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INVENTIONS PATENTED.

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

No. 38,832. Molding Machine.

(Machine de moulage.)

The Tabor Manufacturing Company, New York, State of New York, assignees of Harris Tabor, Elizabeth, New Jersey, both in the U.S.A., 2nd May, 1892; 5 years.

Claim.—1st. In metal founding apparatus, the combination, substantially as set forth, with a press and pattern support, of a stripping plate supported by the pattern support, and mechanism for moving the pattern support and stripping plate simultaneously, but at different velocities. 2nd. In metal founding apparatus, the combination, substantially as set forth, with a press and a pattern supporting press head moved thereby, of a stripping plate supported by the press head, a lever pivoted to the press head, a link connecting the lever with the stripping plate, and a movable toe to obstruct the movement of one end of the lever. 3rd. In metal founding apparatus, the combination, substantially as set forth, of a box-like press head, a pattern frame carried thereby, a stripping plate frame carried by the press head, a stool plate within the press head, hangers connecting the stool plate with the stripping plate frame, a follower, and means for independently moving the pattern frame and stripping plate frame as the press opens. 4th. In metal founding apparatus, the combination, substantially as set forth, of a press head arranged to support a pattern and provided with guide sockets, a stripping plate frame provided with guide studs engaging said guide sockets, a follower, and means for pressing said press head and follower toward each other. 5th. In metal founding apparatus, the combination, substantially as set forth, of a press head provided with guide sockets having air ports, a stripping plate frame having guide studs engaging said guide sockets, a follower, and means for pressing said press head and follower toward each other. 6th. In metal founding apparatus, the combination, substantially as set forth, with a press head, a follower, and means for pressing them toward each other, of a pattern frame supported by the press head and provided with upwardly projecting spurs, and a stripping plate supported by said spurs. 7th. In metal founding apparatus, the combination, substantially as set forth, of a press, a pattern frame having a closed cavity, and a steam pipe communicating with such cavity. 8th. In metal founding apparatus, the combination, substantially as set forth, of a steam cylinder, a piston therein, a piston rod having through it a passage communicating with the steam space of the cylinder, a pattern frame carried by the piston rod and having a closed cavity communicating with the passage in the piston rod, and a follower. 9th. In metal founding apparatus, the combination, substantially as set forth, of a press head, a half flask thereon provided with a cross bar, a sand box disposed over the half flask and provided with a cross bar over and of greater thickness than the cross bar of the half flask, a follower arranged to enter the sand box, and means for pressing the follower and press head toward each other.

No. 38,833. Method of and Apparatus for Separating Yeast. (*Méthode et appareil pour séparer le levain.*)

Fleischman & Co., assignees of Gustave Sabotka, all of New York, State of New York, U.S.A., 2nd May, 1892; 5 years.

Claim.—1st. The herein described process of separating and assorting yeast, which consists in running the fermented wort slowly and smoothly along a trough or chute adapted to interrupt and retard the flow of the liquid at intervals, so as to cause the yeast cells or spores to be deposited and settle in different grades in successive sections or divisions of the trough, the heavier cells being deposited in the first section or sections, and the cells of less specific gravity being deposited in succeding sections, running off the clear liquid or beer from the yeast which settles in the trough, and finally removing the assorted yeast from the several sections or divisions according to their grades, substantially as described. 2nd. An apparatus for separating and assorting yeast, comprising a trough or chute formed in sections or divisions, which are connected by suitable pipes for conveying the fermented wort from section to section, and an apparatus by which a cooling medium may be circulated in contact with the pipes connecting the sections of the trough, substantially as described. 3rd. An apparatus for separating and assorting yeast, comprising a trough or chute formed in sections or divisions arranged one above another and connected by a pipe or pipes adapted to receive the liquid from an upper section and conduct the same to the next succeding or lower section, said pipes being provided with a cooling apparatus, whereby water or other cooling medium may be caused to circulate in contact with the pipe or pipes connecting the sections of the trough, substantially as described. 4th. In an apparatus for separating and assorting yeast, the combination with the trough or chute composed of sections or divisions separated from each other, and having the pockets at the ends of the sections of the pipe or pipes connecting the outlet end or pocket of the first section with the inlet end or pocket of the next succeeding section, and the cooling apparatus connected to said pipes, substantially as described. 5th. In combination with the trough or chute composed of sections, or divisions provided with pockets at the ends thereof, of the inclined pipes connecting the several sections, the fluid circulating pipes or casings enclosing the pipes connecting such sections, and the pipes connecting with suitable openings in the delivery ends of the sections of the trough, whereby the assorted yeast may be collected from the several sections of the trough according to the several grades, substantially as described. 6th. An apparatus for separating and assorting yeast, comprising a series of troughs, and pipes or tubes connecting the same, said troughs being provided with openings at the delivery ends thereof for collecting the assorted yeast, and the end trough or terminal section being also provided with an opening to conduct the workings therefrom, substantially as described. 7th. The process of separating and assorting yeast, which consists in ruuning the fermented wort or liquid slowly and smoothly along a slightly inclined surface or surfaces, so as to cause the yeast cells to be deposited in different grades in successive sections or divisions of the surface, cooling the liquid at intervals in its passage, running off the clear beer from the assorted yeast, and finally collecting the assorted yeast from the several sections of the surface according to their grades, substantially as and for the purpose set forth.

No. 38,834. Car Coupler. (*Attelage de chars.*)

Marie H. St. Denis, assignee of Joseph Auree Gendron, both of Farnham, Quebec, Canada, 2nd May, 1892; 5 years.

Claim.—1st. In combination, with the coupling pin of a car, a bracket or lifter for holding the pin in suspension, the said bracket being supported on bearings arranged to be removed by movement

of the draw bar, causing the pin to fall into the link at the instant desired, substantially as described. 2nd. In combination, with the car, the pendulous arm H, hinged in the vertical plane of the centre line of the draw bar, to be swung upward to lift and guide the coupling link by pressure of a push rod carried under the draw bar against a pendant lug or stem of said arm, by means of levers located at the end of the car, all as described and set forth. 3rd. In combination, with the draw bar of a car, a device arranged to lift and guide the coupling link into place, by means of a vertically movable arm operated by the horizontal movement of a rod, being pressed against a lug or stem of the said arm, such pressure being effected by levers located at the ends of the car, substantially as described. 4th. In combination, with the coupling pin of a car, a bracket arranged to carry the coupling pin and to be lifted up by means of a strap or lug carried on a cranked shaft located on the end of the car, and operated at the side to enable men to couple cars from the side without going between them, substantially as described. 5th. The bracket J or J^1, and guide rods D, D, arranged to be lifted up to hold the coupling pin in suspension to be dropped into the draw bar and link by the movement of the draw bar thereunder, as and for the purpose described. 6th. In combination, with the draw bar of a car, the rods L, L, having their inner ends L^1, L^1, turned up to be acted upon by movement of draw bar, and carrying on the other ends of said rods the bearings B, substantially as described. 7th. In combination, with the draw bar of a car, the vertically movable bracket or pin lifter, as described, with suitable means of attaching the same to the car, in combination with spring actuated bearings therefor, substantially as set forth.

No. 38,835. Trap for Waste Water Pipes.

(Valve d'évier.)

John H. King and Fayette B. Durant, both of West Troy, New York, U.S.A., and Charles J. Williams, Hamilton, Ontario, Canada, 2nd May, 1892; 5 years.

Claim.—1st. In a trap for waste water pipes, the combination of an inlet pipe, a down-take pipe, two up-take pipes, an outlet pipe, a lower connection which forms an open communication between said down-take pipe and both of said up-take pipes, and an upper connection which forms an open communication with both of said up-take pipes and said outlet pipe, said inlet pipe and said outlet pipe being connected so as to run vertically, as and for the purposes herein specified. 2nd. In a trap for waste water pipes, the combination of a down-take pipe, two up-take pipes, an outlet pipe, a lower connection which forms an open communication between said down-take pipe and both of said up-take pipes, and an upper connection which forms an open communication between both of said up-take pipes and said outlet pipe, the latter being connected to said upper connection so as to form an angle therewith, inlet being vertical, as and for the purposes herein specified. 3rd. In a trap for waste water pipes, the combination of an inlet pipe, a down-take pipe connected to said inlet pipe, so as to form an angle therewith, two up-take pipes, an outlet pipe, a lower connection which forms an open communication between said down-take pipe and both of said up-take pipes, and an upper connection which forms an open communication between both of said up-take pipes and said outlet pipe, the latter being joined to said upper connection so as to form an angle therewith, as and for the purposes herein specified. 4th. 4th. In a trap for waste water pipes, the combination of two up-take pipes, a lower connection and an upper connection, said parts forming a continuous communication, an inlet pipe connected to said lower connection at one side of the trap, intermediately to said up-take pipes, and an outlet pipe connected to said upper connection intermediately to said up-take pipes, as and for the purposes herein specified.

No. 38,836. Combined Railway Frog and Switch.

(Aiguilles et rail de croisement combinées.)

David Horrie and Joseph H. Walterlin, both of Antigo, Wisconsin, U.S.A., 2nd May, 1892; 5 years.

Claim.—1st. The combination, with a main track and a side track, of a swinging rail frog, two connected switch rails joined in sequence with the frog, having their free ends sloped from the top, and also on one side of each, a device that will lock the frog rail, and mechanism which will release said rail and simultaneously vibrate the frog rail and switch rails, when actuated by the lateral impact of a wheel flange, substantially as described. 2nd. The combination, with a main track and a side track, of a swinging rail frog, a locking device therefor, a bent pivoted rail, and connections between the pivoted rail and locking device, which will transfer motion received from lateral impact of a wheel flange on the pivoted rail and thereby release the locking device, substantially as described. 3rd. The combination, with a swing rail frog, a switch, a main track, and a side track, of a bent pivoted rail near one side track rail, a locking device for the frog rail, and a mechanism connecting these parts, that will be moved to set the frog rail in alignment with the side track rail and one switch rail, when the bent rail is impinged by a wheel flange moving on the side track toward the frog, substantially as described. 4th. The combination, with a main track and a side track, a swinging rail frog, and two switch rails connected in sequence with said frog, having their free ends laterally sloped on their outer sides, of a short track rail laterally bent and pivoted near one end, a series of pusher bars and bell cranks, a draft bar, a latch dog pivoted in a slot in the draft bar, a spring therefor, a switch bar, and a connecting rod which joins the switch rails to the switch rod and also to the pusher rods and bell cranks, substantially as described. 5th. The combination, with a main track and a side track, of an intermediate swinging rail frog, two laterally movable switch rails joined in sequence to the frog by one end of each rail, a latch dog adapted to interlock with an aperture in the frog base plate, a finger spring therefor which holds the dog interlocked when the frog rail is aligned with the main track, a draft bar, a lateral limb loosely connected to the draft bar and firmly secured to the end of the frog rail, a pivoted laterally-bent rail which may be moved sidewise by the flange of a car wheel running on the side track, and pusher bars, bell cranks, and means to connect these parts to the pivoted rail, frog rail, and free ends of the switch rails, so as to release the latch dog and concurrently move the frog rail and switch rails, substantially as described. 6th. The combination, with a frog base plate, a swinging rail thereon pivoted thereto near one end of the rail, a main track rail on the frog base plate at one end, a converging side track rail secured to the base plate aside of the main track rail, a spacing block between an outer main track rail and an outer side track rail, of two switch rails secured by one end of each on the opposite end of the frog base plate, a pivoted rail adjacent to the inner side track rail bent to form a throat between at the free end of the pivoted rail, and mechanism that is connected with the pivoted rail and adapted to lock the swinging frog rail when it is aligned with the main track, and to release said swinging rail when the pivoted rail is actuated by a car wheel flange, substantially as described. 7th. The combination, with a frog having a swinging rail on its base plate pivoted near one of its ends thereto, a straight outer main track rail, a parallel inner main track rail, a bent outer side track rail, a converging inner side track rail, the inner main rail and converging side rail secured together and spaced apart on one end of the frog base plate, of a locking device for the swinging frog rail, a releasing device connected thereto, and also to a bent pivoted rail adjacent to the inner side track rail, two shifting switch rails, one bent and the other straight, and both located between the outer track rails and joined to the opposite end of the frog base plate and at their other parallel ends to intervening stay bars, and a device connecting the switch rails with the locking and releasing mechanism for the frog rail, to be actuated in unison therewith, substantially as described. 8th. The combination, with a shifting rail pivoted on a bed plate to swing laterally and align with main track rails or side track rails, of a transverse draft bar, a link plate on said bar, a latch dog, a bracket plate that the latch dog interlocks with, and a device that is adapted to slide the draft bar longitudinally and lock or release the latch dog, substantially as described. 9th. The combination, with main track rails that are laterally connected to side track rails in pairs at their ends, side track rails, and a bed plate extending between the paired rails, of a pivoted shifting rail on the bed plate, re-inforce plates secured on the shifting or swing rail opposite its pivot, a bracket plate on the shifting rail end having a latch hole in its projecting portion, a latch dog pivoted on a link plate above on the bracket plate, a link plate pivoted by one end to the latch dog and attached to a draft bar at its other end, a transverse draft bar loosely connected to the slotted end of the bracket plate, a bell crank lever pivoted by one limb to the end of the draft bar, and a connecting rod jointed to the other limb of the draft bar, substantially as described. 10th. The combination, with two laterally joined pairs of main and side track rails, a bed plate extending between said rails, a pivoted swing or shifting rail, re-inforce plates secured on this rail opposite its pivot, and guide bars transversely located in slots in the shifting or swinging rail near its ends, of an elongated bracket plate at one end of the shifting or swinging rail, a latch dog pivoted on a link plate, that is held to slide on the bracket plate and adapted to latch fast to the bed plate, a draft bar secured by one end to the link plate firmly and to the bracket plate loosely, a bell crank pivoted by one limb to the other end of the draft bar, and a rod jointed to the other limb of the bell crank, substantially as described. 11th. The combination, with a base plate, and a swinging or shifting rail thereon, of a bracket plate connected to this rail extending laterally therefrom and having a locking hole in its outer end, an L-shaped latch dog pivoted on a sliding link plate and adapted to engage opposite holes in the bracket plate and base plate, a draft bar, a link plate pivotally connected to the latch dog, and a pin securing the draft bar and link plate together and passing loosely through a slot in the bracket plate, substantially as described.

No. 38,837. Screw Cutting and Pointing Machine.

(Coussinet à fileter et pointer les vis.)

Louis Levigne and Edward F. Gilbert, assignees of Edward Phillips, all of Detroit, Michigan, U.S.A., 2nd May, 1892; 5 years.

Claim.—1st. In a screw cutting and pointing machine, the combination of a rotary chuck for holding the work, a feeding device to deliver the work to the chuck, reciprocating die heads and cutters and mechanism to actuate the chuck and feeding device, substantially as described. 2nd. In a screw cutting and pointing machine, the combination of a chuck for holding the work, a feeding device, and a rotatable shaft carrying the feeding device provided with a stop, a second stop for engaging with said stop, said feeding device having a limited movement on said shaft, substantially as de-

scribed. 3rd. In a screw cutting and pointing machine, the combination of a rotatable chuck to hold the work provided with movable jaws, a feeding device to deliver the work to said jaws, and driving mechanism to actuate said chuck and feeding device, substantially as described. 4th. In a screw cutting and pointing machine, the combinination of a chuck to hold the work, a feeding chute and a feeding device to take the work from said chute and deliver it to said chuck, substantially as described. 5th. In a screw cutting and pointing machine, the combination of a chuck to hold the work, and movable dies and cutters for threading the body and point of the work in a single operation, substantially as described. 6th. In a screw cutting and pointing machine, the combination of a chuck to hold the work, and longitudinal and lateral reciprocatory dies and cutters to thread the body and point of the work, substantially as described. 7th. In a screw cutting and pointing machine, the combination with a supporting frame of a chuck to hold the work, a reciprocatory cross head and a pair of dies and cutters movable on said cross head, substantially as described. 8th. In a screw cutting and pointing machine, the combination with a supporting frame of a chuck to hold the work, a reciprocatory cross head, a pair of die heads located upon said cross head, each provided with a die to cut the threads on the body of the work, and a cutter to cut the threads on the point of the work, substantially as described. 9th. In a screw cutting and pointing machine, the combination of a chuck to hold the work, feeding devices to deliver the work to the chuck, dies and cutters to thread the body and the point of the work, and reversable driving mechanism, substantially as described. 10th. In a screw cutting and pointing machine, the combination of a chuck to hold the work, a lock for said chuck, and threading mechanism to cut the threads on the body and point of the work in one operation, substantially as described. 11th. In a screw cutting and pointing machine, the combination of a reciprocatory rotatable chuck, to hold the work, and feeding devices to deliver the work to the chuck, substantially as described. 12th. In a screw cutting and pointing machine, the combination of a reciprocatory rotatable chuck, suitable die heads and cutters for engaging with the work, said chuck provided with movable jaws, said jaws constructed with angular proximal faces, and means for operating the jaws and for delivering the work to the chuck, substantially as described. 13th. In a screw cutting and pointing machine, the combination of a rotatable reciprocatory chuck to hold the work, a reciprocatory carriage engaging said chuck, a locking device to hold the carriage while the work is being threaded, and a releasing device, substantially as described. 14th. In a screw cutting and pointing machine, the combination of a supporting frame, a reciprocatory cross head, a die head movable on said cross head, and a guide plate to direct the movement of the die head, substantially as described. 15th. In a screw cutting and pointing machine, the combination of a supporting frame, a chuck to hold the work, longitudinally and laterally reciprocatory dies and cutters, locking devices to hold the dies and cutters to their work, and releasing mechanism to permit the retraction of the dies and cutters, substantially as described. 16th. In a screw cutting and pointing machine, the combination of a chuck to hold the work, longitudinally and laterally reciprocatory heads, dies and cutters engaged with said heads, said cutters set at an angle to the dies to thread the point of the work, substantially as described. 17th. In a screw cutting and pointing machine, the combination with a supporting frame and chucks to hold the work located thereupon, a pair of movable cross heads, each provided with dies and cutters to thread the body and point of the work in one operation, feeding devices to deliver the work to said chucks, and feeding arms and driving mechanism to actuate the chucks, cross heads and feeding devices, substantially as described. 18th. In a screw cutting and pointing machine, the combination with a supporting frame of movable cross heads, movable dies and cutters located thereupon, and a guide plate to control the movement of the dies and cutters, substantially as described. 19th. In a screw cutting and pointing machine, the combination with a chuck, of a feeding device to deliver the work to the chuck, a stop to limit the movement of the feeding device, the reversable driving mechanism set forth to actuate the chuck and feeding devices, and a clutch connected with the driving mechanism to throw the feeding mechanism out of gear when its movement is limited until the driving mechanism is reversed, substantially as described. 20th. In a screw cutting and pointing machine, the combination with a supporting frame, of cross heads movable thereupon, and the adjusting mechanism set forth to control the movement of said cross heads, substantially as described. 21st. In a screw cutting and pointing machine, the combination with a supporting frame, of movable cross heads having dies and yielding cutters located upon said cross heads, substantially as described. 22nd. In a screw cutting and pointing machine, the combination of a chuck to hold the work, a feeding device to deliver the work to the chuck, a feeding chute to deliver the work to the feeding device, and means set forth located adjacent to said chute to bind the feeding device upon the work, substantially as described. 23rd. In a chuck, the combination of a rotatable shaft, a reciprocatory head mounted thereupon and rotatable therewith, and jaws interiorly fulcrumed within the head, the shaft being adapted to engage with the jaws on both sides of the fulcrum, whereby they will be closed upon the work when the head is reciprocated in one direction and opened to release the work when reciprocated in the opposite direction, substantially as described. 24th. In a chuck, the combination of a rotatable shaft, a reciprocatory head mounted thereupon and rotatable therewith, and jaws fulcrumed within the head, said jaws each constructed with an interiorly beveled face toward its forward end, with an annular recess toward its rear end and with a heel at its rear extremity, said shaft constructed with recesses to receive said heels, substantially as described. 25th. In a chuck, the combination, with a rotatable shaft, of a reciprocatory head mounted thereupon and rotatable therewith, and two jaws fulcrumed on the interior of said head, said jaws constructed with annular proximal faces at their forward ends and each formed with a substantially V-shaped recess, one arm or surface of which extends from the apex to the outer side of the jaw and the other arm or surface terminates at a point between the apex and the opposite side of the jaw, substantially as described. 26th. In a chuck, a rotatable head and jaws fulcrumed on said head and projecting forward on the head, the forward and projecting ends of said jaws having their proximal faces angular, or each provided with a flat portion which extends inwardly from one side, an inwardly curved surface extending inwardly from the other side, and an inclined surface connecting the inner ends of the outer surfaces, the flat portion of one jaw being diametrically opposite the curved surface of the other jaw, and the inclined surfaces being substantially parallel with each other, substantially as described.

No. 38,838. Swing. (*Balançoire.*)

George Washington Smith, Montpelier, Indiana, U.S.A., 2nd May, 1892; 5 years.

Claim.—1st. A swing consisting of a supporting structure or frame, swing bars connected to the frame, a swing carried by said bars, a cord for starting and stopping the swing, and a foot rest or platform adapted to operate the swing, substantially as described. 2nd. A swing consisting of a frame or support, swing bars connected to the frame, a swing carried by the bars, a spring or yielding cord for starting and stopping the swing, and a spring or yielding foot rest for operating the swing, substantially as described. 3rd. A swing consisting of a frame or support, vertical rails connected to the frame, an adjustable seat mounted on said rails, an adjustable back piece connected to the rails, and a cord for starting and stopping the swing. 4th. A swing consisting of a frame or support, vertical rails connected therewith, adjustable seat supports carried by the rails, a seat adjustable on said supports, an adjustable back rest connected to the rails, a flexible hinged foot rest connected to the rails, and a cord for starting and stopping the swing. 5th. In a swing, the combination of a frame or support, vertical rails connected to said frame, and adjustable seat carried by the rails, and means for operating the swing. 6th. In a swing, the combination of a frame, curved arms connected therewith, rails connected to said arm, a flexible plate carrying a back rest connected to the rails, an adjustable seat carried by the rails, a hinged and folding platform connected to the rails, and a cord for starting and stopping the swing. 7th. In a swing, the combination of a frame, a swing proper suspended from the frame having an adjustable back rest, a hinged folding foot rest, a yielding connection between the swing and foot rest, and a cord for starting and stopping the swing. 8th. In a swing, the combination of the frame, the bars or rails supported thereby, the seat supports having a series of rests, and the seat adjustable on said rests. 9th. In a swing, the combination of a frame, rails or bars supported therefrom, a seat carried by said bars, a flexible plate carried by the bars having a back rest adjustably connected to the bars or rails, a foot rest hinged to the plate and connections between the rest and bars for operating the swing. 10th. In a swing, the combination of a frame, curved arms supported thereby, bars or rails connected to the arms, a seat carried by the bars, a flexible plate carrying a back rest connected to the bars, a hinged plate or plates, a sectional platform mounted on said plates, a yielding or spring connection between the platform and bars, and a yielding or spring hand cord, for the purpose described.

No. 38,839. Organ Stop Action.

(*Arrêt pour action d'orgue.*)

Alexander Marcy and Herman Byron Marcy, both of Clinton, Ontario, Canada, 2nd May, 1892; 5 years.

Claim.—1st. In organ stop actions, the deflection or curve K, to the right or left at or near the lower end of the stop arm or lever A, as shown for the purposes set forth. 2nd. The combination, in organ stop actions, of the deflection or curve K, of the stop arm or lever A, to the right or left at or near the lower end, with the upper end of the stop arm or lever A, entering the stop stem B, as shown for the purposes set forth. 3rd. The combination, in organ stop actions, of the stop arm or lever A, with the opening L at the lower end, with the upper end of the stop arm or lever A, entering the stop stem B, as shown for the purposes set forth. 4th. The combination, in organ stop actions, of the stop arm or lever A, with the opening *m*, on the right or left side near the lower end, with the upper end of the stop arm or lever A, entering the stop stem B, as shown for the purposes set forth. 5th. The combination, in organ actions, of a mute or lead wire D, having a thread E, burr F, and flange tube G, with the opening *m*, in the stop arm or lever A, as shown for the purposes set forth. 6th. The combination, in organ actions, of a mute or lead wire D, having a thread E, burr F, and flanged tube G, with the opening in the stop arm or lever A, at the lower end, as shown for the purposes set forth. 7th. The combination, in

organ actions, of a mute or lead wire D, having a thread E, burr F, and flanged tube G, with the upper end of the stop arm or lever A, entering the stop stem B, as shown for the purposes set forth. 8th. the combination, in organ actions, of a mute or lead wire D, having a thread E, burr F, flanged tube G, with the adjustable slide or block H, on the stop stem B, as shown for the purposes set forth. 9th. The combination, in organ actions, of a mute or lead wire D, having a thread E, burr F, and flanged tube G, with the lever I, on the soft or modifying stop J, as shown for the purposes set forth. 10th. The combination, in organ actions, of the adjustable slide or block H, on the stop stem B, with the lever I, secured to the soft or modifying stop J, as shown for the purposes set forth.

No. 38,840. Resonance Chamber for Pianos.

(Chambre résonnante pour pianos.)

John B. Mitchel, Bowmanville, Ontario, Canada, 2nd May, 1892; 5 years.

Claim.—1st. An independent resonance chamber, made separate from the piano case, and adapted to be placed on any upright piano. 2nd. The combination, of a resonance chamber on the top of piano case, having a revolving fall, and which acts as a sounding board when open. 3rd. The combination, of the resonance chamber, and the piano case, having an opening to allow the tone to pass into the chamber, substantially, and for the purpose herein set forth.

No. 38,841. Coin Vending Machine.

(Appareil de vente actionné par une pièce de monnaie.)

Archie James Henry, Watertown, New York, U. S. A., 2nd May, 1892; 5 years.

Claim.—1st. In a vending machine, the combination, with the slotted coin receiver, the yielding finger in the slot, and a lever having a vertical arm extending upward into the coin slot, and a horizontal arm beyond the pivot of said lever, of a wheel mounted above said lever, and provided with side pins adapted to intermittently engage with the horizontal arm of said lever, depressing it and releasing the coin by swinging the vertical arm out of the coin-slot, and a motor to rotate said wheel. 2nd. In a vending machine, the combination, with the slotted coin receiver, the finger in the slot, and the lever having one arm engaging with the coin from below and normally supporting one side of it, of a ratchet wheel provided with pins projecting from its side, adapted to engage with the other arm of said lever and depress it, to release the coin, a push pawl engaging with said ratchet wheel, a lever connected to said pawl, and a motor to intermittently operate said lever and pawl. 3rd. In a vending machine, the combination, with the slotted coin receiver, the finger in the slot, and the lever having one arm engaging with the coin from below, and supporting it, of a cylinder recessed longitudinally and mounted upon a shaft, journaled in end bearings, a ratchet wheel upon the end of said cylinder and provided with pins upon one side, adapted to engage with the other arm of said lever, and depress it to release the coin, a push pawl engaging with said ratchet wheel, a lever connected to said pawl, and a motor to intermittently operate said lever and pawl. 4th. In a vending machine, the combination, with the electric generator, having its circuit wires connected thereto, of a body having a coin slot therein, in circuit with the electric generator, the cylinder suitably mounted and recessed and provided upon one end with a notched wheel, an armature adapted to rest in engagement with said wheel, said cylinder having upon its opposite end a ratchet wheel, a motor having its circuit wires, and actuating a push pawl, a push pawl engaging with said ratchet wheel, a crank arm pivoted beneath the aforesaid slot, and having one end adapted to engage with the ratchet wheel at regular intervals, and the opposite end adapted to engage with the coin. 5th. In a vending machine, the combination, with the electric generator, having its circuit wires connected thereto, of a body having a coin slot therein in circuit with the electric generator, a cylinder suitably mounted and recessed, and provided upon one end with a notched wheel, a magnet and armature adapted to rest in engagement with said wheel, the spring 14, suitably mounted and having its free end located just above the armature and in circuit with a battery, the opposite end of the cylinder having a ratchet wheel, a motor having circuit wires and provided with a downwardly extending shaft engaging with the push pawl, a push pawl engaging with said ratchet wheel, lugs located upon the outer face of said wheel, a crank arm pivoted beneath the aforesaid slot, having one end adapted to engage with the lugs upon the ratchet wheel, at regular intervals, and the opposite end adapted to engage with the coin, completing the circuit, in the slot between the battery and the armature, for the purpose of releasing the cylinder. 6th. In a vending machine, the combination, with the electric generator, having its circuit wires connected thereto, of a body having a coin slot therein in circuit with the electric generator, a cylinder suitably mounted and recessed, and provided upon one end with a notched wheel, a magnet, an armature adapted to rest in engagement with said wheel, and having upon its opposite end a ratchet wheel, a motor having its circuit wires, and actuating a push pawl by means of a shaft, a push pawl engaging with said ratchet wheel, a crank arm pivoted beneath the aforesaid slot, and one end adapted to engage with the ratchet wheel at regular intervals, the spring 9, holding said crank arm yieldingly in engagement with said wheel, and the opposite end of the crank arm adapted to engage with the coin, forming a circuit in the slot, beneath the battery and armature, and the receptacle containing the article of merchandise.

No. 38,842. Art of Making Flexible Printing Plates.

(Art de fabriquer des plaques flexibles pour les presses.)

Charles S. Partridge, Chicago, Illinois, U.S.A., 2nd May, 1892; 5 years.

Claim.—1st. The improvement in the process of preparing flexible printing plates, consisting in filling the depressions of the copper matrix with a putty or cement made of litharge moistened with glycerine, substantially as specified. 2nd. The improvement in the process of preparing flexible printing plates, consisting in cementing the paper back to the printing plate by a cement composed of celluloid and gum camphor dissolved in wood alcohol, substantially as specified. 3rd. The improvement in the process of preparing flexible printing plates, consisting in treating the paper backing with a moisture proof solution, substantially as specified. 4th. The product of the process herein described, consisting of a celluloid or other flexible plate having moisture proof paper backing, substantially as specified.

No. 38,843. Levelling Attachment for Harrows.

(Appareil niveleur pour herses.)

Lorenzo D. Corser and Valentine S. Barker, both of Ebensburg, Pennsylvania, U.S.A., 2nd May, 1892; 5 years.

Claim.—1st. A harrow comprising a triangular frame having blades or teeth along its side bars, front and rear supporting wheels, a transverse series of teeth extending across the rear end of the frame, each tooth being pivoted between its ends to swing vertically, a head to which the upper ends of said teeth are connected, and springs pressing the said head upward and thereby forming cushions therefor, substantially as set forth. 2nd. A harrow having a transverse series of teeth extending across the rear end of its frame, each tooth being pivoted between its ends to swing vertically, a head connecting the upper ends of the said teeth, and springs pressing the head upward and forming cushions therefor, substantially as set forth. 3rd. A harrow having a transverse series of teeth across its rear end, the teeth being all mounted between their ends on a common axis to swing vertically, a head connecting the upper ends of all the teeth, springs pressing the head upward and forming cushions, a lever having its outer end fulcrumed on the axis of the teeth, pivoted between its ends to the said head, and extending at its inner end towards the centre of the frame, and a catch for retaining the lever depressed, substantially as described. 4th. The rectangular open frame n, having the two transverse curved parallel bars n^1, each provided with a forward projecting apertured lug n^2, substantially as set forth. 5th. The combination, with the open frame n, having two transverse curved parallel bars n^1, each provided with a forward projecting apertured lug n^2, of the caster-wheel having a fork 13, provided with a vertical shank passed through the apertures in said lugs, and having a squared portion o^2 between said lugs, a shoulder or collar o^1 below the lugs, a retaining-nut above the lugs, and the forward projecting piece 14, apertures to fit the squared portion o^2, substantially as set forth.

No. 38,844. Road Locomotive.

(Locomotive de routes.)

Jeddiah F. Hanscom, Ashland, Wisconsin, U.S.A., 4th May, 1892; 5 years.

Claim.—1st. The combination, with series of wheels, of which one or more constitute the driving wheel or wheels, said wheels having their peripheries provided at regular intervals with projecting sprockets, of open link chains connecting the driving wheel or wheels with the non-driving wheel or wheels. 2nd. In a road locomotive, the combination of a platform having a central opening at its rear end, a transverse shaft having mounted thereon a gear wheel extending through the opening, and also sprocket wheels upon opposite sides of the gear wheel, free from contact with the ground, said sprocket wheels having broad surfaces or peripheries with projecting sprockets, a second transverse shaft having mounted thereon sprocket wheels engaging the ground, similar in construction and located in a line with the first named sprocket wheels, the sprocket of the entire series passing through the links, a gear wheel mounted in suitable bearings extending upwardly from the platform, said gear wheel meshing with the central gear wheel, and means for rotating the gear wheel located above the platform, substantially as set forth. 3rd. In a road locomotive, the combination of a platform, a steering rod located at one extremity thereof, provided at its upper end with a hand wheel and at its lower end with a gear wheel, a short shaft extending downwardly from the platform and carrying a gear wheel meshing with the first named wheel, said gear wheel carried by the short shaft provided with depending brackets, forward and rear shafts journaled in said brackets, a sprocket wheel mounted upon the forward shaft and provided with a broad surface or periphery having projecting sprockets therefrom, a sprocket wheel of similar construction carried by the rear shaft, and an open link sprocket chain connecting the two wheels, the sprockets of said

wheels passing entirely through the links of the chain, substantially as set forth. 4th. The combination, with a sprocket chain consisting of a series of open links, the inner links of the series provided with tubular end pieces passing between the open ends of the outer links, and bolts passing freely through the contacting portions of the links and through the tubular end pieces, of a series of wheels of which one or more constitute the drive wheels, said wheels having their peripheries provided with projecting sprockets, the sprockets of the entire series passing through the links, and those of the driving wheels engaging the road bed, substantially as set forth.

No. 38,845. Coffin Case. (*Boîte de cercueil.*)

William John Anthistle, London, Ontario, Canada, 4th May, 1892; 5 years.

Claim.—A coffin case composed of the body A, molded or made in one piece, of cement and sand in about uniform proportions, and provided with an exterior rim *a*, around its upper edge, and the cover consisting of sections B, B^1, B^2, bearing on said rim and interior recess thus formed, flush with the outside of the case, as set forth.

No. 38,846. Medicine for Bowel Complaint.

(*Médecine pour maladies d'intestins.*)

Joseph Henry Burkholder, Binbrook, Ontario, Canada, 4th May, 1892; 5 years.

Claim.—The herein described composition of matter to be used as a medicine for the cure of bowel complaints, consisting of water, bark of blackberry root, turkey rhubarb, peppermint plant, bicarbonate of potash, wild cherry bark, brandy and sugar, in or about substantially the proportions specified.

No. 38,847. Mail Bag. (*Sac à lettres.*)

Charles Weltmer, Cambelltown, Pennsylvania, U.S.A., 4th May, 1892; 5 years.

Claim.—1st. A mail bag mouth frame consisting of interlocking jaws B, having rims C and flanges *f*, said flanges being pivotally connected by links D, and one series having shields b^1, formed integral with said flanges, in combination with a bag or pouch A, substantially as described. 2nd. In a mail bag, a two-part frame, one jaw of which is provided with a rim C and flange *f*, said flange and rim, terminating integrally with and forming a shield b^1, substantially as described. 3rd. In a mail bag, the two-part frame provided with interlocking rims C and outwardly extending flanges *f*, one part of said frame having downwardly projecting shields b^1, in combination with the links D, substantially as described. 4th. The combination, with a mail bag, of a frame consisting of the two parts B, having rims C, flanges *f*, shields b^1, and links D, substantially as described, and for the purpose specified.

No. 38,848. Stone Crusher and Pulverizer.

(*Machine à broyer et pulvériser la pierre.*)

Ryerson Dudley Gates, Chicago, Illinois, U.S.A., 4th May, 1892; 5 years.

Claim.—In a stone crusher and pulveriser, the movable pulverizing die N, stationary crushing die O, and breaking head or cone H, substantially as and for the purposes specified.

No. 38,849. Combined Ventilator and Damper.

(*Ventilateur et registre combinés.*)

John Henry Stone, Toronto, Ontario, Canada, 4th May, 1892; 5 years.

Claim.—1st. In a combined ventilator and damper, the combination of the length B, having the holes C, the collar E, having the holes F corresponding in size, shape and number to the holes C, and the hood G attached to the collar E, as and for the purpose specified. 2nd. In a combined ventilator and damper, the combination of the length B, having the holes C, the collar E, having the holes F, corresponding in size, shape and number to the holes C, and the hood G attached to the collar E, and having a lug *g* formed on it, as and for the purpose specified. 3rd. The combination of the length B, having the holes C, the collar E, having the holes F, corresponding in size, shape and number to the holes C, the hood G attached to the upper end of the collar E, and the stop D attached to the length B, and designed to be fitted into and worked in the bayonet slot *f* in the collar E, as and for the purpose specified.

No. 38,850. Motor. (*Moteur.*)

William H. Scheer, Frankfort Station, Illinois, U.S.A., 4th May, 1892; 5 years.

Claim.—1st. A motor comprising a main driving shaft, a ratchet wheel secured thereon, pinions mounted to turn loosely on the said shaft and each carrying a pawl engaging the said ratchet wheel, a gear wheel in mesh with one of the said pinions, and a second gear wheel in mesh with an intermediate pinion engaging the other pinion mounted loosely on the main shaft, and a lever mounted to swing and connected at opposite sides of its fulcrum by links with the said gear wheels, substantially as shown and described. 2nd. In a motor, the combination, with a main driving shaft and a ratchet wheel secured thereon, of pawls engaging the said ratchet wheel, pinions formed with annular flanges carrying the said pawls, the said pinions being mounted to turn loosely on the said main driving shaft, a gear wheel in mesh with one of the said pinions, an intermediate pinion in mesh with the other pinion, a second gear wheel in mesh with the said intermediate pinion, links pivotally connected with the said gear wheels, and a lever having a swinging motion and pivotally connected with the said links, substantially as shown and described.

No. 38,851. Stocking. (*Bas.*)

Joseph John Westgate and Charles L. Higgins, both of Montreal, Quebec, Canada, 4th May, 1892; 5 years.

Claim.—1st. As an improved article of manufacture, an over-stocking having an elastic reinforcement, around the heel opening *d*, the whole substantially as described. 2nd. As an improved article of manufacture, an over-stocking having an elastic and non-elastic re-inforcement around the heel opening *d*, substantially as described.

No. 38,852. Cushioned Car Wheel.

(*Coussinet de roue de chars.*)

Benjamin F. Haugh, Indianapolis, Indiana, U. S. A., 4th May, 1892; 5 years.

Claim.—1st. In a cushioned car wheel, the combination, with the centre 1, and its tire 4, having an interposing elastic cushion 8, of an inwardly projecting flange 6, having its inner edge tapered or flaring outwardly, said flange adapted to contact with the outer face of said centre 1, an annular outwardly flaring flange or shield 11, projecting over the inner edge of said tire and suitable securing rivets, as 12, for securing said tire to said centre, substantially as set forth. 2nd. In a cushioned car wheel, the combination, with the centre 1, and the tire 4 thereof, having an interposing elastic cushion 8, of an inwardly projecting flange 6, formed on said tire, and contacting with the outer face of said centre, said flange having its inner peripheral edge flaring slightly outwardly, as described, an annular outwardly flaring flange or shield 11, projecting over and beyond the outer face of said flange of tire, said flaring flange having the annular peripheral groove 11*a*, formed on the outer peripheral edge thereof, all substantially as and for the purpose set forth. 3rd. In a cushioned car wheel, the combination with the tire 4, and the centre 1 thereof, having an outwardly projecting peripheral thrust flange 3, formed on the inner face of said centre 1, and an inwardly projecting flange 6, formed on the outer face of said tire, of an elastic cushion 8, surrounded with the outer shield 9, interposed between the face of said centre and the tire, and extending to and between said tire and centre flanges, and the outwardly flaring flange adapted to contact with the flange 6, substantially as and for the purpose set forth.

No. 38,853. Method of Manufacturing and Composition for Sand Brick. (*Méthode de fabrication et composition pour la brique de sable.*)

Eugene H. Lewis, St. Joseph, Michigan, U. S. A., 4th May, 1892; 5 years.

Claim.—1st. The method of manufacturing, an indurated soluble sand brick, which consists in mixing clay and hydrochloric acid; adding thereto caustic lime (calcic oxide) sand, cement and water; moulding and subjecting the brick to pressure; and finally treating the brick with a solution of silicate of soda, as and for the purpose described. 2nd. The method of making an indurated insoluble sand brick without burning the same, consisting in mixing dry clay and hydrochloric acid which are allowed to stand for a short time; then adding dry caustic lime, (calcic oxide) dry sand and dry cement, and mixing the several ingredients by mechanical agitation; then reducing the mass to a plastic state by the addition of water thereto, moulding and pressing the brick; and finally treating the moulded brick with a solution of silicate of soda, as and for the purpose described. 3rd. A composition for sand brick, consisting of clay, hydrochloric acid, caustic lime, (calcic oxide) sand, cement and water, in substantially the proportions specified. 4th. An indurated insoluble sand brick, composed of clay, hydrochloric acid, caustic lime, (calcic oxide) sand, cement and water mixed together, moulded and subjected to pressure and treated with a solution of silicate of soda, substantially as described.

No. 38,854. Gravition Alarm.

(*Avertisseur à gravitation.*)

John David Vaughan and Nelson Fretz, both of Denver, Colorado, assignees of Samuel Evans Jones, Madison, Wisconsin, all in the U.S.A., 5th May, 1892; 10 years.

Claim.—1st. A gravitation alarm comprising a gong, a frame adapted to slide vertically and to actuate the said gong, and a train of gear wheels controlled by a pendulum for regulating the downward movement of the said casing or frame, substantially as shown and described. 2nd. A gravitation alarm comprising a post formed with a graduation and rack teeth, a frame adapted to slide on the said post, and a train of gear wheels in mesh with the said rack teeth and controlled by a pendulum, substantially as shown and de-

scribed. 3rd. A gravitation alarm comprising a post formed with a graduation and rack teeth, a frame adapted to slide on the said post, a train of gear wheels in mesh with the said rack teeth and controlled by a pendulum, and a gong adapted to be sounded by the said frame on reaching its lowermost position, substantially as shown and described. 4th. In a gravitation alarm, the combination, with a post having rack teeth, of a frame fitted to slide thereon, a pinion in mesh with the said rack teeth, an escapement wheel connected by train of gear wheels with the said pinion, and a pendulum escapement acting on the said escapement wheel, substantially as shown and described. 5th. In a gravitation alarm, the combination, with a post having rack teeth, of a frame fitted to slide thereon, a pinion in mesh with the said rack teeth, an escapement wheel connected by a train of gear wheels with the said pinion, a pendulum escapement acting on the said escapement wheel, and means, substantially as described, for throwing said pinion out of mesh with the rack teeth, as set forth. 6th. In a gravitation alarm, the combination, with a post having rack teeth, of a frame fitted to slide thereon, a pinion in mesh with the said rack teeth, an escapement wheel connected by a train of gear wheels with the said pinion, a pendulum escapement acting on the said escapemennt wheel, and a gong adapted to be sounded by the said frame on reaching its lowermost position, substantially as shown and described.

No. 38,855. Baking Pan. (*Casserole.*)

Conrad Schifferly and Daniel Klotz, both of Fort Wayne, Indiana, U.S.A., 5th May, 1892; 5 years.

Claim.—The combination, with an oblong bake pan, the rear end of which is outwardly bowed or curved throughout its length and adapted to be temporarily sprung inwardly, and the four edges of which are beaded, of a cover agreeing in size with the pan, having its opposite sides and front end provided with curved guides for embracing the side and front beads of the pan, and at its rear end provided with a bead for springing over the rear end of the pan and curved to agree therewith, substantially as specified.

No. 38,856. Closet Cistern. (*Réservoir de latrine.*)

David Lancaster Dwinnell and Miller Bros. & Toms, all of the city of Montreal, Quebec, Canada, 5th May, 1892; 5 years.

Claim.—1st. A closet cistern having the inlet valve arranged in such relation to the bottom thereof that its distributing ports shall always be wholly or partially submerged, for the purpose set forth. 2nd. In a closet cistern, the combination therewith and arrangement therein of the ball cock, and connections of such length, and so pivoted and arrested that the ball thereof can only fall a small proportion of the height of the water. 3rd. A closet cistern having a ball cock, the valve and pivotting point of the lever of which are below the float or ball of same, for the purpose set forth.

No. 38,857. Closet Cistern. (*Réservoir de latrine.*)

David Lancaster Dwinnell and Miller Bros. & Toms, all of Montreal, Quebec, Canada, 5th May, 1892; 5 years.

Claim.—1st. In a water closet cistern, the combination with the inlet valve mechanism, of a fixed support, carried by the cistern, and an adjustable check or stop carried by such valve mechanism adapted to make contact with such support to regulate the position of said valve, for the purpose set forth. 2nd. In a water closet cistern, the combination with the ball cock thereof, for controlling the inflow, and a fixed guide support of adjustable checking devices carried by the float of such ball cock for regulating the position of same, and the position of the inlet valve, for the purpose set forth. 3rd. The combination with the cistern having a siphon discharge, an inlet and ball cock for controlling the same, of bar J, screwed wire extension H^1 from ball G, and one or more check nuts K adjustable on such extension, substantially as and for the purpose specified. 4th. A water closet cistern having an inlet valve and float mechanism for controlling same, connected therewith in such a manner that the rise of such float mechanism will serve to secure an increase in the inflow, for the purpose set forth.

No. 38,858. Fishing Rod and Reel.

(*Canne et dividoir de pêche.*)

John Miles Finch, Hornellsville, assignee of Oliver Perry Ross, Olean, both in New York, U.S.A., 5th May, 1892; 5 years.

Claim.—1st. In a fishing rod, the combination, with the spindle E that operates the gearing, of a set of spiral springs G H located one within another surrounding the spindle, the lower ends connected respectively with the butt and the spindle, and the upper ends with a device *r* that turns freely on the spindle, as shown and described and for the purpose specified. 2nd. In a fishing rod, the combination of the spindle E, the spring G H connected at the bottom respectively with the butt and the spindle, the disk *r*, turning loosely on the spindle, the ends of the springs being connected therewith, a gear wheel on the lower end of the spindle, and gearing connecting said gear wheel with the shaft of the winding spool, as herein shown and described.

No. 38,859. Woven Fabric. (*Tissu.*)

John Hilton and Thomas Beveridge, both of Paterson, New Jersey, U.S.A., 5th May, 1892; 5 years.

Claim.—1st. As a new article of manufacture, a cloth consisting of a comparatively loosely woven body portion with chamois skin, or similar material, cut into strips and woven as weft at intervals through the body of the cloth, substantially as shown and described and for the purposes set forth. 2nd. As a new article of manufacture, a cloth adapted for cleaning and polishing purposes, consisting of a body portion of woven textile material and narrow strips of chamois skin, or similar material, woven at intervals as weft through said body portion, the warp and weft threads of the cloth between the said strips being loosely woven, forming a comparatively open mesh to permit the edges of the said strips to be presented to the surface upon which the cloth is being used, substantially as shown and described.

No. 38,860. Electric Forging Machine.

(*Machine électrique à forger.*)

John I. Gilbert, Malone, New York, assignee of Eliza J. Ross, administratrix of the estate of Robert Ross, Vergennes, Vermont, all in the U.S.A., 5th May, 1892; 5 years.

Claim.—1st. In an electric metal working machine, the combination, with the mechanism which operates upon the softened metal, of an electrode, and a second electrode connected with said mechanism and operated thereby automatically to make and break the circuit, substantially as set forth. 2nd. In an electric metal working machine, the combination, with the mechanism which operates upon the softened metal, and electric heating devices adapted to pass an electric current intermittently through the metal, of a circuit and a generator for said current, and an accumulator or storage battery in said circuit, substantially as set forth. 3rd. In an electric metal working machine, the combination, with the mechanism which operates upon the softened metal, two movable electrodes, situated in proximity to the path of the blank or rod to be heated, holding and feeding devices for the blank connected with the metal working mechanism and independent of the movable part or electrode which makes or breaks the circuit, and means connected with said electrodes for causing them intermittently to make contact with said blank, substantially as set forth. 4th. The combination, with the metal shaping devices or dies, and the cutter, of two electrodes situated in proximity to the path of the rod or blank, and a feeder connected with and operated at proper times by the mechanism which actuates said dies and cutter, which engages said blank and feeds the heated portion of the same from said electrodes to the dies and then to the cutter, substantially as set forth. 5th. In a horse shoe nail forging machine, the combination, with the shaping hammers or dies, and the cutter, of electrodes situated in proximity to the path of the blank or rod, and a feeder which moves the heated portion of said blank from the electrodes and to the shaping devices, substantially as set forth. 6th. In a horse-shoe nail forging machine, the combination, with the shaping hammers or dies, and the cutter, of electrodes situated in proximity to the path of the blank or rod, a guide for directing the blank to the electrodes, a gauge which determines the amount of advance of the blank and the part to be heated, and a feeder which moves the heated portion of said blank from the electrode and to the shaping devices, subst ntially as set forth. 7th. In an electric metal working machine, the combination, with a mechanism which operates upon the softened metal, of electrodes situated in advance of said metal working mechanism at the side of the path of the rod or blank to be heated, and movable towards or from said path, and holding and feeding devices which move the blank from said electrodes towards the said metal working mechanism, substantially as set forth.

No. 38,861. Apparatus for Cutting Pile Fabrics.

(*Appareil pour tailler les étoffes à poile.*)

The Fustian Cutting Machine Company, assignee of John James Mann, Manchester, and James Hoyle Smith, Eccles, England, 5th May, 1892; 5 years.

Claim.—1st. The improved pile cutting apparatus for causing the traverse of the cloth, greatly to exceed that of the carriage upon which it is mounted, as hereinbefore described. 2nd. Guide rollers for pile cutting apparatus, made slightly less in diameter at the centre, than at each end, thereby keeping the cloth straight and even. 3rd. In machines of the above construction, mounting the tightening rollers in spring bearings, substantially as and for the purposes hereinbefore described.

No. 38,862. Cigar Vent. (*Event de cigar.*)

Reuben Cohen, Montreal, Quebec, Canada, 5th May, 1892; 5 years.

Claim.—1st. The combination, with a cigar, of the vent C, having cutting edges *b*, substantially as described. 2nd. The combination, with a cigar, of the vent C, having a head *c*, and cutting edges *b*, substantially as described.

No. 38,863. Dump Bucket. (*Baille à bascule.*)

Thomas Cogswell, San Diego, California, U. S. A., 5th May, 1892; 5 years.

Claim.—1st. A dumping bucket, constructed in two sections M, N, both sections hinged together, to open apart from the bottom by connecting bars C, C¹, one of said bars rigidly fastened to each section and pivotally attached to the other section, and a traveler D, adjustable along said bars to lock the sections together when closed, as set forth. 2nd. The combination of the bucket sections M, N, pivotally connected together to open apart at the bottom by diametrically opposite connecting bars C, C¹, one bar having one end permanently riveted or fixed to one bucket section, and the other bar to the opposite section, both bars at the opposite end pivoted by a rivet to each section, whereby one section will tilt the other section, in dumping, and a traveller attached to the ends of the bail, and connected by a cable, to simultaneously be moved along said bars C, C¹, for locking and releasing the sections, as set forth.

No. 38,864. Broaching Device for Casks.

(*Robinet pour futailles.*)

George Gabb, Wimbledon, Surrey, England, 7th May, 1892; 5 years.

Claim.—1st. In combination, with the thimble A, having a valve seat, a part behind it perforated and a part in front of it screw threaded and its valve and spindle, a disc screwed into the front part of the thimble by screwing in the tap, to force back the valve from its seat, and by screwing out the tap to draw forward the valve to its seat, as herein set forth. 2nd. The combination, in the thimble A, constructed as described, of valve seat, valve L, spindle G, with cap H, disc E, and shoulder sleeve K, all as and for the purposes set forth.

No. 38,865. Water Motor. (*Moteur à eau.*)

Albert W. Brash, Newark, South Dakota U. S. A., 7th May, 1892; 5 years.

Claim—1st. In a water motor, substantially as described, the combination, with the casing having the inlet and discharge openings, the drive shaft journaled in said casing, the wheel fixedly mounted on said shaft and comprising the hub, the cylindrical body, the longitudinal ribs on the inside of the cylinder, and the series of dished and curved blades arranged at the outer ends of the longitudinal ribs, the valve cylinder having longitudinal slots, and a suitable means for adjusting said cylinder, of the stationary cylindrical core arranged between the valve cylinder and the cylinder of the wheel, and having longitudinal slots and an end flange, substantially as specified. 2nd. In a water motor, substantially as described, the combination, with the casing having the inlet and discharge openings, the drive shaft journaled in said casing, and the wheel fixedly mounted on said shaft and comprising the hub, the cylindrical body, the longitudinal ribs on the inside of the cylinder, and the series of dished and curved blades arranged at the outer ends of the longitudinal ribs, of the stationary cylindrical core within the body of the wheel having longitudinal slots and an annular flange, the valve cylinder movable within the stationary core and having longitudinal slots and an end flange provided with teeth and a rod carrying a pinion at its lower end engaging the teeth of the valve cylinder, substantially as specified.

No. 38,866. Crimper for Cartridge Shells.

(*Ourleur pour étuis de cartouches.*)

George D. Hunter, Auburn Park, Illinois, U.S.A., 7th May, 1892; 5 years.

Claim.—1st. A crimper for cartridge shells provided with a glass crimping disk, substantially as described. 2nd. A crimper for cartridge shells provided with a holder having a recess or chamber in its front end or face, and a glass crimping disk secured in said chamber, substantially as described. 3rd. A crimper for cartridge shells provided with a holder having a recess or chamber in its front end or face, a layer of cement therein and a glass crimping disk seated or embedded in said cement, substantially as described. 4th. A crimper for cartridge shells provided with a holder having a recess or chamber in its front end or face, a layer of cement therein, and a glass crimping disk seated or imbedded in said cement and formed with a series of small ribs on or in its rear surface, substantially as and for the purpose described. 5th. A crimper for cartridge shells provided with a holder having a recess or chamber in its front end, and a glass crimping disk within said chamber, substantially as described. 6th. A crimper for cartridge shells provided with a holder having a recess or chamber in its front end or face, a layer of cement therein, and a crimping disk seated or imbeded in said cement and formed with a series of small ribs or grooves on or in its rear surface, and an inturned flange at its front end, substantially as and for the purpose described. 7th. A crimper for cartridge shells provided with a holder having a recess or chamber in its front end or face, an inturned flange at its front end, a crimping disk within said chamber, an interiorly screw-threaded rear portion, and an exteriorly screw-threaded and removable shaft-head, substantially as described. 8th. A crimper for cartridge shells provided with a holder having a recess or chamber in its front end or face, an inturned flange at its front end, a crimping disk within said chamber, an interiorly screw-threaded rear portion, an exteriorly screw-threaded shaft-head, and a rubber plate arranged intermediate of the rear face of said disk and the front face of said shaft-head, substantially as described. 9th. A crimper for cartridge shells provided with a holder having a recess or chamber in its front end or face, an inturned flange at its front end, crimping disk within said chamber, an interiorly screw-threaded rear portion, an exteriorly screw-threaded shaft-head, a rubber plate arranged intermediate of the rear face of said shaft-head, and an annular channel formed in the inner surface of said holder, substantially as and for the purpose described. 10th. A crimper for cartridge shells consisting of a holder, a crimping disk within the holder, and a yielding packing between the disk and holder, substantially as described. 11th. A crimper for cartridge shells provided with a main holder, an auxiliary holder, and a glass crimping disk arranged and secured within the latter, substantially as described. 12th. A crimper for cartridge shells provided with a main holder, an auxiliary holder secured therein and formed with a flat bottom, and a glass-crimping disk arranged and secured within the latter, substantially as described. 13th. A crimper for cartridge shells provided with a main holder, an auxiliary holder secured therein, a layer of cement in the latter and a glass crimping disk firmly seated or embedded in said cement, substantially as described. 14th. A crimper for cartridge shells provided with a main holder, an auxiliary holder secured therein, a layer of cement in the latter, and a glass crimping disk firmly seated or embedded in said cement and formed with a series of small ribs or grooves on or in its rear surface, substantially as and for the purpose described. 15th. A crimper for cartridge shells provided with a main holder, an auxiliary holder secured therein, an inturned flange around the front end of said main holder, and a glass crimping disk arranged and secured within said auxiliary holder, substantially as described. 16th. A crimper for cartridge shells provided with a main holder, an auxiliary holder secured therein, a layer of cement in the latter, a glass crimping disk seated or embedded in said cement and formed with a series of small ribs or grooves on or in its rear surface, and an inturned flange around the front end of said main holder, substantially as and for the purpose described. 17th. A crimper for cartridge shells provided with a main holder, an auxiliary holder secured therein by screw-threads and a glass crimping disk arranged and firmly secured within the latter, substantially as described. 18th. A crimper for cartridge shells provided with a main holder having an inturned flange around its front end, an interiorly screw-threaded rear portion, an exteriorly screw-threaded and removable shaft-head therein, an auxiliary holder and a glass crimping disk firmly secured within the same, substantially as described. 19th. A crimper for cartridge shells provided with a main holder having an inturned flange around its front end, an interiorly screw threaded rear portion, an exteriorly screw-threaded and removable shaft-head therein, an auxiliary holder, and a glass crimping disk firmly secured within the same in a layer of cement and formed with a series of small ribs or grooves on or in its rear surface, substantially as and for the purpose described.

No. 38,867. Automatic Hinge for School Seats.

(*Charnière automatique pour bancs d'école.*)

Edward M. Dennis, Walkerville, Ontario, Canada, 7th May, 1892; 5 years.

Claim.—1st. In a school seat, the combination, with the standard and seat arm, of an oscillatory lever jointedly engaged with said seat arm at one extremity, and with the standard at the opposite extremity, substantially as described. 2nd. In a school seat, the combination, with the standard and seat arm, of an oscillatory lever, jointedly engaged with the seat arm at the lower extremity, and with the standard at the upper extremity, said seat arm cushioned on its upward and downward movement, substantially as described. 3rd. In a school seat, the combination, with the standard, of a seat arm constructed with a loop E-2, and an oscillatory lever jointedly engaged with the seat arm at one extremity, and with the standard at the opposite extremity, the jointed union of the lever and standard at said opposite extremity extending through said loop and provided with a cushion for the seat arm, substantially as described. 4th. In a school seat, the combination, with a standard provided with a toothed portion, of a seat arm jointedly connected with the standard and provided with a gear meshing with the toothed portion of the standard, substantially as described. 5th. In a school seat, the combination, with a standard and a seat arm, of an oscillatory lever jointedly engaged with the seat arm at one extremity, and with the standard at the opposite extremity, said standard provided with a toothed portion, and said seat arm with a gear meshing with the toothed portion of the standard, substantialy as described. 6th. In a school seat, the combination, with a standard, of a seat arm jointedly connected therewith, said seat arm having a simultaneously upward and retracting movement in one direction, and a downward and forward movement in the opposite direction, substantially as described. 7th. In a school seat, the combination, with a standard and seat arm, of an oscillatory lever, jointedly engaged with the seat arm at one extremity, and with the standard at the opposite extremity, and a spring exerting a tension upon the seat arm, substantially as described. 8th. In a school seat, the combination, with a standard provided with a rearwardly inclined tooth portion of a seat arm provided with a segmental gear meshing with the toothed por-

tion of the standard, substantially as described. 9th. In a school seat, the combination, with a standard of a seat arm, an oscillatory lever provided with a hub extending through the seat arm, a cap located upon the inner end of the hub, a pivoting bolt passed through said hub uniting the lever, seat arm and cap, a pivoting bolt uniting the opposite end of the lever arm with the standard, and a cushion located at the upper end of the lever, substantially as described. 10th. In a school seat, the combination, with a standard, of a seat arm, an oscillatory lever provided with a hub extending through the seat arm, a cap located upon the inner end of the hub, a pivoting bolt passed through said hub uniting the lever, seat arm and cap, washers on each side of the seat arm, a gasket adjacent to the cap, and a pivoting bolt uniting the opposite end of said lever with the standard, and an elastic ring interposed between the lever and standard, substantially as described.

No. 38,868. Axe. (*Hache.*)

Benjamin Beck, Elko, Missouri, U. S. A., 7th May, 1892; 5 years.

Claim.—1st. In an axe, the combination, of a blade A, of uniform thickness, having a beveled cutting edge, an eye B, having walls tapering thicker from the end at which the handle is inserted, and a counterbalance *c*, projecting beyond the thick edge of the eye, substantially as set forth. 2nd. In an axe, the combination, of a blade A, of uniform thickness having a beveled cutting edge *a*, an eye B, having walls *b*, tapering thicker from from the edge at which the handle is inserted, and a tapering poll C, having its thick end extended beyond the thick edge of the eye, substantially as set forth.

No. 38,869. Horse Detacher for Vehicles.

(*Dételage instantané pour voitures.*)

Charles Joseph Walser, Milwaukee, Wisconsin, U.S.A., 7th May, 1892; 5 years.

Claim.—1st. In a horse-detacher, the combination, with the whiffletree, of trace fastenings, each consisting of a socket adapted to be secured upon the end of the whiffltree, a sleeve at the outer end of said socket provided with an overhanging hook and with an inclined or spiral slot in one side thereof, a pin movable lengthwise in said sleeve, a stud fixed to said pin and projecting through said slot, and a strap or its equivalent attached to said stud and leading back into the vehicle, substantially as and for the purposes set forth. 2nd. In a horse-detacher, the combination, with the whiffletree, of trace fastenings attached to the ends thereof and each consisting of a sleeve provided with an overhanging hook, a pin movable lengthwise in said sleeve, a stud secured in said pin and projecting through an inclined or spiral slot in said sleeve, a washer placed on said stud so as to bear against the outer edges of said slot, and a spring bearing against said washer and forcing it against the edges of said slot, substantially as and for the purposes set forth. 3rd. In a horse-detacher, a trace fastening composed of a sleeve provided with an overhanging hook perforated in line with the opening in said sleeve, a pin movable lengthwise in said sleeve and provided with a stud projecting outwardly through an inclined or spiral slot in said sleeve, a tapering washer placed loosely on said stud and bearing against the outer edges of said slot, an adjusting nut on said stud, and a spring interposed between said washer and adjusting nut, substantially as and for the purposes set forth. 4th. In a horse-detacher, the combination, with the whiffletree, of trace fastenings, each consisting of a metallic sleeve adapted to be attached to the end of the whiffletree and provided with an overhanging hook, a pin inclosed and movable lengthwise in said sleeve, a stud secured to said pin and projecting through an inclined or spiral slot in the side of the sleeve, and a strap or other flexible connection attached to the protruding end of said stud, and leading back therefrom to the vehicle, substantially as and for the purposes set forth.

No. 38,870. Automatic Fire Extinguisher.

(*Extincteur automatique d'incendie.*)

Robert Wilkinson Newton, Providence, Rhode Island, U. S. A., 7th May, 1892; 5 years.

Claim.—1st. The combination, in an automatic fire-extinguisher, with the head 10, provided with the outlet-opening 13, surrounded with a valve-seat, and the deflector-disk 19, provided with the valve 18, of the supporting frame, consisting of the pendent-arms 14, the cross-piece 15, the supports 16, the channels 17, and a device for holding the valve against the outlet-opening. 2nd. In an automatic sprinkler, the combination, with the valve, of a device for holding the valve in the closed position, consisting of the levers 22, the lower ends of which are secured by solder fusible at a low temperature, and the levers 21, extending from the upper ends of the levers 22, to the valve-disk, as described. 3rd. The combination, in an automatic-sprinkler, with the sprinkler-head and the deflector provided with a valve, of the pendent-arms 14, secured to the head, the cross-piece 15, the supports 16, the levers 21, and the levers 22, secured at their lower ends to opposite sides of the cross-piece 15 by solder, as described. 4th. The combination, as herein set forth, with the head 10, the valve 18, and deflector-disk 19, of the cylindrical-rim 20, the pendent-arms 14, the cross-piece 15, the supports 16, the grooves or channels 17, and the locking device consisting of the levers 21 and 22, the latter secured to the two sides of the cross-piece by solder, as described. 5th. In an automatic-sprinkler, the combination, with the screw-threaded cylinder 24, and the valve 28, of the frame 31, the screw-threaded collar 32, and the device for securing the valve consisting of the arms 36 and 38, secured by solder, as described. 6th. In an automatic-sprinkler, the combination, with the screw-threaded cylinder 24, and the frame 31, provided with the screw-threaded collar 32, of the valve 28, the channels 33, the arms 36 and 38, the latter secured by solder to the yoke 34, and the deflector 35, secured to the end of the frame, as described. 7th. A deflector for an automatic-sprinkler, consisting of a sheet-metal disk, the central portion of which has a convex deflecting-surface, surrounded by an annular concave-rim, as described. 8th. In an automatic-sprinkler, the combination, with the outlet from which the water is discharged and a valve for closing the outlet, of the frame 31, provided with the vertical sides 37, and the yoke 34, the arms 36 and 38, the latter secured to the yoke by solder, and the block 41, supported on the yoke 34, and secured by solder to the opposite arms 38, as described. 9th. In an automatic-sprinkler, the combination, with the valve, of the sprinkler, and the device for holding the valve to its seat, secured to a fixed part of the sprinkler by solder, of a pin provided with a conical head or projection, and holes in the fixed part and in the holding device adapted to receive the pin, as and for the purpose described. 10th. In an automatic-sprinkler, the combination, with the screw-threaded tube or cylinder 24, the frame 31, provided with the collar 32, and yoke 34, and the valve 28, of the arms 36 and 38, the latter secured to the yoke by solder, and the pins 39 adapted to strengthen the solder-joint, as described. 11th. In an automatic-sprinkler, the combination, with the screw-threaded tube or cylinder 24, the frame 31, provided with the collar 32, and yoke 34, and the valve 28, of the arms 36 and 38, the latter secured to the yoke by solder, and the pin 40, to partly resist the strain, as described. 12th. An automatic-sprinkler, consisting of the screw-threaded cylinder 24, one end forming a valve-seat, the frame 31, secured to the collar 32, having the yoke 34, the inner vertical sides 37, and channels 33, the valves 28, for closing the outlet, provided with the lip 30, the arms 36, the arms 38, secured to the yoke by solder, the pins 39 and 40, and the deflector 35, secured to the end of the frame 31, as described.

No. 38,871. Hames. (*Attelle.*)

Adolphus V. Cronk, Ord, Nebraska, U.S.A., 7th May, 1892; 5 years.

Claim.—1st. The combination, in a hame, of an apertured plate, a bearing forming longitudinal grooves above said plate, a block sliding in said grooves, and having the trace hook secured to it, and a spring actuated locking pin, passing through said block, and adapted to enter the said apertured plate, substantially as set forth. 2nd. The combination, of the longitudinal plate 4, formed with a series of apertures 5, the outer metal plate 6, formed with the longitudinal opening 7, the sliding block 9, having the trace hook secured to it and formed with the inner edge flanges 9^a, and the aperture 11, the locking pin 12, formed with the annular shoulder 12^a, and having the button 14, on its outer end, and the spiral spring 13, arranged as specified, substantially as set forth. 3rd. The combination, of the hame, formed with the longitudinal recess 2, the metal plate 4, formed with the series of apertures 5, the outer metal plate 6, formed with the longitudinal opening 7, the sliding block 9, having the trace hook secured to it, and formed with the inner edge flanges 9^a, and the aperture 11, the locking pin 12, formed with the annular shoulder 12^a, and having the button 14, at its outer end, and the spiral spring 13, arranged as specified, substantially as set forth.

No. 38,872. Disk Harrow. (*Herse à disque.*)

Jay Spencer Corbin, Prescott, Ontario, Canada, 7th May, 1892; 5 years.

Claim.—1st. In a harrow, two opposing disk gangs, a tongue, and draft bars or arms of unequal length, extending to the gangs. 2nd. In a harrow, opposing disk gangs, a tongue, a lever mounted on the tongue in advance of the gangs, and rods of unequal length, connecting the gangs and lever. 3rd. In a harrow, opposing disk gangs, a tongue, draft bars or arms of unequal length, connecting the gangs to the tongue, and rods of unequal length connecting the gangs to the lever. 4th. In a disk harrow, a frame consisting of a tongue, two draft bars or arms of unequal length, and a cross beam, substantially as set forth. 5th. In a disk harrow, opposing disk gangs, a lever mounted upon the frame in advance of the gangs, and rods of unequal length hinged to the lever above the frame and extending rearwardly to the gangs. 6th. In a disk harrow, opposing disk gangs hinged to the frame at points below their axles, and rods pivoted to the lever above the frame and extending to the gangs, as and for the purpose specified. 7th. The combination, in a harrow gang, of a series of disks, cylindrical hollow spools between the disks, and supporting collars, as and for the purposes set forth. 8th. The combination, in a harrow gang, of a series of disks, cylindrical hollow spools between the disks, and a clamp rod. 9th. The combination, in a harrow gang, of a series of disks, cylindrical hollow spools, a clamp rod, and supporting collars arranged to hold the parts concentric with each other. 10th. In a disk harrow, having one gang placed rearwardly of the other, the rearward having more disks than the forward gang, to counteract side draft. 11th. In a disk harrow, a tongue composed of two pieces extending directly to the gangs and joined at their forward ends, as and for the purpose

set forth. 12th. A harrow disk, of spheroidal or equivalent shape, as set forth. 13th A harrow disk, having a diametral section *a*, *b*, *c*, Fig. 11, or its equivalent, as set forth. 14th. A journal box mounted on the axle of a disk gang, and having a loop or eye projecting below its bottom, substantially as and for the purpose specified. 15th. A journal box mounted on the axle of a disk gang, and having a loop or eye projecting below its bottom, in combination with a rod attached to the harrow frame, and having a hook formed on its other end to engage with the loop formed on the bottom of the journal box, substantially as and for the purpose specified. 16th. A disk harrow, having its gang connected to its frame by means of swivel joints, each joint formed by a hook and loop located below the axle of the gang, substantially as and for the purpose specified.

No. 38,873. Pivotal Car Truck.

(*Chassis de char à pivot.*)

John A. Brill, Philadelphia, Pennsylvania, U.S.A., 7th May, 1892; 5 years.

Claim.- 1st. In a swivelling car truck, the combination of a truck-frame comprising an upper continuous chord, a lower chord having supports for springs united to the upper chord, one end of the frame being enlarged and the other contracted, and a pair of driving wheels and running gear in the enlarged end, and truck-wheels smaller than the driving wheels in the contracted end, with the pivotal centre located substantially over the driving wheel axle, substantially as described. 2nd. In a swivelling car truck, the combination of a truck frame comprising an upper continuous chord, a lower chord having supports for springs united to the upper chord, one end of the frame being enlarged and the other contracted, and a pair of driving wheels and running gear in the enlarged end and truck wheels smaller than the driving wheels in the contracted end, with the pivotal center between the actual center of the truck and driving axle, substantially as described. 3rd. The combination of a car body mounted upon a truck, said truck having a frame, large forward and smaller rear wheels, axles and axle-boxes for the same, side beams carried by the axle-boxes, and a motor sleeved on the axle at one end, its free end being spring-supported from the said side beams, substantially as described. 4th. In a pivotal car truck, the combination of a car body mounted upon a truck, said truck having a frame, forward and rear axle-boxes, axles and wheels, a pivotal center located between the actual center of the truck and the centre of one of the axles, and a motor sleeved upon one of the axles, and springs for supporting the free end of the motor, mounted upon the truck frame, substantially as described. 5th. In a pivotal car truck, the combination of a car body mounted upon a truck, said truck having a frame, forward and rear axle boxes, axles and wheels, a pivotal center located between the actual center of the truck and the center of one of the axles, side beams hung from the axle-boxes, and a motor sleeved upon one of the axles, and springs for supporting the free end of the motor, mounted upon the side beams, substantially as described. 6th. In a pivotal car truck, the combination of a car body mounted upon a truck, said truck having a frame, forward and rear axle-boxes, a pair of truck wheels at one end and a pair of driving wheels larger in diameter than the truck wheels at the other end of the frame, a pivoted center located between the actual centre of the truck and the centre of the driving axle, and a motor sleeved upon one of the axles, and springs for supporting the free end of the motor, mounted upon the truck frame, substantially as described. 7th. In a pivotal car truck, the combination of a car body mounted upon a truck, said truck having a frame, forward and rear axle-boxes, axles and wheels, a pivotal center directly over the center of one of the axles, a motor sleeved to the axle over which the pivotal center is located, and springs for supporting the free end of the motor, mounted upon the truck frame, substantially as described. 8th. In a pivotal car truck, the combination of a car body mounted upon a truck, said truck having a frame, forward and rear axle-boxes, a pair of truck wheels at one end and a pair of driving wheels larger in diameter than the truck wheels at the other end of the frame, a pivotal center located between the actual center of the truck and the center of the driving axle, side beams hung from the axle-boxes, and a motor sleeved upon the axle of the driving wheel, and springs for supporting the free end of the motor, mounted upon the side beams, substantially as described. 9th. In a pivotal car truck, the combination of a car body mounted upon a truck, said truck having a frame, forward and rear axle-boxes, a pair of truck wheels at one end and a pair of driving wheels larger in diameter than the truck wheels at the other end of the frame, a pivotal centre located directly over the driving axle, and a motor sleeved to the driving-axle, and springs for supporting the free end of the motor, mounted upon the truck-frame, substantially as described. 10th. In a pivotal car truck, the combination, of a car body mounted upon a truck, said truck having a frame, forward and rear axle boxes, a pair of truck wheels at one end and a pair of driving wheels at the other end of the frame, a pivotal center located directly over the driving axle, side beams hung from the axle boxes, and a motor sleeved upon the axle of the driving wheel, and springs for supporting the free end of the motor, mounted upon the side beams, substantially as described. 11th. In an electrically-propelled car truck, the combination, of a rigid truck-frame having forward and rear axle-boxes, a pair of truck wheels at one end of the frame, a pair of driving wheels larger in diameter than the truck wheels mounted in axle-boxes at the opposite end of the frame, side beams supported from the axle boxes, and a motor sleeved at one end upon the driving-axle, and the free end spring supported upon the side beams, substantially as described. 12th. In an electrically-propelled car truck, the combination, of a rigid truck frame having forward and rear axle boxes, a pair of truck wheels at one end of the frame, a pair of driving wheels larger in diameter than the truck wheels mounted in axle-boxes at the opposite end of the frame, side beams hung from the axle boxes, and a motor sleeved at one end upon the driving axle, a beam transversely connecting the side beams, an upwardly disposed stud secured to said beam, and springs secured upon the said stud, the free end of the motor engaging with said springs, substantially as described. 13th. In an electrically propelled car truck, the combination, with a car body, of a rigid truck frame having forward and rear axle boxes, side and rear rub-plates, secured to the upper chord of the rigid truck-frame, corresponding rub-plates on the car-body, a pair of truck wheels at one end of the truck frame and a pair of driving wheels mounted in axle boxes at the opposite end of the frame, side beams supported on the axle boxes, and a motor sleeved at one end upon the driving axle, and the free end spring supported from the side beams, substantially as described. 14th. In an electrically propelled car truck, the combination, with a car body, of a rigid truck frame having forward and rear axle boxes, side and rear rub plates secured to the upper chord of the rigid truck frame, corresponding rub plates on the car body, a pair of truck wheels at one end of the truck frame, and a pair of driving wheels mounted in axle boxes at the opposite end of the frame, the pivotal center of the car body and truck being directly over the driving axle, side beams supported on the axle boxes, and a motor sleeved at one end upon the driving axle, and the free end spring supported on the side beams, substantially as described. 15th. In a pivotal car truck, a frame having forward and rear wheels, and running gear for the same, and a truck center plate and bolster, both being located above and entirely without the body of the truck frame, whereby a shorter wheel base of the truck may be had, substantially as described. 16th. In a pivotal car truck, a frame having forward and rear wheels, running gear for the same, a transversely disposed beam or arch bar secured to the upper chord of the said frame, a longitudinally disposed truss secured to the upper chord of the frame at one end, and to the said transverse beam at the other, and a center plate supported upon the horizontal truss, substantially as described. 17th. In a pivotal car truck, a frame having a continuous upper chord, forward and rear wheels, and running gear for the same, a center plate located above the said upper chord, and side and rear rub plates on the upper chord, substantially as described. 18th. In a pivotal car truck, a truck frame having a continuous upper cord, forward and rear wheels, and running gear for the same, rub plates carried on the upper chord of said truck frame, and a rear rub plate on the rear portion of the upper chord of the said frame, substantially as described. 19th. In a pivotal car truck, a frame having a continuous upper chord, forward and rear wheels, running gear for the same, a center plate located above the said upper chord, side and rear rub plates on the upper chord, the axis of the center plate and side rub plates being in the center plate, said axis aligning with the axis of one of the axles of the truck, substantially as described. 20th. In a truck, a frame with an upper continuous chord 1, having the raised section 2, downwardly extending section 3, and depressed section 4, large driving wheels, and running gear supported from the section 2, and small truck wheels, and running gear supported from the section 4, substantially as described. 21st. A rigid frame for a truck, comprising an enlarged section at one end and a contracted section at the other, having side rub plates located on the enlarged section, and an end rub plate on the contracted section, substantially as described. 22nd. In a truck, the combination of a truck frame having axles and axle boxes at varying heights, and side beams adapted to be supported on the axle boxes of such frame, substantially as described. 23rd. In a pivotal truck, the rigid frame comprising an enlarged section at one end and a contracted section at the other, combined with driving wheels and running gear located in the enlarged section and truck wheels and running gear in the contracted section, and side rub plates set on the enlarged section and an end rub plate on the contracted section, substantially as described. 24th. In a pivotal truck, the rigid frame comprising an enlarged section at one end and a contracted section at the other, combined with driving wheels and running gear located in the enlarged section, truck wheels and running gear in the contracted section, and side rub plates set on the enlarged section with their mutual axis substantially aligning with the axis of the driving wheel axle, substantially as described. 25th. In a pivotal truck, the rigid frame comprising an enlarged section at one end and a contracted section at the other, combined with driving wheels and running gear located in the enlarged section, truck wheels and running gear in the contracted section, and an end rub plate on the contracted section, located substantially over the axle of the truck wheels, as set forth. 26th. In a truck, the combination of a truck frame having axle boxes at varying heights, side beams adapted to be supported on the axle boxes, and wheel brake shoes mounted on the side beams, substantially as described. 27th. In a truck, the combination of a truck frame having axle boxes at varying heights, axles set in said axle boxes, side beams adapted to be supported on the axle boxes, and a motor sleeved on one of the axles at one end and its free end spring

supported from the side beams, substantially as described. 28th. In a truck frame, the combination of a truck frame having axle boxes at varying heights, axles set in said axle boxes, side beams adapted to be supported on the axle boxes, a motor sleeved on one of the axles at one end and its free end spring supported from the side beams, and wheel brake shoes mounted on the side beams, substantially at described. 29th. The combination of a truck having a frame, axle boxes in its forward and rear ends, driving wheels and truck wheels smaller in diameter than the driving wheels and axles set in the axle boxes at opposite ends of the frame, and side beams supported on the axle boxes, said side beams having an elevated section where they are supported upon the driving wheel axle boxes, and a depressed section where they are supported upon the truck wheel axle boxes, substantially as described. 30th. The combination of a truck having large and small wheels, and side beams having an elevated section where they are supported upon the axle boxes of the large wheels, and a depressed portion where they are supported upon the axle boxes of the truck wheels, substantially as described. 31st. In a pivotal truck, a frame with an upper continuous chord 1, having the raised section 2, downwardly extending section 3, and depressed section 4, and a centre plate located upon the said chord in the raised section 2, substantially as described. 32nd. In a pivotal truck, a frame with an upper continuous chord 1, having the raised section 2, downwardly extending section 3, and a depressed section 4, a centre plate on the said chord in the section 2, large driving wheels and running gear in section 2, and smaller truck wheels and running gear in section 4, substantially as described. 33rd. In a pivotal truck, the combination of the rigid frame having a contracted section at one end and an enlarged section at the other, a centre plate and side rub plates located upon the upper chord in the enlarged section of said frame, driving wheels and running gear in the enlarged section, and truck wheels and running gear in the contracted section of said frame, the mutual axis of the side rub plates and centre plate being substantially over the axis of the driving wheel, substantially as described. 34th. In a pivotal truck, the combination of the rigid frame having a contracted section at one end and an enlarged section at the other, a centre plate and side rub plates located upon the upper chord in the enlarged section of said frame, a rear or end rub plate located upon the upper chord in the contracted section of said frame, driving wheels and running gear in the enlarged section, and truck wheels and running gear in the contracted section of said frame, the mutual axis of the side rub plates and centre plate being substantially over the axis of the driving wheel, substantially as described. 35th. The combination, with a truck frame having an enlarged section at one end and a contracted section at the other, of driving wheels and running gear in the enlarged section, truck wheels and running gear in the contracted section, side beams supported upon the running gear, and wheel brake shoes mounted upon the side beams, substantially as described. 36th. The combination of a car body and a pivotal truck having large driving wheels and running gear, the car body having recesses below the car flooring proper, within which the driving wheels may radiate, with a body bolster and truck bolster extending up into the car body, but below the flooring thereof, substantially as described. 37th. The combination of a car body and a pivotal truck having large driving wheels and running gear, the car body being provided with a recess below the flooring proper of the car, within which the driving wheels can radiate, with a bolster on the car body extending up within the car body, but below the flooring proper thereof, substantially as described. 38th. In a pivotal car truck, the combination of a truck frame having an upper chord, a beam or arch bar secured transversely to the said upper chord, a horizontal truss secured to the said transverse beams and upper chord of truck frame, a female center plate secured to said horizontal truss, with an X-shaped brace supported by the car body, upwardly inclined, and having a male center plate secured to it, substantially as described. 39th. A car truck having a rigid frame, said frame comprising a continuous upper chord, a lower chord having supports for springs, and a central brace uniting the upper and lower chords, one end of the frame being enlarged and the other contracted, substantially as described. 40th. A car truck having a rigid frame, said frame comprising the continuous upper chord 1, having the raised and flat section 2, downwardly extending section 3, and depressed and flat section 4, a lower chord united at its ends with the upper chord, and a centrally disposed brace uniting the upper and lower chords, substantially as described. 41st. A car body having longitudinal sills and transverse girders, the outside longitudinal sills having the side rub plates, a rub plate transversely secured to the longitudinals to the rear of the side rub plates, and means for carrying the center plate, secured to the transverse girders, between the centrally located longitudinals, substantially as described. 42nd. A car body having the longitudinal sills A, A^1, A^{11}, A^{111}, and transverse girders a, a^1, the sills A, A^{111} having side rub plates f, a rub plate f^{111}, secured to one or all of the said sills, and the body bolster d, having an upwardly inclined portion ending in the plate d^2, having center plate d^1, secured to the girders a, a^1, substantially as described. 43rd. In a pivotal truck, the combination of the car body and truck, the said truck having a rigid frame, forward and rear axle boxes and wheels, side and rear rub plates secured to said rigid frame, corresponding rub plates on the car body, and side beams supported upon the axle boxes, the pivotal centre of the car body and truck being located substantially over the axis of one of the axles, substantially as described. 44th. In a pivotal truck, the combination of a car body and truck, the said truck having a rigid frame, forward and rear axle boxes and wheels, side and rear rub plates secured to said rigid frame, corresponding rub plates on the car body, and a motor supported upon the truck frame, the pivotal centre of the car body and truck being located substantially over the axis of one of the wheels, substantially as described. 45th. In a pivotal car truck, the combination of the car body and truck, the said truck having a rigid frame, forward and rear axle boxes and wheels, side and rear rub plates secured to said rigid frame, corresponding rub plates on the car body, side beams supported upon the axle boxes, and a motor sleeved at one end upon one of the axles, and its free end spring supported from the side beams, the pivotal centre of the car body and trucks being located substantially over the axis of the axle upon which the motor is sleeved, substantially as described. 46th. In a pivotal car truck, the combination of the car body and truck, the said truck having a rigid frame, forward and rear axle boxes and wheels, side and rear rub plates secured to said rigid frame, corresponding rub plates on the car body, side beams supported upon the axle boxes, a transverse beam connecting the side beams, having an upwardly extending stud, spring and spring caps on said stud, and a motor sleeved at one end upon one of the axles and its free end engaging the springs on said stud, the pivotal centre of the car body and truck being located substantially over the axis of the axle upon which the motor is sleeved, substantially as described. 47th. In a pivotal car truck, the combination of the car body and truck, the truck having a rigid frame comprising an enlarged section at one end and a contracted section at the other, said frame having forward and rear axle boxes and wheels, side and rear rub plates secured to said frame, and corresponding rub plates on the car body, the pivotal centre of the car body and truck being located substantially over the axis of one of the axles, substantially as described. 48th. In a pivotal truck, the combination of the car body and truck, the said truck having a rigid frame, forward and rear axle boxes and wheels, side and rear rub plates secured to said frame, corresponding rub plates on the car body, and side beams secured to the axle boxes, the pivotal centre of the car body and truck being located substantially over the axis of one of the axles, substantially as described. 49th. In a pivotal truck, the combination of the car body and truck, the said truck having a rigid frame, side and rear rub plates secured to said frame, corresponding rub plates on the car body, side beams secured to the axle boxes, and wheel brake shoes mounted upon the side beams, the pivotal centre of the car body and truck being located substantially over the axis of one of the axles, substantially as described. 50th. In a pivotal car truck, the combination of the car body and truck, the car body having a body bolster and centre plate secured within its longitudinal sills, the truck having a rigid frame, forward driving wheels and rear truck wheels with running gear for the same, side and rear rub plates, and a center plate secured to the upper chord of said frame, and corresponding rub plates on the car body, the pivotal center of the car body and truck being substantially over the axis of the driving wheel axle, substantially as described. 51st. In a pivotal car truck, the combination of the car body and truck, the car body having a body bolster and center plate secured within its longitudinal sills, the truck having a rigid frame comprising a contracted section at one end and an enlarged section at the other, driving wheels and running gear in the enlarged section, truck wheels and running gear in the contracted section, side rub plate secured on the enlarged and a rear rub plate on the contracted section of said frame, corresponding rub plates on the car body, and a center plate secured to and above the upper chord in the enlarged section of said frame, substantially as described. 52nd. In a truck frame, the combination of a truck frame having axle boxes at varying heights, axles set in said axle boxes, side beams adapted to be supported on the axle boxes of such a frame, and fenders or life guards carried by the said beams, substantially as described. 53rd. In a pivotal truck, the rigid frame comprising an enlarged section at one end and a contracted section at the other, a beam having an upwardly rising section transversely secured to the upper chord of said frame, and a brace secured to the said transversely disposed beam at one end and to the said upper chord at the upper end, and a center plate located upon said brace, all which are located upon and above the upper chord in the enlarged section of said frame, substantially as described. 54th. A car body having longitudinal sills, an X-shaped brace secured between two of said longitudinal sills, said brace having an upwardly rising section terminating in substantially a flat plate, and a center plate secured to said flat plate, substantially as described. 55th. The combination, in an electrically propelled car, of a truck pivotally secured to said car body, said truck having wheels, axles, and axle boxes, side beams secured to the axle boxes, a motor sleeved at one end upon one of the axles, its free end being supported by the side beams, and a rub plate located upon the end of the truck opposite to that end upon which the motor is located, substantially as described. 56th. The combination, in an electrically propelled car truck, of a truck frame having driving wheels, axle, and axle boxes at one end, truck wheels, axle, and axle boxes at the other, the said truck wheels being smaller in diameter than the said driving wheel, a motor sleeved upon the axle of the driving wheel, its free end being supported upon said truck frame, and a rub plate located upon the end of the truck frame opposite to that end upon which the motor is located, substantially as described. 57th. In an electrically propelled car truck, the combination of a frame having an enlarged

section at one end and a contracted section at the other, large driving wheels, axle and axle boxes located in enlarged section, smaller truck wheels, axle and axle boxes located in the contracted section, a motor sleeved upon the axle of said driving wheels, its free end being supported upon the truck frame, and a rub plate located upon the end of the truck frame opposite to that upon which the motor is located, substantially as described. 58th. In an electrically propelled car truck, the combination of a truck frame having driving wheels, axle and axle boxes at one end, truck wheels, smaller in diameter than the driving wheels, located at the other end, and running gear for the same, side beams supported upon the axle boxes, a motor sleeved upon the axle of the driving wheels, its free end being spring supported upon side beams, and rub plate located upon the end of the truck opposite to that upon which the motor is located, substantially as described. 59th. In an electrically propelled car truck, the combination of a truck frame having an enlarged section at one end, a contracted section at the other end, driving wheels, axle boxes, and an axis located in the enlarged section, truck wheels smaller than the driving wheels, an axle and axle boxes located in the contracted section, side beams mounted upon the axle boxes, a motor sleeved upon the axle of the driving wheels, its free end being spring supported from the side beams, and a rub plate located on the end of a truck opposite to that end upon which the motor is located, substantially as described. 60th. The combination, in an electrically propelled car, of a truck pivotally secured to the car body, said truck having wheels and running gear at each end thereof, and side beams hung from the running gear, of a motor sleeved upon one of the axles, its free end being spring supported from the side beams, and a rub plate on the frame and opposite the end upon which the motor is located, substantially as described. 61st. A truck having a frame, said frame comprising the continuous upper chord 1, having a raised and flat section 2, downwardly extending section 3, depressed and flat section 4, a lower chord united at its end with the upper chord, and a centrally disposed brace uniting the upper and lower chords, combined with large driving wheels, and running gear in section 2, and smaller truck wheels in section 4 substantially as described.

No. 38,874. Automatic Gas Lighting and Extinguishing Apparatus. (*Appareil automatique pour allumer et éteindre le gaz.*)

Nathaniel Hersey Shaw, Somerville, and Ai. B. Shaw, Medford, both in Massachusetts, U.S.A., 7th May, 1892; 5 years.

Claim.—1st. The combination of a gas burner and cock with a spaced fulminate carrier, having fulminate charges attached thereto, an igniting device and a mechanism for automatically actuating them, substantially as set forth. 2nd. The combination of a gas burner, cock and actuating mechanism, with a fulminate carrier having spaced pits, the explosive compound fixed therein, and an igniting device, substantially as and for the purpose set forth. 3rd. The combination of a gas burner, cock and actuating mechanism, and hammer, with a rotary carrier having in its face a series of pits or depressions containing fulminate, substantially as and for the purpose set forth. 4th. The combination of a gas burner, cock mechanism and hammer, with a cylindrical rotary fulminate carrier provided on its periphery with a succession of pits or depressions to localize the explosive material, substantially as set forth. 5th. The combination of a gas burner, cock mechanism and hammer, with a rotary and longitudinally movable cylinder having at regular intervals peripheral pits containing fulminate, and with a suitable feed mechanism to bring such pits beneath the hammer, substantially as and for the purpose set forth. 6th. The combination of a gas burner, cock, hammer and actuating mechanism, with a cylindrical fulminate carrier having peripheral fulminate charges arranged in succession spirally, and with an automatic feed mechanism having a shaft screw threaded to correspond in pitch with the spirally arranged fulminate deposits on said cylinder, substantially as set forth. 7th. In an automatic gas lighting apparatus, a gas burner and cock, a spark forming device consisting of a hammer and rotary cylinder having spirally arranged peripheral pits containing fulminate, a screw threaded central shaft of corresponding pitch, a slotted tube interposed between said shaft and cylinder, a ratchet and pawl to actuate said tube, and a pin from said cylinder traversing the tube slot and engaging with said screw thread, substantially as set forth. 8th. In an automatic gas lighting apparatus, the combination of a suitable spark forming device with the burner, a secondary gas jet arranged to discharge a limited amount of gas beside the burner when the spark is formed, and with a cock having double gas passages, as described and shown, adapted to supply gas to said secondary jet momentarily and to the burner permanently, for the purpose set forth. 9th. In an automatic gas lighting apparatus, substantially as described, the spark forming device, the burner and the cock having double gas passages, as described and shown, in combination with a secondary gas pipe having lateral perforations arranged one above another from the spark toward the burner, for the purposes set forth. 10th. In an automatic gas lighting apparatus, substantially as described, the spark forming device, the burner and cock, in combination with a secondary lighting tube and an inclosing shell adapted to carry the flame upwardly from such tube, substantially as set forth. 11th. The combination of a gas burner and gas cock with a spaced fulminate carrier of rigid material having a succession of fulminate charges permanently attached thereto, an igniting device and mechanism for actuating them together, substantially as set forth. 12th. The combination of a gas burner, gas cock, solidly filled fulminate carrier having spaced pits, an explosive compound permanently fixed therein, an igniting device and mechanism for conjointly actuating said carrier, gas cock and igniting device, substantially as described. 13th. The combination of a gas burner, gas cock and hammer with a rotary carrier, having in its face a series of accurately spaced pits or depressions containing fulminate, substantially as and for the purpose set forth. 14th. The combination of a gas burner, a gas cock, a rotary longitudinally movable cylinder having at regular intervals on its surface charges of fulminate, an igniter, a suitable feed mechanism to bring such pits opposite the igniter and actuate the gas cock and igniter together, substantially as and for the purpose set forth. 15th. In a device of the character described, a cylinder provided with a series of indentations on its periphery containing an explosive compound, in combination with mechanism for intermittently rotating said cylinder, substantially as described. 16th. In a device of the character described, a cylinder provided with a series of spirally arranged peripheral indentations containing an explosive, in combination with mechanism for intermittently rotating and moving said cylinder longitudinally, substantially as and for the purpose set forth.

No. 38,875. Ink Bottle. (*Encrier.*)

William Fremont Hall, Rapid City, South Dakota, U.S.A., 7th May, 1892; 5 years.

Claim.—The combination, with an apertured desk top, and a washer thereon, having an aperture of less diameter than that of the desk aperture, of an internally threaded thimble having an outward projecting flange at its upper end, and a bottle having its neck externally threaded to engage the thread of the thimble, substantially as set forth.

No. 38,876. Railway Car (*Char de chemin de fer.*)

John A. Brill, Philadelphia, Pennsylvania, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. The combination, of the axle boxes for the running gear of a car, having seats or supports forming part of the axle boxes, for the car springs, connections suspended from or secured to the axle boxes, and a frame E, secured to said connections, substantially as set forth. 2nd. The combination, with the axle boxes for the running gear of a car, of a frame E, having spring or elastic supports on said axle boxes, substantially as set forth. 3rd. The combination, of the axle boxes for the running gear of a car, having seats or supports for the car springs, saddles or connections suspended from or secured to the axle boxes, spring cushions or elastic supports between the saddles or connections and the axle boxes, and a frame E, secured to said saddles or connections, substantially as set forth. 4th. The combination, of the axle boxes for the running gear of a car, saddles or connections D, having journaled or pivoted side bars, and a frame E, journaled to said side bars, substantially as set forth. 5th. The combination, of an axle box, spring cushion g^1, supporting a saddle or connection D, and frame E, substantially as set forth. 6th. In combination, with an axle box, a saddle or connections D, journaled on said axle box independent of its spring seats, and a frame E, journaled on said saddle or connections, substantially as set forth. 7th. The combination, of an axle box having spring seats g, the spring cushion g^1, seats g^2, having groove g^3, saddle or connections D, and frame E, substantially as set forth. 8th. The combination, of axle box C, having spring seats c, with openings c^1, the saddle or connections D, having spring cushion or support G, and frame E, secured to said saddle or connections, substantially as set forth. 9th. The combination, of the axle boxes for the running gear of a car, the saddles or connections D, and frame E, having side bars provided with bent ends, bars secured to said ends, and a guard or fender secured to bars, substantially as set forth.

No. 38,877. Railway Car Truck. (*Chassis de char de chemin de fer.*)

John A. Brill and George Martin Brill, both of Philadelphia, Pennsylvania, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. The truck A having axle box frame H, sand boxes L, with outlet pipes on said frame, and devices leading to the car for opening and closing said boxes, substantially as set forth. 2nd. In a car, the combination, with the car axle boxes, of a frame spring supported on said axle boxes, and sand boxes on frame having actuating mechanism leading to the car, substantially as set forth. 3rd. The truck frame A, composed of top side bars B, flanged plates c, axle box posts c^3, having collars or shoulders adjacent to and larger than their upper ends, bars c^5, for connecting the lower ends of said posts c^3, and braces f^2, connecting bars c^5, to the bars B, substantially as set forth. 4th. The independent rigid truck A, having axle box posts c^3, top plate c, bars c^5 for the lower ends of said posts, and braces f^2, substantially as set forth. 5th. The independent rigid truck A, having frame B, groove plates c embracing the sides of said frame, the posts c^3, having shoulders near their upper ends, which ends pass through said plates and are secured to frame B, the axle boxes F having spring seats f, bars c^5, connecting the lower ends of posts c^3, and braces f^2 between said bars c^5 and frame B, substantially as set forth. 6th. The combination of axle boxes

F, having spring seats *f* for the car springs D, spring supports on said seats *f* between said springs D and the boxes F, and a frame H secured to said supports, substantially as set forth. 7th. The combination of axle boxes F, having spring seats for springs D, the spring supported bolts f^{20} between said boxes and springs D, yokes G secured to said bolts, and frame H attached to said yokes, substantially as set forth. 8th. The combination of axle boxes F, having spring seats *f*, bolts f^{20}, caps f^{5} on said bolts, springs f^{6} between said caps and seats *f*, yokes G, supported on said bolts, cushions f^{7} between said yokes and seats *f*, and frame H on said yokes, substantially as set forth. 9th. The combination of axle boxes F, having spring seats *f*, posts c^{3}, bolts f^{20}, caps f^{5} on said bolts, springs between said caps f^{5} and seats *f*, grooved yokes G, mounted on said bolts f^{20}, yoks or bars c^{5}, connecting the lower end of said posts c^{3}, and passing through the grooves in said yokes G, and a frame H, mounted on the yokes G, substantially as set forth. 10th. In combination with side bars of frame B, the flanged plates *c*, having smooth openings near each end, posts c^{3}, having screw threaded shouldered upper ends passing through said plate openings and engaging with threaded openings in the side bars of frame B, and connecting bars c^{5} for the lower ends of said posts c^{3}, substantially as set forth. 11th. The combination of axle boxes F, having spring seats *f*, posts c^{3}, plates *c*, springs D on said posts, caps *d* and springs d^{1} between plates C and the upper ends of springs D, caps d^{3}, and springs d^{2} between seats *f* and the lower ends of springs D, removable bars c^{5} for posts c^{3}, and springs f^{1} between the bars c^{5}, and seats *f*, substantially as set forth. 12th. The combination of a car body, a truck having an upper frame rigidly secured to the car body, axle box posts c^{3}, secured to the upper frame, bars c^{5} connecting the lower ends of posts c^{3}, and braces f^{2} connecting the upper frame and bars c^{5}, and the braces N, coupled at one end to bars c^{5}, and at the other to the car body, substantially as described.

No. 38,878. Street Car. (*Char de rues.*)

John A. Brill, Philadelphia, Pennsylvania, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. A truck frame D, having component axle box pedestals or housings supported on and extending to or below the bottom of the car axle boxes, in combination with a spring supported car body, substantially as set forth. 2nd. In combination with a car body A, a truck frame D, having axle box pedestals or housings supported upon or depending from the axle boxes, said pedestals having lower open ends and attachable and detachable bars 1 at said ends, substantially as fet forth. 3rd. In combination with the axle boxes of a car, the frame D, having axle box pedestals C, with lower open ends c^{12}, extending down to the bottom sides of said frame, and the latter extending longitudinally beyond the car axles, substantially as set forth. 4th. In a car, the frame D, having pedestals C, supported on and extending down to or below the bottom of the axle boxes, springs inserted between said pedestals and boxes, and spring supports for said car on said frame, substantially as set forth. 5th. The combination of axle boxes *b*, pedestals C, supported thereon and having forked ends, transverse bars c^{3} in said forked ends, and frame side bars *d*, *d*, having recesses c^{4}, fitting bars c^{3}, substantially as set forth. 6th. In combination with a car body and its running gear axle boxes, the frame D, having component yoke-shaped axle box pedestals C, with lower open ends c^{12}, inner and outer posts F, connecting frame D and car body, car springs surrounding said posts, braces H for the outer posts, and a separate truss rod I for the inner posts F, substantially as set forth. 7th. In combination with a car body and its running gear axle boxes, the frame D, having pedestals C, with lower open ends supported on said axle boxes, posts F and car springs interposed between said frame D and car body, and braces for said posts, which braces do not extend across the bottom of the axle boxes, substantially as set forth. 8th. In combination with a car body and its running gear axle boxes, a frame D, having axle box openings c^{12}, supported on said boxes, springs between said frame D and car body, supports for said springs, and attachable and detachable bars 1, for closing openings c^{12}, substantially as and for the purposes set forth.

No. 38,879. Electric Machine and Apparatus for Alternating Currents of Different Phases. (*Machine électrique et appareil pour faire alterner les courants de differentes phases.*)

Michael Von Dolivo-Dobrowolsky, Berlin, Germany, 9th May, 1892; 5 years.

Claim.—In electric machines and apparatuses which produce, or are operated by differential phase alternating currents, the combination of three or more current producing, or current receiving devices or sets of devices (such as induction coils and lamps), connected together to form a closed circuit or circuits, other electric devices or sets of devices of the same kind, being alike in number to that of the former, and severally connected with one terminal to equidistant points of the said closed circuit or circuits and with the other terminals to the respective line wires, substantially as described.

No. 38,880. Sound Signalling and Speaking Tube Apparatus. (*Attache pour tube acoustique.*)

John William Black, 71 Commerce Street, Glasgow, Lanark, Scotland, 9th May, 1892; 5 years.

Claim.—1st. The collapsible rubber chamber *b*, with mouth-piece made in one piece therewith, and having a ball or equivalent valve therein, substantially as hereinbefore described. 2nd. In pneumatic signalling or speaking tube apparatus, the hollow conical or nearly conical collapsible rubber chamber *b*, substantially as hereinbefore described. 3rd. In pneumatic signalling or speaking tube apparatus, a hollow conical, partly conical, or semispherical collapsible rubber chamber, having a button *o*, or equivalent, fitted or attached to the apex or top thereof, substantially as hereinbefore described. 4th. In pneumatic signalling or speaking tube apparatus, a piston or striker *i*, having a rim or its equivalent thereon, for the purpose of preventing dust getting into and clogging the channel *h*, in which said piston works, substantially as hereinbefore described. 5th. The combination with a pneumatic signalling or speaking tube apparatus of the class set forth, of a piston or indicator *l*, fitted in a nipple *k*, and operating, substantially as hereinbefore set forth. 6th. A press button made in two parts *o*, *p*, the part *o* fitting removably into the part *p*, which latter is secured into the collapsible chamber, substantially as and for the purpose set forth. 7th. In apparatus of the class set forth, a press button *o*, made hollow and having an indicator *l*, working therein, substantially as hereinbefore set forth. 8th. In apparatus of the class set forth, a mouth-piece *a*, made with a hollow extension *d*, having a seat d^{1}, and in which works a ball valve *e*, substantially as hereinbefore described. 9th. The combination, with apparatus of the class set forth, of a vibrating indicator arrangement, substantially as thereinbefore described.

No. 38,881. Picker Stick and Mechanism Connected Therewith. (*Bascule de metièr et méconisme à cet effet.*)

Louis Bredannaz, Toronto, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—1st. A picker stick A, pivoted on the arm B, which is itself pivoted on the stationary bracket C, in combination, with an arm E, pivoted at one end on a stationary pivot, and pivotally connected at its other end to the picker stick A. 2nd. A picker stick A, pivoted on the arm B, which is itself pivoted on the stationary bracket C, the arm E, pivoted at one end on the plate F, and pivotally connected at its other end to the picker stick A, in combination with a rod connected at one end to an arm on the picker shaft, and adjustably connected at its other end to the picker stick. 3rd. A picker stick A, pivoted on the arm B, which is itself pivoted on the stationary bracket C, the arm E, pivoted at one end on the plate F, and at its other end to the pivoted bar D, in combination with a jointed rod connected at one end to an arm H, on the picker shaft I, and adjustably connected at its other end to the bar D, and picker stick A.

No. 38,882. Threshing Machine. (*Machine à battre.*)

John Edward Ball, Township of Cartwright, Durham, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—1st. In a threshing machine, an endless travelling belt F, provided with cross slats and extending from a point below the threshing cylinder, past the revolving beater B, to a point over the travelling belt L, in combination with a revolving kicker located immediately over the upper end of the travelling belt F, substantially as and for the purpose specified. 2nd. In a threshing machine, an endless travelling belt F, provided with cross slats and extending from a point below the threshing cylinder, past the revolving beater B, to a point over the travelling belt L, in combination with a revolving kicker located immediately over the upper end of the travelling belt F, and a beater J, extending in a slanting direction from a point about level with the upper surface of the belt F, past the roller M, on which one end of the belt L is supported, substantially as and for the purpose specified. 3rd. In a threshing machine, an endless travelling belt F, provided with cross slats and extending from a point below the threshing cylinder, past the revolving beater B, to a point over the travelling belt L, in combination with a series of kickers located below the travelling belt L, through which the curved fingers H of the said kickers protrude for the purpose of acting against and agitating the straw, substantially as and for the purpose specified. 4th. In a threshing machine, an endless belt F, provided with cross strips and extending from a point below the threshing cylinder, past the revolving beater B, to a point over the travelling belt L, the travelling belt K, located below the belt L, in combination with the revolving kicker H, and plate J, substantially as and for the purpose specified. 5th. In a threshing machine, an endless travelling belt L, in combination with the kickers O and Q, substantially as and for the purpose specified. 6th. In a threshing machine, the travelling belts L and S, in combination with the kicker Q, and beaters R, substantially as and for the purpose specified. 7th. In a threshing machine, the revolving beaters R, suspended above and in combination with the belt S, slanting board T, and sieve P, substantially as and for the purpose specified. 8th. In a threshing machine, the sieve P, suspended above the slanting board T, in combination with the crank shaft U, rod X, hinged slanting board Y, pitman V, and roller W.

No. 38,883. Electric Fire Indicator.

(Indicateur électrique du feu.)

Thomas Ralph Douse, 8 Holborn Viaduct, London, England, 9th May, 1892; 5 years.

Claim.—1st. In an electric fire indicator, a box composed of two concentrically grooved plates P, P¹, connected at the edges by the band Q, one of such plates P¹ having a screw pin R afixed, and the other a stud V, both of which project from the outer faces of the plates P P¹, as and for the purposes specified. 2nd. In an electric fire indicator, the box P P¹, Q, having two rows of thermometer markings on the periphery, and turnable for raising and lowering in a hoop or inverted bridge L for adjustment to the pointer U, and locked by the nut T, as set forth. 3rd. In an electric fire indicator, the concentrically grooved disc N, fixed on insulator tube D, by flange M¹ of hoop L, and in a normal position out of touch with point J and stud V, as specified. 4th. In an electric fire indicator, the base A, tube D, hoop L, pointer U therein, in combination with rotatable and adjustable box, having stud V for contact (by heat) with disc N, and also screw R in threaded boss of hoop L, with lock nut T, as and for the purposes set forth.

No. 38,884. Wash Board. (*Planche à blanchir.*)

John Kinleyside and Richard Christopher Williams, both of St. Thomas, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—1st. The combination of a wash board frame and a spirally woven wire rubbing surface, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of a wash board having a woven wire rubbing surface, and a partially elastic rubbing block, having a connecting rod attached thereto, and suitable cross heads, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of a wash board and the rubbing mechanism herein described and specified, substantially as and for the purpose hereinbefore set forth.

No. 38,885. Dynamo Electric Machine.

(Machine dynamo électrique.)

Martin Charles Burt, Chicago, Illinois, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. The combination, in an electric motor or dynamo, of a hollow armature shaft, a blower P, geared to said shaft and having its eduction pipe connected with the interior of the shaft, openings in the shaft within the armature, and an armature upon said shaft, tightly closed at the ends and loosely wound between the same, substantially as described. 2nd. The combination, with an electric dynamo and an outside circuit, of a supplementary shunt winding upon the field coils, a second outside circuit, and a system of switches, whereby the shunt winding and the second circuit may be simultaneously thrown into or out of operation, substantially as described. 3rd. The combination, with an electric dynamo and an outside circuit, of a supplementary shunt winding upon the field coils of the dynamo, said shunt circuit containing means for regulating the resistance, a second outside circuit, and a system of switches, by means of which the shunt circuit and the second outside circuit may be simultaneously thrown into or out of the first circuit, substantially as described. 4th. The combination, in an electric motor or dynamo, of a hollow armature shaft, a suitably operated blower having its eduction pipe connected with the interior of the shaft, openings in the shaft within the armature, and an armature upon said shaft, tightly closed at the ends and loosely wound between the same, substantially as described.

No. 38,886. Pen Extractor. (*Tire-plume.*)

William Marcus Morton, New Haven, Connecticut, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. In a pen extractor, the combination of a frame or base having a fixed holding face or abutment and an elastic or spring clamping jaw fastened to the base, with its free end normally in juxtaposition with said holding face and adapted to swing away therefrom in a path inclined thereto, the tension of the jaw being adapted to resist such movement thereof, substantially as and for the purpose specified. 2nd. In a pen extractor, the combination of the base or frame A, provided with the uprights C, D, means for securing said base to a table or desk, and an elastic clamping jaw E, attached at one end to one of said uprights and having an opening at its free end receiving the opposite upright, the said jaw being fitted loosely and adapted to travel upon said upright and arranged nearly or substantially at right angles therewith, with the inner edge of the opening in juxtaposition with the corresponding face of the upright and adapted to clamp an object firmly thereon, substantially as and for the purpose specified.

No. 38,887. Clothes Washer. (*Machine à blanchir.*)

Horace Herbert Miller, Lyndon Centre, Vermont, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. The triangular box or vessel on rockers, combined with a pivoted handle serving to rock the box and to forcibly throw its contents alternately into the angles or corners at the top of the box. 2nd. In combination with the rocker having vent holes *o* therein, a pendulous ventilator having corresponding notches *m*, and whereby as the rocking takes place said holes are covered and uncovered as the box swings, all substantially as set forth.

No. 38,888. Bedstead. (*Couchette.*)

Thomas Robertson Chambers, Glenloch, Tennessee, U. S. A., 9th May, 1892; 5 years.

Claim.—1st. In a bedstead, the combination of a frame comprising the head and foot boards and the side rails, the legs having their upper ends bifurcated and receiving the head and foot boards, and the slat supporting bars connecting the legs, substantially as described. 2nd. In a bedstead, the combination of the frame comprising the head and foot boards, having their lower edges provided with shoulders, and the side rails, the legs having their upper ends bifurcated, and receiving the lower edges of the head and foot boards and engaging the shoulders thereof, and provided with spacing blocks arranged on their outer faces, and the slat supporting bars connecting the legs, substantially as described.

No. 38,889. Thread Separator for Ring Spinning Frames. (*Séparateur de fil pour machine à filer à boucle.*)

William Ronald Graveley, Montreal, Quebec, Canada, 9th May, 1892; 5 years.

Claim.—1st. In a ring spinning frame, the combination, with the movable ring plate, of an automatic separator in contact with and having a corresponding movement with said ring plate during a portion of its upward reciprocating travelling movement and balanced to fall backward at a given point of elevation, as set forth. 2nd. The serpentine guard attachment E, bent out of a single rod of metal, and having large convolutions partially enclosing the spindles, and small convolutions D projecting between the spindles and interposed between the said large convolutions, substantially as set forth. 3rd. In a ring spinning frame, the combination, with the frame of the machine and ring plate B, of the pivoted guard attachment F, a supporting arm carried by said ring plate adapted to make contact with said attachment, and an adjustable counterbalance weight, as shown and described.

No. 38,890. Cant Hook Band.

(Bande pour renard.)

Henry Walton, Albert A. Agar and Henry Baillie, all of Burk's Falls, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—The combination of the divided band and the hinge connecting the two halves, substantially as and for the purpose hereinbefore set forth.

No. 38,891. Water Elevator and Purifier.

(Elévateur et épurateur pour l'eau.)

David J. Burkholden, Hamilton, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—The casing A, its cover A¹, and bearings B, the crank E, cog wheels C and D, their shafts C¹ and D¹, the central wheel consisting of blades H, curved rim H¹, and arms H², the series of buckets 7, provided with braces J, the double connecting straps *m*, having hooked ends and bent as at *n*, all formed, arranged and combined, substantially as and for the purpose hereinbefore set forth.

No. 38,892. Cabinet Organ. (*Cabinet d'orgue.*)

Charles Wasson Small, Uxbridge, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—1st. A reed organ, in which the wind chest and reeds are arranged and operated above the key board of the instrument, substantially as and for the purpose specified. 2nd. In a reed organ, the wind chest suspended above the key board and connected to the bellows below the said key board, reeds arranged above and connected to the wind chest, in combination with pins and levers, arranged to connect the keys with the valve of the reeds, substantially as and for the purposes specified.

No. 38,893. Sash Lock. (*Arrête-croisée.*)

Gerolt Gibson, Saint Louis, Missouri, U.S.A., 9th May, 1892; 5 years.

Claim—The lock for the lower rail of a window, composed of the member A, having openings A² and A³, casing D at the rear and spring *d*, forming part of said casing, seated within the lower rail of the lower sash, and member B, with offset *a*, hinged to the member A, recess B¹ and hook end B³, adapted to pass through the hole A³ of the member A, and engage a keeper in the outer edge of the sill, substantially as and for the purposes specified.

No. 38,894. Sash Lock. (*Arrête-croisée.*)

Gerolt Gibson, Saint Louis, Missouri, U.S.A., 9th May, 1892; 5 years.

Claim.—The window sash lock described, composed of the member L, with hook end W, secured to the top of the meeting rail of the lower sash, the member A, with lugs B and B¹, and slot C, secured to the vertical, dividing bead of the window frame and the member D, with lug E F, and sliding bolt H K, all constructed and arranged to operate, substantially as and for the purposes specified.

No. 38,895. Sash Lock. (*Arrête-croisée.*)

Gerolt Gibson, Saint Louis, Missouri, U.S.A., 9th May, 1892; 5 years.

Claim.—The window sash lock described, composed of the stationary member secured to the side of the window casing, and having central slot and pivoted tongue, member secured to the upper sash having projecting lug adapted to engage the tongue of the stationary member, and member secured to the top of the meeting rail, of the lower sash having bent upper end and depending projections adapted to enter the slot of the stationary member, substantially as and for the purposes specified.

No. 38,896. Sash Balance. (*Contre poids de croisée.*)

Frank P. Johnson, Eyer's Grove, Pennsylvania, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. The herein described spring roller, the same comprising an inner member consisting of a rod with a drum fixed upon each end thereof, means for adjusting said rod in length, an outer tubular member surrounding said rod, and having drums at its ends turning upon the inner member adjacent and inside the drums thereon, and a coiled spring connected at one end to the rod and at the other end to the tube, as and for the purpose set forth. 2nd. The herein described spring roller, the same comprising an inner member consisting of a rod with a drum fixed upon each end thereof, an outer tubular member surrounding said rod and having drums at its ends turning upon the inner member inside the drums thereon, means for adjusting each member in length, and a coiled spring connected at its opposite ends to the members of the said roller, as and for the purposes set forth. 3rd. In a spring roller, the combination with the inner member thereof, consisting of a rod in two sections, having drums fixed thereon near its outer ends, and means for substantially adjusting said inner member in length, of an outer member comprising two tubes, each having a drum at its outer end turning upon the inner member inside the drums thereon, the inner tube sliding within the outer, and being provided with a series of holes, a catch upon the outer tube passing through its body and engaging one of said holes, and a coiled spring connected at its opposite ends to the members of said roller, substantially as described. 4th. In a spring roller, the combination with the outer member thereof consisting of two tubes, one sliding upon the other, means for retaining them in longitudinally adjusted positions, and drums at the other ends of said member, of an inner member comprising a rod in two sections, one section being square and the other tubular and fitting upon the square section, and each section turning in a hole through the drum at its end of the roller, outer drums fixed upon said sections just outside said inner drums, and a coiled spring connected at its opposite ends to the members of said roller, substantially as described. 5th. In a spring roller, the combination with the inner member thereof, comprising a rod in two sections, one section being square and the other tubular and fitting upon the square section, an outer drum fixed upon said sections near their outer ends, of the outer member comprising two tubes, each having a drum at its outer end turning upon the inner member inside the outer drums thereon, the inner tube sliding within the outer and being provided with a series of holes, a spring catch on the outer face of the outer tube whose tip passes through the body of said tube and engages one of said holes, and a coiled spring connected at one end to the inner member and at its outer end to the outer member, its body extending from said points of connection along within the outer member and around the inner member in a double helix, substantially as described. 6th. In a spring roller, the combination with a rod and an outer drum thereof, of a disk having a hub turning on the rod adjacent said drum, ratchet teeth on said hub, an inner drum surrounding said hub, means for connecting this drum with the hub, and a spring surrounding the rod and connected at one end thereto and at the other end to the hub, as and for the purposes set forth. 7th. In a spring roller, the combination with a rod and an outer drum thereon, of a disk having a hub turning on the rod adjacent said hub, ratchet teeth on the outer face of said hub, an inner drum surrounding said hub and having a hole through its body, a tube, one end of which embraces the inner end of said inner drum, a spring catch on said tube, its tip removably inserted through the body of the tube and through said hole and engaging said teeth, and spiral spring connected at one end to the rod, and at the other end to the hub, substantially as set forth.

No. 38,897. Screw Cutting Plate. (*Filières a vis.*)

Henry Brinser Keiper, Lancaster, Pennsylvania, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. In a screw cutting plate, the semi-circular dies C, C, having perpendicular diametrical faces, screw cutting chasers at the centre of said faces, semi-circular grooves having outwardly sloping upper ends, one on each side of said chasers, and the sloping or conical peripheral faces or walls, substantially as and for the purpose hereinbefore set forth. 2nd. In a screw cutting plate, the collet B, comprising the cylindrical ring B^1, having an outside cylindrical face, the inside screw threaded portion *b*, and the upwardly and inwardly sloping conical portion b^1, and the plug screw or guide disk B^2, screwed into said portion *b*, having the bolt guide ridges through the centre of said disk, the screw threaded orifices on the same diameter, one on each side of said guide ridges, and the recesses b^2 and b^3, placed in the back of said disk, all substantially as and for the purpose hereinbefore set forth. 3rd. In a screw cutting plate, the stock A, having the central clamp ring, closed by a clamp screw acting tangentially, the inwardly projecting lugs or fingers *a* and *a*, integral with said clamp ring, substantially as and for the purpose hereinbefore set forth.

No. 38,898. Harrow. (*Herse.*)

George Herbert Mackey, Milan, and William Adams Galpin, Cleveland, both in Ohio, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. In a harrow, the combination, with tooth bars, a graduating bar extending transversely across the tooth bar and having springs attached for connecting the graduating bar with the respective tooth bars, and a lever connected with the graduating bar for simultaneously setting the tooth bars and harrow teeth at any desired obliquity, of a rod or brace connected with the lever at one end thereof and having a hook at the other end for engaging holes in the graduating bar, or an attachment of the latter, whereby the parts may be locked in as many adjustments as have been provided for, according to the number of holes in the graduating bar, or graduating bar attachment, substantially as and for the purpose set forth. 2nd. In a harrow, the combination, with tooth bars and a graduating bar, of springs connecting the graduating bar with the respective tooth bars, said springs being re-enforced where the greatest strain is brought to bear upon them, and having screws to vary the stiffness of the springs, a lever connected with the graduating bar for simultaneously setting the teeth at any desired obliquity, and suitable locking mechanism whereby the parts may be locked in any one of several predetermined adjustments, substantially as set forth.

No. 38,899. Game. (*Jeu.*)

Branch Harris Colby and John Sibley White, both of St. Louis, Missouri, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. In a game box, a pillar or post to hold the different hands in superposition, as described. 2nd. A game box having a body and two covers, said body being open at both ends, and said covers being fitted to said box ends, and being removable, substantially as described. 3rd. In a game box, the combination of three distinct parts, two of which are telescoping covers exactly alike and fitting upon opposite ends of the third part, and said third part being a body open at both ends, and having a pillar or post in an interior angle or corner, substantially as described.

No. 38,900. Method of and Apparatus for Producing Clear Wort. (*Méthode et appareil pour la production du moût clarifié.*)

Fleishman & Company, assignees of Gustave Sobotka, all of New York City, New York, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. The herein described process of making clear wort, which consists, first, in mixing corn malt, rye and water; second, mingling with this mixture a hot liquid extracted from a boiled mixture of water and cakes of grain taken from the first pressing of a preceding mash, and finally pressing the latter mixture to obtain clear wort, substantially as described. 2nd. The process of making clear wort, which consists first, in mixing corn malt, rye and water; second, mixing the cakes of grain of the first pressing by a previous mash with water, and boiling this mixture; third, pressing the boiled mixture and mixing the hot liquid obtained by such pressing with the mixture of corn malt, rye and water, and finally pressing the latter mixture to obtain a clear wort, substantially as described. 3rd. The combination of the mash tub, the pump, the filter press, the pipes connecting said mash tub and filter press through said pump, the cooker and a second filter press connected by suitable pipes to said cooker and mash tub, substantially as described.

No. 38,901. Device for Opening and Locking Wicket Windows or Doors. (*Appareil pour ouvrir et fermer à clé les guichets-fenêtre ou porte.*)

James Gatfield and Thomas Brown, both of Durham, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—1st. A wicket window or door connected to a tilting platform, in combination with means for automatically locking the said door when closed, substantially as and for the purpose specified. 2nd. A window A, connected to a cross bar D, the pitman E, arranged to connect the cross bar D to the lever F, attached to the tilting platform J, in combination with the spring catch L and block M, arranged substantially as and for the purpose specified.

No. 38,902. Vehicle Spring Coupler.

(*Attelage de ressort de voiture.*)

James Warnock & Co., assignee of Colin Kennedy, all of Galt, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—1st. As an improved spring coupling, a loop formed on the end of the leaf of one spring to receive the leaf of the other spring, a leaf of the spring in which the loop is made extending over the said loop, substantially as and for the purpose specified. 2nd. As an improved spring coupling, a loop formed on the end of the leaf of one spring to receive the leaf of the other spring, a leaf of the

spring in which the loop is made extending over the said loop, in combination with a rubber D and bolt E, substantially as and for the purpose specified. 3rd. As an improved spring coupling, a loop formed on the end of the leaf of one spring to receive the leaf of the other spring, substantially as and for the purpose specified.

No. 38,903 Automatic Switch Tongue Adjuster.

(*Ajustage de langue d'aiguille.*)

Isaac Mowder and Charles Francis Ingersoll, both of Akron, Ohio, U.S.A., 9th May, 1892; 5 years.

Claim.—1st. The combination of the bar, fixed in the under plate, the sleeve and post, the switch tongue, and the means to actuate the said parts, as set forth. 2nd. The combination of the bar, the sleeve and post, the tongue, and a spring to actuate the said parts, as set forth. 3rd. The combination of the plate, recessed in its under side, the bar, the sleeve and post, and the tongue, as set forth. 4th. The combination of the recessed plate, the bar, the sleeve and post, the tongue, and the spring arranged to normally press and hold the tongue to one side, as set forth.

No. 38,904. Non-Corrosive Wash for Tinware.

(*Lavage non-corrosif pour la ferblanterie.*)

Isaac J. Lawrence and Henry E. Lawrence, both of Hamilton, Ontario, Canada, 9th May, 1892; 5 years.

Claim.—1st. The combination of a tinware vessel, provided with one, or a series of raised zinc pieces B, having shank or shanks C, attached to the interior thereof, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of a tinware vessel, having one or a series of depressions D, and the raised or level zinc pieces E, secured in said depressions, substantially as and for the purpose hereinbefore set forth.

No. 38,905. Sash Lock. (*Arrête-croisée.*)

James Ezra Rose, Weedsport, New York, U. S. A., and Lewis Rudolph Klumpp, of the same place, 9th May, 1892; 5 years.

Claim.—1st. In a sash holder, the combination with the casing, levers pivoted substantially centrally and having their outer ends provided with heads, and their inner ends shaped into handles, and springs interposed between the inner wall of the casing and the outer edge of the levers, as set forth. 2nd. In a sash holder, the combination of the casing, levers pivoted substantially, centrally and having their outer ends provided with heads, and their inner ends shaped into handles, which handles are provided with means for holding the edges apart, and springs interposed between the inner wall of the casing and the outer edge of the levers, as set forth. 3rd. In a sash holder, the combination of a frustrum casing, having the bar 9 upon its front edge, levers pivoted substantially, centrally and having their outer ends provided with heads and their inner ends shaped into handles, and springs interposed between the inner wall of the casing and the outer edges of the levers, substantially as and for the purposes set forth.

No. 38,906. Chuck for Rock Drills.

(*Mandrin pour foret de mine.*)

The Canadian Rand Drill Company, assignees of Frederic Arthur Halsey, all of Sherbrooke, Quebec, Canada, 9th May, 1892; 15 years.

Claim.—In a chuck for rock drills, which is fixed on the drill piston rod, and which is provided at the exterior of its central portion, with the devices for locking the drill tool to the chuck, the oppositely located faces *c*, *c*, on the exterior of the chuck body at its ends, one or both, beyond said central portion, substantially as and for the purpose set forth.

No. 38,907. Stove Leg. (*Pied de poêle*)

John B. Morse, Lowville, New York, U.S.A., 10th May, 1892; 5 years.

Claim.—A stove leg formed with a vertical rib having a vertical recess, combined with a caster having its pintle working in a hole in the lower end of the rib and extended into the recess, and a cam lever pivoted on a horizontal pivot within the recess and formed with a shoulder *i* and flat upper face, and the wearing plate F on the acting face of the cam with one end abutting against the shoulder *i*, and formed in proximity to said shoulder with a depression *j*, substantially as and for the purpose specified.

No. 38,908 Shovel. (*Pelle.*)

Daniel A. Daly, Detroit, Michigan, U.S.A., 10th May, 1892; 5 years.

Claim.—1st. In a shovel, a sheet metal blade having straight front portions, a bent rear portion, and re-inforced longitudinal edges formed of depending flanges extending the whole length of the blade or nearly so, substantially as described. 2nd. In a shovel, a sheet metal blade having a straight front portion, a bent rear portion, depending flanges on the longitudinal edges of the blade, a transverse depression of the face of the blade near the front edge thereof, and a longitudinal depression of the face of the blade between the central portion and the longitudinal edges of the blade, substantially as described. 3rd. In a shovel, a sheet metal blade having a straight front portion, a bent rear portion having an increased bend near its rear edge and depending flanges extending along the longitudinal edges of the blade, and beveled off towards the front and rear edges of the blade, substantially as described. 4th. In a shovel, a sheet metal blade having the straight front and the bent rear portions, the raised nose formed in the longitudinal centre of the front portion, the depressed bearing formed in the longitudinal centre of the rear portion, and the handle engaging into the bearing on the rear portion of the blade and secured thereto, and having a nose engaging under the nose of the front portion of the blade and secured thereto, substantially as described.

No. 38,909. Grain Measuring and Bagging Machine.

(*Appareil pour mesurer et empocher le grain.*)

George Albert Metcalfe, Oakland, Manitoba, Canada, 10th May, 1892; 5 years.

Claim.—1st. A grain measuring and bagging device, comprising a main frame or body W, enclosing measuring compartment *g*, hopper *f*, slanting pieces or angled sides *o*, *p*, and *n*, slides *a*, and *v*, bag shoot and holder *k*, having projections *y*, and sight apertures *x*, substantially as and for the purpose hereinbefore set forth. 2nd. In combination, with a grain measuring and bagging device, substantially as described, stays *r*, secured to the front and back sides of the main frame W, levers h^1, and *h*, rigidly connected together, and suspended to stays *r*, by a rod through their centres, and rods *b* and *l*, rigidly secured to slides *a*, and *v*, and pivotally connected to lever *h*, substantially as and for the purpose hereinbefore set forth. 3rd. In a grain measuring and bagging device, substantially as described, and in combination with slide operating lever h^1 or *h*, registering lever *i*, to operate any registering device for automatically recording the number of bushels of grain put into bags, substantially as set forth.

No. 38,910. Process of Reproducing Oil Paintings.

(*Procédé de reproduction de peinture à l'huile.*)

Louis Mayar, Devonshire Terrace, Rylett Road, Shepherds Bush, London, England, 10th May, 1892; 5 years.

Claim.—1st. The process of reproducing oil paintings, which consists in first preparing a piece of canvas with a coat or coats of colour, then powdering the same after each coat, then pressing the said piece of canvas, covering the painting with tissue paper, then placing a suitable substance thereon, whereby an impression may be taken, and taking an imprint by bringing the picture and canvas together and applying pressure thereon, substantially as specified. 2nd. The process of reproducing oil paintings, which consists in first preparing a piece of canvas by applying a coat or coats of colour, then powdering the same and pressing the said piece of canvas, preventing stretching by applying a coat or coats of suitable material to the back thereof, covering the painting with a layer of thin material, covering the thin material with a suitable substance whereby an impression may be taken, and then taking an imprint by bringing the picture and the canvas together and applying the pressure thereon, substantially as described.

No. 38,911. Elevator Door. (*Porte d'ascenseur.*)

William N. Anderson, San Rafael, California, U.S.A., 10th May, 1892; 15 years.

Claim.—1st. In elevator doors and means for operating the same, the combination, with vertically swinging doors having segmental racks on their under sides, of pinions pivoted to the elevator posts and connecting with the racks, transverse shafts geared to the pinions and to adjacent pinions pivoted near the ends of the shafts, rack bars held to slide on the corner posts and adapted to engage the pinions on one end of the shafts, and the adjacent pinions, and catches at the upper and lower ends of the elevator cage to engage shoulders on the rack bars, substantially as described. 2nd. The combination, with swinging elevator doors having their inner edges halved together and having depending segmental racks on the under side, of pinions pivoted in the elevator well to mesh with the racks, transverse shafts pivoted on the sides of the elevator well, and having pinions at each end, the pinions on one end meshing with the rack pinions as described, pinions pivoted to supports so as to mesh with the pinions on the transverse shaft at the ends opposite the rack pinions, sliding rack bars mounted on the posts of the elevator well and adapted to independently engage the pinions on the shaft and the adjacent pinions, and catches at the upper and lower portions of the elevator cage to engage shoulders on the rack bars, substantially as described. 3rd. In an apparatus of the character described, the combination, with transverse shafts geared to the elevator doors as described, and provided with reversing pinions as set forth, of sliding rack bars mounted on the corner posts of the elevator well, and arranged to independently engage pinions on the shafts and the reversing pinions, arms and supports secured to the upper and lower ends of the elevator cage, and spring pressed catches secured to the arms and adapted to independently engage the shoulders on the rack bars, substantially as described. 4th. In an apparatus of the character described, the combination, with a transverse shaft having a disk secured at one end, of a pair of adjustable arms pivoted opposite the disk and provided with concave inner faces to fit the disk, substantially as described.

No. 38,912. Bottle. (*Bouteille.*)

Anton Schon, London, England, 10th May, 1892; 5 years.

Claim.—1st. A compound bottle or receptacle for containing two or more liquids so that they can both or all be poured out at once to make a mixed beverage, substantially as hereinbefore described. 2nd. A bottle or receptacle provided with a partition or partitions, so as to constitute separate chambers capable of being opened so that both or all of the liquid contents of the respective chambers can be withdrawn at the same time, substantially as and for the purposes hereinbefore described. 3rd. A compound bottle and its stopper or stoppers, constructed and arranged so that the contents of either chamber can be discharged without discharging the contents of the other chamber or chambers, and so that the contents of both or all the chambers may be simultaneously discharged if required, substantially as hereinbefore described. 4th. A compound bottle and its stopper or closure, constructed substantially as hereinbefore described and for the purpose set forth. 5th. A combined bottle and its stopper or closure, arranged or constructed as hereinbefore described, and the means for releasing the ball stopper therefrom, all substantially as and for the purpose set forth. 6th. In a combined bottle, constructing the compartments A, B, separately and holding them together by a wire band or bands, or their equivalent, said compartment A provided with ball stopper and wire adjuster, and compartment with screw stopper D, substantially as and for the purpose set forth.

No. 38,913. Method of Making Velveteen Binding.

(Méthode de fabrication de bordure de velours.)

Marcus Merritt Beeman, Syracuse, New York, U.S.A., 10th May, 1892; 5 years.

Claim.—1st. The herein described process for manufacturing binding from velveteen as a new article of manufacture, consisting, first, in cutting the pieces into rhomboids; second, in placing the napped faces of the pieces upon each other; third, in stitching them adjacent to the selvage edges; fourth, in turning them to bring their napped faces into the same plane; fifth, in folding the butt ends down upon the back of each piece; sixth, in cementing down the butt ends; seventh, in cutting the pieces thus secured together on the bias into strips. 2nd. The herein described process for manufacturing binding from velveteen as a new article of manufacture, consisting, first, in cutting the pieces into rhomboids; second, in placing the napped faces of the two pieces upon each other; third, in stitching them together adjacent to their selvage edges; fourth, in turning them to bring their napped faces into the same plane; fifth, in folding the butt ends down upon the back of each piece; sixth, in cementing a piece of cloth upon the butt ends on to the back of the velveteen adjacent thereto; seventh, in cutting the pieces thus secured together on the bias into strips.

No. 38,914. Sash Cord Fastener.

(*Accroche-corde de croisée.*)

James Patterson Gardner, Chicago, Illinois, U. S. A., 10th May, 1892; 5 years.

Claim.—1st. A fastening for metal ribbons, consisting of a slotted block, a body adapted for attachment to whatever the ribbon is to be fastened to, and a metal ribbon secured to said body, by passing it through the slot in the block, about the body, back through the slot, then looping it back upon itself and interposing in the loop a second body to prevent it from being drawn through the slot, substantially as described. 2nd. A fastening for metal ribbons, consisting of a block containing a flaring slot, a wedge fitted to said slot, a body adapted for attachment to the object to which the ribbon is to be fastened, and a metal ribbon secured to said body by passing it first through the slot, from the broad toward the narrow end thereof, then about the body, then back through the slot, looping the end back upon itself, interposing the wedge in the loop and drawing it tightly into the slot, substantially as described.

No. 38,915. Scissors for Cutting Button Holes, Etc.

(Ciseaux pour couper les boutonnières.)

Martin Cormody, 49 St. Georges Terrace, Harrington Road, Workington, Cumberland, England, 10th May, 1892; 5 years.

Claim.—1st. The buttonhole scissors described whereby a complete buttonhole is cut at one operation by a shearing action, the handles of the scissors being pivoted together and furnished with extension arms to which the blades are secured, the said blades having cutters secured to or formed on their lower ends at right angles to the cutting edges of the blades, and being convexed or otherwise curved upwards on one or both sides, and sharpened so as to form the cutting edges for the button-hole eye, with means for regulating the distance to which the blades may be opened or closed, and for regulating the distance in from the edge of the material where the cut may commence, consisting of a bolt fixed to, or adjusted on the extension arms, the nut rotatable on the said bolt, and the projection on the shoulder of the other handle, arranged and operating, substantially as and for the purposes hereinbefore set forth and described. 2nd. The button-hole scissors described for producing a straight button-hole cut or slit only, with means for regulating the opening and closing of the blades, and for regulating the distance in from the edge of the material where the cut may commence, substantially as and for the purposes herein described. 3rd. The use in combination, with scissors designed for cutting the long part or slit of a button-hole, of the cutters attached to, or formed on, the blades designed to enter one within the other and having cutting edges so formed as to shear a circular hole or eye from the material at the commencement of the long cut or slit, the cutter being slit at its junction, with the blade so as to allow the opposite blade to enter thereinto and allow the two blades to close up together one beside the other, substantially as herein described. 4th. My improvements in scissors for cutting button-holes, and for other purposes substantially as described.

No. 38,916. Pencil Sharpener. (*Taille-crayon.*)

John Siegel, Montreal, Quebec, Canada, 10th May, 1892; 5 years.

Claim.—1st. The combination of a bed frame or box, a plane guided in a track on the top of said bed, a crank shaft journaled on the top of said bed near the end at the heel of said plane and provided with means of turning it and connected to the plane by a pitman, a rotary chuck having one end journaled yieldingly in the bed end opposite said crank shaft, so that its free end and centre line slope upwards and laterally, and the latter intersects the plane track at an acute angle near its far end and side at the level of the cutting edge of the plane bit, said free end being elastic and tapering, asliding locking collar on said free elastic end, mechanism for sliding said collar, mechanism for rotating said chuck, an adjustable support for the end of the object projecting from the chuck, and a spring pressing it downward, substantially as set forth. 2nd. In a pencil sharpener or pointing plane, the combination of a bed A having a race or track a, with guides a^1, adapted to guide a plane, a plane body B adapted to run in said guides, cutting bit B^1 held on said body adjustably by a screw B^{11}, and waste guard B^{111} hinged to said body, substantially as set forth. 3rd. In a pencil sharpener or pointing plane, the combination of a bed A having an open race or track a, a plane B guided in said race and provided with adjustable bit B^1, and hinged waste guard B^{111}, a crank shaft C journaled across said track near one end thereof, a pitman B^4 connecting said plane with the crank, a fly wheel C^1 on said shaft, and handle c^1 on said fly wheel, substantially as set forth. 4th. The combination of a bed or box A having at one end a beveled recess with end a^{11}, with an elastic tubular chuck D journaled yieldingly in said end, and diagonally in said bed, so that its center line forms an acute angle with the top surface of the bed, its free end slit open and tapering in diameter, the sliding collar E on the tapering split portion having a circular groove, and the lever E^1 pivoted below said collar and projecting through a slot in the top and engaging the groove of the collar, substantially as set forth. 5th. The combination of a bed or box A having in its top a race or track a, and a chuck D having one end journaled below the level of said track at one end of said bed, and having its other projecting into said bed or box at a line rising and deviating laterally so as to intersect said track at the opposite end at an acute angle, substantially as set forth. 6th. The combination of a bed or box A, a race or track a in the top of the same, a recess with beveled end a^{11} normal to a line intersecting the opposite end and side of said track at an acute angle in an upward and lateral direction, a tubular and flexible chuck D journaled yieldingly in said end, and taking said line as a centre, substantially as set forth. 7th. The combination of a bed or box A having in its top a race or track a, a tubular flexible chuck D journaled below said top at one end of said bed and projecting into said bed so that its center line intersects the race a at an acute angle, a sliding collar E on said chuck, the lever E^1 pivoted upon the axle e^1, and connected to the collar by screws e, a grooved pulley F normal to the line of said chuck and near the end of the line, the bar F^1 upon which said pulley is journaled having a threaded eye f^1, a screw F^{11} journaled in the bed top and passing through the eye f^1, and provided with a milled head f^{11}, and the spring G between the end of the chuck D, and the pulley F, substantially as set forth. 8th. The combination of a bed or box A having in its top a race or track a, a tubular flexible chuck D journaled in the recessed and beveled end a^{11} of said bed, and below the top so that its center line intersects said track at an acute angle, a ratchet wheel D^1 mounted near the end of said chuck, a rocker D^{11} journaled upon said chuck between its bearing and the ratchet wheel, and having arms projecting above and below, the pawl d^{11} pivoted on said rocker and gearing in the ratchet wheel, the spring D^{111} pressing against the lower arm of said rocker, the face cam C^{11} at the end of a crank shaft, against which the end of the upper arm of the rocker is pressed by said spring, the crank shaft C journaled across the track a opposite said said rocker, and having said cam mounted upon its end, and the trumpet mouthed cover D^4 enclosing said ratchet wheel, substantially as set forth. 9th. The combination of the box A having an open track a in its top and having one corner recessed by a beveled end a^{11}, said box forming a receptacle for waste, a plane B provided with adjustable bit and having a hinged waste guard B^{111} running on said track, a crank shaft C journaled across the track, a fly wheel C^1 on said shaft provided with handle c^1, a pitman B^4 connecting the crank and plane, cam C^{11} on the end of said shaft, a chuck D journaled in the end a^{11} below the top of the bed and having mounted upon it a ratchet wheel and journaled upon it a rocker operated by said cam, and a spring and carrying a pawl gearing in said ratchet wheel, substantially as set forth.

No. 38,917. Hydraulic Fire Escape and Extension Ladder. (*Sauveteur hydraulique d'incendie et echelle à rallonge.*)

John H. McPartland, Houlton, Maine, U.S.A., 11th May, 1892; 5 years.

Claim.—1st. The combined fire escape and ladder, having the water tower provided with nozzled hose at its upper end, and the platform adjustible to the required level as the tower is inclined or carcened, and means for reaching said platform, substantially as specified. 2nd. The combined fire escape and ladder, having its truck provided with a brace adapted to slide thereunder, and having pivoted bars or legs, in combination with pivoted pieces or buttons engaging said legs or bars, and means for manipulating said brace, substantially as described.

No. 38,918. Method of Producing Pure Saccharine.

(*Méthode de production de saccharin pure.*)

Constantin Falhberg, Salbke, near Madgeburg, Prussia, 11th May, 1892; 5 years.

Claim.—The process of separating out para-sulphamine benzoic acid in solid state from a mixture of the salts of anhydro-orthosulphamine-benzoic acid and para-sulphamine-benzoic acid, or from a mixture of the said acids themselves, which consists in treating the dissolved mixture of the salts with an acid stronger than the para-sulphamine-benzoic acid, and the quantity whereof is only sufficient to separate the same from its base, or in treating the mixture of the said acids in dry condition with a solution of an alkali, an alkaline earth, or a carbonate of the alkalies or alkaline earths, the quantity whereof is only sufficient to neutralize and dissolve the anhydro-orthosulphamine-benzoic acid, and in filtering off the liquid from the para-sulphamine-benzoic acid, which separates out in solid state or remains undissolved, substantially as described.

No. 38,919. Railway Signal Flag.

(*Pavillon pour signal de chemin de fer.*)

Edward Spencer Piper, Toronto, Ontario, Canada, 11th May, 1892; 5 years.

Claim.—1st. An improved railway signal, consisting of metal leaves of suitable size and design, hinged to a spindle and arranged to be adjusted with one another, so that the coloured surface to give the desired signal may be exposed while the colour for the other signal is hidden, substantially as and for the purpose specified. 2nd. An improved railway signal, consisting of metal leaves of suitable size and design, hinged to a spindle and arranged to be adjusted with one another, so that the coloured surface to give the desired signal may be exposed while the colour for the other signal is hidden, in combination with a clamp arranged to hold the said leaves together, substantially as and for the purpose specified.

No. 38,920. Spring Motor. (*Moteur à resort.*)

James Ansley Adams, Atlanta, Georgia, U.S.A., 11th May, 1892; 5 years.

Claim.—1st. In a device of the class specified, the shafts A and A^1, the two gears of larger diameter, each secured to one of the said shafts, and two gears of smaller diameter each running loosely on one of said shafts, the barrels B, B, secured to the said smaller gears, and the springs winding on each of the said shafts and within the said barrels, and attached at their outer ends to the said barrels, substantially as and for the purpose specified. 2nd. In a device of the class described, as a means for utilizing a multiplicity of springs, the combination of the shaft A, held stationary except when the spring is being wound and carrying loosely mounted thereon, a gear a^1, the shaft A^1, having a gear a^{11} secured thereto, and a gear a^1 loosely revolving thereon, the barrels B, B, secured to the gears a and a^1, and the springs secured to and adapted to be wound on said shafts, and within the barrels B, B, their outer ends being secured to the said barrels, substantially as and for the purpose specified.

No. 38,921. Bed Pan. (*Vase-de-lit.*)

Willis Augustine Crandall, Sturgis, Michigan, U.S.A., 11th May, 1892; 5 years.

Claim.—1st. In a flexible bed pan, an inflatable rim, a flexible bottom centrally attached to the under side of said rim and forming a dam, and an integral bag or receptacle at the reduced end of said rim and bottom, substantially as set forth. 2nd. In a flexible bed pan, an inflatable rim, a flexible bottom centrally attached to the inner side of said rim, and a bag or receptacle at the reduced end of said rim and bottom formed by lapping the bottom over the terminals of said rim and securing to the upper sides of the same, substantially as set forth. 3rd. In a flexible bed pan, an inflatable rim, contoured to form an enlargement at one end of the pan, and reduced portion at the other, a flexible bottom centrally attached to the inner sides of said rim, and a bag or receptacle at the reduced end of the pan provided with a strengthening and shaping rib within in its free edge, said bag or receptacle being formed by lapping the bottom over the terminals of said rim and securing to the upper sides of the same, substantially as set forth.

No. 38,922. Electrode. (*Electrode.*)

Ludwig Epstein, East Twickenham, Middlesex, England, 11th May, 1892; 5 years.

Claim.—1st. The formation of electrodes for use in primary and secondary electric batteries by first boiling the lead bodies in weak acidulated water, or water otherwise rendered slightly active as a solvent upon the lead as set forth, then exposing the bodies to the action of air or oxidizing gas, and finally subjecting the bodies thus dried to the action of an electric current in a suitable electrolyte, substantially as set forth. 2nd. The formation of electrodes for use in primary and secondary electric batteries by first boiling the lead bodies in weak acidulated water, or water otherwise rendered slightly active as a solvent upon lead as set forth, then exposing the bodies to the action of air or oxidizing gas, then subjecting the bodies thus dried (and whilst connected to the positive pole of an electric generator) to the action of an electric current in a suitable electrolyte, and finally subjecting the positive electrodes thus produced (whilst connected to the negative pole of an electric generator) to the action of an electric current in a suitable electrolyte, substantially as set forth. 3rd. The formation of electrodes for use in primary and secondary electric batteries by first boiling the lead bodies in weak acidulated water, or water otherwise rendered slightly active as a solvent upon lead as set forth, then exposing the bodies to the action of air or oxidizing gas, and then subjecting the bodies thus dried to the action of an electric current, in an electrolyte containing either dilute sulphuric acid or the solution of a suitable salt of sulphuric acid, and an acid towards which the peroxide of lead acts as a base, substantially as set forth. 4th. The formation of electrodes for use in primary and secondary electric batteries by first boiling the lead bodies in weak acidulated water, or water otherwise rendered slightly active as a solvent upon lead as set forth, then exposing the bodies to the action of air or oxidizing gas, then subjecting the bodies thus dried (and whilst connected to the positive pole of an electric generator) to the action of an electric current in an electrolyte containing either diluted sulphuric acid or the solution of a suitable salt of sulphuric acid, and an acid towards which the peroxide of lead acts as a base, and finally subjecting the oxidized lead bodies thus produced (whilst connected to the negative pole of an electric generator) to the action of an electric current in an electrolyte of diluted sulphuric acid or a solution of a suitable salt of sulphuric acid, substantially as set forth. 5th. The formation of electrodes for use in primary and secondary electric batteries by first boiling the lead bodies in weak acidulated water, or water otherwise rendered slightly active as a solvent upon lead as set forth, then exposing the bodies to the action of air or oxidizing gas, then subjecting the bodies thus dried (and whilst connected to the positive pole of an electric generator) to the action of an electric current in an electrolyte containing either diluted sulphuric acid or the solution of a suitable salt of sulphuric acid, and an acid towards which the peroxide of lead acts as a base, then subjecting the oxidized lead bodies thus produced (whilst connected to the negative pole of an electric generator) to the action of an electric current in an electrolyte of diluted surphuric acid or a solution of a suitable salt of sulphuric acid, and finally subjecting the reduced bodies thus produced (whilst connected to the positive pole of an electric generator) to the action of the electric current in an electrolyte such as last mentioned, substantially as set forth. 6th. The formation of electrodes for use in primary and secondary batteries by first providing the lead bodies with ribs, corrugations, projections or indentations to increase the surface, then boiling the said lead bodies in weak acidulated water, or water otherwise rendered slightly active as a solvent upon lead as set forth, then exposing the bodies to the action of the air or oxidizing gas, and finally subjecting the bodies thus dried to the action of an electric current in a suitable electrolyte, substantially as set forth. 7th. The formation of electrodes for use in primary and secondary batteries by first providing lead bodies on one or more sides with a number of ribs *d* arranged close together as described for the purpose mentioned, then boiling the said lead bodies in weak acidulated water, or water otherwise rendered slightly active as a solvent upon lead as set forth, then exposing the bodies to the action of air or oxidizing gas, and finally subjecting the bodies thus dried to the action of an electric current in a suitable electrolyte, substantially as set forth. 8th. The combination in an electric battery of two lead electrodes, one situated within the other which forms a containing vessel therefor, the inner surface of the said containing vessel and also the electrode contained therein being rendered active by being submitted first to the action of boiling weak acidulated water, or water otherwise rendered slightly active as a solvent upon lead as set forth, then exposed to the action of air or oxidizing gas and dried, and then finally subjected to the action of an electric current in a suitable electrolyte, substantially as set forth.

No. 38,923. Game. (*Jeu.*)

Samuel W. Clarke, Wood's Hall, Massachusetts, U. S. A., 11th May, 1892; 5 years.

Claim.—1st. A game apparatus, consisting of an elastic ball having the hollow stem *d* secured to it, and having the wings *c* secured in said stem, and supported by the spring wires *f*, and a bat or racket for driving said winged ball. 2nd. A game apparatus consisting of a hollow elastic ball, having an opening in one side, the edge of said opening secured between the flange of the tube *b*,

and the thimble *d*, an inwardly opening valve secured to the flange of the tube *b*, wings *e*, supported by spring wires *f*, projecting from said thimble *d*, and a bat or racket for driving said winged ball, having a tally scale *k*, provided with pointer *l* attached to it, as shown and described.

No. 38,924. Thermometer with Compensation Plate.

(Thermomètre avec plaque à compensation.)

George Henry Seigmund Oscar Moller, Hamburg, German Empire, 11th May, 1892; 5 years.

Claim.—1st. In a thermometer with compensation plates, the arrangement of the compensation plate *f*, as carrier plate for the pointer spindle, in combination with the mechanism carried by the plate *e*, for operating said pointer spindle, substantially as described. 2nd. In Thermometers with compensation plates, the combination of the compensation plate *f*, with the spring *m*, spindle *l*, pointer *r*, chain *q*, lever *p*, spindle *o*, rod *r*, spring *t*, clamping screw o^1, arms *n*, screw disc *u*, articulated rod *s*, and the compensation plates *d* and *e*, substantially as described. 3rd. The combination of the casing *a*, with the screws *b*, distance rings *c*, and compensation plate *d*, which acts as fundamental plate for the entire mechanism, substantially as described. 4th. The combination of the plate *d*, with the adjusting screw d^1, compensation plate *e*, screw bolt *g*, shell or distance pieces *h*, *i*, and spring *k*, substantially as described. 5th. The combination of the compensation plate *e*, with the articulated limb *s*, rod *r*, spindle *o*, clamp screw o^1, spring *t*, lever *p*, chain *q*, and with the spindle *l*, of the pointer *r*, substantially as described.

No. 38,925. Carriage Top. (*Couverture de voiture.*)

Daniel Conboy, Toronto, Ontario, Canada, 11th May, 1892; 5 years.

Claim.—A combined prop-bolt, nut and curtain knob, comprising a prople nut having a threaded hole extending through it, a prop-bolt and a curtain knob, both of the same diameter and with the same sized thread, said prop-bolt being screwed into one end of the hole in said prop-nut, and the curtain knob screwed into the other end of said hole, substantially as and for the purpose specified.

No. 38,926. Basket. (*Panier.*)

William Henry Spillman, Walkerville, Ontario, Canada, 12th May, 1892; 5 years.

Claim.—1st. In a basket, the combination of material forming the bottom, and scored and bent upward to form the sides and ends, wooden hoops or stiffening pieces attached to the upper sides and ends and terminating at the corners, and metal corners, substantially as described. 2nd. In a basket, the combination of veneer strips crossed to form a double bottom, and provided with stiffening supports B, and scored and bent upward to form the sides and ends of the basket, and wooden hoops extending the length of each side and ends, and fastened to the veneer, and metal braces for supporting the corners of said basket, substantially as described.

No. 38,927. Door and Window Screen.

(Ecran de fenêtre et porte.)

Mary Josephine Tenney, Oskaloosa, Iowa, U. S. A., 12th May, 1892; 5 years.

Claim.—1st. The herein described screen, the same comprising a frame having a cross bar near its upper end, and its side bar having horizontal grooves on their inner faces just beneath its top bar, a netting secured to the inner face of the screen, passing over said cross bar, and extending thence in an inclined direction upwardly and outwardly through the frame, a rod carried by said top bar at a distance from its outer face and over which rod the upper end of said outwardly inclined netting is passed, with its raw edge projecting downwardly, a strip of netting secured to the outer face of said top bar inside said rod, and having its raw edge projecting upwardly, and a closing strip removably seated at its ends in said grooves and adapted to be moved transversely to its length to close the exit opening through the screen, as and for the purpose set forth. 2nd. The herein described screen, the same comprising a frame having a cross bar near its upper end, a netting secured to the inner face of the screen, passing over said cross bar, and extending thence in an inclined direction upwardly and outwardly through the frame, a rod carried by said top bar at a distance from its outer face, and over which rod the upper end of said outwardly inclined netting is passed, with its raw edge projecting downwardly, and a strip of netting secured to the outer face of said top bar inside said rod, and having its raw edge projecting upwardly, the ends of this strip being turned down, and closing the openings between the edges of the outwardly inclined netting and the frame, as set forth. 3rd. The herein described screen, the same comprising a frame having a cross bar near its upper end, and its side bars having grooves on their inner faces just near beneath its top bar, a netting secured to the inner face of the screen, passing over said cross bar, and extending thence in an inclined direction upwardly and outwardly through the frame, a rod carried by said top bar at a distance from its outer face and over which rod the upper end of said outwardly inclined netting is passed, with its raw edge projecting downwardly, a strip of netting secured to the outer face of said top bar inside said rod and having its raw edge projecting upwardly, the ends of this strip being turned down and closing the openings between the edges of the outwardly inclined netting and the frame, and a closing strip removably seated at its ends in said grooves and adapted to close the exit opening through the screen, as and for the purpose hereinbefore set forth.

No. 38,928. Combined Baby Carriage, Chair and Cradle. (*Voiture d'enfant, chaise et berceau combinés.*)

Samuel Lazarus and Theresa Lazarus, both of Jersey City, New Jersey, U.S.A., 12th May, 1892; 5 years.

Claim.—1st. The two frames which are crossed, supporting wheels, a rod extending across between the frames, a chair having its lower end resting upon the said rod, and a suspending device connecting the upper end of the chair with the upper portion of the said frames, the parts combined, substantially as described. 2nd. In a folding carriage, two frames which are crossed between their ends and pivoted at the point of intersection, a body detachably suspended between the upper ends of the frames, and an L-shaped chair having its vertical portion supported by the frame in rear of the said body, and its horizontal portion supported below the said body, the parts combined substantially as specified. 3rd. In a folding carriage, two frames which are crossed between their ends and pivoted at the point of intersection, suspending devices at their upper ends, the body, and a spring connection between the body and one of the suspending devices, the parts combined, substantially as described.

No. 38,929. Method of Manufacturing Asphaltum.

(Méthode de fabrication d'asphalte.)

Jesse Adams Dubbs, Allegheny, Pennsylvania, U.S.A., 12th May, 1892; 5 years.

Claim.—The method herein described of manufacturing asphaltum, consisting in subjecting crude petroleum or residuum thereof and sulphur to a suitable heat, reducing such heat, charging in an additional amount of sulphur, again subjecting the entire charge to a further heat, adding more sulphur and continuing the heat until the product has attained the desired degree of hardness, substantially as set forth.

No. 38,930. Key Hole Guide. (*Guide pour trou de serrure.*)

Charles Norman Holdenby, Toronto, Ontario, Canada, 12th May, 1892; 5 years.

Claim.—1st. The combination, with the key hole, of the guiding rib arranged as and for the purpose specified. 2nd. The combination, with the key hole, of the guiding rib attached to or secured to the key hole plate or escutcheon and having the apex of the angular rib located in proximity to the bottom of the key hole, as and for the purpose specified. 3rd. The combination, with the key hole, of the guiding rib or flange C, having the apex located in proximity to the bottom of the key hole, and the outer ends of the rib turned so as to form a hole, and the screws D, for securing the guiding rib in position, as and for the purpose specified.

No. 38,931. Windmill. (*Moulin à vent.*)

Joseph McKnight, Middleport, Ohio, U.S.A., 12th May, 1892; 5 years.

Claim.—1st. In a wind wheel of the kind where the blades are supported on their longitudinal edges by radial arms, the construction and combination of two sets of radial arms, each reaching out from a hub and supported on a common shaft, one of these hubs being loose on the latter, a number of blades hinged at their longitudinal edges to one set of these radial arms and having loops through which the arms of the other set pass, and a number of springs securing the loose set of arms to an intermediate set of arms rigidly secured to the shaft, all substantially as shown and described. 2nd. In a wind wheel of the kind where the blades are supported on their longitudinal edges by radial arms, the construction and combination of two sets of arms, each radiating from a central hub, the two sets placed one behind the other on a common shaft, one of the hubs being loose, the other rigidly secured to said shaft, a number of blades situated between these arms and provided at their longitudinal edges with hinges, and having loops attached to them reaching across their surface, the former engaging with the arms on the loose hub, while the arms of the hub, fast with the shaft, pass through the latter, and springs connecting to and holding the loose set of arms up against the wind, all substantially as shown. 3rd. In a wind wheel of the kind where the blades are supported on their longitudinal edges by radial arms, the combination, with these blades hinged and supported longitudinally between a loose and tight set of arms, of a friction brake automatically operated by a governor, which, by excessive speed, retards the movement of the wheel and with the tight set of arms, causing thereby this latter to fall behind the loose set of arms and tilting the blades, all substantially as shown and described. 4th. In a windmill, the combination, with the drive wheel and shafting actuated by it, of a friction wheel 54, revolved by said shafting, a band 57, surrounding loosely this friction wheel, two crank shafts 59, 60, connecting to the free ends of bands 57, pinions 61 on said crank shafts, meshing into each other, and an operating lever secured to one of the crank shafts, all substantially as shown and described.

No. 38,932. Trouser Hanger and Stretcher.

(Tendeur et suspenseur pour pantalons.)

Clarence Alburtus Evans, Upland, Pennsylvania, U.S.A., 12th May, 1892; 5 years.

Claim.—1st. A garment hanger and stretcher consisting of a block having arms projecting from one side thereof, forming a horizontal throat, substantially as described. 2nd. A garment hanger and stretcher consisting of a block having parallel projecting arms on one side thereof, forming a horizontal throat, one of the edges of said arms being rounded at the place adapted to grip the inserted garment, substantially as described. 3rd. A garment hanger and stretcher consisting of a block with arms projecting laterally therefrom and separated one from another, producing a throat open at its outer end, and a jaw mounted on one of said arms and adapted to rotate to and from the other, thus opening and closing said throat in the direction of the length thereof, said parts being combined substantially as described. 4th. A garment hanger and stretcher consisting of a block with a horizontal throat therein, and a gripping jaw connected with either wall of said throat adapted to reduce the width of said throat, substantially as described. 5th. A garment hanger and stretcher consisting of a block with a throat therein to receive a garment, said block being constructed of sections with intermediate re-inforcing pieces, said parts being combined substantially as described.

No. 38,933. Gas Engine. (*Machine à gaz.*)

Herbert Akroyd Stuart, Bletchley, Buckingham, and Charles Richard Binney, London, both of England, 12th May, 1892; 5 years.

Claim.—1st. In an engine operated by the explosion of hydrocarbon vapour and air, the employment of a vapourizer in direct communication with the working cylinder, which vapourizer is maintained at the requisite degree of heat by the combustion of the combustible mixture therein, the said vapourizer also serving to ignite the combustible charge, substantially as described. 2nd. In an engine operated by the explosion of a mixture of combustible gas or vapour and air, forming the said mixture by introducing the combustible gas or vapour into a charge of air under compression, substantially as described. 3rd. The combination with a vapourizer of the kind hereinbefore described, of a cover surrounding the same and provided with upper and lower openings, substantially as and for the purpose set forth. 4th. In an engine operated by the explosion of combustible mixtures governing mechanism operating upon the suction valve of the oil injecting pump in such a manner that when the engine is running above its normal speed an insufficient supply of oil will be delivered into the vapourizing chamber, substantially as and for the purpose described. 5th. In an engine operated by the explosion of combustible mixtures, the combination, substantially as described, of a vapourizer which also serves for igniting the explosive charges without the aid of a lamp (except when first starting the engine), a pump for injecting oil into the said vapourizer, and an air inlet valve in the cylinder, so that when after a charge of air has been drawn into the cylinder and the said charge compressed a cushion of air will remain between the explosive charge in the vapourizer and the piston.

No. 38,934. Gas Engine. (*Machine à gaz.*)

Herbert Akroyd Stuart, Bletchley, Buckingham, and Charles Richard Binney, London, both of England, 12th May, 1892; 5 years.

Claim.—1st. In an engine operated by the explosion of mixtures of gas or hydrocarbon vapour and air, a chamber adapted to be highly heated for igniting the explosive mixture, and when hydrocarbon vapour and air are employed for vapourizing the liquid hydrocarbon, the said chamber communicating directly with the working cylinder by a contracted passage always open to the said cylinder, in combination with an air inlet valve, so arranged that the air on entering does not pass through the vapourizing chamber, substantially as and for the purpose described. 2nd. In an engine operated by the explosion of mixtures of combustible vapour or gas and air, the arrangement whereby the combustible vapour or gas is introduced into an explosion chamber at all times freely open to the cylinder and the air into the cylinder, the explosive mixture being produced by compressing a sufficient portion of the contents of the cylinder into the chamber containing the inflammable vapour or gas, on the back or compressing stroke of the piston, so that no explosion can take place until the charges are compressed together, substantially as described. 3rd. In an engine of the kind hereinbefore described, having an explosion chamber communicating with the working cylinder through a contracted passage at all times freely open as set forth, introducing inflammable liquid, vapour or gas into the explosion chamber and the air into the cylinder during the suction or outstroke of the piston, substantially as and for the purposes specified. 4th. In an engine operated by the explosion of mixtures of combustible vapour or gas and air, the combination of a combustion chamber having a contracted passage always open to the cylinder, such chamber and contracted passage being in the same, or substantially the same axial direction as the cylinder, a fuel inlet into the combustion chamber and an air inlet into the cylinder, substantially as described. 5th. In an engine of the kind hereinbefore described, having an explosion chamber communicating with the working cylinder through a contracted passage at all times freely open, and in which the combustible liquid, vapour or gas and the air are introduced separately videlicit, the one into the combustion chamber and the other into the cylinder as set forth, the use of the hot surfaces of the explosion chamber for the purpose of igniting the charge when explosive, substantially as described. 6th. In a vapour or gas engine of the kind hereinbefore described, an explosion chamber communicating with the working cylinder through a contracted passage freely open to the cylinder, and a clearance space between the piston and the back end of the cylinder, the said space serving to contain a layer of air to prevent fouling, substantially as described.

No. 38,935. Shaft Tug for Harnesses.

(Mancelle de harnais.)

Joseph Warner Janney and Arthur Joseph Ingraham, assignees of Samuel Henry Haas, all of Philadelphia, Pennsylvania, U.S.A., 12th May, 1892; 5 years.

Claim.—1st. A shaft tug for harness, comprising a partially channelled supporting hook having a curved free extremity, and a spring actuated device for closing the free extremity and maintaining the saddle strap of the harness in a position to prevent detachment thereof, substantially as and for the purposes set forth. 2nd. A shaft tug for harness, comprising a J-shaped supporting hook provided with a channel and means adapted to receive a saddle strap and support the same in position out of contact with the internal surface of the device, and provided with a spring actuated device for closing the upper extremity thereof and preventing the saddle strap from becoming detached, substantially as and for the purposes set forth. 3rd. A shaft tug for harness provided with a hook having an open back and side checks, a spring actuated tongue, a projecting pin adapted to receive a saddle strap and a bar for receiving the belly-band, and occupying such relative position to the inner edges of the check pieces that when the saddle strap is passed between the band and the bottom of hook, the strap will project forward beyond the check pieces of the hook, substantially as and for the purposes set forth. 4th. A shaft tug for harness, comprising a curved hook with check pieces, a spring tongue closing the mouth of the hook, a projecting pin located at the upper part of the hook and adapted to an opening in the saddle strap and to an opening in the tongue, and a transverse pin forming a bearing for said saddle strap below the retaining pin therefor, substantially as and for the purposes set forth. 5th. A shaft tug for harness, comprising a hooked supporting device provided with a retaining pin for a saddle trap and provided with a spring actuated device for closing the mouth and retaining the saddle strap in position, a pin forming a support for the belly-band, and a keeper detachably connected with said band and saddle strap, substantially as and for the purposes set forth. 6th. A shaft tug for harness, comprising a hook shaped device, a tongue provided with an open extremity and with a tapering extremity and a toe, the said tongue journalled in the walls of said hooked shaped device, and a spring normally contacting with said said tongue, and with an arm secured to said device, substantially as and for the purposes set forth. 7th. A shaft tug for harness, comprising a hook shaped device, a spring actuated tongue provided with a toe on the underside thereof, and said spring actuated tongue normally closing said device and retaining saddle strap in position, substantially as and for the purposes set forth.

No. 38,936. Rectal Speculum. (*Speculum rec'al.*)

Talton T. Davis, Marion, Kansas, U.S.A., 12th May, 1892; 5 years.

Claim.—1st. In a rectal speculum, a conical tapering body having a flared trumpet end and provided with a central longitudinal chamber, an opening communicating with said chamber located in the side of said body, and a slotted slide working within said chamber and inclosing said opening, said slide being provided with separate constricting recesses or notches, substantially as set forth. 2nd. In a rectal speculum, a conical tapering body having a flared trumpet end and provided with a central longitudinal chamber, a lateral rectangular slot communicating with said chamber its entire length, formed in the side of said body and provided at its inner extremity with a circular notch or recess, guide grooves on opposite sides of said slot, and a constricting slide working in said guide groove and provided with a lower circular recess or notch, and a longitudinal slot corresponding to that within said body and provided at opposite ends thereof with oppositely disposed circular recesses or notches, substantially as set forth.

No. 38,937. Stove Pipe Ventilator.

(Ventilateur pour tuyaux de poêle.)

Charles James Kettyle and James McCormick, both of Sudbury, Ontario, Canada, 12th May, 1892; 5 years.

Claim.—In a ventilator, the combination, with a stove pipe A, of a nozzle B of smaller diameter, damper B^1 in said nozzle, and a hood or funnel C angularly disposed on a pipe or tubular stem adapted to fit into said nozzle, substantially as set forth.

No. 38,938. Knock-Down Paper Box.

(Boîte de papier pliante.)

The E. B. Eddy Company (Limited), assignee of George H. Millen, all of Hull, Quebec, Canada, 12th May, 1892; 5 years.

Claim.—1st. A blank for making paper boxes, cut integrally from a sheet of paper or cardboard, comprising a front section A, bottom B, back C and cover D, the bottom B having continuing flaps B^1 from the ends, the front A and back C having continuing flaps A^1, C^1, respectively, at the ends, and the cover D having a flap D^1, provided with tongues D^2 or other fastening, as set forth. 2nd. A rectangular box and cover, consisting of a paper blank integrally forming the box, said blank having the flaps B^1, B^1, at the ends of the bottom section B, and the front and back sections A, C, having flaps A^1, C^1, respectively, said flaps A^1, C^1, meeting and connected together and secured to the flap B^1 by a wire staple E, at the respective ends of the box, as set forth.

No. 38,939. Plaster Board. (*Planche pour le plâtrage.*)

James Day Baker, Montreal, Quebec, Canada, 12th May, 1892; 5 years.

Claim.—1st. A plaster board formed of plaster facing and a backing, having a sunken face round two of its edges and projecting strips of textile fabric secured in its other two edges, as herein shown and for the purposes described. 2nd. The combination of two or more plaster boards attached together by textile strips and an intermediate thickness of plaster resting on same, all as herein set forth and for the purposes described.

No. 38,940. Faucet for Barrels. (*Robinet pour barils.*)

Mark Anthony, Berkeley, California, U.S.A., 13th May, 1892; 5 years.

Claim.—1st. The combination of a barrel having the bung-hole thereof threaded and provided with an annular cut-away portion terminating at a point removed from the inner surface bordering the tap hole and forming an annular seat, and a thimble provided with exterior and interior threads, said thimble fitted in the cut-away portion and resting upon the annular seat and of less length than the cut-away portion, thus leaving the outer and inner edges of the barrel extending beyond the corresponding ends of the thimble, and a bushing having exterior threads throughout its length for a distance corresponding with the threads of the thimble, and also provided at its outer end with an annular flange resting upon the top of the thimble and against the contiguous surface of the barrel which borders the bung-hole, substantially as set forth. 2nd. The combination of a tap or bushing for barrels having opposite narrow and wide semi-circular grooves, said grooves provided with diametrically opposite openings intersecting the same, one of said openings being wider than the other, and a faucet provided with opposite lugs, the lugs being of different width, so as to correspond to the varying widths of the openings, intersecting the grooves, substantially as set forth. 3rd. The combination of a tap or bushing for barrels having opposite narrow and wide semi-circular grooves provided with diametrically opposite openings intersecting the same, one of said openings being wider than the other, and an operating key having a latterally projecting lug corresponding to the narrow opening intersecting one of the semi-circular grooves, substantially as set forth. 4th. The combination, with a tap or bushing provided with an interior seat and also having opposite narrow and wide semi-circular grooves, said grooves provided with diametrically opposite openings intersecting the same, the openings being of varying widths, of an operating key having a laterally projecting lug corresponding to the narrow opening, and an opposite foot or projection which bears upon the seat of the bushing, substantially as set forth. 5th. The combination, with a tap or bushing provided with an interior seat having an annular ridge, and also having opposite narrow and wide semi-circular grooves, said grooves provided with diametrically opposite openings intersecting the same, said openings being of varying widths, of an operating key having a laterally projecting lug corresponding to the narrow opening, an opposite foot or projection which bears upon the seat and is guided by the annular ridges thereof, substantially as set forth. 6th. The combination of a tap or bushing for barrels having opposite narrow and wide semi-circular inclined grooves, said grooves provided with diametrically opposite openings, one of said openings being wider than the other, an operating faucet provided with lateral oppositely inclined or beveled lugs of varying widths, so as to correspond to the varying widths of the openings, substantially as set forth. 7th. The combination of a valve and valve spindle, a bushing having opposite narrow and wide semi-circular inclined grooves, said grooves provided with diametrically opposite openings, one of said openings being wider than the other, and an operating faucet adapted to engage the valve spindle and provided with lateral oppositely inclined or beveled lugs of varying widths, so as to correspond to the varying widths of the openings, substantially as set forth. 8th. The combination of a tap or bushing for barrels having opposite narrow and wide semi-circular inclined grooves, said grooves provided with diametrically opposite openings, one of said openings being wider than the other, an operating faucet provided with lateral oppositely inclined or beveled lugs of varying widths, so as to correspond to the varying widths of the openings, and a washer upon the reduced end of the faucet adapted to be compressed in the semi-circular grooves as the faucet is turned, substantially as set forth. 9th. The combination of a valve and valve spindle, a bushing having opposite narrow and wide semi-circular inclining grooves, said grooves provided with diametrically opposite openings, one of said openings being wider than the other, an operating faucet adapted to engage the valve spindle, and provided with lateral oppositely inclined or beveled lugs of varying widths, so as to correspond to the varying widths of the openings, and a washer fitted in the inner reduced end of the faucet, and adapted to be compressed in the semi-circular groove as said faucet is turned, substantially as set forth. 10th. The combination, with a tap or bushing for barrels, having opposite narrow and wide grooves, and grooves provided with diametrically opposite openings intersecting the same, one of said openings being wider than the other, and also so provided at its outer end with an inwardly and outwardly extending flange, the former on a plane below the plane of the outer portion of the flange and forming the outer bordering surface of the grooves, of a faucet provided with opposite lugs of different widths, so as to correspond to the varying widths of the openings intersecting the grooves, substantially as set forth.

No. 38,941. Gardening Implement. (*Outil de jardinage.*)

Thomas William Breen, Saucelito, California, U.S.A., 13th May, 1892; 5 years.

Claim.—The herein described gardening implement, consisting of a hollow tapering thimble closed at its smaller end, and split longitudinally to provide overlapping edges to permit adjustment of the thimble to fingers of different sizes, said thimble having its upper end cut obliquely to the axis thereof, so that the extreme point may extend above the second joint of the operator's finger, to give a steady support, and the downwardly curved spoon extension B, integral with the closed end of the device, and projecting downward from said end, substantially as a continuation of the end of the thimble, substantially as and for the purpose set forth.

No. 38,942. Combined Truck and Loader for Merchandise. (*Camion et chargeur combinées.*)

Thomas H. Gemmell and Joseph Dooley, Jr., both of Guelph, Ontario, Canada, 13th May, 1892; 5 years.

Claim.—1st. In a combined truck and loader, pulleys D^1, D^2, shafts E^1, E^2, in combination with the sides A, A, around which a rope or chain C passes, substantially as described. 2nd. In a combined truck and loader, pulleys D^1, D^2, shafts E^1, E^2, in combination with a roller G, said roller G having a rope or chain C reversibly wound thereon and passing around pulleys D^1, D^2, as specified 3rd. In a combined truck and loader, pulleys D^1, D^2, shafts E^1, E^2, in combination with a roller G, rope or chain C, small truck B, and crank H^1, having a ratchet wheel H^2, and dog Y, for the purposes specified. 4th. In a combined truck and loader, pulleys D^1, D^2, shafts E^1, E^2, in combination with a roller G, ratchet wheel H^2, and crank H^1, said dog Y, reversibly locking ratchet wheel H^2, so as to hold the weight of the load in the downward or upward movement of small truck B, fastening X, for rope or chain C, underneath small truck B, as and for the purposes hereinbefore set forth.

No. 38,943. Potato Digger. (*Arrache-patates.*)

Wesley Morrow, Millbrook, Ontario, Canada, 13th May, 1892; 5 years.

Claim.—1st. An improved potato digger, composed of a frame suitably supported by ground wheels, having an excavating nose designed to raise the potatoes on to a travelling sifting grate, substantially as and for the purpose specified. 2nd. An improved potato digger, composed of a frame suitably supported by ground wheels, having an excavating nose designed to raise the potatoes onto a travelling sifting grate, in combination with a vibrating grate located at the rear of the travelling grate, substantially as and for the purpose specified. 3rd. An improved potato digger, composed of a frame suitably supported by ground wheels, having an excavating nose designed to raise the potatoes on to a travelling sifting grate, in combination with a vibrating grate located at the rear of the travelling grate, and of a revolving kicker designed to agitate the travelling grate, substantially as and for the purpose specified. 4th. A frame A, having a nose D, extending from the bottom E, ground wheels F, arranged to support the rear of the frame A, in combination with the wheels R, connected together by the frame S, and adjustably connected to the front of the frame A, substantially as and for the purpose specified. 5th. A frame A, having a nose D, extending from the bottom E, the grate H, suitably supported in the frame A, in combination with gearing designed to impart travelling movement to the grate H, substantially as and for the purpose specified. 6th. The frame A, having a nose D, extending from the bottom E, the grate H, suitably supported in the frame A, the rear portion of which is carried by the ground wheels F, in combination with the wheels R, journaled on spindles extending from the frame S, the lever U, pivoted on the frame S, and having a pin *d*, designed to engage with the notches *a*, *c*, made in the block T, connected to the frame A, substantially as and for the purpose specified. 7th. In combination with a potato digger as described, of a scuffler V, adjustably connected to a frame extending in front of the digger, substantially as and for the purpose specified.

No. 38,944. Square. (*Equerre.*)

Frederick F. Poole, Newark, New Jersey, U. S. A., 13th May, 1892; 5 years.

Claim.—1st. The herein described square, one of the arms a, being provided with a groove a^1, at or near its center, and also provided with a square or rectangular recess a^2, the other arm b, with projections b^1 and b^2, adapted to fit in said groove a^1, and recess a^2, of arm a, slots a^3 and b^3 arranged parallel to each other, in arms a and b respectively, pins b^4 and a^4, secured to said arms, and adapted to fit and slide in their respective slots, and a locking mechanism arranged at right angles to said slots, substantially as described and for the purposes set forth. 2nd. The herein described square, one of the arms a, being provided with a series of locking pins e, and at its outer edge with a series of grooves g, the other arm b, with grooves d, and pins f, said grooves and pins being adapted to mesh with the pins and grooves of arm a, elongated slots a^3, and b^3, arranged parallel to each other in the arms a and b respectively, pins b^4, and a^4 secured to said arms, and adapted to fit and slide in their respective slots, and a locking mechanism arranged at right angles to said slots, substantially as specified. 3rd A square combining therein two arms a and b, of uniform shape and construction, pins and grooves arranged alternately in each of said arms, a pivotal connection arranged at or near the angle of said arms, and two locking devices arranged alternately, and when in normal position, at an obtuse angle to each other, all said parts substantially as described and for the purposes set forth.

No. 38,945. Rail Joint. (*Joint de rail.*)

George Gould Stacy, New York, State of New York, U. S. A., 13th May, 1892; 5 years.

Claim.—1st. A rail joint comprising a base plate, having vertical side flanges which are widened at the middle, and angle plates adapted to fit the sides of the rail, said plates having their lower edges recessed to receive the spikes, and having also central recesses to receive the widened flanges of the base plate, substantially as shown and described. 2nd. A rail joint comprising a base plate, having vertical side flanges which are widened at the middle, and angle plates to fit the rail, the lower portions of said angle plates having recesses to receive the spikes, and central recesses to receive the widened flanges, and the upper portion of said angle plates being adapted to fit against the upper and lower portions of the rail web, the upper edges being bent outward to fit against the shoulders of the rail, substantially as described.

No. 38,946. Clincher for Horse-Shoe Nails.

(*Appareil pour river les clous à cheval.*)

John Jones, Brampton, Ontario, Canada, 13th May, 1892; 5 years.

Claim.—The leg A, provided with a foot a, in combination with the pivoted foot C, spring G, and pivoted leg E, having a heel F, formed on it, substantially as and for the purpose specified.

No. 38,947. Dress Fitting Apparatus.

(*Mesure de modiste.*)

Carrie Shane, Vinton, Iowa, U.S.A., 13th May, 1892; 5 years.

Claim—1st. In a dress fitting device, the combination of a constituent section having lateral straps O, O, clasps N, adjustably mounted thereon, longitudinal tapes P, P, connected with said clasps, and fasteners Q, to which the ends of the said tapes are secured, substantially as and for the purpose set forth. 2nd. The herein described clasp N, having transverse end slots n^1, n^1, in combination with a dress fitting section having lateral straps O, O, and the longitudinal tapes P, P, substantially as and for the purpose set forth. 3rd. The combination, of a dress fitting section, substantially as described, and having a series of lateral straps, clasps adjustably mounted on said straps, tapes connecting said clasps longitudinally, and an adjustable corner fastener Q, having a tongue q, adapted to clasp and hold the end of the tape.

No. 38,948. Cash Register, Indicator and Recorder,

(*Régistre et indicateur de monnaie.*)

Philip Yoe, Dayton, Ohio, U.S.A., 14th May, 1892; 5 years.

Claim.—1st. In a cash register and indicator, the combination, with a series of keys of fixed values, and a registering wheel, of an operating bar extending across said keys with which the latter engage when operated, the distance between said operating bar and the different keys being practically the same, but the engagement surfaces being arranged of different lengths, and mechanism to connect said bar and registering wheel, whereby the operation of any key causes its value to be registered on said registering wheel, substantially as shown and described. 2nd. In a cash register and indicator, the combination, with a series of keys of fixed values, and a registering wheel, of an operating bar extending horizontally across said keys, with which the latter engage when operated, the distance between said operating bar and the different keys being practically the same, but the engagement surfaces being arranged of different lengths, and mechanism to connect said bar and registering wheel, whereby the operation of any key causes its value to be registered on said registering wheel, substantially as shown and described. 3rd. In a cash register and indicator, the combination, with a series of keys of fixed values and a registering wheel, of a series of indicating tablets operated upon by said keys to indicate the value of the key operated, and an operating bar extending across said keys with which the latter engage when operated, the distance between said operating bar and the different keys being practically the same, but the engagement surfaces being arranged of different lengths, and mechanism to connect said bar and registering wheel, whereby the operation of any key causes its value to be registered on said registering wheel, substantially as shown and described. 4th. In a cash register and indicator, the combination, with a series of keys of fixed value and a registering wheel, of a series of indicating tablets operated upon by said keys to indicate the value of the key operated, and an actuating bar extending horizontally across said keys with which the latter engage when operated, the distance between said actuating bar and the different keys being practically the same, but the engagement surfaces being arranged of different lengths, and connection mechanism between said bar and registering wheel, whereby the operation of any key causes its value to be registered on the registering wheel, substantially as shown and described. 5th. In a cash register and indicator, the combination, with a series of keys of fixed values, and a registering wheel of an operating bar extending horizontally across said keys, a series of arms of substantially equal height, but graded in lengths one for each of said keys, and mechanism to connect said bar and registering wheel whereby the operation of any key causes its value to be registered on said registering wheel, substantially as shown and described. 6th. In a cash register and indicator, the combination, with a series of keys of fixed values and a registering wheel, of an operating bar extending across said keys with which the latter engage when operated, and a stop bar common to said keys arranged to be brought into contact therewith after the desired movement of said operating bar to stop the same, and mechanism to connect said operating bar and the registry wheel, whereby the operation of any key causes its value to be registered on the registry wheel, and thereafter said operating bar to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 7th. In a cash register and indicator, the combination, with a series of keys of fixed value, and a registering wheel of an operating bar extending across said keys with which the latter engage when operated, the distance between said operating bar and the different keys being practically the same, but the engagement surfaces being arranged of different lengths, a stop bar common to said keys arranged to be brought into contact therewith after the desired movement of said operating bar to stop the same, and mechanism to connect said operating bar and registry wheel, whereby the operation of any key causes its value to be registered on the registry wheel, and thereafter said operating bar to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 8th. In a cash register and indicator, the combination, with a series of keys of fixed values, and a registering wheel, of an operating bar extending horizontally across said keys with which the latter engage when operated, the distance between said operating bar and the different keys being practically the same, but the engagement surface being arranged of different lengths, a stop bar common to said keys arranged to be brought into contact therewith after the desired movement of said operating bar to stop the same, and mechanism to connect said operating bar and the registry wheel, whereby the operation of any key causes its value to be registered on the registry wheel, and thereafter said operating bar to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 9th. In a cash register and indicator, the combination with a series of keys of fixed values and a registering wheel, of a series of indicating tablets operated upon by said keys to indicate the value of the key operated, an operating bar extending across said keys with which the latter engage when operated, the distance between said operating bar and the different keys being practically the same, but the engagement surfaces being arranged of different lengths, a stop bar common to said keys arranged to be brought into contact therewith after the desired movement of said operating bar to stop the same, and mechanism to connect said operating bar and registering wheel, whereby the operation of any key causes its value to be registered on the registry wheel, and thereafter said operating bar to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 10th. In a cash register and indicator, the combination, with a series of keys of fixed values and a registering wheel, of a series of indicating tablets operated upon by said keys to indicate the value of the key operated, and operating bar extending horizontally across said keys with which the latter engage when operated, the distance between said operating bar and the different keys being practically the same, but the engagement surfaces being arranged of different lengths, a stop bar common to said keys arranged to be brought into contact therewith after the desired movement of said operating bar to stop the same, and mechanism to connect said operating bar and registering wheel whereby the operation of any key, causes its value to be registered on the registry wheel and thereafter said operating bar to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 11th. In a cash register and indicator, the combination, with a series of keys of fixed values, and a registering wheel, of an operating bar extending horizontally across the same, a series of arms of substantially equal height, but graded in length

one for each of said keys, a stop bar common to said keys, arranged to be brought into contact therewith after the desired movement of said operating bar to stop the same, and mechanism to connect the said operating bar and registering wheel, whereby the operation of any key causes its value to be registered on the registry wheel and thereafter said operating bar to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 12th. In a cash register and indicator, the combination, with a series of fixed values and a registering wheel of an actuator, common to the series provided with an operating and a stop side, and mechanism to connect said actuator and the registry wheel so that the operation of a key causes its value to be registered on the registry wheel, and thereupon said actuator to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 13th. In a cash register and indicator, the combination, with a series of keys of fixed values and a registering wheel, of an actuator common to the series having a horizontally disposed operating side and a stop side, and mechanism to connect said actuator and the registering wheel so that the operation of a key causes its value to be registered on the registry wheel, and thereupon said actuator to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 14th. In a cash register and indicator, the combination, with a series of keys of fixed values and registering wheel of an actuator common to the series, having a horizontal disposed operating side and a horizontally disposed stop side and mechanism to connect said actuator and the registery wheel so that the operation of a key causes its value to be registered on the registry wheel, and thereupon said actuator to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 15th. In a cash register and indicator, the combination, with a series of keys of fixed values provided with a series of arms of substantially equal height, but graded in length, and a registering wheel, of an actuator having a horizontally disposed operating and a horizontally disposed stop side, arranged at an angle to each other, and mechanism to connect said actuator and the registry wheel, so that the operation of a key causes its value to be registered on a registry wheel, and thereupon said actuator to be positively stopped from further movement during the subsequent operation of the key, substantially as shown and described. 16th. In a cash register and indicator, the combination, with a series of keys of fixed values provided with a series of arms of equal height, but graded in length, a series of indicating tablets operated upon by said keys to indicate the value of the key operated, and a registering wheel, of an actuator having a horizontally disposed operating and horizontally disposed stop side, arranged at an angle to each other, and mechanism connecting said actuator and the registering wheel, so that the operation of a key causes its value to be registered on the registry wheel, and thereupon said actuator to be positively stopped from further movement during the key, substantially as shown and described. 17th. In a cash register and indicator, the combination, with a series of operating keys, of an actuator extending across said keys and having an operating bar to be engaged by the operated key, and a stop bar to be brought against the key as the actuator is moved, thereby and thus to stop the movement of the actuator during the subsequent operation of the key, substantially as shown and described. 18th. In a cash register and indicator, the combination, with a series of operating keys and a registering wheel, of an actuator extending across said keys, pivoted to suitable supports and movable laterally thereon, with mechanism to connect said actuator with the registering wheel, and means for shifting said actuator laterally upon the operation of a key, whereby the connecting mechanism is brought into operation to register the value of the key, substantially as shown and described. 19th. In a cash register and indicator, the combination, with a series of operating keys and a registering wheel, of an actuator extending across said keys, pivoted to suitable supports and movable laterally thereon, with mechanism to connect said actuator with the registering wheel, said actuator having an operating bar and a shifting bar to be engaged by the operating key, whereby the connecting mechanism is brought into operation to register the value of the key, substantially as shown and described. 20th. In a cash register and indicator, the combination, with a series of operating keys and a registering wheel, of an actuator extending across said keys, pivoted to suitable supports and movable laterally thereon, with mechanism connecting said actuator with the registering wheel, said actuator having an operating bar to be engaged by the operated key, a stop bar to be brought against the key as the actuator is moved thereby and thus to stop the movement of the actuator during the subsequent operation of the key, and a shifting bar to be likewise engaged by the operated key whereby the connecting mechanism is brought into operation to register the value of the key, substantially as shown and described. 21st. In a cash register and indicator, the combination with a series of operating keys and a registering wheel of an actuator extending across said keys, pivotted to suitable supports and movably laterally thereon, mechanism to connect said actuator with the registry wheel, said actuator having an operating bar and a shifting bar arranged on opposite sides of the axis thereof, whereby the shifting of the actuator to bring the connecting mechanism into operation cannot in any way affect a registration, substantially as shown and described. 22nd. In a cash register and indicator, the combination with a series of keys of fixed values, and a registering wheel of an operating bar extending across said keys, and mechanism to connect same with said registry wheel, the contact surface between said operating bar and the different keys being arranged and graded as described, so that commencing with the beginning of the stroke for each key the operating bar will be rocked the proper degree, and thereafter the operating bar will be held up by the key during the subsequent operation thereof, substantially as shown and described. 23rd. In a cash register and indicator, the combination with a series of keys of fixed values, a registering wheel and an operating bar extending across said keys, and mechanism to connect the two, of a series of slips on said keys graded longitudinally and having their back edges cut in the arc of a circle, whereby the operating bar may be rocked the proper degree to register the value of the key, and thereafter said bar be held up during the subsequent operation of the key, substantially as shown and described. 24th. In a cash register and indicator, the combination with a series of operating keys of two fixed receptacles for money, sliding covers therefor and means whereby upon the operation of a key both of said receptacles will be opened simultaneously, substantially as shown and described. 25th. In a cash register and indicator, the combination with two fixed receptacles for money, of sliding covers therefor, connected arms supporting said covers, with springs or equivalent means acting thereon, whereby said receptacles may be opened simultaneously, substantially as shown and described. 26th. In a cash register and indicator, the combination with a series of operating keys of two fixed receptacles for money, sliding covers therefor, arms supporting said covers, each attached to a separate rock shaft, but in pivotal connection with each other, whereby the movement of one cover operates the other, substantially as shown and described. 27th. In a cash register and indicator, the combination, with a series of operating keys, of two fixed receptacles for money, sliding covers therefor, connecting arms supporting said covers, with spring or equivalent means acting thereon, and latch released by the operation of any key to allow said receptacles to be opened simultaneously, substantially as shown and described. 28th. In a cash register and indicator, the combination, with a series of operating keys, of two fixed receptacles for money, sliding covers therefor, arms supporting said covers, each attached to a separate rock shaft but in pivotal connection with each other, spring or equivalent means for acting on said arms, and latch for said covers released by the operation of any key to allow said receptacles to be opened simultaneously, substantially as shown and described. 29th. In a cash register and indicator, the combination, with two fixed receptacles for money, one above the other, and sliding covers therefor, of arms supporting said covers, each attached to a separate rock shaft, said pairs of arms being of different lengths, and means for connecting said arms, whereby a differential rate of speeds is obtained therein to allow said money receptacles to be opened simultaneously, substontially as shown and described. 30th. In a cash register and indicator, the combination, with a series of operating keys, of two fixed receptacles for money, one above the other, sliding covers therefor, arms supporting said covers, each attached to a separate rock shaft, said pairs of arms being of different lengths, slot and pin connection between the same, whereby a differential rate of speed is obtained, spring or equivalent means acting on said arms, and latch for said covers released by the operation of any key to allow said receptacles to be opened simultaneously, substantially as shown and described. 31st. In a cash register and indicator, the combination, with a sliding cover for the money receptacles and arms to support the same, of a spring plate arranged to receive said arms and act as a spring bumper, substantially as shown and described. 32nd. In a cash register and indicator, the combination, with a series of operating keys, of a series of indicating tablets mounted on a common axis, and lying horizontally in alternative series to the front and rear of said axis, and arranged to be rotated in opposite directions into a vertical position to indicate the value of the key operated, substantially as shown and described. 33rd. In a cash register and indicator, the combination with a series of operating keys, of a series of indicating tablets mounted on a common axis, and lying horizontally in alternate series to the front and rear of said axis, arranged to be rotated in opposite directions into a vertical position, each tablet provided with an arm and a supporting bar with connecting mechanism, whereby upon the operation of any of the keys the bar is moved to permit the passage of the tablet arm, and means for returning the bar to engage the tablet arm and retain the tablet in a vertical position, substantially as shown and described. 34th. In a cash register and indicator, the combination of a series of indicating tablets mounted on a common axis to rotate alternately in opposite directions into a vertical position, arms thereon and a supporting bar to engage said arms and retain the tablet in a vertical position, with springs or equivalent means to return said tablets to their normal position upon the release of said bar, substantially as shown and described. 35th. In a cash register and indicator, the combination, with a series of indicating tablets mounted on a common axis to rotate alternately in opposite directions into a vertical position, of a spring connecting each pair of tablets, to draw them together on the supporting shaft, substantially as shown and described. 36th. In a cash register and indicator, the combination, with a series of vertically reciprocating keys, of a shaft extending horizontally across the same, a series of indicating tablets mounted thereon to be horizontally in alternate series to the front and rear of said shaft, and a series of lifting arms, one for each key, arranged in two sets to co-operate with the two sets of tablets

and rotate them in opposite directions into a vertical position, substantially as shown and described. 37th. In a cash register and indicator, the combination, with a series of vertically reciprocating keys, of a shaft extending horizontally across the same, a series of indicating tablets mounted thereon, to lie horizontally in alternate series to the front and rear of said shaft, each tablet provided with an arm or lug, and a series of lifting arms, one for each key, arranged in two sets to co-operate with the two sets of tablets and rotate them in opposite directions, and a supporting bar with connected mechanism, whereby upon the operation of any of the keys the bar is moved to permit the passage of the tablet arm, and a spring or equivalent means for returning the bar to engage the tablet arm and retain the tablet in a vertical position, substantially as shown and described. 38th. In a cash register and indicator, the combination, with a series of operating keys, of a series of indicating tablets, each tablet provided with an arm or lug, a supporting bar therefor, with spring or its equivalent to vibrate the same, the bell hammer rigidly attached thereto, with connecting mechanism between the bar and keys, whereby upon the operation of any of the keys the bar is moved to permit the passage of the tablet arm, and tripped under the action of said spring to simultaneously strike the gong and be returned to place to retain the operated tablet in a vertical position, substantially as shown and described. 39th. In a cash register and indicator, the combination, with a series of rotating hubs mounted on a common axis, and tablets rigidly secured thereto alternately arranged on opposite sides of said axis opposite beveled recesses in each pair of hubs, and a coiled spring encircling said shaft, with its ends engaging said beveled recesses to rotate the hubs and tablets in opposite directions and simultaneously to draw each pair of hubs together, substantially as shown and described. 40th. In a cash register and indicator, the combination, with a series of operating keys and a series of indicating tablets mounted on a common axis, and lying horizontally in alternate series to the front and rear of said axis, arranged to be rotated in opposite directions into a vertical position, each tablet provided with an arm, and an oscillating frame consisting of an upper supporting bar and a lower contact bar, spring bearing against said frame to vibrate the same, and lugs on the keys to engage with said lower bar and trip the same, whereby upon the operation of any key the frame is shifted to permit the passage of the tablet arm and subsequently returned to catch and retain in a vertical position the tablet operated, substantially as shown and described. 41st. In a cash register and indicator, the combination, with a series of operating keys and a series of indicating tablets operated thereby, of a supporting bar to engage the operated tablets and retain same in a vertical position, bells hammer attached rigidly thereto, and vibrating spring operating on said bar to vibrate the same, with means to limit the action of said spring, whereby the signal bell is struck simultaneously with the movement of said supporting bar, substantially as shown and described. 42nd. In a cash register and indicator, the combination, with a series of operating keys, of a series of indicating tablets operated thereby, an oscillating frame consisting of an upper supporting bar and a lower contact bar, vibrating spring or equivalent means bearing against both bars of said frame, with pins or their equivalents to limit the action thereof, bell hammer rigidly secured to one side of said frame, and lugs on the keys to engage with said lower bar, whereby upon the operation of any key the frame is shifted so as to permit the passage of a tablet and subsequently returned to catch and retain the tablet operated and simultaneously strike the signal bell, substantially as shown and described. 43rd. In a cash register and indicator, the combination, with a series of operating keys, each provided with an arm carrying a rack, a pawl bar extending across said keys provided with a series of teeth, each to engage one of said racks, said pawl bar being pivoted on suitable supports and movable laterally thereon, and means whereby upon the completion of the stroke of the operated key the pawl bar may be shifted laterally to be disengaged from said racks, and to allow the key to be reset with spring or its equivalent for returning said pawl bar to its normal position upon the resetting of the key, substantially as shown and described. 44th. In a cash register and indicator, the combination, with a series of operating keys, each provided with an arm carrying a rack, a pawl bar extending across said keys provided with a series of teeth, each to engage one of said racks, said pawl bar being pivoted on suitable supports and movable laterally thereon, bevelled recesses on the rack arms and projections on the pawl teeth whereby upon the completion of the stroke of the operated key the pawl bar may be shifted laterally to be disengaged from said racks, and to allow the key to be reset with spring for returning said pawl bar to its normal position upon the resetting of the key, substantially as shown and described. 45th. In a cash register and indicator, the combination, with a series of operating keys arranged in groups, and a registering wheel for each group, with means for actuating the same different degrees to register the values of the operated keys of each group, commencing at the beginning of the stroke for all keys alike, of a key coupler and a key arrester common to the keys of all the groups co-operating with each other, whereby the keys of the different groups may be operated initially in sucession, substantially as shown and described. 46th. In a cash register and indicator, the combination, with a series of operating keys arranged in groups, and a registering wheel for each group, with means for actuating the same, different degrees to register the values of the operated keys of each group, commencing at the beginning of the stroke for all keys alike, of a key coupler consisting of a bar common to all the keys and slots in the keys to receive same, and a key arrester co-operating therewith, whereby the keys of the different groups may be operated initially in succession, substantially as shown and described. 47th. In a cash register and indicator, the combination, with a series of operating keys arranged in groups, and a registering wheel for each group, with means for actuating the same, different degrees to register the different values of the keys of each group, commencing at the beginning of the stroke for all keys alike, of a key coupler consisting of a pivoted bar common to all the keys, and slots in the keys to receive same, and a key arrester consisting of a series of pawl bars common to the keys of each group, and rack teeth on the keys to receive same, said key coupler and key arrester co-operating with each other, whereby the keys of the different groups may be operated initially in succession, substantially as shown and described. 48th. In a cash register and indicator, the combination, with a series of operating keys, of a series of parts mounted in connection with each other, each part pivotally connected with a corresponding key, said parts arranged so as to permit the operation of one key at a time and to prevent the operation of two or more keys simultaneously, as shown and described. 49th. In a cash register and indicator, the combination, with a series of hubs mounted in connection with each other, each hub pivotally connected with a corresponding key, said hubs being arranged so as to permit the operation of one hub at a time and therewith its corresponding key, but to prevent the operation of two or more hubs and their corresponding keys simultaneously, substantially as shown and described. 50th. In a cash register and indicator, the combination, with a series of operating keys, of a series of interlocking hubs loosely mounted upon a common shaft, each hub pivotally connected with a corresponding key, said hubs being arranged so as to permit the operation of one hub at a time and therewith its corresponding key, but to interlock with each other to prevent the operation of two or more hubs and their corresponding keys simultaneously, substantially as shown and described. 51st. In a cash register and indicator, the combination, with a series of operating keys, of a series of interlocking hubs loosely mounted upon a common shaft, and movable longitudinally thereon, each hub pivotally connected with its corresponding key, said hub having corresponding recesses and projections so as to interlock with each other, but arranged to permit the operation of one hub at a time, and therewith its corresponding key, but to interlock with each other to prevent the operation of two or more hubs and their corresponding keys simultaneously, substantially as shown and described. 52nd. In a cash register and indicator, the combination, with a series of operating keys, of a series of hubs loosely mounted upon a common shaft, said hubs being pivotally connected to their corresponding, keys alternately on opposite sides of said common shaft, and arranged so as to permit the operation of one hub at a time and therewith its corresponding key, but to prevent the operation of two or more hubs and their corresponding keys simultaneously, substantially as shown and described. 53rd. In a cash register and indicator, the combination, with a series of operating keys, of a series of interlocking hubs loosely mounted upon a common shaft and movable longitudinally thereon, said hubs being pivotally connected to their corresponding keys alternately on opposite sides of said common shaft, and having corresponding recesses and projections so as to interlock with each other, but arranged so as to permit the operation of one hub at a time and therewith its corresponding key, but to interlock with each other to prevent the operation of two or more hubs and their corresponding keys simultaneously, substantially as shown and described 54th. In a cash register and indicator, the combination, with a series of operating keys, of a series of interlocking hubs loosely mounted upon a common shaft and movable longitudinally thereon, arms and pins on said keps, and slotted arms on said hubs, so as to form a pivotal connection between each hub and its corresponding key, said pivotal points being arranged alternately on opposite sides of said common shaft, said hubs having corresponding recesses and projections so as to interlock with each other, but arranged so as to permit the operation of one hub at a time and therewith its corresponding key, but to interlock with each other to prevent the operation of two or more hubs and corresponding keys simultaneously, substantially as shown and described. 55th. In a cash register and indicator, the combination with a series of operating keys, of a series of interlocking hubs loosely mounted upon a common shaft and movable longitudinally thereon, each hub pivotally connected with a corresponding key, said hub being arranged to be displaced longitudinally upon the operation of a single key to permit its operation, and therewith its corresponding key but interlocking two or more hubs, and their corresponding keys when two or more keys are attempted to be moved simultaneously, substantially as shown and described. 56th. In a cash register, the combination, with a registering wheel and a series of keys for operating said wheel, of a series of interlocking hubs loosely mounted on a common shaft, each hub pivotally connected with its corresponding key, said hubs being arranged so as to permit the operation of one hub at a time, and therewith its corresponding key but to interlock with each to prevent the operation of two or more hubs and their corresponding keys simultaneously, substantially as shown and described. 57th. In a cash register and indicator, the combination, with a registering wheel and a series of keys for operating said wheel, of a series of interlocking hubs loosely mounted upon a common shaft, and movable longitudinally thereon, each hub pivotally

connected with its corresponding key, said hubs having corresponding recesses and projections so as to interlock with each other, but arranged to permit the operation of one hub at a time, and therewith its corresponding key, but to interlock with each other to prevent the operation of two or more hubs and their corresponding keys simultaneously, substantially as shown and described. 58th. In a cash register and indicator, the combination, with a registering wheel and a series of keys for operating said wheels, of a series of hubs loosely mounted upon a common shift, said hubs being pivotally connected to their corresponding keys alternately on opposite sides of said common shaft, and arranged so as permit the operation of one hub at a time, and therewith its corresponding key, but to prevent the operation of two or more hubs and their coresponding keys simultaneously, substantially as shown and described. 59th. In a cash register and indicator, the combination, with a registering wheel and a series of keys for operating said wheel, of a series of interlocking hubs loosely mounted upon a common shaft, and movable longitudinally thereon, said hubs being pivotally connected to their corresponding keys alternately on opposite sides of said common shaft, and having corresponding recesses and projections, so as to interlock with each other, but arranged to be displaced upon the operation of a single key to permit such operation and therewith its corresponding key, but interlocking two or more hubs and their corresponding keys when two or more keys are attempted to be moved simultaneously, substantially as shown and described. 60th. In a cash register and indicator, the combination, with a series of registering wheels, and a series of groups or keys for operating said wheels, one group of keys for each wheel, of a series of sets of interlocking hubs loosely mounted upon a shaft, each hub pivotally connected with a corresponding key, said hubs being arranged so as to interlock with each other and prevent the operation of two or more keys of a group simultaneously, but to permit the simultaneous operation of two or more keys of different groups, substantially as shown and described. 61st. In a cash register and indicator, the the combination, with a series of registering wheels, and a series of groups of keys for operating said wheels, one group of keys for each wheel, of a series of sets of interlocking hubs loosely mounted upon a common shaft and movable longitudinally therein, said hubs being pivotally connected to their corresponding keys alternately on opposite sides of said common shaft, and having corresponding recesses and projections so as to interlock with each other and prevent the operation of two or more keys of a group simultaneously, but to permit the simultaneous operation of two or more keys of different groups, substantially as shown and described. 62nd. In a cash register and recorder, the combination, with a series of keys of fixed values, and an actuator for the registering mechanism, actuated to different degrees by the various keys, to register the values thereof, of a type bar carrying a series of type operated by said actuator to present on the operation of a key the type denoting the value of said key, and a recording paper to receive an imprint therefrom, and thus record the value of the key, substantially as shown and described. 63rd. In a cash register and recorder, the combination, with a series of keys of fixed values, and an actuator for the registering mechanism, actuated to different degrees by the various keys to register the values thereof, of a type bar carrying a series of type secured to said actuator, and a recording paper to receive an imprint therefrom, whereby the movement of the actuator to register the value of the key automatically presents the proper type to record its value on the recording paper, substantially as shown and described. 64th. In a cash register and recorder, the combination, with a series of groups of keys of fixed values, and a series of actuators for the registry mechanism independent of each other, actuated to different degrees by the various keys of the several groups to register the value thereof, of a series of type bars one for each actuator in close proximity, but independent of each other and each carrying a series of type operated by said actuators to prevent simultaneously the type denoting the value of the key of each group and a recording paper to receive an imprint therefrom, substantially as shown and described. 65th. In a cash register and recorder, the combination, with a series of groups of keys of fixed values and a series of actuators for the registry mechanism, independent of each other actuated to different degrees by the various keys of the several groups to register the value thereof, and a recording paper of a series of type bars in close proximity, but independent of each other one for each actuator and carrying a series of type and secured to said actuators whereby the movement of the actuators to register the value of the keys, operate the type bars to present simultaneously the type denoting the value of the keys operated to the recording paper to be imprinted thereon substantially as shown and described. 66th. In a cash register and recorder, the combination, with a series of keys of fixed values and an actuator for the registering mechanism, actuated to different degrees by the various keys to register the values thereof, of two independent type carriers and series of type thereon, a clock automatically moving one of the type carriers to record the time, and said actuator operating the other to present the type denoting the value of the key and a recording paper to receive an imprint from both sets of type and thus to simultaneously record the value of the key and the time of its operation, substantially as shown and described. 67th. In a cash register and recorder, the combination, with a series of keys fixed values and an actuator for the registering mechanism, actuated to different degrees by the various keys to register the values thereof, of two independent type carriers and series of type thereon, a clock automatically moving one of the type carriers to record the the time, and the other secured to said actuator and a recording paper to receive an imprint from both sets of type, whereby the movement of the actuator to register the value of the key, and the movement of the clock automatically present the proper type to record the value of the key and the time of its operation, substantially as shown and described. 68th. In a cash register and recorder, the combination, with a series of groups of keys of fixed values, and a series of actuators for the registering mechanism independent of each other, actuated to different degrees by the various keys of the several groups to register the values thereof, of a series of type bars in close proximity, but independent of each other, one for each actuator, and each carrying a series of type operated by said actuators to present the type denotting the value of the keys, a type carrying wheel and a clock automatically moving the same to record the time, and a recording paper to receive an imprint from all the sets of type, and this to simultaneously record the values of the keys of the different groups when they are operated simultaneously and the time of their operation, substantially as shown and described. 69th. In a cash register and recorder, the combination, with a series of groups of keys of fixed values, and a series of actuators for the registry mechanism independent of each other, actuated to different degrees by the various keys of the several groups to register the value thereof, of a series of type bars in close proximity but independent of each other, one for each actuator, and secured rigidly thereto a type carrying wheel, and a clock automatically moving the same to record the time, and a recording paper to receive an imprint from all the sets of type and thus to simultaneously record the values of the keys of the different groups when they are operated simultaneously and the time of their operation, substantially as shown and described. 70th. In a cash register and recorder, the combination, with a series of keys and an actuator for the registering mechanism, of a type bar carrying a series of type, operated by said actuator to present upon the operation of a key the type denoting the value of said key, a pivoted stamping lever and plate, tripping mechanism and bar common to all keys for actuating the same, and a recording paper with inking ribbon extending across said type, whereby upon the operation of any key said stamping lever and plate is tripped against said type to record the value thereof on the recording paper, substantially as shown and described. 71st. In a cash register and recorder, the combination, with a series of groups of keys of fixed values, and a series of actuators for the registry mechanism, independent of each other, of a series of type bars, one for each actuator, in close proximity but independent of each other and carrying a series of type operated by said actuators to present simultaneously the type denoting the values of the keys of each group operated, a pivoted stamping lever and plate, tripping mechanism and bar common to all the keys for actuating the same, and a recording paper with inking ribbon extending across all of said type, whereby upon the simultaneous operation of keys of the different groups, said stamping lever and plate is tripped against all of said type to record the total value of said keys on the recording paper, substantially as shown and described. 72nd. In a cash register and recorder, the combination, with a series of keys of fixed values, and an actuator for the registering mechanism, actuated to different degrees by the various keys to register the values thereof, of two independent type carriers and series of type thereon, a clock automatically moving one of the type carriers to record the time, and said actuator operating the other to present the type denoting the value of the key, a pivoted stamping lever and plate, tripping mechanism and bar common to all the keys for actuating the same, and a recording paper with inking ribbon extending across both of said type, whereby upon the operation of any key said stamping lever and plate is tripped against both said type to record the value of said key and the time of its operation, substantially as shown and described. 73rd. In a cash register and recorder, the combination, with a series of groups of keys of fixed values, and a series of actuators for the registering mechanism independent of each other, actuated to different degrees by the various keys of the several groups to register the values thereof, a series of type bars in close proximity but independent of each other, one for each actuator and each carrying a series of type operated by said actuators to present simultaneously the type denoting the value of the keys, a type carrying wheel and a clock automatically moving the same to record the time, a pivoted stamping lever and plate, tripping mechanism and bar common to the keys of all the groups for actuating the same, and a recording paper with inking ribbon extending across all of said type, whereby upon the simultaneous operation of keys of the different groups, said stamping lever and plate is tripped against all of the said type to record the total value of said keys and the time of their operation, substantially as shown and described. 74th. In a cash register and recorder, the combination, with two independent type carriers, a clock automatically moving one, an actuator for the registry mechanism moving the other, a recording strip of paper extending across the type, wound on a receiver roll with driving mechanism therefor, and a stamping lever and plate for printing the same, and tripping mechanism therefor with a pivotted bar extending across all the keys to be actuated thereby, and connecting arms between said bar, the driving mechanism of the roll of paper, and the tripping mechanism of the stamping lever, whereby the operation of the key sets the proper type for the record, and in succession presents fresh recording paper, and strips the stamping mechanism to print the

same, substantially as shown and described. 75th. In a cash register and record, the combination, with a series of operating keys, and a series of type actuated thereby to present the proper type for record, with a recording paper and inking ribbon of a pivotted stamping lever, with a stamping plate, and a spring or equivalent means acting on the opposite sides of the pivotal point of said stamping lever with pins, of their equivalent to limit the actions of lever and tripping mechanism therefor, whereby said lever is normally held away from said paper and inking ribbon, but upon the tripping thereof throws the paper and ribbon against said type to receive an imprint therefrom, substantially as shown and described. 76th. In a cash register of the class described, the combination with a series of three groups of keys representing denominations of successively higher grades, and a series of registry wheels corresponding thereto and operated thereby, of means for accumulating the amounts registered on the wheel, of lowest denomination and transfer mechanism in connection therewith, whereby the transfer may be made directly from the accumulations of the wheel of the lowest denomination to the wheel of the highest denomination, substantially as shown and described. 77th. In a cash register of the class described, the combination, with a series of three groups of keys, representing denominations of successively higher grades and a series of registry wheels corresponding thereto and operated thereby of a supplemental registering wheel similar to the wheel of the second denomination to receive the accumulations of the wheel of the lowest denomination, and transfer mechanism to transfer amounts from said supplemental wheel directly to the wheel of highest denomination, substantially as shown and described. 78th. In a cash register of the class described, the combination, with a series of three groups of keys, representing denominations of successively higher grades, and a series of registry wheels corresponding thereto and operated thereby, separate transfer pawls for the wheels of lower denomination set for the transfer by said wheels independently, means to connect same with the registering wheels of highest denomination, and mechanism for completing the transfer upon the subsequent operation of the keys, substantially as shown and described. 79th. In a cash register of the class described, the combination, with a series of three groups of keys representing denominations of successively higher grades, and a series of registering wheels corresponding thereto and operated thereby, a supplemental registering wheel similar to the wheel of the second denomination to receive the accumulations of the wheel of lowest denomination, separate transfer pawls for the supplemental wheel, and the wheel of middle denomination set for the transfer by said wheel independently, means to connect same with the registering wheel of the highest denomination, and mechanism for completing the transfer upon the subsequent operation of the keys, substantially as shown and described. 80th. The combination in a total adding machine, with a series of groups of keys and primary units, tens and hundreds registering wheels with a supplemental tens wheel to receive the transfer of units from the units wheel, and a transferring lever or bar and means whereby same is uniformly operated by the action of the keys, of two transfer pawls, set by the tens primary and supplemental wheel, and mechanism connecting same with the primary hundreds wheel, whereby said transferring lever acting on said pawls completes the transfer from either of said ten wheels, substantially as shown and described. 81st. The combination, in a total adding machine with a series of groups of keys and primary units, tens and hundreds, registering wheels, with a supplemental tens wheel to receive the transfers of units from the units wheel, and a transferring lever or bar and means whereby same is uniformly operated by the action of the keys, of two transfer pawls set by the tens, primary and supplemental wheels, with an additional pawl hinged to one of said pawls, and means for locking same to the other pawl when both pawls are set simultaneously, together with mechanism to connect said transfer pawls to the hundreds wheel, whereby said transferring lever when both said pawls are set simultaneously acting thereon, completes the transfer from both said registering wheels in one operation, substantially as shown and described. 82nd. The combination in a total adding machine, with a series of primary registering wheels representing units, tens and hundreds, and a supplemental tens wheel to receive the units transferred from the units wheel, of a pivoted bifurcated pawl, carrying and transfer arm, two separate transfer pawls pivoted in the one fork thereof, one acted on by the primary tens wheel, the other by the supplemental tens wheel to set the same for transfer, means attaching to said other fork for actuating the dollars registering wheel, and a transferring lever to strike said transfer pawls when set, and thus to complete the transfer, substantially as shown and described. 83rd. The combination in a total adding machine, with a series of primary registering wheels representing units, tens and hundreds, and a supplemental tens wheel to receive the units transferred from the units wheel, of a pivoted bifurcated pawl, carrying and transferring, means for actuating the dollar registry wheel attached to one fork of said arm, two independent transfer pawls pivoted in the other fork, one acted on by the primary tens wheel and the other by the supplemental tens wheel to set the same for transfer, an intermediary pawl pivoted to one of said transfer pawls, with pin to lock same to the other pawl when both are set simultaneously, and transferring lever to strike said pawls thus locked and complete a double transfer, substantially as shown and described. 84th. The combination in a total adding machine, with a series of primary registering wheels representing units, tens and hundreds, and a supplemental tens wheel to receive the units transferred from the units wheel, of a loosely pivoted bifurcated pawl, carrying and transfer arm, rack attached to one fork thereof, pinions on the dollars registering wheel to be engaged thereby, with two transfer pawls pivoted to the other fork, one acted on by the tens primary wheel, the other by the tens supplemental wheel to set same for transfer, and means for automatically shifting said bifurcated arm inwardly to bring said rack and pinion in line, during the operation thereof with springs or their equivalents to return same to place and thus to release the dollars wheel, substantially as shown and described. 85. In a cash register and indicator, the combination, with a series of operating keys of a pivoted bar extending across said keys and resting thereon, with spring or its equivalent acting against said bar, and transferring mechanism in connection therewith whereby the operating of any of the keys places said spring under tension to actuate the transfer mechanism, substantially as shown and described. 86th. In a cash register and indicator, the combination, with a series of operating keys of a pivoted bar extending across said keys, and resting thereon with lever for the transferring mechanism connected to said pivoted bar, spring bearing against the same, and transfer hammer acted on by said lever, whereby the operation of any of the keys places said spring under tension to cause said lever to raise said hammer upon the return stroke of the operated key, substantially as shown and described. 87th. The combination in the transfer mechanism of a total adding machine of a loosely pivoted pawl carrier, spring acting thereon, two different transfer pawls pivoted thereto, an arm attached to said pawl carrier with transferring lever for the transfer mechanism in connection therewith, and lugs or projections on the casing whereby in the operation of said transferring lever, said pawl carrier is shifted inwardly and upon the release thereof, said pawls when set for transfer are brought into contact with said projections of the case to be returned to place, substantially as shown and described. 88th. In a cash register and indicator, the combination, with a series of keys of fixed values, a registering wheel, and actuator having an operating bar and a stop bar, of a series of steps on said keys graded longitudinally, and having their back edges cut in the arc of circle, whereby the operating bar may be rocked the proper degree to register the value of the key and, thereafter, said bar be held up thereby, and simultaneously said stop bar be brought into contact with said key to prevent further movement of the actuator in either direction, during the subsequent operation of the key, substantially as shown and described.

No. 38,949. Steam Cooking Apparatus.

(Cuisinière à vapeur.)

Charles Kruschina, Prague, Bohemia, 14th May, 1892; 5 years.

Claim.—1st. The herein described apparatus for cooking, consisting of a steam chamber from which air has been expelled, substantially as set forth. 2nd. In a steam cooking apparatus, the combination, with steam chamber M, and hot air chamber P, of an air cushion P^1, between its double walls, and its adjustable pan P^2, substantially as set forth. 3rd. In a steam cooking apparatus, the combination, with steam and hot air chambers, of flues *b*, *d*, *n*, and valves *k*, b^1 and d^1, substantially as set forth. 4th. In a steam cooking apparatus, the combination, with steam and air chambers, of an apparatus for boiling coffee, milk and the like, and a manometer for indicating the degree of heat, substantially as described.

No. 38,950. Cutter Bar. (*Souche de lames.*)

David Rudd, Lacona, New York, U.S.A., 14th May, 1892; 5 years.

Claim.—In a cutting apparatus, the combination, with the finger bar, fingers, each of which has the rear end of its lower portion beneath the bar, a small shoulder standing against the front edge of the bar, another shoulder forward of said edge and forming a seat, a knife slot forward of this shoulder, the tongue above said slot extending to the rear over the bar to a point above the rear end of the lower portion, a removable washer between said tongue and bar, and a bolt passing upwardly through the lower portion, the bar, the washer, and the tongue, of a cutter bar reciprocating in said seat and knives carried by said cutter bar and moving in the knife slots in the fingers, substantially as described.

No. 38,951. Dust Collector. (*Aspirateur de poussière.*)

Wright D. Smith, Detroit, Michigan, U.S.A., 14th May, 1892; 15 years.

Claim.—1st. In combination, with a separating chamber C, having air and dust escape openings at opposite ends, an air induction pipe formed with a return elbow A, and an opening B, of constantly increasing width, leading from the elbow into the chamber, substantially as set forth. 2nd. In combination, with a separating chamber C, having air and dust escape openings at its opposite ends, an air induction pipe formed with a return elbow A, the external and internal walls of which are defined by concentric curves, and an opening B, of constantly increasing width, leading from the elbow into the chamber adjacently to the wall thereof, substantially as set forth. 3rd. In combination, with the separating chamber provided with a dust discharge opening at its lower end, a tubular upward air discharge and an automatically adjustable valve supported on a central movable rod guided by upper and lower bearings, substantially as set forth. 4th. In combination, with the separating

chamber, having a dust discharge opening at its lower end, a tubular upward air discharge, and a cup formed automatically, adjustable weighted valve supported on a central movable rod guided by upper and lower bearings, substantially as set forth. 5th. In combination, with the induction pipe formed with a return elbow, a discharge opening therefrom of constantly increasing width, a separating chamber with a dust discharge opening at its smaller end and an air discharge at its larger end, and an adjustable valve regulating the relative amount of air discharged through the two openings, substantially as set forth.

No. 38,952. Feed Water Heater and Purifier.

(Réchauffeur et épurateur d'eau d'alimentation.)

August Krumholz, Chicago, Illinois, U.S.A., 14th May, 1892; 5 years.

Claim.—1st. A feed water heater and purifier comprising in combination a casing, a heating drum within said casing, a heating chamber to which a heating medium is admitted, a filtering chamber formed by a shell accessible through an aperture in the wall of the chamber, and a removable cap or cover for said aperture, substantially as described. 2nd. A feed water heater and purifier comprising in combination a casing, a heating drum within said casing, a heating chamber to which the surplus or waste heat from a furnace is admitted, and a purifying chamber consisting of a shell secured within the casing and removable through an aperture in the peripheral wall thereof, substantially as described. 3rd. A feed water heater and purifier comprising in combination a casing having a peripheral enlargement provided with a removable cap or cover, a filtering chamber formed by a shell having a flange secured in an aperture of the casing and delivering its filtered water into the chamber formed by said enlargement, a heating chamber surrounding the filtering chamber, a heating drum, and suitable pipes for delivering the water to the drum, conducting it thence to the filtering shell and for withdrawing it after purification, substantially as described.

No. 38,953. Means for securing Guard Rails to Main Line Rails. (*Moyen d'assujetir les chasse-pierres aux rails fixes.*)

Hiram Hart Sponenburg, Mikado, and Norman B. Sponenburg, East Tawas, both in Michigan, U.S.A., 14th May, 1892; 5 years.

Claim.—1st. An improved rail fastening, composed of the bar clamp for embracing the outer flange of one rail, the block clamp for embracing the opposite rail flange, means for securing one end of the bar clamp, and the intermediate rail clamp, adapted for attachment to the latter, substantially as shown and described. 2nd. The improved rail fastening, composed of the bar clamp having one end provided with a screw or screw bolt, and its opposite end with an arm adapted to embrace the outer flange of one rail, a block clamp adapted to embrace the outer flange of the adjacent rail, and having an opening through which the said screw projects; a nut applied to said screw bolt, and the intermediate rail clamp having a flanged head and slotted body, as shown and described. 3rd. The combination with the main line rail and guard rail, of the slotted block clamp, the bar clamp having one end provided with an arm that embraces the outer flange of the guard rail, and its other end with a screw bolt that passes through said block clamp, a nut applied to the bolt, and the flanged and slotted clamp E, arranged between the rails and serving to secure their inner flanges to the subjacent bar clamp, as shown and described.

No. 38,954. Automatic Car Coupler.

(Attelage automatique de chars.)

Christian H. Gohl and Ezra Rurst, both of Saginaw, Michigan, U.S.A., 14th May, 1892; 5 years.

Claim.—1st. In a car coupler, the combination, with the main body portion having the pin apertures, of the pin, the block for supporting the pin, the springs, and the link, substantially as described. 2nd. In a car coupler, the combination. with the main body portion having the pin apertures, of the pin, the block for supporting the pin, the springs, and the link, the contiguous faces of the block and link being flat, whereby the link is held normally in a plane at right angles to the forward face of the block, substantially as described. 3rd. In a car coupler, the combination, with the main body portion having the pin apertures, of the pin, the block for supporting the pin, the link, the lever for raising the pin, and the lock or catch for locking the lever in its lower position, so as to sustain the pin independently of the block, substantially as described. 4th. In a car coupler, the combination, with the main body portion having the pin apertures, of the pin, the block for supporting the pin, the springs, the link, the lever for raising the pin, and the lock or catch for locking the lever in its upper position, so as to prevent disengagement from the link, or in its lower position, so as to sustain the pin independently of the block, substantially as described. 5th. In a car coupler, the combination, with the main body portion thereof having the flaring sides, of the pin apertures whose centres lie in substantially the same transverse plane as the inner angles of the flaring sides, the pin, the block for supporting the pin, the springs, and the link, substantially as described. 6th. In a car coupler, the combination, with the main body portion thereof having the flaring sides, and the pin apertures whose centres lie in substantially the same transverse plane as the inner angles of the flaring sides, the pin, the block for supporting the pin, the springs, and the link, the contiguous faces of the block and link being flat, substantially as described. 7th. In a car coupler, the combination, with the pin locking lever having a lateral or sidewise movement, and provided upon its upper and lower edges with retaining recesses, of the catch bar having projections adapted to engage within said recesses, substantially as described. 8th. In a car coupler, the combination, with the main body portion having the pin apertures, of the pin, the block for supporting the pin, the springs, and the link, the wall of the link apertures which abuts against the pin being straight, and the pin being correspondingly straight, substantially as described.

No. 38,955. Split Pulley. (*Poulie d'assemblage.*)

George Campbell, William Coulter and Septimus Robert Campbell, all of Toronto, Ontario, Canada, 14th May, 1892; 5 years.

Claim.—1st. A pulley having a rim with concave-convex section, substantially as and for the purpose specified. 2nd. A pulley having a rim with a concave-convex section secured to the hub F, by spokes D, set at a tangent, substantially as and for the purpose specified. 3rd. A pair of spokes D, made in a single piece secured at each end to opposite sides of the hub F, in combination with a plate E, rivetted to the rim A, and formed to grasp and secure the pair of spokes D, substantially as and for the purpose specified. 4th. A split pulley having a plate B, rivetted on one half of the rim A, and secured to the other half by the bolts C, substantially as and for the purpose specified. 5th. A spring plate I, inserted through a slot in the hub F, and formed to grasp the head of the bolt H, substantially as and for the purpose specified. 6th. A split hub F, having a recess J formed in it, substantially as and for the purpose specified. 7th. A liner K, having a tongue *a* formed in it to fit into a recess formed in the hub F, substantially as and for the purpose specified.

No. 38,956. Dumping Car. (*Char-tombereau.*)

Jacob J. Souder, Washington, District of Columbia, U.S.A., 17th May, 1892; 5 years.

Claim.—1st. The combination, with the bed frame of the car, of the described transverse supporting bars resting by their ends upon the exterior longitudinal sills, the longitudinal hinge rods, wholly supported by such transverse bars, and the dumping sections, having hinge bars d^4, the inner extremity of which encircles the longitudinal hinge rods. 2nd. The combination, with the transverse supporting bars, of the hinged dumping sections, the brackets or journal bearings, secured upon the transverse supporting bars, the longitudinal chain shaft in such bearings, and the transverse actuating shaft which engages the chain shaft, to effect the closing of the dumping sections. 3rd. The combination, with the dumping sections, the transverse and longitudinal shafts, and the swivel bars, pivotted to the body of the car, of the chains *g*, *g* connected to the dumping sections and to the chain shaft, and the chains *l* connected to the transverse shaft, and to the swivel bars, substantially as and for the purposes set forth. 4th. The combination, with the dumping sections, of the transverse shaft, the swivel bars, pivoted upon the car, and the chains *l* connecting the transverse shaft and the swivel bars. 5th. The combinations, with the hinged rod *h*, resting in the lower extremity of the transverse supporting bars *d*, of the dumping sections d^1, each having formed therein a series of recesses d^6, and each having a series of hing bars d^4, each of which is provided with a projecting hinge eye d^7, substantially as and for the purposes set forth. 6th. The combination, with the shaft or hinge rod *h*, of the dumping sections d^1, each having edge groove d^8 and protecting plate d^{10}, substantially as and for the purposes described. 7th. The combination, with the shaft or hinged rod *h*, of the oppositely placed sections d^1, d^1, each having hinge bars d^4 and recesses d^6, substantially as and for the purposes specified. 8th. The combination, with the bed frame of the car, of the transverse supporting bars *d*, each having down turned ends d^{12}, d^{12}, engaging the exterior vertical face of the outer longitudinal sills, substantially as described.

No. 38,957. Dumping Car. (*Char-tombereau.*)

Jacob J. Souder, Washington, District of Columbia, U.S.A., 17th May, 1892; 5 years.

Claim.—1st. The transverse supporting bars B, depressed at their mid length, and the $\wedge$-shaped plate or bar *a*, resting by its ends in the depressed mid length portion of such supporting bars, in combination. 2nd. In a dumping car, the exterior longitudinal sills, and the vertically placed hinge plates d^1, secured to the vertical inner face of such sills, in combination. 3rd. The exterior longitudinal sills, the hinge plates d^1, secured to such sills, in the position described, and the discharging doors D, hinged to the plates d^1, and extending when closed to the inclined face of the angle plate *a*, in combination. 4th. The angle plate or bar *a*, having downwardly and outwardly inclined face, and the hinged discharging doors, movable up or down along such inclined face, in a plane parallel to the same, and extending when closed in a plane substantially perpendicular thereto, in combination. 5th. The angle-plate or bar *a*, having downwardly and outwardly inclined face, and the hinged discharging doors, the body of which extends in a plane perpendi-

cular to the inclined face of the angle-plate or bar, and the hinge straps of which project beyond the body of the door, and in its closure limit the upward movement thereof along the surface of the plate or bar, in combination. 6th. The exterior longitudinal sills, and the doors D, D¹, forming when closed a hopper-shaped bottom, each hinged directly to the inner face of the body of such sills, whereby the entire transverse area of the bottom, or hopper portion of the car is made dumpable, in combination. 7th. The coincident, hinged discharging doors D and D¹, each having eyes *e*, and the securing chains or rods *r*, having hooks r^1, r^1, for engagement with the eyes *e*, in combination. 8th. A dumping car, which is provided with upwardly curved discharging doors, substantially as and for the purpose set forth. 9th. A dumping car, which has upwardly curved discharging doors, which are provided with upwardly curved strengthening ribs, to maintain the upward curvature of the door. 10th. In a hopper bottomed dumping car, a discharging door which in its closed position is coincident with the fixed inclined body of the hopper, and which upon its upper surface is provided with strengthening ribs, which extend along the door in the direction in which the contents of the hopper move in dumping the same. 11th. A merchandise car which is provided with a foraminated pipe which extends longitudinally through the car, and which is adapted to connect with a steam or water pipe.

No. 38,958. Dumping Car. (*Char-tombereau.*)

Jacob J. Souder, Washington, District of Columbia, U.S.A., 17th May, 1892; 5 years.

Claim.—1st. In a car, the combination, with the longitudinal truss rod, of the transvese supporting bars, extending across the bottom of the hopper, beneath the truss rod, and connected at their ends to the exterior longitudinal sills of the car. 2nd. The combination, of the transverse supporting bars, provided with supporting lugs, as described, the pivoted dumping sections having projecting lugs, and the supporting arms, pivotally connected to the supporting bars, and adapted to engage the lugs upon the supporting bars, and the lugs upon the dumping sections. 3rd. The combination, with the hopper, and with the frame of the car, of the supporting bar, extending across the bottom of the car, along the edge of the hopper opening, and provided with supporting lugs, the dumping sections, having projecting lugs, the swivel bar, pivoted to the bottom of the car, and adapted to engage the shaft of the winding mechanism and the supporting arms, pivotally secured to the supporting bars, and connected to the swivel bars, substantially as described. 4th. The combination, with the winding mechanism, having shaft, ratchet wheel, and pawl, of the swivel bars attached to the body of the car, the locking arm connected to the swivel bars, and engaging the winding shaft, and the pivoted fastening bar, engaging both the locking arm and the winding shaft, subsiantially as described. 5th. The dumping sections A^2, having rigid bottom and flexible side portions, and pivoted by their strengthening straps directly to the longitudinal truss rod. 6th. The combination, of the dumping sections A^2, each having in its inner edge a longitudinal groove, semi-circular in transverse section, with the longitudinal truss rod J, substantially as set forth. 7th. The combination of the dumping sections A^2, each having in its inner edge a semi-cylindrical groove, and each having beveled or cut away portions extending outwardly from the edges of such groove, with the longitudinal truss rod J, substantially as specified. 8th. A car for granular material, the roof of which is provided with an opening which has an upwardly and outwardly projection flange or combing, and with a cover which has a downwardly and inwardly extending engaging flange upon the outer end and upon the sides thereof, whereby the cover is insertible endwise, from the overhang, toward the running board of the roof, substantially as set forth. 9th. In a dumping car for railways, a longitudinal truss rod to which are directly pivoted drop doors or dumping sections, the truss rod thereby serving in addition to its ordinary functions as a hinge rod for the discharging doors of the hopper.

No. 38,959. Cut-off for Gas Burners.

(*Détente pour becs à gaz.*)

Francis Walter Merchant, London, Ontario, Canada, 17th May, 1892; 5 years.

Claim.—1st. An automatic cut-off for gas burners, consisting of a column of mercury contained in a siphon communicating with the gas channel of the burner, with a reservoir containing mercury and with a hollow chamber in proximity to the lighting end of the burner, in such a manner that the cooling of the hollow chamber shall cause the mercury to flow from the chamber into the siphon so as to force a sufficient quantity of mercury into the gas channel to cut off the supply from the burner, substantially as and for the purpose specified. 2nd. In an automatic cut-off for gas burners, consisting of a column of mercury, caused to flow into the gas channel of the burner by the cooling off of a hollow chamber, the combination of a pipe, leading from the hollow chamber to the two way cut-off valve of the burner, substantially as and for the purpose specified.

No. 38,960. Bedstead Lock. (*Fermeture de couchette.*)

William B. Darby, Toronto, Ontario, Canada, 17th May, 1892; 5 years.

Claim.—1st. A lock, consisting of the combination with a bedstead, of a dovetail slotted mortise plate, and a flaring tenoned side plate, adapted to fit into the mortise plate, to secure the sides to the head and foot portions of a bedstead firmly together, substantially as specified. 2nd. The combination, with a bedstead, of the dovetail slotted mortise plate A, and flaring tenoned side plate C, the parts being constructed to engage with and fit snugly together, substantially as and for the purpose specified.

No. 38,961. Stretcher Key for Canvas Frames.

(*Coin metallique pour cadres d'artistes.*)

Richard H. Graves, Grand Rapids, Michigan, U.S.A., 17th May, 1892; 5 years.

Claim.—A stretcher key A, formed with the wings or flanges B, C, substantially as shown and described, and for the purpose specified.

No. 38,962. Ink Eraser. (*Effaçoir.*)

George Washington Prouty, Boston, Massachusetts, U.S.A., 17th May, 1892; 5 years.

Claim.—1st. The combination, in an ink eraser, of a handle or stock, and a circular disk cutter secured to one end thereof, and adapted to have any portion of its circular edge brought into position for use. 2nd. An ink eraser, consisting of a stock or handle, and a disk like cutting blade having its cutting edge at right angles to the axis of said stock. 3rd. An ink eraser, consisting of a handle or stock, and a disk like cutter secured to one end of said stock with its cutting edge at right angles to the axis of said stock, said disk having one side flat and the other side bevelled at its outer edge to form a cutting edge. 4th. The combination, of the stock A, having formed on one end a paper folding and cutting blade, and a disk like bevelled edged cutter secured to the opposite end of said stock with its flat side at right angles to the axis of said stock.

No. 38,963. Lubricator. (*Graisseur.*)

James Nicholas Elliott, Battle Creek, Michigan, U.S.A., 17th May, 1892; 5 years.

Claim.—The herein described lubricating clasp or ring, comprising the two sections A, A, hinged together at one end and formed with thimbles *a*, a^1 at their opposite ends, each of said sections also having inwardly extending side walls A^1, forming chambers designed to receive an oil retaining fibre or sponge, a pin *b*, removably inserted through said thimbles, and a spring latch rigidly secured at one end to one of said parts A, embracing the same and having its free end bent to engage said thimbles and also formed to provide a handle portion B^1, by which it may be readily detached from said thimbles by moving its bent end outward away from the same.

No. 38,964. Calorific Oil Generator and Heater.

(*Générateur et réchauffeur d'huile calorifique.*)

David D. Griffiths, Hamilton, Ontario, Canada, 17th May, 1892; 5 years.

Claim.—1st. In a calorific oil generator and heater, the combination of the retort A, arranged and devised to contain the series of walls E, forming the circuitous channel *a*, having inlet pipe D and vertical outlet pipe H, having a longitudinal extension H^1, with aperture J directly over the central opening I, substantially as and for the purpose hereinbefore set forth. 2nd. In a calorific oil generator and heater, the combination of the retort provided with its inlet and outlet and internally arranged, as described, and the recessed base plate of resistance B, provided with supporting columns C, one or a series of deflectors K, substantially as and for the purpose hereinbefore set forth.

No. 38,965. Washing Machine. (*Machine à blanchir.*)

Elzear Doré, Laprairie, Quebec, Canada, 17th May, 1892; 5 years.

Claim.—In a washing machine, the combination of the ordinary tripod agitator C, with the square or triangular spindle E having teeth G, the sleeve F, lever H and spring J, substantially as described and for the purposes set forth.

No. 38,966. Trap for Drains. (*Trappe d'égout.*)

Timothy J. Kieley, New York, State of New York, U.S.A., 17th May, 1892; 5 years.

Claim.—1st. In a drain pipe, the combination of a hinged open top bucket float and a valve within the bucket, and attached thereto at a point intermediate the centre of flotation of the bucket and the hinge and fitting an outlet valve seat, substantially as described. 2nd. The combination in a drain trap of a supporting plate having an inlet port and an outlet port near the top, and carrying an open top float, a valve for the outlet port connected with said float and an independent casing clamped to said plate, which may be removed without disturbing the connections or operating portions of the trap, substantially as described. 3rd. The combination in a drain trap of the casing A, plate C, bucket B pivoted thereto, valve L, connected to the bucket and outlet pipe H, extending into said bucket, substantially as described. 4th. The combination in a drain trap of the plate C, supporting bucket B, tubular casting G, pipe H, extending into the bucket, an outlet O, outlet opening P, and by-pass R, substantially as described. 5th. The combination in a drain

trap of a casing for receiving the water, a bucket pivoted within the said casing, a discharge opening communicating with a pipe extending down into said bucket and a valve fitted to the said opening and connected with said bucket, substantially as set forth.

No. 38,967. Axle for Carriage Wheels.

(Essieu pour roues de voiture.)

Andrew Folsom, Chelsea, Massachusetts, U.S.A., 17th May, 1892; 5 years.

Claim.—In an attachment for carriage wheels, the combination of the axle journal having a squared seat for the reception of a cup-shaped holding washer, in conjunction with a threaded portion for receiving a screw nut, and a cup-shaped holding washer having in its recess an elastic washer adapted to bear on the shoulder of the axle and the end of the hub, substantially as and for the purpose set forth.

No. 38,968. Foundation for Structures.

(Fondation d'édifice.)

Robert Lewis Harris, New York, State of New York, U.S.A., 17th May, 1892; 5 years.

Claim.—1st. The method herein specified of consolidating loose or fine materials, consisting in introducing pipes at distances apart, passing water or fluid into one or more of the pipes to loosen the material around the ends of the pipes and establish currents between one pipe and the other, and then filling the interstices and channels with cementing materials introduced through one or more of the pipes, substantially as set forth. 2nd. The method herein specified of producing a floor or similar structure within the quicksand or other materials, consisting in introducing pipes at distances apart and to a desired level, loosening the materials between the lower ends of the respective pipes and near the desired floor level by the action of a fluid forced into one or more of the pipes to establish a current from one pipe to another, and introducing cementing material through such pipes, substantially as set forth. 3rd. The method herein specified of forming inclosures within sand or similar loose materials, consisting in passing water or other fluid through one or more pipes and through such materials to establish currents to the other pipes, and then introducing cementing material, then moving such pipes for their ends to be in different positions, and repeating the operations by introducing fluid to open up channels, and afterward introducing cementing material, substantially as set forth. 4th. The method herein specified of inclosing quicksand or similar material to be excavated, consisting in driving down sheet piling and introducing cementing material into the sand or similar loose material through pipes passed down into the sand and between the piling to form a floor near the lower ends of the piles and previous to the excavation of such quicksand or loose material, thereby shutting off the inlet at the bottom, substantially as set forth. 5th. The method herein specified of consolidating sand or similar material, consisting in forcing two or more pipes down in such material at a distance from one another, forcing a fluid through one of the pipes, and establishing an outward circulation to another pipe, and then forcing in a cementing material, and then repeating the operation in other pipes successively, substantially as set forth. 6th. The method herein specified of establishing a circulation through sand or similar material, consisting in forcing three or more pipes down into such material at suitable distances from each other, forcing a fluid down one of the pipes, establishing an upward circulation in one of the other pipes, and then stopping off such upward circulation to cause the fluid under pressure to pass toward the uptake of the third pipe, substantially as set forth.

No. 38,969. Soap Holder and Distributor.

(Distributeur et porte-savon.)

William Wilcklow, assignee of Henry F. Stowell, both of Rochester, New York, U.S.A., 18th May, 1892; 5 years.

Claim.—1st. The soap holder consisting of the main body or receptacle having an opening in the bottom, a hopper secured in such receptacle between its ends, a laterally slotted discharging box fixed to the bottom of the hopper body, a cut off adapted to enter the lateral slot in the box, a plate normally closing the bottom of the box, provided with a discharge opening and adapted to be moved to bring the opening under the box, a push rod connected to such cut off and also to the plate, a stop on said plate, a rod connecting the discharge box and the wall of the receptacle, and passing through said stop, and a spring surrounding the rod and located between said wall and stop, substantially as set forth. 2nd. The soap holder, consisting of the main body or receptacle having an opening in the bottom, a hopper secured in such receptacle between its ends, a laterally slotted discharge box fixed to the bottom of the hopper body, a cut off adapted to enter the lateral slot in the box, a plate normally closing the bottom of the box, provided with a discharge opening and adapted to be moved to bring the opening under the box, a stop on said plate, a push rod connected to such cut off and also to the plate, and a spring arranged between the wall of the receptacle and the stop for automatically closing the bottom of the discharge box, substantially as set forth. 3rd. The soap holder, consisting of the main body or receptacle having an opening in the bottom, a hopper secured in such receptacle between its ends, a laterally slotted discharge box, fixed to the bottom of the hopper body, a cut off adapted to enter the lateral slot of the box, a plate normally closing the bottom of the box, provided with a discharge opening and adapted to be moved to bring the opening under the box, a stop on said plate, a push rod connected to such cut off and also to the plate, and a spring arranged between the wall of the receptacle and the stop for automatically closing the bottom of the discharge box, and a bracket stud receiving socket, said socket, spring, stop and push rod being arranged in the same horizontal plane, substantially as set forth. 4th. In combination, the main receptacle provided with an interior hopper, having attached to its bottom a discharge box, provided with a lateral slot near its top, a sliding cut off and valve consisting of the upper plate having a rectangular part and a semi cylindrical part resting in said lateral slot, and a lower plate rigidly connected to said first named plate having an opening under the rectangular part of said plate and extended beyond the semi cylindrical portion to close the bottom of the discharge box, when said box is open at the top, and devices for moving the upper plate into the slot, and the opening in the lower plate under the box, and ways for the plates located at a distance laterally from the discharge box, substantially as set forth.

No. 38,970. Weighing Apparatus for Vehicles.

(Appareil de pesage pour voitures.)

The Wanamaker International Car Scale Company, assignee of Charles Benjamin Wanamaker, all of Indianapolis, Indiana, U.S.A., 18th May, 1892; 5 years.

Claim.—1st. The combination, in a weighing apparatus, of a platform having supporting points extending toward a point of rest when said apparatus is in operative condition, the scale levers, appropriate knife edges, bearings adapted to be raised against certain of said knife edges and raise said levers and lift the platform off its rest into operative condition, and means for raising and lowering said bearings, the platform being thereby permitted to descend upon and be supported by its rest, and the bearing edges of the knife edges thus wholly freed from contact when the apparatus is out of operative condition. 2nd. The combination, in a weighing apparatus, of a platform, the scale levers, the scale beam, knife edges on said scale levers and scale beam arranged to permit their bearing edges to drop out of contact when out of operation, connecting links or bars between said scale levers and between certain of said levers and said scale beam, and lifting bearings whereby the scale apparatus is thrown into or out of operative condition. 3rd. The combination, in a weighing apparatus, of the scale beam, the scale levers, knife edges thereto, connecting bars or links, a platform provided with supports independent from the scale mechanism, independent rests for said scale mechanism, and vertically movable bearings adapted in their upward course to first raise the scale mechanism into engagement with the platform, and then, through said scale mechanism, raise said platform off its independent support. 4th. The combination, in a weighing apparatus, of the scale beam, the scale levers, knife edges thereto, connecting bars or links, the platform, bearings located between the points where the scale levers engage with said platform and the point where they are connected together, and mechanism by which said bearings can be forced up against said knife edges on said scale levers. 5th. The combination, in a weighing apparatus, of a platform for the load, adapted to be supported by points of rest or by the scale mechanism, knife edges on the scale levers intermediate the points where they engage with said platform and the point where they are connected together, and bearings adapted to be raised against said knife edges and thus raise said platform from its points of rests and support it by the scale mechanism. 6th. The combination, in a weighing apparatus, of the platform, bearings or projections adapted to support said platform, a scale mechanism located below said platform and engaging therewith by means of knife edges, other knife edges in said scale mechanism, vertically movable bearings adapted to come in contact with said last mentioned knife edges, and mechanism by which said vertically movable bearings may be lifted and said scale mechanism thus thrown into operation and into engagement with the platform, which is also thus thereby lifted. 7th. The combination, in a weighing apparatus, of a platform having downward projections embodying the bearings for the knife edges, the scale levers having knife edges which enter said bearings, the bearing edges whereof are presented upwardly, and other knife edges at a central point, the bearing edges to which face oppositely to each other, and a link forming bearings for said last mentioned knife edges and connecting them, and other knife edges, the bearing edges of which are presented downwardly, located intermediate of the knife edges which support the platform and the link by which they are connected together, and vertically movable bearings adapted to engage with the said last mentioned knife edges, whereby when said bearings are lifted the scale mechanism is thrown into operation and the platform also lifted, and whereby when said bearings are depressed the scale mechanism is thrown out of operation, and the knife edges are permitted to rest on their backs relieving their bearing edges from contact. 8th. The combination, in a weighing apparatus for cars, of a rock shaft, a scale beam rigidly mounted on said rock shaft, arms also rigidly mounted on said rock shaft, and a series of levers and links connecting said arms with said levers, said apparatus being mounted on the car body, substantially as set forth. 9th. The combination, in a weighing apparatus for cars, of a series of levers secured to the

under side of the car body, a scale beam connected to said series of levers, cylinders arranged below knife edges on certain of said levers, and a pump connected with said cylinders, whereby the pistons thereof may be forced upwardly against said knife edges, and said levers thus be operated to sustain the weight of the car body and its load. 10th. The combination, in a weighing apparatus for cars, of the running gear, the car body, a scale beam, a series of levers connected thereto and interposed between the car body and the running gear, the terminating levers being suspended upon the under side of the car body and extending over and adapted to engage with the upper surfaces of the bolsters of the running gear, hangers for securing said levers to the under side of the car body, said hangers being divided and the parts secured together by a pivot bolt running transversely to the knife edges on the levers, and said knife edges. 11. The combination, in a weighing apparatus for cars, of the car body, the running gear thereto, the scale beam, a series of levers connected thereto, apparatus for operating the same secured to the under side of the car body, the terminal levers F and F^1, being suspended to said car body by hangers F^2 and F^3, and extending over the bolster, and adapted to raise the car body and its load by being lifted into contact with said bolsters, said hangers F^2, being divided and thus capable of oscillation. 12th. The combination, in a weighing apparatus for cars, of the car body, hangers or supports secured to said car body, levers mounted in said hangers or supports, cylinders also mounted in hangers or supports, the pistons whereof are adapted to come in contact with knife edges on said levers, links connecting said levers, a rock shaft, arms thereon, links also connecting said levers with said arms, and the scale beam on said rock shaft, said several parts being arranged and operating, substantially as set forth. 13th. The combination, in a weighing apparatus for cars, of a series of levers suspended from the car body, and adapted to be forced into position to carry the weight of said car body and its load, pistons for effecting such result, said pistons being slotted and provided with bars passing through said slots and attached to the cylinders, whereby the movement of said pistons is limited, as predetermined. 14th. The combination, in a weighing apparatus for cars, of the rock shaft D, the scale beam C, thereon, the four levers E, E and E^1 E^1, links D^2, connecting said shaft to said levers, the four levers F, F, F^1, F^1, links connecting the corresponding ones of said set of levers together, hangers F^2 and F^3 carrying said levers F, F and F^1, F^1, the running gear B, and bearing plates on the bolsters of said running gear with which the points of said last mentioned levers will come in contact when the scale apparatus is operated, and means whereby said operation is effected.

No. 38,971. Pipe Coupler. (*Joint de tuyau.*)

The Consolidated Car Heating Company, Albany, New York, U.S.A., assignee of James Finney McElroy, of the same places, 18th May, 1892; 5 years.

Claim.—1st. In a pipe coupling composed of two like parts, each part comprising a head, a sleeve slidingly secured thereon, means for locking two sleeves together, and a spring between the sleeve and coupling head, all so arranged that the coupling heads are held together by the weight of the couplers acting through the medium of the spring, substantially as described. 2nd. In a pipe coupler, the combination, with the coupling head, of a sleeve slidingly secured thereon, and carrying the unlocking coupling mechanism, and a spring adapted to be compressed between the two in the manner described, of a fin upon the head adapted to strike the coupling arm of the sleeve, to disconnect the two halves of the coupler upon the application of a longitudinal strain, substantially as described. 3rd. In a pipe coupling, the combination of the head A, the sleeve F, the chamber G between the two, the spring E in that chamber, the flange D on the exterior of the coupling head, against which the forward end of the spring presses, and an inwardly extending flange H upon the sleeve, the compression ring I, and interlocking coupling arms upon the sleeve, substantially as described. 4th. In a pipe coupling, the combination of the head D, sleeve F, and spring E, constructed and operated substantially in the manner set forth, of the forward projecting arm K, hook L, and extension M, of the fin O upon the coupling head, projecting through a slot in the sleeve in proximity to the locking lug N, the lug N and the cam P^1 substantially as described. 5th. In a pipe coupler, the combination, with the coupling head, the sleeve and the spring constructed substantially in the manner set forth, of the forwardly extending arm upon one side of the sleeve, the locking lug upon the other, the fin secured to the coupler head and projecting through a slot in the sleeve adapted to arrange the locking arm from the lug upon the application of longitudinal strain, substantially as described. 6th. In a pipe coupling, composed of two like parts, each part consisting of a head and a sleeve slidingly secured thereon, and carrying the interlocking arms, substantially as described. 7th. In a pipe coupling composed of two like parts, each part comprising a head, and a sleeve sliding securedly theron and carrying the interlocking arms, of a spring interposed between said sleeve and head, substantially as described

No. 38,972. Temperature Regulator.

(*Régulateur de température.*)

The Consolidated Car Heating Company, assignee of James Finney McElroy, all of Albany, New York, U.S.A., 18th May, 1892; 5 years.

Claim.—1st. In a temperature regulator, the combination of a frame, a bracket thereon, a thermic cell suspended therefrom, a hinged frame and connection between said cell and said frame, and a connection between said frame and the valve to be actuated, substantially as described. 2nd. In a temperature regulator, the combination of a frame, a bracket thereon, a thermic cell suspended from said bracket, a hinged frame, a connection between said cell and frame, and between said frame and the connecting rod, and means for adjusting the length of said rod, substantially as described. 3rd. In a temperator regulature, the combination of the rod F, screw threaded at its upper end, the nut G, spring H, nut I, means for turning said rod within said nut to lengthen and shorten its connection with the valve and the thermic cell for actuating said rod, substantially as described. 4th. In a temperature regulator, the combination of the frame A, thermic cell D, the bracket B, screw threaded stem C engaged with said bracket, the stem P, neck Q, hinged frame K, and the pivotal connection between said frame and the connecting rod, substantially as described.

No. 38,973, Galvanic Electric plaster.

(*Emplâtre galvanique électrique.*)

William Innes, assignee of David Ross, assignee of John Ward Shults, all of Wichita, Kansas, U. S. A., 18th May, 1892; 5 years.

Claim.—1st. As a new article of manufacture, a galvanic adhesive plaster for the therapeutical purposes, consisting of a plaster compound spread upon a linen or other suitable backing of the opposite cells, comprising the reversly arranged elements incorporated in the plaster compound of the conductor wire incorporated in the plaster compound, and arranged connecting the elements, of the conductors connecting said cells, and extending oppositely from the plaster and of the electrodes forming the terminals of said conductors substantially as and for the purpose specified. 2nd. The herein described plaster, consisting of a plaster compound spread upon linen or other suitable backing, of the oppositely arranged cells, comprising the reversely arranged elements incorporated in the plaster compound, and having surfaces on a plain of that of the compound, of the conductor wire arranged connecting said cells, of the oppositely arranged conductors arranged connecting opposite elements of said cells to those of the former conductor, and of the adhesive electrodes forming the terminals of said conductors, substantially as and for the purpose set forth. 3rd. The electric plaster, comprising the backing, the compound mixed with pulverized carbon, and spread upon the backing, of the metallic elements of the battery set in said compound, of the conductors connected with and extending from said elements, and of the electrodes forming the terminals of said conductors, substantially as and for the purpose set forth. 4th. The combination, with the oppositely extending conductors, of the electrodes secured as the terminals of said conductors, and of the adhesive supporters of said electrodes, substantially as and for the purpose set forth. 5th. An electric plaster, consisting of a linen or other suitable backing, of a compound spread upon said backing, of elements of an electric battery incorporated in said plaster construction, and arranged to be brought in contact with the body of the wearer, where they are subjected to the exudations out of the cutis, and of the oppositely extending electric conductors connected with the battery of the plaster, and terminating with electrodes adapted to be applied to different portions of the body, substantially as and for the purpose set forth.

No. 38,974. Paddle Wheel. (*Roue à aubes.*)

The Concave Paddle Wheel Company, Liverpool, assignee of John Howard, Lancaster, both in England, 18th May, 1892; 5 years.

Claim.—1st. The improvement in paddle wheels for steam vessels which consists in forming the paddles or floats with channelled or concave striking surfaces, whereby friction is minimised and the propelling power of the paddle wheel increased. 2nd. The combination, with a paddle wheel, of channelled or concave floats C, having flanges D, by which they are secured to the arms of the paddle wheel, substantially as set forth. 3rd. In a paddle wheel, the combination of the concave or channelled floats C, placed back to back and formed either in one piece or made separately, and secured together by stays, substantially as and for the purpose set forth.

No. 38,975. Sole for Feetware. (*Semelle pour chaussures.*)

Paul Max Hoffman, Loschwitz, Saxony, German Empire, 18th May, 1892; 5 years.

Claim.—A sole or sock consisting of two sheets or layers *a* and *b*, connected together at their edges, enclosing between them a layer *c*, of an electrically excitable substance being a non-conductor of heat, substantially as described and illustrated in the accompanying drawings.

No. 38,976. Electric Water Heater.

(*Calorifère électrique à eau.*)

Thomas Ahearn, Ottawa, Ontario, Canada, 18th May, 1892; 5 years.

Claim.—1st. In an electric water heater, the combination, of an insulated open water-tight vessel A, a coil of refractory wire or strip C of low electric conductivity, having its terminals connected by

leads passing through insulators, a containing vessel D lined internally with a layer of non-heat conducting material, and large enough to form an annular space around said inner vessel, and affording space for a thick layer of non-conducting material at the the bottom, a covering G on the annular space containing insulators to pass the leads of the circuit, a removable hollow cover H filled with non-conducting material, and a draw of pipe I, with faucet, substantially as set forth. 2nd. In an electric water heater, the combination of an open water-tight vessel A, provided with draw off pipe having faucet, insulating strips B laid on the exterior of said vessel, a coil C of refractory material of low electric conductivity wound upon said insulating strips and connected with an electric circuit, a vessel D having its bottom covered thickly with non-conductors of heat upon which said vessel A rests, and large enough to form an annular space around the same, and a filling F of powdered whiting, fire clay, or other refractory material in said annular space, substantially as set forth. 3rd. In an electric water heater, the combination, of an open water-tight vessel A, insulating strips B laid upon the exterior of said vessel, a coil C wound upon said insulating strips and connected with a circuit, a hollow cover H filled with non-conductors of heat and provided with an opening h^1, a water-tight vessel H^1 connected to the bottom of said cover and smaller than the vessel A, a draw off pipe I secured in the bottom of the vessel A and provided with faucet, a branch I^1 on said pipe, and a gauge glass I^{11} secured to said branch, substantially as set forth.

No. 38,977. Squeezer for Spongy Substances.

(Pressoir pour les substances poreuses.)

Charles Aretus Clark, Saint John, New Brunswick, Canada, 18th May, 1892; 5 years.

Claim.—The arrangement of the perforated metal lugs D, D, fitted on roller chains C, C as carriers, running on upper and lower trucks B, B so as to form two travelling platforms, and constructed on such a shape as to give at first a gradual and then a continuous pressure, as above set forth.

No. 38,978. Steam Engine. (*Machine à vapeur.*)

The Richardson Engine and Steamship Company, assignee of Samuel Thompson Richardson, all of Baltimore, Maryland, U.S.A., 18th May, 1892; 5 years.

Claim.—1st. In a steam or other engine, the combination, with a cylinder having two working chambers, arranged upon opposite sides of the longitudinal axis, of an oscillating shaft having its axis coincident with that of the cylinder and independent duplex, or two part valves to open and close the separate inlets for live steam, pushing against wings or pistons oppositely mounted on the shaft, and to open and close the exit ports for the steam, substantially as described. 2nd. In a steam or other engine, the combination, with a cylinder having a central longitudinal shaft, provided with opposite wings which constitute pistons, adapted to vibrate in working chambers upon opposite sides of the shaft, of independent oscillating valves controlling the admission of live steam to the working chambers, and similar, but differently timed valves carried by the same stems, and controlling the exit of the expanded steam, substantially as described. 3rd. In a steam or other engine, the combination, with a cylinder having sector shaped working chambers upon opposite sides of the axis of the cylinder, of a central shaft having its ends packed through the ends or heads of the cylinder, and provided with opposite wings constituting pistons, oscillating valves controlling the live steam from steam chambers in oppositely arranged and centrally divided steam chests on the cylinder, and differently timed oscillating valves on the same stems governing the outlet ports on the same side of each piston, substantially as described. 4th. In a steam or other engine, the combination, with a cylinder having opposite steam chests centrally and transversely divided, of sector blocks having convex faces closing the communication of the steam chests with the cylinder, but provided with duplex valve chambers, separated by a central septum, a duplex or two part valve mounted on a single stem lying in both valve chambers, and a central shaft having opposite wings which constitute pistons, each sector block being provided with live steam ports and exit ports, having connection with the duplex valve chambers, and through the latter with working chambers on opposite sides of the shaft, whereby a simultaneous push is communicated to both pistons in opposite directions, substantially as described. 5th. In a steam or other engine, the combination, with a cylinder having a central shaft, provided with opposite radial wings which constitute pistons adapted to vibrate in working chambers on opposite sides of the central shaft, of duplex valve chambers formed in the sector blocks, separating the working chambers and each having an inlet and an exit port for the live steam and expanded steam respectively, said ports being separated by a central septum, the live steam ports communicating with steam chambers in opposite and divided steam chests, and the exit ports having communication with outlet chambers in said steam chests, duplex, or two part valves lying in said valve chambers, having their parts differently timed, but oscillated by the same stems, the valve stems in each sector block being connected by a link, and duplex cranks mounted on the ends of the central oscillating shaft, and moving the link connections of the upper and lower valves in opposite directions, simultaneously, at each vibration of the crank arms, substantially as described. 6th. In a steam or other engine, the combination, with a central shaft having wings vibrating in opposite working chambers, of independent inlet and outlet ports adjacent to each face of each piston, and duplex or two part valves opening and closing said ports, whereby the steam introduced through an inlet port finds exit through a port adjacent to the same face of the piston, substantially as described. 7th. In a steam or other engine, the combination, with a cylinder of a central oscillatory shaft having opposite wings or plates directly mounted thereon, and vibrating in opposite sector shaped chambers, and live steam and exhaust valves mounted on a single stem, and alternately delivering steam to and exhausting it from the face of each wing, substantially as described. 8th. In a steam or other engine, the combination, with a cylinder having opposite working chambers separated by sector shaped blocks, of a central oscillatory shaft upon which said blocks have bearing, said shaft being provided with opposite wings or plates, and a live steam and exhaust valve rigidly mounted on a single stem, and arranged in valve chambers in each sector block between the steam chest and the working chamber, substantially as described.

No. 38,979. Crane. (*Grue.*)

John Vanes, Brazil, Indiana, U.S.A., 20th May, 1892; 5 years.

Claim.—1st. In a crane, the combination, of a portable carriage, the quadrant pivoted at its angle to said carriage, a swiveled bearing carried near one end of the quadrant, an operating shaft journaled in the frame of the carriage, a screw passing through the bearing on the quadrant and geared at one end to the operating shaft, and means for turning the operating shaft in its bearings, substantially as described. 2nd. In a crane, the combination, of a portable carriage, having the inclined front, a quadrant pivoted to said carriage, a swiveled bearing arranged near one end of the quadrant, an operating shaft journaled in the frame of the carriage, and a screw shaft geared directly to the operating shaft and passing through a threaded opening in the swiveled block, substantially as described. 3rd. In a crane, the combination, of a portable carriage having its front inclined, a quadrant pivoted at its angle to said carriage and having the free end on one of its members bifurcated, a swiveled bearing arranged in the bifurcated end of the quadrant, an operating shaft, and a screw shaft geared to the operating shaft and working in a threaded opening in the swiveled bearing, substantially as described.

No. 38,980. Method of Treating Copper and Copper Alloys. (*Méthode de traitement du cuivre et ses alliages.*)

George Wyckoff Cummins, Vienna, New Jersey, U.S.A., 20th May, 1892; 5 years.

Claim.—1st. The process of preventing the oxidation of copper and its alloys, when heated to a temperature sufficient to cause oxidation if exposed to the presence of atmospheric air, consisting in enclosing the same before reaching and while at said temperature in an atmosphere of steam, thereby excluding said air, substantially as set forth. 2nd. The process of preventing the deoxidation of copper and its alloys, consisting in enclosing the same, while being heated or annealed, in an atmosphere of steam, to the exclusion of reducing gases, substantially as and for the purposes set forth. 3rd. The process of preventing the oxidation and deoxidation of copper and its alloys, consisting in enclosing the same in an atmosphere of steam, to the exclusion of atmospheric air and reducing gases, and heating the metal in the presence of said steam to the desired temperature before cooling, substantially as and for the purposes set forth. 4th. The process of annealing copper and its alloys, consisting in heating the same to the necessary temperature while enclosed in an atmosphere of steam and then cooling the metal, substantially as and for the purposes set forth.

No. 38,981. Drilling, Boring and Trueing Machine.

(Machine à forer, percer, &c.)

Alfred Hugh Tyler and John Stuart Ellis de Vesian, both of London, England, 20th May, 1892; 5 years.

Claim.—1st. In machines, a tool carrying spindle capable of being rotated and oscillated so that it moves the tool in a manner to correspond with a template, substantially as described. 2nd. In machines, a tool carrying spindle capable of being rotated and mounted in an oscillating carrier, so that the spindle can be moved vertically to adjust the area of the tool's action, substantially as described. 3rd. In machines, a tool carrying spindle capable of being rotated and mounted in an oscillating carrier, substantially as described. 4th. In machines, a tool with its acting edge in axial line with the spindle, as shown.

No. 38,982. File Case or Cabinet.

(Buffet serre-papier.)

Major Romeyn Jewell, Rochester, New York, U.S.A., 21st May, 1892; 5 years.

Claim.—1st. In combination, with an enclosing case or cabinet, the forwardly sliding tray or receptacle, having a front wall adapted to close the front opening in the cabinet, and having at one side a guide provided with a follower or pressure device C, arranged to

turn upward after the tray is turned forward in a plane at right angles to the path in which the tray slides. 2nd. In a case or cabinet, a tray arranged to slide forward from the cabinet, a sustaining or supporting device to maintain the tray when withdrawn, a vertical guide at one side of said tray, and a follower or pressure device adapted to frictionally engage said guide, and to turn in a plane at right angles to that in which the tray slides. 3rd. In a file box, the combination, of the box or tray, a guide plate fixed thereto, and a spring follower or pressure arm having one end adapted to embrace, slide upon and frictionally engage the guide, and the opposite end arranged to act upon the contents of the box. 4th. The combination, of the box or tray, the guide plate attached thereto, the follower or pressure device having one end arranged to slide upon and engage the guide, and the opposite end expanded laterally to bear upon the sheets or papers at widely separated points. 5th. In a file box, the combination, of the box or tray, the guide attached thereto, and the spring follower or pressure device having one end arranged to slide upon and frictionally engage the guide, and the opposite end expanded laterally and curved to bear upon the sheets or papers at widely separated points. 6th. In combination, with the box or receptacle provided with grooves, the guide plate having the outwardly turned upper end, and the pressure device or follower having the angular ends to engage the guide plate, whereby the follower may be locked down in position or sustained in an upright position to maintain the upturned sheets. 7th. The combination, in a file box of a guide plate, and the follower or pressure device consisting of a single piece of elastic wire bent upon itself to form the expanded portion and secured together, said wire having its ends bent into angular form and adapted to engage and slide upon the guide, substantially as described. 8th. In combination, with a file box, a pressure arm therein and a pressure sheet provided with metal strips for transferring the pressure to the marginal portions of the confined sheets. 9th. A pressure sheet for a filing tray or box provided with elastic metal strips extending from the middle to the margin. 10th. The pressure sheet having the metal strips applied to its two faces, the strips on one face provided with lips passing through the sheet and engaging the strips on the opposite face. 11th. In a paper file, the tray or receptacle, in combination with the indexed sheets connected to each other and to the tray, by devices removable at will from the tray, and the pressure arm independently connected to the tray and arranged to turn outward therefrom, whereby the sheets may be removed without detaching the pressure device.

No. 38,983. Pick. (*Pic.*)

Charles B. Van Arsdale, Sydenham, Ontario, Canada, 21st May, 1892; 5 years.

Claim.—The head A, provided with a socket *a* for the handle, an eye *e*, to receive the pick B, and a transverse notch *c*, in combination with the pick B, provided with checks *d*, *d*, a recess or notch *b*, and a plug or key *c*, which enters the notches *b* and *c*, as set forth.

No. 38,984. Kneading Board. (*Planche à pétrir.*)

Mary M. Everhard, St. Joseph, Michigan, U. S. A., 21st May, 1892; 5 years.

Claim.—1st. As an improved article of manufacture, a molding or kneading board formed from sheet metal, and having the rear vertically disposed, integral wall *a*, and the lateral walls tapering from their inner to their outer ends, and the shallow outer transverse edge, substantially as specified. 2nd. A molding or kneading board formed from sheet metal, and having its marginal edges turned slightly upward from the body portion, the rear edge being of a greater elevation than the forward edge, substantially as specified.

No. 38,985. Animal Trap. (*Piège.*)

Elliott L. Lewis, Troy, New York, U.S.A., 21st May, 1892; 5 years.

Claim.—1st. In a trap, the combination, with a spring bow, of a noose connection between its ends, a detachable link connection between its arms, and a bait trigger for detachably maintaining the link connection, substantially as described. 2nd. In an animal trap, the combination, with a bow and a bow string provided with a noose, of a bar link hinged at one end to one arm of the bow, and provided with a hook at the other end, a string link secured at one end to the other arm of the bow, and provided with a trigger block, and a detachable trigger adapted to clamp the block and bar link together, substantially as described.

No. 38,986. Sealing Device. (*Appareil pour sceller.*)

Charles Cuttriss, New York, U.S.A., 21st May, 1892; 5 years.

Claim.—1st. A sealing device, consisting of a tube or holder for containing a stick or piece of sealing wax or like material, a refractory wire or grating at the end of said tube, and means for directing an electric current through said wire, combined and arranged, as set forth. 2nd. In a device for applying sealing wax, the combination, with a tube or holder for containing a stick of sealing wax, of pins set in the end of said tube, a refractory wire stretched over said pins across the opening of the tube, a circuit controller and conducting wires for passing a current through the refractory wire. 3rd. The combination, with the tubular holder, provided with lugs K near its end, the pins H set in the end of the holder, the refractory wire stretched across the holder on said pins, and means for passing a current through said wire, as set forth.

No. 38,987. Electro-Galvanic Belt.

(*Ceinture électro-galvanique.*)

Duane P. Andrus, St. Louis, Missouri, U.S.A., 21st May, 1892; 5 years.

Claim.—1st. In an electric belt, a voltaic couple composed of a zinc plate 20, provided with a perforation 18, and a depression 19, forming the element, a T-shaped copper plate provided with a perforation 8, and the stem of which bent upon itself and adapted to be slipped over one side of said zinc plate through perforation 18 forming the other element, and suitable layers of dielectric absorbent material to contain the exciting fluid interposed between the folds of said copper and zinc plates, substantially as set forth. 2nd. A galvanic battery composed of cells 11, each having its copper element bent upon itself, so it can be directly slipped over the zinc element of an adjacent cell and secured thereto, perforations in said copper plates, spring hooks 7, electrically secured to connecting cords and adapted to pass through said perforations, whereby electrical connection is effected between said battery and said conducting cords, substantially as set forth. 3rd. In an electric belt, the battery composed of cells each of which is made of a T-shaped copper plate, the upper part of which is folded or bent upon itself, with layers of dielectric absorbent material interposed between the folds thereof, a zinc plate provided with a perforation 18 and depression 19, wrapped around and forming the exterior covering of said cells, and the stem of said copper plate bent upon itself, whereby it can be slipped over said zinc plate, by which electrical connection is effected betwen said cells, substantially as set forth. 4th. In an electric belt, a galvanic cell composed of a T-shaped copper plate, the upper part of which is folded upon itself, with layers of dielectric absorbent material containing the exciting fluid interposed between the folds thereof, and the stem of said copper plate bent to receive the zinc element of an adjacent cell, and a zinc plate provided with a perforation 18 and depression 19, wrapped around the folded or bent portion of the copper plate, with a layer or layers of dielectric absorbent material containing the exciting fluid interposed between said copper and zinc plates, substantially as set forth.

No. 38,988. Advertising Mile Board.

(*Planche-annonce milliaire.*)

Austin Demons Cable, Montreal, Quebec, Canada, 21st May, 1892; 5 years.

Claim.—In an advertising mile board, the combination of the metallic sheets J, washers G and H, and screws I, with the board C and posts D, substantially as described and for the purpose set forth.

No. 38,989. Roofing Tile Fastening.

(*Attache de tuiles pour toitures.*)

Mark A. Jackson and John H. Jackson, both of Philadelphia, Pennsylvania, U.S.A., 21st May, 1892; 5 years.

Claim.—1st. A roofing tile having a flat spring tongue secured thereto and projecting, at its free end, from the plane of the side of the tile to which it is secured, said free end being adapted to assume a position in close relation with said side, when said tile is thrust between the adjacent tiles, and springing outwardly when it clears the upper edges of the subjacent tiles, with which edges said free end engages. 2nd. A roofing tile having secured thereto a spring metal plate provided with slots and a depending leg, through which slots pass the plate fastenings, said leg, at its free end, projecting from the plane of the side of the tile to which it is secured and being adapted to assume a position in close relation with said side, when said tile is thrust between the adjacent tiles, and springing outwardly when it clears the upper edges of the subjacent tiles, with which edges said free end engages. 3rd. A roofing tile having secured thereto a spring metal T-shaped plate having transverse slots therein, through which slots and the tile pass fastening rivets, the leg of said plate, at its free end, projecting from the plane of the side of the tile to which it is secured and being adapted to assume a position in close relation with said side, when said tile is thrust between the adjacent tiles, and springing outwardly when it clears the upper edges of the subjacent tiles, with which edges said free end engages.

No. 38,990. Plow Clevis and Connections.

(*Volée de charrue.*)

Roger Croft Percival, Merrickville, Ontario, Canada, 21st May, 1892; 5 years.

Claim.—The combination of the head B, clevis G and bolt E, said head at one end bifurcated to receive a plow beam A intermediately and be bolted thereto, and the other end provided with a cog quadrant C, circumferential to the hole by which the clevis is connected by said bolt E, and provided with holes D, said clevis having a tongue J, holes H, and bifurcated to receive the head B intermediately, and having bolt holes L, one rearwardly of the other for the free adjustment of the clevis, as set forth.

No. 38,991. Churn. (*Baratte.*)

Norman Chester Lloyd, Lanark, Ontario, Canada, 21st May, 1892; 5 years.

Claim.—1st. In a churn, the whirling ring dashers B, centered on the pivots *g*, of the bar *h*, and attached to the spindles C which are journaled in a removable bridge D, said spindles carrying the spur pinions H, which mesh together and are driven by a wheel I, which is centered on a stud *k*, projecting from an arm L, of the bridge D, substantially as shown and described. 2nd. A churn, having revolving dashers fixed to vertical spindles journaled in a removable bridge D, provided with the shoulders *e*, and which, when working, is secured to the top edge of the vessel A, by the grab hooks *f*, which are hinged to the tightening levers E, fulcrumed on the sides of the vessel A, substantially as shown and described.

No. 38,992. Halter. (*Licou.*)

Thomas Morton, Penobsques, New Brunswick, Canada, 21st May, 1892; 5 years.

Claim.—The combination of the tie rein F, and its attachments and fastenings G and H, with the other above mentioned parts of a horse halter, substantially as above described, and for the purposes specified.

No. 38,993. Machine for Grinding Knives for Mowers and Reapers. (*Machine à rémouler les couteaux des faucheuses*)

Alexander M. Cameron, London, Ontario, Canada, 21st May, 1892; 5 years.

Claim.—1st. The combination of the knives holder P, pivoted at S, and having side sockets P^1, extended pieces P^2, and set screw V, the double arms R pivoted at T, and the emery wheel O on the frame work of the machine, substantially as and for the purpose hereinbefore set forth. 2nd. The knives holder P, having side sockets and set screw, the arms R, pivot S and T, emery wheel O, shaft N, side bearings C, in combination with the sliding seat Y on table A, substantially as and for the purpose hereinbefore set forth. 3rd. In a knives and sections grinding machine, the frame work of the machine A, B and C, the foot rests F, connections H, pivoted at I, connecting rods J, cranks K, the gear wheels D and E, on their respective shafts *m* and *n*, the fly wheel V, and emery wheel O, in combination with the knives holder P, having sockets P^1, extended pieces P^2, and screw V, the arms R pivoted at S and T, and the sliding seat Y, substantially as and for the purpose hereinbefore set forth.

No. 38,994. Life Preserver. (*Appareil de sauvetage.*)

Frederick Garner Beckett, Hamilton, Ontario, Canada, 23rd May, 1892; 5 years.

Claim.—The life preserver A, of the form and construction shewn, made of thin rubber moulded to the required shape and size, air and water tight, to be worn on the breast, covering the entire front of the lungs, and suspended by the shoulder straps B, B, or their equivalents, and having the socket D, with the rubber tube or mouth piece C, and the stopper cork E, suspended by the cord or string F, forming the device for inflating said life preserver A, with air, all operating substantially as herein set forth.

No. 38,995. Automatic Safety Extinguisher for Lamps. (*Eteignoir automatique de sureté pour lampes.*)

James Bernard Dowdall, Manchester, Lancaster, England, 23rd May, 1892; 5 years.

Claim.—1st. An automatic extinguishing device for lamps, consisting of the combination, with an extinguisher D, which surrounds the wick tube, of a rocking unstable platform E, upon which the extinguisher rests, substantially as described. 2nd. In an automatic extinguishing device for lamps, the combination, with the extinguisher D, of a rocking unstable platform E, provided with a slot F, through which the wick tube passes, and side wings or rockers G, which rest upon a fixed platform, substantially as described. 3rd. In an automatic extinguisher for lamps, the combination, with the extinguisher D, of the rocking unstable platform E, and the pivoted lever I, substantially as described. 4th. In an extinguishing device for lamps, the combination, with the extinguisher D, and fixed platform H, of the rocking unstable platform E, and pivoted lever I, substantially as described. 5th. In an automatic extinguishing device for lamps, the combination of the wick tube A, the extinguisher D, the rocking unstable platform E, and the fixed platform H, substantially as described. 6th. In an extinguishing device for lamps, the combination of the wick tube A, the dome C, the extinguisher D, the rocking unstable platform E, the fixed platform H, and the pivoted lever I, substantially as described.

No. 38,996. Wire Nail Making Device for Cut Nail Machines. (*Appareil pour les machines à clou de fil de fer.*)

George W. McKim, Martin's Ferry, Ohio, U.S.A., 23rd May, 1892; 5 years.

Claim.—1st. The combination, with the wire feed devices, of a fixed horizontal die having its cutting edges in a vertical plane, a horizontally movable cutting die arranged to operate against said fixed die, and means intermediate the power shaft of the machine and the horizontally movable cutting die, whereby it is operated, as and for the purpose described. 2nd. A wire nail making attachment for cut nail machines, consisting of an automatic wire feed, a horizontally disposed fixed cutting die, a horizontally movable cutting die, and a horizontally disposed and laterally movable yielding conductor intermediate the device and the cutting dies, in combination with the gripper and heading devices, and means for operating the feed, the dies, and the gripper and heading devices, substantially as and for the purpose described. 3rd. The combination, with the wire feeding devices and the heading and gripping devices, of a horizontally disposed fixed die having its cutting face in a vertical plane, a horizontally disposed cutting die arranged to be moved to operate against the fixed die, said movable die arranged for vertical and lateral adjustment on the main frame, and means, substantially as shown, for operating the cutting, heading, and gripping dies and the wire feed devices, substantially as shown and described. 4th. The combination, with the pivotal head of a cut nail machine provided with a yielding wire lifter adapted to raise the wire between the grippers, of the fixed cutting die, the longitudinally movable cutting die, the gripping and heading dies, means for operating the said grippers, header and cutting dies, and the wire feeding devices, all arranged substantially as and for the purpose described. 5th. The combination, with pivotal head of a cut nail machine provided with a combined yielding wire lifter and nail pusher, of the gripping and heading dies and the detachable and adjustable feeding and cutting devices, substantially as shown and described. 6th. In wire nail making attachments for cut nail machines, the combination, with the drive shaft, and header and gripper dies of such machines, of a fixedly held horizontal cutting die, a horizontally disposed and longitudinally movable cutting die, and devices intermediate the rear end of said movable die and the drive shaft for reciprocating said movable die, as described. 7th. In a machine essentially as described, the wire lifter O^1, formed with a projecting nose piece *o*, and an upwardly and inwardly inclined face, substantially as and for the purpose described. 8th. In wire nail making attachments for cut nail machines, the combination, with the fixed cutting die and the gripping and heading dies, of a longitudinally movable cutting die, a pivoted spring actuated lever connected with the rear end of said movable die, the drive shaft, and an eccentric cam mounted thereon, adapted to engage and operate said lever, substantially as as and for the purpose described. 9th. The yielding conductor pivoted intermediate the wire feed, and the cutting devices adapted to be swung in the direction of the movement of the movable cutter in one direction, and back to normal position by a spring pressure, as and for the purpose described. 10th. In a wire nail making machine, the combination, with the straightening rolls, of a reciprocating wire carriage arranged in advance thereof, formed with a wire holding cam lever, a rocking lever connected at one end to the said carriage, a connection between the opposite end of the said rocking lever and the drive shaft, and a yielding conductor arranged in advance of the carriage, substantially as shown and described. 11th. In a wire nail making attachment for cut nail machines, a reciprocating wire feed carriage formed with a longitudinal wire groove, a locking dog or pawl, and apertured guide lugs formed over the ends of said wire groove, substantially as and for the purpose described. 12th. The combination, with a reciprocating wire feed carriage operating on the wire feed stand, of a bell crank lever mounted thereon, one arm of said lever connected to said carriage, the drive shaft O, an eccentric mounted theron, a pitman mounted on said eccentric, and an adjustable connection between the end of said pitman and the bell crank lever, whereby the throw of the wire carriage can be increased or decreased, substantially as and the purpose described. 13th. The combination with the drive shaft O, formed with an eccentric, and the reciprocating wire feed carriage, of a bell crank lever pivoted on the feed standard, the lower arm thereof connected with the feed carriage, a frictional connecting block pivoted on the outer end of the upper arm, and a pitman connecting said drive shaft eccentric and the friction connection, substantially as and for the purpose described. 14th. The combination, with the fixed bed socket, a stationary cutting die held held therein, and a fixed wire guide disposed parallel to said die and formed with a downwardly projecting finger, of a longitudinally movable cutting die, the upper pivotal head, and the combined yielding guide and pushing finger held therein and adapted to operate between the fixed die and fixed guide, substantially as and for the purpose described.

No. 38,997. Car Coupler. (*Attelage de chars.*)

Alfred R. Heath, Covington, Indiana, U.S.A., 23rd May, 1892; 5 years.

Claim.—1st. The combination, in a car coupling, of a rock shaft, a coupling hook carried thereby for engaging the shaft of an opposing coupling, weighted arms on said shaft tending to normally maintain the hook in position to couple, and a presser arm or cam on the shaft at the point engaged by the hook of an opposing coupling, the rocking of said shaft serving to depress the hook thereon, and the presser arm on said shaft serving to disengage therefrom the hook of an opposing car, substantially as described. 2nd. The combination, in a car coupling, of a draw head, a rock shaft, a coupling hook thereon adapted to engage a shaft of an opposing coupling,

said hook having a rearward extension, and studs or pins on such extension, a link on the shaft having a rearward extension ranging above one of the studs on the coupling hook, and a lever fulcrumed by a slotted connection on the draw head and engaged by the second stud on the coupling hook, said lever carrying a vertical pin at its free end, and the said link and pin being operated by the movements of the coupling hook, substantially as described.

No. 38,998. Pigeon Hole Case. (*Casier.*)

David C. Meehan, Columbus, Ohio, U.S.A., 23rd May, 1892; 5 years.

Claim.—1st. A pigeon hole case having vertically moving shutters arranged in series, those of one series overlapping those of the adjoining series, substantially as herein described. 2nd. A pigeon hole case divided into compartments, in combination with vertically moving shutters arranged in series, those of one series overlapping those of the series below it, and a rest or support for the upper series of shutters, substantially as herein described. 3rd. The combination, with a case divided into compartments and having horizontal partitions or shelves, of vertically moving shutters having pivoted gravity latches engaging said partition when the shutters are elevated, and adapted to automatically fall out of connection therewith when the shutters are moved, substantially as herein described. 4th. The case divided into comparments having horizontal shelves or partitions, in combination with vertically moving shutters arranged in overlapping series, rests or supports for the shutters of the upper series, and gravity latches carried by the shutters and engaging the horizontal partitions or shelves, whereby said shutters are held in elevated positions, substantially as herein described. 5th. The combination, with a case containing compartments and vertically moving shutters, of pivoted latches carried by the shutters and engaging the horizontal partitions or floors of the compartments to maintain the shutters in raised positions, said latches being adapted to automatically fall out of engagement with the partitions or floors when the shutters are again moved, substantially as herein described. 6th. The combination, with a case containing compartments and provided with vertically moving shutters, of the gravity latch secured to each shutter and comprising a pivoted lever, and a pivoted pawl secured to the lever and having its inner end adapted to engage the horizontal partitions or floors of the compartments, substantially as described. 7th. The combination, with a case containing compartments and vertically moving shutters, of a plate secured to each shutter, a gravity lever pivoted to the plate, and a pawl pivoted to the lever and extending through the plate and shutter, said pawl having a prong at its inner end for engaging the floors of the compartments or horizontal partitions, substantially as herein described.

No. 38,999. Combined Refrigerator and Gas Generator. (*Appareil frigorifique et générateur à gaz combinés.*

Harry B. Cornish, Hampton, Iowa, U.S.A., 23rd May, 1892; 5 years.

Claim.—1st. The combination, with a receptacle, means for filling the receptacle with compressed air, a tank adapted to contain a volatile liquid, located near the air receptacle, and a valve connection between the tank and the air receptacle, of a coil of pipe located within a chamber, a valved pipe extending from the air receptacle near the top thereof to a point near the top of the coil, a second valved pipe extending from the lower portion of the air receptacle and projected into the upper portion of the coil, and an atomizer connecting the upper ends of the two pipes, one of which pipes is for air and the other for liquid, substantially as shown and described. 2nd. The combination, with a receptacle and means for charging said receptacle with compressed air, a tank located above the receptacle and adapted to contain a volatile liquid, a connection between the tank and the upper portion of the air receptacle, and a coil of pipe located within the chamber, of a valved air escape pipe leading from the upper portion of the air receptacle to a close proximity to the upper portion of the coil, a liquid escape pipe leading from the bottom of the air receptacle and connected with the upper portion of the coil, an atomizer connecting the air escape pipe and the liquid escape pipe within the coil, a discharge pipe connected with the lower end of the coil, and a branch pipe connecting the discharge pipe with the tank, as and for the purpose specified.

No. 39,000. Match Box. (*Boîte d'allumettes.*)

Y. Bohuslav F. Fiedler, Koeniglich Weinberge, near Prague, Bohemia, 23rd May, 1892; 5 years.

Claim.—1st. A match box manufactured of a single piece of metal, cardboard, stout paper, and the like, the sides and bottom of which are bent at over the other and fixed by the tabs *e*, this box allowing a match to be withdrawn at one grasp without opening a lid, in such a manner that two lateral parts abutting upon one another are not connected together but act resiliently, and are furnished centrally with a notch whereby to grasp the match, substantially in the manner and for the purposes described and represented in the drawings annexed. 2nd. In a match box, the opening *g*, on the edge of two side parts abutting together at an angle, substantially as shown and described. 3rd. In a match box, a slot *f*, on one side for filling the matches in, substantially in the manner and for the purpose described and shown in the drawings annexed. 4th. In a match box, a frictional roughened surface *k*, on one side of the resilient lateral parts for igniting the matches in combination with the sheath *i*, as counter bearing for the match being ignited, substantially in the manner and for the purposes described and illustrated in the drawings annexed. 5th. In a match box, a spring box for holding the burning match, substantially in the manner and for the purposes described and represented in the drawing annexed. 6th. In a match box, resilient sides which yield or gape by pressing the bottom parts to allow of the box being filled, substantially in the manner and for the purposes described and represented in the drawings annexed.

No. 39,001. Transposing Key Board for Musical Instruments. (*Transposition de clavier pour instruments de musique.*)

Martin Philipps, Buffalo, New York, U.S.A., 23rd May, 1892; 5 years.

Claim.—1st. In an organ, the combination, with the stationary frame and its series of white keys arranged in diatonic progression, of sound producing parts arranged in independent sets or groups, each comprising a succession of different sounds, and transposing mechanism whereby said keys can be connected with those sound producing parts of each of said sets which produce either their natural tone, their sharp or their flat, enabling all the diatonic scales to be played upon the white keys alone, substantially as set forth. 2nd. The combination, with the keys, of sound producing parts arranged in independent sets or groups, comprising a succession of different sounds, independent wind chests, each connected with one sound producing part of each of said sets or groups, a common wind chest connected with all of said auxiliary wind chests, and transposing mechanism, substantially as described, whereby the keys are changeably connected with those sound producing parts of each set which produce either their natural tone, their flat or their sharp, substantially as set forth. 3rd. The combination, with the keys, of sound producing parts arranged in independent sets or groups comprising a succession of different sounds, valves controlling the passage of air to said sound producing parts, shifting mechanism, substantially as described, for opening the desired valves of either set, independent wind chests, each connected with one of the sound producing parts of each of said sets, a common wind chest connected with all of the independent wind chests, and valves operated by the keys which control the passage of air through said independent wind chests, substantially as set forth. 4th. The combination, with the keys and a set of sound producing parts, of wind chests for said sound producing parts, valves controlling the passage of air thereto, and transposing bars, each representing a scale and each connected with the valves of the sound producing parts constituting the scale represented by the transposing bar, substantially as set forth. 5th. The combination, with the keys and a set of sound producing parts, of wind chests for the same, valves controlling the passage of air to the sound producing parts and having actuating arms or extensions, and sliding transposing bars provided with staples or loops through which the arms or extensions of said valves pass, substantially as set forth. 6th. The combination, with the keys and a set of sound producing parts, of wind chests connected with said sound producing parts, valves controlling the passage of air thereto, movable transposing bars connected respectively with the valves of the sound producing parts comprising the scale represented by the same, a sliding rod or stop, and an equalizing device connecting the transposing bars with said stops, whereby the bars are evenly moved in their ways, substantially as set forth. 7th. The combination, with the keys and a set of sound producing parts, of a wind chest connected with said sound producing parts, valves controlling the passage of air thereto, transposing bars connected respectively with the valves of the sound producing parts comprising the scales represented by the bars, and each provided with a set of equalizing levers for evenly shifting the bars, and stops or sliding rods connected with said equalizing levers, substantially as set forth.

No. 39,002. Brick Kiln. (*Four à brique.*)

Walter Paul Grath, St. Louis, Missouri, U. S. A., 23rd May, 1892; 5 years.

Claim.—1st. A downdraft brick kiln, having ordinary main flues, and sub-divided beneath the floor at the front and rear of the kiln into independent sections, flues leading from the sections beneath the floor at the rear of the kiln emptying into a common chamber or passage way, other flues leading from the independent sections at the front of the kiln, and passing to each side of the independent sections at the rear of the kiln and emptying into said common passageway, and dampers in the rear of the kiln for controlling the said flues, substantially as described. 2nd. The combination, to form a downdraft brick kiln, of the ordinary main flues 6, and the floor composed of a perforated central part 11, and an imperforated part 10, near the sides of the kiln, a longitudinal dividing wall 8, and transverse partition 9 beneath the perforated part of said floor, the walls 13, 14, 15, 16 and 12, at the front of the kiln beneath the floor forming flues, as described, and walls 17, 18, 19, 20 and 21, at the rear of the kiln beneath the perforated floor also forming flues, as described, passage ways 25 to each side of the flues at the rear of the kiln, and beneath the imperforated part 10 of the floor, into which flues the flues at the front part of the kiln empty, a common passage way or chamber 22, into which all of said flues empty, and dampers

between said passage way or chamber and said flues, substantially as and for the purpose described. 3rd. A downdraft brick kiln, provided with ordinary main flues disposed along the sides thereof and having a passage way leading from the throat of the furnace to the bricks at the sides and lower part of the kiln, with an interposed chamber in said passage way, substantially as and for the purpose described. 4th. A downdraft brick kiln, having a chamber 29, beneath the ordinary main flues 6 thereof, and a passage way 31, leading from the furnace to said chamber through holes 30 in the lower part of said chamber, the said chamber communicating, on the other hand, with the lower part of the kiln through holes 33, above the perforations 30, substantially as and for the purpose described. 5th. The combination, in a downdraft brick kiln, of furnaces arranged along the sides thereof, main flues extending upward therefrom, a passage way also extending from each of said furnaces to a chamber adjacent to the sides and lower part of the kiln, and dampers in said passage way between the furnace and said chamber, substantially as and for the purpose described.

No. 39,003. Can Opener. (*Ciseau à boîte métallique.*)

Theobald S. Kuhl, Berlin, Ontario, Canada, 23rd May, 1892; 5 years.

Claim.—1st. As an improved can opener, a head A, provided with a handle and having an outwardly curved edged prong fixed to it, substantially as and for the purpose specified. 2nd. A head A, connected at one end to a handle B, and having its other end rounded off, from which end an edged prong projects, substantially as and for the purpose specified. 3rd. A head A, fixed to a handle B, and having fixed on one of its sides a straight edged prong, and on its opposite side a curved edged prong, the end of the said head being rounded off, substantially as and for the purpose specified.

No. 39,004. Car Coupler. (*Attelage de chars.*)

Rosamond Woolf and Thomas J. Montgomery both of New York, U.S.A., 25th May, 1892; 5 years.

Claim.—1st. In a car coupling, the combination, with a bell mouthed drawhead, of a slide loosely connected with the drawhead, and a drop hinged to the drawhead, and located in position to be pushed aside by the coupling link, and constructed to drop back automatically into position to retain the link in the drawhead, substantially as described. 2nd. In a car coupling, the combination, with a draw head, of a slide, a drop hinged to the slide and located in position, normally to be struck and pushed aside by a coupling link upon passing into the drawhead, and a bar or bars having a loose sliding connection with the slide, whereby the latter is moved by an endwise movement of the bar or bars, substantially as described. 3rd. The combination, with a bell mouthed drawhead, having an enlarged cavity formed therein, a lip at the junction between the mouth and cavity, said lip rounded or concaved, the drawhead provided with a recess leading into the cavity approximately over the lip, the forward edge of the recess forming a stop, of a slide located in the recess, and a drop hinged to the slide in position to extend across the throat of the drawhead, and be struck and pushed aside by an entering link until the latter has passed into the cavity, after which the drop falls into place and locks the link in position, substantially as described. 4th. The combination, with a drawhead, of a slide, a drop hinged thereto and adapted to automatically lock a link upon the latter passing into the drawhead, the slide provided with a diagonal guide or slot, a bar or bars having a pin which enters the slot, and a hand lever or equivalent device connected with the bar or bars, whereby they are moved endwise, substantially as described. 5th. The combination, with a drawhead, and link constructed substantially as described, of a gravity drop, and a movable support from which the drop depends, as specified. 6th. The combination, with a bell mouthed drawhead having a cavity formed therein, the latter having a cushioned inner wall, of a slide, means for operating the latter, and a drop hinged to the slide and adapted to co-operate with the lip to hold a link, substantially as described. 7th. The combination, with a drawhead having a bell mouth, and a socket formed at the vertex or throat of the mouth, of a link having spherical heads adapted to bear or be seated in the sockets, whereby the parts when assembled for a ball and socket joint, and having a universal movement, substantially as described. 8th. The combination, with a drawhead having a bell mouth, and provided with an enlarged cavity at the rear of the vertex of the mouth, and a ball socket formed at the junction between the mouth and cavity, of a link having spherical heads smaller than the cavity, whereby a limited endwise movement of the link is allowed therein, said parts when together adapted to form in effect a universal or ball and socket joint.

No. 39,005. Game. (*Jeu.*)

John S. Ellis and James Sargant, both of Toronto, Ontario, Canada, assignees of John Schuman, Detroit, Michigan, U.S.A., 25th May, 1892; 5 years.

Claim.—In a game, in the base A, carrying the upwardly convex block B, and the pin C extending vertically from the upper surface of said block, in combination with the outer shell or case D, ending in a mouth-piece E, and the irregularly numbered perforations F, substantially as described.

No. 39,006. Car Coupler. (*Attelage de chars.*)

Patrick McEntee, Montgomery, Minnesota, U.S.A., 25th May, 1892; 5 years.

Claim.—1st. In a car coupling, a draw bar having an incline on its upper surface, in combination with a fixed object adapted to engage the incline and depress the bar when the latter is thrust inward, substantially as and for the purpose set forth. 2nd. In a car coupling, a draw bar having an incline on its upper surface, a fixed object engaged by the incline to depress the bar, and a draw head having a pin hole inclined forward from top to bottom, substantially as set forth. 3rd. In a car coupling, a draw head having a pin hole inclined forward from top to bottom and providing a recess, and a shoulder in the front wall to receive and temporarily support a pin, substantially as set forth. 4th. In a car coupling, in combination, a draw head having a pin hole inclined forward from top to bottom, a pin, a holder for its head, a rocking rod having a lateral arm, a connection between said arm and the pin holder, and cranks for turning the rocking rod, substantially as set forth.

No. 39,007. Process of Smelting. (*Procédé de fusion.*)

William Lawrence Austin, Tolston, Montana, U.S.A., 25th May, 1892; 5 years.

Claim.—1st. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the method of securing continued combustion and smelting, without the necessity of the continued use of carbonaceous fuel, which consists in first heating the lower part of a charge containing one or more of the substances or compounds up to a point where combustion can take place, and then subjecting the charge to the action of a hot air blast, and continuously drawing the molten products as formed away from the path of the blast, substantially as and for the purpose specified. 2nd. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the method of keeping up the combustion and smelting without the use of carbonaceous fuel, which consists in introducing such compounds or ores into the body of a heated furnace at or near the zone of fusion, subjecting them to a hot blast and drawing off the molten products as formed, substantially as and for the purpose specified. 3rd. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the method of keeping up the combustion and smelting without carbonaceous fuel, which consists in feeding such ores or compounds down within the furnace body, keeping them out of contact with the heat and products of combustion until they reach the zone of fusion, subjecting them there to a hot blast and drawing off the molten products as formed, substantially as and for the purpose shown. 4th. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the process which consists in feeding such ores or compounds down into a heated furnace, keeping them out of contact with the heat and products of combustion, until they approach or reach the zone of fusion, feeding the other component parts of the charge down in contact with the gases or vapors from combustion, mingling the parts of the charge at or near the zone of fusion, subjecting them there to a hot blast and drawing off the molten products of smelting as formed, substantially as and for the purpose set forth. 5th. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the method of securing the proper feeding of the charge down to the zone of fusion, which consists in feeding to the furnace separately the parts of the charge liable to fuse and stick together and those not liable to fuse, protecting the fusible parts from the heat of the furnace, until they reach a point at or near the zone of fusion, and then mingling the parts of the charge together, substantially as and for the purpose described. 6th. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the method of feeding the charge down to the smelting zone, which consists in feeding the pyrites, blende, sulphurets or sulphides, down within the body of the furnace, protected from the action of the heat and products of combustion until they approach or reach the zone of fusion, feeding the other parts of the smelting charge down within the furnace in contact with the heated gases and products of combustion from the zone of fusion, and mingling them at or near such zone with the sulphurets or other compounds, substantially as and for the purpose specified. 7th. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the process which consists in feeding separately the sulphuret or other compound, and protecting it from the heat and products of combustion until it arrives at a point near the zone of fusion, feeding the silicious ores fluxes and coarse material down within the furnace so as to be subjected to the action of heat, gases and products of combustion before they reach the zone of fusion, mingling the parts of the charge together at or near such zone, subjecting them to a hot blast and drawing off the molten products as formed, substantially as and for the purpose shown. 8th. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the process which consists in feeding the sulphuret or compound, protected from the heat and products of combustion, down to the zone of fusion, feeding the other parts of the charge down within the furnace unprotected from heat and products of combustion, then subjecting the charge to hot blast, drawing off the molten products as formed, and introducing air at a point above the zone of fusion, substantially as and for the purpose set forth. 9th. As an improvement in the art of smelting pyrites, blende, sulphurets or sulphides, the method of preventing

the collection of sulphur or other volatile products on the walls of the furnace above the zone of fusion, which consists in introducing air at that point through suitable tuyers, substantially as and for the purpose described.

No. 39,008. Truss. (*Bandage herniaire.*)

Alexander Dallas, New York, State of New York, U.S.A., 25th May, 1892; 5 years.

Claim.—1st. A truss pad of an irregularly quadrangular shape, with its lower angle B cut off, the face C being flat or slightly concave, and having a gradually deepening groove D extending from the centre of the face of the pad to its lower edge, substantially as and for the purposes set forth. 2nd. A truss belt shaped so as to adapt itself to the following parts of the body, viz.: Starting from the middle of the sacrum L it passes over and rests upon the crest of the ilium K, pressing in front upon the lateral abdominal walls G, as low as the internal abdominal ring H, as shown and for the purposes set forth.

No. 39,009. Axle. (*Essieu.*)

Adolph Hoeffer, Frank L. G. Chapman and Harvey M. Wadleigh, all of Stevens Point, Wisconsin, U.S.A., 27th May, 1892; 5 years.

Claim.—1st. The combination, with a suitable bed piece, of a tubular axle secured to the bottom thereof, having a shoulder and containing outer and inner bearings, the latter forming an oil chamber between them, the spindle mounted to rotate in said bearings, and each having a collar adjacent to the end of the axle, the coupler screwed upon the end of the axle, and having a flange fitting the axle outside of the collar, the annular dust guard or washer clamped between said coupler and the shoulder, and the hub having a flange overhanging the washer, substantially as described. 2nd. The combination, with a tubular metallic axle, having enlarged threaded ends, and shoulders integral therewith, of a bed piece fitting the upper side of said axle and confined between the shoulders, clips for holding together the axle and bed piece, spindles rotating in the tubular axle and provided with collars adjacent thereto, and flanged couplers screwed upon the axle, with their flanges bearing against the collars on the spindles, substantially as described. 3rd. The combination, with a tubular metallic axle, having enlarged threaded ends, and shoulders adjacent thereto, of spindles rotating in said axle and provided with collars adjacent to the ends thereof, flanged couplers screwed upon the axle with their flanges bearing outside of the collars in the spindles, and hubs rigidly secured to the spindles, the inner end of each hub being counter bored and provided with a metallic thimble fitting around the flanged coupler and enclosing the shoulder, substantially as described. 4th. The combination, with the tubular metallic axle A, having the shoulder *a*, inner and outer bearings, and an oil chamber, of the spindles D mounted in the bearings, and each provided with the collars d^2 adjacent to the end of the axle, the couplers E having flanges *e* bearing outside of the collars d^2, the washers F, clamped between the end of the couplers and the shoulder *a*, and the hubs rigidly fastened to the spindle and having the metallic thimbles H provided with a flange enclosing the washer F, substantially as described. 5th. The combination, with a tubular axle having a shoulder, of a spindle rotatable therein, having a collar just outside the end of the axle and a washer outside of the collar, a coupler screwed upon the axle, and having a flange abutting against the washer, a second washer clamped between the coupler and the shoulder, and a hub having a thimble enclosing the coupler, the second washer and the shoulder, substantially as described. 6th. The combination, with a tubular metallic axle A, having shoulders *a*, of a bed piece B, composed of an inverted V-shaped piece of sheet steel clamped upon the axle, and resting between the shoulders, substantially as described.

No. 39,010. Letter File. (*Serre-papier.*)

The Official Specialty Manufacturing Company, assignee of Major Romeyn Jewell, all of Rochester, New York, U.S.A., 27th May, 1892; 5 years.

Claim.—1st. In a letter file, and in combination with the base plate or support, two parallel tubular filing arms formed integral with a cross connection between them and attached to the plate. 2nd. A base plate perforated and provided with lips, in combination with the tubular filing posts and their cross connection applied to the plate and secured by the lips, substantially as shown and described. 3rd. In a letter file, the base plate A, having the inwardly turned lips a^5, in combination with the tubular filing posts B, rising from the opposite edge, the transfer wires C comprising the two arched portions to enter the filing posts, and the cross connection, the latter seated between the face of the base plate and the overlying lip. 4th. In a letter file, the base plate provided with the perforations *a*, the recess a^1, and the lips, substantially as shown, whereby it is adapted to receive and retain the filing posts and their cross connection. 5th. The base plate and the filing posts therefrom, in combination with the detachable transfer arms of arched form re-turned to meet the base plate, whereby the transfer arms are given a capacity equal to that of the filing posts. 6th. In a letter file, a perforated base plate in combination with two filing arms united by a cross connection passed through perforations in the plate and secured rigidly thereto, substantially as shown. 7th. In a letter file, the filing arms consisting of a sheet of metal coiled into tubular form and bent twice at right angles to present the tubular parallel arms and the cross connection. 8th. In a letter file, the filing arms or posts consisting of a sheet of metal coiled into tubular form, bent to present the parallel tubular arms, and flattened between said arms. 9th. In combination, with a letter file, having the tubular filing posts B, the device F, adapted to be used as a pressure device to confine the sheets, and also applied to the posts to receive the sheets therefrom. 10th. In a letter file, the wire F, having the parallel arms *f* and the eyes f^1.

No. 39,011. Apparatus for Treating Wire.

(*Appareil pour le traitement de fil de fer.*)

Will Linton Hayes and John Henry Honig, both of Cleveland, Ohio, U.S.A., 27th May, 1892: 5 years.

Claim.—1st. In an apparatus for treating wire, etc., the combination of a treating vat, a rotating lifter adapted to receive a bundle of wire on the side thereof remote from the vat, transfer it to the opposite side, and deposit it in the vat, mechanism for moving the bundle along the vat, and a second independent lifter for raising the bundle from and depositing it at a point outside of such vat, substantially as set forth. 2nd. In an apparatus for treating wire, etc., the combination of a vat, a shaft provided with means for attaching a bundle of wire or other articles thereto, a series of movable pockets constructed to engage the shaft at a point beyond one end of the vat, and deposit it on and transverse of the vat, traveling dogs for shifting the shaft along the vat, and a second series of movable pockets for engaging the shaft and depositing it beyond the opposite end of the vat, substantially as set forth. 3rd. In an apparatus for treating wire, etc., the combination of a vat, a shaft provided with means for attaching a bundle of wire thereto, a series of movable pockets adapted to engage the shaft at a point beyond one end of the vat and deposit it on the vat and transverse thereof, traveling dogs for shifting the shaft along the vat, a trip independent of the pockets for disengaging the shaft from the dogs, and a second series of movable pockets for engaging the shaft and depositing it at a point beyond the opposite end of the vat, substantially as set forth. 4th. In an apparatus for treating wire, etc., the combination of a vat, rails arranged alongside of the vat, a shaft provided with means for attaching a bundle of wire thereto, and having bearing wheels secured thereon, a series of movable pockets adapted to engage the shaft at a point beyond one end of the vat, and deposit it on the vat with the wheels riding on the rails, chains movable from end to end of the vat and provided with dogs for engaging the shaft, and a second series of pockets movable from a point over the vat, to a point beyond the opposite end thereof, substantially as set forth. 5th. In an apparatus for treating wire, etc., the combination of a vat, a shaft provided with means for attaching a bundle of wire thereto, a pair of rotating wheels at one end of the vat, pockets pivoted thereto and adapted to engage the ends of the shaft, means for shifting the shaft along the vat, and a pair of wheels at the opposite end of the vat, having pockets pivoted thereto and adapted to engage the ends of the shaft, substantially as set forth. 6th. In an apparatus for treating wire, etc., the combination of a vat, a shaft provided with means for attaching a bundle of wire thereto, a pair of wheels at one end of the vat, pockets pivoted thereto and adapted to engage the shaft and deposit it transverse of the vat, and a second pair of similarly constructed wheels arranged at the opposite end of the vat for removing the shaft therefrom, substantially as set forth. 7th. In an apparatus for treating wire, etc., the combination of a series of two or more vats, a rotating lifter adapted to receive a bundle of wire on the side remote from the vat, transfer it to the opposite side, and deposit it in the front end of one of the vats, mechanism for moving the bundle along the vat, a lifter arranged between the adjacent ends of two vats and adapted to transfer the bundle from the rear end of the first vat, to the front end of the second vat, mechanism for moving the bundle along the second vat, and a lifter arranged at the rear end of the second vat and adapted to remove the bundle therefrom, substantially as set forth. 8th. In an apparatus for treating wire, etc., the combination of a series of two or more vats, a shaft provided with means for attaching a bundle of wire thereto, movable pockets for engaging the shaft and placing it transversely of the first vat, traveling dogs for moving the shaft along the vat, movable pockets for transferring the shaft to the next vat, traveling dogs for moving the shaft along said second vat, and movable pockets for transferring the shaft from the vat, substantially as set forth.

No. 39,012. Hose Clamp. (*Manchon pour boyaux.*)

The Syracuse Specialty Manufacturing Company, assignee of Austin Ray Dickinson, all of Syracuse, New York, U.S.A., 27th May, 1892; 5 years.

Claim.—1st. As an improved article of manufacture, a hose clamp formed of a single band of sheet metal, perforated at each end and tongues extending from one or both ends, said band being bent radially outward, and the tongues continued in the same line of curvature with the band and extending under the opposite end of the band, substantially as described and shown. 2nd. The within described blank consisting of the band *b*, having the perforated end portions *c*, *c*, and the tongues *t*, *t*, respectively, on opposite sides of said end portions and extending beyond the same and toward the opposite edges of the band, substantially as described and shown.

No. 39,013. Wheel. (*Roue.*)

Franklin Pierce Circle and Augustus Parkhurst, both of Springfield, Ohio, U.S.A., 27th May, 1892; 5 years.

Claim.—1st. In a wheel, the combination, with a rim of angle iron L-shaped in cross section and the spokes, of thimbles or ferrules on the latter and rivets or bolts extending through said thimbles and the inclosed spoke ends and through the felly flange, substantially as hereinbefore set forth. 2nd. In a wheel of the class described, the combination, with a rim of angle iron L-shaped in its cross section, spokes of wood having thimbles on their ends, and bolts or rivets passing through the latter and the felly flange of said wheel rim, substantially as set forth. 3rd. In a wheel having a rim of L-shaped angle iron, the combination, with the spokes and said rim, of thimbles having a shoulder upon which the felly flange rests.

No. 39,014. Momentum Air Compressor and Air Brake. (*Frein atmosphérique et à compression momentané.*)

Samuel E. St. O. Chapleau, Ottawa, Ontario, Canada, 28th May, 1892; 5 years.

Claim.—1st. In a momentum air compressor and air brake, an air compressor connected to a vehicle axle (or wheel) and actuated by reciprocating motion, as shown and described for the purpose set forth. 2nd. In a momentum air compressor and air brake, an air compressor combined with a brake cylinder, as shown and described, &c., &c. 3rd. In a momentum air compressor and air brake, a brake in conjunction with an air compressor actuated by a vehicle axle (or wheel), as shown, &c., &c. 4th. In a momentum air compressor and air brake, a brake cylinder piston actuated by compressed air, a brake lever and brake rods, as shown, &c., &c. 5th. In a momentum air compressor and air brake, a brake cylinder having a relief valve, ducts and a relief lever, as shown, &c., &c. 6th. In a momentum air compressor and air brake, an air compressor, a brake cylinder and an air connecting valve, as shown, &c., &c. 7th. In a momentum air compressor and air brake, an air compressor having a suction valve, a relief valve and a brake cylinder valve, as shown, &c., &c. 8th. In a momentum air compressor and air brake, a brake cylinder, a brake lever, an air compressor, an eccentric and a vehicle axle (or wheel), as shown, &c., &c. 9th. In a momentum air compressor and air brake, an air compressor provided with a suction valve, a relief valve, a valve handle controlled by a spring and connections between the valve handle and the brake key or crank handle, as shown, &c., &c. 10th. In a momentum air compressor and air brake, a brake cylinder piston and a piston rod provided with an anti-friction wheel and lips, as shown, &c., &c. 11th. In a momentum air compressor and air brake, a break lever provided with a convex curve, as shown, &c., &c. 12th. In a momentum air compressor and air brake, an eccentric having a rod provided with an elbow joint at one end and a universal joint at the other, as shown, &c., &c. 13th. In a momentum air compressor and air brake, an air compressor provided with a yielding dust bar, as shown, &c., &c. 14th. In a momentum air compressor and air brake, a relief valve and brake key (or crank handle) joined by flexible connections, as shown, &c., &c. 15th. In a momentum air compressor and air brake, an air compressor provided with an air supply pipe, as shown, &c., &c. 16th. In a momentum air compressor and air brake, the combination with the car of an air compressor sustained thereby, and adapted to be operated by the motion of the same, and a brake mechanism arranged to be operated by the air from the compressor, substantially as described.

No. 39,015. Sewing Machine. (*Machine à coudre.*)

Eli William Broadbent, assignee of Martin Kramer, both of the City of New York, State of New York, U.S.A., 28th May, 1892; 5 years.

Claim.—1st. In a sewing machine, the combination, with a reciprocating needle, of a vibrating looper having a forward and backward movement in a fixed plane, substantially as set forth. 2nd. In a sewing machine, the combination, with a reciprocating needle, of a vibrating looper consisting of a hook thickened a short distance back from its point forming an oblique shoulder for opening the loop, substantially as set forth. 3rd. In a sewing machine, the combination, with a reciprocating needle, of a rock shaft, a looper fixed thereon, a drive shaft and a longitudinally sliding bar connecting the drive shaft and rock shaft, through which a rocking motion is transmitted to the rock shaft, substantially as set forth. 4th. In a sewing machine, the combination, with a reciprocating needle, a rock shaft, a looper on the rock shaft, a drive shaft and a cam on the drive shaft, of a longitudinally reciprocating bar provided at one end with a loop to embrace the cam and at the opposite end with an arm eccentrically connected with the rock shaft, substantially as set forth. 5th. In a sewing machine, the combination, with a rock shaft for actuating the looper and a rock shaft for actuating the feed, of a feed bar having a longitudinal movement and a swinging movement, a cam on the looper actuating shaft in engagement with the feed bar to give it its swinging movement, and an arm on the feed actuating rock shaft in engagement with the feed bar to give it a longitudinal movement, substantially as set forth. 6th. In a sewing machine, two concentric rock shafts, a drive shaft, connecting devices between the drive shaft and rock shaft, a feed bar and intermediate mechanism between the rock shafts and feed bar for imparting to it its movement, substantially as set forth. 7th. In a sewing machine, the combination, with the drive shaft, the feed bar, and a rock shaft having a loose connection with the feed bar, of a laterally extending arm fixed to the rock shaft, and a rod connecting the drive shaft with the laterally extending arm on the rock shaft, substantially as set forth. 8th. In a sewing machine, the combination, with the drive shaft, the feed bar, and a rock shaft having a loose connection with the feed bar, of a cam on the drive shaft, a laterally extending arm fixed on the rock shaft, a movable clip on the arm and a rod connecting the cam on the drive shaft with the clip on the arm, substantially as set forth.

No. 39,016. Skeleton Waggon and Sulky Thill.

(*Limonière de voiture.*)

Edward Borland, Tilsonburg, Ontario, Canada, assignee of Samuel Toomey, Canal Dover, Ohio, U.S.A., 28th May, 1892; 5 years.

Claim.—1st. In combination, the front and rear axle, a bolster, a king bolt for pivoting the bolster to the front axle, arched body bars placed side by side and secured at their rear ends to the rear axle, and at their forward ends to the bolster, a cross bar E, uniting the forward ends of said arched bars, a brace K, secured to the middle portion of the cross bar E, and to the king bolt, a seat and a brace K^1, secured with its intermediate portion to said seat, and with its ends to the arched body bars, substantially as and for the purposes hereinbefore set forth. 2nd. An arched body bar having its opposite vertical sides recessed longitudinally, forming a reduced thickness of material above and below it, substantially as and for the purpose hereinbefore set forth. 3rd. The herein described thill, irregular in cross section, the diameter of the cross section being greatest in the oblique direction from B to C, and having bulges on opposite sides, one above and one below the horizontal axis, substantially as and for the purpose hereinbefore set forth.

No. 39,017. Combination Lock. (*Serrure à combinaison.*)

Sanford K. Weymouth, James O. Bradbury, Rishworth Jordan, Charles Hersey, F. C. Bradbury, Franklin Nowrse and Melville H. Kelley, all of Saco, Maine, U.S.A., 28th May, 1892; 5 years.

Claim.—1st. In a combination lock, the combination of a locking pawl journaled in a suitable casing, a shell connected pivotally with the said casing, a series of plates having arms extending through the said shell and adapted to engage the locking pawl, and means for pressing the said plates in regular succession in a rearward direction, substantially as and for the purpose set forth. 2nd. In a combination lock, the combination of the lock case, the spring actuated bolt or latch having a lug or stud, a locking pawl mounted in a casing within the lock case, a cylindrical shell connected with said casing by a longitudinal shaft, the plates or disks having arms extending longitudinally through said shell, and having beveled ends adapted to engage the inner edge of the pawl, and notches to engage the front side of the casing, a plate or disk having an arm extending longitudinally through the cylindrical shell and adapted to engage perforations in the locking pawl and in the outer side of the casing, the pins mounted in suitable guide plates and adapted to successively engage the plates having the inwardly extending arms provided with beveled points, and the dummy pins adapted to engage the plate having the inwardly extending arm adapted to engage perforations in the pawl and in the rear side of the casing, substantially as and for the purpose set forth. 3rd. In a combination lock of the class described, the combination of the disks 7, 8 and 9, having arms 23, provided with beveled points and notches 47, the disk 10, having arm 23, the cylindrical shell 11, having arm 6, the guide pin 22, the operating pins 29, 30 and 31, the pin 33, having head 34, and shoulder 35, the center shaft 19, the casing 2, and the pawl 3, mounted in the latter, all arranged and operating, substantially as and for the purpose set forth. 4th. In a combination lock of the class described, the combination of the cylindrical shell with the disks having the inwardly extending arms mounted in said shell, and the friction blocks attached to the latter between the said arms, substantially as and for the purpose set forth. 5th. In a combination lock, the disks or plates 7, 8, 9 and 10, having perforations, as herein described, in combination with the operating pins 29, 30 and 31, having reduced inner ends, and provided with annular flanges 32, and the guide plates 16 and 17, having perforations forming seats for the said operating pins, substantially as set forth. 6th. In a combination lock of the class herein described, the combination of the guide plates 16 and 17, having perforations as described, the operating pins 29, 30 and 31, having reduced inner ends, the dummy pins 27, having enlarged heads 28, the disks or plates 10, 9 and 8, having perforations of gradually decreasing size, and provided with inwardly extending arms 23, having beveled points 46, and notches 47, the disk 7, having inwardly extending arms 23, and the guide pin 22, extending through perforations in the disks 10, 9, 8 and 7, substantially as and for the purpose set forth. 7th. The combination of the casing 2, the front side of which is provided with a circular opening having offsets 45, and the rear side of which has a segment slot 50, and a perforation 51, the pawl 3, having slot 38, whereby it is mounted upon a pin 39, the slots 48 and 49, the spring 40, the stud 41, the pivoted cylindrical shell having disks provided with inwardly extending arms to engage said pawl, and mechanism for manipulating the said disks, in the manner described and for the purpose set forth.

No. 39,018. Compound for Biscuits, Bread, Cakes, Etc. (*Composé pour les biscuits, le pain, les gâteaux, etc.*)

Norman Gentle, North Sydney, Nova Scotia, Canada, 28th May, 1892; 5 years.

Claim.—The use of pepsine in the manufacture of biscuits, crackers, loaf bread and cakes, etc., substantially in the proportions and for the purposes set forth.

No. 39,019. Sink Trap. (*Valve d'évier.*)

John Ballard Carroll, Albany, New York, U. S. A., 28th May, 1892; 5 years.

Claim.—1st. The combination, with an outer chamber or shell provided on its lower end with an outlet pipe, of a detachable cap for said chamber, provided with an inlet pipe extending below the inner face of said cap, and an inner water chamber provided with alternate outlet ports and intervening wall portions, arranged above the lower end of the inlet pipe, the combined areas of the said outlet ports being greater than the area of the inlet pipe, substantially as shown and described. 2nd. The combination, with an outer chamber or shell provided on its lower end with an outlet pipe, of a detachable cap for said chamber, provided with an inlet pipe extending below its inner face, and a water chamber supported at its upper end by said outer chamber, and provided with outlet ports, arranged in two series one higher than the other, both of said series being arranged below the line of suspension of said chamber, and above the lower end of the inlet pipe, substantially as shown and described.

No. 39,020. Automatic Relief Valve for Water Pipes.

(*Soupape automatique de surêté pour tuyaux d'eau.*)

Edward Martin, Detroit, Michigan, U. S. A., 28th May, 1892; 5 years.

Claim.—1st. In combination, with the valve case having the series of discharge ports in the periphery thereof, and the reduced end portion H, the screw plug in the upper end of the valve case, said plug having the depending hollow stem, and the annular groove *o*, the valve and valve stem located in the valve chamber, the upper end of the valve stem being loosely fitted in the hollow stem on said plug, the coiled spring encircling the hollow stem and the valve stem, its lower end pressing the valve, its upper end bearing against the plug and lying in the annular groove therein, as and for the purposes specified. 2nd. In a device for the purposes set forth, the combination of the valve case internally screw threaded at one end, and having the reduced portion H at the opposite end, and the series of discharge ports therein, the plug B externally screw threaded and having the depending hollow stem, and the annular groove in its under face, the valve, the valve stem having the annular flange D that bears upon the upper face of the valve and is provided with the circular groove in its upper face, said valve stem being loosely supported in the stem of the plug, and adapted to travel therein, the spring located in the valve chamber and around the stem of the plug, its upper end lying in the annular groove in the under face of said plug, its lower end lying in the annular groove in the upper face of the flange of the valve stem, and the deflector over the discharge ports substantially as specified.

No. 39,021. Car Coupler. (*Attelage de chars.*)

Arthur J. Watts, London, Ontario, Canada, 28th May, 1892; 5 years.

Claim.—1st. The tripping slide H, formed with the breast or breasts *l*, opening *g*, solid portion *n*, and recess *k*, in combination with the draw bar B, formed with socket *h*, the pin *i*, spring I, pin D, and standard E, formed with an angular end *e*, in which a pin hole is formed, substantially as shown and described and for the purpose specified. 2nd. The handle G, in combination with the pin D and standard E, formed with an angular end *e*, in which a pin hole is formed, and the draw bar B, substantially as shown and described and for the purpose specified. 3rd. The locking slide F, formed with the recess *d*, and handle *f*, in combination with the draw bar B, formed with the groove *b*, the standard E, formed with the narrow elongated slot *c*, and angular end *e*, in which a pin hole is formed, and the pin D, substantially as shown and described and for the purpose specified. 4th. The T-shaped link holder N, arm P, shaft *o*, set screw *p*, nuts *r*, crank handle R, and bearings *m*, in combination with the draw bar B, formed with the recess V, and the link L, substantially as shown and described and for the purpose specified. 5th. The T-shaped link holder N, arm P, shaft *o*, set screw *p*, nuts *r*, crank handle R, and bearings *m*, in combination with the draw bar B, formed with the raised portion S, and recess V, and the link L, substantially as shown and described and for the purpose specified. 6th. The combination of the tripping slide H, and locking slide F, with the stop pin *i*, spring I, coupling pin D, standard E, the link holder N, arm P, shaft *o*, crank handle R, link L, and draw bar B, formed with the socket *h*, groove *b*, and recess V, substantially as shown and described and for the purpose specified.

No. 39,022. Valve for Hydraulic Elevators.

(*Soupape pour machine hydraulique.*)

Cofran J. Hall, San Francisco, California, U.S.A., 28th May, 1892; 5 years.

Claim.—1st. In a hydraulic elevator, a supplementary valve H, as herein described, connected and arranged as in Fig. 1 of the drawings, operating automatically at the extreme upward and downward range of the cage by means of tappets, and back to its central or neutral position by means of a weight X, substantially in the manner and for the purpose herein shown and described. 2nd. In a hydraulic elevator, the supplementary valve H, as herein described, having ports K, K, and the two sliding hinged covering plates M, so arranged that only one port can be closed or covered at a time, and the valve when in a neutral or central position will permit a free flow of water through it in either direction, in the manner substantially as and for the purposes herein specified and described. 3rd. In a hydraulic elevator, the supplementary valve H, as herein described, placed between ordinary controlling valves and the cylinder C, so arranged as to, when closed in one direction, permit a free flow the other way without movement of the independent of the external actuating gearing, substantially in the manner as described and set forth. 4th. In a hydraulic elevator, the valve H, consisting of an oscillating stem N, provided with lugs O, and hinged plates M, so arranged as to cover the ports K, K, one at a time, shutting off the flow of water in one direction only, operating substantially in the manner and for the purpose herein set forth.

No. 39,023. Rotary Engine. (*Machine rotatoire.*)

Samuel Grenville Brosins, Savannah, U.S.A., 28th May, 1892; 5 years.

Claim.—1st. A rotary engine, having oscillating pistons connected in pairs by a shaft, and cylinders connected by passages for the simultaneous introduction of pressure into the cylinders, whereby the end pressure resulting in friction is avoided, substantially as set forth. 2nd. A rotary engine, having oscillating pistons connected in pairs by a shaft, and rotating cylinders connected by passages for the simultaneous introduction of pressure into the cylinders, whereby the end pressure resulting in friction is avoided, substantially as set forth. 3rd. A rotary engine, having oscillating pistons connected in pairs by a shaft, and rotating cylinders connected on their adjacent sides by passages for the simultaneous admission of steam to balance against the end pressure, said cylinders being closed on the outer sides by stationary heads, substantially as set forth. 4th. A rotary engine, having oscillating pistons connected in pairs by a shaft, and rotating cylinders formed by inner and outer rings and adjacent disks, said cylinders being connected by steam passages through said disks, and the open ends abutting against and being packed on stationary heads, substantially as set forth. 5th. A rotary engine, having oscillating pistons connected in pairs by a shaft, and rotating cylinders formed by inner and outer rings and adjacent disks, said cylinders being connected by steam passages through said disks, and the open ends abutting against and being packed on stationary heads, said cylinders being firmly attached to a driving shaft, substantially as set forth. 6th. A rotary engine, having oscillating pistons connected in pairs by a shaft, and rotating cylinders formed by inner and outer rings and adjacent disks, said cylinders being connected by steam passages through said disks, and the open ends abutting against and being packed on stationary heads, said cylinders being firmly attached to a driving shaft and mounted in journal boxes attached to said stationary heads, substantially as set forth. 7th. A rotary engine, having rotating cylinders which form annular cavities, said cylinders having seats for oscillating pistons connected in pairs by a shaft, and which revolve with the cylinders, said seats being formed by the enlargement of said cylinders, substantially as set forth. 8th. A rotary engine, having rotating cylinders which form annular cavities, said cylinders having seats for oscillating pistons connected in pairs by a shaft and which revolve with the cylinders, said seats being formed by the enlargement of said cylinders, and having heads provided with journals to receive the shafts of the oscillating pistons, substantially as set forth. 9th. A rotary engine having rotating cylinders which form annular cavities, said cylinders having seats for oscillating pistons which revolve with the cylinders, said seat being formed by the enlargement of said cylinders, and having removable heads provided with journals to receive the shafts of the oscillating pistons, substantially as set forth. 10th. A rotary engine having cylinders formed by outer and inner rings and adjacent disks forming between them annular cavities, said cylinders having seats for oscillating pistons which revolve with the cylinders, said seats being formed by the enlargement of said cylinders, and having heads provided with journals to receive the shafts of the pistons, said heads being in the adjacent disks, substantially as set forth. 11th. A rotary engine having stationary heads and packing plates and rotating cylinders forming cavities, and piston seats formed by enlargement thereof, said piston seats having flanges on the open side to complete the circles formed by the inner and outer peripheries of said cavity, so as to allow the ring packing to be used in packing said cylinder against said head, substantially as set forth. 12th. In a rotary engine having oscillating pistons connected in pairs by a shaft, and stationary cylinder heads, and rotating cylinders forming annular cavities open at outer sides, said cylinders be-

ing packed against said heads on the said open side, substantially as set forth. 13th. In a rotary engine having stationary heads and rotating cylinders forming annular cavities open at outer sides, said heads having protruding annular packing plates which are packed within said cylinder on the open side, substantially as set forth. 14th. In a rotary engine having rotating cylinders into which stationary abutments extend, said cylinders having piston seats to receive oscillating pistons connected in pairs by a shaft, and said pistons having wings which are curved so as to pass by and be packed in passing said abutments, substantially as set forth. 15th. In a rotary engine having rotating cylinders into which stationary abutments extend, said cylinders having piston seats to receive oscillating pistons connected in pairs by a shaft, and said pistons having wings which are curved so as to pass by said abutments, substantially as set forth. 16th. A rotary engine having rotating cylinders provided with seats for oscillating pistons, said pistons constructed of a disk, and curved wings connected by a crank shaft which oscillates them, substantially as set forth. 17th. A rotary engine having rotating cylinders and oscillating pistons and crank shafts, respectively, and mounted in seats, and journals provided for them in said cylinders, said pistons being connected by a crank shaft and balancing each other against end pressure by means of the said crank shaft between them by simultaneously admitting pressure to each, substantially as set forth. 18th. A rotary engine having rotating cylinders and oscillating pistons connected in pairs by a shaft, said pistons being constructed with diametrically opposed wings balancing each other against centrifugal force during oscillation, substantially as set forth. 19th. A rotary engine having oscillating pistons connected in pairs by a shaft, and rotating cylinders into which extend stationary abutments, said pistons when under pressure being at rest with and rotating said cylinders, the pistons oscillating and passing said abutment when not under pressure, thereby avoiding all friction due to oscillation of said pistons under pressure, substantially as described. 20th. A rotary engine having oscillating pistons connected in pairs by a shaft and rotating cylinders, into which cylinders extend stationary abutments having curved projections protruding in opposite directions to reduce the waste steam area, said pistons in passing the abutments are packed, and in oscillating clear the curved projections, substantially as set forth. 21st. A rotary engine having rotating cylinders provided with oscillating pistons which are connected by a shaft, and stationary abutments protruding therein and packed in said cylinders, said abutments attached to stationary heads which are also the heads of the cylinders, substantially as set forth. 22nd. A rotary engine having rotating cylinders with seats to receive oscillating pistons, said seats having packing strips held in place by pins in oblong holes and adapted to pack said pistons, substantially as set forth. 23rd. A rotary engine having rotating cylinders and oscillating pistons, and packing strips held in place by pins in oblong holes, and projections for holding springs in place, substantially as set forth. 24th. A rotary engine having rotating cylinders and oscillating pistons connected in pairs by a shaft, and packing strips held in place by pins in oblong holes, substantially as set forth. 25th. A rotary engine having rotating cylinders and oscillating pistons and packing strips beveled on the contact sides, substantially as and for the purpose set forth. 26th. A rotary engine having rotating cylinders, oscillating pistons connected in pairs by a shaft, abutments mounted on stationary heads, and a stationary cam which oscillates said pistons in passing said abutments, substantially as set forth. 27th. A rotary engine having rotating cylinders, oscillating pistons, abutments mounted on stationary heads, and a stationary cam which oscillates said pistons to pass said abutments, said cam having grooves running alternately concentric and eccentric to control said pistons, whereby the pistons are held stationary with regard to said cylinders, and are oscillated to pass said abutments respectively, the pistons in oscillating and passing said abutments rotating with the cylinder, and being at rest with respect to said cylinder in propelling and rotating it, substantially as set forth. 28th. A rotary engine having rotating cylinders, oscillating pistons, abutments mounted on stationary heads and a stationary cam located between said rotating cylinders, said cam controlling the movements of the oscillating pistons, substantially as set forth. 29th. A rotary engine having rotating cylinders, oscillating pistons with their shafts and abutments mounted on stationary heads and a stationary cam located between said rotating cylinders, said cam being located beyond the circle described by said piston shafts, thereby producing a cam of large diameter and small throw, substantially as and for the purpose set forth. 30th. A rotary engine having rotating cylinders, oscillating pistons with their crank shafts and abutments mounted on stationary heads, a stationary cam, and levers with their ends moving in said cam and oscillating and controlling said pistons through their crank shafts, by means of said cam, by which they are operated, substantially as set forth. 31st. A rotary engine having rotating cylinders, oscillating pistons with their crank shafts, abutments mounted on stationary heads, a stationary cam, and levers with their ends moving in said cam and oscillating and controlling said pistons by their crank shafts by means of said cams by which they are operated, said levers being provided with guides which pass around the main driving shaft on which the slide, thereby holding said levers in position with regard to the cam travel and piston crank shafts, substantially as set forth. 32nd. A rotary engine having rotating cylinders, oscillating pistons with their crank shafts, abutments mounted on stationary heads, a stationary cam, and levers with their ends moving in said cam and oscillating and controlling said pistons by their crank shafts by means of said cams, by which they are operated, said levers being provided with guides, substantially as set forth. 33rd. A rotary engine having rotating cylinders, oscillating pistons with their crank shafts, abutments mounted on stationary heads, a stationary cam and levers with their ends moving in said cam and oscillating and controlling said pistons by their crank shafts by means of said cams, by which they are operated, said levers being provided with counterbalances to overcome centrifugal force, substantially as set forth. 34th. A rotary engine having rotating cylinders, oscillating pistons with their crank shafts, abutments mounted on stationary heads, a stationary cam and levers with their ends moving in said cam and oscillating and controlling said pistons by their crank shafts by means of said cams, by which they are operated, said levers having cam blocks moving in said cams. 35th. A rotary engine having rotating cylinders, oscillating pistons with their crank shafts, abutments mounted on stationary heads, a stationary cam and levers with their ends moving in said cam and oscillating and controlling said pistons by their crank shafts by means of said cams, by which they are operated, the centre line of said cams and abutments diverge by the angle which is made by the distance of lead or follow of the said piston crank shaft past the centre of said oscillating pistons, substantially as set forth. 36th. A rotary engine having rotating cylinders, oscillating pistons connected in pairs by a shaft, abutments mounted on stationary heads provided with steam and exhaust ports, said cylinders being connected by passages which equalize simultaneously the pressure in each, for the purpose set forth. 37th. A rotary engine having rotating cylinders securely attached to a driving shaft, oscillating pistons connected in pairs by a shaft, abutments mounted on stationary heads, said heads provided with journal boxes which receive the said driving shaft, said boxes extending inward to enable the engine to be shortened, substantially as and for the purpose set forth. 38th. A rotary engine having rotating cylinders, oscillating pistons with the crank shafts, abutments mounted on stationary heads, a stationary cam and levers moving in said cam, by which they are operated, said levers being provided with the gibb blocks d, to facilitate placing in position, substantially as set forth. 39th. A rotary engine having rotating cylinders, oscillating pistons with the crank shafts, abutments mounted on stationary heads, a stationary cam and levers moving in said cam by which they are operated, said levers being provided with the gibb blocks d^4, to facilitate placing in position, substantially as set forth. 40th. In a rotary engine having stationary heads, oscillating pistons, and rotating cylinders forming annular cavities open at outer sides, said heads having annular packing plates which pack against said cylinders, the faces of said plates and end of pistons in contact therewith are made to an anti-friction curve to avoid unequal wear between the said ends and said faces, substantially as set forth. 41st. A rotary engine having oscillating pistons, rotating cylinders provided with annular cavities and stationary abutments protruding into and being packed in said cavities, the ends of said abutments and the faces of the annular disk of said rotating cylinder being in contact therewith and forming an anti-friction curve to avoid unequal wear between said ends and faces, substantially as set forth. 42nd. A rotary engine having rotating cylinders and oscillating pistons, and a stationary abutment disk through which the steam is simultaneously admittdd to said cylinders, whereby the end pressure resulting in friction is avoided, substantially as described. 43rd. A rotary engine having rotating cylinders and oscillating pistons, and a stationary abutment disk provided with abutments extending into said cylinder in which they are packed, said cylinders being packed against said disk, substantially as described. 44th. A rotary engine having rotating cylinders, oscillating pistons, an abutment disk provided with abutments, said cylinders having a central cavity in which said stationary abutment disk is adapted to be fitted, substantially as described. 45th A rotary engine having rotating cylinders, oscillating pistons, and stationary abutment disk having abutments extending into said cylinders which are formed by outer and inner rings, with the adjacent sides open and abutting against and packed on said abutment disk, and the outer sides being closed by disks which form the heads of the cylinders, substantially as set forth. 46th. A rotary engine having rotating cylinders forming annular cavities by inner and outer rings and outer disks, and having a central abutment disk, said cylinders having seats for oscillating pistons which revolve with said cylinders, said seats being formed by the enlargement of said cylinders and having heads provided with journals to receive the shafts of the pistons, said heads being in the outer disks, substantially as set forth. 47th. A rotary engine having rotating cylinders, forming annular cavities by inner and outer rings and outer disks, said cylinders having seats for oscillating pistons which revolve with said cylinders, said seats being formed by the enlargement of said cylinders and having heads provided with journals to receive the shafts of the pistons, each of which is independently mounted and independently operated, substantially as set forth. 48th. A rotary engine having stationary heads, a central abutment disk, rotating cylinders and oscillating pistons controlled by cams on the interior surfaces of said heads, substantially as described. 49th. A rotary engine having stationary heads, provided with cams on the interior surfaces, rotating cylinders and oscillating pistons, wtth crank shafts which extend into said cams, and controlled and oscillated by them, substantially as

set forth. 50th. A rotary engine having stationary heads, provided with cams on the interior surface, rotating cylinders and oscillating pistons with crank shafts whose crank is provided with cam blocks, said cam blocks traveling in the groove of said cams, thereby controlling the movements and oscillations of said pistons, substantially as set forth. 51st. A rotary engine having oscillating pistons formed of diametrically opposed wings connected, rotating cylinders, into which cylinders extend stationary abutments having curved projections protruding in opposite directions, to reduce the waste steam area, said pistons in passing the abutments are packed, and in oscillating clear the said curved projections, which are formed of the curves i^1, i^2, i^3 and i^4, described by the interior faces and edges of the piston wings, substantially as shown and described. 52nd. A rotary engine having oscillating pistons, a rotating cylinder and stationary heads, said cylinder connected to a hollow shaft which is mounted in journal boxes attached to said heads, said hollow shaft being flexibly connected to a driving shaft, substantially as set forth. 53rd. A rotary engine having oscillating pistons, rotating cylinders and stationary heads, said cylinders connected to a hollow shaft which is mounted in journal boxes attached to said heads, said hollow shaft being flexibly connected to a driving shaft within it substantially as set forth. 54th. A rotary engine having oscillating pistons, rotating cylinders, and stationary heads, said cylinders connected to a hollow shaft which is mounted in journal boxes attached to said heads, said hollow shaft being flexibly connected to a driving shaft within it by the means of buffers secured between lugs on the inner periphery of the hollow shaft, and lugs on the other periphery of the driving shaft, substantially as set forth. 55th. A rotary engine having a rotating cylinder connected to a hollow shaft mounted in journals stationary to said cylinder, and a driving shaft within said hollow shaft, the hollow shaft being flexibly connected to the driving shaft, substantially as and for the purpose set forth. 56th. A rotary engine having oscillating pistons, a rotating cylinder and stationary heads, said cylinder connected to a hollow shaft which is mounted in journal boxes, said hollow shaft being flexibly connected to a driving shaft, substantially as set forth. 57th. In a rotary engine, a rotating steam cylinder and pistons provided with crank and controlled by a steam cylinder, for the purpose set forth. 58th. In a rotary engine, a rotating steam cylinder and oscillating pistons provided with cranks and controlled by a steam cylinder, for the purpose set forth. 59th. In a rotary engine, a rotating steam cylinder, oscillating pistons, a steam cylinder, and lever forming the piston rod and the piston head af the steam cylinder, said lever being provided with the link for operating the oscillating pistons, for the purpose set forth. 60th. In a rotary engine, a rotating steam cylinder, pistons, a steam cylinder and a lever forming the piston rod of the steam cylinder piston head, said lever being provided with a link block for operating the pistons, substantially as and for the purpose set forth. 61st. In a rotary engine, a rotating steam cylinder, pistons, a steam cylinder, a cam and a lever, provided with a link and forming the piston rod of the steam cylinder piston head, and a cam operating said lever, for the purpose set forth. 62nd. In a rotary engine, a rotating cylinder, pistons, a steam cylinder, a cam, and lever forming the piston rod of the steam cylinder piston head, said lever being provided with a link and a link block in which the crank of said piston is journaled, and controlled by the said cam, for the purpose set forth. 63rd. In a rotary engine, a rotating cylinder, pistons, a steam cylinder, and a lever forming the piston rod of the steam cylinder piston head, said rod provided with a link at one end and at the other with a counterbalance, for the purpose set forth. 64th. In a rotary engine, a rotating cylinder, pistons, a steam cylinder provided with two cylinder heads, and a lever forming the piston rod of the steam cylinder piston head, said rod provided with a link at one end and at the other with a counterbalance, and passing through both heads of the said steam cylinder, for the purpose set forth. 65th. In a rotary engine, a rotating cylinder, pistons, a steam cylinder and a lever forming the piston rod of the steam cylinder piston head, said rod being provided with guides, for the purpose set forth. 66th. In a rotary engine, a rotating cylinder, pistons, a steam cylinder, and a lever forming the piston rod of the steam cylinder piston head, said rod being provided with link at one end and at the other with guides around the driving shaft, for the purpose set forth. 67th. In a rotary engine, a rotating cylinder, pistons, a cam, a steam cylinder having steam inlet and exhaust ports controlled by levers, and operated by a cam, for the purpose set forth. 68th. In a rotary engine, a rotating cylinder pistons, a cam, a steam cylinder having steam inlet and exhaust ports controlled by levers, and a cam and a spring to overcome the centrifugal force of said levers, for the purpose set forth. 69th. In a rotary engine, a rotating cylinder to which is securely attached a guide, pistons, a cam, a steam cylinder, having steam inlet and exhaust ports controlled by levers and a cam, said lever passing through said guides, for the purpose set forth. 70th. In a rotary engine, pistons, a cam, a steam cylinder having inlet and exhaust ports controlled by levers and a cam, and a rotating cylinder to which is securely attached the guide K^5, through which the lever H^8 passes, lever H^8 being provided with the flange L^6, between which and guide K^5 is placed the spring L^5, to overcome the centrifugal force of said lever, for the purpose set forth. 71st. In a rotary engine, a rotating steam cylinder, and pistons provided with cranks and oscillating substantially about ther central axis, and controlled by a steam cylinder, for the purpose set forth. 72nd. A rotary engine having a rotating cylinder, and oscillating pistons, said cyltnder being formed by inner and outer rings, and connecting heads between said rings forming thereby an annular cavity, said inner ring having a groove in which is fitted a stationary abutment disk provided with abutments extending into said cavity, substantially as set forth. 73rd. A rotary engine having a rotary cylinder, oscillating pistons, an abutment disk, said pistons being provided with an opening to allow them to revolve around the abutment disk on which said pistons are packed, substantialiy as set forth. 74th. A rotary engine having oscillating pistons, a rotating cylinder formed by inner and outer rings, and heads connecting said rings, and a stationary abutment disk, the inner ring of said cylinder having a groove in which is packed the said abutment disk, substantially as set forth. 75th. A rotary engine having a rotating cylinder oscillating pistons formed by disks, and inner and outer rings, said outer ring connecting said disks, substantially as set forth. 76th. A rotary engine, having a rotating cylinder formed by inner and outer rings and connecting heads, and oscillating pistons having their crank shafts mounted in said heads, and piston seats formed in the peripheries of said rings and extending from head to head, substantially as set forth. 77th. A rotary engine, having a rotating cylinder, an abutment disk, and oscillating pistons formed by disks and inner and outer rings, said inner wings having an opening to allow said pistons to revolve around the abutmenr disk during the oscillations of the pistons, substantially as set forth. 78th. A rotary engine, having oscillating pistons, a rotating cylinder formed by inner and outer rings and heads connecting said rings, and a hub secured to the inner periphery of the inner ring and by means of which the cylinder is mounted on the driving shaft, substantially as set forth. 79th. A rotary engine, having oscillating pistons, a rotating cylinder formed by an imperforate outer ring and an inner grooved ring, and heads connecting said rings, an abutment disk having steam inlet and exhaust ports, and packed steam tight in the groove of the inner ring, substantially as set forth. 80th. A rotary engine, having a rotating cylinder, oscillating pistons formed by disks and inner and outer rings, an abutment disk, the outer wing having a groove in which is packed the outer periphery of the abutment disk, substantially as set forth. 81st. A rotary engine, having oscillating pistons, a rotating cylinder formed by inner and outer rings and connecting heads, an abutment disk packed in a groove in said inner ring, the outer ring having a flange and ribs for strengthening the cylinder, substantially as set forth. 82nd. A rotary engine, having oscillating pistons, a rotating cylinder formed by inner and outer rings and connecting heads, an abutment disk packed in a groove in the inner ring, and having its hub located within the inner periphery of the inner ring, and a hub by which the rotating cylinder is mounted upon the driving shaft secured to and located within the inner periphery of said inner ring, substantially as set forth. 83rd. A rotating engine, having a rotating cylinder, oscillating pistons, an abutment disk, said cylinder being formed by inner and outer rings and heads in which the crank shafts on each end of the pistons are mounted, the inner ring having a groove in which the abutment disk is packed, substantially as set forth. 84th. A rotary engine, having a rotating cylinder, oscillating pistons, an abutment disk, said cylinder being formed by inner and outer rings and connecting heads secured to and rotating with said rings, the inner ring having a groove in which the abutment disk is packed, substantially as set forth. 85th. A rotary engine, having rotating cylinders, oscillating pistons connected in pairs by a shaft, abutments, and a stationary cam placed within and attached to the outer casing, said cam oscillating said pistons in passing the said abutments, substantially as set forth. 86th. A rotary engine, having rotating cylinders, oscillating pistons, abutments, and a stationary cam placed within and attached to the outer casing, said cam oscillating said pistons to pass said abutment, and having grooves running alternately concentric and eccentric to control said pistons whereby the pistons are held stationary with regard to said cylinders, and are oscillated to pass said abutments respectively, the pistons in oscillating and passing said abutments rotating with the cylinder and being at rest with respect to said cylinder in propelling and rotating it, substantially as set forth.

No. 39,024. Tablet for Recording Sales.

(Tablettes pour enregistrer les ventes.)

Henry Victor Piaget, Jersey City, New Jersey, U.S.A., 30th May, 1892; 5 years.

Claim.—1st. In a sales recording tablet, the combination, with a trough-shaped receptacle, of a removable writing plate, and means for holding a carbon sheet between two sheets of paper on said plate, substantially as set forth. 2nd. In a sales recording tablet, the combination, with a trough-shaped receptacle, a roll of paper, of a writing plate connected with said receptacle, and a spiral spring in said receptacle for holding the roll of paper in place, substantially as set forth. 3rd. In a sales recording tablet, the combination, with a trough-shaped receptacle having interior grooves at the upper edges of its end pieces of a writing plate having beads on its side edges fitting in said grooves, substantially as set forth. 4th. In a sales recording tablet, the combination, with a trough-shaped receptacle, having interior grooves along the upper edges of its end pieces, of a writing plate having side beads fitting in said grooves, the ends of said beads projecting beyond the upper edge of said plate, substantially as set forth. 5th. In a sales recording tablet, the

combination, with a trough-shaped receptacle, having interior grooves along the upper edges of its end pieces, of curved springs secured to said end pieces, and projecting over the bottoms of said grooves, and a removable writing plate having beads along the side edges fitting into said grooves, substantially as set forth. 6th. In a sales recording tablet, the combination, with a receptacle having interior grooves along the upper edges of its end pieces, of a transverse wire having its ends in said grooves, a carbon sheet secured to said wire, and a writing plate having beads along the side edges, which beads fit in said grooves, substantially as set forth.

No. 39,025. Drying Apparatus. (*Four à sécher.*)

Simeon G. Phillips, Woodbridge, New Jersey, U. S. A., 30th May, 1892; 5 years.

Claim.—1st. In a drying apparatus, the partial ceiling A^2, heating pipes E, and means, as the fan wheels D, for inducing a current of air transversely under the ceiling in one direction, and above the ceiling in another direction, advancing longitudinally toward the end of the apparatus at which the air is discharged, substantially as herein specified. 2nd. In a drying apparatus, the partial ceiling A^2, heating pipes E, and means, as the fan wheels D, for inducing a current of air transversely under the ceiling in one direction, and above the ceiling in another direction, advancing longitudinally toward the end of the apparatus at which the air is discharged, in combination with means, as the tracks B, and cars B^1, for traversing the bricks longitudinally of the structure in the opposite direction and transversely to the motion of the air, the heating means being reduced where the air is received, so that it will be partly warmed by the heat in the outgoing bricks, all arranged for joint operation, substantially as herein specified.

No. 39,026. Drying Apparatus. (*Four à sécher.*)

Simeon G. Phillips, Woodbridge, New Jersey, U.S.A., 30th May, 1892; 5 years.

Claim.—1st. In a drying apparatus, the partial flooring A^2, with spaces at the sides between its edges and the sides of the building, and means, as fan wheels and vertical oblique partitions extending across the building, for inducing currents of air to move obliquely across the building above the flooring a^2, and in opposite directions below said flooring, and with two lines of cars of carrying articles to be dried and moved gradually in the direction opposite to the endwise movement of the air, and with the heating pipes G, H, all combined and arranged substantially as described, so that the air heated by its contact with the warm bricks being discharged is subsequently traversed obliquely across the building alternately in opposite directions in contact with the heating pipes, and is presented to the material on the cars successively throughout the length of the building, substantially as herein specified. 2nd. In a drying apparatus, a floor A^1, with provision for allowing the freshly received air to traverse longitudinally over it, in combination with a partial flooring A^2, arranged at a lower level, with spaces at the sides between its edges and the sides of the building, and means, as the fan wheels and vertical partitions extending across the building in oblique positions, for inducing currents of air to move obliquely across the building above the flooring A^2 and in opposite directions below said partitions, and with the two lines of cars J carrying articles to be dried and moved gradually in the direction opposite to the endwise movement of the air, and with the heating pipes G, H, all combined and arranged substantially as described, so that the air will be slightly heated above the flooring A^1, further heated by its contact with the warm bricks being discharged, and subsequently traversed obliquely across the building alternately in opposite directions in contact with the heating pipes, and presented to the material on the cars successively the length of the building, substantially as herein specified. 3rd. In a drying apparatus, the partial flooring or horizontal partition A^2, and air-impelled means B, C, combined with the two lines of cars J upon the opposite sides of the air-impelling means, and the adjustable air guides K, mounted above and to the left of the cars on the right side, and below and to the right of the cars on the left side, substantially as herein specified. 4th. In a drying apparatus, the oblique vertical partitions A^3, in combination with a partial flooring or horizontal partition A^2, the air-impelling means B, C, arranged to move the air across the building in one direction above and in the other below said partition, and with the two lines of cars J, and air heating means G, H, all arranged for joint operation, substantially as herein specified. 5th. In a drying apparatus, the horizontal partial partition A^2, air-impelling means B, C, and air-heating means G, H, combined with the lines of cars J, arranged upon the right and left sides, and the adjustable screens M, mounted below and to the right of the car on the right hand side, and to the left and above the car on the left side, substantially as herein specified.

No. 39,027. Barrel Closure. (*Fermeture de baril.*)

Clarence Webster Moore, Peabody, Massachusetts, U.S.A., 30th May, 1892; 5 years.

Claim.—1st. In a barrel or box closing device, a removable cover and a bail pivoted to it, combined with pivoted pressure blocks on said bail, stationary inclines on the barrel, and a locking nut on the bail pivot bolt, substantially as and for the purpose set forth. 2nd. In a barrel or box closing device, a removable cover and a bail pivoted to it, and having a socket for receiving a detachable lever combined with pressure blocks pivoted to said bail, stationary inclines on the barrel, and a locking nut on the bail pivot bolt, substantially as and for the purpose set forth. 3rd. In a barrel or box closing device, a removable cover having secured to it, hangers with blocks pivoted thereto combined with inclines secured to the barrel or box, and an elastic packing ring interposed between the said cover and barrel or box, substantially as and for the purpose set forth. 4th. In a barrel or box closing device, a removable cover having hangers secured to it, with blocks pivoted thereto combined with inclines secured to the barrel or box, substantially as and for the purpose set forth. 5th. In a barrel or box closing device, a removable cover having an annular lip on its under side adapted to fit inside of the barrel or box, an electric packing ring surrounding said annular lip, and hangers secured to said cover, blocks pivoted to said hangers, and inclines secured to the barrel or box, all combined and arranged substantially as and for the purpose set forth.

No. 39,028. Compression Joint. (*Joint à compression.*)

Charles S. Bavier, Brooklyn, New York, U.S.A., 30th May, 1892; 5 years.

Claim.—1st. In a compression joint, a malleable or ductile ring fitted in an annular recess of one of the parts of the joint, under cut in the side or both side and bottom, and subject to compression of the other part of said joint, substantially as described. 2nd. In a compression joint, two malleable or ductile rings fitted in an annular recess of one of the parts of the joint under cut in the side, or both side and bottom, one within the other, and subject to compression of the other part of the joint first of the inner ring, said ring having greater projection than the other, and on both when said inner ring is reduced, substantially as described.

No. 39,029. Manufacture of Apple Syrup.

(*Fabrication de sirop de pomme.*)

Conrad Lanz, Moltke, Ontario, Canada, 30th May, 1892; 5 years.

Claim.—The process of manufacturing apple syrup, from apples by the addition of carbonate of soda to cider, mixing, skimming, evaporating, and heating during the process, at the temperatures, and in the proportions substantially as described, for the purposes set forth.

No. 39,030. Composition for Electric Resistance.

(*Composition pour la résistance électrique.*)

Frederick W. A. Schneider, Toronto, Ontario, Canada, 31st May, 1892; 5 years.

Claim.—A resistance medium, composed of saponified fat contained in a suitable casing interposed in an electric circuit, and fitted with terminals to which the circuit wires are connected, substantially as and for the purpose set forth.

No. 39,031. Electro-Therapeutic Apparatus.

(*Appareil électro-thérapeutique.*)

Wm. James Herdman, Ann Arbor, Michigan, U. S. A., 31st May, 1892; 5 years.

Claim.—1st. In an electrical therapeutical apparatus, the combination of a main circuit, and a patient's circuit in shunt therewith, two series of resistances, and sweep arms for varying the resistance on the shunt circuit, the consecutive resistances on one of said series varying in a decimal ratio to the consecutive resistances on the other of said series, substantially as and for the purpose described. 2nd. In an electrical therapeutical apparatus, the combination of a machine circuit and a patient's circuit in shunt therewith, two series of resistances, in one of which consecutive resistances vary in amount equal to the sum of a number of the resistances in the other set, sweep arms arranged to bring into the shunt circuit any desired number of said resistances, and pole pieces, whereby the circuit can be closed through the patient, all combined and operating, substantially as described. 3rd. In an electrical apparatus, the combination of two series of resistances, of which the consecutive resistances in one series vary in an amount equal to the sum of the resistances of several of the other series, means for closing the circuit beyond the resistances, and means, substantially as described, for using the two series of resistances in combination, so as to vary gradually through the whole system of resistance from the lowest to the highest by the difference in resistance between two consecutive resistances in the series of low resistances, substantially as and for the purpose described. 4th. In a therapeutical apparatus, the combination, with a machine circuit permanently closed from the point of entrance to the point of departure of the current, the said machine circuit provided with a series of resistances, of a patient's circuit, an induction or interrupted circuit, and a cauterizing circuit, each provided with terminals, whereby it may be engaged into shunt connection with the machine circuit, and its current be graduated by bringing more or less of said resistances between said terminals,

substantially as described. 5th. In a therapeutical apparatus, the combination, with a machine circuit permanently closed from the point of entry to the point of departure of the current, said circuit provided with a series of resistances, of a cauterizing circuit adapted to be connected in shunt with the machine circuit, and special resistances E^1 arranged to be brought into said cauterizing circuit and adapted to carry the increased amprage of current without injury, substantially as described.

No. 39,032. Box and Machine for Making Boxes.

(Boîte et machine à faire les boîtes.)

John Howenstine, Fort Wayne, Indiana, U.S.A., 31st May, 1892; 5 years.

Claim.—1st. A box, having its top, bottom and side walls reinforced by stiffening rods, substantially as described. 2nd. A box, having its top, bottom and sides reinforced by stiffening rods which are secured in place by staples, substantially as shown and described. 3rd. A box, having its top, bottom and sides reinforced by sets of wire rods which are secured in place by staples and hooked over the edges of the box walls and lid, substantially as described. 4th. A box, having its walls each made of pieces of thin material and stiffened by rods that are bent around the box body and secured thereon by inserted staples. 5th. A box, having its side walls, bottom wall and lid each made of pieces of thin material, which are secured together by outwardly applied stiffening rods and staples that embrace the rods and project through the pieces of material, substantially as described. 6th. A box, having composite top, bottom and side walls, which are reinforced by stiffening wire rods held in place by staples, and end walls which are intercellular and are secured to the side walls by end battens that are held to the sides and end walls by the staples, substantially as described. 7th. A box, having its sides, lid and bottom edge made of two pieces of material reinforced by wire rods and staples that hold the rods in place, and walls which are intercellular and secured to the sides and bottom by end battens, which are notched into step form at their miters, and turnbuckle latches which are located on depending battens of the lid and adapted to interlock with cross pins in the end walls of the box, substantially as described. 8th. The combination, with a frame, of a cutting and forming die block, a mating perforated die plate on which the die block slides, a main lever for the die block, a movable anvil that co-acts with the die block, a staple moving pusher bar that sets a staple when it is formed, and a wire feeding device, substantially as described. 9th. The combination, with a frame composed of two sections, one section having a vertical die and a main lever having a link connection with the die, of a mating die plate that is perforated for staple wire introduction and is adapted to define the length of a staple blank, a wire feeding mechanism which propels the staple wire forward when the main lever is raised, a vibrating vertical staple forming bar carrying an anvil and a pusher bar, substantially as described. 10th. The combination with two frame sections that are adapted to receive and support working parts between them, a vertical reciprocating die block, a mating die plate that the die block slides against, and that is perforated for the insertion of a staple wire, and staple wire feeding device, of a pivoted vertical staple forming bar that has an anvil, projecting laterally, a vertical moving pusher bar, and a main lever that actuates the parts, substantially as described. 11th. The combination with a staple forming and setting device and mechanism to feed the wire to this device, of a means to supply wire rod continuously below the staple as they are formed and expelled, and a cut-off mechanism which is adapted to sever a rod from the roll of wire and form a hook on its end, substantially as described. 12th. The combination with a frame comprised of two sections which are separably joined and are adapted to receive and support working parts between a main lever having cam toes on it, and a depending finger, a wire reel for staples, and a staple wire feeding device which is moved by the reciprocation of the main lever, of a die block that is connected by a link to the main lever and reciprocates with it, a staple forming anvil moved by the die block, and a sliding pusher bar operated by the main lever cams, substantially as described. 13th. In a staple forming machine, the combination, with the reciprocating die, the staple forming anvil and the operating handle provided with a cam toe, of the arm H provided with the dog m^1, and the lever J connected with the dog m, and having the cam surfaces o, o^1, substantially as described. 14th. In a staple forming and setting machine, the combination with the reciprocating die, the former bar E having the anvil h^2, and the shoulder h^3, the pusher bar L having the foot p, and the shoulders p^2, p^3, and the operating handle having the cam surface e, e^1, e^2, of the arm H provided with the dog m, and the lever J connected with the dog m^1, extending over the pusher bar L, and having the cam surfaces o, o^1, substantially as described.

No. 39,033. Pocket Whisk Holder.

(Porte-balai de poche.)

John F. O'Brien, Montreal, Quebec, Canada, 31st May, 1892; 5 years.

Claim.—1st. A pocket whisk holder, consisting of the case, open at one end and formed with longitudinal slots opposite each other, the sliding head within the case adapted to receive the whisk, and the finger buttons outside of the case, engaging the sliding head through said case slots, for adjusting the head with its whisk in the case, substantially as herein described. 2nd. The combination, of the case open at one end, and formed with longitudinal slots, the sliding head within the case, the whisk secured at one end in the sliding head, the rigid pin extending transversely through the sliding head and into said case slots, and the finger buttons on said pin outside of the case, the whole adapted for use, substantially as herein described.

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

2575. SAMUEL O. GREENING, 2nd five years of No. 26,590, from the 4th day of May, 1892. Improvements in a Wire Cloth Weaving Shuttle, 3rd May, 1892.

2576. SAMUEL O. GREENING, 2nd five years of No. 26,757, from the 21st day of May, 1892. Improvements in Looms for Weaving Wire Cloth, 3rd May, 1892.

2577. W. R. GARDNER, 2nd five years of No. 26,647, from the 7th day of May, 1892. Improvements in Mechanism for Forging Hammers and other Tools, 3rd May, 1892.

2578. NOXON BROTHERS MANUFACTURING CO., 2nd five years of No. 26,787, from the 30th day of May, 1892. Improvements in the Driving Gear of the Feed Rod of a Grass Seed Hopper, 3rd May, 1892.

2579. GEORGE J. ARMSTRONG, 2nd five years of No. 26,598, from the 4th day of May, 1892. Improvements in Bird Cage Protectors, 4th May, 1892.

2580. URGEL BEAUSEJOUR, 2nd five years of No. 26,608, from the 5th day of May, 1892. Improvements in Railway Car Steps, 4th May, 1892.

2581. THE AUTOMATIC TAP AND FAUCET CO., 2nd five years of No. 26,841, from the 3rd day of June, 1892. Improvements in Combined Plug and Cock for Barrels, &c., 4th May, 1892.

2582. JAMES S. HICKMAN and BESSIE ROBB, 2nd five years of No. 26,619, from the 6th day of May, 1892. Improvements in Carding Machines, 4th May, 1892.

2583. THE NOXON BROTHERS MANUFACTURING CO., 2nd five years of No. 26,858, from the 4th day of June, 1892. Improvements in Grain Binders, 6th May, 1892.

2584. JAMES McARTHUR, 2nd five years of No. 26,633, from the 6th day of May, 1892. Improvements in Sash Balances, 6th May, 1892.

2585. WM. BENTLEY, 2nd five years of No. 26,670, from the 9th day of May, 1892. Improvements in Derricks, 7th May, 1892.

2586. THOMAS HUMPHREY HOVENDEN, 3rd five years of No. 14,860, from the 29th day of May, 1892. Improvements in Perpetual Calendars, 9th May, 1892.

2587. GEO. CORWIN FRASER, 2nd five years of No. 26,672, from the 9th day of May, 1892. Improvements in Stove Pipe Dampers, 9th May, 1892.

2588. WM. KOCH, 2nd five years of No. 26,725, from the 14th day of May, 1892. Improvements in Shuttle Carriers and Race Mechanism for Sewing Machines, 9th May, 1892.

2589. WM. STEELE BLACK and FERGUS BLACK, 2nd five years of No. 26,676, from the 10th day of May, 1892. Combined Cupping Glass and Breast Pump, 10th May, 1892.

2590. CHICHESTER A. BELL, 2nd five years of No. 26,701, from the 12th day of May, 1892. Improvements in Transmitting and Recording Sounds by Radiant Energy, 11th May, 1892.

2591. SUMNER TAINTER, 2nd five years of No. 26,702, from the 12th day of May, 1892. Improvements in Apparatus for Recording and Reproducing Sounds, 11th May, 1892.

2592. CHICHESTER A. BELL, 2nd five years of No. 26,703, from the 12th day of May, 1892. Improvements in Recording and Reproducing Speech and other Sounds, 11th May, 1892.

2593. CHICHESTER A. BELL, 2nd five years of No. 26,710, from the 12th day of May, 1892. Improvements in Reproducing Sounds from Phonograph Records, 11th May, 1892.

2594. SUMNER TAINTER, 2nd five years of No. 26,711, from the 12th day of May, 1892. Improvements in Recording and Reproducing Sounds, 11th May, 1892.

2595. CHARLES BINGLEY PUTMAN, 2nd five years of No. 26,738, from the 17th day of May, 1892. Improvements in Wind Mill Towers, 12th May, 1892.

2596. A. B. KELLET, 3rd five years of No. 14,973, from the 16th day of June, 1892. Improvements on Valve Gear for Engines, 13th May, 1892.

2597. EMMA JANE SWARTWOUT, 2nd five years of No. 26,724, from the 14th day of May, 1892. Improvements in Corsets, 14th May, 1892.

2598. ANTHONY DIXON BROGAN and ANDREW MURRAY MALLOCK, 2nd five years of No. 26,783, from the 30th day of May, 1892. Improvements on Rolling Glass to Produce Designs or Patterns thereon and an Apparatus therefor, 16th May, 1892.

2599. JOHN MILTON BLACK, 2nd five years of No. 26,830, from the 2nd day of June, 1892. Improvements in Numbering, Printing, Cutting and Collecting Tickets, Checks, Labels or the like, from a Continuous Web of Paper, Cardboard or the like, and in the Apparatus and Mechanism employed therefor, 16th May, 1892.

2600. THE ALABASTINE COMPANY, 3rd five years of No. 14,800, from the 22nd day of May, 1892. Improvements in Plastic Material, 16th May, 1892.

2601. EDWARD SELDON TOWNSEND KENNEDY, 2nd five years of No. 26,728, from the 16th day of May, 1892. Improvements in Method of and Machine for Swaging and Welding the ends of Rock Metal Tubes, 16th May, 1892.

2602. ROBERT HAGGERT, 2nd five years of No. 26,944, from the 14th day of June, 1892. Improvements on Traction Engines, 17th May, 1892.

2603. HENRY W. PELL, 2nd five years of No. 26,868, from the 5th day of June, 1892. Improvements in Spring Couplings for Vehicles, 17th May, 1892.

2604. JAMES WHITE PROVAN and JOHN WHITE PROVAN, 2nd five years of No. 26,785, from the 30th day of June, 1892. Improved Pulley Hoister, 17th May, 1892.

2605. PETER PAYETTE, 2nd five years of No. 26,844, from the 4th day of June, 1892. Improvements in Edging Machines, 17th May, 1892.

2606. GEORGE ERTEL, 2nd five years of No. 26,871, from the 5th day of June, 1892. Improvements on Baling Presses, 18th May, 1892.

2607. GEORGE ERTEL, 2nd five years of No. 26,916, from the 10th day of June, 1892. Improvements in Baling Presses, 18th May, 1892.

2608. WILLIAM CRUIKSHANKS, 2nd five years of No. 26,801, from the 1st day of June, 1892. Improvements in Self Binding Harvesters, 19th May, 1892.

2609. ALVA OWEN, 2nd and 3rd five years of No. 28,190, from the 17th day of December, 1892. Improvements in Electric Belts, 21st May, 1892.

2610. WM. ALLEN HENDRY, 2nd five years of No. 26,756, from the 21st day of May, 1892. Improvements in Balance Throttle Valve, 31st May, 1892.

2611. WILLIAM ALLEN PENDRY, 2nd five years of No. 26,770, from the 23rd day of May, 1892. Improvements in Balance Throttle Valve, 21st May, 1892.

2612. DENNIS J. O'SULLIVAN, 2nd five years of No. 27,265, from the 26th day of July, 1892. Improvements on Display Racks for Tissue Paper, 25th May, 1892.

2613. SAMUEL DUCENBURG TOMKINS and THOMAS HILTON WILLIAMS, 2nd five years of No. 26,939, from the 14th day of June, 1892. Improvements in Steam and Hot Water Radiators, 25th May, 1892.

2614. JAMES HENRY ELLIOTT, 2nd five years of No. 26,795, from the 1st day of June, 1892. Improvements in Dining Coaches and Cars, 28th May, 1892.

2615. THOMAS MILLER and JAMES C. ROBERTSON, 2nd five years of No. 26,817, from the 1st day of June, 1892. Method of Converting Used Steel Rails into Nail Plate at one Heat, 30th May, 1892.

2616. ALFRED EDWARD PETERS, 2nd five years of No. 27,753, from the 6th day of October, 1892. Improvements in Elevated Oven Cooking Stoves, 30th May, 1892.

2617. BOOTH & SON, 2nd five years of No. 26,815, from the 1st day of June, 1892. Improvements in Kettle Handles, 30th May, 1892.

2618. NAPOLEON GEORGES LEMYRE, 2nd five years of No. 26,904, from the 7th day of June, 1892. Improvements in Water Wheels, 30th May, 1892.

2619. JOHN LAXTON, 2nd five years of No. 26,837, from the 3rd day of June, 1892. Improvements in Gas Stoves, 30th May, 1892.

2620. ENOCH C. BOWLING and STEPHEN J. BOWLING, 2nd five years of No. 30,329, from the 8th day of June, 1892. Improvements on Stays for Garments, such as Corsets, Dresses, &c., 31st May, 1892.

TRADE MARKS

Registered during the month of May, 1892, at the Department of Agriculture—Copyright and Trade Mark Branch.

4315. DR. JAEGER'S SANITARY WOOLLEN SYSTEM CO., L'D., of 95 Milton Street, Fore Street, London, England. General Trade Mark, 2nd May, 1892.

4316. THE WESTINGHOUSE AIR BRAKE CO., of Wilmerding, County of Allegheny, State of Pennsylvania, U.S.A. Air Brake Apparatus for Railroad Service, 3rd May, 1892.

4317. THOMAS F. WHITE & FREDERICK C. COLWELL, of St. John, N.B. All kinds of Chocolate Confections, 3rd May, 1892.

4318. CHARLES G. SHEPARD & WALTER J. SHEPARD, of Buffalo, N.Y., U.S.A. Ice Cream Freezers, 7th May, 1892.

4319. J. J. & W. WILSON, L'D, of Castle Mills, Kendal, County of Westmoreland, England. Piece Goods of Woollen, Linen, Cotton, Silk, Jute and Mixed Materials; Woven Travelling Rugs, Horse Clothing woven and made up; Wools, Worsteds, Yarns and Threads; Clothing made up for men and boys; Hats, Caps, Flannel Shirts and Women's Clothing, 9th May, 1892.

4320. ANNIE DIXON, of Toronto, Ont., carrying on business under the firm name of VIENNA MEDICAL PRESCRIPTION ASSOCIATION. General Trade Mark, 9th May, 1892.

4321. WILLIAM TITUS STRONG, of London, Ont. Remedy for Piles, 10th May, 1892.

4322. PINCUS POHALSKI, of New York, N.Y., U.S.A. Cigars, 11th May, 1892.

4323. DANIEL W. HOEGG & GEORGE W. HOEGG, of Fredericton, N.B. Canned Fish, Vegetables and Fruit, 12th May, 1892.

4324. J. S. SMITH, DRUCE & CO., L'D., of the Phœnix Distillery, Mile End, London, England. Gin, 16th May, 1892.

4325. GEORGE OLMSTED, of London, Ont. Cigars, 18th May, 1892.

4326. JAMES MATTINSON & FREDERICK WILLIAM HEATH, of London and Toronto, Ont., respectively. Proprietary Medicine, 18th May, 1892.

4327. ROBERT WILSON ROBERTSON, of Brantford, Ont. Sign Name for Dry Goods and Millinery House, 19th May, 1892.

4328. JOHN INGLES McLAREN, of Hamilton, Ont., Manager of the Hamilton Coffee and Spice Co. Coffees, Baking Powder, Cream of Tartar, Spices, Mustard, Currie Powder, Powdered Herbs and Flavoring Extracts, 20th May, 1892.

4329. CHARLES ROSS SOMERVILLE, of London, Ont. Chewing Gum, 20th May, 1892.

4330. JOSEPH SMITH, of London, Ont. Cigars, 20th May, 1892.

4331. THE ELECTROLIBRATION CO., of Birmingham, Alabama, U.S.A. Instruments for the Treatment of Disease, 20th May, 1892.

4332. FELIX J. QUINN, of Halifax, N.S. Mineral Waters, 23rd May, 1892.

4333. JOHN THOMAS HAGAR, of Montreal, Que., trading as J. & T. Bell. Boots and Shoes, 23rd May, 1892.

4334. MÜLLER, PHILIPP & CO., of Marienbad, Bohemia, Austria-Hungary. Medicinal or Remedial Salt or combination of Salts derived from the Water of the Springs of Marienbad, 23rd May, 1892.

4335. MICHAEL HIRSCH, of Montreal, Que. Cigars, Cigarettes and Tobacco, 27th May, 1892.

4336. G. & H. BARNETT, of Philadelphia, Pennsylvania, U.S.A. Files and Rasps, 28th May, 1892.

4337. THOMAS PEASE, SON & CO., of Darlington, Durham Co., England. Fermented Liquors and Spirits, 31st May, 1892.

4338. LOUIS GILBERT, of St. Ferdinand d'Halifax, County of Megantic, Que. Cheese, 31st May, 1892.

COPYRIGHTS

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Copyright and Trade Mark Branch.

6438. ÉLÉMENTS DE PHYSIQUE, DE CHIMIE ET DE COSMOGRAPHIE à l'usage des Ecoles Primaires, par Edmond Rousseau. J. A. Langlais, Québec, Qué., 2 mai, 1892.

6439. SILVER CORNET POLKA, by Mabelle Ruthven. The Anglo-Canadian Music Publishers' Association, L'd., London, England, 3rd May, 1892.

6440. JOHN REMINGTON, MARTYR, by Mrs. G. R. Alden (Pansy), and Mrs. C. M. Livingstone. Wm. Briggs (Book Steward of the Methodist Book and Publishing House). Toronto, Ont., 3rd May, 1892.

6441. PRÊTRES DE LA CURE DE ST. ROCH DE QUÉBEC. (Photo.) L. N. C. de Beaumont, Québec, Qué., 3 mai, 1892.

6442. SIR JOHN THOMPSON. (Photo. Marked A. ¾ figure, standing 14 x 17.) S. J. Jarvis, Ottawa, Ont., 4th May, 1892.

6443. PETIT TRAITÉ DE SOLFÈGE, par Chas. Labelle, Montreal, Qué., 5 mai, 1892.

6444. HOW TO MESMERIZE; or, HYPNOTISM EXPLAINED, by Prof. Seymour. Wm. Seymour, Toronto, Ont., 5th May, 1892.

6445. WALTZ MINUET, by A. E. Linton, Ottawa, Ont., 5th May, 1892.

6446. The MINEOLA WALTZES, by E. W. Wilber, St. John, N.B., 9th May, 1892.

6447. BURNING CANADIAN QUESTIONS: Inter-Provincial Communications, Atlantic Ports, Development of Natural Resources, Labour and Capital, Immigration and Prohibition, by C. W. Wetmore. Edward T. C. Knowles, St. John, N.B., 11th May, 1892.

6448. A FLORIDA ENCHANTMENT, by A. C. Gunter. The National Publishing Co., Toronto, Ont., 12th May, 1892.

6449. NADA THE LILY, by Rider Haggard. The National Publishing Co., Toronto, Ont., 12th May, 1892.

6450. HISTORY OF TRINITY CHURCH, ST. JOHN, NEW BRUNSWICK, 1791 1891. Compiled and Edited by Rev. Canon Brigstocke, D.D., Rector. The Rector, Church Wardens and Vestry of Trinity Church, St. John, N.B., 13th May, 1892.

6451. METEOR MARCH, for piano, by C. R. Howell. Whaley, Royce & Co., Toronto, Ont., 16th May, 1892.

6452. ACROSS THE SEA (book of poems), by Ada A. Squire, London, Ont., 16th May, 1892.

6453. NOTHING BUT LEAVES. Sacred Song. Words by S. J. Vail. Music by S. T. Church. The Anglo-Canadian Music Publishers' Association, L'd., London, England, 18th May, 1892.

6454. HUNGARIAN LOVE SONG. Words by Frederick E. Weatherly. Music by Joseph L. Roeckel. Patey & Willis, London, England, 18th May, 1892.

6455. ELEMENTS OF THE INFINITESIMAL CALCULUS, by Geo. H. Chandler, M. A., Montreal, Que., 18th May, 1892.

6456. THE WITCH OF PLUM HOLLOW. A Canadian Romance, by Thad. W. H. Leavitt. (The Wells Publishing Company), Toronto, Ont., 19th May, 1892.

6457. KERR'S BOOK-KEEPING. Samuel Kerr, St. John, N. B., 19th May, 1892.

6458. CAROLS OF THE COAST, by M. H. Nickerson, Barrington, N. S., 19th May, 1892.

6459. MIGNONETTE GAVOTTE. For Violin or Flute and Piano, by Ed. Rubini. Whaley, Royce & Co., Toronto, Ont., 26th May, 1892.

6460. FARFALLETTA. (Butterfly). Danse Italienne for Piano, by J. A. Tupper Noble. Whaley, Royce & Co., Toronto, Ont., 20th May, 1892.

6461. TEAM SCORE BOOK (score sheet form), Robert James Lovell, Toronto, Ont., 23rd May, 1892.

6462. THE CANADIAN ANNUAL 1893. Edmund Ernest Sheppard, Toronto, Ont., 23rd May, 1892.

6463. THE HISTORY OF CANADA, by John Mercer McMullen, in two volumes. Third Edition. McMullen & Co., Brockville, Ont., 25th May, 1892.

6464. SUCCESSFUL HOME DYEING. The Wells & Richardson Co., Montreal, Que., 27th May, 1892.

6465. L'INDICATEUR DE QUEBEC ET LEVIS, 1892-93. (The Quebec and Levis Directory). T. L. Boulanger & Ed. Marcotte, Québec, Que., 27 Mai, 1892.

6466. THE LEADING FACTS OF CANADIAN HISTORY, by W. J. Robertson, B. A., LL.B. The Copp, Clark Co., L'd., Toronto, Ont., 27th May, 1892.

6467. WOOD'S CHEESE FACTORY ACCOUNT BOOK. Wyatt Samuel Wood, Windham Township, Norfolk County, Ont., 27th May, 1892.

6468. BIRD'S EYE VIEW OF THE WORLD'S COLUMBIAN EXPOSITION (coloured lithograph.) John Wesley Allison, Montreal, Que., 27th May, 1892.

6469. GLOBE with a railway train upon its surface, night and day effects upon opposite sides, cloud and ocean surroundings and a steamboat on the ocean. (Pictorial Representation) John Wesley Allison, Montreal, Que., 27th May, 1892.

6470. THE BUYER'S AND MERCHANT'S BENEFIT SYSTEM BOOK OF COUPONS. William Greenwood & George W. Miller, London, Ont., 27th May, 1892.

6471. AT HOME. A Society Dance. For the Piano, by E. Fralick. I. Suckling & Sons, Toronto., Ont., 30th May, 1892.

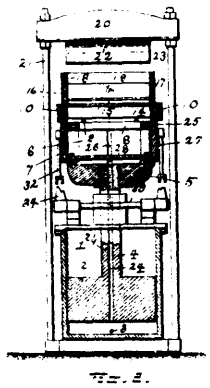
6472. GLOVES AND THEIR MANUFACTUBE. (Book). E. B. Cooke & Co., Montreal, Que., 31st May, 1892.

6473. A MANUAL OF THE LAW OF WILLS. For the use of Students, by Henry Newbolt Roberts, Barrister, Toronto, Ont., 31st May, 1892.

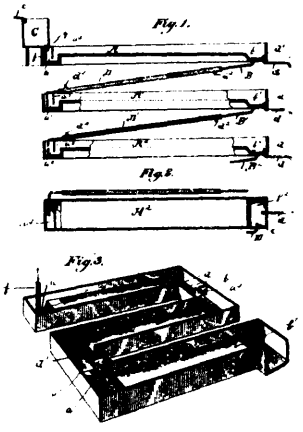
THE CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

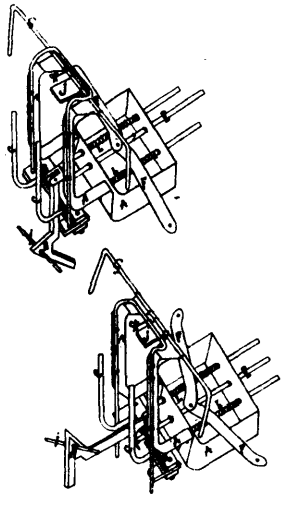
Vol. XX. MAY, 1892. No. 5.



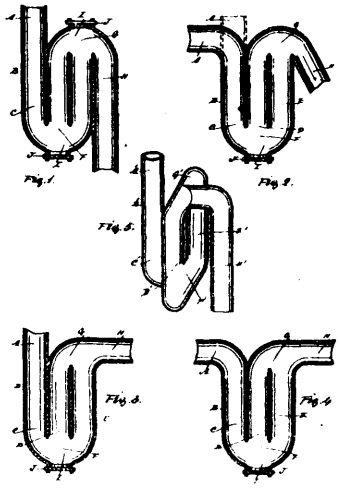
38832 Tabor's Molding Machine.



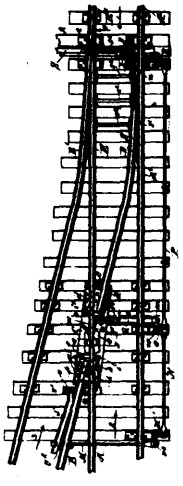
38833 Sobotka's Apparatus for Separating Yeast.



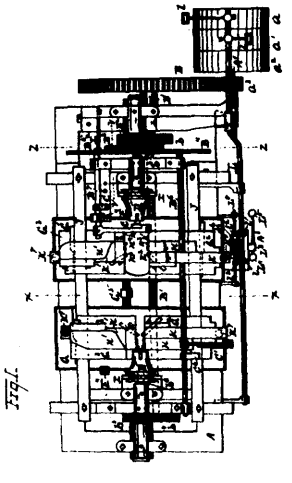
38834 Gendron's Car Coupler.



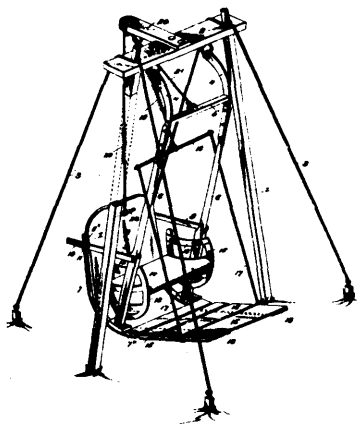
38835 King's Trap for Waste Water Pipes.



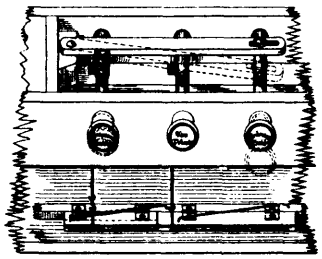
38836 Horrie's Frog and Switch for Railways.



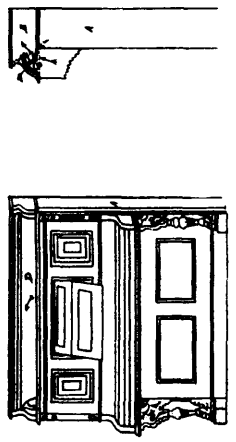
38837 Phillips' Screw Cutting and Pointing Machine.



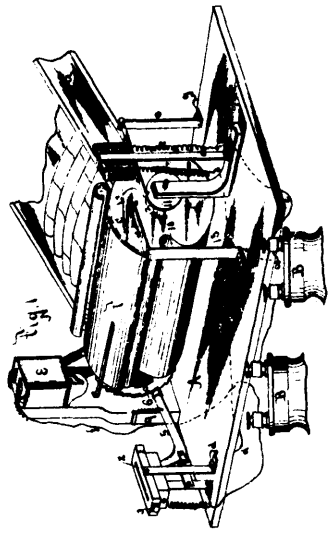
38838 Smith's Swing.



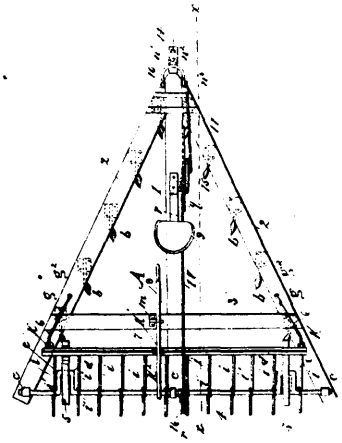
38839 Marcy's Organ Stop Action.



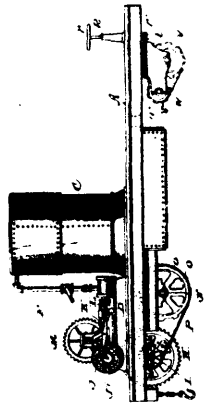
38840 Mitchel's Resonance Chamber for Pianos.



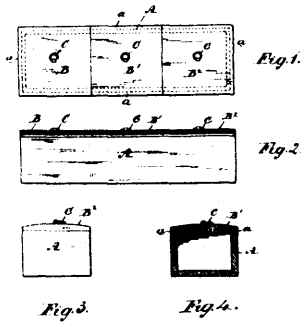
38841 Henry's Coin Vending Machine.



38843 Corser's Levelling Attachment for Harrows.

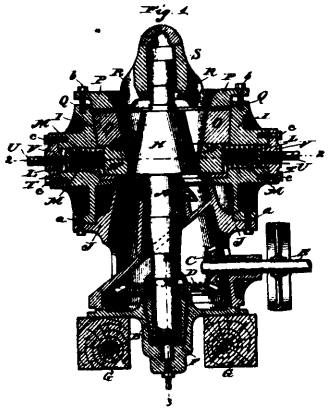


38844 Hanscom's Road Locomotive.

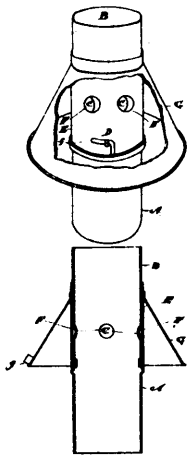


38845 Anthistle's Coffin Case.

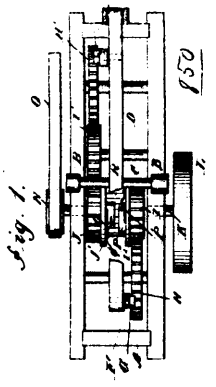
38847 Weltmer's Mail Bag.



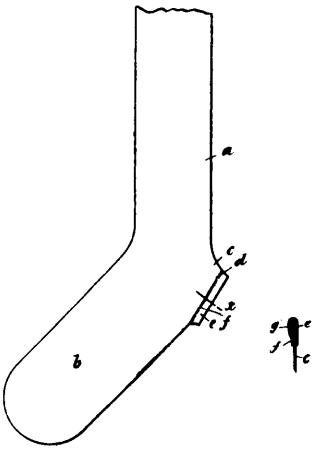
38848 Gates' Crusher and Pulverizer for Stone.



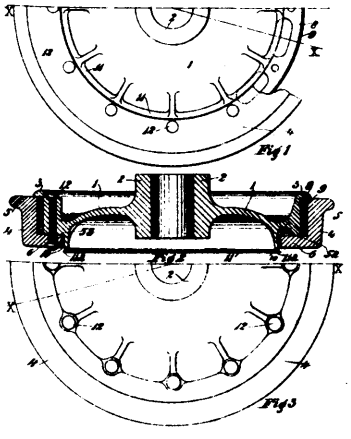
38849 Stone's Ventilator and Damper.



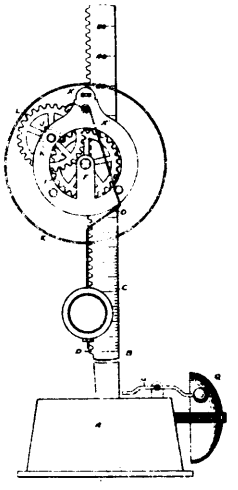
38850 Scheer's Motor.



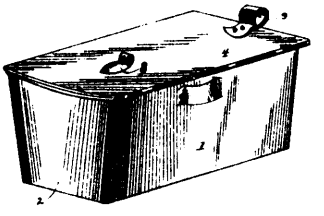
38851 Westgate and Higgins' Stocking.



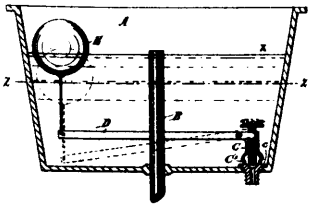
38852 Haugh's Cushioned Car Wheel.



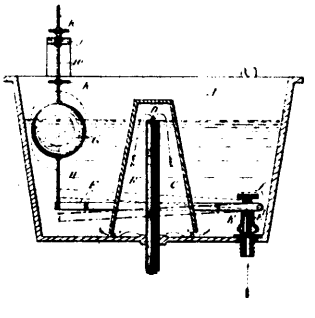
38854 Jones' Gravitating Alarm.



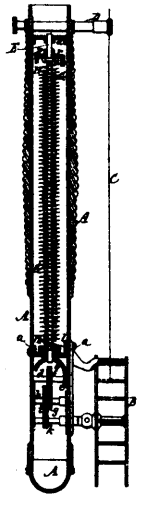
38855 Schifferly's Baking Pan.



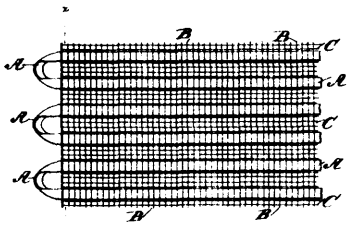
38856 Dwinnell's Closet Cistern.



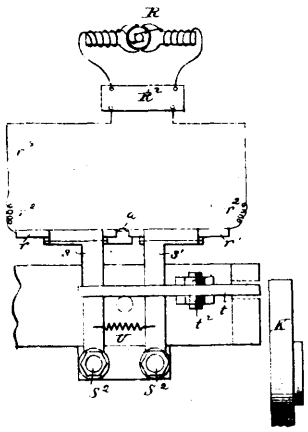
38857 Dwinnell's Closet Cistern.



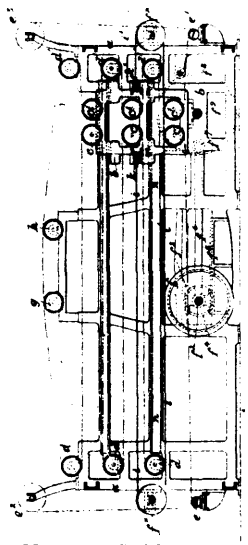
38858 Ross' Fishing Rod and Reel.



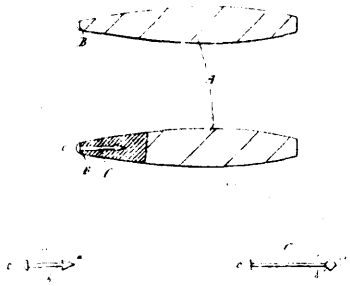
38859 Hilton and Beveridge's Woven Fabric.



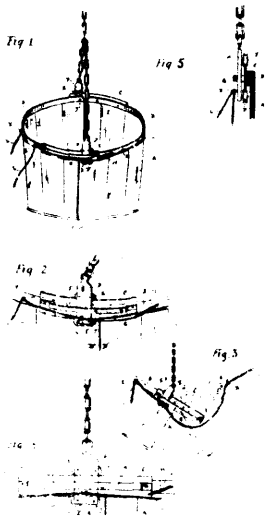
38860 Ross' Electric Forging Machine.



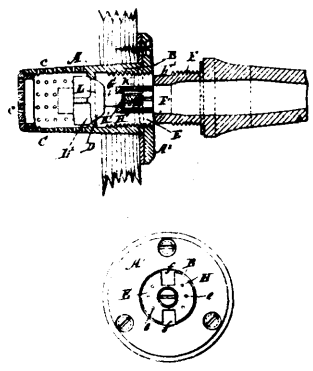
38861 Mann and Smith's Apparatus for Cutting Piled Fabrics.



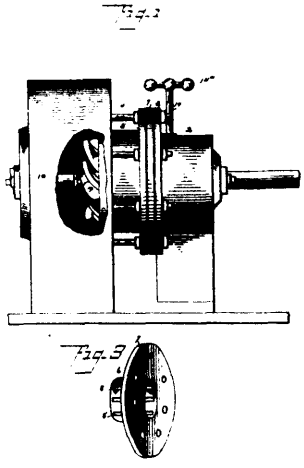
38862 Cohen's Cigar Vent.



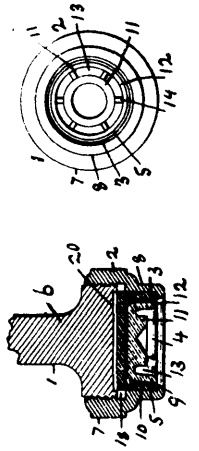
38863 Cogswell's Dump Bucket.



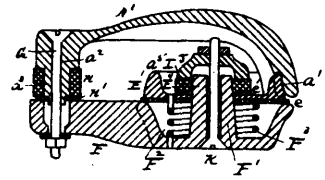
38864 Gabb's Broaching Device for Casks.



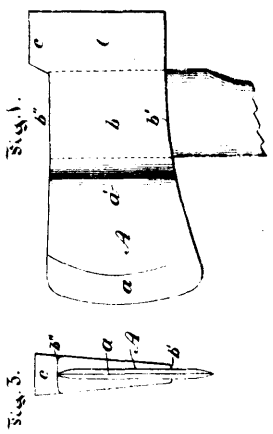
38865 Brash's Water Motor.



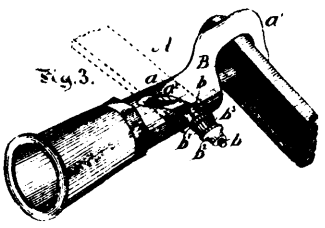
38866 Hunter's Crimper for Cartridge Shells.



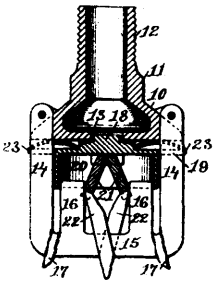
38867 Dennis' Hinge for School Seats.



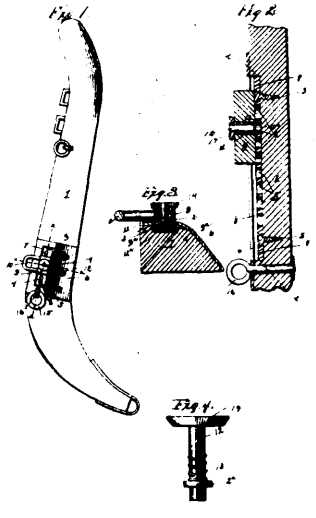
38868 **Beck's Axe.**



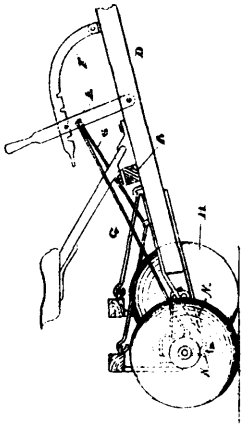
38869 **Walser's Horse Detacher for Vehicles.**



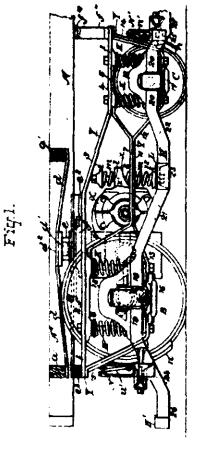
38870 **Newton's Automatic Fire Extinguisher.**



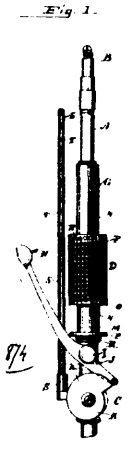
38871 **Cronk's Hame.**



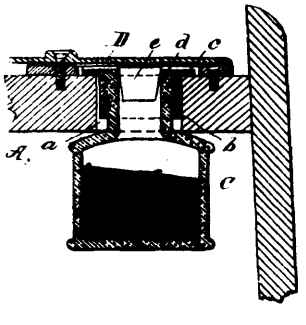
38872 **Corbin's Disk Harrow.**



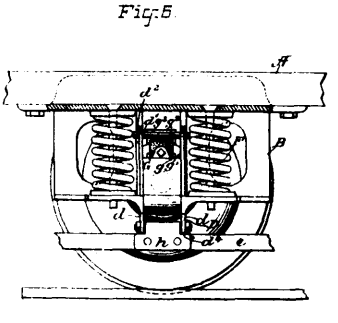
38873 **Brill's Pivotal Car Truck.**



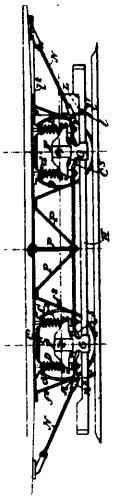
38874 **Shaw's Automatic Gas Lighting and Extinguishing Apparatus.**



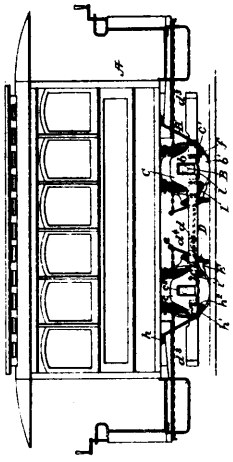
38875 **Hall's Ink Bottles.**



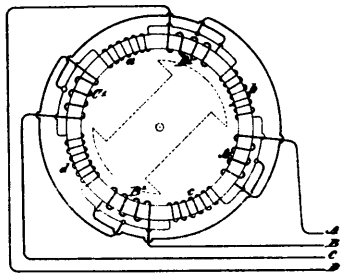
38876 **Brill's Railway Car.**



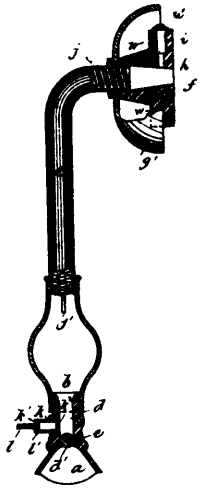
38877 Brill's Railway Car Truck.



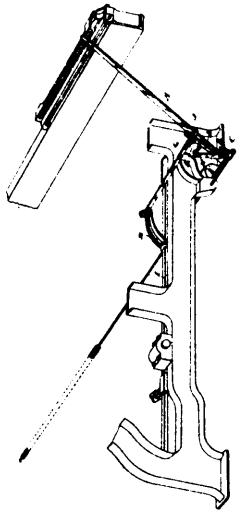
38878 Brill's Street Car.



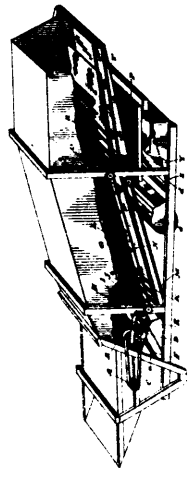
38879 Dobrowolsky's Electric Machine and Apparatus for Alternating Currents of Different Phases.



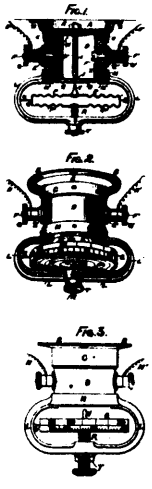
38880 Black's Speaking Tube.



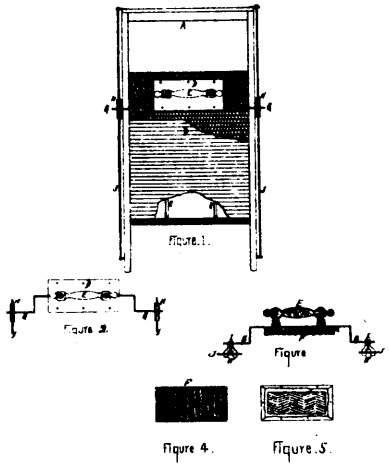
38881 Bredannas's Picker Sticks and Mechanism connected therewith.



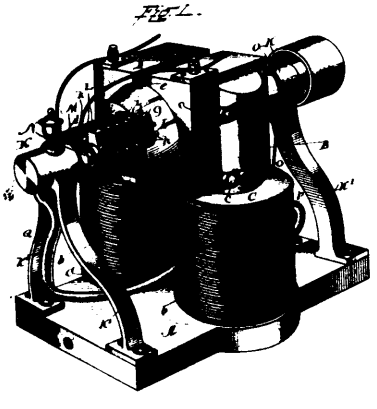
38882 Ball's Threshing Machine.



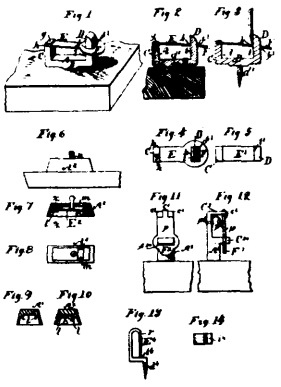
38883 Douse's Electric Fire Indicator.



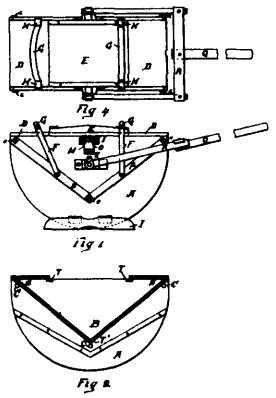
38884 Kinleyside and Williams' Washing Machine.



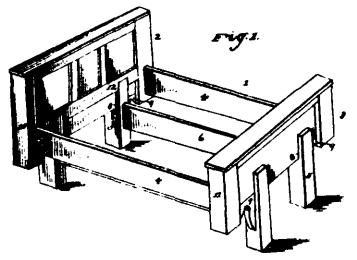
38885 Burt's Dynamo Electric Machine.



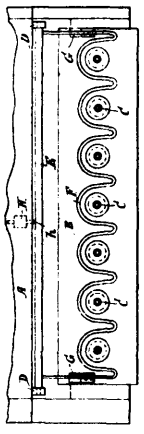
38886 **Morton's Pen Extractor.**



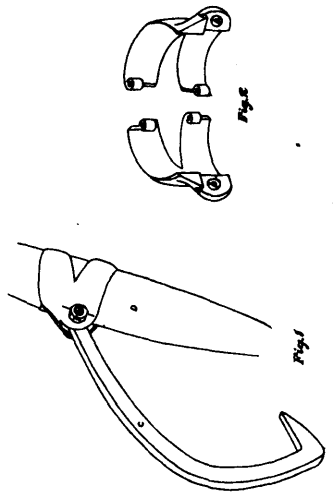
38887 **Miller's Clothes Washer.**



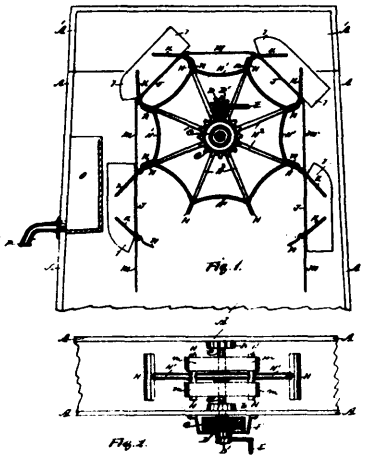
38888 **Chambers' Bedstead.**



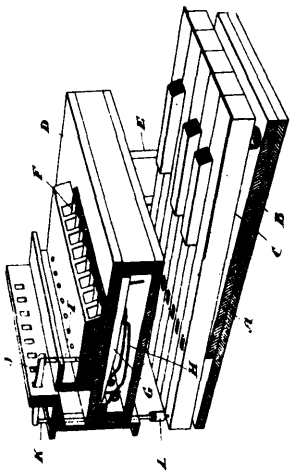
38889 **Graveley's Thread Separator for Ring Spinning Frames.**



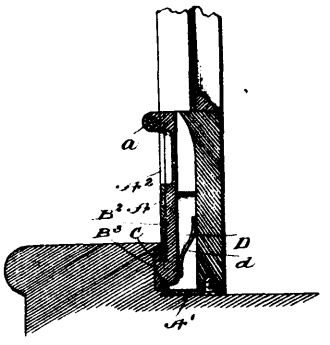
38890 **Walton, Agar and Baillie's Cant Hook Band.**



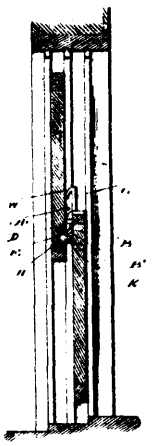
38891 **Burkholder's Water Elevator and Purifier.**



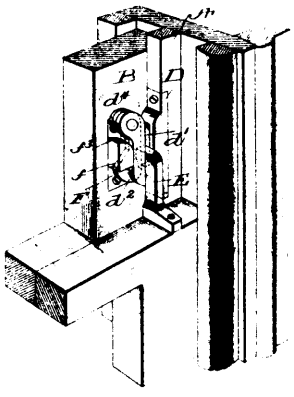
38892 **Small's Cabinet Organ.**



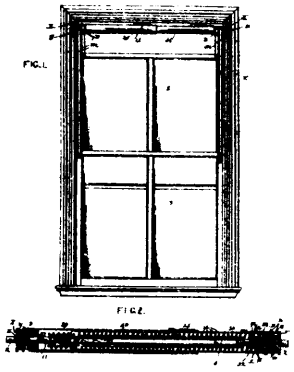
38893 **Gibson's Sash Lock.**



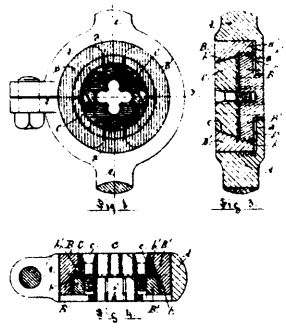
38894 **Gibson's Sash Lock.**



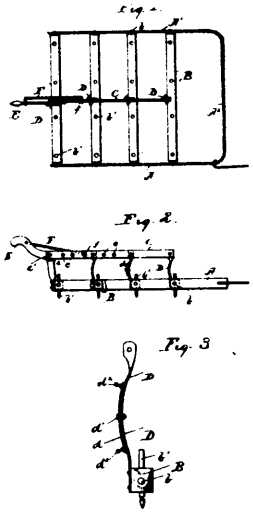
38895 **Gibson's Sash Lock.**



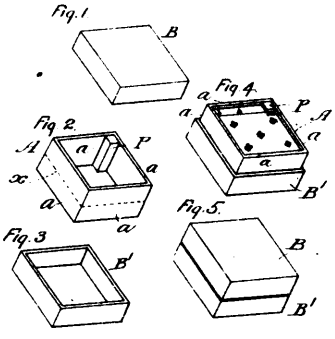
38896 **Johnson's Sash Balance.**



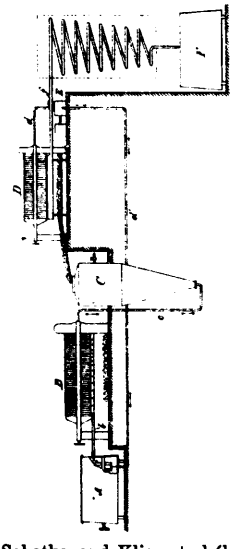
38897 **Keiper's Screw Cutting Plate.**



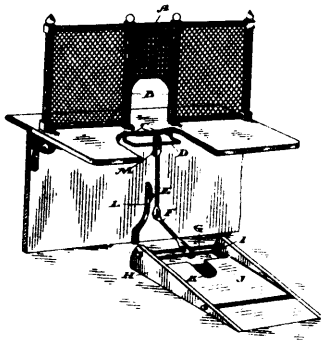
38898 **Mackey's Harrow.**



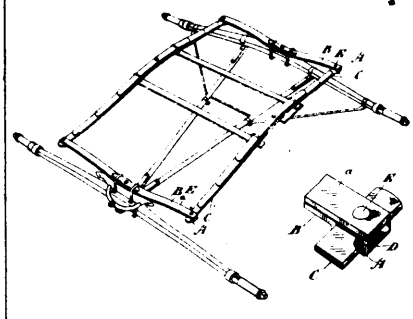
38899 **Colby's Game.**



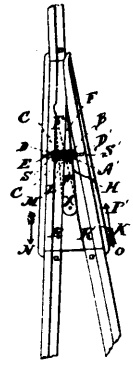
38900 **Sobotka and Kliemetschék's Method and Apparatus for Producing Clear Wort.**



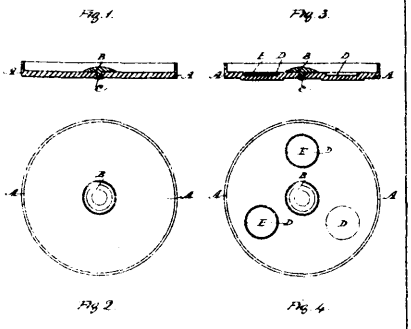
38901 **Gatfield's Device for Opening and Locking Wicket Windows or Doors.**



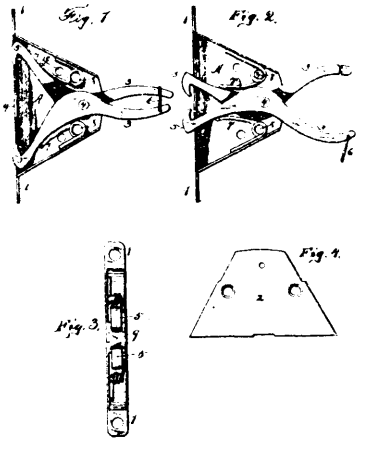
38902 **Kennedy's Spring Coupling,**



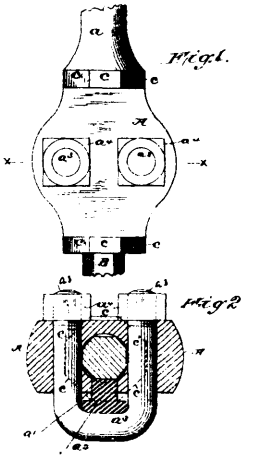
38903 **Mowder's Automatic Switch Tongue Adjuster.**



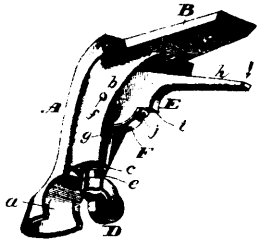
38904 Lawrence's Non-corrosive Application to Tinware.



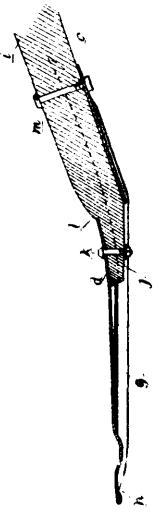
38905 Rose's Sash Lock.



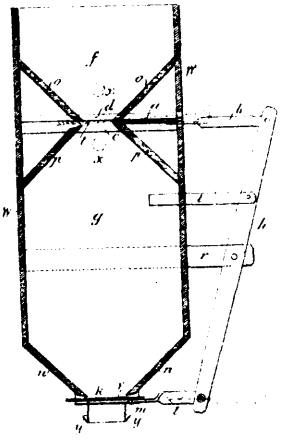
38906 Halsey's Chucks for Rock Drills.



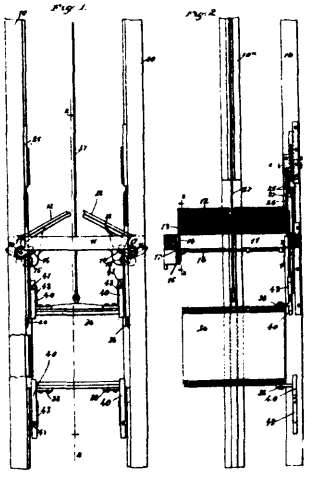
38907 Morse's Attachments for Stove Legs.



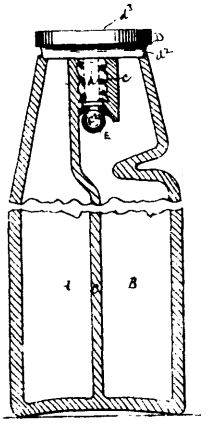
38908 Daly's Shovel.



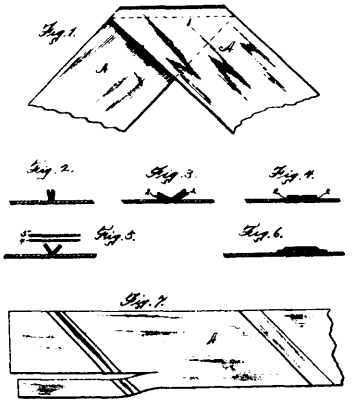
38909 Metcalfe's Grain Measuring and Bagging Device.



38911 Anderson's Elevator Door.

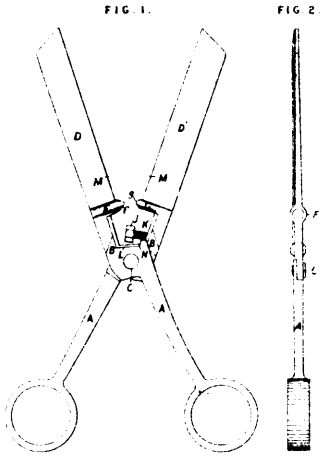


38912 Schon's Bottle.

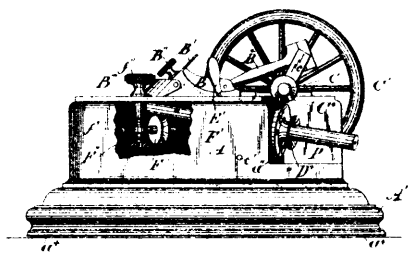


38913 Beeman's Method of Making Velveteen Binding.

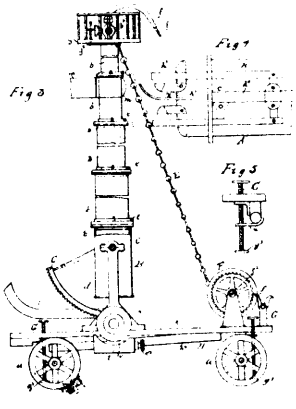
38914 **Gardner's Sash Cord Fastener.**



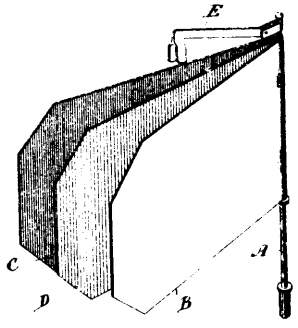
38915 **Carmody's Scissors for Cutting Button Holes.**



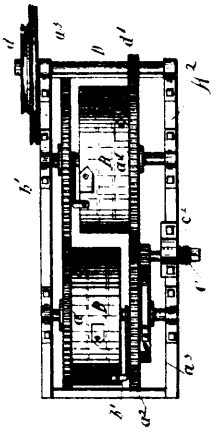
38916 **Siegel's Pencil Sharpener or Pointing Plane.**



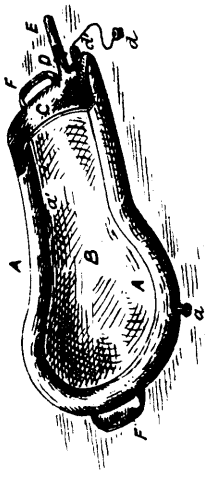
38917 **McPartland's Hydraulic Fire Escape and Extension Ladder.**



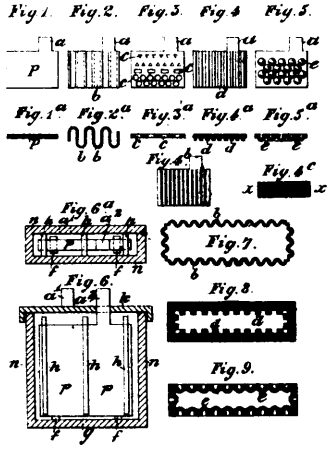
38919 **Piper's Railway Signal Flag.**



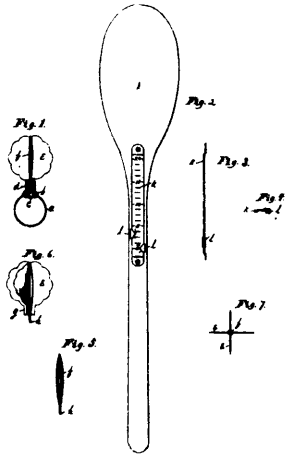
38920 **Adams' Spring Motor.**



38921 **Crandall's Bed Pan.**



38922 **Epstein's Formation of Electrodes for Use in Primary and Secondary Electric Batteries.**



38923 **Clarke's Game.**

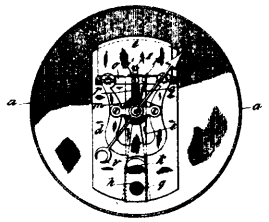


Fig. 2.

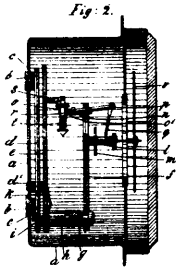
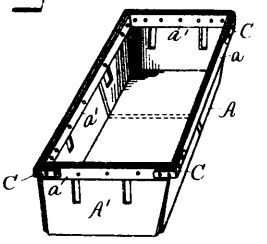


Fig. 3.

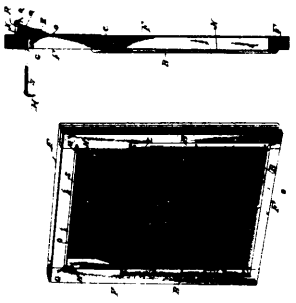
38924 **Moller's Thermometer with Compensation Plates.**

38925 **Conboy's Carriage Top.**

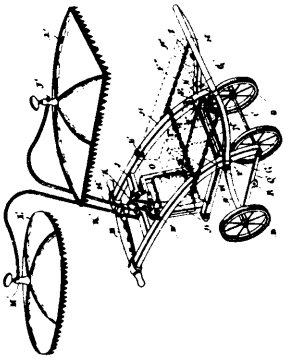
Fig. 2.



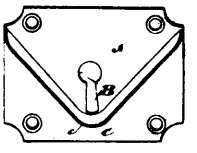
38926 **Spillman's Basket.**



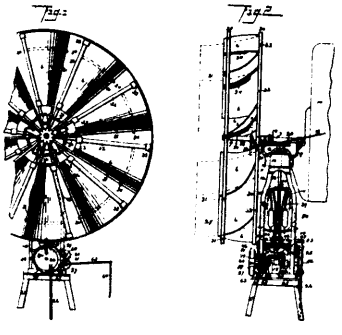
38927 **Tenny's Door and Window Screen.**



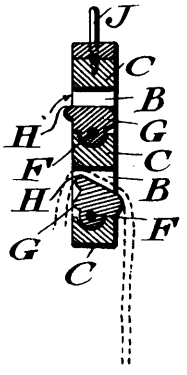
38928 **Lazarus' Combined Baby Carriage, Chair and Cradle.**



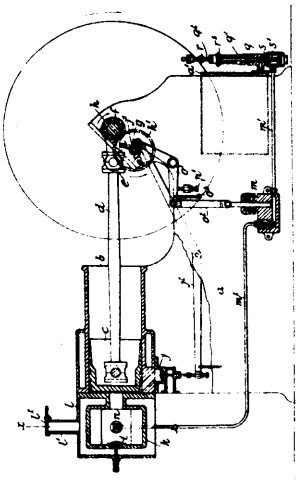
38930 **Holdenby's Keyhole Guide.**



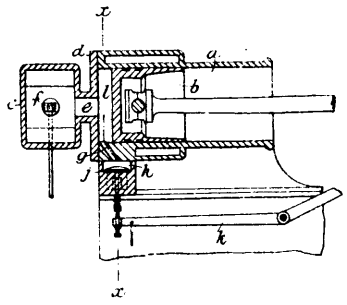
38931 **McKnight's Windmill.**



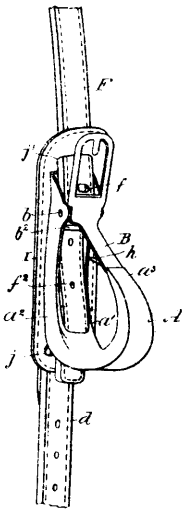
38932 **Evans' Trouser Hanger and Stretcher.**



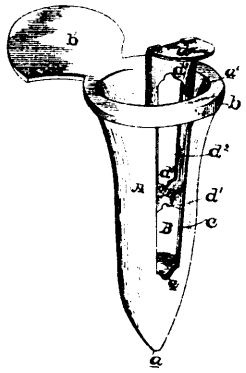
38933 **Stuart's Gas Engine.**



38934 Stuart's Gas Engine.

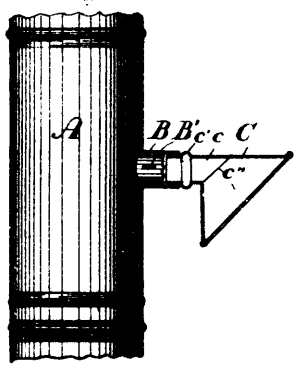


38935 Haas' Shaft Tug for Harness.

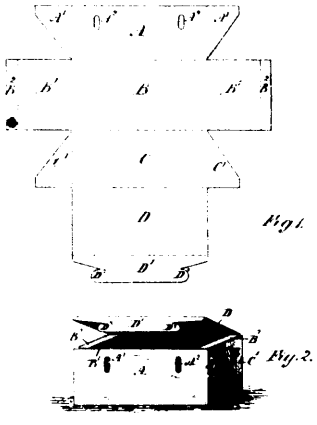


38936 Davis' Rectal Speculum.

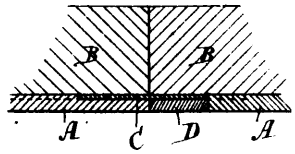
Fig. 2.



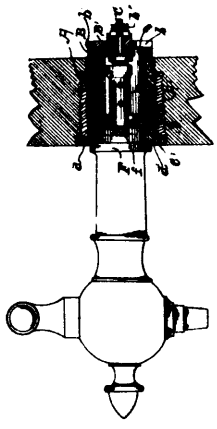
38937 Kettyle's Stovepipe Ventilator.



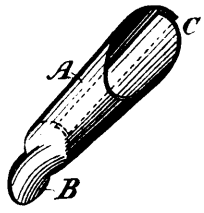
38938 Millen's Knock Down Paper Boxes.



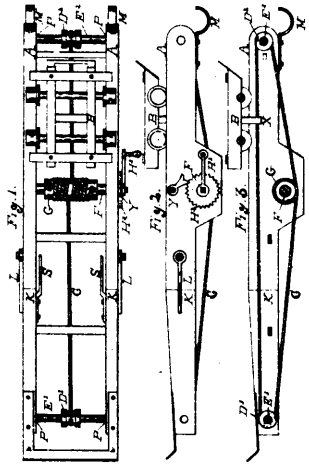
38939 Baker's Plaster Board.



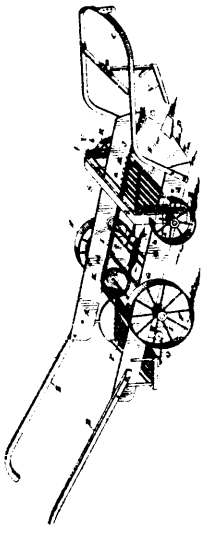
33940 Anthony's Faucet for Barrels.



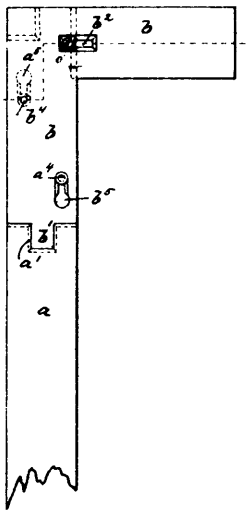
38941 Breen's Gardening Implement.



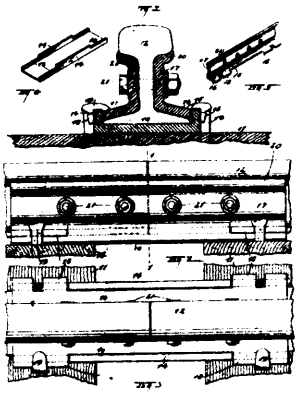
38942 Gemmell and Dooley's Truck.



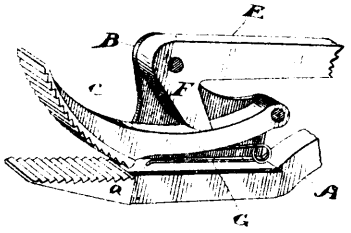
38943 Morrow's Potato Digger.



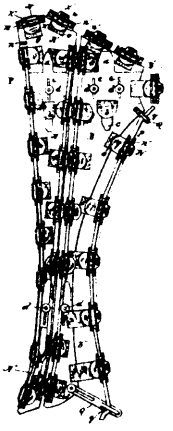
38944 Poole's Square.



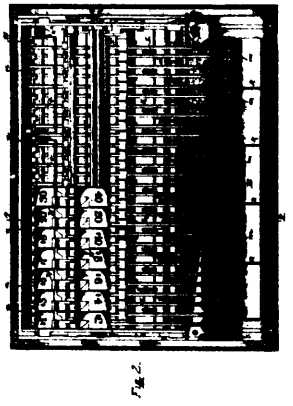
38945 Stacy's Rail Joint.



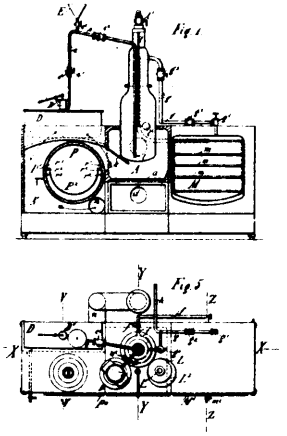
38946 Jones' Clinches for Horseshoe Nails.



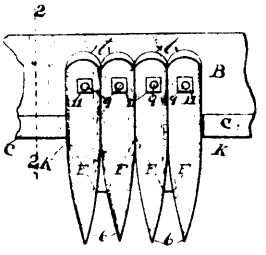
38947 Shane's Dress Fitting Apparatus.



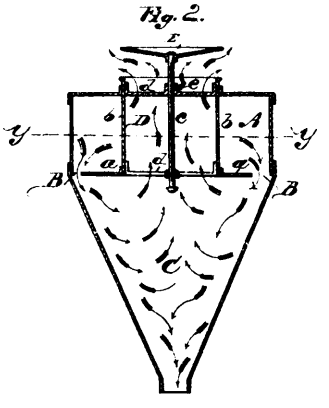
38948 Yoe's Cash Register.



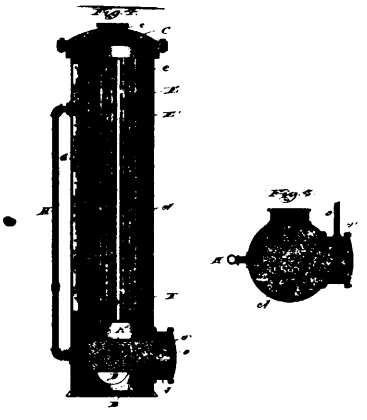
38949 Kruschina's Steam Cooking Apparatus.



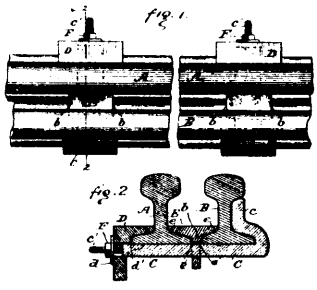
38950 Rudd's Cutter Bar.



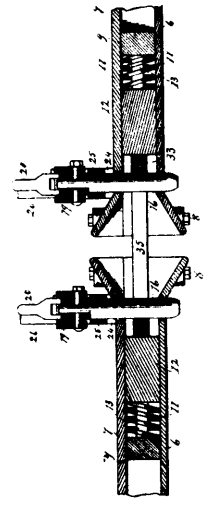
38951 Smith's Dust Collector.



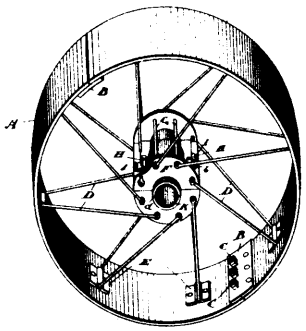
38952 Krumholz's Feed Water Heater and Purifier.



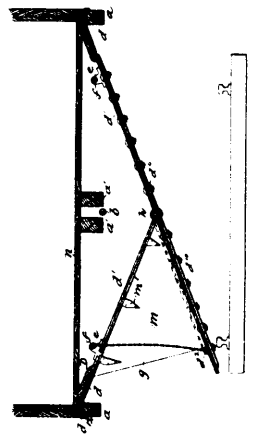
38953 Sponenburg's Means for Securing Guard Rails to Main Line Rails.



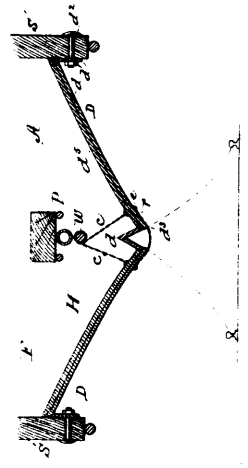
38954 Gohl's Car Coupler.



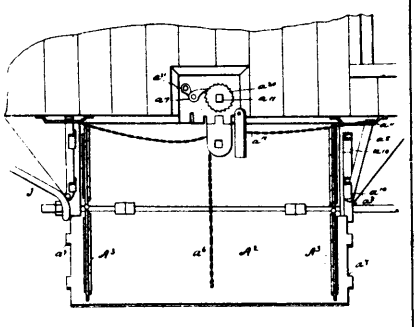
38955 Campbell's Split Pulley.



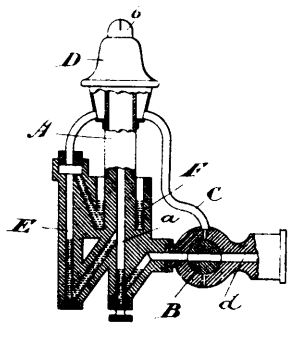
38956 Souder's Dumping Car.



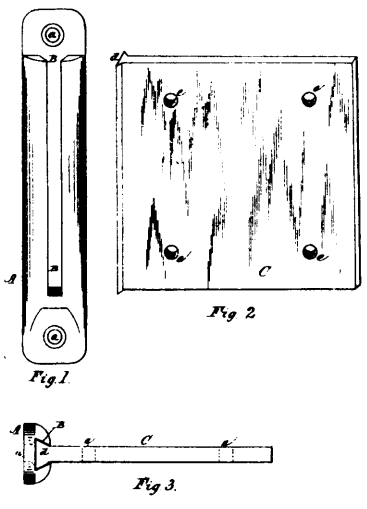
38957 Souder's Dumping Car.



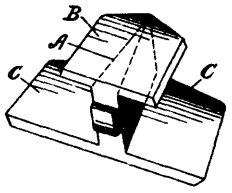
38958 Souder's Dumping Car.



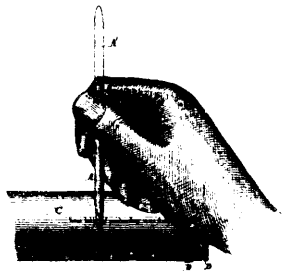
38959 Merchant's Cut-off for Gas Burners.



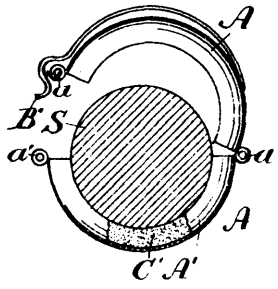
38960 Darby's Bedstead Lock.



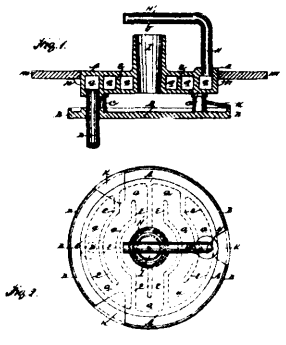
38961 Graves' Stretcher Key.



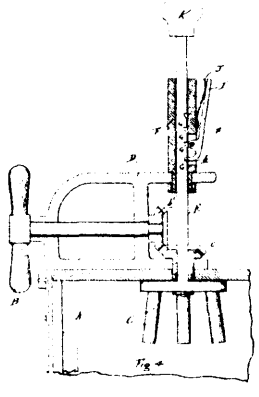
38962 Prouty's Ink Eraser.



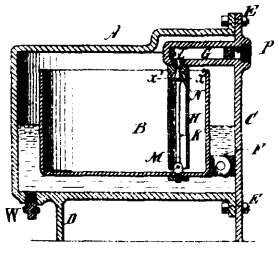
38963 Elliott's Lubricating Glands.



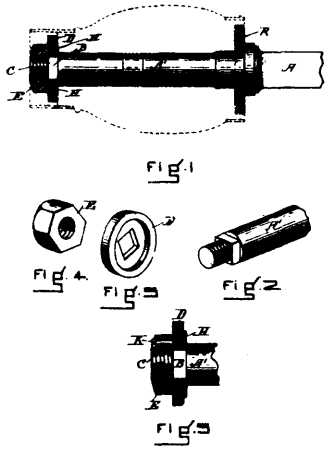
38964 Griffith's Calorific Oil Generator and Heater.



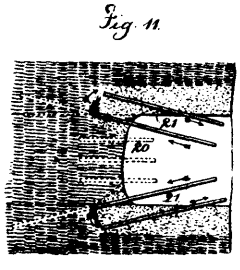
38965 Doré's Washing Machine.



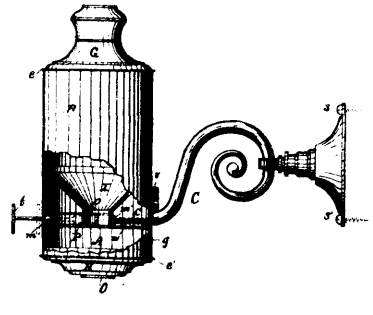
38966 Kieley's Drain Trap.



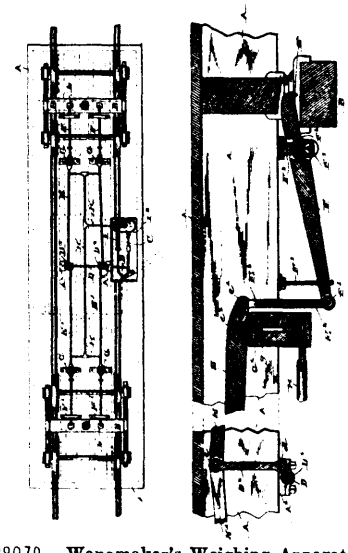
38967 Folsom's Carriage Axle Attachment.



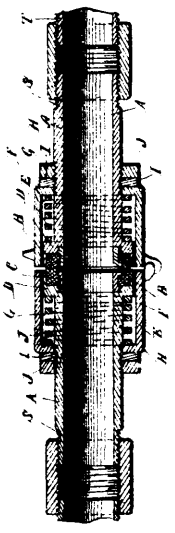
38968 Harris' Foundation.



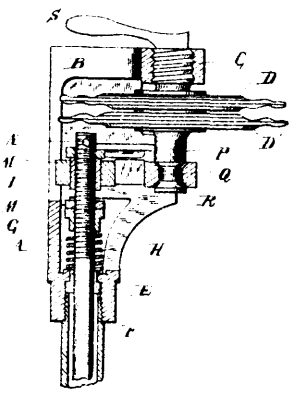
38969 Stowell's Soap Holder.



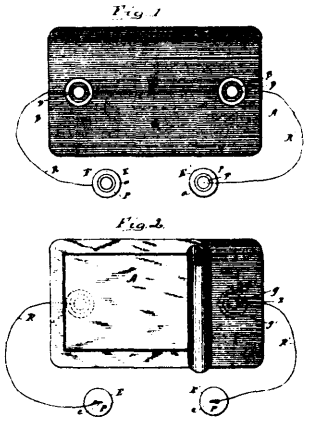
38970 Wanamaker's Weighing Apparatus for Vehicles.



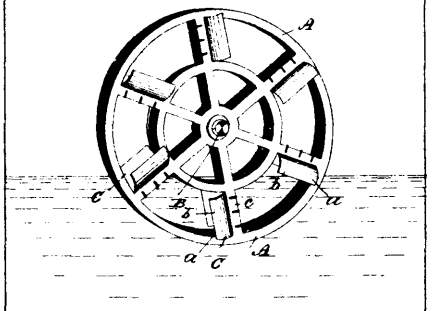
38971 McElroy's Pipe Coupling.



38972 McElroy's Temperature Regulator.

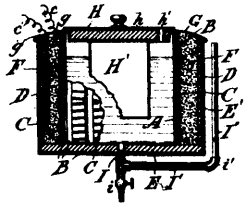


38973 Shult's Galvanic Electric Plaster.

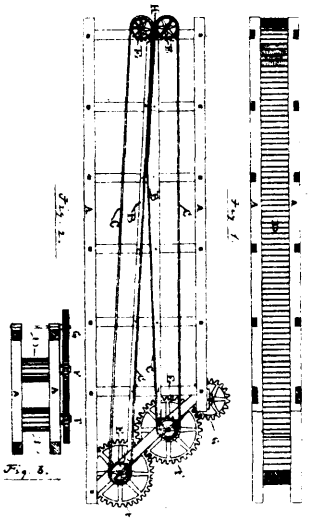


38974 Howard's Paddle Wheels for Steamers.

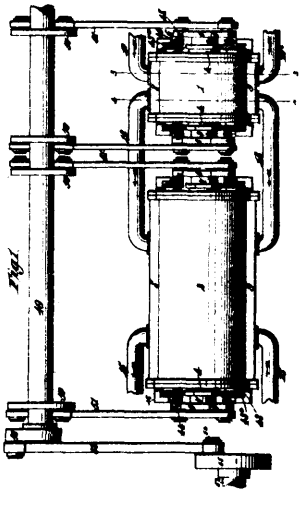
38975 Hoffmann's Sole for Footwear.



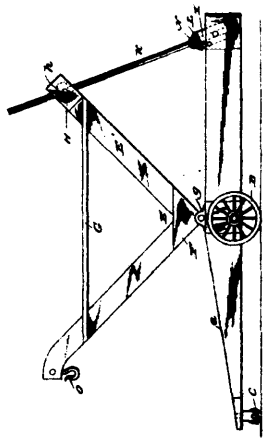
38976 Ahearn's Electric Water Heater.



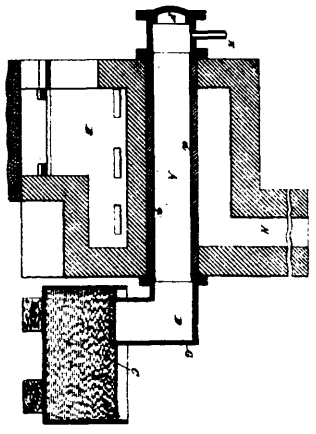
38977 Clark's Machine for Squeezing Spongy Substances.



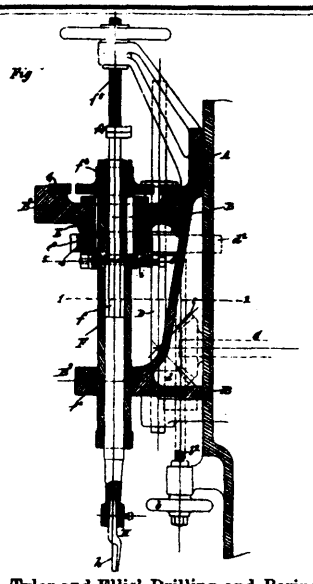
38978 Richardson's Steam Engine.



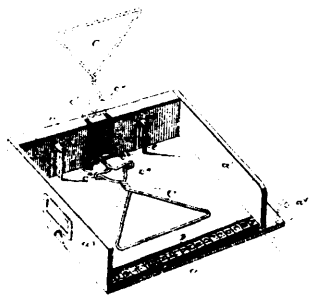
38979 Vanes' Crane.



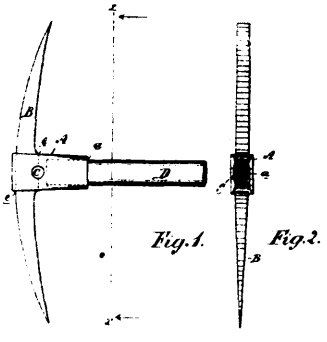
38980 Cummins' Apparatus for Preparing Copper.



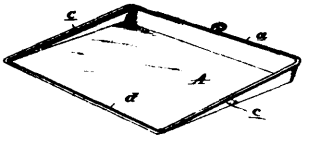
38981 Tyler and Ellis' Drilling and Boring Machine.



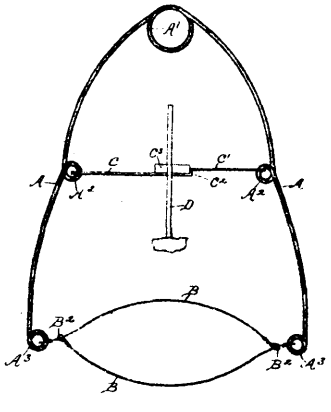
38982 Jewell's File Case.



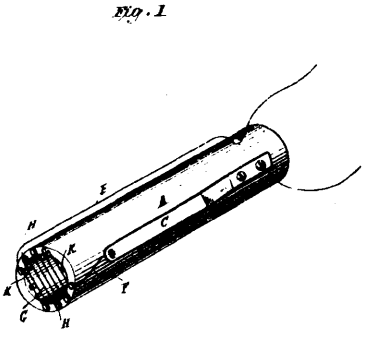
38983 Van Arsdale's Pick.



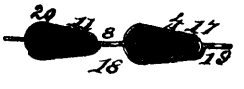
38984 Everhard's Kneading Board.



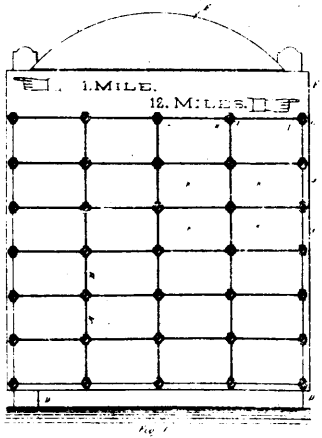
38985 Lewis' Animal Trap.



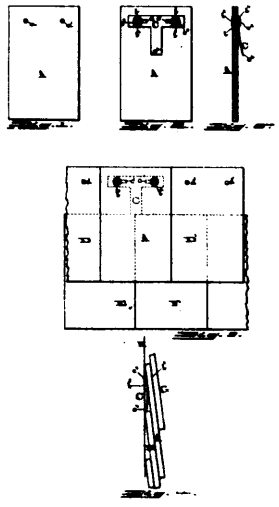
38986 Cuttriss' Sealing Device.



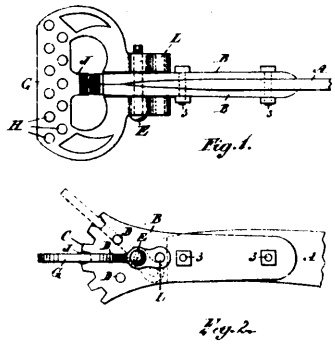
38987 Andrews' Electro-Galvanic Belt.



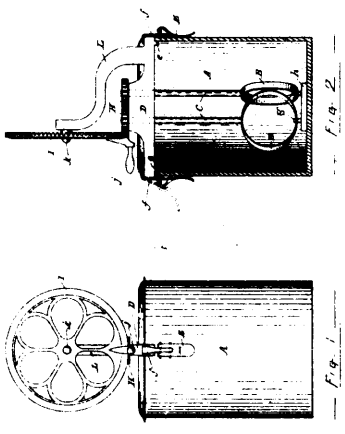
38988 Cable's Advertising Mile Board.



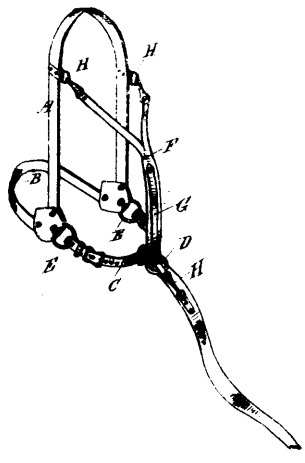
38989 Jackson's Roofing Tile Fastening.



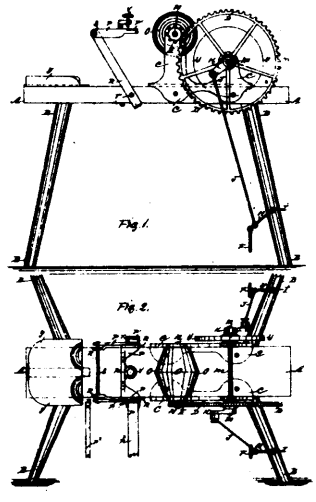
38990 Percival's Plow Clevise.



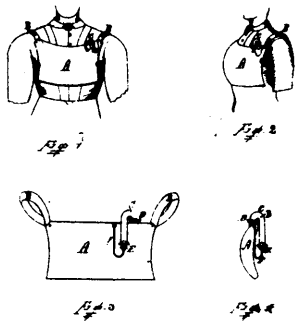
38991 Lloyd's Churn.



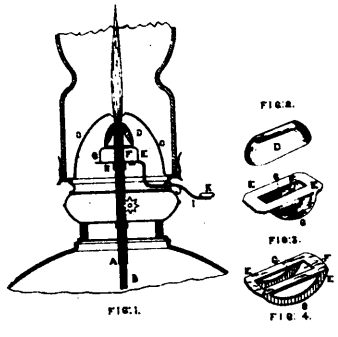
38992 Morton's Horse Halter.



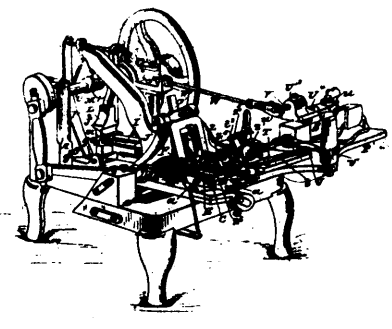
38993 Cameron's Machine for Grinding Knives.



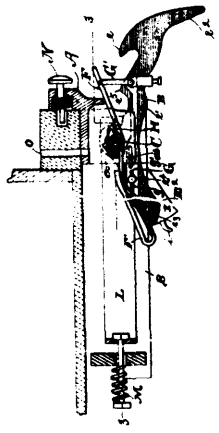
38994 Beckett's Life Preserver.



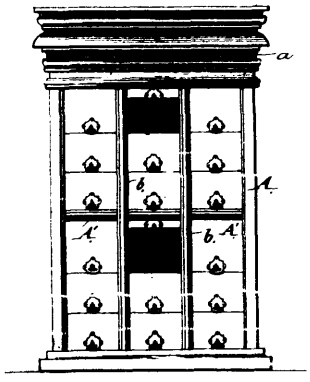
38995 Dowdall's Automatic Safety Extinguisher.



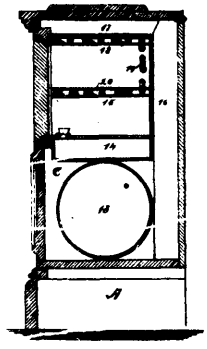
38996 McKim's Wire Nail Making Apparatus for Cut Nail Machines.



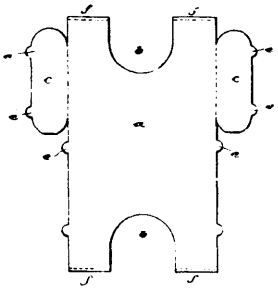
38997 Heath's Car Coupling.



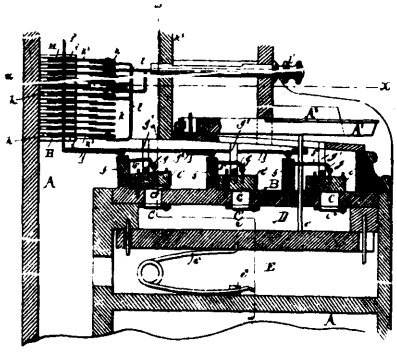
38998 Meehan's Pigeon Hole Case.



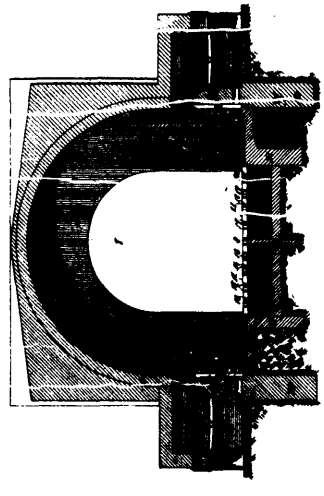
38999 Cornish's Combined Refrigerator and Gas Generator.



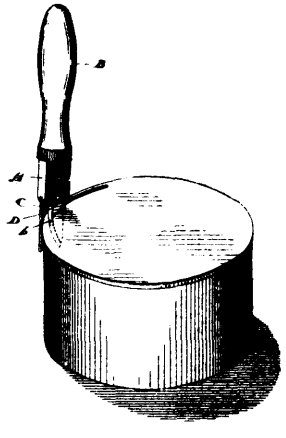
39000 Fielder's Match Box.



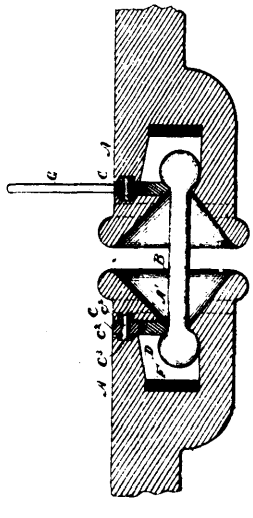
39001 Philipp's Transposing Keyboard.



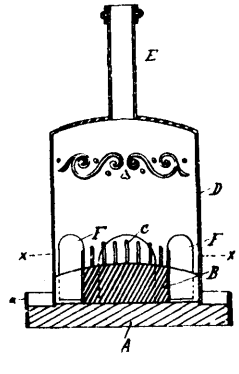
39002 Grath's Brick Kiln.



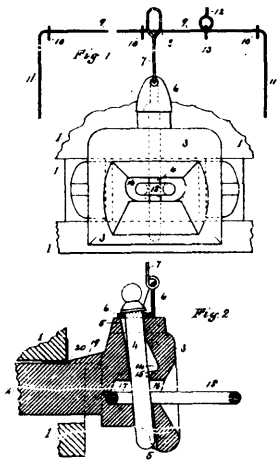
39003 Kuhl's Can Opener.



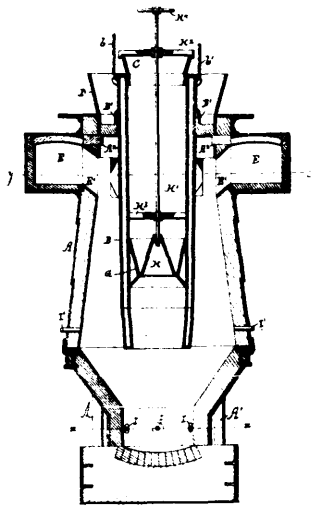
39004 Woolf's Car Coupler.



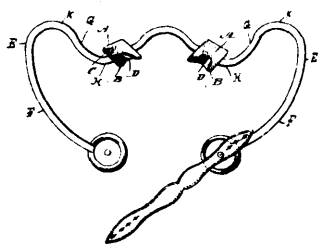
39005 Schuman's Game.



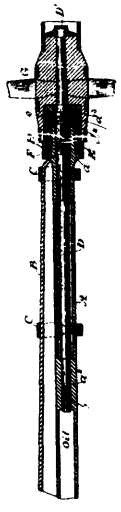
39006 McEntee's Car Coupling.



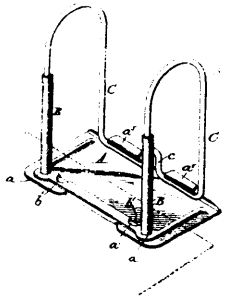
39007 Austin's Smelting Apparatus.



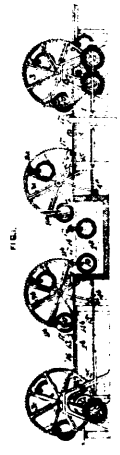
39008 Dallas' Truss.



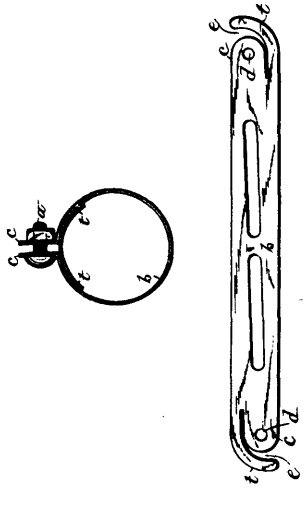
39009 Hoeffler and Chapman's Axle.



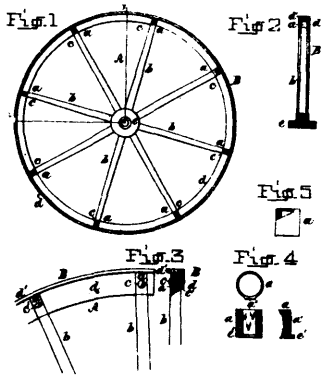
39010 Jewell's Letter File.



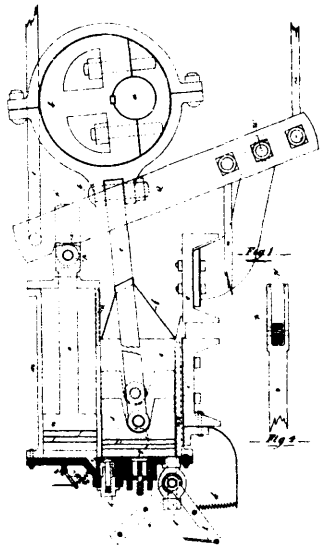
39011 Hayes and Kong's Apparatus for Treating Wire.



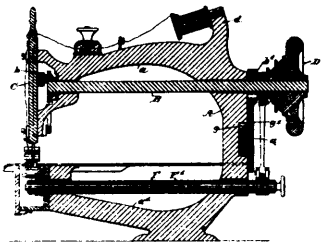
39012 Dickinson's Hose Clamp.



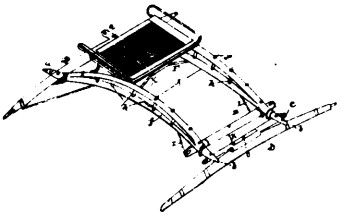
39013 Circle's Wheel.



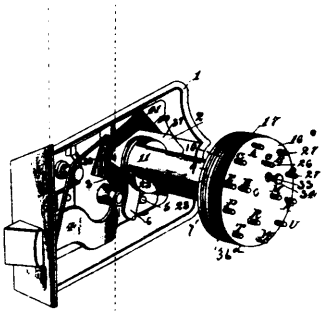
39014 Chapleau's Momentum Air Compressor and Air Brake.



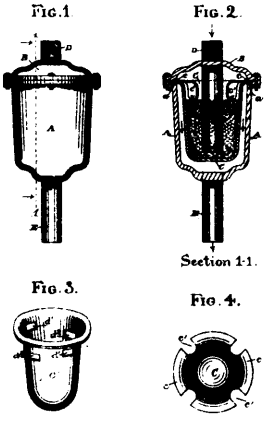
39015 Kramer's Sewing Machine.



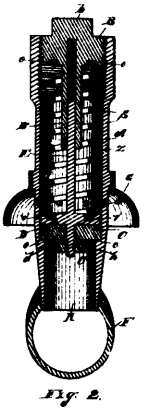
39016 Toomey's Skeleton Waggon and Sulky Thill.



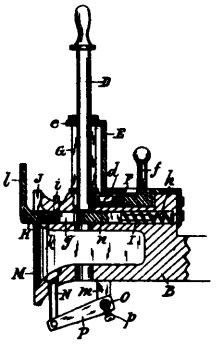
39017 Weymouth's Combination Lock.



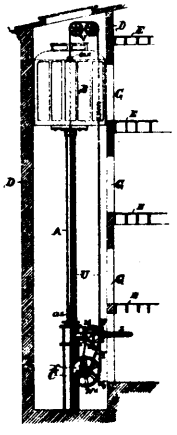
39019 Carroll's Sink Trap.



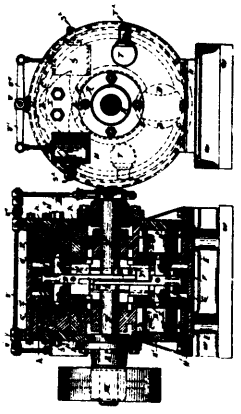
39020 Martyn's Automatic Relief Valve for Water Pipes.



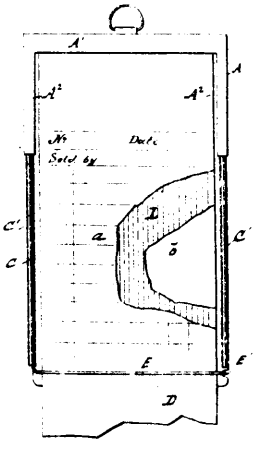
39021 Watts' Car Coupling.



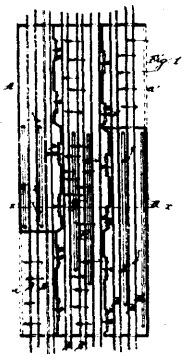
39022 Hall's Valve for Hydraulic Elevators.



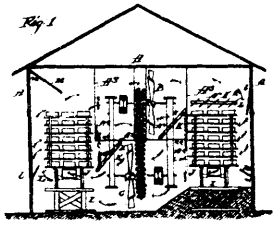
39023 Brosins' Rotary Engine.



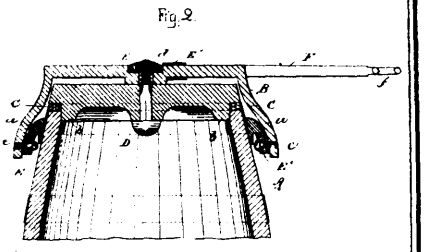
39024 Piaget's Sales Recording Tablet.



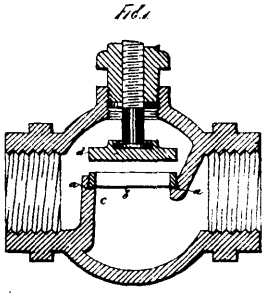
39025 Phillips' Drying Apparatus.



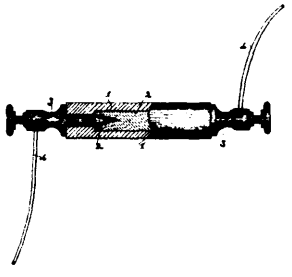
39026 Phillips' Drying Apparatus.



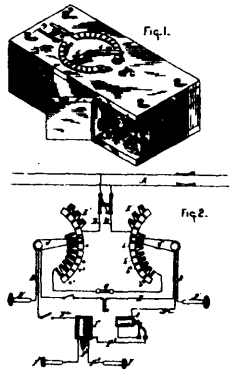
39027 Moore's Barrel Closure.



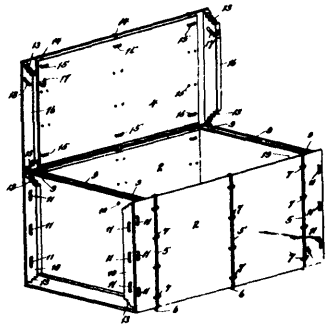
39028 Bayier's Compression Joint.



39030 Schneider's Composition for Electric Resistance.

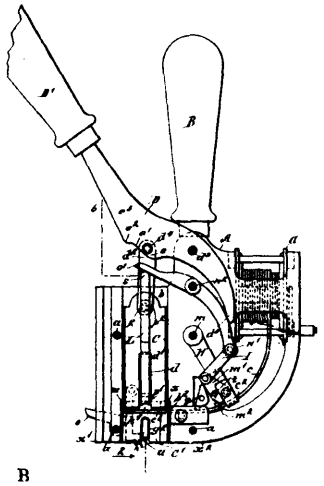


39031 Herdman's Electro-Therapeutic Apparatus.



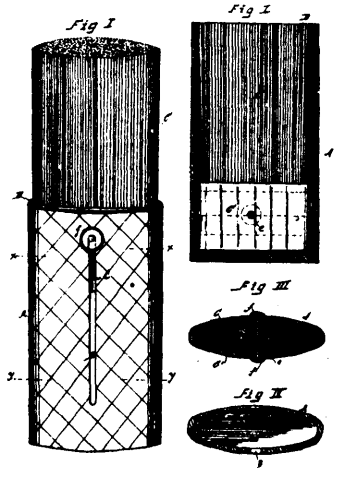
A

39032 Howenstine's Box and Machine for Making Boxes.



B

39032 Howenstine's Box and Machine for Making Boxes.



39033 O'Brien's Pocket Whisk Holder.