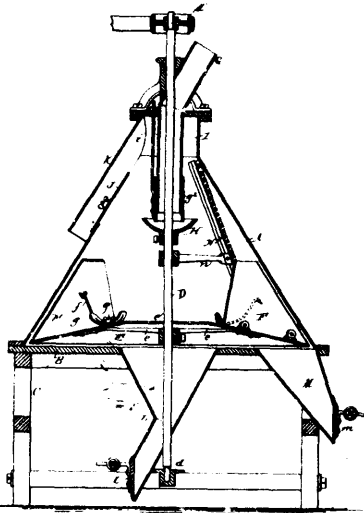
35654 Greenlee's Grain Binding Machine.



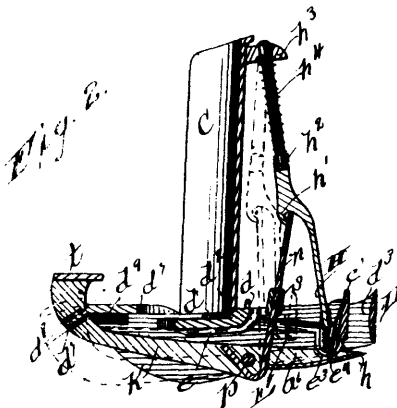
35655 Graff's Railway Appliances.



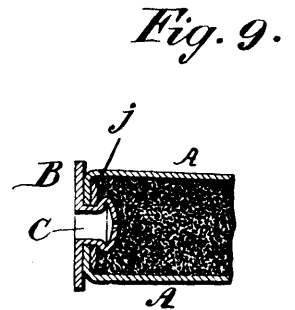
35656 Graff's Railway Appliances.



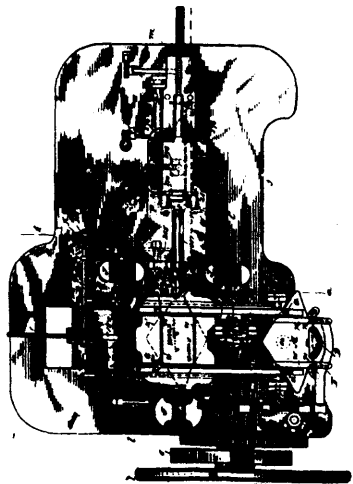
35657 Morse's Separating Machine



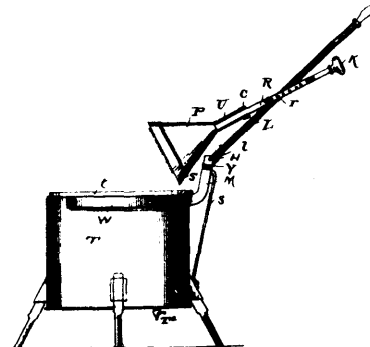
35658 Staats' Money Changer.



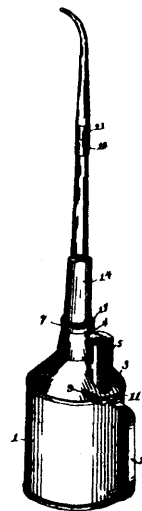
35660 Whitney's Metallic Cartridge.



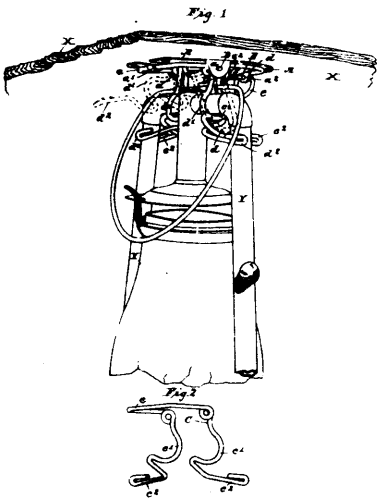
35661 Heywood's Machine for Making and Printing Envelopes.



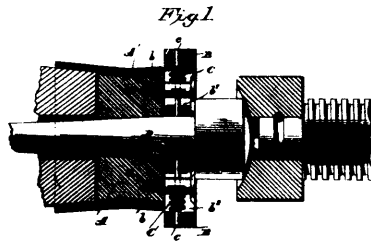
35662 Boston's Washing Machine.



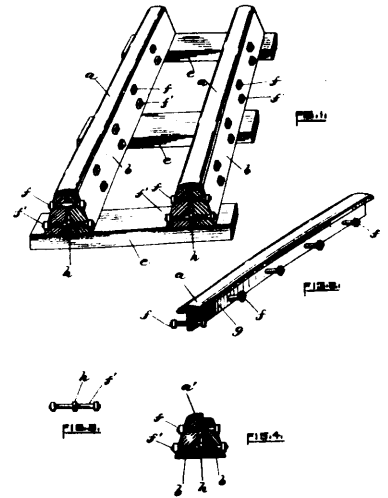
35663 Newton's Oil Can.



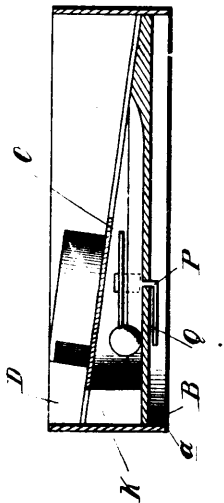
35664 Annable's Lantern Holder.



35665 Reid's Machine for Applying Rings to Hub Bands.

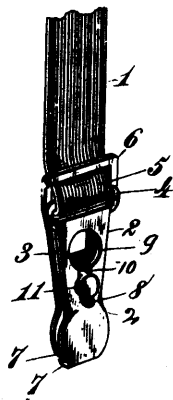


35666 Stillman's Railway.

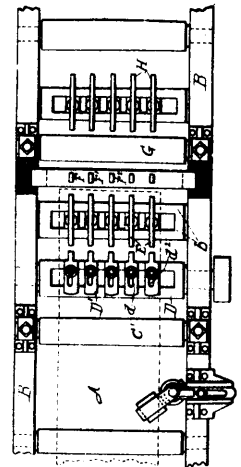


35667 Muns's Game.

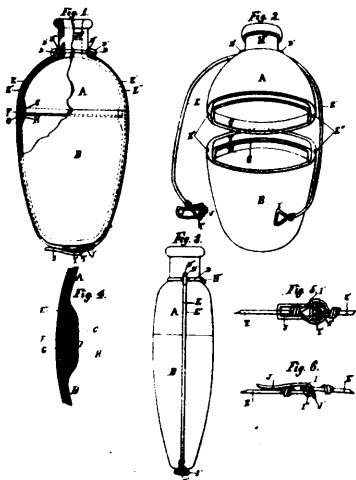
Fig. 1.



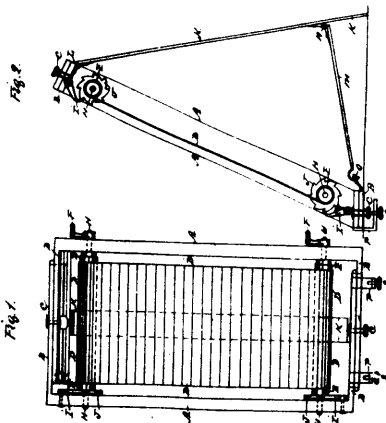
35668 Plumb's Garment Supporter.



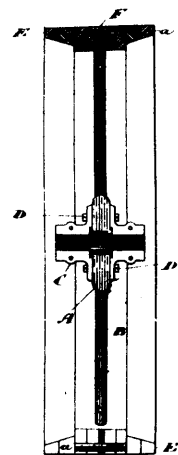
35669 Hasard's Gang Saw.



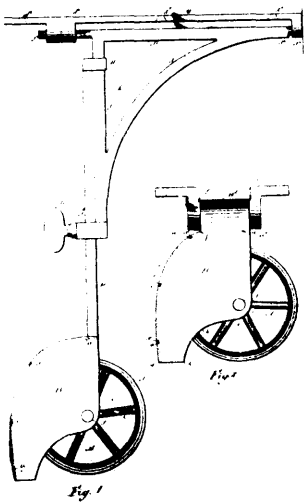
35670 Rose and Balston's Nursing Bottle.



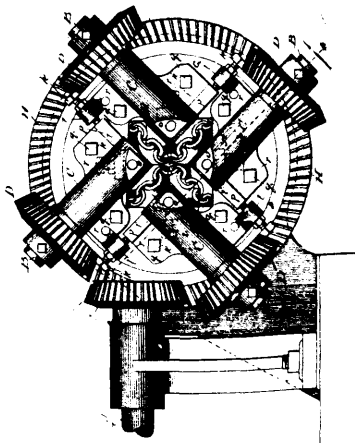
35671 Decatur's Adjustable Frame for Fancy Work.



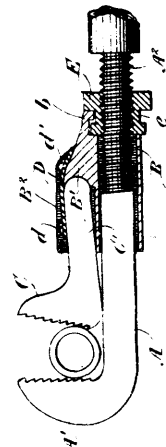
35672 Dryden's Pulley.



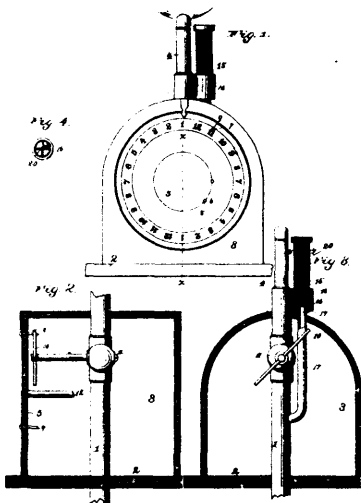
35673 Fauteux's Clothes Line Pulley.



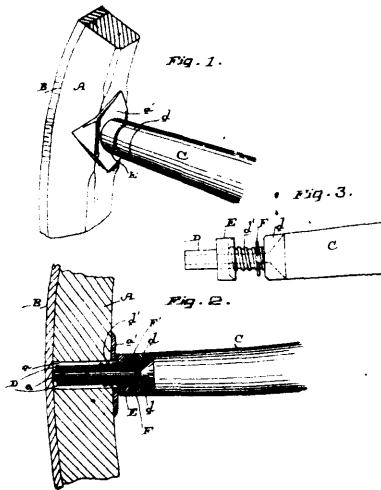
35674 Jacker's Candy Chain.



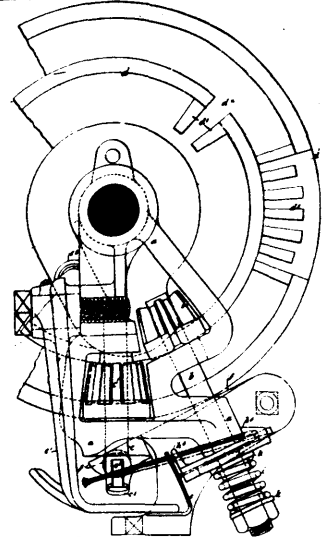
35675 Stanley's Wrench.



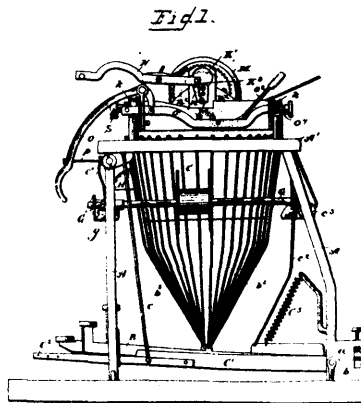
35676 Sanders and Willett's Automatic Gas Lighter and Extinguisher.



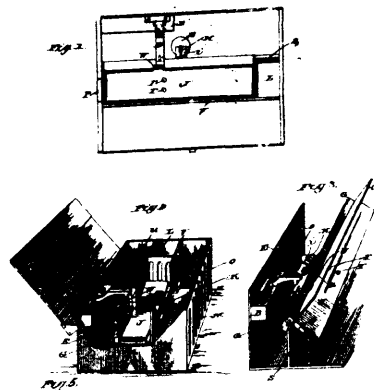
35677 Richards' Spoke and Tire Tightener.



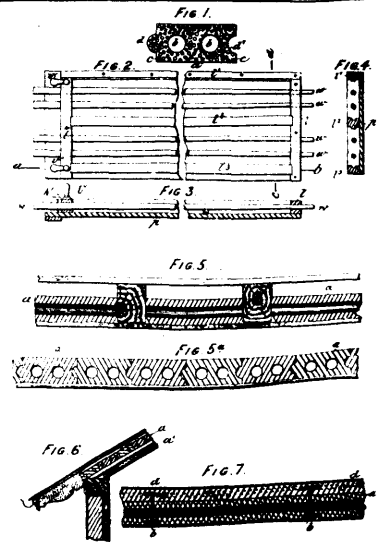
35678 Hornsby, Innocent, Trolley and Smith's Knotting Mechanism for Grain Binders.



35679 Burn's Type Writing Machine.



35680 Brawn's Vermin Trap.



35681 Mack's Boards of Composite Material.