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INVENTIONS PATENTED.

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

No. 25,896. Hame Lock. (*Ferrure d'Attelles.*)

Lee Anderson and Thomas Broad, Paris, Texas, U.S., 1st February, 1887; 5 years.

Claim.—As an improved article of manufacture, the hame fastener described, consisting of the coupling branches B and C, the latter being composed of the two pivoted sections, forming the bell-mouth *b*, the section H having the slot *c*, and the spring K secured to its opposite end and pressing against the under side of the section G, and the branch B having the catch-tooth E, adapted to enter the bell-mouth and engage the slot *c*, substantially as specified.

No. 25,897. Egg Opener. (*Casseur d'Oeufs.*)

William R. Hartigan, Burlington, Conn., U.L., 1st February, 1887; 5 years.

Claim.—1st. The parti-circular jaws, provided with spine teeth, substantially as described and for the purpose set forth.

No. 25,898. Curry Comb. (*Etrille.*)

Frank J. Howe, Medfield, Mass., U.S., 1st February, 1887; 5 years.

Claim.—1st. A curry-comb, composed of the frame A, having at one end a handle B, at the opposite end a straight edge D, and provided with intermediate combing edges C, C_2, of a continuous undulatory form along their length, without angles or corners, and with convex and concave portions G, H, alternating with each other and in line with the corresponding portions of the others, substantially as shown and described.

No. 25,899. Tank for Steeping Flax and Heating Apparatus for Maintaining an Equable Heat in the Contents of Tanks. (*Réservoir pour Rouir le Lin et Appareil de Chauffage pour Maintenir une Chaleur uniforme dans les Réservoirs.*)

Thomas L. Henly, London, Eng., 1st February, 1887; 5 years.

Claim.—1st. The method of supporting or steeping flax in an enclosed tank, to which an equable degree of heat is maintained by a circulation of the liquor through a bent or curled pipe, in direct contact with the fire of a slow combustion stove, as hereinbefore described. 2nd. The particular arrangement of apparatus, shown on the annexed drawings, in or by which the operation of steeping flax can be performed, as set forth.

No. 25,900. Machine for Catching Lobsters. (*Machine pour Pêcher les Homards.*)

Andrew Flick, Halifax, N.S., 2nd February, 1887; 5 years.

Claim.—1st. The folding frame A, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of folding frame A, upright rod D, side rods c_1, c_1, link pieces *d*, *d*, and pin E, substantially as and for the purpose hereinbefore set forth. 3rd. The side springs on rod D, Fig. 7, on which pin E fits tightly, substantially as and for the purpose as hereinbefore set forth.

No. 25,901. Root Cutter for Slicing Turnips, etc. (*Coupe-Racine.*)

Edwin H. Clare, L'Orignal, Ont., 2nd February, 1887; 5 years.

Claim.—1st. The combination, with the frame 1, carrying a hopper 2, of the tapering cylinder, consisting of a head 4, knives 8 and ring 10 mounted on shaft 3 and journalled below the hopper, whereby the knives cut across the throat of the hopper, and successively support the roots while being cut, substantially as set forth.

No. 25,902. Machine for Rolling Car Wheels. (*Machine à Laminer les Roues des Chars.*)

Hervey W. Fowler, Chicago, Ill., U. S., 2nd February, 1887; 5 years.

Claim.—1st. The method of manufacturing cast-steel car-wheels, substantially as hereinbefore described, the same consisting, first, in casting a solid integral wheel-blank, having a rudimentary flange, a hub, and a web, substantially complete as to dimensions and form, and a rim which, at the tread and flange is larger in diameter than the finished wheel desired, and, secondly, in peripherally rolling the rim and concentrically reducing the diameter of said blank to the diameter desired in the finished wheel, and thereby evenly condensing the metal at the outer portion of the rim in radial and peripheral lines, and developing the flange and hardening the tread of the wheel. 2nd. As an improved article of manufacture, an integral cast-steel car-wheel, having its hub, its web, and the main portion of its rim composed of the metal in its normal soft and tough condition, and a flange and tread composed of metal which is hardened and condensed in radial peripheral lines, substantially as described.

No. 25,903. Cast Steel Car Wheel. (*Roue de Char en Acier Fondu.*)

Hervey W. Fowler, Chicago, Ill., U. S., 2nd February, 1887: 5 years.

Claim.—1st. In a machine for rolling the treads of car wheels, the combination, substantially as hereinbefore described, of a set of circularly-arranged, positively-driven and radially-adjustable rolls, each having flanges or collars for laterally embracing the rim of a car wheel, and a rolling face corresponding in contour with the flange and tread of a car wheel, and screws for moving all of said rolls toward and from a common centre. 2nd. The combination, substantially as hereinbefore described, of a set of circularly-arranged and positively-driven rolls, each having a rolling face corresponding in contour with the flange and tread of a car wheel, the adjusting screws, the gears on said screws, and the one controlling gear meshing with all the screw gears. 3rd. The combination, substantially as hereinbefore described, of a set of oppositely-located circularly-arranged, positively-driven and radially-adjustable rolls, each having a rolling face corresponding in contour with the flange and tread of a car-wheel, and a central guiding spindle whereby a car wheel blank is centrally located while its rim is being operated upon and said blank revolved by said rolls. 4th. The combination, substantially as herein described, of a set of positively-driven, circularly arranged and radially-adjustable rolls, each having a rolling face corresponding in contour with the flange and tread of a car wheel and a detachable clamp for laterally supporting the web and internally supporting the rim of a car wheel while its tread is engaged by said rolls. 5th. In a machine for rolling car wheels, the combination of a set of rolls, positively driven, circularly-arranged, radially adjustable, and each having a rolling-face corresponding to the tread and flange of a car wheel, and flanges or collars for embracing the side edges of a car wheel, substantially as described, and a housing for said rolls, which is open centrally for enabling a wheel blank or car wheel to be inserted and removed in a sidewise position.

No. 25,904. Folding Bed or Bedstead. (*Lit ou Couchette Pliant.*)

William C. Ilsley, New York, N. Y., U. S., 2nd February, 1887; 5 years.

Claim.—1st. A folding bed or bedstead, wherein the bed proper, which turns down, is provided with a resisting spring, and wherein the standard is provided with a backward extension to prevent it

from toppling over when the bed is pulled down, said extension being in the nature of a dressing bureau, with a marble or like heavy slab for a top, substantially as set forth. 2nd. In a folding bed or bedstead, the arrangement of the resisting spring under the backward extension or bureau D, substantially as shown and described. 3rd. In a folding bed or bedstead, having a backward extension or bureau D, the combination of the box m arranged under said extension, the spring l within said box, the chain n, the guide block o, the roller r, and the bed proper to which one end of said spring is attached.

No. 25,905. Sawing Machine. (*Scierie.*)

Darwin A. Greene, New York, N. Y., U. S., 2nd February, 1887; 5 years.

Claim.—1st. In a sawing machine, a gang of circular saws D, with means for driving them, in combination with a series of feed chains M arranged to carry the wood below the saws, and in the same direction as the saws run, arranged for joint operation as and for the purposes herein specified. 2nd. In a sawing machine, as described, the combination, with a gang of saws, as D, hung on a single shaft, of a corresponding series of feed chains carried on drums arranged parallel with the saw arbor and revolved by the same power, the said chains being arranged to move in the same direction as the saws, as set forth. 3rd. In a sawing machine, as described, the combination, with the gang of saws D, and the series of feed-chains arranged to allow one chain to traverse the space between two adjacent saws, of a table, as G1, and spring-guards secured to said table and arranged one between each adjacent pair of chains and extending beyond the drums, as set forth. 4th. In a sawing machine, as described, a feeding device, consisting of a series of chains led over revolving drums, the shaft of one drum being the pivot of an adjustable frame in which the other drum is journalled, whereby the feed chains may be thrown closer to or farther from the saw-arbor to accommodate saws of different diameters, as set forth. 5th. The combination, with the saws and their shaft B, of the frame G pivoted on the shaft F, and carrying near its free end a drum K, of the chains M having teeth m, the drum K hung on the shaft F and provisions for oscillating the frame F on its pivot to throw the feed-chains into desired relations with the saws at will, as specified. 6th. In a sawing machine, the combination, with a gang of saws supported on a common shaft, and with a feed-carrier operated by the same power, of a shaft, as L, carrying clearing fingers E3, a lever E1 rigid with said shaft, and a set-screw E2 for adjusting and holding the clearing fingers in proper relations with the saws and carrier, as set forth. 7th. In a sawing machine, as described, the combination, with the gang of saws and with the frame G pivoted on shaft F, and carrying the feeding-chains M, m, of the shaft I, having arm I2, the link H connecting said arm with the carrier frame G, and the lever I1 and pawl J for controlling the said shaft I to adjust and hold the carrier in proper relation to the saws, as set forth. 8th. In a sawing machine, the combination, with the shaft B, the shaft F and power connections of the frame G, pivoted on shaft F and carrying chains M and their drums K, K, the shaft O and L journalled in the frame G, the gears O1, K1 connecting the shafts F, and the belt Q and tightener, all arranged to turn together on the centre F, without changing relation of parts, as specified. 9th. In a sawing machine, as described, the combination, with the frame G and chain-carriers M, of the belt Q and tightener-pulley L4, the lever arranged to stop the feed, the weight P2 and the link N, and connections for throwing the link past a centre to hold the weight and lightener out of operation, as set forth.

No. 25,906. Bustle. (*Tournure.*)

Charles R. Gray, Toronto, Ont., 2nd February, 1887; 5 years.

Claim.—As a new article of manufacture, a balloon bustle formed of two pieces of hospital sheeting, lined internally with gossamer, rubber cloth, leaving margins b to permit the two pieces forming the bustle to be connected together, the joints so formed being protected by a rubber-lined stay c, substantially as and for the purpose specified.

No. 25,907. Method of Heating Apartments. (*Mode de Chauffage des Appartements.*)

Antonio Montenegro, Madrid, Spain, 2nd February, 1887; 5 years.

Claim.—A series of compartments, communicating with each other by openings O, situated at or near the ceiling of each compartment and ordinary doorways located between them, in combination with a heating apparatus B located in one of the compartments, substantially as and for the purpose specified.

No. 25,908. Process for Preserving Food, etc. (*Procédé de Préparation des Conserves Alimentaires.*)

August R. Roosen, Hamburg, Germany, 2nd February, 1887; 5 years.

Claim.—The method of preservation for storage or in transportation of food substance in solid or other form, fish, flesh, or liquid, or of any nitrogenous, or other matter liable to change, cremacausis, decay, or putrefaction, or to the formation of mould or the presence of bacilli or other objectionable organisms, whether microscopic or visible to the naked eye, likes mites, bugs, worms, or the like, which consists in placing it in a receptacle capable of being hermitically sealed, then directly filling the receptacle with a liquid preservative, and charging it and the substance to be preserved with such liquid preservative, and then at once closing the receptacle and retaining the substances to be preserved under continuous pressure of the body of the preservative thus first supplied until used, substantially as set forth.

No. 25,909. Mitre Cutting Machine.

(*Machine à Onglet.*)

William R. Fox, Grand Rapids, Mich., U. S.. 2nd February, 1887; 5 years.

Claim.—1st. In a mitre cutting machine the combination of an adjustable gauge, a carriage arranged on a bed in longitudinal guides carrying one or more knives, said gauge adapted to be adjusted to any desired angle to the knives, and having a perpendicular edge in a perpendicular plane and always in the same relative position to the cut of the knife, said perpendicular edge and the knife forming a shear cut, substantially as described. 2nd. In a mitre cutting machine, the combination of the adjustable gauge, the upright frame and the cutting knife, said gauge having two perpendicular parallel edges, one edge of which is adapted to rest against the upright frame, and the other to remain parallel with the cut of the knife, and in such close proximity thereto as to form with such knife a shear cutting device, substantially as described. 3rd. In a machine for cutting mitres, a gauge, a portion of which is circular in form, and bearing against a suitable portion of the machine, thereby retaining the edge d in the same relative position to the knife, substantially as described. 4th. In a machine for cutting mitres, a gauge, a postion of which bears against a suitable portion of the machine forming a turning point, thereby retaining the edge d in the same relative position to the knife, substantially as described. 5th. In a mitre cutting machine, the combination of the adjustable gauges, the upright frame and a connecting spring, said gauge having a circular bearing adapted to rest against a lug or projection on said frame, substantially as described. 6th. In a mitre cutting machine, the combination of the gear F, racks G and H, said gear provided with a circular projection F1 adapted to move upon such way, and to prevent the cogs on the gear from bottoming, substantially as described. 7th. The combination of the open rack H, gear F, rack G, knives E, E and carriage C, said openings in the rack H, allowing the rack to clean itself of dust and chips, substantially as described. 8th. The following parts in combination, viz: bed A, frame C, gauge D, thumb screw J, spring O, circular bearing D, and rest or lug C1, all as described.

No. 25,910. Combined Plough, Cultivator and Harrow. (*Charrue, Scarificateur et Herse Combinés.*)

Carl Audirsch, Gurdon, Ark., U.S., 2nd February, 1887; 5 years.

Claim.—1st. The combination, with a plough beam and a plate secured thereto, having a central aperture outside thereof, of the slotted standard I having a bolt pivotally connected with its upper end and extending through the certral aperture and the beam, and the curved bar N notched on its under side passed through the slotted standard, as set forth, with its ends held by said standard in the outer apertures of said plate whereby the standard and curved bar may be readily reversed or removed, substantially as set forth. 2nd. A combined plough cultivator and harrow consisting of the main beam A, and the plates B having central apertures H, circular series of side apertures C and holes D, bolts E and F, the lug Q formed on the upper plate B and having upper and lower apertures, the removal side beams, the handles R connected to the lug Q by a bolt passed through one of its apertures and the pivoted bars T connecting the handles and beam A, substantially as set forth.

No. 25,911. Shingle Jointing Machine.

(*Machine à Dresser le Bardeau.*)

Joseph Kearney, Woodstock, N.B., 2nd February, 1887; 5 years.

Claim.—1st. The combination, with the base of the machine having slotted pills 1, 2, of the movable journal bearings 6, adjustably slotted to the sills through the slots, whereby the saw can be adjusted horizontally, as set forth. 2nd. The combination, with the standards 10, 18, of the table 8 having a guard or shield 13 to protect the hand of the operator, and provided with an aperture to admit a shingle to the saw and retain it while being edged, as set forth. 3rd. The standard 10, constructed in sections adjustably bolted together and carrying the table 8, whereby the position of the table may be varied to a greater or less inclination or height to suit the saw, as set forth. 4th. The standard 18, constructed in sections and provided with a stop 19, 20, as set forth. 5th. The combination of a circular saw having an arbor mounted in bearings adjustably secured to the slotted sills, a standard constructed of sections bolted together and carrying a feed table provided with a shield or guard hinged at one end, and a standard constructed of sections bolted together and carrying a stop, as set forth for the purpose described.

No. 25,912. Bottle Stopper.

(*Bouchon de Bouteille.*)

Lewis S. Hoyt and Charles A. Shaw, Boston, Mass., U. S., 3rd February, 1887; 5 years.

Claim.—1st. In a bottle-stopper, the combinatian of the following instrumentalities, to wit: a stopple adapted to close the mouth of the bottle, a binding-wire or yoke hinged to the stopple, said wire having a spring coil at either side and inwardly-turned ends, a lever adapted to exert a strain on the binding-wire to force the stopple into the mouth of the bottle, said lever having an outwardly-inclined coil at either side and outwardly-turned ends, and an attaching-wire having an inwardly-inclined coil at either side, said binding-wire being journalled in the coils of the lever by having its ends passed inwardly through the same, and the lever journalled in the coils of the attaching-wire, by having its ends passed inwardly through the same, and the lever journalled in the coils of the attaching-wire by having its ends passed outwardly through the same, the lever and binding-wire being so bent as to cause them to press constantly and forcibly against the coils in which they are respectively journalled, substantially as set forth. 2nd. The combination, in a stopper-fastener, of an attaching-wire provided with outwardly-flaring coils projecting downward from diametrically opposite points of the bottle-neck, a lever having

outwardly-springing arms provided with out-turned ends, said ends being passed through said flaring coils, and said arms resting against the inclined faces thereof, and a yoke connected to said lever, substantially as described. 3rd. An attaching-wire for bottle-stopper fasteners, consisting of a ring-shaped band having bent or hooked ends, and provided at diametrically-opposite points with integral coils, projecting diagonally downward and outward from the horizontal plane of the ring at approximate right angles thereto, substantially as set forth. 4th. The combination, in a stopper-fastener, of a binding-wire or yoke provided with bends, as described, a stopper hinged to said yoke between said bends, and provided on one side of said yoke with an upright ear, and on the other side thereof with studs which assist in preventing an undue turning of the stopper on the yoke, substantially as described. 6th. The improved bottle-stopper herein described, the same consisting of the attaching-wire E having the coils *d*, the lever D having the coils *h*, the binding-wire or yoke C having the coils *l*, the stopple B and the tie-wire *b*, constructed, combined and arranged to operate substantially as described. 6th. A bottle-stopper proper composed of a metallic cap comprising an upper disk, a lower disk of smaller diameter than the upper disk, and a neck connecting said disks, in combination with an elastic disk-shaped cover inclosing the lower portion of said cap, said cover being provided with an inward flange which contracts around the upper disk, substantially as set forth.

No. 25,913. Veterinary Incisor Cutter.

(*Cisailles de Vétérinaire pour Incisives.*)

Charles E. Sayre and Thomas E. Drake, (assignee of Emery P. Smith, Chicago, Ill., U.S., 3rd February, 1887; 5 years.

Claim—The combination, in a horse incisor cutter, of arm A having head *a* and shoulder *a1*, with arm B, having head *b* and cutting edge or scraper *b1*, all substantially as described and for the purpose set forth.

No. 25,914. Veterinary Molar Cutter.

(*Cisailles de Vétérinaire pour Molaires.*)

Charles E. Sayre and Thomas E. Drake, (assignee of Emery P. Smith), Chicago, Ill., U.S., 3rd February, 1887; 5 years.

Claim.—In a molar-cutter for horses, the combination of arm A having shoulders or bevelled edges *b*, *b1*, and bevelled thereon, and shoulder *d* with flat surface *e*, with arm B having like shoulders *b*, *b1*, bevelled edge and shoulder *d* with surface *e*, all substantially as described and for the purpose set forth.

No. 25,915. Machine for Sorting Tracks.

(*Machine pour Assortir la Broquette*)

John F. Kingwill, Chicago, Ill., U.S., 3rd February, 1887; 5 years.

Claim.—1st. A tack-sorting machine consisting of an elevated delivery-chute, a lower receiving-box, and an intermediate riddle composed of bars arranged to be agitated. 2nd. In a tack-sorting machine, a riddle composed of thin parallel and diverging bars. 3rd. In a tack-sorting machine, a riddle consisting of thin parallel and diverging inclined bars. 4th. In a tack-sorting machine, a riddle consisting of a series of thin inclined parallel and diverging bars which gradually increase in diameter. 5th. In a tack-sorting machine, a riddle consisting of a series of inclined ways which gradually diverge and increase in diameter towards their lower ends.

No. 25,916. Telephone. (*Téléphone.*)

William J. Morton, New York, N. Y., U. S., 3rd February, 1887; 5 years.

Claim.—1st. In an instrument for transmitting or receiving sound, speech, or signals, the combination, with a coil included in an electric circuit, of a magnetized steel plate or magnet serving solely in and of itself as a diaphragm for the instrument, substantially in the manner and for the purpose herein set forth. 2nd. The combination, in an electrical circuit, of two or more telephonic instruments, each consisting of a steel-plate or disc permanently magnetized to constitute independently and in itself a complete magnet, and a wire coil placed in inductive proximity thereto and included in the circuit, said permanent magnet serving as the metallic diaphragm of the instrument, substantially in the manner as set forth. 3rd. The combination, in a telephonic instrument, of a steel-diaphragm constituting independently in itself, a complete permanent magnet with an annular re-inforcing magnet and a wire coil, substantially in the manner and for the purpose herein set forth.

No. 25,917. Flame Deflector for Upright Boilers. (*Déflecteur de Flamme pour Chaudières Verticales.*)

Edward S. T. Kennedy, New York, N. Y., U. S., 4th February, 1887; 5 years.

Claim.—1st. The combination, with a boiler constructed with a vertical cylinder and tubes radiating therefrom, of a segmental or annular deflector adapted and arranged to deflect the products of combustion from one part of the combustion chamber to another, substantially as herein shown and described. 2nd. As a means for protecting from excessive heat the exposed ends of the radiating water tubes of a vertical boiler, of the character substantially as herein shown and described, and for controlling the direction of the products of combustion within the combustion chamber, a horizontal segmental or annular deflector arranged in place by being laid on some of the tubes, as set forth. 3rd. As a means for protecting from excessive heat, the exposed ends of the radiating water tubes of a vertical boiler of the character substantially as herein shown and described, and for controlling the direction of the current of the products of combustion within the combustion chamber, a segmental or annular deflector suspended horizontally from certain of the tubes as herein shown and described. 4th. As a means for protecting from excessive heat the exposed ends of the radiating water tubes of a vertical boiler of the character substantially as herein shown and described, and for controlling the direction of the current of the products of combustion within the combustion chamber, a horizontal segmental or annular deflector rivetted to the boiler cylinder, as set forth. 5th. As a means for protecting from excessive heat the exposed ends of the radiating water tubes of a vertical boiler, and for controlling the direction of the current of the products of combustion within the combustion chamber, a horizontal segmental or annular deflector rivetted to the boiler jacket, as set forth. 6th. The combination, with a boiler constructed with a vertical cylinder having water tubes radiating therefrom, and a water jacket surrounding said boiler, of a horizontal segmental or annular hollow metal deflector arranged on the inside of said jacket and communicating with the water space thereof, substantially as and for the purposes herein set forth. 7th. As a means for protecting from excessive heat, the exposed ends of the radiating water tubes of a vertical boiler, and for directing the current of the products of combustion within the combustion chamber, a segmental or annular brick deflector, as *o*, built into or against the boiler, jacket, and extending toward the boiler cylinder, substantially as herein set forth.

No. 25,918. Method of Manufacturing Steel Eye Bars. (*Mode de Fabrication les Barres à Oeillet en Acier.*)

Robert W. Smith, Toledo, Ohio, U.S., 4th February, 1887; 15 years.

Claim.—1st. The improved method of manufacturing steel eye-bars, herein described, which consists in applying a reinforce plate of wrought iron to the end of a steel bar, heating it to a degree for perfect welding, and then forging it into forms by the use of dies, as set forth. 2nd. As an improved article of manufacture, a steel eye bar reinforced by wrought iron, forged and spread around the neck and bolt hole, substantially as set forth. 3rd. In a steel eye bar, the combination of the steel bar A, the wrought iron plate B and the reinforce scraps C, substantially as set forth.

No. 25,919. Grain Binder. (*Lieuse à Grain.*)

Andrew Stark, Chicago, Ill., U.S., 4th February, 1887: 15 years.

Claim.—1st. In combination with the cord looper and its actuating mechanism, the cord holder ring encircling said looper, and having cord-receiving apertures or notches, and mechanism which revolves the ring about the looper the distance between consecutive apertures at each revolution of the looper, substantially as set forth. 2nd. In combination, substantially as hereinbefore set forth, the cord-looper and the cord-holder ring encircling said looper, and having cord-receiving apertures and mechanism which revolves the ring and the looper in opposite directions. 3rd. In combination, substantially as hereinbefore set forth, the cord-looper and its pinion, the cogged cord-holder ring and the pinion which drives it, the shaft of said pinion and the pinion thereon through which it receives motion, and the knotter-actuating wheel, having on the same face the gear segments which actuate the cord looper and the cord-holder ring, whereby the cord-holder ring and the cord-looper are revolved in opposite directions. 4th. In combination, substantially as hereinbefore set forth, the needle, the cord-looper, and the cord-holder ring encircling the latter and the path of the former. 5th. In combination, substantially as hereinbefore set forth, the needle and the cord-looper, and the cord-holder ring encircling the latter, and the path of the former and inclined obliquely to said path. 6th. In combination, substantially as hereinbefore set forth, the cord-looper, the cord-holder ring encircling the looper, and the needle entering the ring on the side toward the bundle and passing obliquely through it. 7th. In combination with the needle and the knotter-actuating wheel, having their axes in the same plane, the cord-looper having its axes oblique to that plane, substantially as set forth. 8th. In combination with the needle, and the knotter-actuating wheel having their axes in the same plane, the cord-looper having its axes oblique to that plane and in a common plane with the axes of the knotter-actuating wheel, and the cord-holder ring encircling the cord-looper, the intersection of its plane of rotation with the plane of the needle's vibration being substantially at right angles to the plane of the axis of the cord-looper and knotter-actuating wheel, substantially as set forth. 9th. In combination with the needle and the knotter-actuating wheel, having their axes in the same plane, the cord-looper having its axes oblique to that plane, and the cord-holder ring encircling the cord-looper in a plane at right angles to the axles of the latter, substantially as set forth. 10th. In combination with the revolving cord-holder ring, and the cord clamp co-operating therewith to hold the cord and their sustaining frame, the cord-cutter fixed to the frame having its cutting-edge within the ring, substantially as set forth. 11th. In combination, substantially as set forth, the revolving cord-holder ring and the cord clamp co-operating therewith, the cord-looper revolved within the ring and the cord-cutter having its cutting edge within the ring. 12th. The knotter-frame, having bearings for the shaft of the knotter-actuating wheel and for the cord-looper shaft, and provided with ledges for the cord-holder ring bearings located in a circle surrounding the axial line through the cord-looper shaft bearings, substantially as set forth. 13th. The knotter-frame, having the bearings for the shaft of the knotter-actuating wheel and for the shaft of the cord-looper, and provided with ledges to afford bearings for the cord holder ring located in a circle surrounding the axial line of the cord-looper shaft bearings, said frame being made in two parts, each having one or more of said ledges, the ledges in each part being contained within 18th° of the circle of the ring, substantially as set forth. 14th. The knotter-frame, having the bearings for the shaft of the knotter-actuating wheel, and for the shaft of the cord-looper, and provided with ledges to afford bearings for the cord-holder ring located in a circle surrounding the axial line of the looper-shaft bearings, the interval between consecutive ledges being in no case greater than 180, substantially as set forth. 15th. The knotter-frame, having the ledges to afford bearings for the cord-holder ring, with their bearing shoulders protruding inside said ring, the ring journalled upon and encircling said shoulders, and having the exterior gear rim, and the

pinion J meshing into said gear rim, opposite one of said interior bearing shoulders, substantially as set forth and for the purpose set forth. 16th. In combination, with the needle and the cord-looper, the breast plate having the tongue B20 protruding through the plane of the needle's path between the looper and the bundle, and terminating substantially in line with the looper shaft, substantially as and for the purpose set forth. 17th. In combination with the cord knotting mechanism, whose cord-looper stands when the knot is finished with its bill pointing towards the discharge side of the machine, the breast plate having the cord guiding edge of that part of the cord slot which is beyond the looper bill on that side of the vertical plane of said bill which is towards the needle, substantially as set forth. 18th. In combination with the cord-knotting mechanism, whose cord-looper stands at the completion of the knot with its bill pointing obliquely outward toward the plane of the needle, the breast plate having the cord-guiding edge of the part of the cord slot beyond the looper located on that side of the vertical plane of the looper bill which is towards the plane of the needle, substantially as set forth. 19th. The cord-looper, comprising the fixed jaw and the vibrating jaw, the former having a barb toward the point at one side of the vibrating jaw, forward thereof on the path of revolution of the point of said looper, substantially as set forth. 20th. In combination with the discharge and the breast plate, the stripper yielding out of the path of the bundle as the latter is discharged, and automatically returning to a position obstructing said path, substantially as and for the purpose set forth. 21st. In combination with the discharge, having its centre of motion on the side of the breat plate opposite the bundle, the stripper pivoted between the bundle and the discharger, and yielding out of the path of the bundle as the latter is discharged, and returning automatically into a position obstructing the said path, substantially as set forth. 22nd. In combination, substantially as set forth, the breast plate and the discharger, and the stripper connected to the former and standing normally across the path of discharge of the bundle, and yielding out of said path as the bundle is discharged, and returning automatically to its normal position. 23rd. In combination, substantially as set forth, the breast plate and the discharger, and the stripper hinged to the former and provided with the spring tending to hold it in the path of the discharge of the bundle, and yielding to allow the stripper to move out of said path when pressed by the bundle.

No. 25,920. Flue Thimble and Stopper.

(Dé et Bouchon de Tuyau.)

William P. Walker, Newton, Ks., U. S., 4th February, 1887; 5 years.

Claim.—1st. The combination of a disk for closing a flue hole, movable arms pivotally supported by the disk, a hub pivotally connected to the said arms, and a screw-threaded rod passing through the disk and engaging with the hub for spreading the arms and securing the disk in place. 2nd. The combination of a disk for closing a flue hole, an elastic washer upon the inner face of the disk, movable arms pivotallly supported by the disk, a hub pivotally connected to the said arms, and a screw threaded rod passing through the disk, and engaging with the hub for spreading the arms and securing the disk in place. 3rd. The combination of a disk for closing a flue hole, a tube fitting into the flue hole, movable arms pivotally supported by the said disk and projecting through the said tube, a hub pivotally connected to the said arms, and a screw threaded rod passing through the disk and engaging with the hub for spreading the arms and securing the disk to the tube. 4th. The combination of a tube fitting into the flue hole, a disk provided with a flange fitting into the outer end of the tube, a standard plate projecting from the said flange, movable arms pivotally supported by the standard plate, a hub pivotally connected to the said arms, and a screw threaded rod passing through the disk and engaging with the hub for pressing the projecting ends of the arms against the inner end of the said tube. 5th. The combination of a tube fitting into the flue hole, a disk provided with a flange fitting into the outer end of the tube, an elastic washer upon the inner face of the disk, a standard plate projecting from the said flange, movable arms pivotally connected to the standard plate, a hub pivotally connected to the said arms and a screw threaded rod passing through the disk and engaging with the hub for pressing the projecting ends of the arms against the inner end of the said tube. 6th. The combination of the handle D, with the rod E, screw F, standard plate G, brace plate K, rivets J, slots L, movable arms M, rngulating arms N, disk O, pivots and slots P and Q, hub S and tube R.

No. 25,921. Combined Table and Desk.

(Table-Pupitre.)

John G. Peace, Salem, Mo., U.S., 4th February, 1887; 5 years.

Claim.—1st. A table or desk, comprising a top strip having a leg rigidly secured thereto, a leaf hinged to the strip having a brace to support the leaf, and the feet hinged to the leg to support the table or desk, substantially as set forth. 2nd. A table or desk, comprising a top strip, a leg rigidly secured thereto, a leaf hinged to the top strip, a brace by which the leaf is supported, feet hinged to the leg, and a clamp having notches to engage the feet and hinged to the leg, substantially as set forth. 3rd. A table or desk comprising a top strip, a leg rigidly secured thereto, a leaf hinged to the top strip, a brace by which the leaf is supported, a metal bracket formed with lips g^1, g^2, and legs g^3, pintle H and the pintle I hinged by the pintle to the eyes, substantially as set forth. 4th. A table or disk, comprising a top strip, a leg having suitable feet, a vertical strip having notches c, c^1 secured to the leg, a horizontal strip, a bracket F hinged to the leaf obliquely to the strips, and having an end f engaging the notch, substantially as set forth.

No. 25,922. Steam Engine Lubricator.

(Graisseur de Machine à Vapeur.)

The Bennett Manufacturing Company(assignee of Phileas A Bennett) Chicago, Ill., U.S., 4th February, 1887; 5 years.

Claim.—1st. In a lubricator, operated by a hydrostatic column, as described, a vertical connecting neck between the condenser and the oil receptacle, having its upper end open and provided with a transverse partition, and a horizontal branch passage common to the incoming steam and oil feed, and adapted to receive and carry off the surplus water of condensation, essentially os set forth. 2nd. In a lubricator, operated by a hydrostatic column, as described, as open ended vertical neck C, connected to the condenser B, and provided with a transverse partition G, in combination with the horisontal passage D, having communication with the steam pipe of the engine and the oil feed, essentially as set forth. 3rd. In a lubricator, operated by a hydrostatic column, as described, the horizontal branch passage D common to the incoming steam and oil feed, the inner end of which communicates with the contracted passage I that is arranged above the central axis of said passage D, so as to form an abrupt shoulder or offset J at the inner and lower end of the same, essentially as set forth. 4th. In a lubricator operated by a hydrostatic column, the combination, with the condenser B and oil receptacle A, of the open ended connecting neck C, partition G, horizontal branch passage D and passage I, ending in an offset J, essentially as set forth. 5th. In a lubricator, operated by a hydrostatic column, as described, the combination of the condenser B, connecting neck C, partition G, passages I and D, shoulder or offset J, sight feed tube E and oil receptacle A, essentially as set forth.

No. 25,923. Tea Kettle Cooker.

(Ustensile de Cuisine au Bain-Marie.)

Abbott A. Davis and Harry Dutton, Boston, Mass., U.S., 4th February, 1887; 5 years.

Claim.—1st. A tea kettle cooker, provided with one or more rims or collars around its body, as set forth. 2nd. A tea kettle cooker, having a tapering body provided with one or more rims or collars there around, as set forth. 3rd. A tea kettle cooker having a tapering body, and provided with a plurality of rims or collars of varying widths there around, as set forth.

No. 25,924. Preserving Piles and Submerged Wood.

(Préservation des Piles et du Bois Submergé.)

James Cass, Cayucos Landing, Cal., U. S., 4th February, 1887; 5 years.

Claim.—1st. The process herein described, of preserving piles or or other wooden structures that are to be submerged, consisting essentially in brushing upon said wood from which the bark has been removed a waterproof poisonous compound, then applying a coating of ships' felt, and finally securing battens or strips upon the pile outside of the felt, substantially as herein described. 2nd. The improved process of preserving timber that is to be submerged consisting essentially in coating said timber with a compound of pitch tar and arsenic, next surrounding said compound with a covering of ship's felt, then nailing the longitudinal battens upon the timber outside of the felt so as to inclose the whole, and finally securing the battens by hoops or holding bandi, substantially as herein described.

No. 25,925. Apparatus for Making Infusions of Tea, Coffee, etc.

(Appareil pour infuser le thé, le café, etc.)

Frederick E. V. Bexnes, London, Eng., 5th February, 1887; 5 years.

Claim.—In an apparatus for making infusions of tea or the like, the combination of a strainer or its equivalent with a vessel or urn that the strainer can be supported at various heights in the vessel or urn, substantially as described, and the several arrangements and combinations therefor hereinbefore described and illustated in the accompany drawing.

No. 25,926. Rail Joint.

(Joint de Rail.)

Maris E. Lewis and Carlton A. Dodge, Orange Iowa, U. S., 5th February, 1887; 5 years

Claim.—1st. A rail-joint fastening consisting of a sectional fish-plate, one section being apertured and provided with inclined recesses or notches, and the other provided with inclined projections and longitudinal slots having enlargements, a double headed bolt having one head of greater diameter than the other, and a wedge, substantially as shown and described. 2nd. The combination, with the meeting ends of the rails having the transverse apertures, of the double headed bolts having one head of greater diameter than the other, the flat fish-plate having the transverse apertures, the double fish-plate composed of the sections having the inclined recesses, and projections forming the inclined recesses, and projections forming the abrupt shoulders and formed respectively with the apertures, and the longitudinal slots having the enlargements, and the wedge having its lower reduced end curved on the inner side thereof, all constructed and arranged to operate in the manner and for the purpose herein set forth.

No. 25,927. Saw Mill.

(Scierie.)

George E. Overton, Chatham, Ont., 5th February, 1887; 5 years.

Claim.—1st. The combination, in a circular saw sawmill using the ordinary head blocks and carriage, of a crown or horizontal saw J, with the usual vertical circular saw E, substantially as shown for the purpose specified. 2nd. The combination, in a circular saw sawmill, of the bracket G provived with bearings and adjustable boxes H^1, and the vertical saw spindle I capable of horizontal and vertical adjustment, substantially as described. 3rd. The combination, in a circular saw sawmill, of the saw J, the adjustable spindle I provided with a pulley P and the pulleys M, M^1 and F, substantially as shown for the purposes specified.

No. 25,928. Fruit Jar.

(Jarre à Fruits.)

George D. Corey, Lowell, and Winfred S. Ames, Boston, Mass., U.S., 5th February, 1887; 5 years.

Claim—1st. The combination, with the jar A provided with ledge

D, and cover E resting upon said ledge and formed with recess *f*, of the ring G formed with inclines *g*, thumb-pieces J and bead K fitting in recess *f*, and the bail F, fitting across the top of ring G, and having its lower ends turned inwardly and fitting under ledge D, substantially as described. 2nd. The combination, with jar A provided with ledge D and cover E resting on said ledge, and having a serrated periphery, of the ring G formed with inclines *g* and the bail F lying across said ring, with its downwardly projecting portions in the serrations of the cover, and its lower ends turned inwardly and fitting under ledge D, substantially as described.

No. 25,929. Water Gauge for Steam Boilers.

(*Indicateur d'Eau pour Chaudières à Vapeur.*)

Dougald H. Roberts, Wallaceburg, Ont., 7th February, 1887; 5 years.

Claim—In a double action water gauge, the body A having jaws C, C, bearing part B, hole E through the body A, pin D through jaws C, C, in combination with weighted handle K having short extension J, projection with hole G, double chambers or caps I, I, slots H, H and protector L, all formed substantially as and for the purpose hereinbefore set forth.

No. 25,930. Weather Strip. (*Bourrelet de Porte.*)

Walter S. Carnoosky, Kingston, Ont., 7th February, 1887; 5 years.

Claim.—1st. A weather strip having the horizontal slot a^1, vertical slot c^1 and the rubber cushion D sunk flush in the lower edge of the wooden strip A, substantially as shown and specified. 2nd. A weather strip having the slots a^1 and c^1, and the arm E secured to the wooden strip A, and provided with the finger *e* arranged to slide under the plate F attached to the door jamb, substantially as shown and described. 3rd. A weather strip pivoted to the hinged side of a door, and provided with the spring C in the chamber d^1 and secured to the door, the cushion D and the arm E having the finger e^1 arranged to work on the plate F in the door jamb, all substantially as shown and for the purpose specified.

No. 25,931. Vegetable Cutter. (*Coupe-Racine.*)

DeForest Bullock, Busti, N.Y., U.S., 7th February, 1887; 5 years.

Claim.—1st. In a vegetable cutter, constructed substantially as described, a hopper A having an inclined bottom with a projecting portion b^{11}, in combination with a reciprocating slide having grooved sides for receiving and retaining transverse boards H and H^1, a knife located between said boards so as to engage the projecting portion b^{11} of the bottom board of the hopper, substantially as shown and for the purpose set forth. 2nd. In a vegetable cutter, constructed substantially as shown, a reciprocating slide provided with a knife I, and a series of transverse cutters J secured under the cutting edge of the knife, for the purpose set forth. 3rd. In a vegetable cutter, constructed substantially as described, and provided with a bottom board having a portion which extends downwardly in the path of the reciprocating cutter, in combination with the reciprocating cutter provided with a transverse board H, and knife I secured on a line with the upper portion of said board, so as to contact with the projection portion b^{11} of the bottom board when depressed, and the board H^1 located beneath the plane of the board H and provided with a series of cutters J which extend from the rear side of said board to the cutting edge of the knife, substantially as shown.

No. 25,932. Paper File. (*Serre-Papier.*)

Alexander B. Sherwood, Chicago, Ill., U. S., 7th February, 1887; 5 years.

Claim.—1st. In a paper-file, th combination, with the base A, of a receiving-wire and a transfer-wire arched to coincide at its extremity with the receiving-wire, and provide a permanent space *o*, substantially as and for the purpose set forth. 2nd. In a paper-file, the combination, with the base A, of a receiving-wire and a movable transfer-wire, arched to coincide normally at its extremity with the receiving-wire, and provide a permanent space *o*, substantially as and for the purpose set forth. 3rd. The combined punch and gauge E for a paper-file comprising in combination with a tubular rod *u* notched at one extremity to provided puncturing-points and cutting-edges, a gauge F provided with an opening *k*, and a guide tube u^1 to fit over the tubular rod *u*, and a spring *b* upon the parts *n*, n^1, substantially as described. 4th. The combined punch and gauge E for a paper-file, comprising in combination, a tubular rod *u*, notched at one extremity to provide puncturing-points and cutting-edges, a bevelled stop *l* within the rod *u*, a gauge F, provided with an opening *k*, and a guide-tube u^1 to fit over the tubular rod *u*, and a spring *h* surrounding the parts *n*, n^1, substantially as described. 4th. In a paper-file, the combination, with the base A, of a receiving-wire, a transfer-wire, arched to coincide at its extremity with the receiving-wire, and provide a permanent space *o* and a combined gauge and punch E between the receiving and transfer wires, substantially as and for the purpose set forth. 6th. In a paper-file, the combination, with the base A, of two parallel receiving-wires C and C^1, two transfer-wires D and D^1 arched to coincide at their extremities with the adjacent receiving-wires and provide permanent spaces *o*, and a combined gauge and punch E between the receiving and transfer wires, comprising in combination two parallel tubular rods *u* notched at adjacent extremitivs to provide puncturing-points and cutting-edges, bevelled plugs *l* within the rods *u*, a gauge F provided with openings *k*, and guide tubes u^1 to fit over the tubular rods *u* and maintain the openin s *k* coincident with the said tubular rods, and spiral springs *h* surrounding the parts *n*, n^1, and tending to maintain the gauge F normally with the entrance to the same coincident with the spaces *o*, substantially as described. 7th. In a paper-file, the combination, with the base A, of a frame B secured thereon, and provided with a socket *q*, a thumb-screw *p* to enter the socket laterally, a receiving-wire, a transfer-wire flattened toward one end to enter the socket *q* and be engaged by the thumb-screw, and arched toward its opposite end to coincide normally at its extremity with the receiving-wire and provide a permanent space *o*, substantially as and for the purpose set forth.

No. 25,933. Automatic Injector for Supplying Steam Boilers with Water.

(*Injecteur d'Eau Automatique pour Chaudières à Vapeur.*)

Franklin W. Kremer, Wadsworth, Ohio, U. S., 7th February, 1887; 5 years.

Claim—1st. In an injector, having steam and water inlets and an outlet, the tubular screw spindle *h*, provided with a steam inlet port h^2, and a collar h^3 on the same, and a threaded bonnet *f*, in which said spindle is moved longitudinally to open and wholly close the inlet, combined with the suction chamber, separated from the steam inlet by the diaphragm *i*, and the packing gland J surrounding said spindle and bearing upon the diaphragm, substantially as shown and described. 2nd The combining tube, provided with a valvular base interposed between the suction and exhaust chambers, a superposed lifting tube, a longitudinally adjustable steam inlet spindle provided with a steam inlet port, and a collar on said spindle co-operating with the bonnet in which said spindle is adjustable to open and close said port by the longitudinal movement of said spindle in said bonnet, combined to control the flow of water commensurately with the steam pressure, substantially as described. 3rd. In an injector, the combination, with the steam and water inlets, the suction chamber and the outlet, of the screw-threaded steam spindle *h*, having a longitudinal steam passage h^4, an inlet port h^2 and a collar h^3 arranged below said port, the screw-threaded bonnet *f* in which the said spindle is adjustable, and against the bottom of which it is seated to wholly shut off the supply of steam, and a hand-wheel to operate said spindle, substantially as described. 4th. The tube *m*, forming a chamber above the combining tube, combined with such combining tube ports therein, a check valve co-operating automatically with said ports, a delivery chamber having an automatically operated check valve in its overflow, and steam induction spindle provided with a valvular port, and operable by longitudinal adjustment to automatically start and maintain the flow of water, and to re-establish it after accidental cessation, substantially as described.

No. 25,934. Trotting Sulky. (*Désobligeante.*)

William E. Lamson, Sarnia, Ont., 7th February, 1887; 5 years.

Claim.—1st. In a sulky, an axle divided longitudinally between the spindles, the middle division 3 curved upwardly for attachment of the single tree, and the outer division 2, 4, curved higher than the middle division, and spread outwardly to support the driver's seat, substantially as set forth. 2nd. In a sulky frame, the thills 8 secured to the outer divisions 2 and 4 of the axle near its spindles, substantially as set forth. 3rd. In a sulky, having an axle divided longitudinally between the spindles, as set forth, the single tree pivoted to the crown on the middle division under the driver's seat, and the driver's seat secured to the outer divisions of the axle, as set forth.

No. 25,935. Standard for Electrical Lamps.

(*Suspension pour Lampes Electriques.*)

James F. Munsie, Chicago, Ill., U.S., 7th February, 1887; 5 years.

Claim.—1st. A standard for electric lamps, consisting of a basal receptacle communicating with a conduit, and having mounted thereon guide posts, a frame sliding upon said guide posts, and bearing the lamp elevating ropes connected with said frame, and a windlass located within the basal receptacle, substantially as and for the purposes set forth. 2nd. A standard for electric lamps, consisting of a basal receptacle communicating with a conduit, and having mounted thereon guide posts, a frame sliding upon said guide posts, and bearing the lamp elevating ropes connected with said frame, a windlass located within the basal receptacle, contact plates located upon the lamp frame, and contact springs located at the upper portion of the guide posts, said plates and springs being contained within the lamp circuit. 3rd. In a standard for electric lamps, the combination, with the guide posts and lamp sustaining frames, of the spring seated friction rollers, substantially as and for the purposes set forth. 4th. In a standard for electric lamps, the combination, with the guide posts provided at their upper portions with spring contact catches, having means, substantially as described, for retracing the same, and the frame having contact plates resting upon said spring contact catches, substantially as described. 5th. In a standard for electric lamps, the combination, with the guide posts provided at their upper portions with spring contact catches, having means, substantially as described, for retracting the same, and the frame having contact plates provided with auxiliary springs resting upon said spring contact catches, substantially as described. 6th. The combination, with an under ground conduit, of an electric lamp standard provided with a basal receptacle, a switch board located within said receptacle and connections with such switch board, substantially as described, whereby the lamp may be cut out of circuit without interrupting the line circuit, substantially as and for the purposes set forth.

No. 25,936. Wrist Pin for Steam Engines.

(*Goujon pour Machines à Vapeur.*)

Fred C. Chase, Lowville, Mass., U.S., 7th February, 1887; 5 years.

Claim.—1st. A wrist-pin, normally rigid in its bearings, but adapted to rotate therein under abnormal conditions. 2nd. A wrist-pin normally rigid in its bearings, but adapted to rotate therein and to sound an alarm under abnormal conditions, substantially as described. 3rd. The combination, with a wrist-pin normally rigid in its bearings, but adapted to rotate therein under abnormal conditions, of a dog carried by said wrist-pin and adapted to sound an alarm, substantially as described. 4th. The combination, with the disk having tapering aperture, of a wrist pin having tapered head inserted in said aperture and provided with adjusting nuts, substantially as and for the purpose specified. 5th. The combination, with the disk and a wrist pin normally rigid in bearings in said disk, but

adapted to rotate therein under abnormal conditions of a dog carried by said disk, and an alarm operated by said dog, substantially as described. 6th. The combination, with the disk and abnormally rotating wrist-pin, of a dog in said wrist-pin and a gong on said disk, and a lever also on said disk, with one arm arranged in the path of said dog, substantially as and for the purpose specified. 7th. The combination, with a disk and abnormally rotating wrist-pin, of a dog on said wrist-pin, a gong on said disk, a lever arranged with one arm in the path of said dog, and a spring bearing on said lever, substantially as and for the purpose specified. 8th. The combination, with the disk having aperture, as described, of a wrist-pin having a head engaging said aperture, and formed with an oil chamber communicating with said aperture through an opening in the side of said head, substantially as described.

No. 25,937. Axle Tree. (*Essieu.*)

Isaac W. Archibald, Elgin, Ill., U.S., 7th February, 1887; 5 years.

Claim—1st. The combination of the axle spindle C, having a threaded end, and a conical bearing adjustably fitted on the outer threaded end of the spindle, with the regulating bolt *o* screwed into the end of the spindle, with the regulating bolt *o* screwed into the end of the spindle, and holding against the interior end surface of the bearing, substantially as described. 2nd. The combination of the axle spindle, having a threaded end, an inner removable conical bearing, a conical bearing having a threaded socket adjustably fitted on the outer threaded end of the spindle, and provided with a perforated cap, a threaded bolt fitted to the spindle and passing through the cap of the outer bearing, and securing nuts fitted on the bolt and bearing against the cap of the outer bearing, substantially as described. 3rd. The combination of the axle-spindle, having a threaded outer end and a threaded socket, a removable conical bearing D having a tightening screw fitted on the inner end of the spindle, an adjustable conical bearing E provided with a socket fitted on the threaded end of the spindle and having a perforated cap, a threaded bolt I fitted in the socket of the spindle and passing through the cap of the outer bearing in a jam nut J, arranged on the bolt within the socket of the bearing E, and fitted against the inner face of the cap thereof, and a securing nut K, bearing against the outer face of the bearing cap E, substantially as described.

No. 25,938. Apparatus for Utilizing the Expansive and Contracting Power of Metals. (*Appareil pour Utiliser la force d'Expansion et de Contraction des Métaux.*)

Franklin E. Hainley, Elgin, Ill., U.S., 7th February, 1887; 5 years.

Claim.—The upper series of metal bars and lower series of metal bars arranged in a frame, and each series coupled together by pivoted levers *f*, *f*1, in combination with the vertical connecting lever D, bifurcated lever E, pin *q*1, sliding double rack bar F, cogs *t*, *t*1, ratchet-pinions *t*11, *t*111, pawls 2, 3, shafts *s*, spring H and train of gear, all constructed, arranged and operated as and for the purpose set forth.

No. 25,939. Manufacture of Wire Ropes and Cables. (*Fabrication des Cordages et Cables en Fil de Fer.*)

James B. Stone, Worcester, Mass., U.S., 7th February, 1887; 5 years.

Claim.—1st. The improvement in the art of manufacturing wire rope, which consists in first twisting together two or more wires, and then passing the twisted wires through a straightening device for the purpose of removing the tendency to kink and contort therefrom before the same are wound upon the receiving spool all in one continuous operation, substantially as set forth. 2nd. The improvement in the art of manufacturing wire rope, which consists in first twisting together two or more wire strands, made up of any number of wires, and then passing the twisted strands through a straightening device for the purpose of removing the tendency to kink and contort therefrom before the same are wound upon the receiving spool all in one continuous operation, substantially as set forth and for the purpose stated. 3rd. The improvement in the art of manufacturing wire rope, which consists in first twisting together two or more wires, and then giving alternate bends to the twisted wires for the purpose of removing the tendency to kink and contort therefrom before the same are wound upon the receiving spool, all in one continuous operation, substantially as set forth. 4th. The improvement in the art of manufacturing wire rope, which consists in first twisting together two or more wire strands made up of any number of wires, and then giving alternate bends to the twisted strands for the purpose of removing the tendency to kink and contort therefrom before the same are wound upon the receiving spool all in one continuous operation, substantially as set forth and for the purpose stated. 5th. In a machine for manufacturing wire rope or cable, the combination, with a revolving flyer carrying delivery spools and a receiving drum or spool, of a wire straightener or straightening device adapted to give alternate bends to the wires, passing through it after said wires are twisted together and located between the flyer and the receiving spool, substantially as set forth.

No. 25,940. Scale. (*Balances.*)

Harvey L. Fisher, Toledo, Iowa, U.S., 7th February, 1887; 5 years.

Claim.—1st. The combination, with the incasements, the chilled cast end bearings, the slotted middle bearings and the hooks secured to the covers of the incasements of the main levers with supporting links near their outer ends, and knife edge points at their inner ends, the hook blocks, the long connecting lever, the short connecting lever, the tie-rods connecting the platform sills and the supporting hooks secured to said platform sills, substantially as specified. 2nd. The combination, with the incasements, the chilled end bearings, the slotted middle bearings and the hook blocks connected to the covers of the encasements of the main levers with knife-edge bearings and supporting links, the short connecting lever, the long connecting lever, the scale beam, the rod connecting the long and short levers, and the platform with supporting hooks, substantially as specified.

No. 25,941. Telegraph Sounder. (*Avertisseur Télégraphique.*)

Alphonso S. Keating, Corry, Penn., U. S., 7th February, 1887; 5 years.

Claim.—1st. In a telegraph-sounder, the combination, with a pivoted armature carrying a diaphragm and mouth-piece of magnet-cores, each having a high and low resistance coil, one core being opposite the centre of the diaphragm, and the other one opposite the inner face of armature, substantially as herein shown and described. 2nd. In a telegraph-sounder, the combination, with a pivoted ring-shaped armature carrying a diaphragm and mouth-piece of magnet-cores of unequal length, each having a high and low resistance coil, and arranged one above the other, with the upper one opposite the centre of the diaphragm, and the lower one opposite the ring-shaped armature, substantially as herein shown and described. 3rd. In a telegraph-sounder, the combination, with a pivoted ring-shaped armature, a diaphragm in the same, and a mouth-piece in front of the diaphragm, of magnet cores each having a high and low resistance coil, contact points, wires connecting said points to the high and low resistance coils, and a switch-lever connected to the line-wire, substantially as herein shown and described. 4th. In a telegraph-sounder, the combination, with the magnet cores B1, B2, high and low resistance coils C, D on each of the said cores, pivoted ring-shaped armature E and the diaphragm M in said armature of the binding-posts R, S, wires *c*, *d* connecting said posts to the coils C, D, and the pointed switch-lever T, substantially as herein shown and described. 5th. In a telegraph-sounder, the combination, with magnet-cores and high and low resistance coils on the same, of binding-posts connected with said coils, a pivoted switch-lever connected with the line-wire, and springs or levers connected respectively with the battery and one of the said binding posts, substantially as herein shown and described, whereby provision is made for polarizing the sounder, as set forth. 6th. In a telegraph-sounder, the combination, with the magnet-cores B1, B2, high and low resistance coils C, D on the same, and the pivoted armature E carrying a diaphragm M, of binding-posts connected to said coils, a switch-lever adapted to be brought into contact with said posts, a battery levers for cutting out the battery, and a relay connected with a sounder, substantially as herein shown and described. 7th. The combination, with magnet-cores and high and low resistance coils on the same, of the binding-posts R, S connected with the high and low resistance coils, the spring U1 connected with the binding-posts R, the spring V1 connected with the binding-post V, and the contact button M2 connected with the high resistance coil and with the line-wire, substantially as herein shown and described. 8th. The combination, with the cores B1, B2 of which the former is slightly longer than the latter, of the high and low resistance coils C, D wound on the same, the pivoted armature E and the diaphragm M held in the armature, substantially as herein shown and described. 9th. The combination, with the magnet-cores B1, B2, and the high and low resistance coils C, D wound thereon, of the ring-shaped armature E provided with the upwardly projecting tongue F, and the downwardly projecting tongue D, substantially as herein shown and described. 10th. The combination, with a support and magnet cores, each having high and low resistance coils wound thereon, of the pivoted ring-shaped armature E having the tongues F, G, the hammer L on the tongue F, the bracket K and the bell L1 on the bracket, substantially as herein shown and described.

No. 25,942. Medicinal Compound. (*Composition Medécinale.*)

Isidore Plouffe, Hull, Que., 7th February, 1887; 5 years.

Réclame.—Je réclame comme mon invention la composition médicinale ci-dessus décrite composée d'eau, de thérébentine, d'esprit de vin, d'huile de lin bouillie, d'alcohol amélyque, de camphre, de racine de mille et d'écorce de sureau blanc dans les proportions spécifiées.

No. 25,943. Composition for Enamelling Metal Plates. (*Composition pour Emailler les Plaques de Métal.*)

Emile Willermet, Montreal, Que., 7th February, 1887; 5 years.

Réclame.—La composition ci-dessus décrite, de matières devant servir pour émailler les plaques de métal, composée de silice, d'oxide métallique, de manganèse et de borax conjointement, avec la solution composée d'acide sulphurique et d'eau dans les proportions décrites.

No. 25,944. Welding Compound. (*Composition à Souder.*)

Hiram G. Hicks, Worcester, Mass., U. S., 8th February, 1887; 5 years.

Claim.—1st. A compound for the purposes of welding, toughening and refining steel, consisting of borax, sal-ammoniac, carbonate of iron, and black oxide of manganese, in combination substantially as hereinbefore set forth. 2nd. A compound for use in welding, refining, or treating steel composed, of borax sal-ammoniac, carbonate of iron and black oxide of manganese, combined in the proportions, substantially as specified and prepared in the manner substantially as described.

No. 25,945. Toboggan. (*Toboganne.*)

Abel Putnam jr., Saratoga Springs, N. Y., U. S., 8th February, 1887; 5 years.

Claim.—1st. A toboggan or sled, formed of two or more layers of wood, all of which have the grain running substantially lengthwise of the toboggan or sled, and one has the grain arranged diagonally

to the sides thereof, substantially as described. 2nd. A toboggan or sled formed of two or more layers of wood, two of which are arrangd with the grain running toward the front and rear, or substantially so, but with the grain on one piece at an angle to the other, as set forth. 3rd. A toboggan or sled formed of three layers of wood, the inner one of which is arranged diagonally to the sides of the same, substantially as described. 4th. A toboggan or sled provided with diagonal cross-bars, substantially as described.

No. 25,946. Oil Can. (*Bidon à Huile.*)

Orris H. Warren, Syracuse, N.Y., U.S., 8th February, 1887; 5 years.

Claim.—1st. In a machine-oiler, the combination of a force pump, with an oil-retainer, the foot valve of the pump controlling the passage connecting the pump barrel or chamber and the oil-retainer, substantially as set forth. 2nd. In an oil can, the combination with the force pump, its piston and the discharge nozzle, of an adjustable finger-piece attached to the piston, substantially as set forth. 3rd. chamber C and surrounding tube constituting an oil-retainer substantially as and for the purpose specified. 4th. In combination with the oil-retainer and force pump, the opening *u* through the bottom of the chamber C opposite the base of the force pump for giving access to the working parts of the pump, as specified. 5th. In an oil can, the combination with piston H, of the nozzle *j* detachably connected to the piston substantially as set forth.

No. 25,947. Drying Kiln for Kindling Wood. (*Etuve pour le Bois d'Allumage.*)

Darwin A. Greene, New York, N. Y., U. S., 8th February, 1887: 5 years.

Claim.—1st. In a kiln for drying kinding-wood, a bin having exhauster K for taking away air and vapours from the top, and maintaining a partial vacuum in the interior, in combination with one or more gratings, as B, an inlet for admitting fresh dry air thereto from the external atmosphere, and heaters, as D, D_1, D_2, for heating such air before its admission through the grates, all combined and arranged for joint operation substantially as and for the purposes herein specified. 2nd. The two valves, arranged one above and one below each bin-exit, in combination with the drying-bin M having inlets for introducing drying air, and draft-exits at the top of flues, as G, connecting with such exits, exhaust flues, as J, and means, as K, for mechanically creating a vacuum therein, and having connections with said exit-apertures, whereby the natural draft or exhaust mechanism may be applied at will, as set forth. 3rd. In kiln for drying kindling wood, the pin M in which the wood is slowly descending during the drying operation, in combination with exhauster K for taking away the air and vapour from the top and maintaining a partial vacuum in the interior, and with a bottom having apertures *e* performing the double functions of discharging the wood, and admitting air to extract and utilize the heat from the wood, all substantially as and for the purposes herein specified.

No. 25,948. Process for the Electro-Deposition of Aluminium. (*Procédé d'Electro-Déposition de l'Aluminium.*)

William H. Gaw, assignee of William Frishmuth, Philadelphia, Penn., U.S., 9th February, 1887; 5 years.

Claim.—1st. The improvement in the art of electrolytically depositing metallic aluminium, substantially as hereinbefore set forth, which consists in subjecting a neutral solution of double chloride of aluminium and sodium to electrolysis, in the presence of an anode consisting of a conducting body (such as carbon) and a compound of chloride of sodium, ane double chloride of sodium and aluminium in fragmentary form and in electrical contact with said conducting body. 2nd. The improvement, in the art of continuously depositing metallic aluminium electrolytically, substantially as hereinbefore set forth, which consists in subjecting a neutral solution of double chloride of aluminium and sodium to electrolysis, in the presence of an anode consisting of a conducting body (such as carbon) surrounded by a compound in fragmentary form composed of chloride of sodium and double chloride of sodium and aluminium, and renewing said compound as the same becomes dissolved in said electrolytic liquid to maintain the normal strength of said liquid, substantially as described. 3rd. The improvement in the art of depositing metallic aluminium electrolytically, substantially as hereinbefore set forth, which consists, first, in dissolving alumina in hydrochloric acid to produce chloride of aluminium, second, reducing said chloride to the form of a dry powder and dissolving the same in water, third, subjecting said chloride solution to electrolysis in tho presence of an anode of aluminium surrounded by chloride of sodium, until said solution becomes substantially clear and colourless, and, fourth, subjecting said colourless liquid to electrolysis in the presence of an anode of conducting material (such as carbon) in electrical contact with a compound in fragmentary form composed of chloride of sodium and double chloride of sodium and aluminium. 4th. In an apparatus for electrolytically depositing aluminium, an electrolytic bath containing two compartments separated by a porous partition, one of said compartments containing an electrolytic liquid consisting of a neutral aqueous solution of double chloride of aluminium and sodium, and an esthode, and the other of said compartments containing the anode and an electrical contact therewith a compound of double chloride of sodium and aluminium and chloride of sodium fused together and reduced to fragmentary form, substantially as described. 5th. In an apparatus for electrolytically depositing aluminium, an electrolytic bath A_2 having two compartments C_2 and D_2 separated by a porous partition B_2 one of said compartments containing an electrolytic liquid consisting of a neutral aqueous solution of double chloride of aluminium and sodium, and the other of said compartments containing a carbon anode G and in electrical contact therewith, a compound of double chloride of sodium and aluminium, and chloride of sodium fused together and reduced to fragmentary form, substantially as described. 6th. In an apparatus for the electro-deposition of metallic aluminium, a cathode of aluminium.

No. 25,949. Art of Electroplating with Aluminum. (*Placage Galvanique à l'Aluminium.*)

William H. Gaw, (assignee of William Frishmuth), Philadelphia, Penn., U.S., 9th February, 1887; 5 years.

Claim.—1st. Electrolytically depositing aluminium in the pure metallic state, from a neutral aqueous solution of double chloride of, aluminium and sodium, substantially as described. 2nd. In an apparatus for electroplating with aluminium, an anode of aluminium and an electrolytic liquid consisting of a neutral solution of double chloride of aluminium and sodium. 3rd. The improvement in the art of depositing aluminium electrolytically, substantially as hereinbefore set forth, which consists, first, in dissolving alumina in hydrochloric acid to produce chloride of aluminium, second, reducing said chloride to the form of dry powder and dissolving the same in water, third, subjecting said chloride solution to electrolysis in the presence of an anode of aluminium surrounded by chloride of sodium until said solution becomes substantially clear and colourless, fourth, evaporating said liquid and thereby obtaining a substantially dry powder, fifth, dissolving said powder in water, sixth, subjecting said last mentioned solution to electrolysis in the presence of an anode of aluminium.

No. 25,950. Galvanic Cell. (*Cellule Galvanique.*)

William H. Gaw, (assignee of William Frishmuth), Philadelphia, Penn., U.S., 9th February, 1887; 5 years.

Claim.—1st. The combination of the aluminium element E, having threaded rod F, the grooved bar C, nut G, zinc element B, and bolts L, substantially as described. 2nd. The combination of the aluminium element E having threaded rod F, the grooved bar C, nut G, zinc elements B, B, bolts L, and circuit connection I, substantially as described. 3rd. The combination of the aluminium element E, having threaded rod F, grooved bar C, nut G, zinc elements B, B, bolts L, circuit connection I and binding posts K, M, the said rod F, nut G, bolts L, circuit connection I, and binding posts K, M being of aluminium, substantially as described.

No. 25,951. Anode for Aluminium Electro-deposition. (*Anode pour l'Electro-déposition de l'Aluminium.*)

William H. Gaw, (assignee of William Frismuth), Philadelphia, Penn., U.S., 9th February, 1887; 5 years.

Claim.—1st. An anode for aluminium electro-deposition containing double chloride of sodium, and aluminium chloride of sodium carbon and an agglutinating material, substantially as described. 2nd. An anode of aluminium deposition, containing amorphous gray aluminium, and sodium chloride, as hereinbefore specified, chloride of sodium, carbon and an agglutinating material, substantially as described. 3rd. An anode for aluminium electro-deposition containing double chloride of aluminium, and sodium chloride of sodium, carbon and coal tar, substantially as described. 4th. In an apparatus for electro-deposition of aluminium, an anode containing double chloride of aluminium and sodium chloride of sodium carbon, and an agglutinating material in compact form, a solution of chloride of sodium surrounding said anode, a cathode of conducting material, as electrolytic liquid consisting of a neutral solution of double chloride of aluminium and sodium surrounding said cathode, a porous partition between said soluions and a containing vessel, substantially as described.

No. 25,952. Brush Bridle or Shield for Paint Brushes, etc. (*Bride de Pinceau ou Guide-Pinceau.*)

William L. Barnes, Yonkers, Thomas Gerhart, Allen S. Gookin and Edward F. G. Gayner, New York, N. Y., U. S., 9th February, 1887; 5 years.

Claim.—1st. The combination, in a brush-bridle, of a shield section *a*, adapted as described to be secured to the stock of a brush, with a binder-section *b* telescoping within said shield section, substantially as described. 2nd. The combination, in a brush-bridle, of a shield section *a*, adapted as described to be secured to the stock of a brush and formed with the inner flange *e*, with a binder section *b* having the outer flange *g* telescoping within said shield section, and means as described to retain said binder-section in a retracted position, substantially as described. 3rd. The brush-bridle consisting of a section *a*, adapted as described, to be secured to the stock of a brush, and having the inner flange *e* and luge *d*, and a section *b* having the outer flange *g* with notches *h*, substantially as described.

No. 25,953. Screw Propeller. (*Hélice de Propulsion.*)

The Vogelsang Screw Propeller Company, Brooklyn, (assignees of Alexander Vogelsang, New York), N. Y., U. S., 9th February, 1887; 5 years.

Claim.—1st. A single propeller having blades disposed around a hub in pairs, one pair of the blades arranged diametrically opposite to each other on the hub-like fractions of a turn of a screw, and the other pair also diametrically opposite to each other being like fractions of another part of the same turn of a screw, substantially as described. 2nd. A single propeller provided with a series of blades, the working faces of all of which are substantially alike, and whose cutting and trailing edges are reversed one to the other, substantially as described. 3rd. A single propeller provided with a series of blades whose cutting and trailing edges are reversed one to the other, and one blade constructed to displace water toward the hub, and the adjacent blades constructed to displace water away from the hub, substantially as shown and described. 4th. A single propeller provided with a series of blades, having approximately the same twist disposed around a hub and arranged in pairs, the cutting and trailing

edges of one blade of each pair being reversed to the cutting and trailing edges of the adjacent blades, substantially as described. 5th. A single propeller provided with a series of blades, whose cutting and trailing edges are reversed one to the other, and disposed upon approximately the same plane at their point of juncture with the hub, and at different planes at the tips or ends of the blades, substantially as described. 6th. A single propeller provided with a series of blades, whose cutting and trailing edges are reversed to the other, and disposed around a hub in such relation thereto that a single plane that is perpendicular to the axis of the propeller will cut through, all of the blades, substantially as described. 7th. A single propeller having a series of blades, one edge of which is formed of straight curved lines, and the other edge in the form of a curved line, an ogee or cyma, the cutting and trailing edges being reversed on each alternate blade, substantially as described.

No. 25,954. Sleigh Knee. (*Courbe de Traîneau.*)

August Doll and Laurence S. Beits, Lena, Ill., U. S., 9th February, 1887; 5 years.

Claim.—The combination, with the knee C having flanges I, I1 adapted to embrace a runner, and provided at its upper end with the horizontal flanges E, E1, O, O1, of the beam A resting on said horizontal flanges and formed with vertical grooves A1, the rave B resting on the beam and the bolts F, F1 passing through the rave, and the flanges O, O1, and lying in the grooves A1 and binding together, the knee, the beam and the rave, substantially as shown and described and for the purpose set forth.

No. 25,955. Manufacture of Boxes and Apparatus connected therewith. (*Fabrication des Boîtes et Appareil pour cet objet.*)

Jean Scherbel, (assignee of Teodor Remus), Dresden, Germany, 9th February, 1887; 5 years.

Claim.—1st. The apparatus for forming grooves in cardboard and other box material, consisting of circular cutters *c* and *c*1 mounted in holders *b* and *b*1, which are relatively adjustable, in combination with a feed roller *e*, substantially as set forth. 2nd. The apparatus for forming grooves in cardboard and other box material, consisting of circular cutters *c* and *c*1, mounted in adjustable holders *b* and *b*1, in combination with an intermediate cutter *d* and with a feed roller *e*, substantially as set forth. 3rd. The apparatus for forming grooves in cardboard and other box material, consisting of the pressing rollers *f*, *f*, and the intermediate cutter *d* mounted in holders *b*, *b*1, and in combination with a feed roller *e*, substantially as set forth. 4th. A clawclamp for edges and corners of boxes, consisting of a strip of sheet metal formed with edge teeth which are bent so as to form claws, substantially as shown in the drawings. 5th. A clawclamp for edges and corners of boxes, consisting of a strip of sheet metal formed with edge teeth which are bent so as to form claws, such strip being bent to an angle along the middle, substantially as shown on the drawings. 6th. A clawclamp for edges and corners of boxes, consisting of a strip of sheet metal formed with edge teeth, which are bent so as to form claws, the strip being also formed with slots, substantially as shown in the drawings. 7th. The mode of manufacturing the hereinbefore described clawclamps, consisting in, first stamping out teeth along one edge of a blank of the width of two clawclamp blanks, then shifting the blank laterally, then stamping out teeth along the opposite edge, and simultaneously stamping the blank through in the middle with a serrated cut, then pressing or rolling each serrated blank first into the section Fig. 27, and then into the section, Fig. 31 or 35, substantially as set forth. 8th. The apparatus for stamping out two serrated blanks from a double blank, consisting of the serrated anvil dies or cutters A and B, having an intermediate space of the form of the serrated blank to be formed, a serrated stamp or punch corresponding to the form of such space, and stops E and D, substantially as set forth. 9th. The apparatus for affixing the clawclamps consisting of an angled anvil A for supporting the two sides of the box, and a hammer B having a corresponding V or saddle groove, and provided with sliding plates C, and spring D, substantially as described with reference to Figs. 36, 37 and 38. 10th. The apparatus for affixing the clawclamps and clinching the claws or teeth, consisting of an angled anvil A having plates E recessed therein and supported by springs, and a hammer B having a corresponding V or saddle groove, and provided with sliding plates C and springs D, substantially as described, with reference to Figs. 36, 37, 39, 40 and 41. 11th. The improved manufacture of metal-bound boxes by means of cardboard grooving and clawclamp, stamping, bending and affixing machinery, substantially as herein described and shown.

No. 25,956. Cut-Off Valve for Steam Engines. (*Soupape de Détente pour Machines à Vapeur.*)

Delano H. Dugar, Cedartown, Ga., and Arthur Pinder, Anniston, Ala., U.S., 9th February, 1887; 5 years.

Claim.—1st. The combination of a cylindrical valve-casing having the distributing ports at one side, and having a channel communicating with the live steam chamber at the diametrically opposite side, a hollow valve fitting within the casing and having distributing ports registering with the ports of the casing, and having perforations registering with the channel communicating with its interior, and a cut-off valve having a semi-cylindrical face formed with distributing channels or apertures registering with the apertures in the hollow valve, and bearing against the apertured inner surface of the said valve, as and for the purpose shown and set forth. 2nd. The combination of a live steam chamber, an exhaust chamber, a cylindrical valve casing placed between the chambers, and having at its lower side a live steam port, and an exhaust port, and a steam port into the cylinder, and having at its upper side a live steam channel, a hollow cylindrical valve fitting in the casing and having two steam ports, and an exhaust aperture registering respectively with the steam port and the live steam port of the valve casing, and with the steam port and exhaust port in its lower portion, and having in its upper portion, apertures registering with the live steam channel, and a cut-off valve having a semi-cylindrical face formed with a steam channel and with an exhaust recess, and rocking against the apertured lower portion of the inner surface of the hollow valve, as and for the purpose shown and set forth. 3rd. The combination of a valve casing, cylindrical in shape, and having a steam port and a live steam port and exhaust port in its lower side, and a live steam channel in its upper side, with a cylindrical valve having ports registering with the ports of the valve casing, and having a groove or recess in the space between the ports registering with the live steam port and the steam port of the casing, as and for the purpose shown and set forth. 4th. The combination of a cylindrical valve chamber having steam port and live steam port and exhaust port in its lower side, and having a live steam channel in its upper side, a hollow cylindrical valve fitting in the valve chamber, and having steam and exhaust ports registering with ports of the valve chamber, and having apertures in its upper side registering with the live steam channel, an axial valve-stem having a wing at one side formed with a groove in its outer edge provided with springs and a semi-cylindrical cut-off valve having channels in its cylindrical face, registering with the ports of the hollow valve, and having a recess in its back receiving the wing of the valve stem with the springs bearing its bottom, as and for the purpose shown and set forth. 5th. The combination of a live steam chamber, an exhaust chamber, a cylindrical valve casing placed between the chambers and having a steam port into the steam cylinder and a live steam port, and an exhaust port at the sides of the steam port, and provided with a live steam channel at a point opposite to the steam port, a hollow cylindrical valve fitting in the casing, and having steam ports registering with the steam port and with the live steam port, and having an exhaust aperture registering with the steam port and with the exhaust port and formed with apertures registering with the live steam channel, and with a longitudinal groove or recess in the space between the steam ports, an axial cut-off valve stem having a laterally projecting wing formed with a longitudinal groove in its outer edge, provided with springs, and a semi-cylindrical cut-off valve having a curved steam channel registering at its apertures with the steam ports of the hollow valve, and an exhaust recess registering with the exhaust aperture of the hollow cylinder, and having a longitudinal recess in its back of the wing of the valve stem with the springs bearing against the bottom of the same, as and for the purpose shown and set forth.

No. 25,957. Trough for Watering Horses. (*Auge pour Abreuver les Chevaux.*)

Arthur Cornellier, Berthier, (en haut), Que., 10th February, 1887; 5 years.

Réclame.—Un auget A, unique ou disposé en série, muni d'un couvercle M, des ouvertures *a*, *b* et *c*, en combinaison avec le tuyau alimentateur T, T1, T2, et le tuyau d'égout *s t v*, et les robinets correspondants R et V, le tout tel que ci-dessus décrit et pour les fins sus-mentionnées.

No. 25,958. Hoisting Sling. (*Nacelle Monte-Charge.*)

Robert E. Walsh, New York, N. Y., U. S., 10th February, 1887; 5 years.

Claim.—A hoisting-sling consisting of a net having eyes D at its corners, ropes B attached at one end to the sides of the net and passed through the eyes D, and attached at their other ends to the ends of the net, and the supporting ropes C, connected by means of eyes to the ropes B at the ends of the net, the supporting ropes C being adapted to draw the ropes B through the eyes D and to purse the sling, all combined to operate substantially as set forth.

No. 25,959. Paper Box. (*Boîte de Papier.*)

Joseph T. Craw, Jersey, N.J., U.S., 10th February, 1887; 5 years.

Claim.—1st. The herein-described box, constructed from a blank consisting of a rectangular strip, cut and scored to form the sides, ends, paste-flap, double bottom, and rectangular end flaps of the box, substantially as and for the purpose set forth. 2nd. The herein-described paper box, constructed from a blank consisting of a rectangular strip, cut and scored to form the sides, ends, double bottom rectangular end flaps, top flaps, and top folds of the box, substantially as and for the purpose set forth. 3rd. A blank for paper boxes, cut and scored to form sides 20 and 21, ends 22 and 23, bottom portions 24 and 25, end flaps 26 and 27, and a paste-flap 28, substantially as described.

No. 25,960. Pantaloon Stretcher. (*Forme de Pantalon.*)

Otis B. Benton, Cleveland, Ohio, U. S., 10th February, 1887; 5 years.

Claim.—1st. In a trowsers stretcher, a clamp, consisting of a base piece, and a top piece removably secured to the base piece, and having journals on which it is adapted to turn when the clamping is effected, substantially as set forth. 2nd. In a trowsers stretcher, a pair of clamps, in combination with a connecting bar, and pawl and ratchet mechanism for adjusting one of the clamps on the bar, substantially as set forth. 3rd. In a trowsers stretcher, pawl and ratchet mechanism for adjusting the clamps in relation to each other, and a foot-rest on one of the clamps for depressing it, substantially as set forth. 4th. In a trowsers stretcher, a clamping piece provided with a handle to rotate said piece on its axis, substantially as described. 5th. In a pantaloon stretcher, a clamp having a slightly increasing depth of space between the clamping pieces from about the middle toward the ends thereof, substantially as set forth. 6th. In a pantaloon stretcher, a clamp in which one of the clamping pieces has a working surface, tapering slightly from about the centre towards the ends, and the working surface of the other piece is

straight, or substantially straight, as and for the purpose set forth. 7th. In a pantaloon stretcher, a pair of clamps consisting of base pieces having keepers, provided with bearings having open slots leading thereto, and top pieces provided with journals adapted to rest and turn in the said bearings, substantially as set forth. 8th. In a trowsers stretcher, a clamp provided with a removable eccentric top piece, adapted to clamp when turned upon its axis, substantially as set forth. 9th. In a trowsers stretcher, a connecting bar with a separate ratchet piece set into said bar, as and for the purpose set forth. 10th. In a transverse stretcher, a connecting bar made in sections, and a spring locking device located at the joint of the sections and serving to lock them together, substantially as set forth.

No. 25,961. Process of Manufacturing Leather or Imitation Leather Cover. (*Procédé de Fabrication des Couvertures de Livres en Cuir ou Imitation de Cuir.*)

Friederich H. Lieker, Toronto, Ont., 10th February, 1887; 5 years.

Claim.—1st. An improved process for the manufacture of covers, which consists in first passing the paper or other stiffening material upon the face of the leather, then cutting the edges to the proper shape, then binding the edges so shaped with a narrow strip of thin leather or other material, and then placing the cover so prepared in an embossing press, substantially as and for the purpose specified, 2nd. An improved process for the manufacture of covers, which consists in first pasting the paper or other stiffening material upon the face of the leather, then cutting the edges to the proper shape, then binding the edges so shaped with a narrow strip of thin leather or other material, then placing the cover so prepared in an embossing press, after which the crease is formed by a tool placed in an embossing press, substantially as and for the purpose specified.

No. 25,962. Steam Boiler. (*Chaudière à Vapeur.*)

Joseph A. Mumford, Hanpsport, N. S., 10th February, 1887; 5 years.

Claim.—1st. The combination, with the boiler casing inclined as shown, of the fire chamber of uniform diameter, and the horizontal boiler tubes diverging in parallel planes, as set forth. 2nd. The combination of the boiler casing, inclined as shown, and the fire chamber of uniform diameter, the horizontal tubes communicating therewith, and the blow-off cock located at the lowest point of the boiler, *substantially* as set forth. 3rd. The combination, with the boiler casing, inclined as shown, of the fire chamber, the flues communicating therewith, the front plate or casting, having the fuel and ash door therein, grate bars K and blow-off cock L, substantially as set forth. 4th. An inclined boiler, having a fire box constructed of two or more parallel or tapering sections, as set forth. 5th. An inclined boiler, having a fire box, and tubes diverging from the fire box through the rear end of the boiler, as set forth. 6th. An inclined boiler, having one or more sections tapering to meet the flange of the fire box.

No. 25,963. Bottle. (*Bouteille.*)

James Canan, Port Colborne, Ont., 10th February, 1887; 5 years.

Claim.—1st. A tube B fitted into the neck of the bottle A, in combination with the valve C, connected to the piston-shaped valve D, having an aperture *a* provided with a valve E, arranged substantially as and for the purpose specified, 2nd. A tube B fitted into the neck of the bottle A, and having a shoulder *f* formed on its end, in combination with the valve C connected to the piston-shaped valve D, having an aperture *a* provided with a valve E, having legs *d* formed on it, substantially as and for the purpose specified. 3rd. The piston-shaped valve D, provided with a valve E, and connected to the valve C, having a cushion *e* formed in it, in combination with the support F extending from the bottom of the bottle A, and arranged substantially as and for the purpose specified. 4th. A piston shaped valve D, fitting the neck of a bottle A, and having an aperture *a* closed by a valve E, with legs *d* actuated by the spring *b*, in combination with the valve C, connected to the valve D and designed to close the inner end of the neck of the bottle A, substantially as and for the purpose specified.

No. 25,964. Suspender Attachment.

(*Disposition aux Bretelles.*)

William O. Raymond and William H. Derrick, Rochester, N. Y., U.S., 10th February, 1887; 5 years.

Claim.—1st. A suspender attachment, fitted to be attached to the front end of each shoulder band, and to the trousers at or near the fly or joining of the trousers in the middle, in front, and at or near each side of the trousers, substantially as described. 2nd. In combination with trousers, and shoulder bands for supporting them, an adjustable suspender attachment fitted to be attached to the front end of such shoulder band, and to the trousers at or near the fly or joining thereof in the middle, in front, and also at or near each side of the trousers, substantially as described. 23rd. In a pair of suspenders, the combination with the shoulder bands E, E, having their rear ends provided with button-holes, or other devices for attaching to the trousers behind, and their forward ends provided with the buckle pulleys or buckle loops p, p^1, of the connecting cord C or its equivalent, provided with looped ends l, l^1, by which it is attached to the side buttons b^1, b^2, and the loop pulley or button loop P attached to the trousers at or near the joining of two parts thereof in front, substantially as described. 4th. The combination, with trousers and shoulder bands for supporting them of the cord C, or its equivalent, attached to the trousers at or near each side and at or near the middle in front and attached to the front ends of each shoulder band, substantially as described.

No. 25,965. Oil Cup. (*Godet à Huile.*)

Herman A. Todd, Evanston, W.T., U.S., 10th February, 1887; 5 years.

Claim.—1st. In an oil cup, the combination, with the cup body having a passage for outflow of oil, and a spindle provided with an oil-way and screwed into said passage, of arms or springs held to the top of the spindle, and bearing on the cup body to hold and steady the top of the spindle independently of the cap of the oil cup, substantially as described for the purpose set forth. 2nd. The combination, with the oil cup body A, provided with passages B, C, and a seat *b*, of a spindle D, having an oilway F, and threaded into passage B and adapted to close onto seat *b*, and arms or springs E fitted to the head of the spindle and bearing on the cup body, substantially as herein set forth. 3rd. The combination, with the cup body A having an oil outlet, and a spindle secured to said outlet and adjustable lengthwise, and provided with an oil-way, of an index finger G on the spindle, substantially as herein set forth. 4th. The combination, with the oil cup body A having oil outlet and a graduated scale H, of a spindle screwed to said outlet, and adjustable lengthwise and provided with an oilway, as at F, add an index finger G, substantially as described for the purposes set forth.

No. 25,966. Toboggan. (*Traîne Sauvage.*)

Edouard Darche, Chambly Basin, Que., 10th February, 1887; 5 years.

Réclame.—1o. Une traîne sauvage composée de l'assemblage du fond mince A, et des barres transversales et longitudinales C, D et B, émergeant audessus et au dessous du dit fond mince A, et munis en dessous des languettes incrustées L, faites de gaïac ou de toute autre substance dure, susceptible de prendre un beau poli et de résister à l'usure des bras F, à courbe spéciale *f* et des roulettes recouvertes I, dépassant partiellement les côtés de la traîne tel que ci-dessus décrit et pour les fins sus-mentionnées.

No. 25,967. Gravitation Lock.

(*Serrure à Détente.*)

Charles Sandford, Fenelon Falls, Ont., 10th February, 1877; 5 years.

Claim.—1st. A latch lock, composed of a reversible cam ended latch-bolt B, B^1, B^{11}, having its cam end geared into a pivoted gravitation tumbler C operated by square knob spindle, the latch adapted to be dead stopped or operated by a key, substantially as shown and described. 2nd. The combination of the casing A, A^1, a, a^1, bolt B, B^1, B^{11}, tumbler C, notches C^1, C^{11}, c, c^1, stop D, d, d^1, and key hole E, substantially as shown and described. 3rd. The combination of the bevelled bolt-head B, slot b, pin a, shank B, cams B^{11} and stops D, substantially as shown and described. 4th, The combination of the tumbler C, notches C^1, C^{11}, bearings c, with square eye c^1, substantially as shown and described. 5th. The combination of the bolt B, B^1, B^{11}, b, pin a, tumbler C, notches C^1, C^{11}, bearings c and eye c^1, substantially as shown and described.

No. 25,968. Metal Tie for Railway Tracks.

(*Traverse Métallique de Chemin de Fer.*)

Charles Netter, New York, N.Y., U.S., 10th February, 1887; 5 years.

Claim.—1st. In combination with a U-shaped metal tie for railway tracks, having notches in the edges of its open side to receive the base of a rail, and the thickness of a fish plate or other suitable connection, and openings C to receive the hooked ends of the bolts D, the fish-plate E, substantially as herein described and shown. 2nd. In combination, with a U-shaped metal tie for railway tracks provided with notches in the edges of its open side to receive the box of the rail, the fish-plate E extending beyond the edges of the base of the rail, and the hook-shaped bolts D, constructed substantially as herein shown and described. 3rd. In combination with a U-shaped metal tie for railway tracks, the inverted Ω-shaped yielding cushion J, constructed substantially as and for the purpose herein set forth. 4th. In combination, with a U-shaped metal tie for railway tracks, the hook-shaped fish plate E^1, constructed substantially as herein shown and described.

No. 25,969. Double and Gang Edger.

(*Scierie pour ôter les Flaches.*)

Michael Garland, Bay City, Mich., U. S., 10th February, 1887; 5 years.

Claim.—1st. In combination with the stationary saw of a gang-edger, a movable saw guide, and a mechanism for adjusting the latter, composed essentially of a rock-shaft, and cranks connected by means of pitman to both ends of the saw guide, all substantially as and for the purposes hereinbefore set forth. 2nd. In combination with the stationary and movable saws, of a gang-edger, and means for adjusting the movable saw-guide, the depending pointers located above and in close proximity to the upper portions of the peripheries of the saws, and by means of which the operator can sight the condition of the machine with reference to the kind of work it may be set to do, all substantially as hereinbefore set forth, 3rd. In a gang-edger, the combination, with the edge-guide arranged to move bodily and laterally, of a rock-shaft and cranks thereon, suitably connected, as specified, to said edge-guide, near the ends of the latter, a suitable handle for turning said rock-shaft, and means for locking said handle in place, all substantially in the manner and for the purpose hereinbefore set forth. 4th. In combination with a frame, carrying an upper feed-roll geared to a lower feed-roll, and the shaft or bar to which said frame is hinged, means for adjusting said frame relatively to the said shaft or bar for the purpose of effecting a relative adjustment of the said upper and lower feed-rolls, all substantially as hereinbefore set forth. 5th. In combination with the hinged frame L, which carries an upper feed roll, and the shaft or bar J to which said frame is hinged, an idler roll M mounted to turn freely upon said shaft or bar, for the purpose of facilitating the return through the machine of defective lumber, all as hereinbefore set forth. 6th.

In combination with the feed-table, edge-guide, drawing feed-rollers, saws and receiving-table, of a gang-edger, a series of three or more lines Q, arranged to have two come in front of and one in rear of and out of line with the saws, as set forth. 7th. In combination with the edge-guide, a liner or liners Q, composed each of a toothed disk mounted in a swivelled stud, and thus adapted to have its degree of obliquity varied, substantially in the manner and for the purpose hereinbefore set forth.

No. 25,970. Card or Ticket Case.

(*Etui à Cartes ou Billets.*)

Alexander Allen and Julian Sale, Toronto, Ont., 10th February, 1887: 5 years.

Claim.—1st. In a case for cards, tickets or envelopes, the combination of a spring K, G, with the sliding plate C and knob D, so arranged that one at a time can be pushed out of the case, substantially as and for the purpose hereinbefore set forth. 2nd, In a case for cards, tickets or envelopes, the combination of the plate L, with a hole J and the sliding plate C and knob D, substantially as and for the purpose hereinbefore set forth.

No. 25,971. Door Mat. (*Paillasson.*)

William J. Ramsay, Toronto, Ont., 10th February, 1887; (reissue of Patent No. 19,254.)

Claim.—1st. As an improved mat, a series of wire coils linked together parallel with each other, and braced by a similar series of coils, screwed into the mat at about right angles to the other coils, in combination with a stiffening-bar inserted into the corners of the mat, substantially as and for the purpose specified. 2nd. A mat composed of a series of coiled wires, meshed together as specified, in combination with the hinged bracket E, provided with the lip *b* and having a locking head F, substantially as and for the purpose specified. 3rd. A mat composed of a series of wire coils linked together parallel with each other, and braced by a similar series of coils screwed into the mat at about right angles to the other coils, and provided with a stiffening-bar inserted into the corners of the mat, combined with a bracket having a lip and a looking-head, substantially as and for the purpose specified. 4th. As an improved wire fabric, a series of wire coils A linked together, combined with a similar series of coils B, interwoven with the coils A diagonally to the sides of the fabric, and at about right angles to the said coils A, substantially as described. 5th. As an improved wire fabric, a series of wire coils A, linked together parallel with each other, combined with a similar series of coils B, screwed into the coils A at the point where they intersect each other at about right angles to said coils, and diagonally to the sides of the fabric, substantially as described. 6th. As an improved wire fabric, a series of wire coils linked together parallel with each other, and braced by a similar series of coils screwed into said coils at about right angles thereto, and diagonally to the sides of the fabric, the ends *a* of each coil being bent around the spiral body of the coil next to it, substantially as and for the purpose specified. 7th. The combination, with the bracket D having lip to engage the edge of a mat, of the hinged bracket E provided with lip *c*, and a locking-stud F, substantially as and for the purpose specified. 8th. The bracket E having lip *c* to engage the edge of a mat and hinged at *c*, the upper half of said bracket being provided with elongated slot *g*, and the lower half with a looking-head F designed to engage said slot, substantially as and for the purpose specified.

No. 25,972. Sulky Spring Tooth Cultivator.

(*Scarificateur à Dents Elastiques à Siège.*)

Richard Sylvester, Lindsay, Ont., 11th February, 1887; 5 years.

Claim.—1st. In sulky spring tooth cultivator on wheels, having a tubular axle provided for gudgeons at outer ends for wheels, in combination with a frame arranged to have a series of drag bars attached for the purpose of having a cultivator with teeth working independent of each other, substantially as set forth. 2nd. In a sulky spring tooth cultivator, having the spring teeth attached to the drag bars by circular-shaped clamp blocks, having the inner sides slotted out to receive the teeth, having both upper and lower edges in a circular form, the lower edge to answer as a shoe or runner, and the upper edge rounded to prevent dirt or rubbish from clinging to same, the outer sides having ribs making a recess for drag bars, the drag bars, and blocks griping on edge of tooth and held rigidly to place by one bolt, substantially as set forth. 3rd. In a sulky spring tooth cultivator, having the drag bars attached to frame at front end, and having chains attached in a convenient place to connect with roller, in combination with a lever attached to the frame in a convenient place for the driver to raise the teeth from the ground and operate the cultivaior, substantially as set forth.

No. 25,973. Window. (*Fenêtre.*)

William F. Morgan, Thomas Guilfoyle and James Guilfoyle, Collingwood, Ont., 11th February, 1887; 5 years.

Claim.—1st. A window frame having a piece removed from its side corresponding in length to the sash, in combination with the strip E connected to the window frame by means of the hinges G and H, arranged substantially as and for the purpose set forth. 2nd. The hinge H having an angular bottom-piece A connected with the frame F, in combination with the strip E connected at its bottom end to the hinge H, and at its top to the frame F by means of the hinge G, substantially as and for the purpose specified.

No. 25,974. Car Coupling. (*Attelage de Chars.*)

Chester M. Baldwin, Bronson, and Charles Bordner, Burr Oak, Mich., U.S., 11th February, 1887; 5 years.

Claim.—An improvement in car-coupling, the combination, with the drawhead A having the vertical slot B and formed with the convex-block E, arranged as described, of the spring-actuated hook C pivotally secured in the lower rear part of the said slot below the line of draft, and having its point resting against the said convex-block E above the line of draft, a trip-rod *a a* secured in bearings across the front of the car, provided with the central double crank portion, and having its ends *b*, *b* bent at right angles to form lever arms, the chain *f* connecting the said double crank of the said trip rod to the upper front end of the hook C in the drawhead A, and the foot-rod pivoted at its lower end to one of the lever arms *b* of the rod *a a*, said foot-rod having its upper end *d* bent at right angles to the rest of the rod *c*, and adapted to be operated by the foot of the operator from the top of the car, all constructed, combined and arranged to operate in the manner and for the purpose herein shown and set forth.

No. 25,975. Facilitating the Checking of Cash Received. (*Contrôle de Caisse.*)

Alfred Steer, St. Leonards-on-Sea, Eng., 12th February, 1887; 5 years.

Claim.—1st. The apparatus for facilitating the checking of cash received and consisting of a cylindrical casing open in front, a rotating frame, a till drawer or drawers carried by the frame, a rotating top to the casing, the same secured to the frame, and an inclined desk or support to receive a cash sheet or sheets, and means for preventing the opening of the drawer or drawers twice in the same direction, all arranged and operating substantially as herein shown and described. 2nd. In a cash checking apparatus, the combination of a rotating framework carrying a till drawer or drawers with a support or desk for cash sheets or tablets, for the purpose set forth. 3rd. In a cash checking apparatus, the combination of a rotating framework carrying a till drawer or drawers, with a cylindrical casing having an opening at one side only, as and for the purpose set forth. 4th. In a cash checking apparatus, the combination, with a rotating framework carrying a till drawer or drawers, of means for preventing the opening of the till drawer or drawers twice in the same direction, as set forth. 5th. The means, substantially as herein shown and described, for preventing the opening of the till drawer or drawers twice in the same direction, as set forth. 6th. The mode substantially as herein described, for facilitating the checking of cash received.

No. 25,976. Heater for Beds. (*Bassinoire.*)

Catharine E. Bell, West Point, Miss., U. S., 12th February, 1887; 5 years.

Claim.—In a bed heater, the combination af an inner and an outer casing, secured at one end to a common bottom, and an annular top secured to the other end, said top and bottom each being provided with a series of perforations, a staple, a door pivotally secured to the top having a wedged-shaped lip on one side, a handle or bail and a heating medium within said inner casing.

No. 25,977. Weather Strips.

(*Bourrelet de Porte.*)

C. Polley, New Berlin, Fla., U.S., 12th February, 1887; 5 years.

Claim.—1st. The combination of a jamb, the door having a horizontal recess or chamber formed in its rear edge, an endwise moving plate or strip, having the diagonal slots and the extended angular lip at one end arranged in line with the recess or chamber of the door, a spring housed in the recess or chamber, a pin or bolt located in the chamber normally impelled into contact with the angular lip of the plate by the spring and the fixed guide-pins passing through the slots, substantially as described for the purpose set forth. 2nd. The combination of a door, having the horizontal recess or chamber in its rear edge, the coiled spring housed within the chamber, the bolt or pin normally impelled beyond the chamber or recess by the spring, the endwise moving plate or strip having the diagonal slots and an extended lip at one end, arranged at an angle to the plate and in the path of the pin or bolt, the lower edge of the said plate being doubled or bent upon itself, and having a yielding strip H secured therein, and the fixed guide pins passing through the diagonal slots of the plate, substantially as described for the purpose set forth.

No. 25,978. Storm Door. (*Contre porte.*)

William R. Lyle, Ripon, Wis., U.S., 12th February, 1887; 5 years.

Claim.—1st. The combination, with a screen door, of a removable panel secured upon the inside thereof, as shown and described. 2nd. The combination, with the frame of a screhn door, of strips of molding secured upon the inside thereof, and a removable panel secured under said strips of molding, as shown and described. 3rd. The combination, with the frame of a screen door, of a strip of molding secured at the top upon the inside thereof, and a strip at the bottom, the strip at the top being wider than that at the bottom, and a removable panel secured under said strips, as shown and described. 4th. The combination, with the frame of a screen door, of a removable panel secured thereto, the said panel being of two pieces, said pieces being adjustably secured together at their middle portions, as shown and described. 5th. The combination, with the frame of a screen door, a removable panel secured thereto, said panel being composed of two pieces which together are wider than the inside width of the frame and overlap each other at their middle portion, and a toggle-joint having a thumb-nut at its centre securing said two pieces together at their top and at their bottom, as shown and described.

No. 25,979. Cloth-Measuring Machine.

(*Machine à Mêtrer les Draps.*)

Edward L. Byron, Moes River, Que., 12th February, 1887; 5 years

Claim—1st, A machine for measuring fabrics, consisting of a suitable frame supporting arms adjustable sideways to the width of the fabric, and carrying spindles in adjustable bearings adapted to hold the cloth board *a*, friction roller, winding roller, and a pivoted frame

carrying measuring roller with transmission gear and indicator, substantially as shown and described. 2nd. The combination of the frame A, A1, arms B, rod B1, journals B11, spindles B111, rollers D and E, frame G, G1, roller H, gearing I i, arbor J, the index J1, K, substantially as shown and described. 3rd. The combination of the frame A A1, roller D, arms G, bar G1, roller H, gearing I i, arbor J, hand J1 and dial K, substantially as shown and described.

No. 25,980. Feeding Trough for the use of Domestic Animals. (*Auge pour les Animaux.*)

Jaseph Garner, Ingersoll, Ont., 12th February, 1887; 5 years.

Claim.—The combination of the hollow iron or other metal cone H with the extension thereof curved upwards at the base so as to form the trough A, divided into 12 compartments A A by means of the iron or other metal partitions H A, with the vertical metal shaft C cast into the side of the cone H and the circular feed guide D with the space between it and the cone H, which feed guide is cast into and forms part of the cone H, substantialy as and for the purposes and in the form above set forth.

No. 25,981. Machine for, and Manufacture of Cards such as are employed in a treatment of Fibrous Materials. (*Fabrication des Cardes et Machine pour cet objet.*)

Charles Mosely, Manchester, Eng., 12th February, 1887; 5 years.

Claim.—1st. The manufacture of cards such as are used in the preparation of fibrous materials, by the formation simultaneously of two or more teeth and their subsequent simultaneous insertion into the foundation material, substantially as hereinbefore described. 2nd. A machine or apparatus for the manufacture of cards such as are used in the preparation of fibrous materials, wherein two or more teeth are simultaneously formed and afterwards simultaneously inserted into the foundation material, substantially as hereinbefore described. 3rd. In a machine or apparatus for the manufacture of cards such as are used in the preparation of fibrous materials, a device for feeding two or more wires simultaneously to the desired length, and consisting essentially of a feed slide and a gripper, constructed and operated substantially as hereinbefore described and illustrated by the accompanying sheets of drawings. 4th. In a machine or apparatus for the manufacture of cards such as are used in the preparation of fibrous materials, the combination and arrangement of a series of parallel slotted tubes, guiding pins, a ram in each tube and a former bar, all constructed and operated substantially as and for the purpose hereinbefore described and illustrated by the accompanying sheets of drawings. 5th. In a machine or apparatus for the manufacture of cards such as are used in the preparation of fibrous materials, a device for guiding the teeth into the fabric, and for holding them while they are being bent, and consisting of the separable plates 62 and 63, perforated through their line of contact, and operated as hereinbefore described and illustrated by the accompanying drawings. 6th. In a machine or apparatus for the manufacture of cards used in the preparation of fibrous materials, a tooth-bending motion consisting of hooks or loops alternately mounted upon parallel contiguous bars, capable of reciprocal motion relatively to each other, in combination with a template 69, constructed and operated substantially as and for the purpose hereinbefore described and illustrated by the accompanying sheet of drawings. 7th. The arrangement and combination of parts constituting a machine or apparatus for the formation simultaneously, the subsequent insertion simultaneously of two or more teeth into the foundation material in manufacturing cards, substantially as hereinbefore described and illustrated in the accompanying drawings.

No. 25,982. Gang Edger. (*Scierie à Flache.*)

Charles A. Merrill and Michael Garland, Bay City, Mich., U.S., 12th February, 1887; 5 years.

Claim.—1st. In combination with the edge-guide of a gang-edger, an endless chain or carrier provided with spurs adapted to engage with the under surface of the lumber, and thereby feed or carry the lumber along in proper contact with the edge-guide, and a suitable means or mechanism for throwing said carrier contrivance into and out of operation at the pleasure of the operator of the machine. 2nd. In combination with the edge-guide E of a sawing machine, a series of edge-rollers f^2, mounted so as to operate with a yielding or elastic pressure on the edge of the board, as specified, and means for throwing the said roller into and out of operative position, substantially as and for the purposes hereinbefore set forth. 3rd. In combination with the edge-guide E, an edge-roller f^2 mounted on a hinged frame f, the hinge of which is located in a plane lower than that occupied by the roller, when the latter is in its working position, and suitable means for supporting said devices, so that, as shown and described, the pressure on the periphery of said roller, while at work, will operate to hold the roller frame f up in its working position, as hereinbefore set forth.

No. 25,983. Rip Saw Machine.

(*Scierie à Refendre.*)

The Standard Machinery Company (assignee of Michael Garland and Abel D. Catlin), Bay City, Mich., U. S., 12th February, 1887; 5 years.

Claim.—1st. In combination with the saw or saws, and a pair of drawing feed rolls arranged in rear of the saw or saws, an edge-guide a and a toothed disk or saw-like feeder m, arranged obliquely to the edge-guide in front of the saw or saws, and operating, as specified, to crowd the lumber being drawn through the machine towards and against the said edge-guide, all substantially as hereinbefore set forth. 2nd. In combination, with the feed-table and the saw or saws and edge-guide a, and a mechanism, substantially such as shown and described, operating to move said edge-guide transversely to the direction in which the lumber is to be fed through the machine, and by positive movement at each end of the guide by the application to the said mechanism at one point only of a motive power for actuating it, substantially as hereinbefore set forth. 3rd. In combination with the feed-table, an adjustable edge-guide for the board, and a stationary rip-saw, one or more adjustable guides, provided with one or more saws, the collar or collars of which is or are mounted to move endwise of the saw shaft, and a mechanism, substantially such as described, operating to move the said saw-guide or saw-guides simultaneously and positively at each end, by the application of a power for actuating said mechanism at one point only, substantially as hereinbefore set forth.

No. 25,984. Apparatus for Erecting Overhead Telegraphic, Telephonic and Similar Wires. (*Appareil pour Poser les fils Télégraphiques, Téléphoniques et autres Elevés.*)

Joseph Poole and Kenneth McIver, Manchester, Eng., 12th February, 1887; 5 years.

Claim.—1st. The method of conveying a cord or wire across a span, which consists essentially in carrying one end of the cord or wire by means of a "creeper" carrier, or apparatus capable of traversing, or of being caused to traverse the span by travelling upon an existing wire. 2nd. In a "creeper," or apparatus for travelling upon an existing telegraph or similar wire, two clutches capable of being moved along the wire in one direction only, substantially as and for the purpose hereinbefore described, and as illustrated on sheet 1 of the drawings appended hereto. 3rd. In a "creeper" or apparatus for travelling upon a telegraph or similar wire, two or more grooved pulleys N and N1, one of which may be intermittently or continuously rotated in one direction, substantially as and for the purpose hereinbefore described, and as illustrated on sheets 2 and 3 of the accompanying drawings.

No. 25,985. Machine for Lighting and Extinguishing Lamps. (*Machine pour Allumer et Eteindre les Lampes.*)

Edward Harris, Halifax, N.S., 12th February, 1887; 5 years.

Claim.—1st. In a lamplighter and extinguisher, a telescope or other tube having a match-holding device at one end, and a mouthpiece at the other, as shown and described for the purpose set forth. 2nd. The combination, in a lamplighter and extinguisher, of a series of telescoping or other tubes A, made to telescope or fold together, as shown, for the purpose described.

No. 25,986. Fire Extinguisher.

(*Extincteur d'Incendie,*)

Leroy S, Lewis, East Hartford, Conn., U. S., 12th February, 1887; 5 years.

Claim.—1st. In a chemical fire extinguisher, in combination with the main vessel and its discharge tube, a supplemental tube with permeable walls and adapted to contain a supplemental supply of alkali, or like ingredient, all substantially as described. 2nd. In combination with the main vessel a, having a bottle-supporting shelf b, a rotory crusher C supported in the cap of the vessel, its spindle having an offset lower portion and bearing the bent arms c^1 and c^2, with the point of the latter arranged to strike the bottle in advance of the former, all substantially as described. 3rd. In a fire extinguisher, in combination with the main vessel and a bottle-supporting shelf, a rotary crusher with curved arms arranged one in advance of the other, all substantially as described. 4th. In combination, in a fire extinguisher, the main vessel a having the bottle-support b and strainer c, the rotary bottle-crusher c, with the locking device h, the outlet tube f, with branches e^1 and f^1, and the supplemental tube g arranged in the outlet tube, all substantially as described.

No. 25,987. Metallic Printing Block.

(*Bloc Métallique d'Impression.*)

John M. Hawkes, New York, N. Y., U. S., 12th February, 1887; 5 years.

Claim.—1st. The combination of a metallic printing block and its movable clamps, with a post mounted on the said block, and means, as described, for connecting the said movable clamps with the post, so that all the movable clamps are simultaneously actuated by a key applied to the said post, substantially as shown and described. 2nd. The combination of a metallic printing block, and stationary clamps secured on the said block, with movable clamps adapted to slide on the said block, a post mounted on the said block, and means, as described, for connecting the said movable clamps with the said post, so that all the movable clamps are simultaneously actuated by a key applied to the said post, substantially as set forth. 3rd. The combination, with a metallic printing block and its movable clamps, of a post mounted on the said block, arms, links and bell crank levers connecting the said movable clamps with the said post, whereby all the movable clamps are simultaneously actuated by a key applied to the said post, substantially as shown and described. 4th. The combination of a metallic printing block and stationary clamps secured on the said block, with movable clamps adapted to slide on the said block, a post mounted on the said block and arms, links, and bell crank levers connecting the said post with the said movable clamps, whereby all the movable clamps are simultaneously actuated by a key appied to the said post, substantially as shown and described. 5th. In a metallic printing block, the combination, with the post N having the arm M, of the link D connecting the said arm M with the lever J, the lever J pivoted on the block A, the clamp C having the projection I and the rod F operating against the spring G, substantially as shown and described. 6th. In a metallic printing block, the combination, with the levers J actuated from the post N,

of the link K connecting the said bell-crank levers J with each other, the clamps B, each having a projection I, the rods F, each provided with a pin F^1 and the spring G acting on the said pins F^1, substantially as shown and described. 7th. In a metallic printing block, the bell crank lever J, the link V and the bell crank lever U, in combination with the rod O, provided with the pin O^1, the spring T acting on the pin of the said rod O, and the clamp E held on the said rod O, substantially as shown and described. 8th. In a metallic printing block, the movable clamps C and E, the rods F and O carrying the said clamps C and E respectively, and the springs G and T operating on the said rods F and O, in combination with the bell crank levers J and U, the link K connecting the said levers J with each other, the post N, having the arm M, the link L connecting one of the levers J with the said arm M and the link V connecting the other lever J with the said bell crank lever U, substantially as shown and described. 9th. In a metallic printing block, the combination, with the post N having the arm M, of the link L connecting the said arm M with the first lever J, the levers J pivoted on the block A, the connecting link K connecting the said levers J with each other, the clamps C, each having a projection I and operated by the said levers J, the rods F carrying the said clamps C, the spring G operating on the said rods F, substantially as shown and described. 10th. In a metallic printing block, the combination, with the block A and the stationary clamps B, formed on the face of the said block A, of the movable clamps C and E sliding in grooves *m*, the said block A, the rods F and O carrying the said clamps C and E, the springs G and T operating on the said rods F and O, the bell crank lever U operating on the said rod O, the said bell crank levers J operating on the said clamps C, the link K connecting the said bell crank levers J with each other, the link V connecting one of the bell crank levers J with the said bell crank lever U, the link L pivotally connected to one of the bell crank levers J, the arm M pivotally connected with the said link L, and the post N, carrying the said arm M and mounted on the said block A, substantially as shown and described.

No. 25,988. Hair Pin. (*Epingle à Cheveux.*)

John H. Russell, Boston, Mass., U.S., 12th February, 1887; 5 years.

Claim.—1st. As an improved article of manufacture, a hair pin composed of a single piece of wire bent at or near its middle to form two prongs, that extend thence in curved planes and intersect at or near their middles, substantially as described. 2nd. A hair pin, composed of a single piece of wire bent at its middle to form two prongs which cross each other, and each of which extends in two nearly similar curves from its middle towards its point and towards its junction with the remaining prong, substantially as described. 3rd. A hair pin, composed of a single piece of wire bent to form prongs, each of which is bent at a point near its middle, and extends thence towards its end, and junction with the remaining prong respectively in continuous similar curved planes, whereby when said prongs are crossed, the opposite ends thereof shall be curved toward and from each other respectively, as and for the purpose specified.

No. 25,989. Automatic Cut-off Valve for Steam Engines. (*Soupape de Détente Automatique pour Machines à Vapeur.*)

Charles E. Kimball, Anamosa, Iowa, U. S., 12th February, 1887; 5 years.

Claim.—1st. The spring E and the balance wheel A, as shown, and means for operating the same, in combination with a stem or rod to operate the cut-of valves of a steam engine, connected with and operating the said balance wheel A, whereby the action and motion of the cut-off valves is governed and regulated, substantially as shown and described. 2nd. In a steam engine, the combination of the eccentric rod F, stud G, arm C, spring E, balance wheel A and stem B, substantially as and for the purpose described. 3rd. In a steam engine, the combination of the eccentric rod F, stud G, arm C, sleeve D, spring E, adjusting screw H, plate L, balance wheel A and stem B, substantially as and for the purpose specified and described. 4th. In a steam engine, the combination of the eccentric rod F, stud G, arm C, sleeve D, spring E, adjusting screw H, plate L, weighted arms X, Y, Z, or any of said arms radiating from the axis and stem B to operate the cut-off valves, substantially as and for the purpose described.

No. 25,990. Pipe Vise. (*Mordache à Tuyau.*)

Andrew L. Rose, West Troy, N.Y., U.S., 14th February, 1887; 5 years.

Claim.—1st. In a pipe vise, the combination, with the base A and flanges C carrying the lower jaws E, and the hinged upper part H of the stock carrying the stem J and jaw K, and having projection S of the pivoted bars P, and the cam lever R pivoted in the upper ends of the said bars, substantially as herein shown and described, whereby the jaws are made to grasp the pipe firmly and the screw relieved of strain, as set forth. 2nd. In a pipe vise, the combination, with the upper part H, of the stock having a right screw thread in the inner surface of its upper end, and the stem J carrying the upper jaw and having an interior left screw thread, of the hand screw M having a right screw thread on its larger upper part, and a left screw-thread on its smaller lower part, substantially as herein shown and described, whereby the said upper jaw can be quickly adjusted, as set forth.

No. 25,991. Pivotal Coupling for front Axles of Waggons. (*Avant Train de Wagon.*)

Francis J. Fortier, Iroquois, Ont., 14th February, 1887; 5 years.

Claim.—1st. In a waggon pivot coupling, the combination of the sand-board plate D, having the circular wall b^1, provided with the flanges c^1, with the bolster plate E, provided with the segmental walls F, on which are formed the flanges g^1 to hold under the flanges c^1, substantially as shown and described. 2nd. The combination of the pivot e^1 attached to the bolster plate E, and provided with the flanges f^1, with the circular wall b^1 attached to the sand board plate D, and provided with the flanges d^1, as specified. 3rd. The combination of lugs G and H, coupling pin f^1, and reach I, with the sand board plate D and bolster plate E, all constructed substantially as shown and described.. 4th. The combination of the sand-board plate D, having the circular wall b^1, having the flanges c^1 and d^1 and bearing walls i^1 with the bolster plate E having the pivot e^1, with its flanges f^1, the segmental walls F, with their flanges g^1 and the bearing walls h^1, substantially as herein shown and described and for the purpose set forth.

No. 25,992. Motor. (*Moteur.*)

Bartholomew McCabe, Buffalo, N. Y., U. S.. 14th February, 1887; 5 years.

Claim.—1st. The combination, with the shaft B and ratchet wheel C, of the pulleys D, D^1 placed loosely on the shaft pawls G, G^1 pivoted in the pulleys D and adapted to engage the teeth of the ratchet wheel, and cords E, E^1 and F, and sheave H, substantially as herein and described. 2nd. The combination, with the shaft B and ratchet wheel C carried thereby, of the pulleys D, D^1 placed loosely on the shaft pawls G, G^1 pivoted in the pulleys, adapted to engage the ratchet wheel C, and provided with ears *b*, the cords E, E^1 connected with the ears *b*, the sheave H journalled at right angles to the shaft B, and the cord F extending around the pulleys D, D^1 and over the sheave H, substantially as herein shown and described. 3rd. The combination, with the cords E, E^1, of the treadle J provided with oppositely-arranged sectors I, I^1, substantially as herein shown and described. 4th. The combination of the shaft B, provided with the ratchet wheel C, pulleys D, D^1, pawls G, G^1 carried thereby and provided with ears *b*, the cords E, E^1 connected with ears *b*, the sheave H journalled at right angles to the shaft B, the cord F connected with the pulleys D, D^1 and extending over the sheave H, and the treadle J provided with the sectors I, I^1, and connected with the cords E, E^1, substantially as herein shown and described. 5th. The combination, with the treadle J, sectors I, I^1, the ropes E, E^1, F and pawl and ratchet mechanism, of the steam cylinder M, piston rod L and connecting rod K, substantially as described.

No. 25,993. Carriage Gear. (*Train de Voiture.*)

John B. Armstrong, Guelph, Ont., 14th February, 1887; 5 years.

Claim.—1st. A carriage gear, with two semi-elliptic cross-springs F and G, and having spring-tempered bi-furcated perch plates C and D connecting front and rear axles, substantially as described and specified and for the purposes set forth. 2nd. In a cross spring gear, the combined spring shackles and tie bars E, free swinging hangers H, anti-rattlers *e*, draw-jacks I, ferrules *d*, and their attachment to naked front axle and each other, substantially as described and for the purposes set forth. 3rd. In a carriage gear, with two semi-elliptic cross springs, the cross springs F and G, graduated and formed to operate substantially as described and for the purposes set forth. 4th. In a carriage gear with two semi-elliptic cross-springs, the spring G connected at the ends to the plate perches C and D, by tie bars, bolts, shackles *u* and free swinging hangers H, the perch ends being attached to the naked rear axle B by tits *v* and clips *w*, substantially as described and for the purposes set forth. 5th. A carriage gear having a single semi-elliptic front cross spring graduated, formed, and operating substantially as and for the purposes described and set forth. 6th. A carriage gear having a single semi-elliptic rear cross spring, graduated, formed and operating, substantially as and for the purposes described and set forth. 7th. In a carriage gear, a front semi-elliptic cross spring with metal turning wear plates J and K attached to the same, and supporting a spring bar *p*, substantially as shown and for the purpose described and set forth. 8th. The compensating buffers *a*, *a* and *b* placed on the rear axle and perches, and operating substantially as and for the purpose described and set forth.

No. 25,994. Grain Binder. (*Lieuse à Grain.*)

Amédée Tétrault, Miamisburg, Ohio, U. S,, 14th February, 1887; 5 years.

Claim.—1st. A grain binder, provided with a knotter arm carrying the device for knotting, severing and clamping the cord, substantially as described. 2nd. A binder, provided with a knotter arm carrying appliances constructed to form a knotter when caused to engage with the doubled cord, a knife for severing the cord, and a clamp whereby the cord is held in connection with the arm after the tying portion is cut off, substantially as described. 3rd. The combination, in a grain binder, of a pivoted knotter arm carrying appliances for knotting, cutting and holding the cord, and a cord carrier whereby the cord from the spool is conducted to the knotting devices, substantially as set forth. 4th. The combination, with the swinging knotter arm carrying cord knotting, severing and retaining devices, of appliances whereby said devices are operated from power applied near the heel of the knotter arm, substantially as set forth. 5th. The combination, in a grain binder, of a knotter arm carrying the cord knotting, severing and retaining devices, and a compressor arm arranged to form with the knotter arm jaws between which the bale is compressed, substantially as described. 6th. The combination, in a binder, of a compressor and a knotter arm carrying a clamp, whereby the portion of cord passing from the spool is secured, and a knotting device also carried by the arm and constructed to form a knot in the doubled part of the cord between the clamp and the bale, and a cutter arranged to sever the cord between the knotter and clamp, substantially as described. 7th. The combination, in a binder, of a knotter arm and means for always retaining the end of the cord in connection therewith, and cord knotting and severing devices also carried by the arm, substantially as described. 8th. The combination, in a binder, of a knotter arm, and appliances for always retaining a part of the cord in connection therewith, cord knotting and severing devices carried by the arm and a cord carrier, whereby the cord after passing round the bale is brought into engagement with the knotter devices, substantially as set forth. 9th. The combination, in a grain binder, of a platform, a knotter arm carrying cord knotting, butting and severing devices and pivoted below but vibra-

ting through the platform, and a cord carrier suspended above the platform and constructed to deliver the cord to the knotting devices, substantially as described. 10th. The knotter arm carrying cord knotting, severing, and securing devices, and provided with a slot arranged to insure the engagement of the cord laid therein, with the knotting and securing devices, substantially as described. 11th. The combination, in a grain binder, of a compressor, an arm hung to move to and from the compressor, and carrying devices for knotting, cutting and retaining the end of the cord, and a cord carrier constructed and arranged to present the cord to the knotting devices, substantially as described. 12th. In a binder, an arm vibrating to and from the compressor, and carrying the knotting devices combined with a cord carrying arm swinging front a point above the platform and operating to present the cord to the knotter device, substantially as described. 13th. The combination, with the compressor, of an arm carrying the knotting devices, and provided with a slot x, and a cord carrier swinging above the platform and operating to direct the cord to the slot, substantially as described. 14th. The swinging knotter arm having it fulcrum at one side of the platform, in combination with a cord carrier having its fulcrum opposite the other side of the platform, substantially as described. 15th. The combination, with the platform X, of the packers, compressor and arm B carrying the knotter devices, pivoted below the table, swinging to and from the compressor, and operated to fall below the table when the grain is being packed, substantially as described. 16th. In a binder, a swinging arm and compressors, arranged and operating to compress the ball between them, and a knotter device carried by the swinging arm and operated from below the platform, substantially as described. 17th. The combination of the arm carrying the knotting devices, and the compressor arm hung to swing on the same center, and appliances for swinging the arms to and from each other to compress and release the bale, substantially as described. 18th. The combination, with the gavel compressing and carrying devices, of appliances carried by one of the compressor jaws, constructed to knot, sever, and secure the end of the cord while the gavel is being compressed and carried, substantially as described. 19th. The combination, with the compressor jaws B, B_1, of devices for bringing them upon to compress the gavel, and swinging them to carry the same outward, and appliances carried by one of the jaws constructed to tie the gavel while it is being compressed and carried, substantially as described. 20th. The combination of the knotter and compresser arms swinging on the same centre, and rods connected to the said arms and appliances for drawing back the rods to bring the arms together, substantially as described. 21st. The combination of the knotter and compressor arms swinging on same centre, and the crank shaft 11 and connecting rods M_2, H_1, substantially as set forth. 22nd. The compressor arm consisting of jointed sections, and a spring interposed between the sections, substantially as and for the purpose set forth. 23rd. The combination of the swinging arms B, B_1, and devices whereby the same are brought together to compress the bale, and then carried away from the platform and separated, for the purpose set forth. 24th. The combination, of the platform X, vibrating arms B, B_1, and reciprocating packers, substantially as described. 25th. The combination of the packers, and the shaft Q geared to the driving shaft, and having cranks at the ends connected to the packers, substantially as set forth. 26th. The combination, in a binder, of the compressor arms, packers and movable supports, whereby the packers are carried away from the compressor arm as the bale is being compressed and tied, substantially as set forth. 27th. The combination of the packers, and driving shaft therefor supported by a movable frame, and appliances for moving the latter to carry the packers back as the bale is being tied, substantially as described. 28th. The combination, with the platform and packers, of adjustable supports for the latter, and means for moving said supports to carry the packers further below the platform when the bale is being tied, substantially as described. 29th. The combination of the packers, crank shaft connected thereto, and swinging frame supporting said shaft, substantially as described. 30th. The combination, with the packers, of a shaft Q connected thereto and geared to the driving shaft, and a frame carrying the shaft Q and swinging on the driving shaft, substantially as described. 31st. The combination of the packers, the movable support therefor, the compressor arm and knotter arm, arranged to operate substantially as described. 32nd. The combination of the movable frame supporting the packers, the arm B and connections, whereby the frame is moved by said arm, substantially as described. 33rd. The combination, in a binder, of the compressor knotting arm packers, and operating appliances, and stop device, all arranged in juxtaposition for the purpose set forth. 34th. The stop device arranged at the rear of the compressor arm, in combination with a movable lever on said arm, and connections between the lever and stop device, substantially as described. 35th. The combination of the packers, compressor and arm B, cooperating with the compressor to compress the bale and carrying cord knotting, severing, and securing devices, substantially as described. 36th. The combination, with the arms B, B_1 and packers, of 3 driving shaft 6^a and shaft 11, and connections in juxtaposition between the arms and packers, whereby motion is communicated from the driving shaft to all of said parts, substantially as described. 37th. The combination of the arm B, crank shaft 11, and connecting rod extending between the shaft and a stud on the heel of the arm, substantially as described. 38th. The combination, with the arms B, B_1 hung to swing on the same centre of the shaft 11, provided with cranks or eccentrics and connecting rods extending therefrom to the said arms, substantially as described. 39th. The combination, with the vibrating arm carrying the cord knotting, severing, and securing appliances, of a cover disk M and devices whereby said appliances are operated from the movement of said disk. 40th. The combination, with an arm or jaw for carrying knotting, severing, and griping devices, of an automatic stop motion and trip, substantially as described. 41st. The combination of the arm, carrying the knot forming, cord severing and griping devices, and reciprocating packers, substantially as described. 42nd. The combination of the packers, stop and trip devices, and arm carrying the cord knotting, securing, and griping appliances, substantially as described. 43rd. The combination of the compressor and knotter arms, the latter carrying cord knotting, severing, and griping devices, of a stop and strip device, substantially as described. 44th. The compressor arm, knotter arm carrying cord knotting, severing and griping devices, packers and stop and trip devices all arranged in juxtaposition, substantially as described. 45th. The combination, with the vibrating compressor arms or jaws and reciprocating packers, of an intermediate shaft from which the arms derive all their movements, substantially as described. 46th. The combination of the arm B, connecting rod M_2, and connections between the rod and disk, whereby the latter is turned as the rods alters its angle to the arm, substantially as described. 47th. The combination of the arm B, disk M carrying a segment gear, and connecting rod M_2 pivoted to the arm and provided with a tooth segment gearing with the segment on the disk M, substantially as described. 48th. The combination, with the arm B carrying a cord controlling device W, of a stud on the shaft of the controlling device, a stud on the arm, and a wedge Q and appliances for moving it between the studs to operate said device, substantially as described. 49th. The combination, with the arm B and its rod M_2, cord controlling device and studs 24, 25, of the wedge Q extending between the studs and connected to the rod M_2, substantially as described. 50th. The frame supporting the knotter arm compressor, packer and driving appliances in juxtaposition, and provided with an extension overhanging the platform and carrying the cord carrier shaft, substantially as described. 51st. The combination, with the overhanging frame supporting the cord carrier, of a shaft carrying a discharge arm, substantially as described. 52nd. The combination, with the frame A, A_1 crank shaft 6 connected to the discharge arm, and crank shaft 11, of a crank shaft 12, and spider H, substantially as described. 53rd. The combination, with the spider H and crank shaft 6, of a rod V connected to the crank of the shaft 6, and to the spider, substantially as described. 54th. The combination, with the packers, compressor and knotter arms, and operating appliances arranged in juxtaposition, and with the discharge and cord carrier arms swinging from points above the platform, of crank shafts extending to the side of the platform, and a spider connection between the shafts, substantially as described. 55th. A knotter arm for grain binders, consisting of a case, a device constructed to knot the cord, and a device for clamping the cord, and a cord severing device and operating appliances, all arranged within the case, substantially as described. 56th. The combination, with the hollow arm B, of a knotter device consisting of a spiral hook tapering to a point, and having separable jaws, substantially as described. 57th. The combination of the knotter nook, consisting of the upper spiral jaw and a lower law, and means for revolving both jaws simlutaneously and for opening the jaws intermittently, substantially as described. 58th. The combination of the arm B, the knotter having an upper spiral and pointed jaw, and appliances whereby the jaws are revolved simultaneously and opened and closed by power applied near the heel of the arm, substantially as described. 59th. The combination of the arm B, knotter J and a griper device, whereby the cord is caught and secured prior to the completion of the knot, substantially as described. 60th. The combination, with the vibrating arm of the knotter and cord severing device, arranged to sever the cord between the two, and appliances for operating all said devices from power applied at the pivoted end of the arm, substantially as described. 61st. The combination, with the reciprocating arm, and the knotter and severing device, of a cord securing or clamping device, and means whereby the same is caused to clamp the cord before it is severed, substantially as described. 62nd. The combination, with the reciprocating arm of a knetter and severing device, of a winding device and means for revolving the same. first, to take up a part of the cord, and then to deliver the same to the knotter, substantially as described. 63rd. The combination, with the knotting device of a combined griping and winding device, and means for operating the same to first secure the end of the cord, and to then wind up a portion of the cord for subsequent delivery to the knotter, substantially as described. 64th. The cord-securing device, arranged in a reciprocating arm, and consisting of a notched bar and bearing, and means for reciprocating the same to carry the notch to and from the bearing face, substantially as described. 65th. The combined griping and winding device, consisting of a notched bar, a bearing, and appliances for reciprocating and rotating the bar above the face of the bearing, substantially as described. 66th. The combination of the rotating and sliding griper bar, and a cylinder and means for sliding the bar in said cylinder, and for rotating the two together, substantially as described. 67th. The combination of the knotter device, and means for securing the end of the cord, winding up a part of the same prior to the formation of the knot, and for unwinding the cord to deliver it to the knotter, substantially as described. 68th. The combination, with the cord gripper device, carried by the arm B, of appliances whereby to operate said device from power applied near the heel of the arm, substantially as described. 69th. The combination, with the knotter device, of a knock-off finger, and appliances whereby the same is brought toward the knotter when the cord is to be removed therefrom, substantially as described. 70th. The combination of the knotter knock-off device and means for reversing the rotation of the knotter, when the knock-off device is brought toward the same, substantially as described. 71st. The combination of the knotter and movable cord guide, and appliances for moving it to carry the cord to a position adjacent to the knotter, substantially as described. 72nd. The combination of the devices for knotting a cord, and an arm carrying the same and provided with a slot arranged to guide the cord to said device, substantially as described 73rd. The combination of the slotted arm, and knotting devices and a guide R, as set forth. 74th. The combination of the arm carrying the two-part knotter hook, a disk M provided with a rack and lugs, a pinion on the knotter-shaft arranged to engage with said rack, and connections with the movable part of the knotter arranged to be operated by said lug, substantially as described. 75th. The combination of the arm, two-part knotter-hook rod R_2, levers R_3, R_3, Q_1, and a disk M carrying a lug P_2, substantially as described. 76th. The combination of the rotating knotter shaft and rotating griper shaft geared together, and appliances for reciprocating the griper shaft longitudinally, substantially as described. 77th. The combination of the griper-knotter and intermediate knife, secured to a shank provided with lugs arranged to be operated by a lug on the disk M, substantially as described. 78th, A knotter arm for a grain binder, in which are combined knot-forming and cord-severing and clamping devices, and appliances whereby

said devices are operated from power applied at the pivoted end of said arm, substantially as described. 79th. An arm swinging on a pivot carrying the devices for knotting, holding, and severing the cord, and provided with a slot arranged to guide the cord to said devices, substantially as described. 80th. The combination of the swinging arm carrying knotter devices, and means for applying power at the heel of the arm to operate said devices, said arm being slotted to insure the guiding of the cord to the knotter devices, substautially as described.

No. 25,995. Package for and Method of Packing Confectionery, etc.

(*Mode d'Empaquetage des bonbons, etc., et Boîte pour cet Objet.*)

John R. Stout, Brooklyn, N.Y., U.S., 14th February, 1887; 5 years.

Claim.—1st. The method, substantially as herein described, of packing confectionary, consisting in fitting a box cover removably to a box body or neck, in then placing them in position with the cover downward, in then laying the designed top layer of confectionary in or on the box top, in then filling the package and in then applying and fixing the box bottom inwardly in place, as set forth. 2nd. The method, substantially as herein described, of packing confectionary, consisting in filling it into or on a cover, or top, and body or neck, which are separated and removably put together, and then fitting the box bottom to the body or neck, and securing it permanently in place, as set forth.

No. 25,996. Rocking Chair. (*Fauteuil à Bascule.*)

Edward Sharp, Woodstock, Ont., 14th February 1887; 5 years.

Claim.—The combination of the front and rear swing arms H, H, on either side supported on the four movable bearings A, A (and A, A), and on the four fixed bearings C, C (and C, C), and so adjusted as to impart the swinging or rocking motion to the chair, substantially as hereinbefore set forth.

No. 25,997. Signal Apparatus.

(*Appareil à Signaux.*)

John R. Pheeney, Owatonna, Minn., U. S., 14th February, 1887; 5 years.

Claim.—1st. The case A, recessed at *a* and having signals E and F, connected, as described, with shafts G and H and reflectors C and lamp B, all combined as described. 2nd. In a signal apparatus, the weighted frame *e* having a suitable color, its arm *e*1 and shaft G having spur-wheel *g*1, combined with signal frame *f* and *f*1, and shaft H having spur-wheel *h*, all combined and operating as described. 3rd. In the case having smoke-exit pipe, the combination of the lamp and reflectors, with the signals and shafts and their connecting spur-wheels, and the chains and pulleys by which the movable parts are operated, as described.

No. 25,998. Variable Expansion Gear Applicable to Locomotives, etc. (*Appareil de Détente variable pour Locomotives, etc.*)

John Hepworth, Montreal, Que., 14th February, 1887; 5 years.

Claim.—1st. In a steam engine, the cut-off or riding valve stem connected to a lever pivoted to an extension of the main valve stem and actuated in either direction by springs attached to its lower end, and to fixed points on the engine, substantially as herein set forth. 2nd. In a steam engine, the combination of the following elements, viz., the riding valve, with stem connected to one end of a four-armed or cross-piece pivoted to extension of main valve stem springs connected to lower end of such four-armed piece, and to fixed points, stops pivoted on cross-arms of such four-armed piece, and engaging with step on extension of main valve stem and tripping levers actuated from cross-head and operating to detach said stops from such step, all as herein described and for the purposes set forth. 3rd. The combination, in a steam engine, of a slotted standard or bracket carried from frame, and carrying lever connected by link with cross-head expansion bar passing through slot in bracket, and lever double crank keyed on end of expansion bar and tripping levers pivoted to bracket, and having their ends connected with double crank, all as herein described and for the purposes set forth. 4th. The combination, with the main and riding valves, of a steam engine, of recessed seats formed at the ends of such main valves, as and for the purposes described.

No. 25,999. Car Spring. (*Ressort de Char.*)

Richard Vose, New York, N.Y., U.S., 14th February, 1887; 5 years.

Claim.—1st. The combination, with a cylindrical spiral coil, of a conical spiral coil of substantially the same length as said cylindrical coil arranged within the same, whereby a spring produced in which the conjoint action of a conical and a cylindrical spiral coil is secured during the entire range of movement of said spring, substantially as described. 2nd. The combination, with the outer cylindrical coil A, the inner conical coil B and the base plate E of the top plate or cap D, provided with a depending flange projecting down between the upper ends of the coils, substantially as described. 3rd. The combination, with the outer cylindrical coil and the inner conical coil having its base constructed of a size to fit the interior of the cylindrical coil, of a base plate upon which they both rest, and means for holding the base of said conical coil from lateral movement upon the base plate, substantially as described. 4th. The combination, with the outer cylindrical coil A, and the inner conical coil B having its base constructed of a size to snugly fit the interior of the cylindrical coil of the base plate E, provided with the upwardly-projecting flange *b*, which passes up into the interior of the conical coil, and prevents it from moving laterally upon the said base-plate, substantially as described. 5th. The combination, with the outer cylindrical coil A, the inner conical coil B having its base constructed of a size to fit the interior of the cylindrical coil, and the base plate E provided with the upwardly projecting flange *b*, which enters the interior of the conical spring, and holds it in place upon said base plate, of the top plate or cap D provided with the depending flange *d*, which projects down between the upper ends of the outer and inner coils, substantially as described.

No. 26,000. Combined Drag Harrow and Cultivator. (*Herse-Scarificateur.*)

Henry Parker, Gananoque, Ont., 14th February, 1887; 5 years.

Claim.—The combination, with the frame A, the double-ended teeth B, boxing D, provided with stops H, pivot bolt C and spring E, whereby the teeth will yield when the harrow frame is drawn from the end, and be rigid when drawn from the other end, as set forth.

No. 26,001. Composition Fire Kindler.

(*Allumoir Composé.*)

Edward Fearnside, Hamilton, Ont., 14th February, 1887; 5 years.

Claim.—A fire kindler, consisting of the combination of saw-dust, charcoal, and crude petroleum, in or about the proportions herein described, substantially as specified.

No. 26,002. Step-Ladder. (*Echelle à Queue.*)

Henry C. Russell, Toronto, Ont., 15th February, 1887; 5 years.

Claim.—1st. A step ladder, in which the steps A, are pivoted at *a* upon the uprights B, and the back legs C pivoted at *b* to the said uprights B, in combination with the bar H hinged upon the top step A, and provided with pivoted plates T, substantially as and for the purpose specified. 2nd. A step-ladder, in which the steps A are pivoted at *a* upon the uprights B, and the back legs C pivoted at *b* to the said uprights B, in combination with the bar H hinged upon the top step A, and foot braces D pivoted near the bottom of the uprights B, substantially as and for the purpose specified. 3rd. A step ladder, in which the steps A are pivoted at *a* upon the uprights B, and the back legs C pivoted at *b* to the said uprights B, in combination with the cross-braces F and pivoted foot-brace G, substantially as and for the purpose specified.

No. 26,003. Corset. (*Corset.*)

Henry W. Gilbert, Bridgeport, Conn., U. S., 15th February, 1887; 5 years.

Claim.—1st. A corset having at its back a pair of vertical strips connected to the respective corset sections by crossed, and alternating straps and waist bands provided with a buckle or other suitable fastening connected to the back strips, and adapted to be secured at the front of the corset, substantially as set forth. 2nd. The combination, with the corset sections, of a pair of vertical strips at the back thereof, short straps connecting each section with the opposite strip, and waist bands secured to said strips and adapted to draw and hold the same apart, whereby the rear edges of the corset sections are drawn and held together, substantially as specified. 3rd. A corset, the meeting edges of whose sections at the rear are provided each with a set of short straps, the two sets interlacing as shown and described, and provided also with strips connected to each of the sets of straps, and waist-bands secured to said strips and adapted to buckle at the front of the corset, substantially as described.

No. 26,004. Floor Clamp. (*Mordache à Plancher.*)

John H. A. Bayer, (assignee of Alexander, S. Bayer), Halifax, N.S., 15th February, 1887; 5 years.

Claim.—The combination of power lever, a rack B, slide C, bed plate D, connecting link E, pawl F, and steel pegs *g*, *g*, *g*, substantially as and for the purpose hereinbefore set forth.

No. 26,005. Cash Box. (*Boîte à Monnais.*)

Duncan McArthur, Winnipeg, Man., (assignee of Thomas Carney, St. Paul, Minn., U.S., 15th February, 1887; 5 years.

Claim—1st. In a cash box, the combination of a coin tube, a key, a lever and a pivoted head, the coin tube having a slotted bottom, the lever connected with the key, and the head or pushing stem pivoted to the upper end of the lever and adapted to be moved in the slot of the tube, substantially as specified. 2nd. The combination, in a cash box, of a coin tube, a key, a pivoted spring lever and a head, the key connected with the pivoted lever which latter has its upper end provided with a spring head, whereby the downward movement of the key will carry the spring head through the slot of the coin tube and remove the lowest coin therefrom, substantially as specified. 3rd. The combination, with a coin tube, of a pivoted lever, a spring head, a finger key and a chute, the horizontal portion of the chute being slotted beneath the coin tube, the key connected with the pivoted lever and the head connected to the upper end of said lever, whereby pressure upon the key will cause the spring head to move in slots in the chute, and carry the lowest coin in the tube out upon the chute, substantially as specified. 4th. In a cash-box, the combination of the main casing A, the casting B provided with slots *b*, and having the inclined plane and chute formed upon it, the vertical casing D, the casting E provided with coin tubes *e*, casting F provided with slots *f*, the rod H, H1, the levers *h* provided with arms *h*1 and adapted to have their upper ends push the lower coin of any box out of the latter, the keys I and the springs I1, substantially as specified. 5th. In a cash-box, the combination, with the coin tubes and the casting B having the inclined plane and chute formed thereon, and provided with the slots *b* and stops *b*1, of the keys I, rods H, H1, levers *h* provided with the arms *h*1, springs I1 and heads *i* pivoted to the upper ends of the levers *h*, as specified.

No. 26,006. Combined Table and Writing Desk. (*Table-pupitre.*)

Ira W. Moore, New York, N. Y., U. S., 15th February, 1887; 5 years.

Claim.—1st. In a combined table and writing desk, the combination, with the top *c* having a stationary chamber between its upper and lower sides, and being hinged on the lower side and about midway from its centre to its back edge to the back edge of the stand *a b* of the desk top *g*, hinged at its back edge to the lower side of the table top, forward of the hinge joints connecting the table top and stand, and the thrust bearing *f* located below the top of the stand and relatively to the extension of the table top back of the back edge of the stand, substantially as described. 2nd. The improved combined table and writing desk, consisting of the stand *a b*, the table top *c* hinged to the stand *a b*, and the writing desk top *g* hinged to the table top, said table top being adapted to be swung up and to rest in an upright position, said desk top being adapted to be raised up automatically and be supported in a sloping or inclined position, and said desk top having a sliding motion on the supporting stand and an automatic locking and unlocking catch *k*, *l*, substantially as described. 3rd. The improved combined table and writing desk consisting of the stand *a*, *b*, the table *c* hinged to the stand *a b*, and the writing desk top *g* hinged to the table top, said table top being adapted to be swung up and to rest in an upright position, and having the chamber *i* and said desk top being adapted to be raised up automatically and be supported in a sloping or inclined position, substantially as described. 4th. The improved combined table and writing desk, consisting of the stand *a b*, the table *c* hinged to the stand *a b*, and the writing desk top *g* hinged to the table top, said stand *a b* having an ink bottle receptacle under the writing desk top, and said desk top and stand having a fastening device *k l*, substantially as described.

No. 26,007. Hot Water Heating Boiler.

(*Chaudière de Calorifère à eau chaude.*)

Donald McPhie, Hamilton, Ont., 15th February, 1887; 5 years.

Claim.—1st. In a hot water heating boiler, water sections connected by a central tube, and containing horizontal diaphragms having openings for water to rise through them, and each alternate section provided with smoke openings for the products of combustion to pass through to the exit flue, substantially as and for the purpose specified. 2nd. In a hot water heating boiler, the combination of the alternate sections F and H, the same connected together by nipples *b* the former having smoke openings *a* and smoke openings *f* in diaphragms I, substantially as and for the purpose specified. 3rd. In a hot water heating boiler, the combination of the sections F and the inner diaphragms I, the said sections provided with openings *a* and the diaphragms I, with openings *f* and *g*, all arranged substantially as and for the purpose specified. 4th. In a hot water heating boiler, the combination of the sections H and the inner diaphragms I1, the said sections provided with central openings *b* and the said diaphragms with openings *e*, all arranged and constructed substantially as and for the purpose specified. 5th. In a hot water heating boiler, the combination of the sections F, H, diaphragms I, I1, openings *a*, *d*, *e*, *g*, inlet B and outlet pipes C, all arranged and constructed substantially as and for the purpose specified.

No. 26,008. Rotary Steam Engine.

(*Machine à Vapeur Rotatoire.*)

David G. Wherry, Alexandria, Neb., U. S., 15th February, 1887; 5 years.

Claim.—1st. In a rotary and steam engine, the side casing plates provided with slots A1, in combination with the rotary piston having eccentric grooves within which slide blocks F with projecting pins *d* which engage with the aforesaid grooves and reciprocating bars, said bars having attached thereto cut-offs B, substantially as shown and for the purpose set forth. 2nd. In a rotary engine, the combination, with the cut-offs B, B, of a rotary piston having a projecting portion E1, and eccentric grooves *e* for operating sliding blocks F, which are connected to the cut-offs B, so that said cut-offs will be moved by the piston, as substantially as shown and for the purpose set forth. 3rd. In a rotary engine, the piston E provided with eccentric grooves, to which are connected rods for reciprocating the valves which cover the supply-ports, and also valves for opening and closing the exhaust-ports, substantially as shown and for the purpose set forth. 4th. In a rotary engine, the cut-off valves *n*, *n* which reciprocate from the supply-ports, said valves being connected to each other by a rod *p* and rock-shaft *p*1 having an upturned end which engages with projections formed on an oscillating plate P, said plate being moved by an eccentric attached on the shaft of the piston, substantially as shown and for the purpose set forth. 5th. In a rotary engine, the ports *g*, *g*1 connected to the steam-supply by branch pipes, and valve T connected with said supply-pipes so as to admit steam from the boiler into either of said pipes, so as to cause the engine to rotate in a different direction, substantially as shown and for the purpose set forth. 6th. In a rotary engine, the plates provided on opposite sides with slots A1, within which are located sliding-blocks F having projecting pins *d* on opposite sides, said pins engaging with eccentric grooves *e* formed in the piston, and with sliding bars D1 to which cut-offs are attached, so that the cut-offs will be moved out of the path of the projecting portion E, and inlet and cut-off valves operating over the supply and exhaust ports so as to change the entrance and exhaust of the steam to and from the piston, the valve and cut-offs being operated from the piston and its shaft, substantially as shown and described. 7th. In a rotary steam engine, the plate P having perforations in which the upturned ends of the rods *o* are connected to the cut-offs for the exhaust-ports, and plate P1 having projections *r*1 which engage with a rock-shaft for reciprocating the rod which carries the valves which cover the inlet ports, said plates being operated by eccentrics rigidly attached to the shaft of the rotary piston, the parts being combined and organized substantially as shown and for the purpose set forth.

No. 26,009. Steam Radiator.

(*Serpentin de Calorifère.*)

William Kirkwood, Guelph, Ont., 15th February, 1887; 5 years.

Claim.—1st. A radiator composed of one or more vertical wrought metal tubes, rolled so as to leave two longitudinal passage-ways extending from a point near the bottom of the tube to a point near the upper end thereof, which latter end is welded so as to leave a space by which the two passage-ways are connected, the bottom end of the tube being screwed into a base having a passage-way designed to connect the passage-ways of all the tubes screwed into the said base, substantially as and for the purpose specified. 2nd. A radiator composed of one or more corrugated wrought metal tubes B, rolled so as to leave two longitudinal passage-ways extending from a point near the bottom of the tube to a point near the upper end thereof, which latter end is welded so as to leave a space by which the two longitudinal passage-ways are connected, the bottom end of the tube being screwed into a base having a passage-way designed to connect the passage-ways of all the tubes screwed into the said base, substantially as and for the purpose specified.

No. 26,010. Potato-Digger.

(*Scarificateur à Patates.*)

Henry Parker, Gananoque, Ont., 15th February, 1887; 5 years.

Claim.—1st. A potato-digger, consisting the side bars A having handles B and conjoining in a clevis C, inclined scoop D open at the rear and attached to the side bars, a tail bar G extending rearwardly from the open end of the scoop chains J or other flexible drags trailing behind the scoop, and a sole plate H below the scoop extending from the point rearwardly parallel with the draft, substantially as set forth. 2nd. A potato-digging plough having chains J, or other flexible drags trailed behind an inclined scoop D, as and for the purpose set forth.

No. 26,011. Car Spring. (*Ressort de Char.*)

Richard Vose, New York, N. Y., U. S., 15th February, 1887; 5 years.

Claim.—1st. The combination, with a base-plate constructed in annular form, and provided around its inner circular aperture with an upwardly-projecting circumferential flange, and an exterior coil resting upon the base-plate outside of said flange, of an interior coil arranged within the circular aperture formed in said base-plate and within the circumferential flange, substantially as described. 2nd. The combination, with an exterior coil, and an interior coil, of a top plate or cap provided with a circumferential flange depending from its under side for engagement with the interior of the external coil, and a centrally-arranged sleeve-like portion which enters the upper end of the interior coil, substantially as described. 3rd. The combination, with a base-plate, constructed in annular form and provided with an upwardly-projecting circumferential flange around the central circular aperture formed therein, an exterior coil resting upon said base-plate outside the circumferential flange, an interior coil arranged within said flange, and a disk for supporting said interior coil, of a top plate or cap having centrally-arranged depending sleeve-like portion which enters the upper end of the interior coil and is provided with a recess or chamber, and an aperture, and a bolt passing through said aperture, through the interior coil, and through the disk, substantially as described. 4th. The combination, with an exterior conical coil and an interior coil, of a top plate or cap provided with a sleeve-like portion depending from its upper side, and entering the upper end of the interior, substantially as described. 5th. The combination, with an exterior and an interior conical coil, of a base-plate made in annular form and provided with an upwardly projecting circumferential flange extending up between the coils, substantially as described. 6th. A spring composed of the exterior spring A, in combination with the interior coil-spring A one or more, the length of which is less than that of the exterior coil, which interior coil or coils serve as an auxiliary to the exterior forming thereby a graduated metal spring, substantially as described.

No. 26,012. Gate. (*Barrière.*)

William H. Cox, Virden, Ill., U.S., 15th February, 1887; 5 years.

Claim.—In combination, the sliding gate, the crank-arm supported above the top of the gate in line therewith, a rod longer than the crank arm connecting the free end thereof with the top of the gate, a wheel in connection with the fixed end of the crank arm, and operating cords or ropes 1 and 2 in connection with the wheel upon one side, and running one to a support upon one side, and the other to a support upon the other side of the gate, and ropes 3 and 4 in connection with the other side of the wheel running one to a support upon one side and the other to a support upon the other side of the gate, all substantially as described.

No. 26,013. Machine for Making and Driving Nails. (*Machine à Faire et Chasser les Clous.*)

Orril R. Chaplin, Michael J. Flynn, Boston, and George E. Parker, Chelsea, Mass., U.S., 16th February, 1887; 5 years.

Claim.—1st. In a machine for driving nails, the combination of the vertically reciprocating plunger E, carrying in its lower end the driver *d*, the toggle links E2 and E3, the link E3, the bar E4, provided with the roll *b*1 and the cam B5, all arranged and adapted to operate substantially as described. 2nd. The combination of the die block H, provided with the rectangular grooves *m* and *m*2, a pair of cutting dies located in said groove *m*, and constructed and arranged to by adjusting towards and from each other, and to be sharpened by grinding their inner or contiguous ends, and a reciprocating male die carried by a plunger mounted in the groove *m*2, and constructed to co-operate with the first-mentioned disc to sever portions of metal from each side of the wire, to shape the sides of the nail. 3rd. The combination of the adjustable dies H1, H2, the sta-

tionary tubular die p_1, and the reciprocating male cutting die n_2, all constructed, arranged and adapted to cut away portions of the metal from each side of the wire, to shape the sides of the nail, and to sever the nail from the body of the wire. 4th. The combination of the cylindrical tubular die p_1 set in a cylindrical socket, and the wedge or key o^6 fitted to and movable in a bearing at right angles to the die p_1, and adapted to clamp said die to its socket in any desired position. 5th. In combination with the adjustable dies H_1, H_2, each provided with the vertical slot o, the bifurcated plate o^2 projecting into said slots o, substantially as and for the purpose described. 6th. The combination of the die-block H, provided with the grooves m and n_1, n_1, the dies H_1 and H_2 fitted to said groove m, and the adjusting screws m_1, m_1, each provided with the collar n which projects into and engages with the grooves n_1, n_1, substantially as described. 7th. The combination of the die-block H, the adjustable cutting dies H_1, H_2, each provided with the vertical slot o, the bifurcated plate o^2, the tubular die p_1, and the reciprocating male cutting die n_2, all arranged and adapted to operate substantially as described. 8th. The combination of the die block H, provided with the nail driving passage o_4, o_5, the adjustable dies H_1, H_2, the tubular die p_1, the plunger I carrying the male cutting die n, the duplex lever J_1, J_2, provided with the adjusting screw p_4 and the cam B_5, all arrangee and adapted to operate substantially as described. 9th. In a machine for cutting nails from wire and driving the same, the combination of a pair of feed rolls arranged to gripe the wire, a ratchet-wheel secured upon a feed roll shaft, a two-armed lever carrying at the free end of the arm, a pawl to engage with said ratchet wheel and mounted upon and movable about said feed roll shaft, a second two-armed lever mounted upon and movable about an axis outside of or eccentric to said feed shaft, and arranged to bear at one end upon the arm of the pawl lever opposite to the pawl, and a cam constructed and arranged to act upon the pawl lever to impart a partial revolution to the ratchet, its shaft, and feed roll, and then during the same revolution to act upon the second lever to move it about its pivot, and through it to move the pawl lever in a backward direction preparatory to the engagement of the pawls with another tooth of the ratchet wheel for a second feed, substantially as described, 10th. As a means of regulating the length of wire to be fed, the combination of a pair of feed-rolls, constructed and arranged to gripe the wire to be fed, a ratchet wheel secured upon a feed roll shaft, a two-armed lever mounted upon and movable about said shaft, and carrying at one end a pawl to engage with said ratchet wheel, an arm provided with a laterally projecting stop lug, and also mounted upon and movable about said shaft, a vertically movable bar pivoted to the free end of said stop arm, a spring for moving said bar upward, and an adjustable cam stop for limiring and varying the upward movement of said bar, a two-armed lever pivoted to said bar, with one end in contact with the toe of the pawl lever, and a cam constructed and arranged to act alternately upon the pawl lever to feed the wire, and upon the last-mentioned two-armed lever, to move said pawl lever backward into contact with the stop lug, substantially as described. 11th. The combination of the feed rolls e_1, e_2, the feed shaft e_3, the ratchet wheel g, the pawl lever g_1, the pawl h, the bar F, the lever G pivoted to said bar F, the anti-friction rolls i_1, and i_2, the cam B_6, the lever F_1, the rod F_2, the treadle F_3, the spring i_3, the stop cams k and k_1, the shafts k_2 and k_3, the radius arms l and l_1, the locking bolts l_2, l_3, and two series of detent holes l_5 arranged in arcs of circles about the axis of the shafts k_2 and k_3, all constructed, arranged and adapted to operate substantially as and for the purpose described. 12th. In combination, with the yielding horn L and the stationary nose I_1, the lever K provided with the cam surface r_1, and carrying at its front end the roll r, the lever J_1, J_2 and the cam B_5, all arranged and adapted to force the boot or shoe mounted upon the horn away from contact with the nose preparatory to feeding the boot or shoe to a position for feeding another nail. 13th. In a shoe-nailing machine, the combination of the gauge r_4, provided with a transverse groove, the stationary cap K_2 and the adjusting and locking lever K_1, all arranged and adapted to operate substantially as described. 14th. In a nail cutting and driving machine, the combination of a reciprocating die for cutting the nail from the wire, a reciprocating plunger and driver for driving the nail, a lever carrying a rotatable presser-roll for forcing the shoe sole away from the nose of the machine, a lever constructed and arranged to reciprocate the cutting die and vibrate the presser roll carrying lever, a reciprocating bar and suitable toggle links connecting the same with the nail-driving plunger, and a cylindrical path cam constructed and arranged to operate all of said devices, substantially as described. 15th. The horn L pivoted to the bracket L_1, loosely mounted upon the rod L_2, in combination with the locking bolt s_4, constructed and adapted to secure said horn in an upright position, and permit its being turned down to a horizontal position, substantially as described. 16th. The combination, in a nail cutting and driving machine, of a work supporting horn mounted upon a pivoted frame, and a three-sided crank pin for imparting to said horn and frame an oscillating motion about its pivot and depressing said horn and rod, substantially as described for the purpose specified. 17th. The combination of the frame M, the rod L_2, the spring L_4, the horn L, the forked arm N_1 pivoted to the rod L_2, the three-sided crank-pin v, the adjustable stop screws u_2, u_3, and the revolving shaft o, all constructed, arranged and adapted to operate substantially as and for the purpose described. 18th. A work-supporting horn mounted upon a yielding support, having bearings in a pivoted frame, as set forth, in combination with mechanism, substantially as described, for imparting to said frame and horn a vertical and a lateral motion, substantially as and for the purposes described. 19th. In combination with a work-supporting horn mounted upon a yielding and vertically movable rod, a friction clamping shoe arranged to press against the periphery of said rod to clamp it in any desired position, and mechanism constructed and arranged to intermittently reciprocate said shoe in a direction at right angles to the axis of said horn surporting rod. 20th. The combination of the frame M, mounted upon and movable about a horizontal tubular pivot, the horn-supporting spindle L mounted in bearings on said frame, the spring L_4, the friction clamping plunger i_1, i_2 mounted in said tubular pivot, and mechanism for imparting to said clamping plunger a reciprocating motion, substantially as described. 21st. The combination of the horn L, the rod L_2, the spring L_4, the frame M mounted upon the fixed tubular pivot t, the clamping plunger v_1, v_2, the toggle links v_4, v_5, the bar P_1 and the cam P, all arranged and adapted to operate substantially as described. 22nd. The combination of the horn L, the supporting rod L_3, the spring L_4, the frame M, the pivot bolt t, the clamping plunger v_1, v_2, the toggle links v_4, v_5, the lever v_6, the adjusting screw w, the plunger w_1, the spring w_2, the stop w, the cam P and the rod or bar P, all arranged and adapted to operate substantially as and for the purposes described. 23rd. In a machine for cutting nails from a continuous wire and driving the same, a reel or drum for carrying the coil of wire, having a detachable head secured in position by a threaded thumb-nut, and provided with a central oblong opening of a shape and size to permit the free passage of said thumb-nut through the same, when turned to a certain position and allow the wings of said nut to bear upon said head to clamp it to the drum when said nut is turned a quarter of a revolution or less from said other position, substantially as described. 24th. The combination with a nail-driving and severing mechanism, the driving shaft B, a recessed hub secured firmly upon said shaft, and provided with inner periphery with the circumferential groove w^8, the stationary hub A_5, provided with the eccentric surface w^6, and the abutment w_7 and the ball x, all arranged and adapted to operate as and for the purposes described.

No. 26,014. Telephone Transmitter.

(*Transmetteur Téléphonique.*)

The Bell Telephone Company, Montreal, Que. (assignee of Ezra T. Gilliland, New York, N. Y., U. S.), 16th February, 1887; 5 years.

Claim.—1st. In a telephone transmitter, a horizontal diaphragm controlling the circuit varying medium, which is located thereon, combined with a downwardly-projecting tube or passage for directing the air waves thereon, having a plane side or wall upon which the air waves impinge and from which they are directly deflected to the diaphragm. 2nd. The combination, in a telephone transmitter, of a fixed horizontal diaphragm upon which the current varying medium rests, and a downwardly-projecting tube or passage, the interior wall of which remote from the operator is substantially as plane surface and is fixed as an angle with the diaphragm, whereby sound waves are deflected therefrom directly on said diaphragm. 3rd. The combination, in a telephone transmitter. of a fixed horizontal diaphragm for vibrating the current varying medium resting thereon, and a downwardly-projecting tube or passage elliptical in cross-section, the interior side or wall remote from the speaker, being substantially a plane surface. 4th. A telephone transmitter, supported at the free end of a ringed arm, adjustably with respect to its distance from a given point or object, combined wiih means such that the movement of the arm to vary the distance automatically preserves the relative position of the transmitter with respect to the given point of object unchanged. 5th. The combination of a telephone transmitter, pivoted upon the free end of a hinged arm, and a mechanical connection between the said transmitter, and a fixed support, whereby the movement of the transmitter to vary its distance from a stationary object automatically preserves the relative position thereof unchanged. 6th. The combination of a telephone transmitter, a hollow arm pivoted to said transmitter and to a fixed support, and a bar enclosed in said arm and independently pivoted to the transmitter and to the support, substantially as and for the purpose described. 7th. The combination of a telephone transmitter, a hollow hinged supporting arm therefor, pivoted at its face and to said transmitter, a mechanical connection enclosed in said arm and acting automatically to shift the transmitter and prevent its tilting when raised and lowered, and means for counteracting the weight of said tranfmitter and its supporting arm, substantially as described, 8th. A telephone transmitter, having a fixed horizontal diaphragm, upon which the current varying medium rests, a downwardly-projecting tube or passage through which the sound waves are directed upon the diaphragm, combined with a hinged arm, upon the free end of which the transmitter is pivoted, and a mechanical connection between the transmitter and a fixed support, whereby the movement of the transmitter to vary its distance from a fixed point automatically turns the transmitter on its pivot, so as to keep the diaphragm always in a horisontal position. 9th. The combination, in a telephone, of two or more parts or elements, each element having one or more electrical contact points, springs, or projections registering with and adapted to form contact with an equal number of electrical contact points, springs, or projections upon the other, for the purpose of facilitating interchangeability of parts. 11th. The combination, in a telephone transmitter, of an enclosing ring of insulating material, a perforated screw-threaded ring for clamping the diaphragm thereto, a mass of pulverulent divided conducting material confined within the ring, an insulated screw post in electrical contact with the diaphragm, and connected to one pole of the battery by a flexible insulated conductor, and a cap or cover for the said enclosing ring electrically connected through a metallic supporting arm with the other pole of the battery.

No. 26,015. Shield for Street Car Drivers.

(*Abat-Vent pour Conducteurs de Chars Urbains.*)

John E. Gardner and Benjamin Sutton, Hamilton, Ont., 16th February, 1887; 5 years.

Claim.—In a shield for protecting street car drivers from storms and severe weather, the combination of a semicular shield or protector B, made of the most suitable material and having a sloping overhanging roof of sheet metal attached to roof of platform of car, and with the sloping lower part B_1 also of sheet metal and provided internally with lugs c_2, for the purpose of securing the same to dashboard, the windows c, as shown, the elongated aperture D for the reins, and a street railway car A, substantially as and for the purpose hereinbefore set forth.

No. 26,016. Extension Step for Passenger Coaches. (*Marchepied Pliant pour Voitures à Passagers.*)

Milton E. Campany and Elbridge G. Rote, Muskegon, Mich., U. S., 16th February, 1887; 5 years.

Claim.—The combination, with a rigid set of steps for a railway passenger-coach, of rods sliding in bearings upon the rear side of the said steps, and having horizontally-bent lower ends, a step secured to the said horizontal ends, and having pins projecting from its ends near the rear edge, a crank-shaft journalled upon the rear side of the rigid steps, and having a double crank at its middle and a crank or handle at its end, a bulged spring upon the side of the steps engaging the said handle, a pitman pivoted to the double crank and with a cross-head at its lower end to the rear edge of the extensible step, and rectangularly bent arms pivoted at their bent ends upon the forward lower corners of the side pieces of the rigid steps, and having the pins of the extensible step sliding in the slots in the outer ends, as and for the purpose shown and set forth.

No. 26,017. Draft Reducer for Vehicles.

(*Réducateur de traction pour voitures.*)

Charles W. Pearsall and William Burnskirk, Syracuse, N. Y., U. S., 16th February, 1887; 5 years.

Claim.—1st. In combination with the frame of a vehicle, a main wheel having bearings to admit vertical play in said frame, and a draft wheel resting on the tread of said main wheel, and having its bearings under the frame to support the load, substantially as described. 2nd. The combination, with the frames of a vehicle, of a main wheel having bearings to permit vertical movement in said frame, a draft wheel resting on the tread of the main wheel and supporting the frame on its bearings, and relieving springs interposed between the bearings and the frame, substantially as described. 3rd. The combination, with the frame A having the box frame 4, of the main wheels 8 having axle bearings 5 guided to vertical movement in said box frame, draft wheels 11 resting on the tread of the main wheels perpendicuiy above their centres, and having their bearings in the frame at each side of a perpendicular extension of the main wheel, and spring 12 above the movable bearings of the wheels, all substantially as described.

No. 26,018. Automatic Gas Extinguisher.

(*Eteignoir automatique du gaz.*)

Joseph Héroux, Yamachiche, and George Davelmy, Montreal, Que., 16th February, 1887; 5 years.

Claim.—The frame I secured to an ordinary gas bracket A, and on which are fixed the expansion metallic rods D, E, F, arranged on levers H and G directly above the gas burners, so as to be heated by the gas flame and thereby expanded to work the bell crank I and vertical rod O, the whole combined with bracket A, stoppers L and Y, spring M, and arm N, as above described and for the purposes set forth.

No. 26,019. Machine for Bottling Aerated Liquids. (*Machine à mettre en bouteilles les eaux gazeuzes.*)

Thomas Ferguson, Albert Park, and Evan Rowlands, Melbourne, Victoria, Australia, 16th February, 1887; 5 years.

Claim.—1st. In machines for bottling aerated liquids, a bottle-supporting means adapted to retain the bottle at such an angle that when the said bottle is sufficiently full the liquid will overflow through a passage in the bottle charging cone, substantially as and for the purpose described. 2nd. A machine for bottling aerated liquids, embodying in its construction a holder for bringing the bottle into the filling position, a filling device, a corking device, and a discharging device, the said devices being operated by the successive partial rotation of a handle, substantially as herein described and explained. 3rd. The construction of the cone, with an overflow passage such as B_{10}, substantially as and for the purposes herein described and explained. 4th. In machines for bottling aerated liquids, a charging cone B, recessed buffer C, bell mouth B_1, washer B_2, in combination with a cork trough B_3, ram D, sprup supply passage B_4, check valve B_7, aerated water supply passage B_6 stud E_1, and ratchet disc E, substantially as and for the purpose described. 5th. In machines for bottling aerated liquids, the combination of a charging cone B, passage B_6 provided with a check valve, a relief passage B_8, regulating thumb valve B_9, vent B_{10}, regulating valve B_{11}, and foot bracket B_{12}, substantially as and for the purpose described. 6th. In machines for bottling aerated liquids, the combination, with the shaft G, of the buffer shoe C, recessed piece C_1, stem C_2, cross-head C_3, guide bracket C_4, rod C_5, guide bracket C_6, friction roller C_7, cam C_8, friction roller C_9, and weighted lever C_{10}, substantially as and for the purposes set forth. 7th. In machines for bottling aerated liquids, the combination, with the shaft G and the cork ram D, the guide bracket D_1, sliding block D_2, bracket D_3, rod D_4, crank pin D_5, and ratchet disc E_1, substantially as and for the purpose described. 8th. In a machine for bottling aerated liquids, the combination, with a syrup pump J and shaft G, of the pump piston actuated by a lever J_1, a friction roller J_2, cam J_4, valve box J_5, spring J_6, and bracket J_7, arranged and adapted to operated substantially as described. 9th. The combination, with a machine for bottling aerated liquids, constructed and operating substantially as described, of a cork-feeding device, arranged and operating substantially as described.

No. 26,020. Telephone Transmitter.

(*Transmetteur Téléphonique.*)

The Bell Telephone Company, Montreal, Que., (assignee of Emile Berliner, Washington, D. C., U. S., 16th February, 1887; 5 years.

Claim.—1st. The combination, in a telephonic transmitter, of a diaphragm forming one electrode, a mass of finely divided conductor material resting thereon, and one or more carbon pendants projecting into the said conducting material forming the complementary electrode. 2nd. The combination, in a telephone transmitter, of a carbon diaphragm forming one electrode, a mass of finely-divided carbon particles resting thereon, and one or more carbon pendants projecting into the carbon particles forming the complementary electrode. 3rd. The combination, in a telephonic transmitter, of a vibratory diaphragm having a series of perforations near its centre forming one electrode, a mass of finely-divided conducting material resting thereon and a complementary electrode in electrical contact therewith. 4th. In a telephonic transmitter, the combination of a diaphragm, a cell containing finely divided conducting material having a ring of flexible insulating material fixed thereto upon the edge adjacent to the diaphragm with which it makes contact serving to confine the divided conducting material, and forming a damper for the diaphragm. 5th. The combination, in a telephonic transmitter, of a vibrating diaphragm, a cell confining a mass of finely divided conducting material, and a damper for the diaphragm consisting of a projection of flexible or elastic material fixed to the said cell, and making contact with the diaphragm near its centre. 6th. In a telephonic transmitter, the combination of a diaphragm, a cell containing finely divided conducting material having a ring of flexible insulating material fixed thereto upon the edge adjacent to the diaphragm and in contact therewith, and a projection of flexible or elastic material fixed to the cell and in contact with the diaphragm near its centre. 7th. The combination, with a telephone, of a tube or mouth-piece, the interior wall of which is of a soft or yielding nature. 8th. The combination, with a telephone, of a tube or mouth-piece, of soft rubber in the form of a cone the axis of which is a curved line. 9th. In a telephonic transmitter, a diaphragm having a series of perforations at or near its centre, a mass of finely divided conducting material resting thereon, and a confining cell arranged substantially as described. 10th. The combination, in a telephonic transmitter, of a diaphragm forming one electrode, a mass of finely divided conducting material forming the current varying medium, and one or more carbon projections more or less immersed in the said conducting material forming the complementary electrode.

No. 26,021. Ball Joint for Connecting a Brush to its Handle, etc. (*Joint sphérique pour manches de brosses, etc.*)

George J. Cline and William B. Lehman, Goshen, Ind., U. S., 16th February, 1887; 5 years.

Claim.—1st. A ball joint consisting of the divided shank 5, 5, having spherical recesses near one end, and conjointly a tapering screw at the other end entering a screw-threaded socket handle 9 or member to be connected, a ball 3 seated in the spherical recesses and attached by suitable means to a brush body 1 or other member to be connected, whereby the divided shank will have an equatorial and an axial movement about the ball, as set forth.

No. 26,022. Method of and Means for Justifying Matrices, Types and Dies when assembled or composed in Lines. (*Mode et moyens de justification des matrices, types et étampes assemblés ou composés en lignes.*)

Ottmas Mergenthaler, Baltimore, Ind., U. S., 17th February, 1887; 5 years.

Claim.—1st. The method of justification, substantially as herein described, for female dies or matrices, consisting in introducing and operating simultaneously compound wedges adapted to close the face of the co-operating mould. 2nd. The justifying device consisting of two oppositely-tapered portions, one arranged to slide upon the other, and one provided with shoulders or retaining devices. 3rd. In a machine for casting type bars, the combination of the mould, means for supplying the mould with molten metal, a series of matrices, clamps to confine the matrices and spacing devices, substantially as herein described, each consisting of two tapered portions arranged to slide one upon the other, and adapted to close the mould tightly between the matrices. 4th. In combination with a line of matrices or dies, a series of expansible spacing devices, such as shown, and mechanism for operating said devices automatically to cause their expansion. 5th. The combination of a series of matrices or types, clamps to determine the expansion of the line of matrices, the two part expansible spacing devices, substantially as herein described, and means for operating said devices simultaneously. 6th. In combination with a series of matrices, and a mould to co-operate therewith, a spacing device, substantially as described, adapted to fill the space between two matrices, and also close the mould at that point to prevent the escape of the metal between the matrices. 7th. In a machine for casting type bars, etc., the combination of matrices or type expansible spacing devices, substantially such as shown, and rails or guides adapted to sustain both the matrices and spacing devices, and permit the expansion of the latter in a manner substantially such as described and shown. 8th. In combination with a series of matrices or female type, and a serier of compound spaces, tach having one member or wedge longer than the matrices sustaining rails, adapted and arranged to permit the adjustment of said elongated member endwise between the matrices.

No. 26,023. Artificial Ear Drum.

(*Tympan d'oreille artificiel.*)

Henry A. Wales, Bridgeport, Conn., U. S., 17th February, 1887; 5 years.

Claim.—An artificial ear drum consisting solely of a thin flexible disk of rubber, provided with a device made integral therewith for example a flexible loop, whereby it may be inserted or removed.

No. 26,024. Corset. (*Corset.*)

Margaret A. Corliss, St. Thomas, Ont., 17th February, 1887; 5 years.

Claim.—1st. The attachment of the shoulder brace, as shown, that is the brace extending from lower part to shoulder. 2nd. The lace in front extending below the steels.

No. 26,025. Indicator for Weighing Apparatus. (*Indicateur de Balance-Bascule.*)

Henry Fairbanks, St. Johnsbury, Vt., U. S., 17th February, 1887; 5 years.

Claim.—1st. The combination of a disk adapted to be rotated under the force or weight applied to the apparatus, an inclosing case, its front having an opening through it to expose the graduations on the disk, a passage adapted to receive a coin of certain size, a cover for said opening, and an obstruction in said passage in connection with said cover, substantially as described, and whereby the coin so introduced will strike the said obstruction, and by its weight remove the cover from said opening and expose the graduations on the disk. 2nd. The herein described indicator for weighing apparatus, consisting in the combination of a graduated disk, adapted to be rotated under the force or weight applied to the apparatus, an inclosing case, its front having an opening through it to expose the graduations on the disk, a lever, one arm of which extends between said opening and disk to serve as a cover for said opening, a passage opening upon the other arm of said lever adapted to receive a coin of certain size, the said other arm of the lever extending into said coin passage, substantially as described, and whereby said coin so introduced will strike the end of the arm of said lever in the said passage, and by its weight cause the other arm to turn from the disk opening and expose the graduations on the disk. 3rd. The combination of the graduated disk C, a revolving shaft to which said disk is fixed, said shaft carrying a toothed pinion H, a corresponding toothed rack G working into said pinion H, and in connection with the weighing apparatus, a plate in front of said disk, having an opening J adapted to expose the graduations of the disk, and a lever, one arm L of which extends between said disk and plate, so as to cover said opening, the other arm extending to the opposite side of the fulcrum, and the inclosing case constructed with a coin passage through which a coin may be introduced, the said arm N of the lever extending into said coin passage, and in the path of a coin introduced therein a lever P hung in the side of the coin passage opposite the said arm N and its inner surface of segment shape, of which the fulcrum of the said lever L N is the centre, and mechanism, substantially such as described, to turn said lever P from said lever N, substantially as described. 4th. The combination of the graduated disk C, arranged upon a shaft D, carrying a toothed pinion H, a plate in front of said disk, constructed with an opening J adapted to expose the graduations on said disk, a lever, one arm of which extends between said plate and disk, and so as to serve as a cover for said opening, but adapted to be turned away from said opening to expose said disk, a coin passage upon the side of the fulcrum opposite said opening to the disk, the other arm of said lever extending into said passage and in the path of a coin introduced, a lever E terminating at its free end in a toothed segment to work into the said pinion H, and the said lever E in connection with the weighing apparatus, a lever P hung in the side of the coin passage opposite the end of the arm M therein, a dog N hung upon said lever E and adapted to engage said lever P in the returning of the said lever E, substantially as and for the purpose described.

No. 26,026. Telegraph Key.

(*Touche de Télégraphie.*)

David R. Borland, Montreal, Que., 17th February, 1887; 5 years.

Claim.—1st. The lever of attachment A^1, and roller A^2 annexed thereto, and brass uprights C, used substantially as and for the purposes hereinbefore set forth. 2nd. The tension spring E, and tension screw F, used substantially as and for the purpose hereinbefore set forth. 3rd. The rubber finger piece B, and fastener G, used substantially as and for the purposes hereinbefore set forth.

No. 26,027. Trouser Stretcher.

(*Forme de Pantalon.*)

Robert Crommer, Philadelphia, Pa., U. S., 17th February, 1887; 5 years.

Claim.—1st. An improved trouser stretcher, which consists of a rigid flap, a movable flap, and a bar connecting said flaps. 2nd. In an improved trouser stretcher, in combination, a fixed flap, a movable flap, a bar connecting said flaps, a hollow projection on the movable flap, into which said connecting bar can be moved. 3rd. In an improved trouser stretcher, in combination, a fixed flap, a movable flap, a bar connecting said flaps, a hollow projection on the movable flap, into which said connecting bar can be moved, a ratchet upon said connecting bar at the end which enters the hollow projection, and a pawl upon said projection on the movable flap. 4th. In an improved trouser stretcher, in combination, a fixed flap, a movable flap, a bar connecting said flaps, a hollow projection on the movable flap, into which said connecting bar can be moved, and a second stretcher constructed in a similar manner, and the two connected together by a chain or other flexible means.

No. 26,028. Oscillating hook for Sewing Machines. (*Crochet Oscillant pour Machines à Coudre.*)

Jasper Vannett and George S. Yingling, Tiffin, Ohio, U. S., 17th February, 1887; 5 years.

Claim.—1st. Combined with the actuating shaft, a loop-hook and bobbin-holder mounted eccentrically thereon, and having a rotary adjustment on the point of connection, substantially as specified. 2nd. Combined with the actuating shaft, a loop-hook having its axis eccentric to the axis of the said shaft and having a rotary adjustment on said eccentric axis, substantially as specified. 3rd. A cylindrical frame, connected integrally at one edge and at a single point to an edge of a disc, and having an exterior projecting hook and a mouth leading to its interior, combined with a bobbin loosely contained in said case, substantially as specified. 4th. Combined with the actuating shaft, a disc fixed to said shaft eccentric to its axis, a cylindrical frame attached to one edge thereof, and having an exterior loop-hook and a mouth leading to the interior, and a door with a spring-contained pivot or hinge on one side said case, the whole arranged substantially as and for the purpose specified.

No. 26,029. Velocimeter. (*Vélocimètre.*)

Joseph Boyer, St. Louis, Mo., U.S., 17th February, 1887; 15 years.

Claim.—1st. In a velocimeter, the combination of a pump, a chamber and piston, and a liquid which circulates from the pump-well through the piston chamber, and back into the pump-well for translating the velocity into pressure, substantially as and for the purposes specified. 2nd. In a velocimeter, the combination, with a pump, of a chamber and its piston, and a gradually-increasing escape from the pressure side of the piston, substantially as and for the purposes specified. 3rd. In a velocimeter, having a chamber and piston and a pump, the combination, with the shaft which drives the pump of shifting gearing, substantially as and for the purpose specified. 4th. In a velocimeter, the combination, with the paper cylinder, of a slip-pool and a positive driven spool having a friction sleeve on its shaft to enable the driven spool to accommodate its speed to that of the paper cylinder, substantially as and for the purposes specified. 5th. In a velocimeter, the combination of a rotary pump and a chamber and piston, the chamber and pump-well having ingress and egress passages, which connect them, substantially as and for the purposes specified. 6th. In a velocimeter, the combination, with the paper drum, of spring-acting gripping rolls, and link and lever mechanism for retracting the rollers simultaneously, substantially as and for the purposes specified. 7th. In a velocimeter, the combination of a paper-drum gripping rolls and stylus, with intermediate and connecting link, and lever mechanism for retracting the gripping-rolls and stylus, substantially as and for the purposes specified. 8th. In a velocimeter, the combination of a pump, a chamber connected with the pump by ingress and egress ports, and a piston having a suitable piston rod with a tension spring, substantially as and for the purposes specified.

No. 26,030. Electro-Motor and Dynamo Machine. (*Electro-Moteur et Machine Dynamo-Electrique.*)

Morritz Immisch, London, Eng.. 17th February, 1887; 5 years.

Claim.—1st. In dynamos and electro-motors, the employment of a double commutator, the segments of which have an angular displacement in relation to each other, such that the line of division between two segments in one series is opposite the middle of a segment in the other series, the ends of the armature coils being connected to consecutive segments in the same series for the object of enabling one-half of the armature to be placed either in parallel or in series with the other half, substantially as and for the purposes described and shown in Figs. 1, 2 and 3 of the accompanying drawings. 2nd. In dynamos and electro-motors, the employment of a double commutator, the segments of which have an angular displacement in relation to each other, such that the line of division between two segments in one series is opposite the middle of a segment on the other series, the ends of the armature coils being connected to consecutive segments belonging to different series for the object of short circuiting upon itself a portion of the armature wire, which surrounds that part of the core where the poles are formed by the active part of the wire, substantially as and for the purposes described and illustrated in Figs. 4 and 5 of the accompanying drawings.

No. 26,031. Automatic Cut-off for Gas Burners. (*Détente Automatique pour Becs à Gaz.*)

Alexander Bryce, Toronto. Ont., 17th Februrry, 1887; 5 years.

Claim.—A gas burner, having a weighted lever connected to its cock, and an arm E designed to support the said lever when the cock is open, in combination with a pivoted bar F, having a projection *d* formed on one end, and a rod G connected to it and held in proximity to the gas burner, substantially as and for the purpose specified.

No. 26,032. Suspender. (*Bretelles.*)

William L. Doran, Niagara Falls, Ont., 17th February, 1887; 5 years.

Claim.—1st. The combination, Fig. 1 of the shoulder straps A, A, the button straps B, B, and casting C, C, substantially as and for the purpose hereinbefore set forth. 2nd. The use of the metal rivets, staples or fasteners at the points A, A, A, A, and B, B, Fig. 3, and C, C, C and D, D, Fig. 6, substantially as and for the purpose hereinbefore set forth.

No. 26,033. Compound for Making Drinks.

(*Composition pour Breuvage.*)

Richard C. Scott, Liverpool, Eng., 17th February, 1887; 5 years.

Claim.—1st. As a new article of manufacture, an effervescent drink powder or compound, formed of a pleasant, non-poisonous vegetable acid, and an alkaline bi-carbonate, such as are usually used in effervescent drink powders, and a non-poisonous oxygenating compound, such as described. 2nd. As a new article of manufacture, an effervescent drink powder or compound, formed of the usual materials, but having mixed up with it and cloaked by the white powder, a quantity of soluble dry colouring matter. 3rd. The improved process of making coloured effervescent drinks, which consists in adding to the dry effervescing powders a dry powdered, soluble col-

ouring matter, such as described, capable of being masked in the dry state by the white powder, and dissolving the powders in water, whereby the colouring matter being finely divided, immediately colours the entire mass.

No. 26,034. Feed for Roller Mills.

(Trémie de Moulin à Rouleaux.)

Edward J. Morgan, Thorold, Ont., 17th February, 1887; 5 years.

Claim.—1st. In a feed-box for a roller mill, a pivoted receiving-board D, in combination with the lever F, having an adjustable balance-weight G fixed to it, substantially as and for the purpose specified. 2nd. In a feed-box for a roller-mill, a pivoted receiving board D, having a lever F, with an adjustable balance weight G fixed to it, in combination with a pitman Q, lever P and roller N, arranged substantially as and for the purpose specified. 3rd. In a double roller-mill, feed-box B divided by the partition C, the pivoted receiving boards D, having levers F, with adjustable balance-weights G fixed to them, in combination with the reciprocating bottom J, connected to the partition C by means of the hinged partition I, substantially as and for the purpose specified. 4th. In a double roller-mill feed-box B, divided by the partition C, the pivoted receiving-boards D, having levers F, with adjustable balance-weights G fixed to them, and connected to the levers P of the rollers N by the pitman Q, in combination with the reciprocating bottom J connected to the partition C by means of the hinged partition I, upon which the curved spreaders H are fixed, substantially as and for the purpose specified.

No. 26,035. System of Blind Nailing.

(Système de Clouture à Clou caché.)

David M. Balsar, Duluth, Minn., U.S., 17th February, 1887; 5 years.

Claim.—1st. The combination, of the members or sections lapping each other, the under lapping member or section having a rebated edge-portion with a longitudinal groove at its inner end and a tongue at its outer end, said rebated edge-portion having an elongated upper surface to permit of the passage perpendicularly through it, of the securing or fastening nail or screw, substantially as shown and described. 2nd. The combination of the members or sections lapping each other, the underlapping member or section having a rebated edge-portion with a longitudinal groove at its inner end and a tongue at its outer end, said groove having its approximately horizontal surfaces slightly inclined, the overlapping member or section having a coincidently rebated and grooved surface, and having the approximately horizontal surfaces of its rebated portion slightly inclined, and the lower surface of its groove horizontal to impart a wedging action thereto, as it is driven in place, substantially as shown and described. 3rd. The combination of the members or sections lapping each other, the underlapping member or section having a rebated edge-portion with a longitudinal groove at its inner end and a tongue at its outer end, the overlapping member or section having a coincidently rebated and grooved surface and a bead or projection overlapping the one edge of the underlapping member or section, substantially as and for the purpose set forth. 4th. The combination of the members or sections lapping each other, the underlapping member having a rebated edge-portion with a longitudinal groove at its inner end, and a tongue at its outer end, the overlapping member or section having a coincidently rebated and grooved surface, and its outer corner edge forming an acute angle, whereby as it is driven into a place it will be brought firmly into contact with its bearing surface, substantially as set forth.

No. 26,036. Nail Plate Feeder.

(Alimentateur de Clouterie.)

Robert H. McCoy, (assignee of David Jones), Bay View, Wis., U. S., 17th February, 1887; 5 years.

Claim.—1st. The feed barrel of a nail cutting machine, in combination with a stop arranged to come in the path of the sleeve or ring that holds the nipper blades, substantially as and for the purpose set forth. 2nd. The feed barrel of a nail cutting machine, in combination with an adjustable stop arranged to come in the path of the sleeve or ring that holds the nipper blades, substantially as and for the purpose set forth. 3rd. The feed barrel of a nail cutting machine, and guide fingers arranged thereon, in combination with plates having their rear ends bolted to said barrel to retain the fingers in operative position, and their forward ends bent to come in the path of the sleeve or ring that holds the nipper blades, substantially as and for the purpose set forth. 4th. The feed barrel of a nail cutting machine, and guide fingers arranged thereon, in combination with shovel-shaped plates, each having its rear or enlarged end provided with a longitudinal slot, and bolted to said barrel to retain the fingers in operative position, and its forward end bent to come in the path of the sleeve or ring that holds the nipper blades, substantially as and for the purpose set forth.

No. 26,037. Electric Arc Lamp.

(Lampe électrique à arc.)

The Falls Rivet Company, (assignee of George C. Pyle), Cuyahoga Falls, Ohio, U.S., 17th February, 1887; 5 years.

Claim. 1st. In a focussing arc lamp, the combination, with a movable or adjustable electrode and regulating mechanism to adjust the same, with a fixed non-consuming electrode, and a fixed brace or guide embracing or guiding the movable electrode at or near the tip thereof, substantially as and for the purpose set forth. 2nd. The combination, in a focussing lamp, with a movable or adjustable electrode, of carbon or equivalent consuming material with a fixed electrode of copper, and a fixed guide embracing or steadying the movable carbon electrode at or near the point thereof, substantially as set forth. 3rd. In a focussing arc lamp, the combination, with a movable or adjustable electrode, of a fixed non-consuming electrode, and a fixed steadying arm or brace, such as K1, secured to the fixed electrode at or near the tip thereof, and having a guide to receive the movable electrode at or near the tip thereof, said arm being insulated between its extremities, substantially as and for the purpose set forth. 4th. The combination, in an electric lamp, with an automatically movable or adjustable carbon electrode, of an opposite fixed electrode of copper, a tip or point of deposited carbon upon the end of said copper electrode, and a fixed brace or guide arranged to guide the movable carbon electrode at or near the point thereof, substantially as herein set forth.

No. 26,038. Machine for Making Tacks.

(Machine à fabriquer la broquette.)

The Shoe Lasting Machine Company, New York, (assignee of Frank Chase, Boston, Mass.), U.S., 17th February, 1887; 5 years.

Claim.—1st. The combination of the reciprocatory punch, the reciprocatory abutment, and mechanism for feeding the wire into the space or runway beeween the punch and the abutment, these parts being timed in their movements relatively to one another, and operating together substantially in the manner and for the purpose hereinbefore set forth. 2nd. The combination of the punch, the abutment and the looper, these parts being operated to move at the times and in the manner substantially as hereinbefore set forth. 3rd. The combination of the reciprocatory punch, the reciprocatory abutment, mechanism for intermittingly feeding the wire into the space between the punch and abutment, and the reciprocatory header these parts being timed in their movements and operating together, substantailly in the manner hereinbefore set forth. 4th. The combination of the reciprocatory punch, the reciprocatory abutment, intermittently operating wire feed mechanism, and the reciprocatory clamp, these parts being timed in their movements and adapted for joint operation, substantially as hereinbefore set forth. 5th. The combination of the punch, the looper, the abutment, the clamp, the header, and mechanism for imparting reciprocatory movement to the same, at the times and in the manner substantially as hereinbefore set forth. 6th. The combination, with the reciprocatory abutment and intermittently operating wire, feed mechanism of the punch and punch operating mechanism, substantially as described, whereby the punch is actuated first to squeeze the wire into tack form against the abutment, and then upon descent of the abutment to advance the tack strip a distance equal to that which separates successive tacks, as hereinbefore set forth.

No. 26,039. Variable Nozzle.

(Lance de Tuyau à Incendie variable.)

Rodolphus F. Derrick, John F. Whitelaw and George Medanich, Oroville, Cal., U.S., 17th February, 1887; 5 years.

Claim.—1st. In a variable nozzle, the expansible tube B of springy sheet metal curved, having its loose edges overlapping and provided with the collar *b*, in combination with the segmental jaws C encircling said tube, and increasing or decreasing its diameter when pressure is withdrawn or applied, the hooks c^1 on said jaws, and the clutch-ring D engaging said hooks, substantially as herein described. 2nd. In a variable nozzle, the expansible tube formed of a piece of curved springy sheet metal having its meeting edges overlapping, in combination with an exterior pipe, the segmental jaws C and a pipe A having slots a^1 in its forward end within which the jaws are seated, whereby they may be pressed upon the tube, substantially as herein described. 3rd. In a variable nozzle, the pipe having the slots a^1 and the expansible tube, in combination with the segmental jaws C seated in said slots and embracing the tube, and the exterior pipe G screwed upon the pipe A and having a conical point, whereby said jaws are pressed upon the tube, substantially as herein described. 4th. In a variable nozzle, the pipe A having an internal grooved or notched flange or collar *a*, and the expansible tube B consisting of springy sheet metal, the loose edges or ends of which overlap said tube having a flange *b* at its inner end engaging the flange or collar of the pipe A, in combination with the segmental jaws C having shanks *c* seated in the pipe A and with hooks c^1 on their ends, the grooved clutch-ring D engaging said hooks, the gland-nut E holding the clutch-ring to its place, and the exterior pipe G screwed upon the pipe A and having a conical point g^1 in which the segmental jaws C are seated, all arranged and adapted to operate substantially a described.

No. 26,040. Knitting Machine.

(Métier à tricoter.)

The Wilcomb Manufacturing Company, (assignee of Frank Wilcomb), San Francisco, Cal., U.S., 17th February, 1887; 5 years.

Claim.—1st. An improved method of operating the needles and transfer points in latch needle ufitting machines, consisting in first advancing the needle from which the loop is to be taken until the loop is on the latch, second in advancing the point to engage with the needle, third, in drawing back the needle with the point until the loop is on the point, fourth, in shifting the transfer point into mesh with another needle, and then advancing said needle with the point far enough to leave the loop on the needle, all substantially as described. 2nd. The combination, with a series of latch needles and transfer points, of mechanism substantially as described, for advancing the needles through the loops until the loops are between the rivets, and the ends of the latches, and for returning the same to their normal position, and mechanism for advancing and withdrawing the transfer points simultaneously or in unison with the advancing or retracting movements of the needles to effect the transfer of the loops from the needles to the points, and from the points to the needles, and for shifting the points laterally, all substantially as described. 3rd. The combination of two parallel rows of latch needles, means for operating the same for the purpose of knitting, and mechanism, substantially as described, for imparting a forward and backward movement to the needles to facilitate the transfer of stitches with transfer points, mechanism, substantially as described, for imparting a forward and backward movement to the said points in unison with the movement of the needles, and a lateral movement to effect the shifting of the stitches pattern devices, substantially as described, for controlling the movements of the parts, all operating

to actuate the needles and points to effect the transfer of stitches independently of but simultaneously with the operation of the mechanism for operating the needles for knitting, substantially as and for the purpose set forth. 4th. The combination, with a row of needles, of a straight latch needle knitting machine, mechanism for actuating the same, for the purpose of knitting, and a main driving shaft of mechanism, substantially as described, by which the needles are operated forward and backward to facilitate the transfer of stitches arranged to follow the knitting movement, pattern mechanism for controlling the operation of the said mechanism for operating the needles, forward and backward transfer points mechanism, substantially as described, whereby the same are operated from the main driving shaft and caused to move in unison with the needles, and devices substantially as described, under the control of the pattern mechanism, whereby the shifting mechanism is operated automatically and simultaneously with the knitting movements, substantially as described. 5th. The combination, with the rows of needles, of a straight latch needle knitting machine, the mechanism for operating the same for the purpose of knitting, the main driving shaft, mechanism substantially as described, for operating the needles forward and backward to facilitate the transfer of stitches arranged to follow the ordinary knitting movement, and connected to the main driving shaft, a pattern mechanism for controlling the operation of the said mechanism for moving the needles forward and backward, transfer points, mechanism substantially as described, for causing them to move forward and backward in unison with the needles, and laterally to shift the stitches, said mechanism being connected substantially as described, with the main driving shaft and controlled also by the pattern mechanism, and mechanism, substantially as described, for throwing the empty needles out of work, whereby the shaping mechanism is operated automatically without interrupting the operation of the knitting mechanism, substantially as described. 6th. The combination, with the two rows of needles, of a straight latch needle knitting machine, the mechanism for operating the same for the purpose of knitting, and the main driving shaft and independent operating mechanism for each row of needles, consisting of mechanism, substantially as described, by which the needles are operated forward and backward to facilitate the transfer of stitches arranged to follow the ordinary knitting movements, and connected to the main driving shaft, a pattern mechanism, substantially as described, controlling the action of the said operating mechanisms, independent sets of transfer points for each row of needles, and independent sets of operating mechanisms, substantially as described, connected with the main driving shaft and controlled independently by the pattern mechanism for moving said points forward and backward in unison with the needles, and laterally to shift the stitches, all substantially as described. 7th. The combination with the rows of needles, of a straight latch needle knitting machine, the means for operating the same for the purpose of knitting, and the main driving shaft and operating mechanism, substantially as described, for operating the needles forward and backward to facilitate the transfer of stitches connected independently with the main driving shaft, and arranged to follow the knitting movement and constructed to advance the needles to a point where the loops rest upon the open latches, transfer points connected with the main driving shaft mechanism, substantially as described, for moving said points forward and backward in unison with the needles, and laterally to shift the stitches, and a pattern mechanism controlling the operation of the transferring mechanism, all substantially as described. 8th. The combination with a row of needles, of a straight latch needle knitting machine, mechanism substantially as described, for operating the needles backward and forward to facilitate the transfer of stitches, a transfer point or points, a point carrier arranged to slide forward and backward approximately in the plane of the row of needles, mechanism for moving said carrier backward and forward, mechanism substantially as described, for depressing the point for engagement with the needles, and mechanism substantially as described, for automatically moving the points laterally upon the frame by which they are carried, and a pattern mechanism substantially as described, for controlling the operation of the parts, all substantially as described. 9th. The combination, with a row of needles, of a straight latch needle knitting machine, of mechanism substantially as described, for operating the needles to transfer loops to the transfer points, a point carrier which is arranged to slide forward and backward approximately in the plane of the row of needles, mechanism for moving said carrier forward and backward, mechanism substantially as described, for depressing the points for engagement with the needles, and a pawl and slide rack mechanism for automatically moving the points laterally from needle to needle in either direction at the will of the operator, substantially as described. 10th. The combination, with the needles and the slide bar and needle cam, of a straight latch needle knitting machine, a longitudinally grooved cam having a flaring mouth adapted to receive the heels of the needles, mechanism substantially as described, for moving it forward and backward, and transfer points to effect the transfer of stitches, substantially as described. 11th. The combination with the needles and the slide bar and needle cam, of a straight latch needle knitting machine, of a longitudinally grooved cam having a flaring mouth and adapted to receive the heels of the needles, mechanism for moving it forward and backward to facilitate the transfer of stitches consisting of a sliding plate having suitable inclined slots, studs connected with the grooved cam, a gear, a link by which said gear is connected to the slide, a rack, and means substantially as described, by which said rack is thrown into engagement with the gear at the proper time, substantially as described. 12th. The combination with the longitudinally grooved cam, a gear connected to said slide by a pitman, the sliding bar, a rack 20 having lateral movement into and out of engagement with the gear, and means for holding the gear from turning when not in engagement with the rack, a lever adapted to be operated by the main driving mechanism, means for connecting said rack with said lever, the main driving mechanism, a pattern chain, and means controlled by the pattern chain for causing the said driving mechanism to act upon the lever, all substantially as described. 13th. The combination with the slide bar, the longitudinally grooved cam and the needles, of the lever 31 and intermediate mechanism, substantially as described, whereby said point carrier is operated from said levers, the driving shaft, cams 45 82 and 76, a spline to which said cams are connected, and a pattern mechanism, whereby said cams may be thrown into range with the levers, substantially as described. 14th. The combination with the two rows of needles, the described mechanism for operating the needles to facilitate the transfer of the loops, of transfer points for each row, and levers, and intermediate devices, substantially as described, for operating the same in unison with the movement of the needles, the main driving shaft, two independent sets of cams and independent movable spline to which each set of cams is connected, a pattern mechanism, and mechanism substantially as described, operated by the pattern mechanism for moving the cams on the main shaft into range with the levers for operating the transfer points, and means for returning the cams to their normal position, substantially as described. 15th. The combination with the lever 35, and the movable roller connected thereto, of the lever 41 having a spur 49, and intermediate connections, substantially as described, between said lever and the roller upon the lever 35, and the pattern chain, substantially as described. 16th. The combination, with the series of latch needles, the grooved transfer cam, means substantially as described, for operating the same, and the ordinary needle operating mechanism, of a point carrier having forward and backward movement, substantially parallel with the needles, and carrying points adapted to move laterally on the point carrier, the main driving shaft mechanism, substantially as described, driven from the main shaft for causing the carrier to move forward and backward, mechanism substantially as described, for moving the points laterally also connected with the main driving shaft and a pattern mechanism, substantially as described, for controlling the operation of the mechanism for operating the points and point carrier, all substantially as described. 17th. The combination, with the series of latch needles, the grooved transfer cam, and means for operating said cam, substantially as described, and the ordinary needle operating mechanism, of a point carrier having forward and backward movements substantially parallel with the needles, and transfer points adapted to move laterally on the point carrier, a main driving shaft mechanism, substantially as described, driven from the main driving shaft for causing the carrier to move forward and backward, mechanism substantially as described, for moving the points laterally also connected with the main driving shaft mechanism, substantially as described, for depressing the points for bringing them into engagement with the needles also connected with the main driving shaft, and the pattern mechanism for controlling the operation of the mechanism for operating the points and point carrier, substantially as described. 18th. The combination, with the points and the point carrier and its guide ways, of the pinions meshing with racks upon the carrier, the lever 33 provided with a rack 72 and with the anti-friction roller 75, and the cam 76, substantially as described. 19th. The points and point block, the point barrier, a sliding rack on the point carrier, and a pawl connected with the point block adapted to engage with said rack, in combination with a push pin, a movable frame carrying said push pin, the slide bar, said frame being adapted to be moved by the slide bars near the end of their movement, and means for returning the frame and the rack, substantially as descried. 20th. The points and point block, the point carrier, the sliding rack 66 on the point carrier, a pawl connected with the point blocks adapted to engage therewith, a second sliding rack 112 with reversing connections substantially as described, between the rack 66 and rack 112, and the pawl 115 on the point block, in combination with a push pin, a movable frame carrying said push pin, the slide bars, said movable frame being adapted to be moved by the slide bars near the end of their movement, and means for returning the frame and the sliding racks, substantially as described. 21st. A slide having a finger 101, and a rack upon its face, in combination with a pawl 102, a sliding bar 103 having a lug adapted to be moved by the spur of a plate 107, spring 199, plate 107, and a cam slide, all substantially as described. 22nd. A sliding bar having a finger 101, and two racks set reversely to each other, in combination with pawl 102 and 116, means substantially as described, for connecting said pawls, the sliding rods 103 provided with a lug and adapted to be moved by the plate 107, spring plate 199, plate 107, and the cam slide bar, all substantially as described. 23rd. In combination with the slide bar carrying the finger 101, and formed with a rack, the pawl, the sliding rod formed with a lug and carrying said pawl, the spring 199, the sliding plate 107 having a spur and held in place by frictional contact, the cam slide bar, the elongated grooved cam, means to move the same, and the screws set in the elongated grooved cam and projecting through the slot to strike the plate 107, all substantially as described. 24th. In a knitting machine, the combination of a series of needles, and mechanism for raising the inactive needles above the plane of the operating needles, with a thread carrier having the delivery end thereof adapted, substantially as described, to pass under the inactive needles, substantially as described. 25th. The combination, with a spindle having a reversible thread guide on its lower end, of a sleeve surrounding the spindle and having an inclined slot therein, a stud set in the spindle and projecting into the inclined slot in the sleeve surrounding the spindle, a stud set in the sleeve, and mechanism substantially as described to operate upon this stud for giving the sleeve vertical movement at the end of the stroke, substantially as described.

No. 26,041. Saw, (*Scie.*)

James E. Emerson, Beaver Falls, Penn., U. S., 18th February, 1887; 5 years.

Claim.—1st. A detachable saw section, reducted in thickness at its rear edge, and provided with elongated slots near its ends, and one or more apertures intermediate of the ends, substantially as described. 2nd. A saw blank or back, provided with teeth or projections on one edge, the teeth being reduced in thickness on opposite sides, and a suitable number of the teeth provided with a locking pin or stud, substantially as described. 3rd. A detachable saw section, in combination with a saw blank or back having teeth or projections on one edge, the saw section being supported laterally by said projections and secured thereto, substantially as described. 4th. A detachable saw section, in combination with a tooth back, the section being supported by the back and having its eads protected by

projections of the same thickness as the back, substantially as described. 5th. A saw section, in combination with a back having a groove in one edge adapted to receive and embed said section, and suitable means for securing it therein, substantially as described.

No. 26,042 Mail Pouch Fastening.

(*Fermeture de Valise à lettres.*)

John A. Blackburn, Caldwell, Ks., U.S., 18th February, 1887; 5 years.

Claim.—1st. In a mail bag fastening, the combination, with the bag A having the staples D, and the foldable flap B adapted to close the open mouth thereof, of a sheath C affixed to the flap and having the transverse slots C_2 through which the staples are adapted to pass, and an endwise moving locking strip E housed within the sheath, and having tongues E_4 adapted to enter the staples, substantially as described for the purpose set forth. 2nd. In a mail bag fastening, the combination, with a bag A having the staples D and the foldable flap B adapted to close the open mouth thereof, and provided with the slots C_2, of a sheath C affixed to the flap and having the transverse slots C_2 which align with the slots of said flap, and an endwise moving locking strip E housed within the sheath, and having the pliable tongues E_4 and the metallic brace plates F affixed to the tongues, substantially as described for the purpose set forth. 3rd. The combination, with a mail bag A having the staples D and the foldable flap B, of the sheath C having the transverse slots C_2 through which the staples D are passed, and a longitudinal slot G, the endwise moving locking strip E housed within the sheath C, and having tongues E_4 to enter the staples D and a staple G_1 affixed to the strip, and projecting through the longitudinal slot G of the sheath and adapted to receive a tag H or other device which serves as a means for actuating the locking strip E, substantially as described for the purpose set forth.

No. 26,043. Letter Press. (*Presse à Copier.*)

Horace Griffin and George H. Ford, New Haven, Conn., U. S., 18th February, 1887; 5 years.

Claim—1st. In a copying press, the combination of a base and top plate, a platen adjustable toward and from said base, an adjustable or extensible connecting rod working through the top plate and mechanism, substantially such as described for operating said platen through said connecting rod, substantially as described. 2nd. In a copying press, the combination of a framework and platen movable therein, with a lever hung upon the frame and an adjustable connection between said lever and platen, and a hand lever also hung upon said frame with a cam or eccentric between said hand lever and the first-mentioned lever, substantially as described.

No. 26,044. Automatic Fire-Extinguishing Apparatus. (*Extincteur d'Incendie Automatique.*)

James Wainwright and Henry Briggs, Manchester, Eng., 18th February, 1887; 5 years.

Claim.—1st. An automatic fire-extinguishing apparatus that discharges fire-extinguishing fluid into a room or part of a building in which it is located, when the temperature in said room or part of a building rises as on the outbreak of fire therein, and automatically arrests said discharge on reduction of the temperature, as after extinction of the fire, as above set forth. 2nd. An automatic fire-extinguishing apparatus, in which a body expansible by heat is applied in such a manner that, on the the expansion of the said expansible body when the apparatus is subjected to increase in temperature, as on the outbreak of fire in the room or part of a building wherein the apparatus is located, an orifice or orifices for discharge of fluid such as water to extinguish the fire will be opened, and that, on the temperature falling, as on the extinction of the fire and consequent contraction of the expansible body, the said discharge will be automatically arrested, as above set forth. 3rd. An automatic fire-extinguishing apparatus, comprising a valve that normally closes a discharge orifice or orifices, and a vessel containing an expansible body and a diaphragm, the arrangement being such that on the said vessel being subjected to increase in temperature, as on the outbreak of fire in the room or part of a building wherein the apparatus is located, the expansible body will be expanded, the diaphragm will be moved, and the said valve will be caused to open, thereby allowing fluid, such as water, to flow out of the said orifice or orifices for the purpose of extinguishing the fire, and that on the temperature in the said room or part of a building falling, as on the extinction of the fire, the said expansible body will contract or condense, and the valve will again close the said orifice or orifices, substantially as described. 4th. In an automatic fire-extinguishing apparatus, the combination of a chamber in communication with a water supply, a discharge orifice, a valve that normally closes said orifice, a diaphragm connected to said valve, and a vessel for containing a body expansible by heat, said valve being normally closed by the water pressure acting on said diaphragm, and being opened by pressure against the opposite side of said diaphragm of the expansible body when expanded by increase of temperature, as on the occurrence of fire in the room or part of the building in which said apparatus is located. 5th. In an automatic fire-extinguishing apparatus, the combination of a chamber 1, slotted casting 2, valve seat 3, conical valve 4, valve stem 55*a*, with wings 6, vessel 9, and elastic diaphragm 10, substantially as described for the purpose specified. 6th. In an automatic fire-extinguishing apparatus, the combination of a chamber 1, slotted casting 2, valve seat 3, conical valve 4, valve stem 55*a*, with wings 6, vessel 9, and elastic diaphragm 10, and rod or plunger 15 for opening said valve 4 by hand, substantially as described.

No. 26,045. Dyeing Machine.

(*Appareil de Teinturier.*)

Joseph Hanson, Philadelphia, Penn., U. S., 18th February, 1887; 5 years.

Claim.—1st. The combination with a vat, of a dyeing apparatus placed thereon, provided with vertically-movable skein frames which can be lowered into the vat, substantially as and for the purpose set forth. 2nd. The combination with a vat, vertically-movable reel and swift frames which can be lowered into the vat, and racks and pinions for operating the frames, substantially as set forth. 3rd. In a dyeing apparatus, the bar *d* centrally arranged and provided with swifts upon either side, and the bar *h* provided on either side with reels Q and adapted to be raised and lowered in the vat, and the swifts being adapted to be revolved, substantially as described. 4th. In a dyeing apparatus, the centrally-arranged bar *d* provided with swifts, and the centrally-arranged bar *h* provided with reels, in combination with means for revolving the swifts, and means for vertically moving the bar *h*, and reels Q, substantially as described. 5th. The shaft F, provided with pulleys to which the bar *d* is attached and counter-weighted, in combination with the said bar *d*, and means for turning the shaft for raising and lowering the bar, substantially as described.

No. 26,046. Piano. (*Piano.*)

Joseph R. Perry, Wilkes-Barre, Penn., U.S., 18th February, 1887; 5 years.

Claim.—1st. In a stringed musical instrument, the pin plate superposed upon the iron string-frame and having holes or aperatures of normally less diameter than the tuning-pins, substantially as and for the purpose described. 2nd. In stringed musical instrument, the combination with the wrest-plank or board of the frame or plate having the tuning-pin holes or openings, and reamed or tapered upon the under side around said holes or openings, substantially as and for the purpose specified. 3rd. In a stringed musical instrument, the combination, with the iron string-frame and wrest-plank, of the rigidly secured superposed metallic tuning-pin plate, arranged substantially as shown and for the purpose specified. 4th. In a stringed musical instrument, the combination, with the wrest-plank or board, and the string frame of plate, of the superposed pin-plate with a space beneath it, and having the pin holes or apertures with reamed or tapered walls and the tuning-pins, substantially as and for the purpose set forth. 5th. In a stringed musical instrument, the with the wrest-plank or board, and the string combination or frame, of the superposed pin plate with a space beneath, and having the reamed or tapering pin holes or openings and the tuning-pins, said openings or holes each being normally or less diameter than the thickness or diameter of a pin, substantially as and for the purpose set forth. 6th. In a stringed musical instrument, the combination, with the wrest-plank of the iron string-fame having openings in the same immediately under the tuning-pins and superposed pin-plates forming a space between the said wrest-plank and the pin-plates, as and for the purpose described.

No. 26,047. Combined Land Anchor and Lightning Conductor for Buildings. (*Paratonnère et Ancre de Paratonnerre.*)

George Stites, Pleasant Valley, Ks., U. S., 18th February, 1887; 5 years.

Claim.—The land anchor herein described composed of the cone-shaped base, with attached cable and sectional body linked or hinged together at their top ends, fitting upon and adapted to be expanded at their bottom ends only by said cone, for the purposes specified.

No. 26,048. Circular Loom. (*Métier Circulaire.*)

Albert De Laski, Boston, Mass., U.S., 18th February, 1887; 5 years.

Claim.—1st. The frame, the main shaft, and means to rotate it stationary, radially-grooved spider-plate supported by the frame, a stationary sleeve also supported by the frame, a sleeve surrounding and adapted to turn on said stationary sleeve and supported thereby, a gear secured to said revoluble sleeve, a gear on the main shaft intermeshing with said first-mentioned gear slides for operating the heddles arranged in the radial grooves of the spider plate, a cam secured to and rotated by said revoluble sleeve, and engaging with said slides to operate them, all combined, arranged and operating substantially as and for the purposes hereinbefore described. 2nd. The frame, the radially-grooved stationary spider plate supported thereby, the sides adapted to operate in said grooves, a rotary cam engaging and operating said slides, rock shafts having bearings in the frame, arms secured to said rock shafts, other arms connecting the slides with the first-mentioned arms, rocker arms f^3 also secured to the rock shafts, the heddle bars supported and guided in the frame, and rods connecting heddle bars with said rocker arms, all arranged, combined and operating substantially as and for the purposes hereinbefore set forth. 3rd. The frame, radially-grooved stationary spider-plate supported thereby, the slides adapted to operate in said grooves, a rotary cam engaging and operating said slide, rock shafts having bearings in the frame, arms F f^2 f^3, rods f^4, the heddle bars and heddle collars f^5 forming a part of the heddle bars, and rods f^6 forming guides for the heddle bars, all combined and operating as and for the purpose hereinbefore set forth. 4th. The frame, the warp spools having bearings therein, spring arm G fulcrumed on the frame, and provided on the outer end with a pad g adapted to rest on the yarn on the spool short rod g^1, loosely connected with the other end of said spring arm, nut g^2 on the upper end of said rod, and spring g^3 surrounding said rod and bearing against the frame at the end of said arm, combined, related and operating as and for the purposes set forth. 5th. The warp spool, an adjustable guide and tension bar d^1 provided with eyes through which the yarn may be passed, a revoluble drum around which the yarns may be passed, means substantially as described, for retarding the revolution of said tension drum and for adjusting such retarding means to permit the drum to turn with greater or less ease, all combined, arranged and operating as and for the purpose hereinbefore described. 6th. The frame, a warp spool, an adjustable guide and tension bar d^1 provided with guide eyes through which the yarn may be passed, a revoluble tension drum around which the yarn may be passed, a band wheel

secured to said drum, a band wound around said wheel, and having one end secured to the frame rod g^7 to which the other end of said band is secured, and adjusting nut g^8 screwed upon the other end of said rod, combined and operating as and for the purposes hereinbefore set forth. 7th. The warp spool arm G, provided with pad g, rod g^1, nut g^2, spring g^3, guide and tension bar d^1, tension drum d^2, band wheel g^4, band g^5, rod g^7, and nut g^8, combined and operating as and for the purposes described. 8th. The frame, a stationary gear h supported thereby, a revoluble sleeve passing through said stationary gear and supported by the frame, a ring or collar n^3 rigidly secured to said revoluble sleeve, a shuttle driver frame secured to said ring or collar, a shaft having bearings adapted to turn in said frame, a gear fixed to one end of said shaft and intermeshing with said stationary gear, and the shuttle driving wheel geared with said shaft, all combined and operating as and for the purposes set forth. 9th. The shuttle-driving frame I, provided with the arm i^{10}, substantially as and for the purpose set forth. 10th. The fixed gear, a revoluble ring or collar, the shuttle-driving frame secured to and operated by said ring or collar, a shaft adapted to turn in said frame, a gear on one end of said shaft intermeshing with said fixed gear, gear i^2, a shaft i^4, gear i^3 and driving-wheel i^6, all arranged, combined and operating as hereinbefore set forth. 11th. The frame, provided with circular tracks j^2 and j^3, a shuttle frame provided with wheels adapted to support it and to travel upon said tracks, an arm j^8 attached by one end to said shuttle-frame, an idler wheel j^9 carried on free end of said arm, and adapted to engage one of the wheels of said shuttle-frame and drive the latter, a shuttle-driver frame revoluble in the line of said circular tracks, a wheel i^6 journalled in said shuttle-driving frame, means for rotating said wheel i^6 and adapted to engage said idler wheel, combined, related and operating as and for the purposes hereinbefore set forth. 12th. The frame, provided with circular tracks, a shuttle-frame provided with wheels adapted to support it and to travel upon said tracks, a series of pins arranged circularly in the shuttle-frame, a wheel horizontally arranged on the outward rearward part of said shuttle-frame, and adapted to roll on the sides of the pins within the circle thereof, a wheel horizontally arranged on the outer forward part of the shuttle-frame, and adapted to roll on the sides of the pins without the circle thereof, a wheel rearward of the series supporting the frame, and means for rotating said wheel to drive the same, all combined, arranged and operating as and for the purpose hereinbefore set forth. 13th. The frame, provided with circular tracks j^2, j^3, one being arranged at a lower horizontal plane than the other, the shuttle provided with wheels adapted to travel on said tracks, the heddles and their operating mechanism, and means to drive the shuttle, all arranged, combined and operating as and for the purposes hereinbefore set forth. 14th. The frame, provided with the circular tracks j^2 and j^3, one being arranged at a lower horizontal plane than the other, constructed substantially as hereinbefore set forth. 15th. The frame, provided with the circular inclined tracks j^2, j^3, one track j^2 being placed at a lower horizontal plane than the other j^3, as set forth. 16th. The frame, the weaving pin heddles to control the warps, means for operating the heddles, the shuttle and mechanism to support and drive it, a spreader L, V-shaped in cross-section, as shown, connected with the shuttle to insure the opening of the shed for the passage of the shuttle tension, mechanism connected with the shuttle for the weft or filling yarn, a batten shoe k^3 connected with the shuttle and extending to the weaving pin, through which the weft thread is adapted to pass and by which it is adapted to be pressed or laid up between the warps supported on the weaving pin, substantially as and for the purposes hereinbefore set forth. 17th. The frame, the weaving pin heddles to control the warps, means for operating the heddles, the shuttle and mechanism to support and drive it, a spreader connected with the shuttle to insure the opening of the shed for the passage of the shuttle tension, mechanism connected with the shuttle arm l^5, connected with the shuttle and provided at its inner end with the batten shoe k^3, through which the filling thread is adapted to pass, and by which it is adapted to be pressed between the warps supported on the wearing pin, and arm l^2 for bringing the batten shoe and supporting the spreader, all combined, arranged and operating as and for the purposes set forth. 18th. The shed-spreader L, formed of sheet metal V-shaped in cross-section, as shown, and bulged out or forward at l rod arm l^3 extending around within the spreader and the shuttle-frame, combined and operating substantially as set forth. 19th. The shuttle-frame supporting arm l^5, batten shoe k^3, shed-spreader L formed of sheet metal and V-shaped in cross-section, as shown, and bulged out or forward at l and retreating rearwardly from said point l rod or arm l^2 extending around within the spreader, and brace-rods or wires l^4, combined and operating substantially as set forth. 20th. The weaving pin, the batton shoe k^3, provided with the guide eye k^{11}, the shuttle frame supporting arm l^5 and rod or arm l^2 combined and operating substantially as and for the purposes set forth. 21st. The batten shoe k^3, provided with the guide eye k^{11}, a shuttle and devices, substantially as set forth, for supporting the batten shoe connected with the shuttle, combined and operating as and for the purposes herein set forth. 22nd. The shuttle frame provided with the rod k and guide eye k^1, the shuttle spool bar k^2, provided with a plurality of guide eyes, through which the yarn from the spool may be led back and forth, a tension plate pivoted by one end to said bar stud m^1, and thumb-screw m^2, combined, arranged and operating as and for the purposes hereinbefore set forth. 23rd. The shuttle frame, the shuttle spool, its journals, dog O pivoted to the frame and having one of its arms bearing on one of the journals of the spool cam o^5, spring o^4, rod N, arm n, spring n^2 and pad n^1, all combined and operating as and for the purposes described. 24th. The frame-ring v, bracket V, feeler pins d^3 and spring v^1, all combined, arranged and operating as and for the purposes hereinbefore set forth. 25th. The feeler pins, supports therefor, spring v^1, hoop R provided with pins r, revolving shaft p^4, disk Q, provided with pins q^5, engaging with said pins r, said disk having a screw-threaded connection with said shaft spring q^2, lever S and belt shipping mechanism, substantially as explained, connected with said lever, all combined and operating substantially as and for the purposes hereinbefore set forth. 26th. Hoop R, provided with the pins r, pulleys r^1 for supporting said hoop, revoluble shaft p^4 and disk Q provided with pins Q^5, combined and operating as and for the purposes set forth. 27th. The shuttle frame tension bar k^2, pivoted by one end to said frame rod x^4, loosely connected with the other end of said bar spring x^5, latch x^2, rod X, spring x, hoop R provided with the pins r, revoluble shaft p^4, disk Q provided with pins q^5 and having a screw-threaded connection with said shaft spring q^2, lever s and belt shipping mechanism, substantially as explained, connected with said lever. 28th. The driving shaft, a pulley loosely mounted thereon, provided with the clutch part t^6, clutch part t^5 splined on the shaft to turn therewith, but longitudinally movable thereon, the U-shaped rod connected with clutch part t^5, springs t^7, lever T, latch lever S_2, provided with the laterally extending arm s^1, lever S, and mechanism, as set forth, for operating said latter lever, all combined, arranged and operating as and for the purposes hereinbefore described. 29th. The main shaft gears P, p, shaft p^1, worm Y, shaft y^1, gears y, y^2, y^3, y^4, shafts y^5, y^8, drums on said shafts and gears y^6, y^7, combined, arranged and operating as and for the purposes set forth. 30th. Frame Z, shafts y^5, y^8, gears y^6, y^7, drums on said shafts, gear wheels y^4, provided with a clutch part and splined on shaft y^5 to move longitudinally thereon, but to turn therewith shipper lever x^6, connected with said gear to move the same longitudinally on its shaft, another clutch part rigidly connected with said shaft to turn therewith arms connected with said latter clutch part to turn the same, and mechanism, as set forth, to turn said wheel y^4, all constructed, arranged, combined and operating as and for the purposes described. 31st. Frame Z, guiding drum s^5, shafts y^5, y^8, drums thereon, gear wheels y^6, y^7, y^4, means for revolving the last-mentioned gear arm Z, of frame Z, drums or rollers z^2, z^3 journalled in the upper end of said arm, combined and operating as and for the purposes described.

No. 26,049. Spring Hoe. (*Houe Elastique.*)

J. O. Wisner, Son & Co., Brantford, Ont., 22nd February, 1887: 5 years.

Claim.—1st. In a drill-hoe or cultivator-tooth, pivoted to the drag-bar, the combination of a projection formed on the hoe or tooth below the pivot, and having notches formed in it to receive the pin connecting it to the brace, each of said notches being connected with different inclines, substantially as and for the purpose specified 2nd. In a drill-hoe or cultivator-tooth, having a projection to fit within the drag-bar, and a notch formed on the top side of the said projection to fit onto the bottom side of the pivot-pin, the combination of a strap, bolted or otherwise fastened to the drag-bar and extending below the notched projection for the purpose of holding it against the pivot-pin, as specified. 3rd. In a spring-hoe, a locking-lever pivoted to the drag-bar, in combination with a brace, the upper end of which is connected to the locking-lever above its pivot, while the portion of the locking-lever extending below its pivot forms a support for the brace, substantially as and for the purpose specified. 4th. In a spring-hoe, substantially as described, and in combination with the brace and plunger thereof, the lever C having means for connection with said plunger, and a hook for removably securing it to the brace, as shown. 5th. In a spring-hoe, a locking-lever, provided with pivot-pins to connect it to the drag-bar, and a hooked end to connect it to the brace, in combination with a step formed on or by the top edge of the locking-lever, for the purpose of supporting the brace between the point where it connects with the lever and the point where it is attached to the hoe. 6th. In a spring-hoe, a locking-lever pivoted to the drag-bar and removably connected at its upper end to the hoe-brace by the hook g, in combination with a spring arranged to exert an upward pressure on the lower end of the locking-lever, substantially as and for the purpose specified. 7th. In a spring-hoe, in which the upper end of the hoe-brace is connected to the locking-lever above its pivot, while the portion of the locking-lever extending below its pivot forms a support for the brace, the combination of a hook or pin made in or formed upon the upper end of the brace at a point on one side of the longitudinal centre line of the said brace, substantially as and for the purpose specified. 8th. In combination with the drag-bar and a recessed cap supporting the same, the links J working loosely in said cap, and the lifting-chain, as set forth. 9th. The cap I, recessed as shown, and having lugs to engage the under side of the drag-bar, combined with the links J, the drag-bar, the lifting-chain and the hoe, as set forth. 10th. In a spring-hoe, a drag-bar having an extension formed on it projecting behind the pivot-point of the hoe, in combination with a lifting-chain and lifting-roller, arranged substantially as and for the purpose specified.

No. 26,050. Organ Pedal. (*Pédale d'Orgue.*)

Samuel J. Laughlin, Guelph, Ont., 24th February, 1887; 5 years.

Claim.—1st. A frame fitting around the mouth of the pedal-box, in combination with a pedal or pedals designed to close the mouth of the pedal box, substantially as and for the purpose specified. 2nd. A frame A, pivoted at a to the pedal-bracket B and secured to the pedal-base C, in combination with the pedal E, pivoted at e to the frame C, and connected to the bellows G by the webbing F, substantially as and for the purpose specified. 3rd. The webbing F, connected at one end to the bellows G, and having a hook H fastened at its other end, in combination with the lugs h formed on the back of the pedal E, substantially as and for the purpose specified.

No. 26,051. Construction of Vessels for Marine Purposes. (*Construction de Vaisseaux de Marine.*)

Robert M. Fryer, Brooklyn, N.Y., U.S., 24th February, 1887; 5 years.

Claim.—1st. In the construction of vessels, central longitudinal walls extending the entire length of the vessel on each side of the keelson, and from the bottom of the vessel to the deck or decks, the portion from the stern to the engine being double to admit the propeller shaft, and forward of the engine a single or double wall or frame, the two portions being united by an arch or wall placed high enough to receive the engine, the same being permanently connected with the engine frame, substantially as set forth. 2nd. As an improvement in the construction of vessels, a keelson provided with

the side walls or plates *a*, *a*, which rise to the deck and have a space between them for the reception of the propeller shaft, and the keelson forming a bearing or support for said shaft, as and for the purposes set forth. 3rd. The improvement in the construction of vessels, herein shown and described, which consists in a keelson rising and secured to the deck, and provided with a seat for the engine, and forming a continuous bearing for the propeller shaft, as and for the purposes set forth.

No. 26,052. Brick Kiln. (*Four à Brique.*)

Robert B. Morrison, Oakdale, Ga., U. S., 24th February, 1887; 15 years.

Claim.—1st. In a kiln, a central eye leading directly from the furnace to the drying chamber, and side eyes having combustion chamber interposed between them and the said furnace, the said side eyes and the combustion chambers being independent of connection with the central eye, substantially as specified. 2nd. In a kiln, a series of eyes leading from the heating furnace to the drying chamber, the central eye being continued by walls to the furnace, and the side eyes having enlarged combustion chambers, with their roofs supported by the walls of said bentral eye, substantially as specified. 3rd. In a kiln, a series of eyes leading from the furnace to the drying chamber, and a cold air flue leading from the exterior of the kiln to each eye, substantially as specified. 4th. In a kiln, a series of eyes leading from the furnace to the drying chamber, and a cold air flue leading from the exterior of the kiln to each eye, said flues having a wooden or metal lining for a portion of their length, and a fluted or grooved plug at the mouth, substantially as specified. 5th. In a kiln, a series of eyes leading from the furnace to the drying chamber, and a flue leading from the exterior of the kiln to each eye, said flue having a horizontal portion and a vertical portion, said vertical portion having its upper end provided with a cross-piece, substantially as specified.

No. 26,053. Funeral Annunciator, or Advertising Device. (*Appareil de Publicité pour les Funérailles.*)

James E. Grosjean, Frederickburg, Ohio, U.S., 24th February, 1887; 5 years.

Claim.—1st. A funeral annunciator, consisting of a suitable frame, provided at its top with a suspending device, as a cord or ribbon, and at its bottom with a crape attaching device, combined with a notice tablet removably secured in the said frame, and bearing the notice or announcement to be given, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the frame A and its suspending and crape attaching devices, of the glass *d*, the notice tablet *c*, the holding tablet *f* and the spring-pressed clips *e* for removably securing the said notice tablet in the said frame, substantially as and for the purpose hereinbefore set forth.

No. 26,054. Mode of Driving Spinning and Twisting Spindles. (*Mode de Mise en Mouvement des Broches des Machines à Filer et à Retordre.*)

Thomas H. Ayers, Lachute Mills, Que., 24th February, 1887; 5 years.

Claim.—The combination, with a spinning frame A, having a row of spindles B, and a driving cylinder C common to all the spindles, of an endless band or cord D, spirally returned on the cylinder, and a spindle, alternate pulleys F, F, in the circuit of the band or cord, and a tightening pulley G, or other means, for keeping the band or cord at a uniform tension to drive the spindles collectively at a uniform speed, as set forth.

No. 26,055. Apparatus for Treating Pretzels and Crackers. (*Appareil de Traitement des Craquelins et des Biscuits.*)

David F. Stauffer, York, Pa., U.S., 24th February, 1887; 5 years.

Claim.—1st. The combination for preparing articles of dough for baking, of a casing having a trough on top, a reciprocating carrier and mechanism for operating it, a boiler or generator heated by a coil connected with an ordinary steam boiler, and a spraying tube connecting with the boiler or generator, whereby the vapor and liquid may be diffused over the articles to be prepared, substantially as specified. 2nd. The combination, with the generator, its discharge and spray pipes, of the casing setting over the reticulated shelf upon which the articles are placed, so as to confine the diffused vapor and liquid and direct the same upon the articles, substantially as specified. 3rd. In combination with the reticulated carrier and its shelf, the perforated drum, and the operating mechanism, whereby the salt is sprinkled over the surface of the articles, substantially as specified. 4th. The combination, with the generator, the spraying devices and the trough, of the collecting reservoir and pump, and the connecting pipes, whereby the solutions passing from the trough are collected and returned to the boiler or generator to be again used, substantially as specified. 5th. The combination of the main casing and its trough above the generator or boiler and heating coil, the spraying devices and connecting tube, the reciprocating carrier and reticulated shelf, the salt-distributing drum and operating mechanism, and the collecting reservoir and connecting pipes and pump, all arranged to operate substanitally in the manner specified.

No. 26,056. Remedy for Cholera. (*Remède pour le Choléra.*)

Aaron T. Estabrook, Raymond, Ks., U. S., 24th February, 1887; 5 years.

Claim.—The herein described compound or mixture of ingredients to form a medicine for the treatment of cholera, or other stomach complaints, consisting of alcohol, gum-guaiac, cinnamon, cloves, whisky, laudanum, blackberry extract and extract of wild cherry, in about the proportions herein specified.

No. 26,057. Digital Forceps. (*Forceps Digitaux.*)

Silas R. Wilcox, Bennington, Vt., U.S., 24th February, 1887: 5 years.

Claim.—A surgical instrument for obstetrical purposes, consisting of a fenestrated forceps blade, provided with a hinged finger-socket for the reception of the finger of the operator, arranged as described, so that the tip of the inserted finger may co-operate with the forceps blade, as a companion member to form a digital forceps, substantially as specified.

No. 26,058. Manufacture of Metal Wheels. (*Fabrication des Roues en Métal.*)

James R. Little, Quincey, Ill., U.S., 24th February, 1887; 5 years.

Claim.—As an improvement in the construction of metal wheels, the method of securing the spokes to the rim, and of centering said rim, consisting in first clamping a spoke between jaws at a point near the inner side of the rim, then springing said rim upward above said jaws, and finally compressing said spoke longitudinally from its outer end until it closely fills the opening or mortise within said rim, substantially as specified.

No. 26,059. Watch Case. (*Boîte de Montre.*)

The American Watch Case Company (assignee of Edward F. Heffernan), Toronto. Ont., 25th February, 1887; 5 years.

Claim.—1st. A bezel, having an annular wall, extending from the glass groove to a point near the snap, and surrounding an opening slightly larger than the diameter of the dial plate, in combination with a ring adjustably fitted to the annular wall, and having an opening sufficiently large to expose the face of the dial-plate, substantially as and for the purpose specified. 2nd. A bezel, having an annular wall extending from the glass groove to a point near the snap, where an internally-projecting flange is formed, which surrounds an opening slightly larger than the diameter of the dial-plate, in combination with a ring adjustably fitted to the annular wall, and having an opening sufficiently large to expose the face of the dial-plate, substantially as and for the purpose specified.

No. 26,060. Leaf Turner. (*Tourne-Feuille.*)

Arthur Rathburn (assignee of Seth Rathburn), Chicago, Ill., U. S., 25th February, 1887; 5 years.

Claim.—1st. In a leaf-turner, the combination, with a series of arms carrying spring-tongues, and provided with notches *i*, of a vertical pivoted disk C, having forwardly-projecting pins on its front face for engaging said notches, and an actuating mechanism, substantially as described. 2nd. In a leaf-turner apparatus, the combination, with a series of arms carrying spring tongues, and formed with notches *i*, of a disk C, carrying stops arranged to engage with the notches of said arms, levers D and E and connecting rods *d* and *e*, substantially as described. 3rd. In a leaf-turning apparatus, the combination with a series of arms carrying spring-tongues, and formed with notches *i*, of a disk carrying stops arranged to engage successively with the notches *i* of the levers D, E, and F, connecting rods *d*, *e* and *f*, shaft G and pedal M, substantially as described.

No. 26,061. Mail Marking Apparatus. (*Appareil pour timbrer les lettres.*)

The International Postal Supply Company, New York, (assignee of George W. Hey and Emile Laass, Syracuse), N. Y., U. S., 25th February, 1887; 5 years.

Claim.—1st. An automatic letter-marking machine, comprising a hopper or receptacle for receiving the letters, a supporting bed or trough in which the letters are separated and arranged to pass consecutively to the marking device, all substantially as and for the purpose set forth 2nd. In a letter-marking machine, the combination of a hopper or receptacle, a chute communicating with said hopper, a feed gauge between the hopper and chute, and a letter channel under the the chute. 3rd. In a letter-marking machine, a temporarily restrained stamp or marker, a back or abutment against which the stamp acts, and a selecting device or feeder which engages the envelope flaps to bring the stamp into action, substantially as described. 4th. In a letter-marking machine, in combination with the stamp or marker, a tripper for temporarily restraining the stamp, and fingers or feelers adapted to engage the flap of the envelopes, and to transmit motion to the stamp or marker to automatically apply the stamp or marker to the mail matter by the presentation of the letter to the front of the stamp, substantially as set forth. 5th. In a letter-marking machine, wherein the marker is operated automatically by the letter envelope through intermediate mechanism, the combination, with the marker, of a yielding releasing finger or feeler, and suitable connecting mechanism, the feeler being shaped to catch or engage with the overlapping edges of the flaps of the envelopes, whereby such engagement will release the marker and bring the same into action, 6th. In a letter-marking machine, the combination of a letter carrier, with a marking mechanism, and a catching finger located in relation to the carrier, so that letters moving on the carrier in front of the marker engage the finger or feeler and bring the marker automtaically into action, substantially as described. 7th. The combination, with a marking roller and a movable frame supporting the roller, cams and stud pins connected respectively to the roller and frame, and in contact with each other to raise the frame atomatically with the rotation of the roller, and a spring bearing on the roller journal to force the roller off from the marking abutment when the frame is raised as aforesaid, substantially as described. 8th. In a roller-marking machine, the combination of the letter-supporting feed bed, and a stamp or marker yieldingly sustained on said bed, whereby the marker can accommodate itself to allow the passage of letters of different thicknesses which are fed over the supporting bed in front of the marker, substantially as specified. In a letter-marking machine, a marking roller rotated continuously in the same direction on its journal, and provided with a type die and a cam, said type die and cam being arranged relatively

to each other on the roller, whereby the registry of the type die is accurately determined by said cam while the letter to be marked is in transit.

No. 26,062, Machine for Ornamenting Wood. (*Machine pour orner le bois.*)

John P. Jamison, Cambridgeport, and Llewellyn P. Davis, West Medford, Mass., U.S., 25th February, 1887; 5 years.

Claim.—1st. In a machine for ornamenting wood in imitation of carving, the combination of a bed roll mechanism for imparting to said roll a rotary motion, a vertically-movable but non-revolving shaft or bar extending across the machine parallel with said bed roll, a pair of pendant arms mounted upon said non-revoluble shaft or bar, and a cylindrical die mounted upon a spindle set in bearings in the lower ends of said arms, and having its lower side below the extreme lower ends of said arms, substantially as described. 2nd. The combination of the non-revolving shaft or bar P, a pair of pendant arms J1, J1, mounted upon said bar, the set screws *j*, *j*, the non-revolving spindle *k*, and a cylindrical die mounted upon and revoluble about said spindle, substantially as described. 3rd. In a machine for ornamenting wood, a pair of bed rolls, a pair of non-revolving shafts or bars, a pair of pendant arms adjustably mounted upon each of said shafts or bars, and a cylindrical die or pressure-shaping roll mounted between and supported by bearings in the lower ends of each pair of pendant arms, substantially as described.

No. 26,063. Brick or Building Block.

(*Brique ou bloc de construction.*)

Robert A. Bush, Brockville, Ont., 25th February, 1887; 5 years.

Claim.—1st. A brick or building-block, having a series of rows of perforations B from top to bottom, substantially as set forth. 2nd. A brick or building block, having perforations B, substantially as set forth.

No. 26,064. Heating Apparatus for Removing the Gum from Saws (*Appareil de chauffage pour enlever la gomme des scies.*)

John C. Ballew, Evansville, Ind., U.S., 25th February, 1887; 5years.

Claim.—1st. A device for cleaning gum from band-saws consisting in a nozzle or mouth-piece, straddling both sides of the blade and emitting jets of heated water against the faces of the saw, as and for the purpose shown and set forth. 2nd. In a device for cleaning gum from band-saws, the combination of a band-saw, a water-heater and a pipe from the heater having nozzles or mouth-pieces straddling the saw-blade, and emitting jets of water against the sides or faces of the blade, as and for the purpose shown and set forth. 3rd. In a device for cleaning gum from band-saws, the combination of a casing having the exhaust pipe of an engine opening into one side, and having an outlet pipe at the other side, a coiled pipe having an inlet-pipe, and a discharge-pipe at its ends and inclosed in the casing, and a nozzle or mouth-piece at the end of the discharge-pipe straddling the saw-blade and emitting jets of heated water against both sides of the blade, as and for the purpose shown and set forth.

No. 26,065. Combined Barrel Stand, Swing and Counter Support. (*Chantier de baril, tour et Support de Comptoir Combinés.*)

Isaac G. Pollard, Evansburg, Penn., U. S., 25th February, 1887; 5 years.

Claim.—1st. The combination, in a combined barrel stand and counter support of the base-plate A, tubular standard C, standard D, clasp F, uprights B, clasp K, hooks M, bearing plate *h* having the perforated prongs *m*, set screw *r*, and tubular washers *p*, substantially as described 2nd. The combination, in a combined barrel stand and counter support, of the base-plate A, the tubular standard C, suitable supports for the barrels attached to said standard, the receptacle *g*, the standard D adapted to fit within standard C, the bearing plate *h* having perforated prongs *m*, and the tubular washers *p*, substantially as described. 3rd. A combined barrel stand and counter support consisting of the base-plate A having the groove or gutter *a* and sockets *c*, the oblong projection *b*, the tubular standard *c* having the cup *g*, the clasp F, uprights B, having pintles *d*, *d*1, and hooks E, the perforated clasp K, hooks M, standard D, perforated pronged plate *h*, set screw *r*, and tubular washer *p*, substantially as described. 4th. The combination, in a barrel stand, of the base-plate A, the tubular standard C, having the cup *g*, the clasps F, K, the hooks M, and the upright E having the pintles *d*, *d*1, and hooks E, substantially as described. 5th. In a counter support, the combination of the base-plate A having groove *a*, the tubular standard C having the cup *g*, the standard D, set screw *r*, bearing plate *h* having the perforated prongs *m* and plain side *n*, and the tubular washers *p* adapted to rest on the top of standard C, substantially as described. 6th. The combination, in a barrel stand, of the uprights E having pintles *d*, *d*1, and the tapering hooks E spreading from each other toward their extremities, and having their upper surface bevelled substantially as described.

No. 26,066. Process of Increasing Power and Saving Fuel in Steam Boilers and Engines. (*Procédé pour augmenter la puissance des machines à vapeur et économiser le Combustible.*)

William A. Morrison, Cambridge, Mass., U.S., 25th February, 1887; 5 years.

Claim.—1st. The process of increasing the power of steam under pressure, and of saving fuel for power purposes, which consists in gradually introducing into said steam small quantities of any liquid which vaporizes at a heat equal to or less than that of said steam, and in using the expansive force of the mixture of vapors thusformed to generate power, substantially as described. 2nd. The process herein described of gradually introducing small quantities of petroleum into steam under pressure, and of using the expansive force of the mixture of steam and petroleum vapor thus formed to generate power, as and for the purpose specified. 3rd. The process of gradually introducing small quantities of petroleum, or its vaporizing products, into steam to form a mixture with said steam, to increase the expansive force of said steam, substantially as described for the purpose specified.

No. 26,067. Medicated Electric Belt.

(*Ceinture électrique médicale.*)

William T. Baer and James F. Cummings, Detroit, Mich., U. S., 26th February, 1887; 5 years.

Claim.—1st. A medicated electric belt, provided on its inner surface with the stars or plates *a* and *a*1, and being secured thereto by means of the spur *d* and plates *b* and *b*1, as herein specified. 2nd. An electric belt in which the plates *b* and *b*1 are connected by means of a wire or band, as shown, by the connections *u* and *w*, *w*1, *w*11, *w*111, and *w*1111, as and for the purpose herein specified. 3rd. An electric belt in which the wire *w* connects with the wires *z*, said wires connecting with the buckle E and B, illet S, substantially as herewith set forth. 4th. An electric belt provided with a detachable buckle end, for the purposes of controlling the electric current, as herein set forth.

No. 26,068. Oliver. (*Découpoir.*)

Artemus Welsh and Elmer Welsh, Scottdale, Penn., U.S., 26th February, 1887; 5 years.

Claim.—1st. In an oliver, the rock arm L, combined with the hammer adjustable on the arm in an arc of a circle, for the purpose set forth. 2nd. In an oliver, the combination of the rocking arm L, and the hammer pivoted to the said arm, and means for clamping the hammer rigidly to the arm, for the purpose set forth substantially as described. 3rd. The combination, in an oliver, of the rocking arm L having the plate or web N, provided with the curved slot O, the hammer pivoted to the rocking arm, and the clamping bolt extending through the curved slot and secured to the hammer, for the purpose set forth substantially as described. 4th. In combination, with the rock arm L carrying the hammer, to shaft K to which the rock arm is connected, the spring M connected to the shaft K to poise or balance the rock arm, and the treadle to work the shaft K and force the rock arm down, as set forth.

No. 26,069. Manufacture of Artificial Copals. (*Fabrication de copal artificiel.*)

Eugen Shaal, Fenerbach, near Stattgard, Germany, 26th February, 1887; 5 years.

Claim.—1st. The method of preparing artificial copals (resin and ethers) which may replace the natural copals in the manufacture of lakes, these artificial copals are produced by uniting every kind of resin acids with alcohols, phenols, and carbohydrates, or other hydroxyl containing derivates under removal of the water. 2nd. The manufacture of lakes and varnishes from artificial copals, by treating the latter in the same manner as natural copals with volatile or fatty oils carbohydrates or alcohols and other solvents.

No. 26,070. White Pigment. (*Pigment blanc.*)

Joseph B. Freeman, London. Eng., 26th February, 1887; 5 years.

Claim—1st. The combination, or incorporation together of lead sulphate, "zinc white," (zinc oxide or zinc sulphide, or a mixture of the two), and of barium sulphate to constitute a white pigment, as specified. 2nd. The manufacture of a white pigment, by incorporating together by pressure and friction produced by grinding a mixture of lead sulphate "zinc white" (zinc oxide or zinc sulphide or a mixture of the two), and barium sulphate, substantially as herein specified. 3rd, The manufacture of a white pigment by incorporating together by pressure and friction produced by grinding in a dry state a mixture of lead sulphate, "zinc white" (zinc oxide or zinc sulphide, or a mixture of the two) and barium sulphate in about the proportions substantially as herein specified.

No. 26,071. Non-Conducting Covering or Jacket and Composition for Steam Pipes, etc. (*Couverture ou Chemise Mauvais Conducteur et Composition pour Tuyaux de Vapeur, etc.*)

Hiram M. Hanmore, Philadelphia, Penn., U.S., 26th February, 1887; 5 years.

Claim.—1st. A non-conducting covering or jacket, composed of moulded tiles or sections of a composition, which includes, as its non-conductive element, about eighty-five per centum of carbonate of or calcined magnesia, substantially as herein described. 2nd. A non-conducting covering or jacket, composed of moulded tiles or sections of a composition, which includes about eighty-five per centum of carbonate of or calcined magnesia, and which also includes about ten per centum of fibrous material to bind the magnesia together, the magnesia forming of itself the principal non-conducting element of the composition, substantially as herein described. 3rd. The non-conducting composition herein described, consisting of about eighty-five per centum of carbonate of or calcined magnesia, which forms of itself the principal non-conducting element of the composition, and about ten per centum of asbestos fibre, sufficient to bind the magnesia together, as herein set forth.

No. 26,072. Excavator. (*Fouilleur.*)

Cyrus Howard, Pittsburg, Penn., U.S., 26th February, 1887; 5 years.

Claim.—1st. The combination of two or more wheels journalled in an excavator frame, chains mounted on the said wheels, a guide-rail located nearly parallel with the chains, and a series of scoops pivoted at their upper edges to the chain, and provided each with a shoe or roller to engage the said rail, the relative position of the rail, the chains, the pivotal attachments of the scoops, and the shoe or roller being such as described, whereby the scoops are carried with their bottoms slanting rearward with the edge of the bottom dragging on the ground while gathering earth, for the purpose specified. 2nd. An excavator scoop, hung by the upper edge of its back with its bottom slanting rearward to its edge, and provided with sides having curved edges extending from the said upper edge of the said rear edge, and curved as low as the latter, substantially as shown and described. 3rd. The combination of two or more wheels journalled in an excavator frame, chains passing around the wheels, scoops attached to the chains in position to carry their bottoms nearly radially around the wheels, and a spout slanting upward and away from the machine, nearly tangent to one of said wheels in the path of the delivery of the said scoops, substantially as shown and described, whereby earth thrown loose in the air by the scoops will be guided, as described. 4th. The combination of two or more wheels, journalled on an excavator frame, chains passing around the wheels, scoops pivoted at their upper edges to the said chains and elastic connections between adjacent scoops, substantially as shown and described.

No. 26,073. Washing Machine. (*Laveuse.*)

James W. Wilkinson and Charles McCall, St. Marys, Ont., 26th February, 1887; 5 years.

Claim.—1st. The combination of the handles *b*, with the corrugated or notched board J, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the spring *c*, with the cross-bar *e*, and the handles *b*, substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the standards *f*, and grooved wood *g*, with tub *a*, substantially as and for the purposes hereinbefore set forth. 4th The combination of the cross-bar *e* and rollers *h*, attached with the tub *a* by means of slot *i*, substantially as and for the purposes hereinbefore set forth. 5th. The combination of the handles *b*, with *c*, *e* and *f* attached thereto, with the rollers K, substantially as and for the purposes hereinbefore set forth.

No. 26,074. Machine for Lifting Railway Tracks. (*Machine à Lever les Voies de Chemins de Fer.*)

Gaven Rainnie, Saint John, N.B., 26th February, 1887; years.

Claim.—1st. The combination of cast-iron frame A, the ratchet-teeth *a*, *a*, and the slots F, F, and F_1, F_1, with common claw bar D, pall C, C, pin E, E and the steel pin G, used in conjunction substantially as and for the purpose hereinbefore set forth. 2nd. The combination of iron frame A, and oval top H, used in conjunction substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the iron frame A, and handle I, substantially as and for the purpose hereinbefore set forth.

No. 26,075. Waggon Tongue Tip. (*Embrassure de Timon de Voiture.*)

Henry Dunning, Wellington, Ont., 26th February, 1887; 5 years.

Claim.—A pole-tip, consisting of the strap A, provided with an eye C, having a break F, strap D, having a plain end to contract the break, and an eyelet G having a broken circumference H, and fitting within the eye, whereby a concentric movement of the eyelet will open and close the break in the eye, and admit and retain the neck-yoke ring, as set forth.

No. 26,076. Folding Canopy Top for Carriages. (*Courverture en Dais Brisé pour Voitures.*)

Roswell F. Krause. Chicago, Ill., U. S., 26th February, 1887; 5 years.

Claim.—An improvement in folding canopy tops for carriages, consisting of the two-part top C, D, hinged together at J, and combined with a suitable lock L, with the long braces E jointed to the goose neck Q, and to the back portion C of the top at I, and the upper brace H jointed to the brace E at O, and the compound brace F, T. G jointed to the back side of the brace E at N, and to the back arm P, as and for the purpose specified.

No. 26,077. Nosing or Winding on Motion for Self-Actuating Spinning Mules and Twiners. (*Bobineuse pour Mule-Jenny à Filer et Retordre Automatique.*)

James Carter, Stalybridge (assignee of Richard Leach, Oldham,) Eng., 26th February, 1887; 5 years.

Claim.—1st. The combination, with the connected parts, of the ordinary radial arm *d* and quadrant *b*, winding on chain *e*, and shaper bar *g*, of the arm *h* and stud e^1 carried by it, the chain *i*, scroll *k*, ratchet *l* and pulley *m*, the parts *k*, *l* and *m* being connected together and rotating on a stud attached to the quadrant *b*, the pawl *q* acting on the ratchet *l*, the finger *t*, guides *s* and *o* for the chain *n*, and the adjustable fixing *p* upon the shaper rod *g*, all arranged and operating substantially as and for the purpose hereinbefore described and illustrated by Figs. 1 and 3. 2nd. The combination, with the parts of the ordinary radial arm *d*, and quadrant *b*, winding-on chain *e* and shaper bar *g*, of the arm *h* and stud e^1 carried by it, the chain *i*, scroll *k*, ratchet *l* and pulley *m*, the parts *k*, *l*, and *m* being connected together and rotating on a stud carried on a bracket *r* from the framing, the pawl *q* acting upon the ratchet *l*, the chain *n*, guides *o*, the flanges or projections b^1 secured upon the quadrant *b* to act upon the chain *n*, and the adjustable fixing *p* upon the shaper rod *g*, all operating substantially as and for the purpose hereinbefore described and illustrated by Figs. 2 and 3 of the drawings. 3rd. The combination of a chain *n*, or its equivalents, connected with the shaper mechanism and with the pulley cam or snail, or their equivalents, a ratchet and pawl, or their equivalents, and a chain *i*, substantially as and for the purpose hereinbefore described and illustrated by the drawings. 4th. The combination of a chain *n*, or its equivalent, connected with the shaper mechanism and with the pulley cam or snail, or their equivalents, a ratchet and pawl, or their equivalents, a chain *i* and lever *h*, substantially as and for the purpose hereinbefore described and illustrated by the drawings. 5th. The arrangement and combination of the mechanism, where the winding-on chain operates upon an ordinary cylindrical winding-on drum, so that the strain of the winding-on chain will come upon the ratchet and pawl, or its equivalent, and so that the connection going to the copping rail will act to turn the ratchet, when the quadrant is going out, substantially as hereinbefore described and illustrated by the drawings.

No. 26,078. Process of Decorating Walls, Ceilings, etc. (*Procédé pour Orner les Murs, Plafonds, etc.*)

Henry McDonnell, John J. Mallon and George W. Clark, Jacksonville, Ill., U.S., 28th February, 1887; 4 years.

Claim.—The process of forming and applying an unbroken covering to walls or ceilings, or other surfaces, which consists in separating the paper into pieces of convenient size for handling, reducing said pieces of paper to a pulpy condition by soaking in liquid, impregnating or coating the pulpy substance with an adhesive mixture, and while it is soft and pliable spreading it on the walls, ceiling, or other surfaces, and working it into configurations, as desired, by the hands or hand-tools, so as to form a continuous and unbroken sheet, and then coloring and beautifying the same, substantially as described.

No. 26,079. Steam Pipe Connection between Railway Cars. (*Joint de Tuyau de Vapeur entre les Chars de Chemins de Fer.*)

Julius R. Drodzewski and John Kolb, Erie, Penn., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination in steam-pipe connections between railway cars, of flexible coils of pipe, one of the ends of which coils is adapted to be connected to the heating or steam-conducting pipes of the cars, and the others to pipes extending to a coupling-joint between the ends of the cars, substantially as and for the purpose set forth. 2nd. In steam pipe connections between railway cars, the combination of a coil of pipe, one end of which communicates with the heating pipes of the car, and the other with pipe extending to the coupling joint, with a telescopic joint in said connecting pipe between the coil and the coupling joint, substantially as and for the purpose set forth. 3rd. In steam pipe connections between railway cars, the combination of a coupling joint F, telescopic joints G and G_1 and the connecting pipes B and B_1, with the coils C and C_1, substantially as and for the purpose set forth.

No. 26,080. Harrow. (*Herse.*)

Riley Cox, Boise City, I.T. U.S., 28th February, 1887; 5 years.

Claim.—1st. In a sulky harrow, the combination of the sulky, provided with a frame extended forwardly and inclined downward from its axle, the harrow, the connections between said harrow and frame, and means for elevating said harrow with relation to its sulky, substantially as set forth. 2nd. A harrow, comprising a section having its front end bar or beam arranged at an angle to its length, and a second section having its front beam or bar arranged at an angle to its length, and lapped against the inner side bar of the first section, and having its outerside bar extended forward and lapped against the front bar or beam of the first section, and a hinge connection between said sections, substantially as set forth. 3rd. A harrow, formed with two sections fitted and hinged together, one of said sections having its front beam arranged at an angle to the line of draft, and the other section being provided with a beam extended forward and lapped in front of the other section, substantially as set forth.

No. 26,081 Engine Valve. (*Soupape de Machine.*)

James Ferguson, Bridgewater, Mass., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination of the steam engine cylinder A^1, provided with steam ports *a*, *a*, the valve cylinder E placed within the steam chest, provided with a longitudinal bore having passages *e*, *e* formed within it, each of which expands transversely outward from its shallowest part on one side of the bore adjacent to strut e^2 around the same, and leads into its steam port on the other side, and has its opening into such bore unobstructed in the path of the steam entering it therefrom laterally, and the balanced valve V formed with a connecting stem v^1, and two heads *v*, *v*, of the length to cover said passages, and uncover the same simultaneously by its reciprocation, substantially as described. 2nd. The combination of the steam engine cylinder A^1, provided with steam ports *a*, *a*, and exhaust port, the valve cylinder E placed within the steam chest, provided with a longitudinal bore having passages *e*, *e*, and an intermediate passage e^4 formed within it, each of which expands transversely outward from its shallowest part on one side of the bore, and adjacent to its strut around the same, and leads into its steam port on the other side, and has its opening into such bore unobstructed in the path of the steam entering it therefrom laterally, and the balanced valve V formed with a connecting stem v^1 and two heads *v*, *v*, of the length to cover the passages *e*, *e*, and uncover the same simultaneously by its reciprocation, substantially as described. 3rd. The combination of the head *v*, of the balanced valve V, the expansible packing ring *r* surrounding the same, provided with slot r^2, the segment r^3 cover-

ing the ends of said slot, the valve-cylinder E provided with the steam-passage *e* surrounding the bore of the same, and leading into steam-port *a*, and having a bridging strut e^2, covering the slot r^2 in said packing ring as it reciprocates across said steam passage, substantially as described. 4th. The combination of head *v*, of balanced valve V, the expansible packing ring *r*, the valve-cylinder E provided with steam passage *e* surrounding the bore of the same and having one or more bridging struts e^2 across said steam passage, and in contact with said packing ring formed of softer metal than the body of said cylinder, substantially as described. 5th. The combination of the valve-cylinder, the heed *v*, of balanced valve V, the expansible packing ring *r* adapted to adjust itself automatically to the bore of the cylinder, and provided with a slot *r* through the same, and the segment r^3 formed with the flanges r^1, r^1 overlapping the ends of said slot, and itself underlapping the ring *r* circumferentially beyond said flanges, with a steam-tight automatically adjusting joint at one or both ends, substantially as described. 6th. The combination of the valve piston head, provided with groove v^2 having flat radial opposite faces, the packing ring *r* adapted to adjust itself constantly and automatically to the bore of the valve cylinner, and provided with the transversely divided flanges r^1, r^1, extending radially inward from the edges thereof, having their outer faces bearing against said radial faces, of groove v^2 and the valve-cylinder E, having steam passage *e* around and opening into the bore of the same internally in position to be crossed by said packing ring, as it reciprocates back and forth, substantially as described. 7th. The combination of the steam engine cylinder A^1, provided with ports *a*, *a*, the steam chest F and the valve cylinder E, provided with bolts *g*, *g*, and set-screws g^1, g^1 adapted to adjust and secure the latter inside the steam-chest, against the end thrust of the valve-piston, substantially as described.

No. 26,082. Letter Envelope Sheet.

(Papier à lettre enveloppe.)

Thomas W. Terry, Baltimore, Md., U. S., 28th February, 1887; 5 years.

Claim.—1st. A letter envelope-sheet provided with a flap having curved sides, and inner concaved corners that merged with the adjacent straight edge of the sheet without forming sharp angles, said flap being provided with a transverse line of perforations near but not on the line of junction between the sheet and flap, substantially as described. 2nd. A letter envelope-sheet provided with a flap having curved sides, and inner concaved corners that merge with the adjacent transverse straight edge of the sheet-body, said flap having a transverse line of perforations above or beyond its junction with the sheet-body to indicate a line of fold, and the body of said sheet being provided on opposite sides with vertical lines differing in color from the sheet and from each other to indicate the distance to which the opposite side edges of the sheet-body are to be folded, the back of said sheet and its flap being provided with a postage-stamp that is disposed across the transverse line of perforations, substantially as described.

No. 26,083. Brake for Children's Carriages.

(Frein pour voitures d'enfant.)

Wilson Haus, Meadville, Penn., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination, in a brake for children's carriages, of a brake-bar A held to slide on the carriage-axle, and provided with an angular slot F forming a locking shoulder f^2, a bolt G entering slot F, and a clutch-plate B fixed to the carriage-wheel and having notches *b* to which the bar A is adapted, substantially as herein set forth. 2nd. The combination in a brake for children's carriages, of a brake-bar A having a slot C, and an angular slot F, bolts as at D, G, entering said slots and holding the bar A to the carriage-axle, and a clutch-plate B fixed to the carriage-wheel and having notches *b* to which the bar A is adapted, substantially as herein set forth. 3rd. In a brake for children's carriages, the brake-bar A made with a slot C, an angular slot F, and a pendant arm H, in combination with bolts D, G, and a clutch-plate B fixed to the carriage-wheel and having notches *b* to which the bar A is adapted, substantially as herein shown and described. 4th. A brake for children's carriages operating either by the hand or by the foot of the attendant. 5th. The combination of the brake-bar having a locking slot, a bolt entering said slot, and a clutch on the hub of the carriage-wheel, substantially as shown and described

No. 26,084. Expansible Connecting Pin for Moving parts of Machinery of any Kind. *(Clavette à expansion pour mouvoir des parties de machinerie quelconque.)*

Harry M. Montgomery, Boston, Mass., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination, with a connecting rod and its coacting part, of an expansible pin for joining them together, consisting of a separate and independent split sleeve received solely within the member which sustains the wear, and means for expanding said sleeve to compensate for the wear, substantially as and for the purpose set forth. 2nd. An expansible connecting-pin consisting of the separate and independent split sleeve B, in combination with the wedge C, and means for adjusting the same, said sleeve being supported solely by said wedge, and capable of increased expansion from time to time for the purpose of taking up wear, substantially as shown and described. 3rd. The combination, with a supporting-plate, of an expansible connecting-pin consisting of an expansible sleeve B abutting against but not entering said plate, in combination with suitable means for expanding it, substantially as and for the purpose set forth. 4th. The combination, with a supporting-plate, of an expansible connecting-pin consisting of the split sleeve B abutting against but not entering said plate, in combination with the wedge C, and means for adjusting said wedge, substantially as and for the purpose set forth. 5th. The combination, with a supporting-plate, of an expansible sleeve B, and an adjustable wedge C having one or more frustro-conical portions b^2, b_3, substantially as and for the purpose set forth. 6th. The combination, with a supporting-plate having an opening therein, of an expansible sleeve B abutting against but not entering said plate, and an adjustable wedge C having a cylindrical end portion fitting the opening in said plate, substantially as and for the purpose set forth. 7th. The combination, with a supporting-plate, of an expansible sleeve B, an adjustable wedge C, and means for locking said wedge to the supporting-plate, substantially as and for the purpose set forth. 8th. The combination, with the plates A, A^1, of the split sleeve B, the split hollow wedge C, the tapering centre-pin D, and means for adjusting said wedge and said pin, substantially as and for the purpose set forth. 9th. The combination, with plates A, A^1, of the split sleeve B, the split hollow adjustable wedge C, the adjustable tapering centre-pin D, and the key E, substantially as and for the purpose set forth.

No. 26,085. Snow Plough. *(Charrue à neige.)*

Cyrus Howard, Pittsburgh, Penn., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination, with a railway-car, of a series of scoops pivoted on chains mounted on rollers journalled in bearings in the car, which bearings are nearly parallel with the line of the car, the lower two of the said rollers being located near the sides of the car, and the next roller in the line of travel of the chain located above and farther out than the vertical plane of the lower roller on the delivery side of the car, and means for revolving the chains, substantially as shown and described, whereby the car advancing in snow will scrape the snow across the road and form a slanting bank at the side thereof, as specified. 2nd. The combination of a car, a series of scoops, chains therefor, wheels for the chains, and scoops to run on transversely to the car, and a scraper fixed vertically across the car to the rear of the scoops, substantially as shown and described. 3rd. The combination of a car, a series of scoops pivoted at their upper rear edges on chains, wheels to carry the chains journalled on the car at the angles of a rhomboid, one of whose sides is parallel with the road-bed and one of whose opposite angles extends over the side of the car, studs or rollers projecting from the sides of the scoops below their pivotal points and near their rear sides, and guide-rails for the rollers attached to the car in planes parallel with the said chains, substantially as shown and described. 4th. The combination of the wheels D, D^1, D^2, D^3 journalled longitudinally in a car, the wheel D^1 being above the wheel D and outside of the vertical plane thereof, chains C mounted on said wheel, snow scoops B pivoted at their upper rear edges to the chains, shoes or rollers H on the rear sides of the scoops below their pivots and near their lower edges, and the guide rails J fixed below the path of the chains from D^3 to D, and fixed within the path of the chains from D to D^1, substantially as shown and described, whereby the scoops are held at right angles to the chains while gathering snow, and whereby the said scoops are permitted to slant backward from D to D^1 for the purpose of discharging the snow, substantially as shown and described. 5th. The combination, with a car, and means substantially as described for moving snow to one side thereof, of a roller journalled beside the car on an axis projecting laterally therefrom, and guides for the axis to rise and fall in, substantially as shown and described. 6th. The combination of a car, an axle projecting over the side thereof transversely thereto, a pivot for the axle parallel with the body of the car, and a roller journalled on the projecting end of the axle, substantially as shown and described, whereby the said roller may be rolled upon snow and be permitted to rise and fall over an uneven path, as set forth. 7th. The combination in a railway snow-plough, of a snow-elevator, substantially as described, and a car attached to the rear of the elevator, provided with inward-slanting sides which project at their upper edges beyond the line of travel of car-bodies, substantially as shown and described. 8th. The combination, in a railway snow-plough, of a snow-elevator, substantially as described, and a series of cars attached to the rear thereof, each car being provided with inward-slanting sides which project at their tops, the sides and bottoms of adjacent cars overlapping each other, substantially as shown and described.

No. 26,086. Bilge Water Pump.

(Pompe pour l'eau dans les mailles.)

Alonzo Cook, St. Paul, Minn., U.S., 28th February, 1887; 5 years.

Claim.—1st. A bilge water pump consisting of the shell *a* secured n the bottom of the vessel having on its interior face, the shoulders f^2, and near its lower end screen or strainer e^1 hinged in the centre of said shell *a*, the valves *f* held open by the block f^1 and adapted to shut up against the shoulder f^2, the lower pipe a^2 secured to the lower end of shell *a*, and having its rear side cut off at an angle, circular brace *c* having perforations c^4, c^5, and on its free end an arm *d*, one end secured in the lower end and front side of pipe a^2, and its free end working through opening a^1 in the bottom of the vessel through collar c^2 and sleeve c^3, bar d^2, one end secured to the bottom of the vessel, its arm d^1 adapted to hold the arm *d* of brace *c*, substantially as shown and described. 2nd. A bilge water pump consisting of the shell *a* secured in the bottom of the vessel, having on its interior face shoulder f^2, and near its lower end strainer e^1 and hinged in its centre valves *f* held open by block f^1, and adapted to shut up against said shoulder f^2, lower pipe a^2 fitted to the lower end of shell *a*, circular brace *c*, having one end secured in the lower end, and the front side of pipe a^2, its other end working through opening e^1 in the bottom of the vessel, and sleeve e^3 provided with suitable stuffing arm *d* adapted to fit over arm d^1 of bar d^2, or other equivalent fastening, substantially as shown and described.

No. 26,087. Tongue Support for Vehicles.

(Chambrière de timon de voiture.)

Jacob H. Cassiday and Benjamin H. Oldfield, Leavenworth, Ks., U. S., 28th February, 1887: 5 years.

Claim.—In a tongue-support, a suitable spring pivoted at its front end to the tongue of the vehicle, in combination with a stirrup, pivoted

to the spring terminating at its upper ends in suitable handles, and having adjusting-nuts carrying fingers to hook over the transverse rod which pivots the tongue, substantially as and for the purpose set forth.

No. 26,088. Cow-Milker.

(*Machine à traire les vaches.*)

Albert A. Durand, New York, N. Y., U. S., 28th February, 1887; 5 years.

Claim.—1st. In a cow-milker, the combination, with a number of pump chambers or cups and diaphragms, of levers pivoted to swing in planes transverse to the plane in which the pumps are arranged, a fixed handle attached to the apparatus, a pivoted lever-handle arranged to move in a plane parallel to a plane in which the pumps are arranged, and connections between the pivoted lever-handle and the said levers, by which the said levers will be caused to operate the diaphragms with a direct pull, substantially as herein described. 2nd. In a cow-milker, the combination, with a number of pump chambers or cups, provided with teat-sockets and diaphragms fitting said chambers or cups, of bell-crank levers E pivoted to swing in planes transverse to the plane in which the pumps are arranged, a fixed handle D attached to the apparatus, and a movable handle D^1 and connection D^2, whereby the several bell-crank levers will be operated to move the diaphragms with which they are connected, substantially as herein described.

No. 26,089. Broom-Holder. (*Porte-balai.*)

George H. Ellis, Wellington, Ont., 28th February, 1887; 5 years.

Claim.—1st. A broom hanger or holder consisting of the bracket L, and a ring 3 having a exterior radial arm 4 pivoted to said bracket, as set forth. 2nd. A broom holder or hanger, consisting of bracket I, ring 3, a deepened side E, and an arm 4 pivoted to said bracket by a pin 5, substantially as set forth.

No. 26,090. Rubber Shoe. (*Soulier de caoutchouc.*)

Riley E. Cannon, Nicholasville, Ky., U. S., 28th February, 1887; 5 years.

Claim.—The combination, with a rubber shoe, of the leather welt extending under the heel portion and around the lower edges of the sides thereof, and the lower leather sheet, the whole being secured together, substantially as and for the purpose specified.

No. 26,091. Sliding Gate. (*Barrière en coulisse.*)

Daniel E. James and Edward Lasenby, Compton, Cal., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination, with the posts and the track-bar supported thereon, of the gate having the hangers carrying the grooved rollers, the cross-beam, the grooved pulleys arranged on the end posts, and the cross-beam, as described, the operating cords and the grooved pulleys journalled in the weighted shells, substantially as and for the purpose set forth. 2nd. The combination, with the posts and the track-bar supported thereon, of the gate having the hangers carrying the grooved rollers, the cross-beam having the side and end-pieces, the grooved pulleys arranged on the end-posts, and the cross-beam, as described, the longitudinal casing, the operating-cords and the grooved pulleys journalled in the weighted shells, all constructed and arranged to operate in the manner and for the purpose herein set forth.

No. 26,092. Pot Scraper. (*Grattoir de Chaudron.*)

James T. Desmarest, Englewood, N.J., U.S., 28th February, 1887; 5 years.

Clasm.—1st. The pot-scraper comprising the base plate, the handles on the upper side thereof, the posts or standards depending from the corners and the centre of the base plate, and the scraping blades D having the rounded lower edges and connected centrally to the lower ends of the posts or standards, substantially as described. 2nd. The combination of the plate A, having the handles on one side, and the standards or posts projecting from the opposite side, and the scraping blades pivoted to the said standards or posts for the purpose set forth, substantially as described.

No. 26,093. Potato-Digger.

(*Scarificateur à patates.*)

Hiram D. Binkley, Dundas, Ont., 28th February, 1887; 5 years.

Claim—1st. In a machine for digging potatoes, the combination of a digging blade or share, and picker or separator shaft arranged behind said share and transversely thereto, said picker or separator shaft revolving towards the rear of the machine, as described, and having fingers or prongs working approximately on a level with said digging blade, substantially as and for the purpose specified. 2nd In a machine for digging potatoes, the combination of a digging blade or share, arranged centrally at the forward end of the machine, separating bars running back from said share, and one or more transverse pickershafts revolving underneath said bars, and having fingers or prongs projecting up between same, substantially in the manner and for the purpose specified. 3rd. In a machine for digging potatoes, the combination, with a digging blade and separating bars running back from said blade, of an elevator carrier or traveller situated underneath said bars, and carrying fingers projecting up between same, said elevator being adapted to deliver the potatoes at the rear of the machine, substantially in the manner and for the purpose specified. 4th. The cutter *a*, attached to or cast in one with the centre of the share or digging blade E, substantially as and for the purpose specified. 5th. In combination with the carrier J, and share E, the bars L attached thereto and hinged at their rear ends, substantially as and for the purpose specified. 6th. The combination, with the share or digging blade E, and its bars I, of one or more revolving shafts provided with short fingers or prongs *b*, made to operate between the steel bars I and driven by suitable mechanism, substantially as and for the purpose specified. 7th. The combination, with the frame C, share E, bars I and separators, of the short carrier H, arranged to operate substantially as and for the purpose specified. 8th. In combination, with the share E and bars I, of the longitudinal bars *e*, of the rear elevator J made to run in a continuous line with said bars I of the share or digging blade E, substantially as and for the purpose specified. 9th. The combination of the carrier J, receptacle box L, standard *r*, wheel *s*, carrier H, share E and picker shafts, substantially as specified. 10th. In combination with the tongue D, frame C, share E, carrier J, receptacle box L, of a lever O attached to tongue and connecting mechanism to the said box for dumping it, substantially as specified. 11th. The combination of the frame C, share E, wheels A, tongue D, and lever P attached to tongue for elevating and depressing the share as required, substantially as specified. 12th. The combination of the frame C, share E, wheels A, tongue D and lever Q attached to the tongue for swinging the frame and share from one side to the other, as specified.

No. 26,094. Thread Releaser for Sewing Machines. (*Lâche-fil pour machines à coudre.*)

William D. Smith, Stratford, Ont., 28th February, 1887; 5 years.

Claim.—1st. A thread-releaser R, formed with prongs P, P, substantially as and for the purpose specified. 2nd. A thread-releaser R, formed with prongs P. P, in combination with and operated by the presser bar B, substantially as and for the purpose set forth. 3rd. A thread-releaser, in combination with and operated by the presser bar, for the purpose specified. 4th. A plate F formed with an aperture F^1, for the purpose set forth. 5th. A plate E, formed with a slot E^1 and returned end E^2, for the purpose set forth. 6th. A thread-releaser R, plates E and F, and lever I, in combination with and operated by the presser bar B, for the purpose set forth. 7th. In combination, with a thread-releaser, a ring J formed with a slot J^1, and set screw J^2, for the purpose set forth. 8th. The jointed thread-releaser R^1, arm L, and ring or band J, in combination with and operated by the presser bar, for the purpose set forth.

No. 26,095. Saw Set. (*Tourne-gauche.*)

Henry Flater and Anthony B. Strather, Findlay, Ohio, U. S., 28th February, 1887; 5 years.

Claim.—1st. In a saw set, the combination of a base having the anvil and the hammer arm, the saw-supporting arm pivoted to the base at one end, and having the depending perforated leg, the horizontal fixed arm on the base with the ears between which the leg is fitted, and a removable transverse pin passing through aligned openings in the ears and legs, substantially as described. 2nd. In a saw set, the combination, with the base having the transverse opening beneath the anvil thereof, of the shaft passing through the base and having the threaded and squared portions at one end, the fixed disk at one end of the shaft, the removable disk fitted on the squared part of the shaft, the guards carried by the fixed and removable disks, and the nut screwed on the shaft and bearing against the removable disk, substantially as described.

No. 26,096. Freight Car Door.

(*Porte de char à marchandises.*)

Perry Brown and Daniel E. Doherty, Louisville, Ky., U. S., 28th February, 1887: 5 years.

Claim.—1st. In a car-door, and as a means for securing such door in a suitable opening in the side or the car, the combination of the door B, bar G, brackets H and rail K, arranged and operating substantially as and for the purposes described. 2nd. The combination, with the car having rail K, rod J and brackets H, of the door B having bar G and supported when not in use by the chains I mounted loosely on said rod J, as set forth.

No. 26,097. Steam Engine. (*Machine à vapeur.*)

Joseph N. Prince, Joseph O. Prince, Lorette, John J. Haslett and James A. Moore, Winnipeg, Man., 28th February, 1887; 5 years.

Claim.—1st. In a steam engine, a series of parallelograms being jointed at their ends and intersections, and being susceptible of lengthening and shortening in their movements, as and for the purpose described. 2nd. The facility for enlarging in a nondetermined way the length of the radius of the crank, whereby the stroke of the said crank may be increased to a degree greater than the stroke of the piston, as and for the purpose described. 3rd. The combination with a steam engine, of the arms 4, 4^1 and said parallelograms, the latter being connected with the said arms and pitman and the crank-pin of the engine, as and for the purpose described.

No. 26,098. Grinding Disk. (*Disc à moudre.*)

Alfred S. Patterson and Peter Patterson, Whitby, Ont., (assignees of George Raymond and Albert Raymond, Chicago, Ill., U. S.), 28th February, 1887; 5 years.

Claim.—1st. The grinding disk, constructed with the feeding furrows A which varnish at or near the periphery, and with the transverse grinding teeth *b* and the ribs a^1, the latter between the alternate furrows being reduced below the general surface at their inner end, as described. 2nd. The grinding disk having the feed furrows *a* deepest at the forward side, and the substantially radial grinding teeth crossing said furrows from the base to the crest, whereby the rear ends of said teeth are exposed to act on the material passing over them. 3rd. The grinding disk provided with the vanishing feed furrows, having transverse teeth therein and with the intermediate ribs *c*, provided with transverse grinding teeth *b*, the ribs having their crests level, or substantially level with the periphery of the disk from their inner to their outer ends. 8th. The grinding disk, provided with the vanishing feed furrows, and the transverse grinding teeth therein, and also with the peripheral series of teeth having

inclined faces on the forward side, whereby the material is first subjected to a cutting and subsequently to a crushing action. 5th. The grinding disk, provided with the feed furrows vanishing at the periphery, the furrows being alternately provided with cutting and with crushing teeth extending transversely thereof. 6th. The grinding disk, provided with the feed furrows vanishing at the periphery, the alternate furrows being provided with cutting and with crushing teeth extending transversely thereof, as shown and described.

No. 26,099. Force Pump. (*Pompe foulante.*)

Jay W. Powers, Winnetka, Ill., U. S., and Charles Ranger, Oil Springs, Ont., 28th February, 1887; 5 years.

Claim—1st. In a force pump, the combination of the cylinder A having the centrally located suction and discharge pipes D and E, with the cylinder heads B and C, the piston rod F, and the cut-off piston head G, substantially as described. 2nd. The piston head G, consisting of the shell H, and the core I, substantially as described and for the purpose specified. 3rd. In the piston G, the shell H having the semi-annular chambers *e* and *f*, the annular packings *c*, *c*, *c*, the longitudinal packing *h* and the ports *i*, *j*, *k* and *l*, and in combination therewith the core I, substantially as described. 4th. In the piston head G, the core I having the wall *q*, and the ports *m*, *n*, *o* and *p*, and in combination therewith the shell H, substantially as described.

No. 26,100. Centrifugal Pump.

(*Pompe à force centrifuge.*)

Charles H. Hawley, (assignee of Eli J. Hawley), Manchester, Vt., U. S., 28th February, 1887; 5 years.

Claim.—1st. A centrifugal pump in whose journal are formed a contracted annular opening at the lower or inner end, an annular chamber larger in diameter than said opening above, and in communication therewith, and a groove on the inner side as a means for connecting said chamber with an inlet opening located near to the stuffing-box, substantially as described and for the purposes set forth. 2nd. A centrifugal pump in whose journal are formed a contracted annular opening at the lower or inner end, an annular chamber larger in diameter than said opening above and in communication therewith, and inlet opening in one side near its outer end, and a groove on the inner side connecting the annular chamber and the inlet-opening, substantially as described and for the purposes set forth. 3rd. A centrifugal pump in whose journal are formed a contracted annular opening in the lower or inner end, an annular chamber larger in diameter than said opening above and in communication therewith, and a groove extending the length of the journal above the chamber, the outer or upper end of the journal having a pipe screwed thereon, and said pipe having the stuffing-box fitted in its upper end, and having its inlet-opening formed in one side near to and below the stuffing-box, substantially as described and for the purposes set forth.

No. 26,101. Door Mat. (*Paillasson.*)

James Wilson, in trust, (assignee of William Smith), Toronto, Ont., 28th February, 1887; 5 years.

Claim.—1st. A wire mat composed of a series of rings A, held in a suitable frame, substantially as specified. 2nd. A wire mat, composed of a series of rings A, in combination with the frame B, inserted through the outer rings of the mat, and through lugs *b* formed in the plate C, substantially as and for the purpose specified. 3rd. A wire mat composed of a series of rings A, in combination with a frame B inserted through the outer rings of the mat, and through lugs *b* formed in the plates C, grooved to receive the bottom D, substantially as and for the purpose specified. 4th. A wire mat composed of a series of rings A, in combination with a frame B jointed at *a* and inserted through the outer rings of the mat and through lugs *b* formed in the plates C jointed at *d*, substantially as and for the purpose specified. 5th. A wire mat composed of a series of rings A connected to a bottom D having cocoa-matting E attached to it, substantially as and for the purpose specified.

No. 26,102. Cabinet or Case for Type Writers. (*Buffet de Graphotype.*)

Wyckoff, Seamans and Benedict, New York (assignees of William Horrocks, Ilion,) N.Y., U.S., 28th February, 1887; 5 years.

Claim.—1st. In combination with the case or cabinet A, the swinging shelf B connected to rear part of the case by the pivoted links *c*, and having its front edge connected to the case by the pivoted links *g*, or an equivalent device, whereby the front portion of the shelf is caused to move backwaod when its rear edge is depressed, and is brought forward over the rail I when raised to the proper position for operating the machine, substantially as and for the purpose set forth. 2nd. In combination with the case A, the shelf B, connected to the rear part of the case by pivoted links *c*, and its front edge supported by the pivoted links *g*, or equivalent devices, and the hinged lid D connected to the shelf B by means of the links *b* and *c*, substantially as shown and described. 3rd. The combination with case A, of the shelf B arranged to swing downward and backward with the contour balance or weight *o*, and the hinged lid D, said weight and lid both being connected to said shelf, and all being arranged to operate substantially as shown and described.

No. 26,103. Three Row Combination Corn Planter and Row Checker. (*Semoir à Blé d'Inde à Triple Lignes et Régulateur de Lignes Combinés.*)

The Skiles Corn Planter Company (assignee of Robert I Skiles), Denver, Col., U.S., 28th February, 1887; 5 years.

Claim.—1st. In a corn planter, the combination, with a rigid frame and tongue secured thereto, of a loose double-tree box or casting arranged to slide on the tongue, and chains and rods which connect said loose box with the rigid frame, substantially as and for the purpose specified. 2nd. In a three-row corn planter, the combination, with the rigid frame A, A_1, A_2 and tongue A_3 secured thereto, of the casting 8, having hook 8_1 and the draft rods and chains 9 and 10, substantially as and for the purposes specified. 3rd. In a corn planter or seeder, the combination, with a rigid frame having its axle and wheels, of a floating frame pivoted on the rear of the main frame, and having a power wheel and power shaft clutch and pinion devices on the power shaft of the floating frame, and tumbler shafts for actuating the feed mechanssm of the planter from the shaft of the floating frame, substantially as and for the purposes specified. 4th. In a combined corn planter and row checker, the combination of a main frame having its axle and wheels, an adjustable feed box frame, row-checkers and feed-devices mounted thereon, a rear pivoted or floating frame having a driving shaft, and driving wheel and driving mechanism for actuating the row checker and feed mechanism from the driving shaft of the floating frame, substantially as and for the purposes specified. 5th. The combination, with the main frame A, A_1, A_2, etc., having its wheels 64, 65, of three feed boxes and the row checkers carried by said frame, a pivoted or floating rear frame B, B_1, B_2, etc., having the driving wheel B^3, driving shaft 15, two sets of gears K, L, M and K_1, L_5, L_7, and the link belting and tumbler shafts for actuating the feed mechanism, and row checkers from the driving shaft 15 of the floating frame, substantially as and for the purposes specified. 6th. In a corn planter, the combination of a main rigid frame, having its axle and wheels, a vertically-adjustable feed box frame mounted thereon, a rear pivoted or floating frame having a driving shaft, and driving wheel and driving gear for actuating the feeding mechanism from the driving shaft of the floating frame, substantially as and for the purposes specified. 7th. In a corn planter or seeder, the combination, with a main frame of an adjustable feed box frame mounted thereon, and a series of feed boxes loosely mounted on the feed box frame, so as to have each its independent movement, substantially as and for the purposes specified. 8th. In a corn planter or seeder, the combination, with a main frame, of an adjustable feed box frame mounted thereon, a seaies of feed boxes loosely mounted on the feed box frame, so as to have each an independent movement, and row checkers journalled on the adjustable feed-box frame, substantially as and for the purposes specified. 9th. In a corn planter or seeder, the combination of a main frame adjustably mounted thereon, a rear pivoted or floating frame having a driving shaft and wheel, and driving mechanism for actuating the feed mechanism, substantially as and for the purposes specified. 10th. In a corn planter or seeder, the combination of a main frame, an adjustable feed box frame mounted thereon, a series of feed boxes mounted on the feed box frame, so as to have each its independent movement, a pivoted or floating rear frame having a driving shaft, and wheel and gearing for actuating the feed devices from the driving shaft of the floating frame, substantially as and for the purposes specified. 11th. In a corn planter or seeder, the combination of a main frame, an adjustable feed box frame mounted thereon, row checkers journalled in the adjustable feed box frame, a series of feed boxes loosely mounted on the feed box frame, so as to each have an independent movement, a rear pivoted or floating frame, having a driving shaft, and wheel and driving gear for actuating the feed mechanisms, and the row checkers from the driving shaft of the rear floating frame, substantially as and for the purposes specified. 12th. The combination, with the main frame A, A^1, A^2, of the adjustable feed box frame C, the levers 16, 16_1, 17, 17_1, rod 17_4 and hand lever 18_2, substantially as and for the purposes specified. 13th. The combination, with the main frame of the adjustable feed box frame, the levers 16, 16_1, 17, 17_1 and journals 18, 18_1, the rear pivoted or floating frame, the driving shaft 15, gear wheels K, K_1, and extensible tumbler shafts, having the universal joints X, X_1, with spline and key seat, the journol boxes 18, 18_1 being below and in advance of the universal joints X, X_1, substantially as and for the purposes specified. 14th. The combination, with the driving shaft 15, its sprocket wheels and link belts, and the row checkers actuated thereby, of the shaft H_5, the hand wheel T, sprocket wheel T_1 and its link belt, substantially as and for the purposes specified. 15th. The combination, with a feed box frame, a feed box loosely mounted thereon, so as to have a movement independent of the frame, a slide rod moving on the feed box frame, and a pawl rod having bearings on the feed box, of a loose connection between the slide rod and the pawl rod, such as the slotted casting 35, and the T-head of the pawl rod, substantially as and for the purposes specified. 16th. The combination, with feed cylinders 66, 67, and flirt valve or regulator W, of a pawl rod having reverse pawls for actuating the cylinders, and pendent tappets or fingers for actuating the flirt or regulator valve, substantially as and for the purposes specified. 17th. The combination, with a feed box frame, of a feed box loosely mounted on said frame, having eyes or boxes for the passage of rods, a series of rods, springs on said rods, which springs yieldingly support the feed box, and a shoe attached to the lower ends of said rods, substantially as and for the purposes specified. 18th. The combination, with a feed box having a socket or recess on the under side of its spout or dropper, and a shoe of a knife pivoted on the shoe, and having a tang or shank, which extends up and enters the recess on the under side of the dropper, substantially as and for the purposes specified.

No. 26,104. Hot Air Furnace. (*Calorifère à Air.*)

The J. F. Pease Furnace Company, Toronto, Ont. (assignee of J. F. Pease, Syracuse, N.Y., U.S.), 28th February, 1887; 5 years.

Claim.—1st. The combination, with the fire-pot and combustion chamber of segmental radiators, extending around the exterior of the combustion chamber and terminating at opposite sides of the latter, one of said radiators communicating at its ends with the combustion chamber, and the other radiator communicating at its ends with the first radiator and an exit flue connected with the last radiator, substantially as set forth. 2nd. The combination, with the fire-pot and combustion chamber, of two radiators surrounding the combustion chamber, one of said radiators communicating with the combustion chamber at one side of the circumference thereof, the other

radiator communicating with the first radiator at the opposite of the circumference of the combustion chamber, a direct exit-flue extended from the combustion chamber, an indirect exit flue extended from the second radiator to the direct exit flue, and a damper in one of said exit flues, substantially as set forth and shown. 3rd. In combination with the combustion chamber, and in closing casing, two radiators, arranged one above the other and surrounding the combustion chamber, one of said radiators extending around the front of the combustion chamber and communicating with the same at the rear, and the other radiator extending around the rear of the combustion chamber and communicating with the first of said radiators at the front, and provided with an exit flue at the rear, substantially as described and shown. 4th. In combination, with the combustion chamber C and casing D, the pipe P extending around the front portion of the combustion chamber and terminating at the rear of said chamber, and provided thereat with the pipes a, a, extending to the upper part of the combustion chamber, the pipe P^1 arranged below the pipe P and extending around the rear portion of the combustion chamber, pipes a^1, a^1 connecting the pipes P^1 with the pipe P at the front of the combustion chamber, cleaning flues c, c extending from the ends of the pipe P^1 through the casing outward, a cleaning flue C^1 extending from the centre of the pipe P through the casing outward, and the exit flue F^1 connected to the rear portion of the pipe P^1, all combined substantially as described and shown,

No. 26,105. Stuffing Box. (*Boîte à Garniture.*)

Alexander H. Clark, Fond du Lac, Wis., U.S., 28th February, 1887; 5 years.

Claim.—1st. In a stuffing box, the combination, with a male and female gland and a piston-rod extending centrally through the same, of a hollow longitudinally movable cylinder located within the female gland, and provided with openings extending through its walls, and channels extending from the outer ends of the openings to the edge in close proximity to the piston-rod, and flexible packing on the piston-rod within the movable cylinder, substantially as set forth. 2nd. In a stuffing-box, the combination, with a male and female gland, the latter having a conical-shaped seat on the end toward the cylinder, of a removable hollow cylinder located on the piston-rod within the female section, and provided with a conical-shaped end adapted to engage the said conical-shaped seat, and with a series of channels leading from the apex of the conical-shaped end on the outer surface of the cylinder to a series of openings through the walls of the movable cylinder, and flexible packing on the piston-rod within the movable cylinder, and on the end thereof, substantially as set forth. 3rd. In a stuffing-box, the combination with the male and female glands and the piston-rod with its packing, substantially as set forth, of the removable cylinder constructed in half sections and provided with the openings and channels, substantially as set forth.

No. 26,106. Construction of Iron Ships.
(*Construction des navires en fer.*)

Robert M. Fryers, Brooklyn N.Y., U.S., 28th February, 1887; 5 years.

Claim.—1st. A vessel constructed as herein described, with transverse plates arranged at intervals, and corresponding in size and shape with the cross-section of the vessel at the points at which they are placed, and extending entirely across and supporting both sides of the hulls and the decks. 2nd. A vessel constructed as herein described, with transverse plates arranged at intervals, and corresponding in size and shape with the cross-section of the vessel at the points at which they are placed, and extending entirely across and supporting both sides of the hull, and having openings to form longitudinal compartments, and passages through the vessel, said transverse plates being connected by the walls of said longitudinal compartments and passages. 3rd. A vessel constructed as herein described, with transverse plates arranged at intervals and corresponding in size and shape with the cross-section of the vessel at the points at which they are placed, and having openings to form longitudinal compartments and passages through the vessel, and having flanges or angle irons around their edges and around said openings, to which the hull and the walls of the compartments are attached, substantially as described. 4th. The keel constructed of side plates $a3$, $a4$, and a series of longitudinal bars arranged between said plates, the whole secured together by bolts or rivets extending through plates and bars, as shown and specified. 5th. The combination, with the keel A, of a series of transverse section plates B, notched at b, to receive the keel and erected upon the latter at intervals and secured thereto, as shown and described. 6th. The combination, with the keel A, of the transverse section plates B erected thereon at intervals and secured thereto, the shaft bearings secured to said plates opposite openings in the same, and the shaft working in said bearings, substantially as and for the purpose described. 7th. The combination, with the keel A, of a series of transverse plates B of a size and shape to correspond with the cross-section of the vessel at the points at which they are placed, the decks supported upon and between said plates, and the hull or shell of the vessel secured to the edges of said plates, substantially as shown and described. 8th. The combination of the transverse section plate B, arranged at intervals and perforated for the passage of the shaft of the vessel, the shaft bearings attached to the plates opposite the perforations, and the sectional tube which surrounds the shaft, the sections of said tube being arranged between the transverse section plates and supported by the shaft bearings, substantially as described. 9th. A vessel constructed as herein described, with transverse section plates erected on and secured to the keel at intervals, said plates corresponding in size and shape with the cross-section of the vessel at the points at which they are placed, and having openings near the bottom on opposite sides of the keel to form tunnels for the boilers, and other openings above the keel and between the first-mentioned openings to form coal-bunkers between the boiler tunnels, the walls of said tunnels and said bunkers being attached to the section plates, substantially as shown and described. 10th. A vessel constructed as herein described, with transverse section plates erected on and secured to the keel at intervals, said plates corresponding in size and shape with the cross-section of the vessel at the points at which they are placed, several of the plates in the midship section being cut out centrally at the bottom to form an engine-room, and the plates forward and back of the engine-room having openings near the bottom on opposite sides of the keel to form boiler tunnels, and other openings above the keel to form coal-bunkers between the boiler tunnels, the walls of said engine-room, boiler tunnels, and coal-bunkers being attached to the plates through which they pass, substantially as and for the purposes described. 11th. As a means for preserving approximately a normal temperature in the fire-rooms, the shields $d3$ erected in front of the boilers and furnaces, and extending entirely across said rooms, and from the floor to within a short distance of the top of the rooms, substantially as shown and described. 12th. The combination and arrangement, substantially as described, of the boiler and its furnace, a shield $d3$ which extends across and entirely separates the fire-room from the boiler and furnace except at the top, an ash-tunnel $d4$ below the furnace, and openings into said ash-tunnels back of the shield $d3$, substantially as shown and described. 13th. The combination, with the keel which supports the rudder and rudder-stanchion, of the transverse section plates B which are erected on the keel and carry the bearings for the body of the shaft, and the hangers $b3$ which receive and support the end of the shaft, the said hanger depending from the stern of the vessel, and being entirely independent of the rudder-stanchion and keel, substantially as and for the purpose described. 14th. The combination, with the plates B, cut out as shown and described, to form a passage for the propeller shaft, of the rings $b3$, $b3$ secured to said plates around said openings, and the sectional boxes $b4$ arranged within said rings and having their bearing surface eccentric to the rings, as and for the purpose described. 15th. The transverse passage G through the vessel, the screw E located therein, and the sliding gates g^1 working through openings in the walls of the passage near its ends to open and close said passage, the said gates carrying movable disks $g3$ which when the gates are closed are adapted to be moved outward into the plane of the hull to form a smooth exterior, substantially as shown and described. 16th. The combination, with the tube which forms the transverse passage G, of the gates g^1, $g3$, cylinders H fitted with pistons h which are connected with the sliding gates, water-tanks above the water line of the vessel, and connections between said tanks and the cylinders H through which water may be admitted from said tanks to said cylinders to move the pistons to open and close the gates, as and for the purpose set forth. 17th. The combination, with the transverse tube which forms the openings G, of the chambered sliding gates g^1 carrying movable disks $g3$ which fits the openings in the sides of the vessel, water-tanks located above the water line, and pipes or passages connecting the tanks and the chambers of the gates g^1, whereby water may be admitted to said chambers behind the disks to force the latter out into the openings in the hull, as and for the purpose described. 18th. The combination, with the tube which forms the transverse passage G, of the chambered sliding gate g^1 carrying movable disks $g3$, cylinders H fitted with pistons h which are connected with the gates g^1 by hollow piston rods h^1, chambers H^1 in line with the cylinders H into which the piston rods h^1 extend, tanks located above the water line of the vessel, and connections between said tanks and the cylinders H and chambers H^1 through which water may be admitted from said tanks, as and for the purpose described. 19th. As a means for preventing the flooding of the saloons, the perforated stairways and the tanks M located thereunder, substantially as shown and described. 20th. A vessel, constructed substantially as herein described, with section-plates B which correspond in size and shape with the cross-section of the vessel at the points at which they are placed, and which are formed with bearings for the shafts of the engine, and in combination therewith, the engine C whose shafts are supported by the bearings in said plates, substantially as shown and described. 21st. In the construction of ships, a transverse chamber extending entirely across the ship, the latter having openings through its sides to form doors for said chamber, the walls of said chamber being supported at the ends by the sides of the ship, and intermediate by the division or section plates B which divide the ship transversely, the whole forming an integral part of the structure, substantially as shown and described.

No. 26,107. Ventilator and Heater.
(*Poêle sourd ventilateur.*)

Rodney S. Owen, South Stukely, Que., 28th February, 1887; 5 years.

Claim.—1st. The combination, with the drum A, provided with the flues e, of the cold air chamber f communicating with the flues e, and with the exterior air through the pipe B, substantially as described. 2nd. The combination, with the drum A, provided with the flues e and the pure air chamber f, of the pure air pipe B communicating with the exterior air, and with the chamber f and the fuel air pipe E provided with the opening F, and communicating with the interior of the drum through the pipe C, substantially as described. 3rd. The combination, with the drum A, provided with the flues e, of the scrapers g, and the rods h, substantially as described.

No. 26,108. Hay Carrier and Fork.
(*Monte-foin et fourche.*)

Merritt G. Hunt, Langford, Ont., 28th February, 1887; 5 years.

Claim.—1st. The combination of the carrier A, stop-block D, catch lever I, rest lever G, and the sheave block F, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the carrier A, stop-block D, lever I, lever G, block F, the reversible lever hook L, the cam lever E with the arms E^1 and E^2, the connecting rod K looped over the arm E^2, and connected to the inner frame c, substantially as and for the purpose hereinbefore set forth.

No. 26,109. Copying Lathe for Turning articles of irregular Contour and Method of Preparing Work for the Same. (*Tour à copier les objets de forme irrégulière et mode d'ébaucher ces objets.*)

Thomas Millett, London, Eng., 28th February, 1887; 5 years.

Claim.—1st. In a copying lathe for turning articles of an irregular

contour, the combination of a spur pinion concentrically and rigidly connected to the driving pulley of the lathe, and revolving loosely upon the cutter carriage travelling and reversing shaft with, and engaging with a spur wheel fast upon the end of a second shaft about which the mandrel frame vibrates, a line of intermediate gears upon the outer side of the head stock driven by said spur wheel and driving the live mandrel of the vibrating mandrel frame, substantially as hereinbefore described. 2nd. In a copying lathe for turning articles of an irregular contour, the combination of a mandrel frame vibrating upon stationary sleeves parallel with the front of the lathe, with a shaft rotating in said sleeves, and driving the live mandrel by means of intermediate gears with a connecting rod eccentrically connected to the opposite end of said shaft, and intermittently rotating a pulley upon the end of the cutter carriage travelling and reversing shaft, substantially as hereinbefore described. 3rd. In a copying lathe for turning articles of an irregular contour, a chucking device consisting of a face plate, a cramping plate and a tightening nut upon a round screwed bar in which a longitudinal groove is formed, and which bar passes through face plate, cramping plate, and tightening nut, the face plate being fixed to the bar, the cramping plate engaging with the bar by means of a feather entering the longitudinal groove, and the tightening nut travelling on the bar for the purpose of advancing the cramping plate towards the face plate, substantially as hereinbefore described. 4th. In a copying lathe for turning articles of an irregular contour, the combination of a fixed face plate upon a detachable mandrel, and having dogs on the back thereof, with a face plate forming part of or incorporated with the dummy, in which face plate there is a groove for the said dogs to engage in, substantially as hereinbefore described. 5th. In combination with a detachable mandrel having fixed face plates, and adjustable cramping plates projecting from its opposite sides, a filling bench consisting of two standards which receive the mandrel and support it in a horizontol position, and a horizontal bar capable of a vertical adjustment between said standards, substantially as hereinbefore described, with reference to Fig. 8. 6th. In a copying lathe for turning articles of an irregular contour, the combination of a cutter spindle, having a longitudinal groove formed in it, and supported in standards upon the top plate of the cutter carriage and driven by a driving belt independently of the driving pulley of the lathe. 7th. In a copying lathe for turning articles of an irregular contour, the combination of cutter block having grooves cut in the side thereof, in lines parallel with the diameters thereof, with the flat shanks of the cutter blades, said blades being each in one piece from heel to cutting edge, the cutting edge of a blade being brought forward and making an obtuse angle with the leading edge of a shank, substantially as hereinbefore described. 8th. In a copying lathe for turning articles of an irregular contour, the combination, with the saddle of the cutter carriage, of a nut engaging with a shaft on which are keyed the reversing pulley, and a pulley actuated intermittently by a clutch reciprocated by a connecting rod eccentrically connected to the shaft about which the mandrel frame vibrates, substantially as hereinbefore described. 9th. In a copying lathe for turning articles of an irregular contour, the combination of three pulleys upon the travelling and reversing shaft of the cutter-carriage, one of which viz., the reversing pulleys is fast on the shaft, and the other two, viz., the driving pulley, and the loose pulley between it and the aforesaid reversing pulley are loose upon said shaft, with a strap shifter actuated in either direction by a striker upon the cutter carriage, said cutter carriage being alternately travelled and reversed by the rotation in respective directions by said shaft engaging in a nut formed upon underside of said carriage, substantially as hereinbefore described. 10th. In a copying lathe for turning articles of an irregular contour, the combination of a vibrating mandrel frame upon the live mandrel of which a rotating dummy is fixed, with a feeder adjustably fixed upon a cutter carriage which is travelled in a plane parallel with the axis of the mandrel, substantially as hereinbefore described. 11th. In combination with the face plates and cramping plates of the detachable mandrel, of a copying lathe for turning articles of an irregular contour, and which face plates and cramping plates have their opposite faces shaped according to the surfaces of the shapes to be chucked between them, a sawing gauge consisting of a plate having a slot formed in it, by which the length of material to be sawn and lying in a guiding groove upon said plate can be fed up to the saw, and guiding grooves formed upon it, the angles said grooves make with said slot being regulated according to the angles which the faces of the said shapes are required to make with each other, substantially as hereinbefore described with reference to Figs. 10 and 11.

No. 26,110. Gate Hinge. (*Penture de barrière.*)

David J. Olinger, Anson, Texas, U.S., 28th February, 1887; 5 years.

Claim.—1st. In a gate hinge, a post or base section B having a body plate having its side edges bent up at *c*, and having such bent up edges provided with flanges 1 and notches 2, substantially as set forth. 2nd. The improved gate-hinge consisting of the post or base section having a perforated plate C, the edges of which are bent up at *c*, and formed with flanges 1 and notches 2, and provided with the plate *b* connected with the body of plate C, and separated at 3 from the portions *c* thereof, the gate section D having a depending arm 4 fitted to enter the perforation in the base C, and having a second arm fitted for connection with the gate, and the roller E journalled on said second arm, substantially as set forth. 3rd The gate section D comprising a main portion provided with a shoulder 6, and an arm 4 depending from the outer end of said main portion, combined with a roller E journalled on said main portion up against the shoulder 6, and the post or base section provided with an opening or socket fitted to receive the arm 4, and with an incline, substantially as described and for the purpose specified.

No. 26,111. Scroll Saw Machine.

(*Scierie à volute.*)

Joseph W. Maxwell, Louisville, Ky., U. S., 28th February, 1887: 5 years.

Claim.—1st. The combination, in a scroll saw machine, of a stationary frame, a saw frame adapted to reciprocate vertically therein, saw-hanging plugs journalled vertically in the saw frame, saw guides provided with slots for the saw to slide through and journalled in a portion of the machine which is vertically, stationary, and horizontally movable, a profile pattern follower hung upon the said horizontally movable portion, and connections between the said follower and saw guides, substantially as shown and described, whereby the guides may be rotated and the saw be twisted in the course by the turning of the follower, as and for the purpose specified. 2nd. The combination of a sawmill frame, a sash fitted to reciprocate vertically therein, an intermediate frame fitted to slide in the sash transversely, an inner frame fitted to slide in cross bars of the mill frame, rollers journalled on the inner frame to roll against an inner vertical face of the intermediate frame, and means for connecting a saw blade with the said two frames, substantially as shown and described. 3rd. The combination of a saw frame, saw-attaching plugs journalled therein, a pattern follower saw guides and means connecting the follower and guides, substantially as shown and described, whereby the saw may be automatically rotated to follow a profile pattern, for the purpose specified. 4th. The combination of a sawmill frame, a sash fitted to reciprocate vertically therein, a saw-frame fitted to slide transversely in the sash, an inner frame fitted to slide transversely in the mill frame, gaw guides in the said inner frame, a pattern following roller journalled on the inner frame, and a vertical sliding connection between the said inner frame and saw frame, substantially as shown and described. 5th. The combination of the saw machine, frame A provided with fixed cross-bars A1, the sash B fitted to reciprocate in frame A, a saw frame G fitted to slide transversely in the sash B, saw guide I having slots for the saw to reciprocate through and journalled in the frame J, saw-hanging plugs H vertically in the frame G, and connections *c*, *d* between the upper and lower guides I, substantially as shown and described, whereby the reciprocating saw and its hanging plugs may be rotated through the medium of non-reciprocating guides, as set forth.

No. 26,112. Band Saw Machine.

(*Scierie à scie sans fin.*)

Joseph W. Maxwell, Louisville, Ky., U. S., 28th February, 1887; 5 years.

Claim.—1st. In a band-saw machine, the combination of a saw-band pulley journalled in a bearing fitted to slide vertically, rollers journalled in sashes fitted to slide transversely to the saw blades and adapted to engage the outer faces of the said blades, and levers and rods connecting the said sashes with the said sliding bearing, substantially as shown and described, 2nd. The combination, in a band-saw machine, of a band-saw, two pulleys therefor, one of said pulleys being mounted to advance toward and recede from the other, rollers mounted to bear upon the outer sides of the saw, and to reciprocate laterally, and connections substantially as described, between the said rollers and the said advancing and receding pulley, whereby the two blades of the saw may traverse to and from each other, and the saw-band be maintained at even tension, as set forth. 3rd. The combination of a band-saw machine, frame guides for the saw adapted to move transversely in the frame, a bearing for one of the saw wheels adapted to move vertically in the frame and connections between the saw guides, and the said saw wheel bearing, substantially as shown and described, whereby lateral motion of said guides produces vertical motion to the said wheel bearing to maintain even tension of the saw while the vertical portions of its blade approach each other and recede, as described. 4th. The combination of the vertically-sliding bearing G, the wheel S journalled therein, the band-saw R mounted on the said wheel, and the wheel C, the sashes H and I fitted to slide transversely to the saw, the rollers U journalled on the said sashes to bear against the saw blades, the weights T connected with the sashes, the levers P pivoted to the frame of the mill, and connected with the sashes and the bearing G, substantially as shown and described. 5th. The combination of the frame A, the sashes H, I fitted to slide therein, and provided with arms *d*, the saw-guiding rollers U journalled in the sashes, the blocks *m* fitted to slide upon the arms *d* and provided with set-screws *n*, the crank-shaped shaft *a* fitted in the block *m* and provided with set-screws *b*, and the rollers J journalled on the cranks of the shafts *a*, substantially as shown and described. 6th. The combination of the saw R, the sashes H, I fitted for lateral motion and provided with arms *d*, the rollers U journalled on the said sashes to bear against the side of the saw guides K for the saw attached to the said sashes, the blocks *m* fitted to slide on the arms *d* and provided with set-screws *n*, and the crank-shaped shaft *a*, adjustably fitted in the block *m*, and provided with a pattern-following roller J, substantially as shown and described, whereby the pattern follower may be properly adjusted relatively to the saw guides, and the rollers U. 7th. The combination of a band-saw, its table, lateral guides for the saw provided with rollers J1, the pin *n*1 projecting above the table, the cross-head *l* having the slot *m*1, and the levers K pivoted in the said head, and having the fingers *p* and the wedges *r* adapted to engage the roller J1, substantially as shown and described. 8th. The combination of the independently-sliding sashes H and I, the vertically-sliding bearing G, the wheel S journalled therein, the saw R mounted on wheel S, the pitman Q1 pivoted to the bearing G, the levers P pivoted to the main frame and connected with the sashes H, I, and the pitman Q1, substantially as shown and described. 9th. The combination of the saw frame A, a housing G1 fitted to slide vertically therein, a wheel heating G fitted to slide vertically in the said housing, and a hand-screw G2 threading in the housing to raise the bearing, substantially as shown and described. 10th. The combination in a hand sawmill, of two blades, means for traversing them laterally, a pin projecting above the saw table, and a pair of tongs consisting of a cross-head having a longitudinal slot to engage the said pin, and two levers pivoted in the heads, each provided with an inwardly-projecting finger, substantially as shown and described. 11th. The combination, in a saw guide, of two form patterns arranged side by side at some distance apart, and separably secured together at their ends, each of the said patterns being shaped on one edge in conformity with the work to be sawed, and adapted to be secured to the work, substantially as shown and described.

No. 26,113. Snowshoe Moccasin.

(*Mocassin à Raquettes.*)

Herrman Gallick, Saint Paul, Minn., U. S., 28th February, 1887; 5 years.

Claim.—1st. In a snowshoe moccasin, the combination of a body A, the cork or insole D, combined with the rubber welt or vamp B, and the rubber sole C, all substantially as and for the purposes set forth and described. 2nd. The new article of manufacture, consisting of a moccasin or body A, the cork insole D, the vamp or welt B, and the outer rubber sole C, all secured together with cement and stitches sewing the sole to the body of the moccasin, all substantially as set forth and described.

No. 26,114. Whiffletree Hook.

(*Crochet de palonnier.*)

John R. Davis, Sun Prairie, Wis., U.S., 28th February, 1887; 5 years

Claim.—1st. The ferrule F, recessed at *n*, and provided with the shoulder S terminating in the heels *b*, *b*1, and the lugs *m*, stop lugs *o* and lug *l*, substantially as described and for the uses and purposes mentioned. 2nd. The ferrule F, recessed at *n*, and provided with the shoulder S, terminating in the heels *b*, *b*1, and the lugs *m*, stop lug *o*, and lug *l*, in combination with the steeple head rivet *r*, substantially as described and for the uses and purposes mentioned. 3rd. The ferrule F, recessed at *n*, and provided with the shoulder S, terminating in the heels *b*, *b*1, and lugs *m*, stop lug *o*, lug *l* and rivet *r*, in combination with the hook R *h*, substantially as described and for the purposes mentioned.

No. 26,115. Gang Cross-cut Sawing Machine. (*Scierie de travers à châssis vertical.*)

Erastus H. Barnes, Brooklyn, N. Y., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination, with a saw-shaft, its frame, journal boxes, and adjustable gang of saws, of a hinged bed-frame, movable transverse bed-pieces, and a stationary head-piece beneath which the boards to be sawed are moved laterally, substantially as set forth. 2nd. The combination, with a gang of adjustable saws, their shaft and bearings, of a bed-frame, movable transverse bed-pieces, sprocket-wheels and feeding-chains, with dogs for supporting and moving a board while being sawed transversely into lengths, substantially as set forth. 3rd. The combination, with a gang of saws and their shaft, of a hinged bed-frame, movable transverse bed-pieces, sprocket-wheels and their shafts supported on the hinged bed-frame, the sprocket-wheels being adjustable longitudinally of the shaft, and feeding-chains and dogs, substantially as set forth. 4th. In a machine for sawing boards transversely, the combination, with a saw-shaft and the gang of adjustable saws, of a hinged bed-frame, movable transverse bed-pieces, feeding-chains and dogs, sprocket-wheels and their shafts supported on the hinged bed-frame, the head-piece extending along above the saws, and the supports upon the hinged bed-frame to which the head-piece is movably connected, substantially as set forth. 5th. The gang of saws and the shaft for the same, a supporting-frame, and journal-boxes for the saw-shaft, a bed-frame hinged to the supporting-frame, movable transverse bed-pieces resting upon the bed-frame, sprocket-wheels and shafts supported by the bed-frame, and feeding-chains and dogs, a head-piece above the bed-frame, and supports for the same, and movable gauges attached to the head-piece, substantially as and for the purposes set forth.

No. 26,116. Elevated Railroad Track and Truck Therefor. (*Voie Elevée de Chemin de Fer et Châssis de Wagon.*)

William B. Mack, Boston, Mass., U.S., 28th February, 1887; 5 years.

Claim.—1st. An elevated railroad, consisting of a track of three rails, two arranged parallel to each other, and on the same horizontal plane, and a third arranged at a lower horizontal plane, intermediate of the two first-mentioned supports for the rails and braces connecting the several supports, substantially as hereinbefore set forth. 2nd. An elevated railroad, consisting of a track of three rails, two arranged parallel to each other and on the same horizontal plane, and the third at a lower horizontal plane and intermediate of the two first-mentioned supports for the two side rails, braces for maintaining said supports in position, a fourth rail or stringer upon which the middle lower rail rests, and by which it is supportable, and a strip of wood or similar material for deadening sound or insulating one rail from the other, interposed between said supporting rail or stringer and the intermediate track rail, as set forth. 3rd. An elevated railroad, consisting of a track of three rails, two arranged parallel to each other, and in the same horizontal plane, and the third arranged at a lower horizontal plane and intermediate of the first-mentioned, a fourth rail or stringer for supporting the third intermediate rail, and a strip of wood or analogous material for deadening sound or insulating the intermediate rail from its supporting rail or stringer, as set forth. 4th. The combination, with a track, of three rails, two arranged parallel to each other and on the same horizontal plane, and a third arranged at a lower horizontal plane intermediate of the first two mentioned, of a truck containing two main supporting wheels, arranged to travel on the intermediate rail, and two wheels, one on each side of the truck, adapted to travel on the two side rails for guiding and steadying the truck, as set forth. 5th. A railway car truck, provided with wheels on its opposite sides, adapted to travel on trucks, and guide and steady the truck, and a wheel or wheels arranged at a lower horizontal plane, intermediate of the two first mentioned, adapted to support the truck, substantially as set forth.

No. 26,117. Box for Holding Car Tickets.

(*Boîte à Billets de Chars.*)

Edward Carrie, Jr., Toronto, Ont., 28th February, 1887; 5 years.

Claim.—A box A, having a false bottom B, supported by springs *a* at one end, in combination with the sliding-plate D, having a spike or spikes E, bevelled as described, substantially as and for the purpose specified.

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

810. E. G. PARKHURST, 2nd 5 years of No. 14,195, from the 18th day of February, 1887. Improvements on Packing Boxes for Ammunition, 1st Feb., 1887.

811. J. W. JANSON, 2nd and 3rd 5 years of No. 14,136, from the 8th day of Feb., 1887. Improvements on Machinery for Unhairing, Fleshing, Paring, Shaving and Setting Hides, Skins, or Pelts, 5th Feb. 1887.

812. G. W. READ, 3rd 5 years of No. 7,047, from the 9th day of Feb. 1887. Improvements in Lumber Driers, 5th Feb. 1887.

813. G. SWEET and J. WATSON, 2nd 5 years of No. 7,050, from the 9th day of Feb., 1887. Improvements on Combined Reels and Rakes for Harvesting Machines, 5th Feb., 1887.

814. W. DEERING, 3rd 5 years of No. 7,122, from the 21st day of Feb., 1887. Improvements on Harvesting Machines, 5th Feb. 1887.

815. W. H. RODDEN, 2nd 5 years of No. 14,127, from the 7th day of Feb., 1887. Improvements in Stoppers for Cans, 7th Feb., 1887.

816. M. E. HALDEMAN, 2nd 5 years of No. 14,176, from the 13th day of Feb., 1887. Improvements on Plate Printing Machines, 7th Feb., 1887.

817. H. S. SMITH and H. W. SHIPMAN, 2nd 5 years of No. 14,177, from the 13th Feb., 1887. Improvements in Machines for Cutting Veneers, 8th Feb., 1887.

818. THE GRIP PRINTING and PUBLISHING CO.; 2nd 5 years of No. 14,182, from the 15th day of Feb., 1887. Improvements in Copying Books, 15th Feb., 1887.

819. R. M. BIDELMAN and O. WEBSTER, 2nd 5 years of No. 14,273, from the 27th day of Feb., 1887. Improvements on Stove Boards, 15th Feb,, 1887.

820. E. & R. W. ROSS, 2nd 5 years of No. 14,334, from the 6th day of March, 1887. Machine for Embroidering and Ornamenting Rugs, 15th Feb., 1887.

821. S. JOHNSTON, 2nd 5 years of No. 14,192, from the 18th day of Feb., 1887. Improvements in Grain Binders, 17th Feb.. 1887.

822. J. M. KEITH, 2nd and 3rd 5 years of No. 19,080, from the 7th day of Feb., 1887. Improvements in Spring Bed Bottom, 17th Feb., 1887.

823. J. WEBSTER 2nd 5 years of No. 14,317, from the 3rd day of March, 1887. Improvements on the Method of Manufacturing Alumina, 24th Feb., 1887.

824. J. MILLER, 2nd 5 years of No. 14,333, from the 6th day of March, 1887. Improvements in Machines for Thrashing and Cleaning Grain, 24th Feb., 1887.

825. THE BURMEISTER & WAINS Maskin og Skibsbyggeri, 2nd 5 years of No. 14,421, from the 16th day of March, 1887. Improvements on Centrifugal Machines, 24th Feb., 1887.

826. THE IRON CLAY PAVING STONE & BRICK M'N'F'G. CO., 2nd and 3rd 5 years of No. 14,260, from the 27th day of February, 1887. Improvements in the Manufacture of Bricks, Slabs, Paving Stones, etc., 26th Feb., 1887.

827. L. CARRIER, 2nd 5 years of No. 14,298, from the 28th day of Feb., 1887. Improvements on Windmills, 28th Feb., 1887.

828. L. SAMUEL, 2nd 5 years of No. 14,302, from the 28th day of Feb., 1887. Improvements on Boilers for Cooking Grain and Farinaceous Food, 28th Feb., 1887.

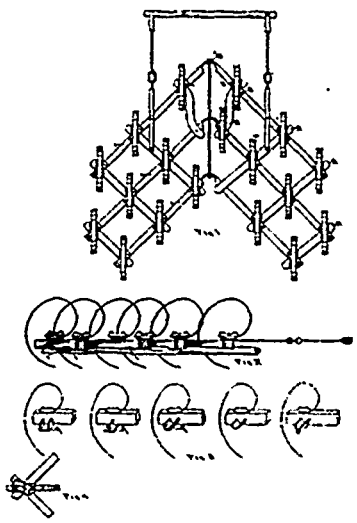
829. R. J. QUIGLEY, 2nd 5 years of No. 14,307, from the 28th day of Feb., 1887. Improvements on the Construction of Watch Cases, 28th Feb., 1887.

THE

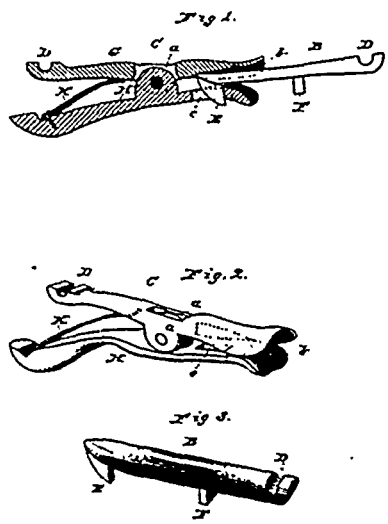
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

Vol. XV. MARCH, 1887. No. 3.



25895 Childs' Harrow.



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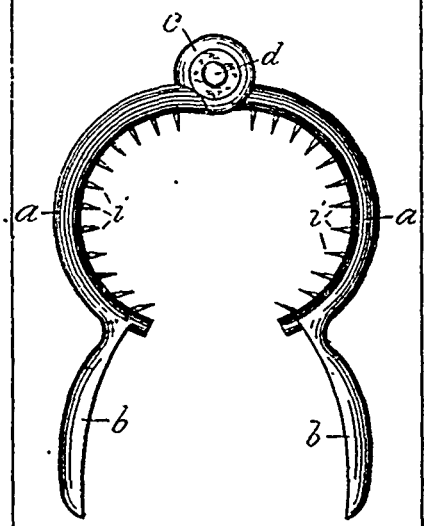
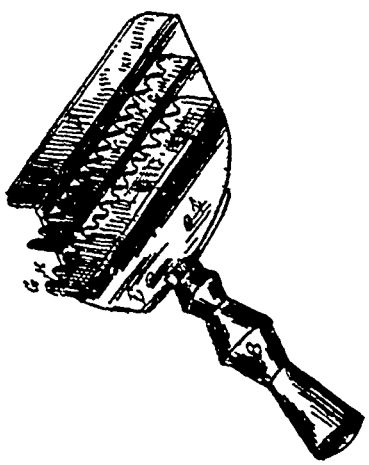
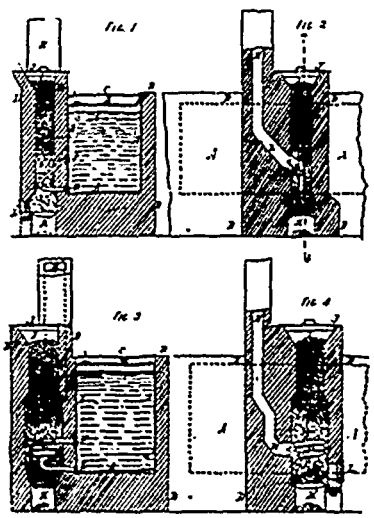


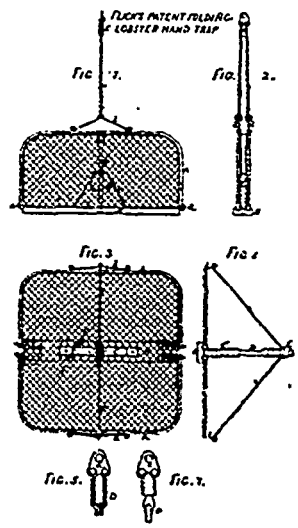
25897 Hartigan's Egg Opener.



25898 Howe's Curry Comb.



25899 Henley's Flax Tank.



25900 Flick's Machine for Catching Lobsters.

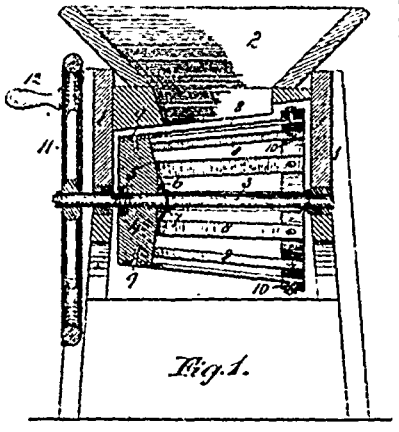
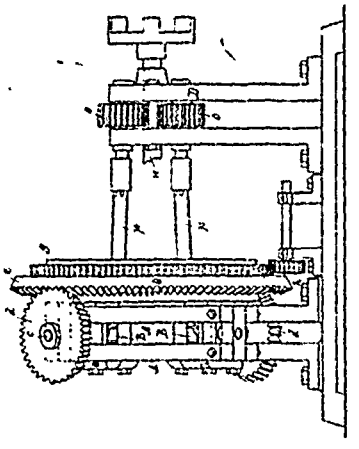


Fig. 1.

25901 Clare's Machine for Slicing Turnips, etc.



25902 Fowler's Machine for Rolling Car Wheels.

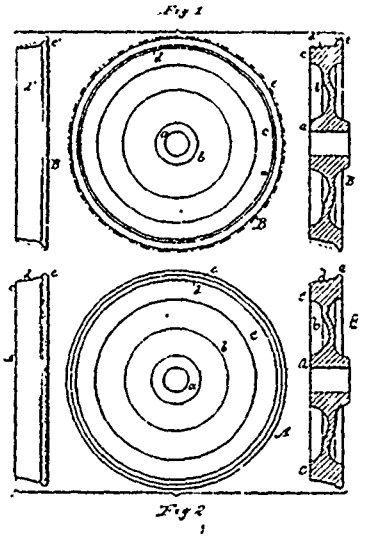


Fig 1

Fig 2

25903 Fowler's Cast Steel Car Wheel

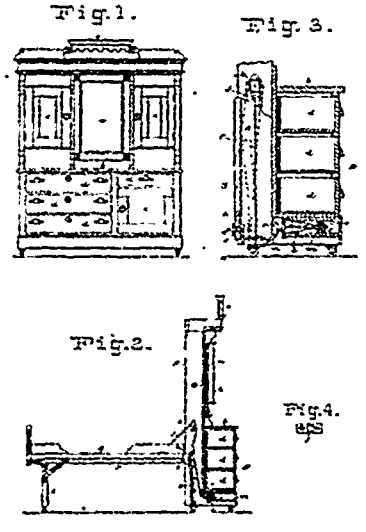
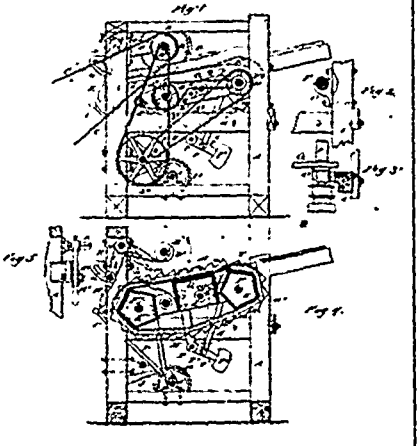
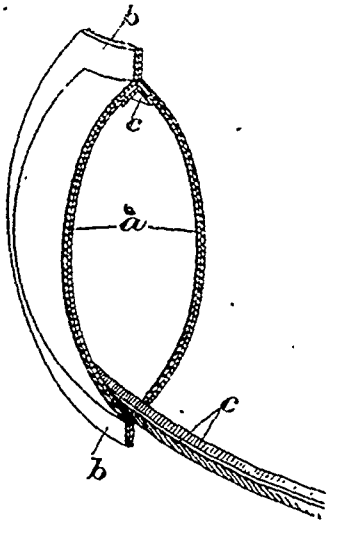


Fig. 1. Fig. 3. Fig. 2. Fig. 4.

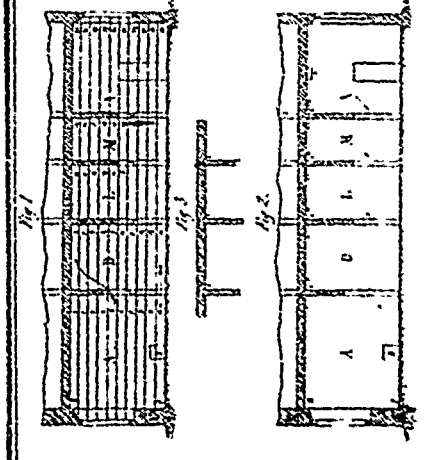
25904 Isley's Folding Bed or Bedstead.



25905 Greene's Sawing Machine.



25906 Gray's Bustle.



25907 Montenegro's Method of Heating Apartments

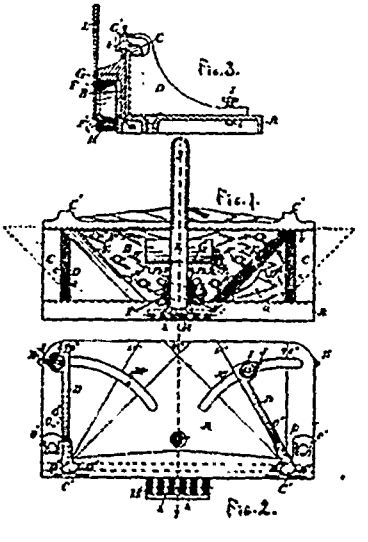
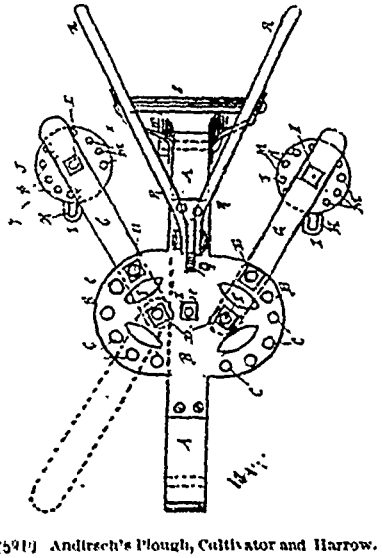
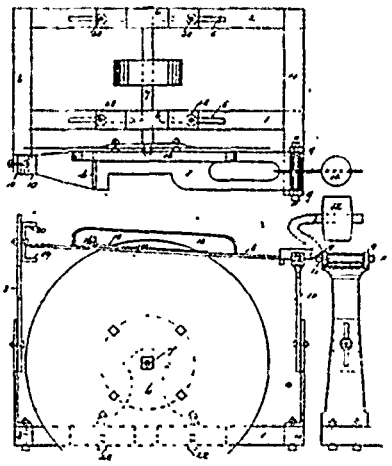


Fig. 3. Fig. 1. Fig. 2.

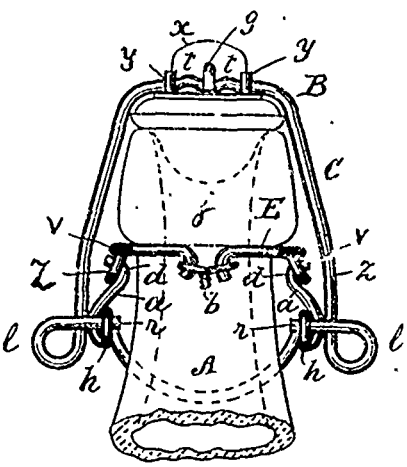
25909 Foxe's Mitre Cutting Machine.



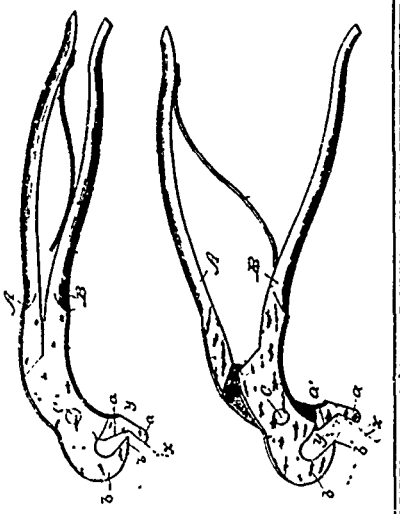
25910 Andirsch's Plough, Cultivator and Harrow.



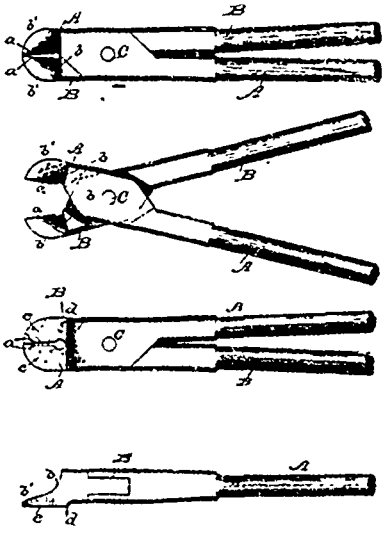
25911 Kearney's Shingle Jointing Machine.



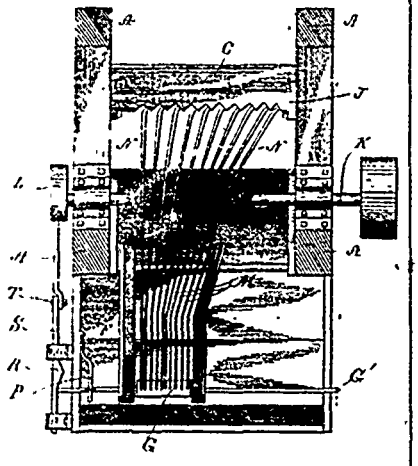
25912 Hoyt's Bottle Stopper.



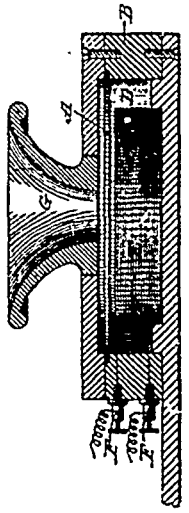
25913 Smith's Veterinary Incisor Cutter.



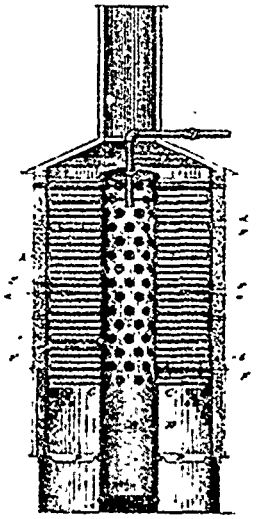
25914 Smith's Veterinary Molar Cutter.



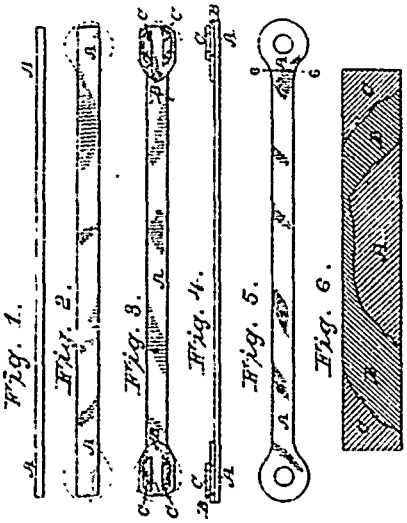
25915 Klugwill's Machine for Sorting Tacks.



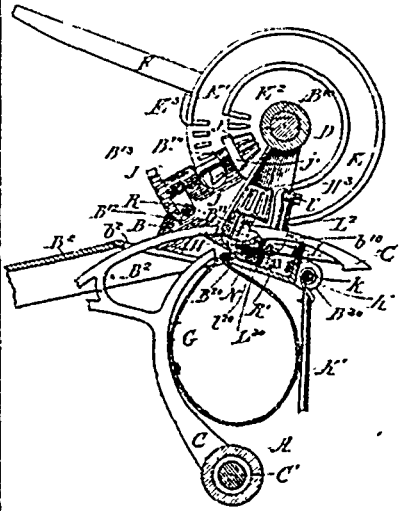
25916 Morton's Telephone.



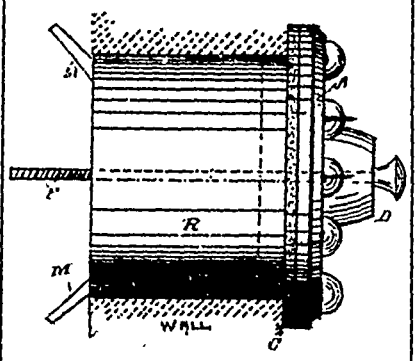
25917 Kennedy's Flame Deflector for Upright Boiler.



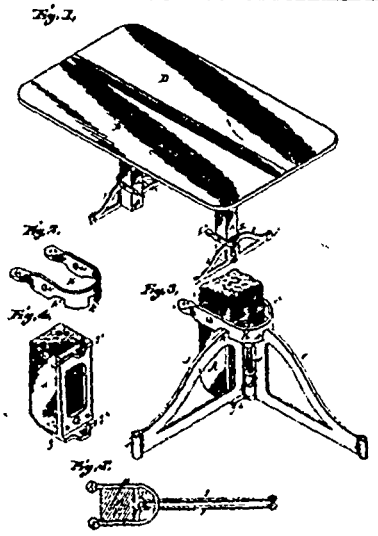
25918 Smith's Method of Manufacturing Steel Eye Bars.



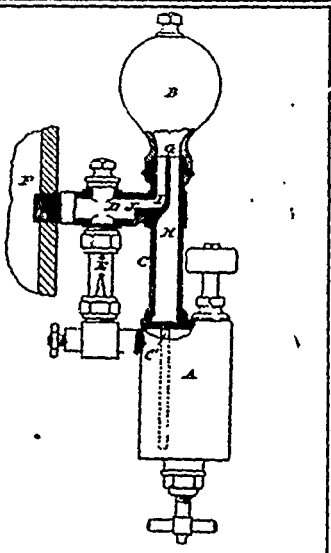
25919 Stark's Grain Binder.



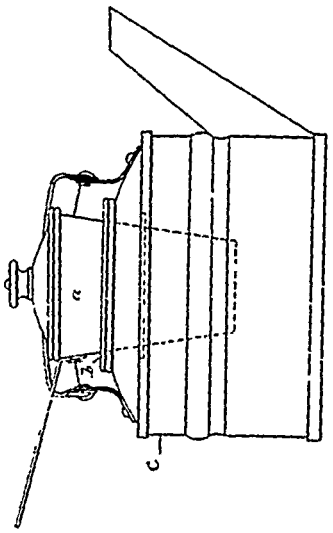
25920 Walter's Flue Thimble and Stopper.



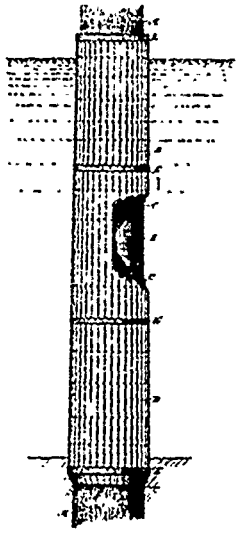
25921 Peace's Desk and Table.



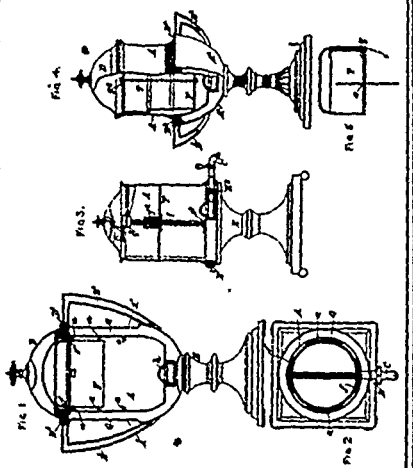
25922 Bennett's Steam Engine Lubricator.



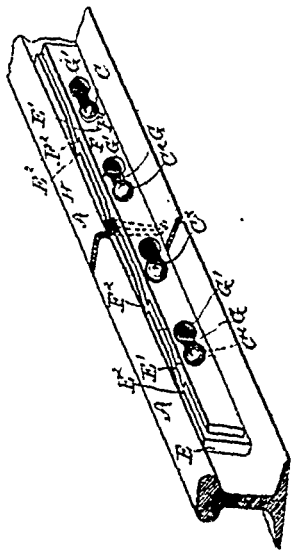
25923 Davis' Tea Kettle Cooker.



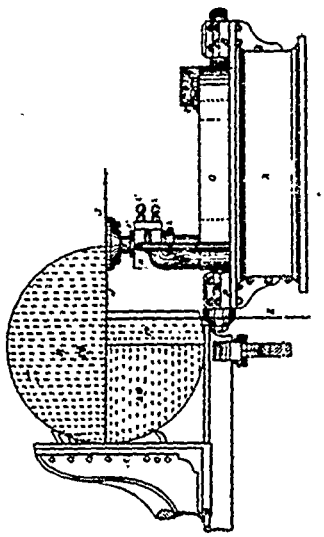
25924 Cass' Preserving Submerged Wood.



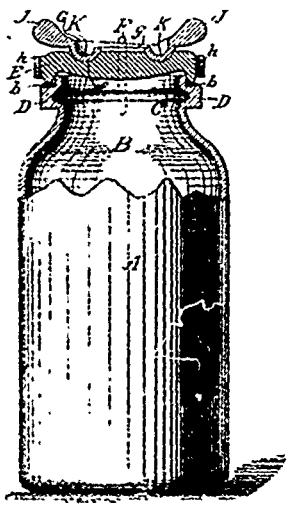
25925 Bean's Apparatus for Making Infusions of Tea, Coffee, etc.



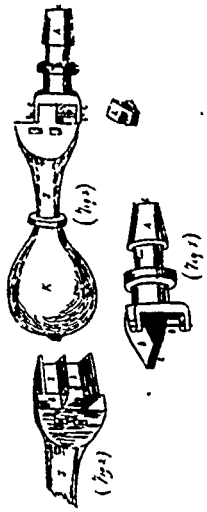
25926 Lewis & Dodge's Rail Joint.



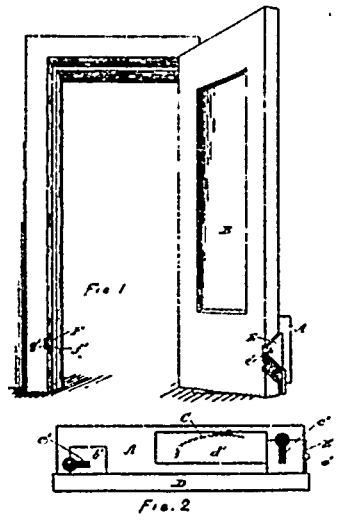
25927 Overton's Saw Mill.



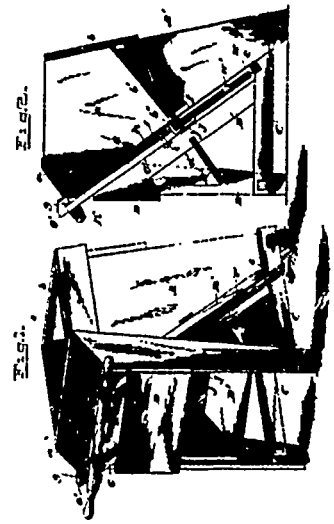
25928 Corey's Fruit Jar.



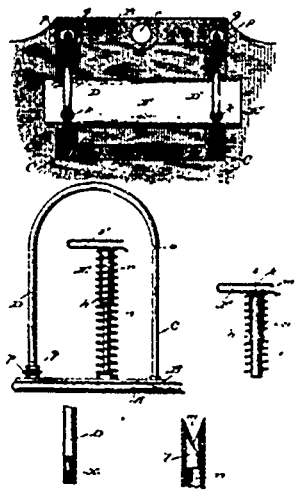
25929 Roberts' Water Gauge for Steam Boilers.



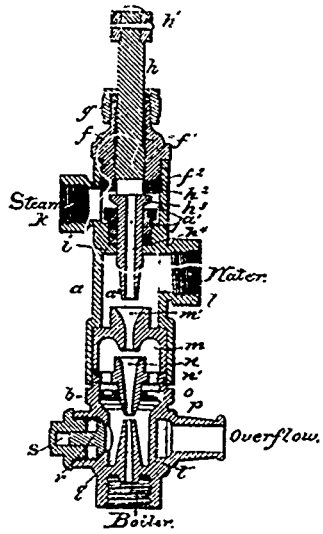
25930 Carnoosky's Weather Strip.



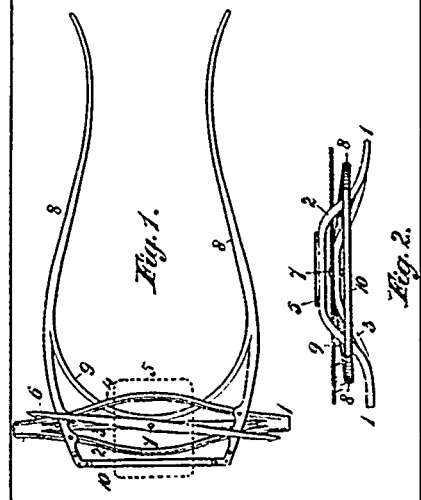
25931 Bullock's Vegetable Cutter.



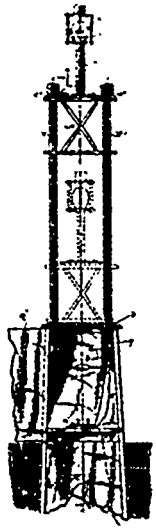
25932 Sherwood's Paper File.



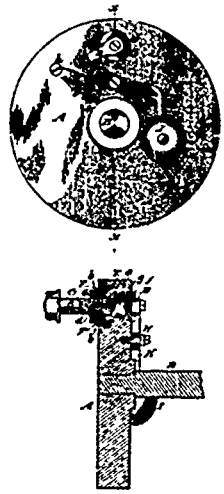
25933 Kremer's Automatic Injector.



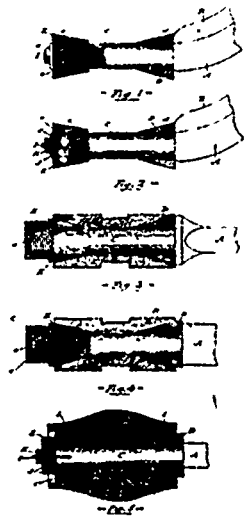
25934 Lumson's Trotting Sulky.



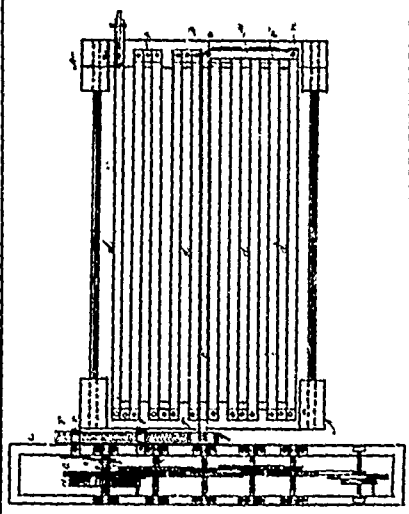
25935 Munsie's Standard for Electrical Lamps.



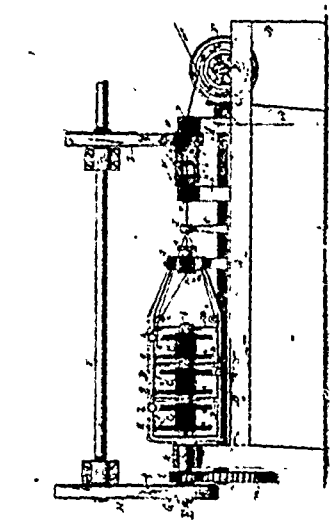
2.936 Chase's Wrist Pin for Steam Engines.



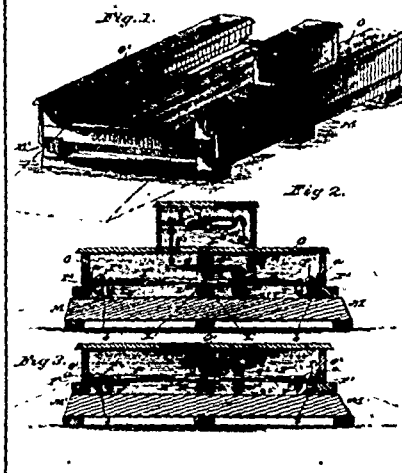
25937 Archibald's Axle Tree.



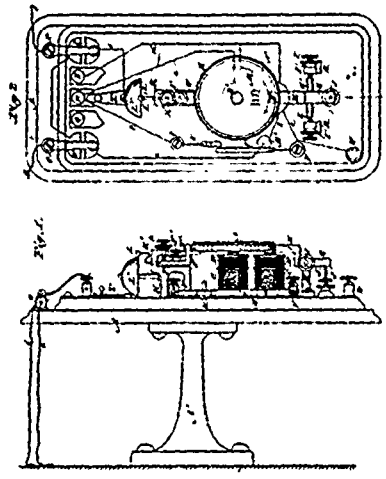
25938 Hainley's Apparatus for Utilizing the Expansive and Contracting Power of Metal.



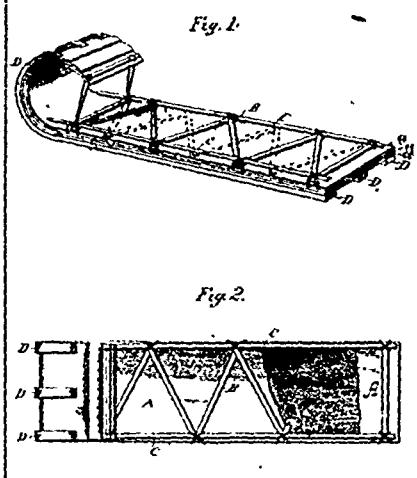
25939 Stone's Manufacture of Wire Ropes and Cables.



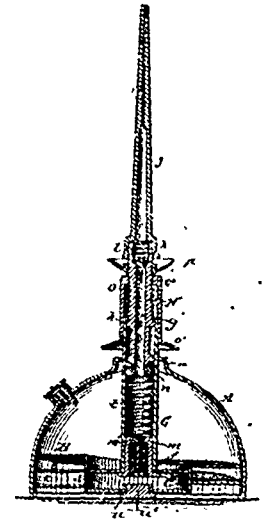
25940 Fisher's Scales.



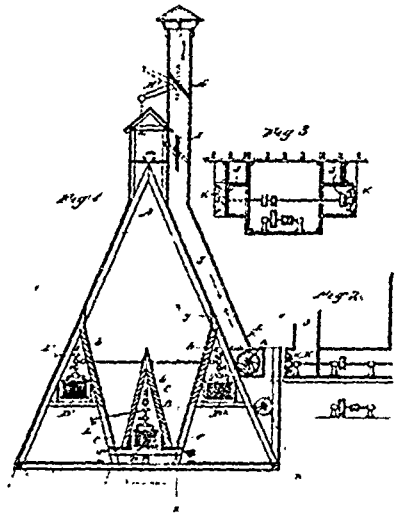
25941 Keating's Telegraph Sounder.



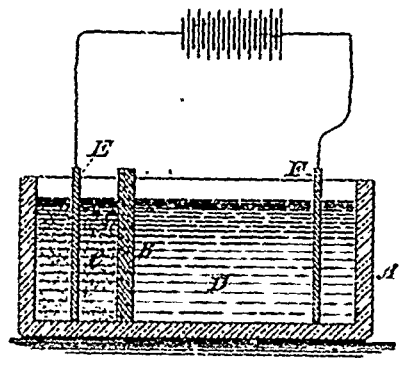
25945 Putnam's Toboggan.



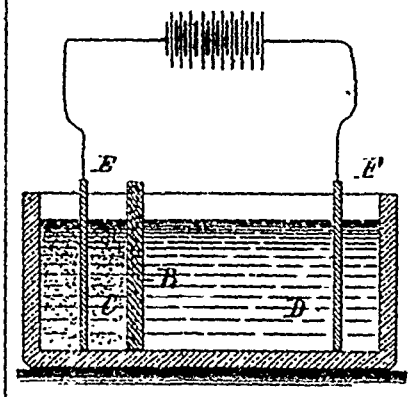
25946 Warren's Oil Can.



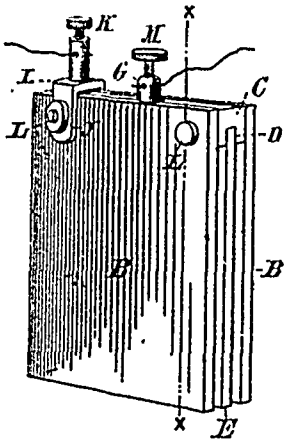
25947 Green's Drying Kiln for Treating Kindling Wood.



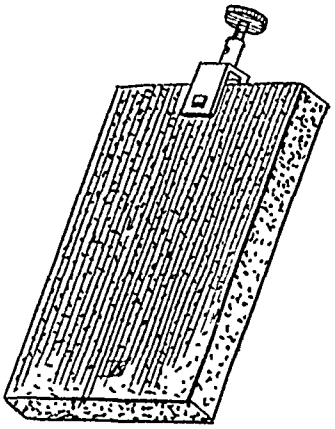
25948 Frishmuth's Process for the Deposition of Aluminium.



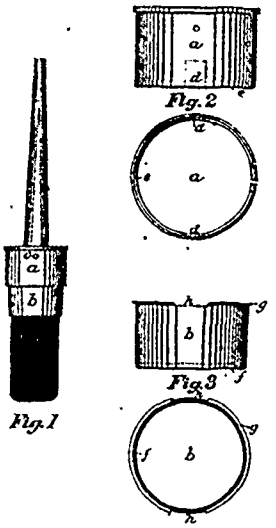
25949 Frismuth's Art of Electro-Plating with Aluminium.



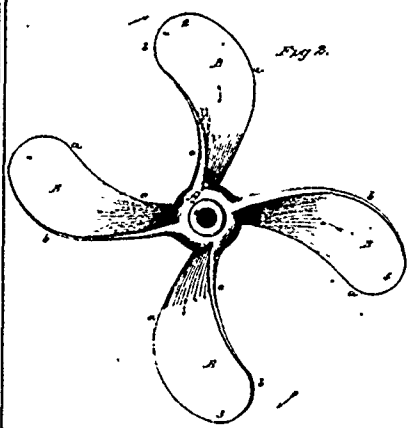
25950 Prismuth's Galvanic Cell.



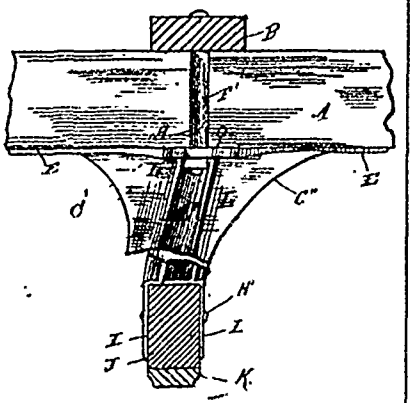
25951 Frishmuth's Anode for Aluminium Electro-Deposition.



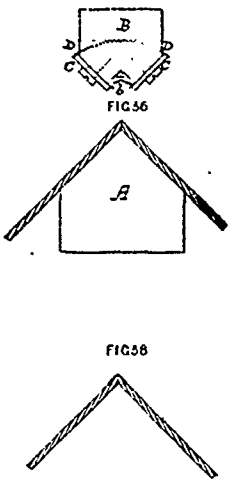
25952 Barnes' Shield for Paint Brushes, etc.



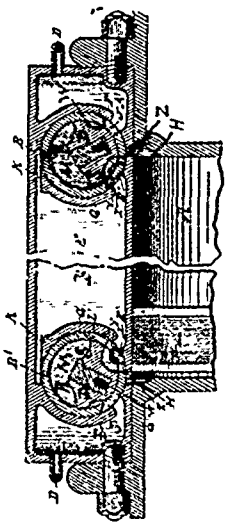
25953 Vogelsang's Screw Propeller.



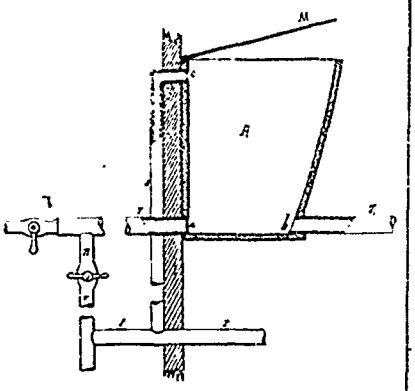
25954 Doll's Sleigh Knee.



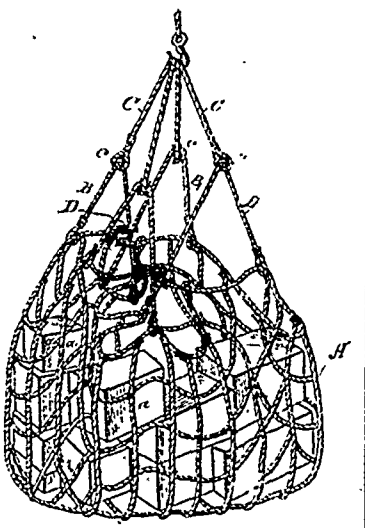
25955 Remus' Manufacture of Boxes.



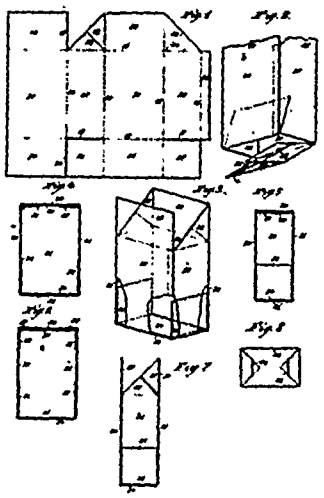
25956 Dugar's Cut-Off Valve for Steam Engines.



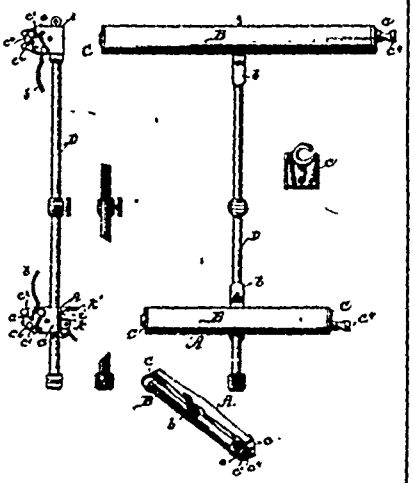
25957 Corneiller's Horse Trough.



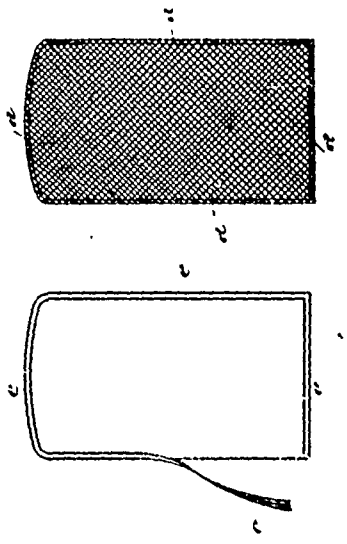
25958 Walsh's Hoisting Sling.



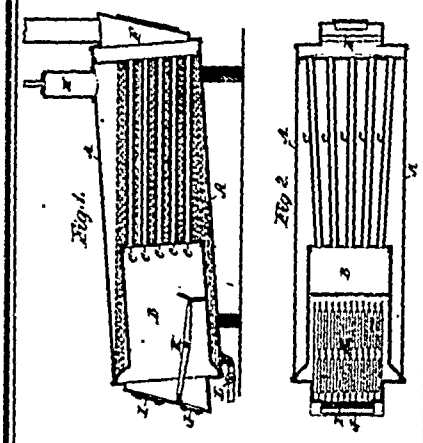
25959 Craw's Paper Box.



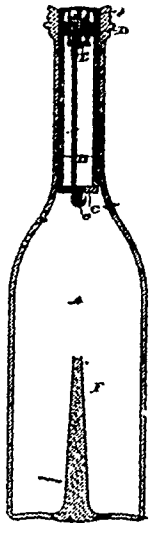
25960 Benton's Pantaloon Stretcher.



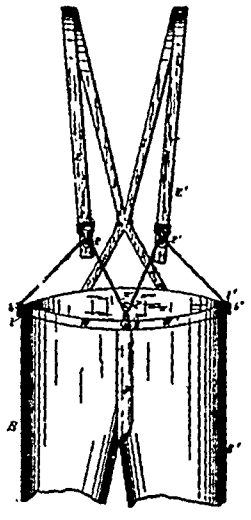
25961 Licker's Leather or Imitation Leather Cover.



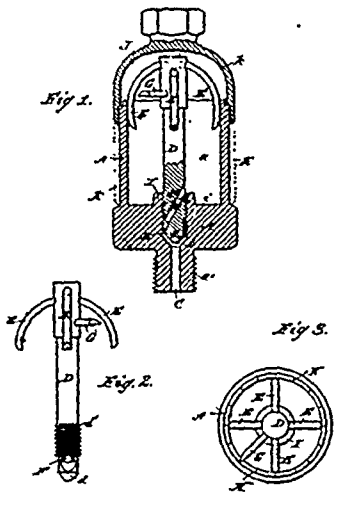
25962 Mumford's Steam Boiler.



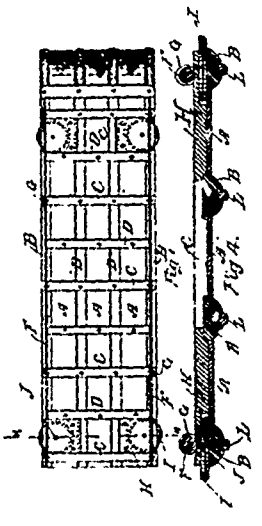
25963 Canan's Bottle.



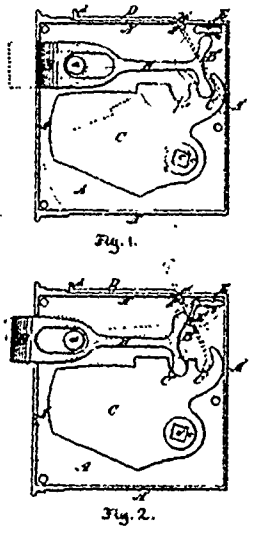
25964 Raymond & Derrick's Suspender Attachment.



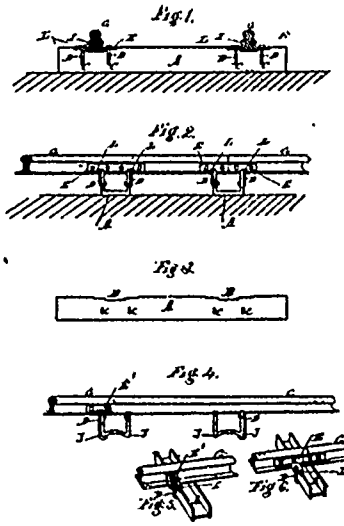
25965 Todd's Oil Cup.



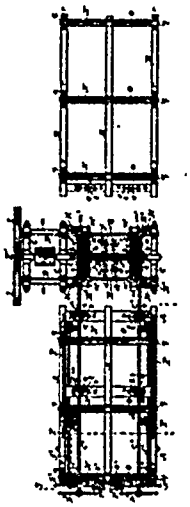
25966 Darche's Toboggan



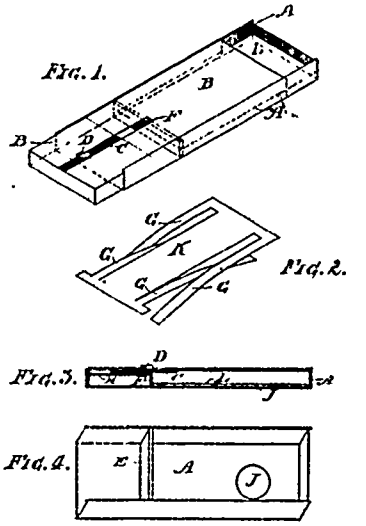
25967 Sandford's Gravitation Lock.



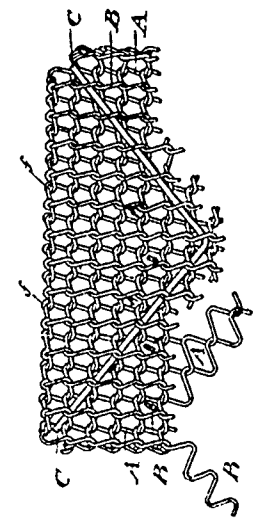
25968 Netter's Metal Tie for Railway Tracks.



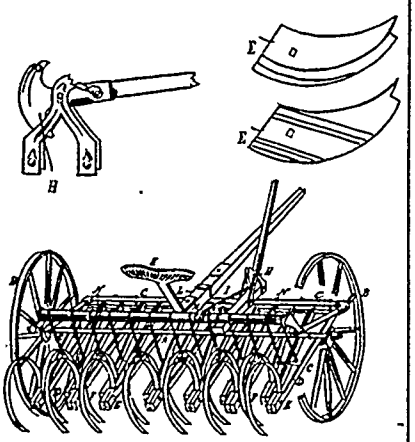
25969 Garland's Double and Gang Edger.



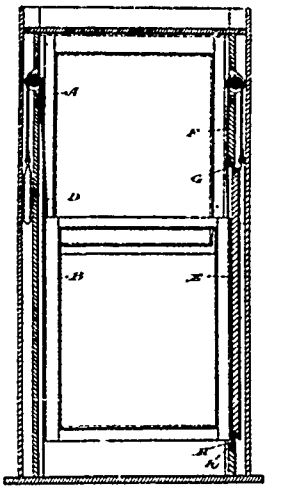
25970 Allen's Card or Ticket Case.



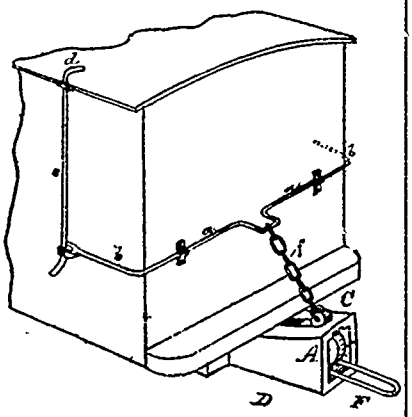
25971 Windt's Door Mat.



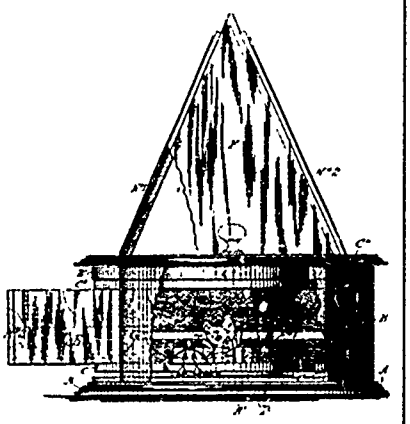
25972 Sylvester's Sulky Spring Tooth Cultivator.



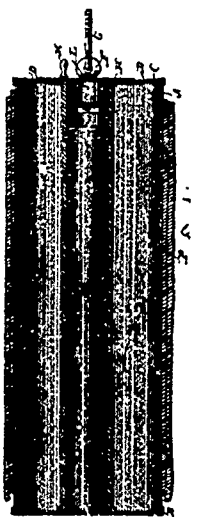
25973 Morgan's Window.



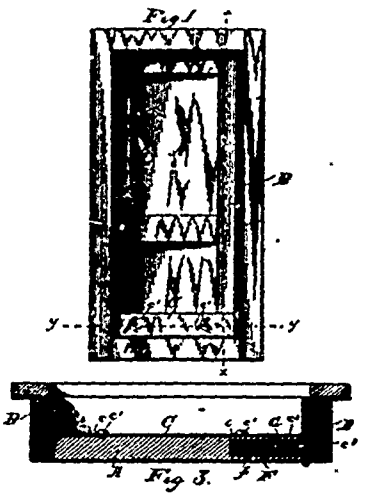
25974 Baldwin's Car Coupling.



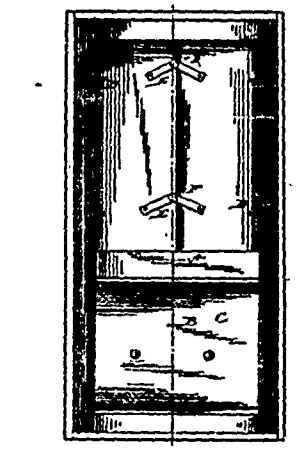
25975 Steer's Apparatus for Checking Cash.



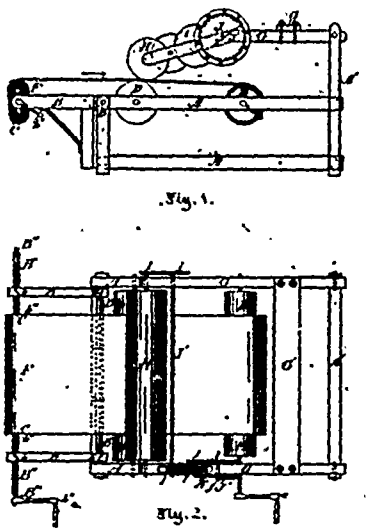
25976 Bell's Heater for Beds.



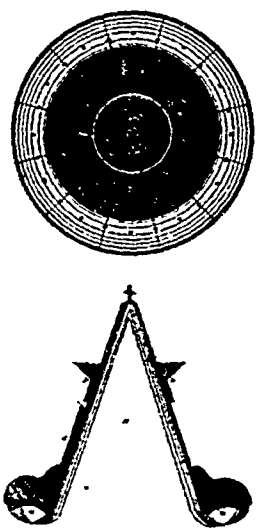
25977 Polley's Weather Strip.



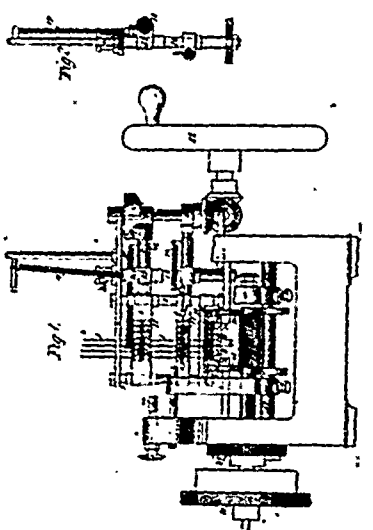
25978 Lyle's Storm Door.



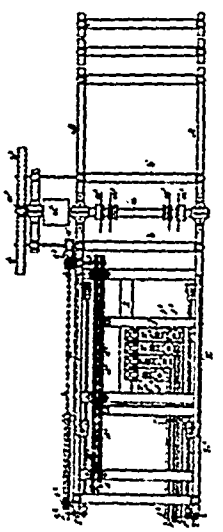
25979 Byron's Cloth Measuring Machine.



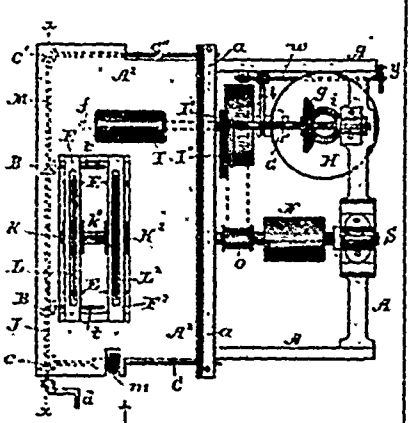
25980 Garner's Feeding Trough for Stock.



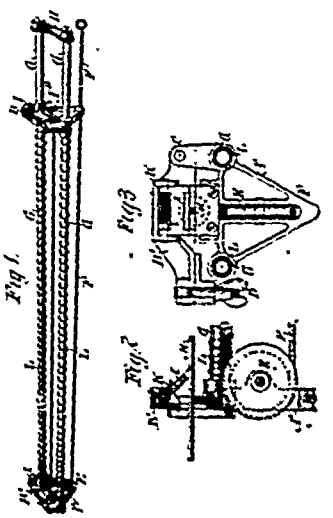
25981 Moseley's Machine for Manufacturing Cards Employed in the Treatment of Fibrous Materials.



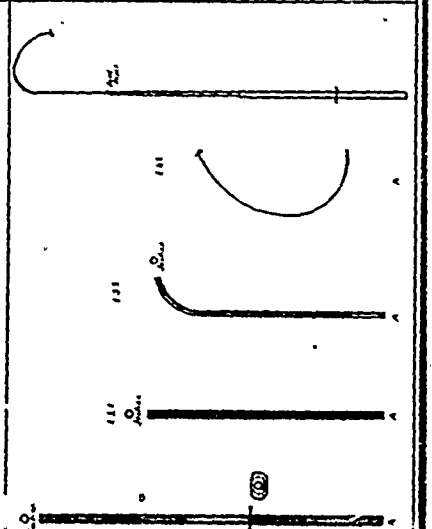
25982 Merrill's Gang Edger.



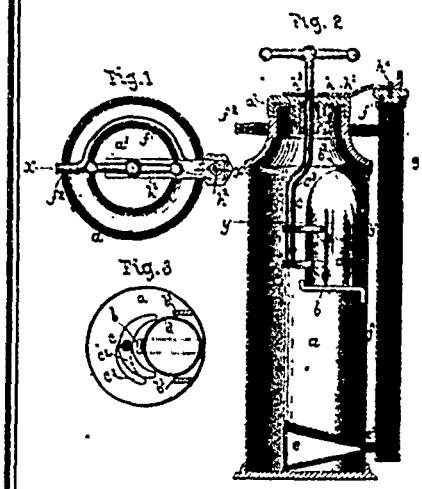
25983 Garland & Catlin's Rip Saw Machine.



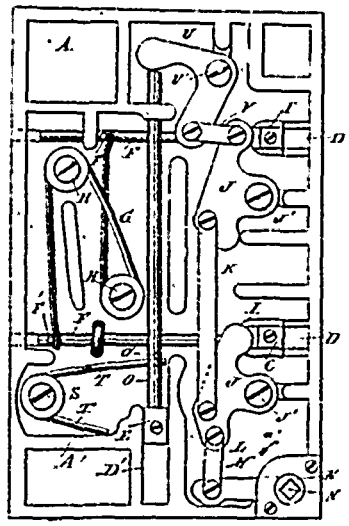
25984 Poole & Maclver's Apparatus for Erecting Overhead Telegraph, Telephone and Similar Wires.



25985 Harris' Lamp-Lighter and Extinguisher.

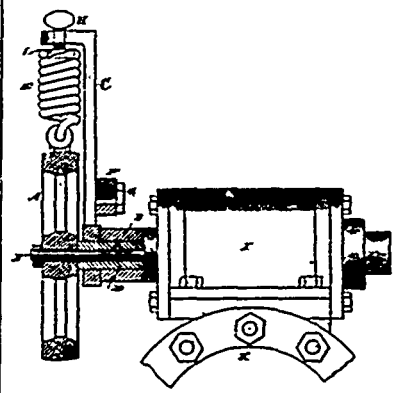


25986 Lewis' Fire Extinguisher.

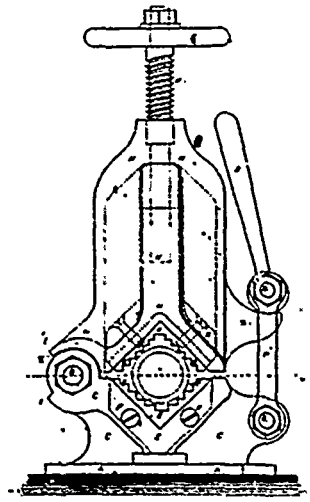


25987 Hawkes' Metallic Printing Block.

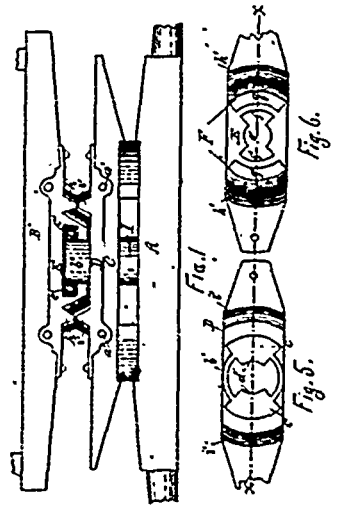
25988 Russell's Hair-Pin.



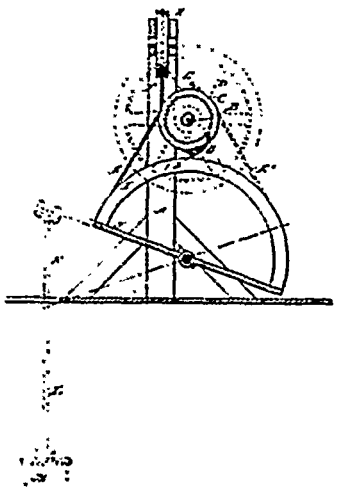
25989 Kimball's Automatic Cut-Off Valves for Steam Engines.



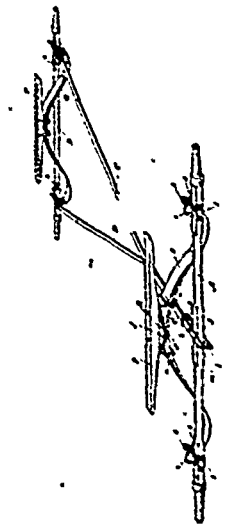
25990 Rose's Pipe Vise.



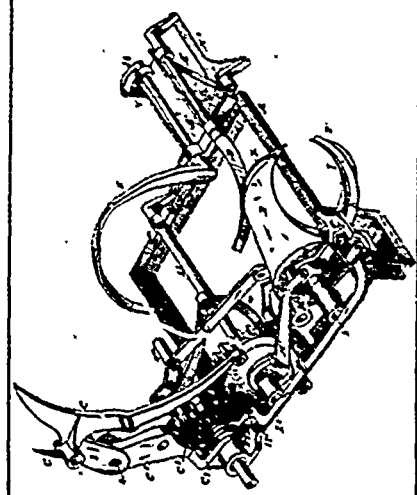
25991 Foytier's Pivotal Coupling for Front Axles.



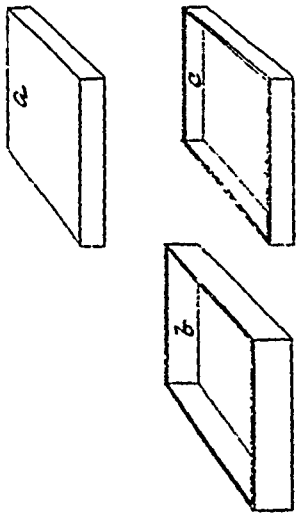
25992 McCabe's Motor.



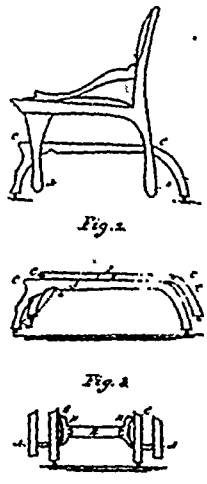
25993 Armstrong's Carriage Gear.



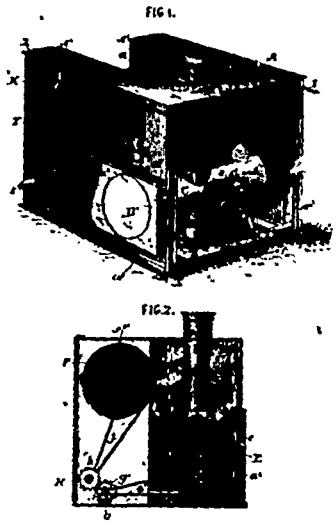
25994 Tetrault's Grain Binder.



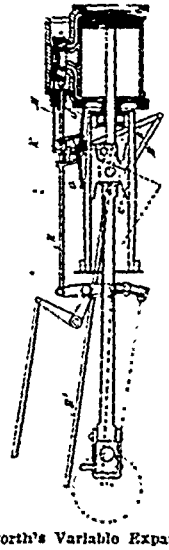
25995 Stout's Package for Confectionery.



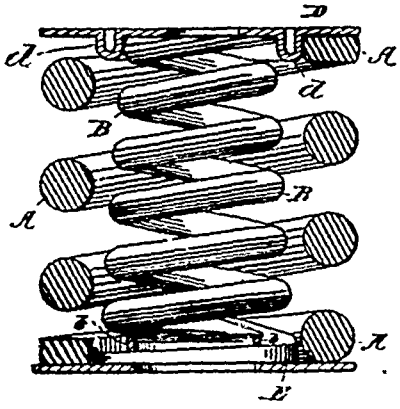
25996 Sharp's Rocking Chair.



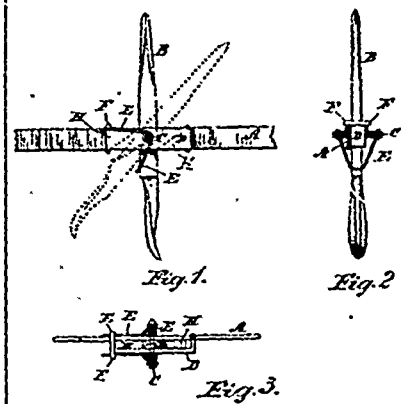
25997 Pheeney's Signal Apparatus.



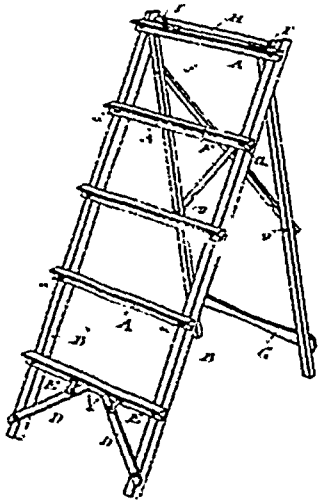
25998 Hepworth's Variable Expansion Gear for Locomotives.



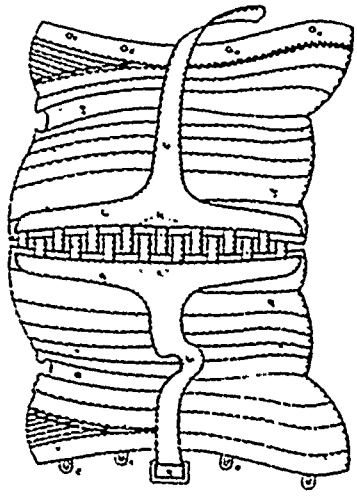
25999 Voso's Car Spring.



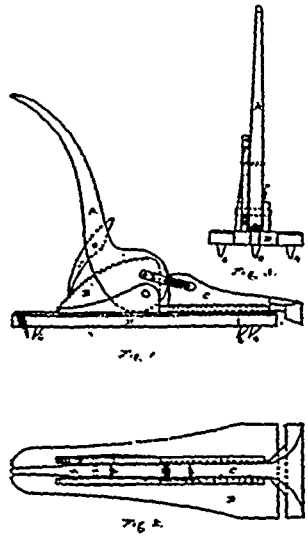
26000 Parker's Combined Drag Harrow and Cultivator.



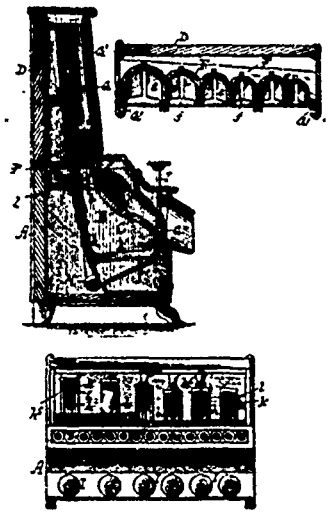
26002 Russell's Step-Ladder.



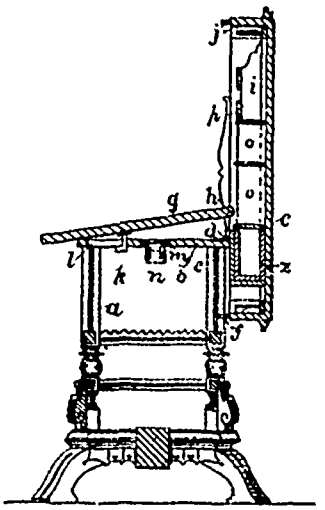
26003 Gilbert's Corset.



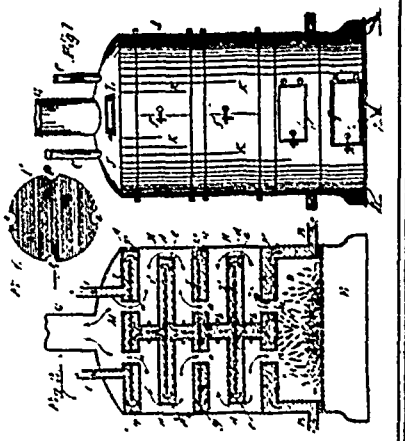
26004 Bayer's Floor Clamp.



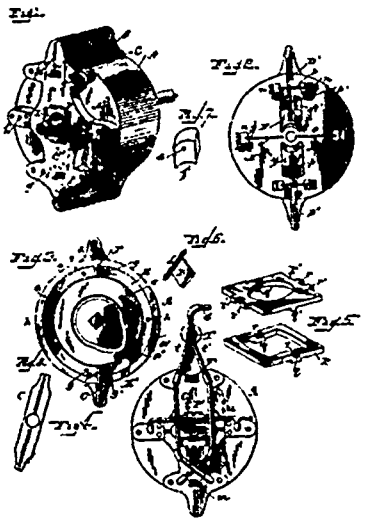
26005 Carney's Cash Box.



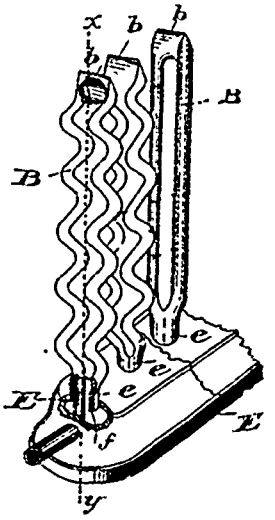
26006 Moore's Table and Writing Desk.



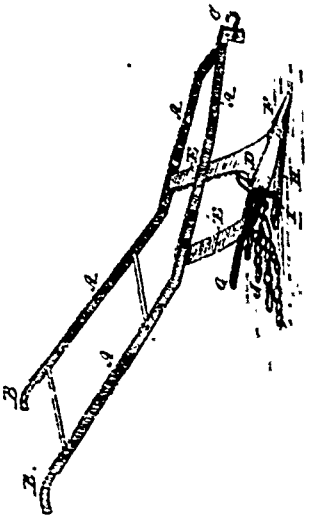
26007 McPhie's Hot Water Heating Boiler.



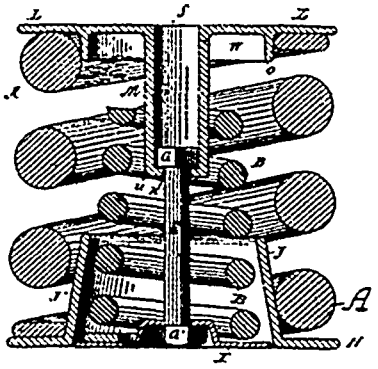
26008 Wherry's Rotary Steam Engine.



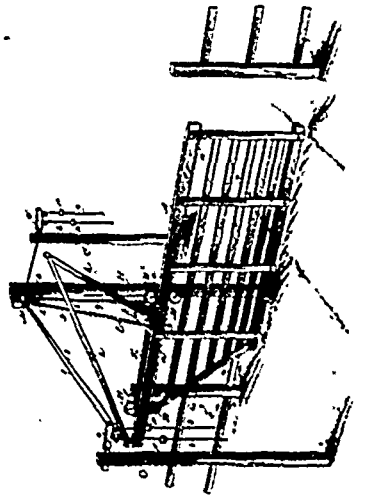
26009 Kirkwood's Steam Radiator.



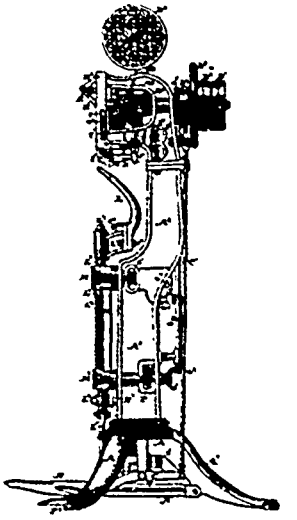
26010 Parker's Potato Digger.



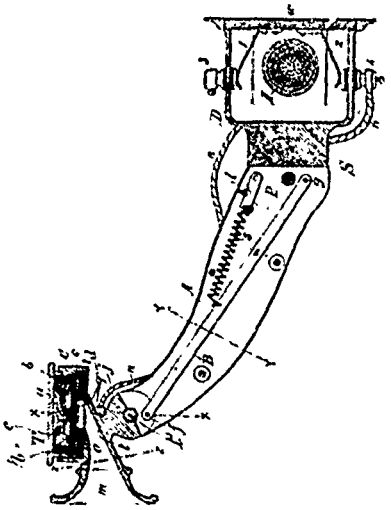
26011 Voso's Car Spring.



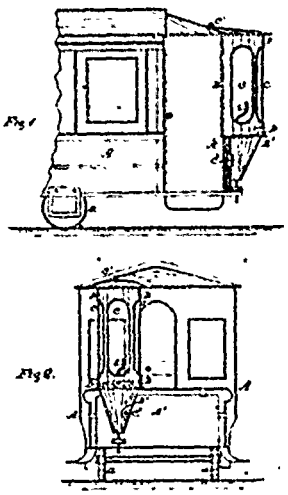
26012 Cox's Gate.



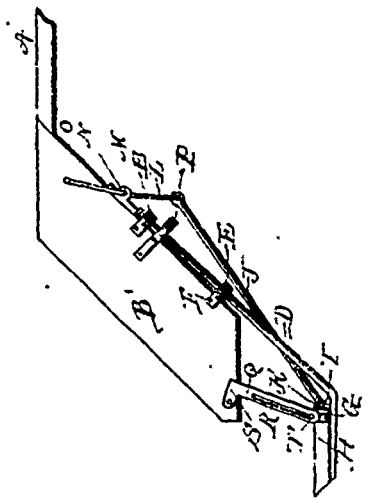
26013 Chaplin's Machine for Making and Driving Nails.



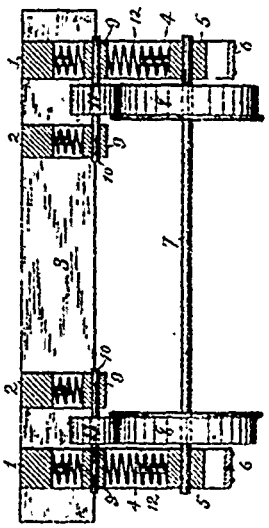
26014 Gilliland's Telephone Transmitter.



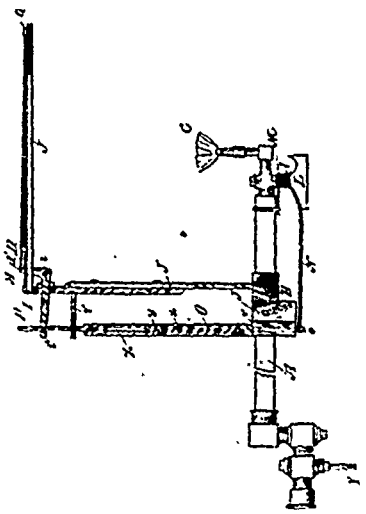
26015 Gardner's Shield for Street Car Drivers.



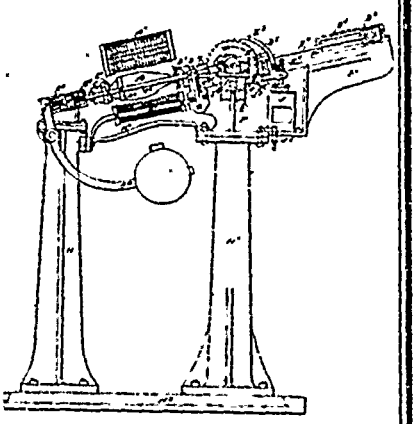
26016 Campany's Extension Steps for Passenger Coaches.



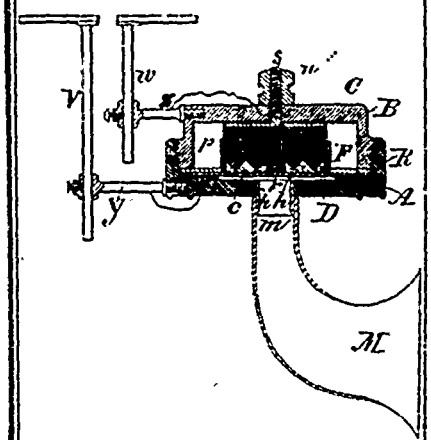
26017 Pearsall's Draft Reducer for Vehicles.



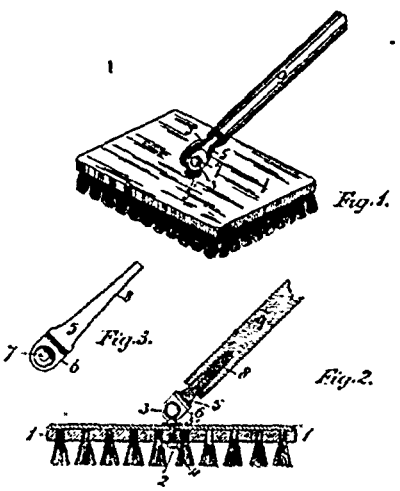
26018 Héroux's Automatic Gas Extinguisher.



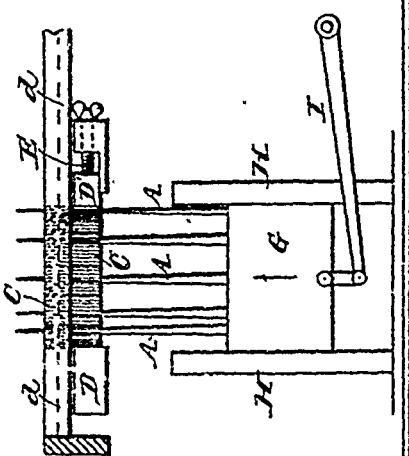
26019 Ferguson's Machine for Bottling Aerated Liquids.



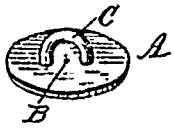
26020 Berliner's Telephone Transmitter.



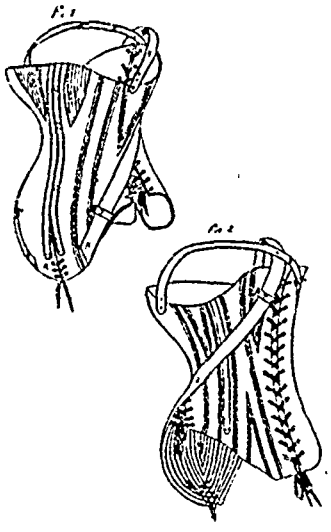
26021 Cline's Ball Joint for Connecting a Brush to its Handle.



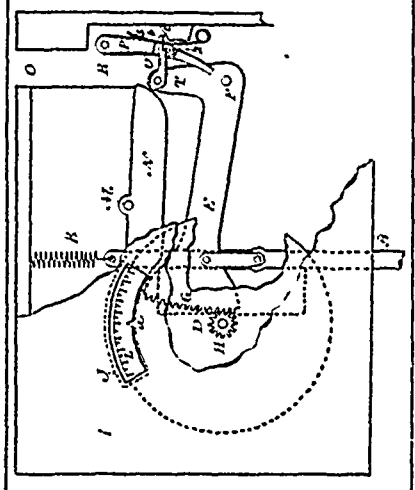
26022 Mergenthaler's Means for Justifying Matrices, etc.



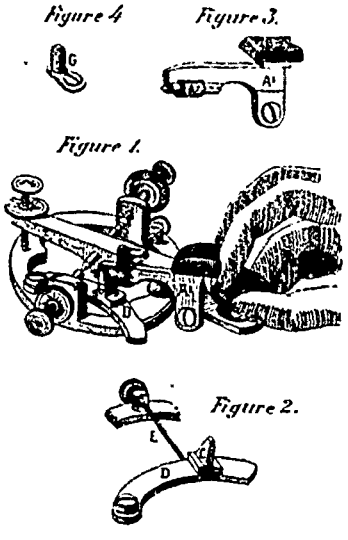
26023 Wales' Artificial Ear Drum.



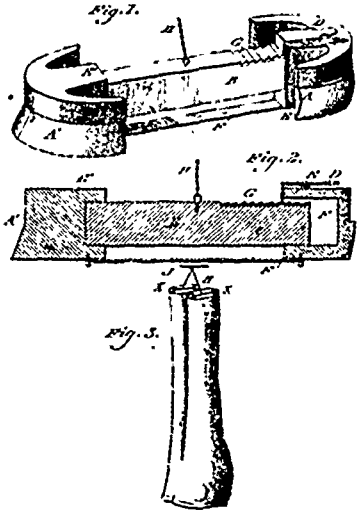
26024 Corlis' Corset.



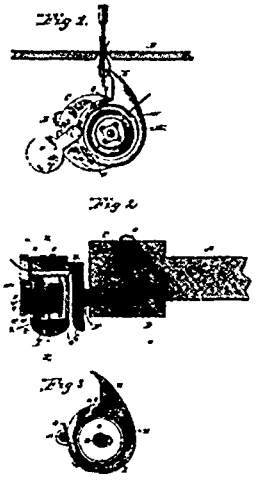
26025 Fairbanks' Indicator for Weighing Apparatus.



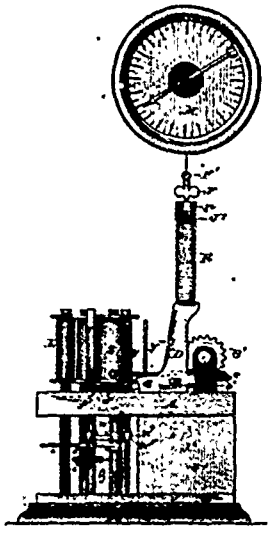
26026 Borland's Telegraph Key.



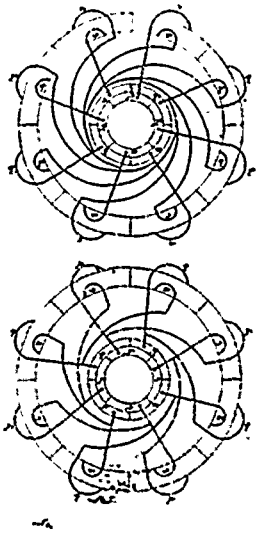
26027 Crommer's Trouser Stretcher.



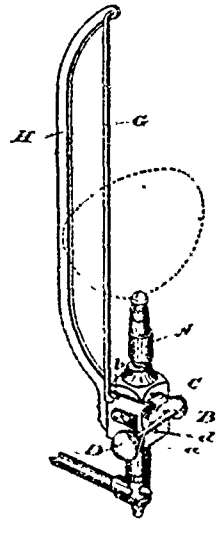
26028 Vannett's Oscillating Hook for Sewing Machines.



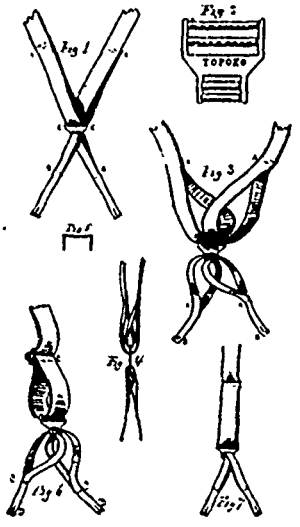
26029 Boyer's Device for Measuring Velocities.



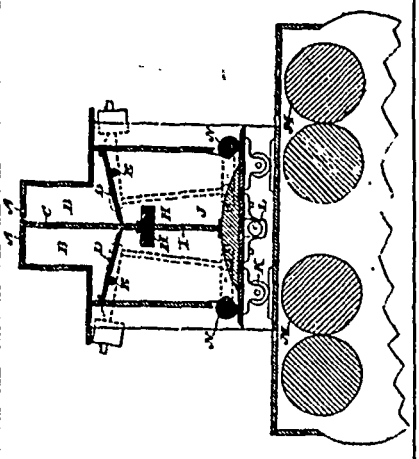
26030 Immisch's Electro motor, &c.



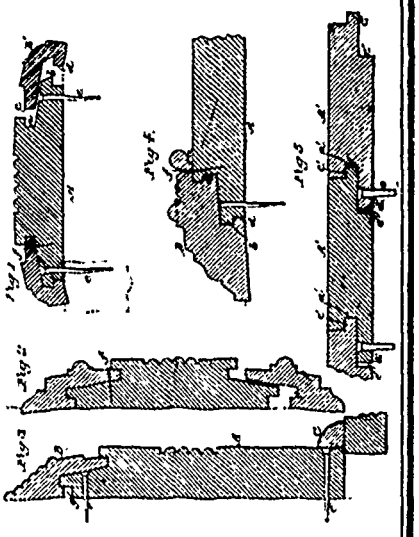
26031 Bryce's Cut-Off for Gas Burners.



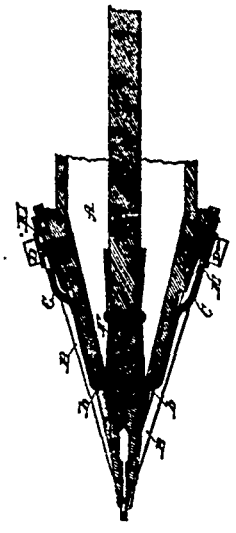
26032 Doran's Suspender.



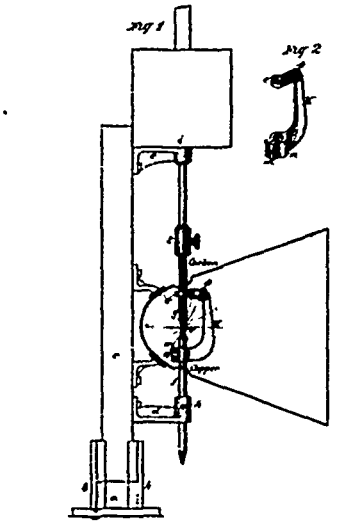
26034 Morgan's Feed for Roller Mills.



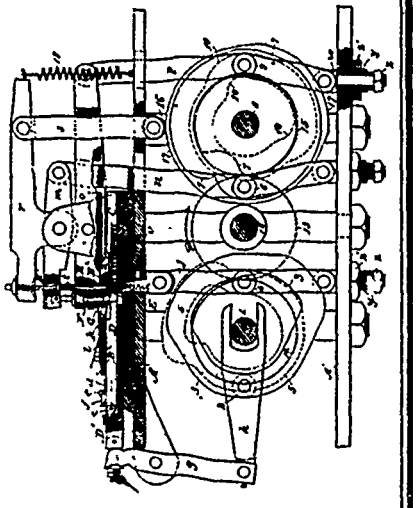
26035 Balsar's System of Blind Nailing.



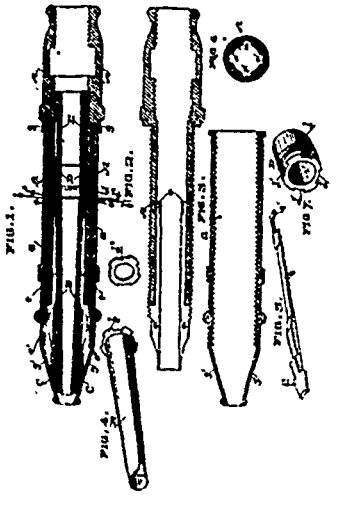
26036 Jones' Nail Plate Feeder.



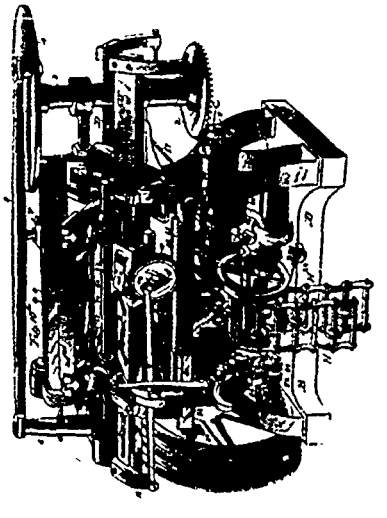
26037 Pyle's Electric Arc Lamp.



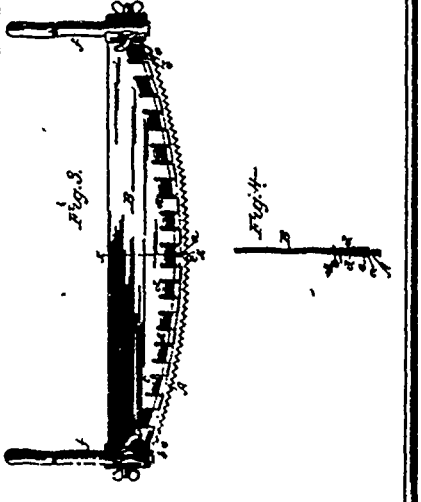
26038 Chase's Machine for Making Tacks.



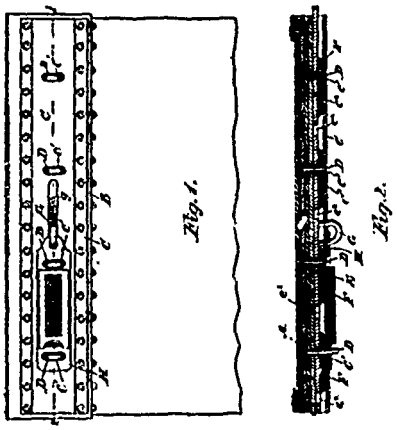
26039 Derrick's Variable Nozzle.



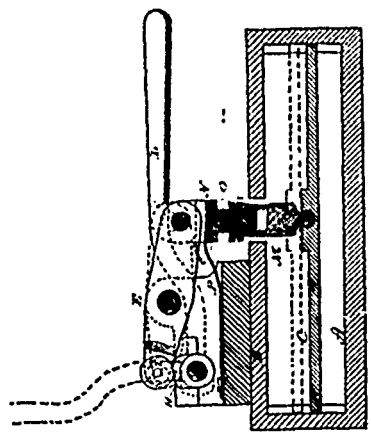
26040 Wilcomb's Knitting Machine.



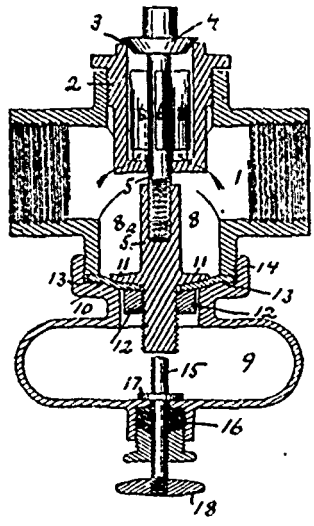
26041 Emerson's Saw.



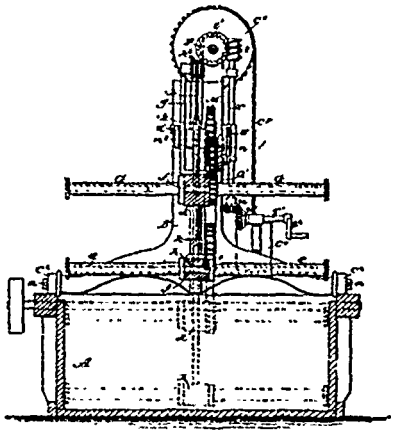
26042 Blackburn's Mail Pouch Fastening.



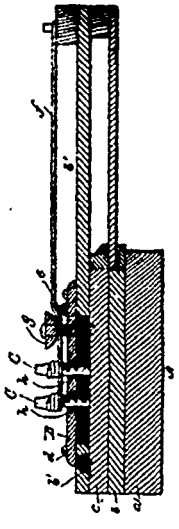
26043 Griffin's Letter Press.



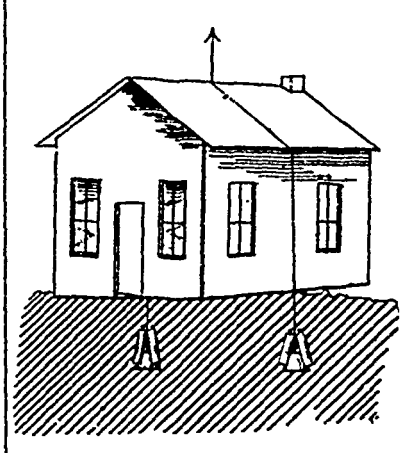
26044 Wainwright & Briggs' Fire Extinguisher.



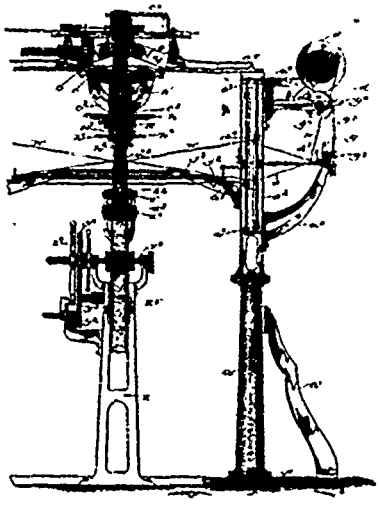
26045 Hanson's Dyeing Machine.



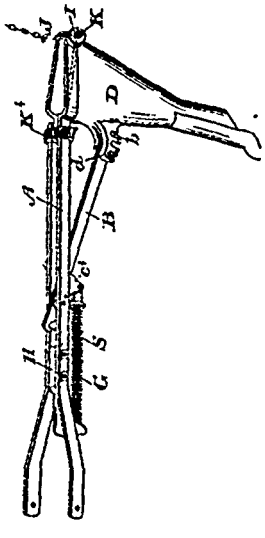
26046 Perry's Piano.



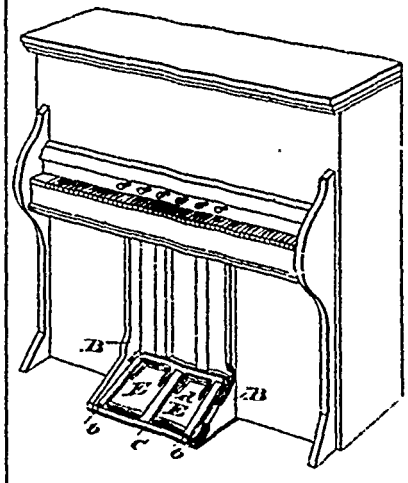
26047 Stite's Land Anchor and Lightning Conductor.



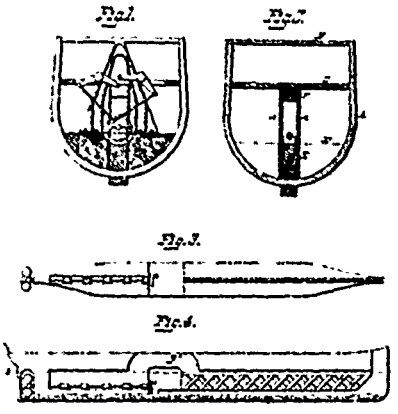
26048 DeLaski's Circular Loom.



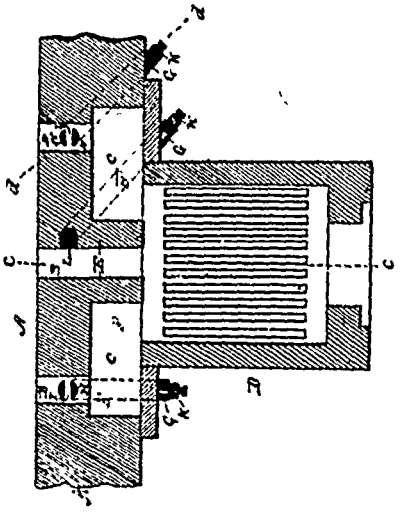
26049 Wisner's Spring Hoe.



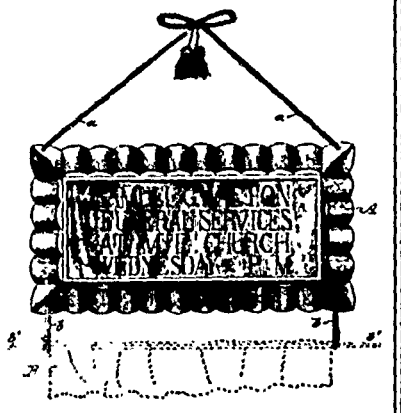
26050 Laughlin's Organ Pedal.



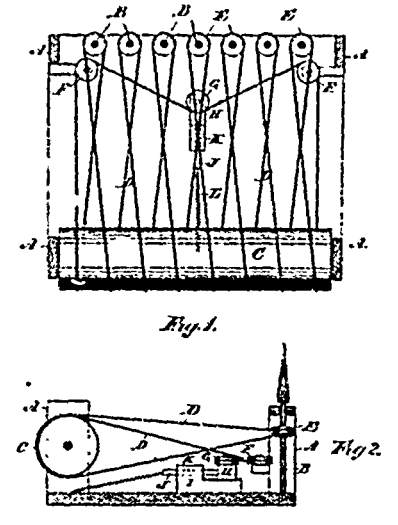
26051 Fryer's Construction of Marine Vessels.



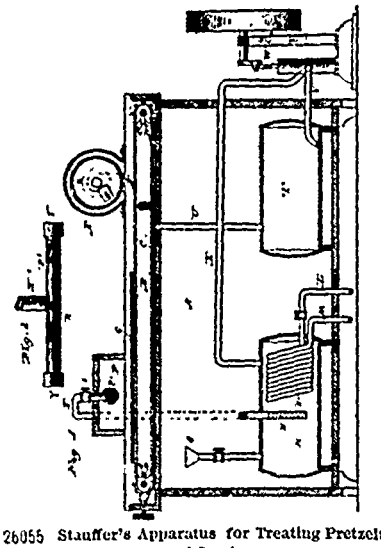
26052 Morrison's Brick Kiln.



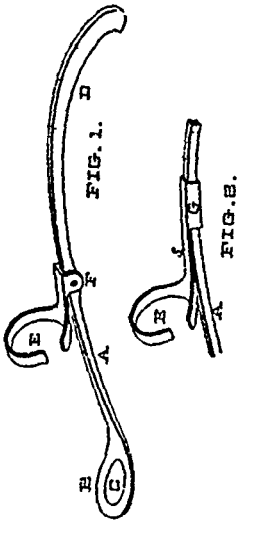
26053 Grosjean's Device for Advertising Funerals.



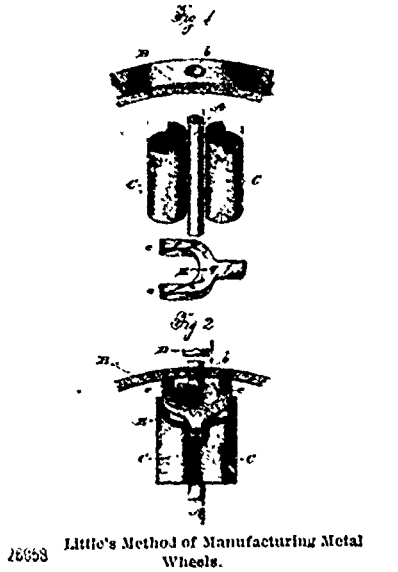
26054 Ayre's Mode of Driving Spindles.



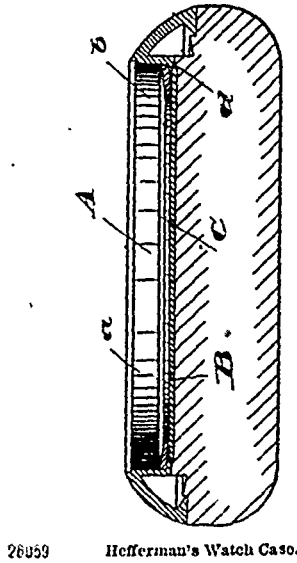
26055 Stauffer's Apparatus for Treating Pretzels and Crackers.



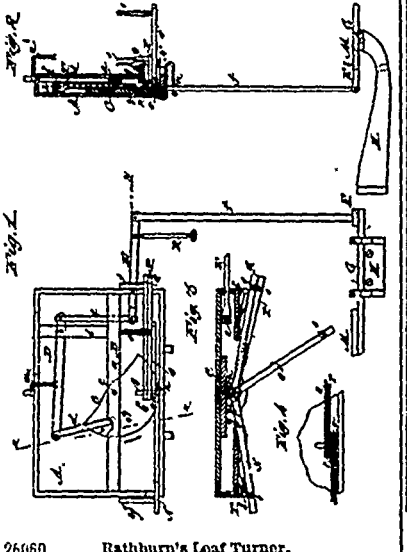
26057 Wilcox's Digital Forceps.



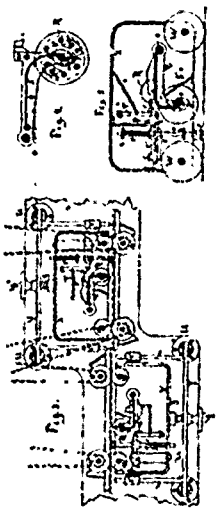
26058 Little's Method of Manufacturing Metal Wheels.



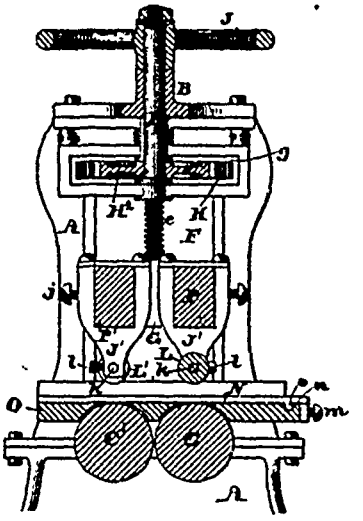
26059 Heffernan's Watch Case.



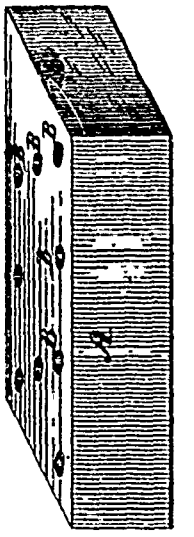
26060 Rathburn's Loaf Turner.



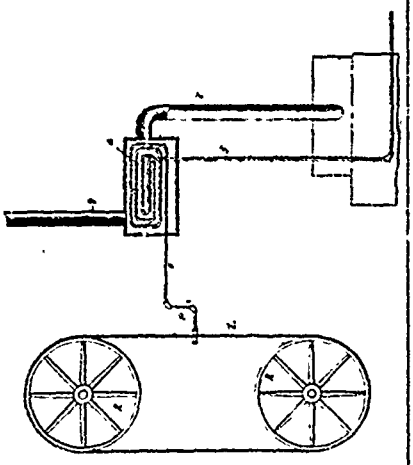
26061 Hey & Laass' Mail Marking Apparatus.



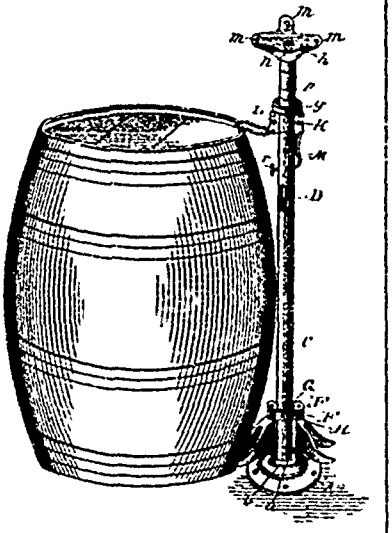
26062 Jamison's Machine for Ornamenting Wood.



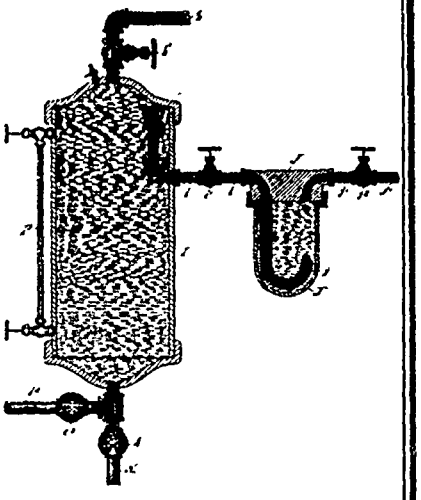
26063 Bush's Building Block.



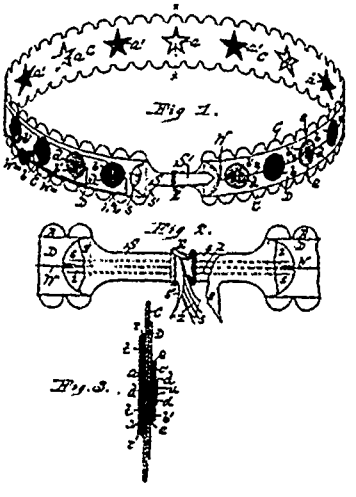
26064 Ballew's Heating Apparatus for Removing Gum from Saws.



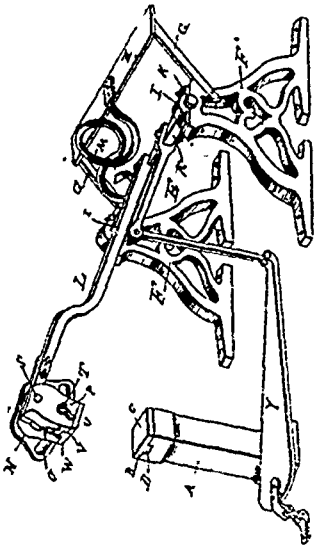
26065 Pollard's Barrel Stand, Swing and Counter Support



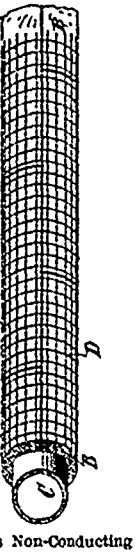
26066 Morrison's Power Increasing and Fuel Saving Device for Steam Boilers.



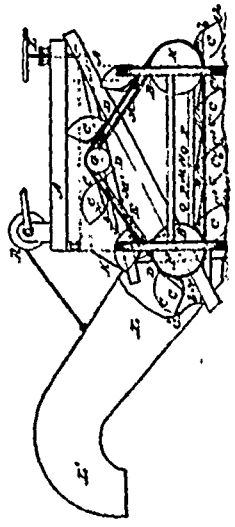
26067 Baer & Cummings' Medicated Electric Belt.



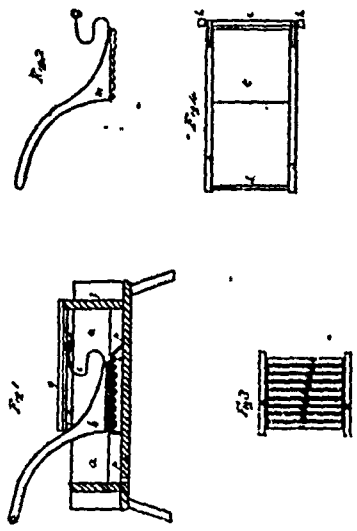
26068 Welsh's Oliver.



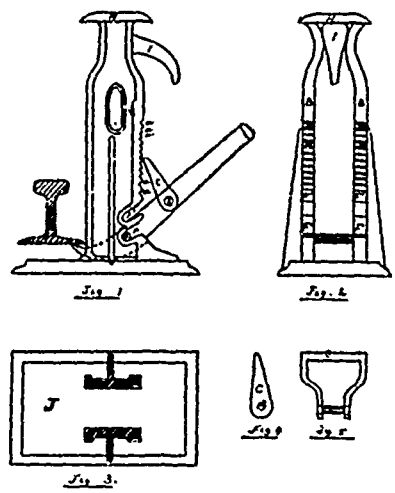
26071 Hanmore's Non-Conducting Covering or Jacket.



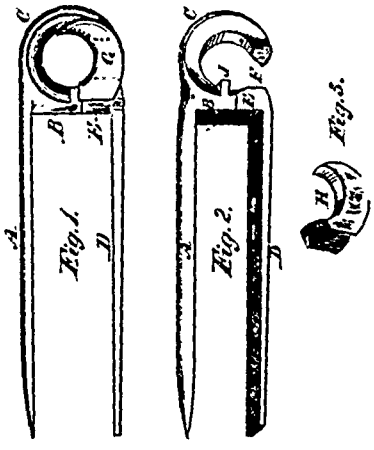
26072 Howard's Excavator.



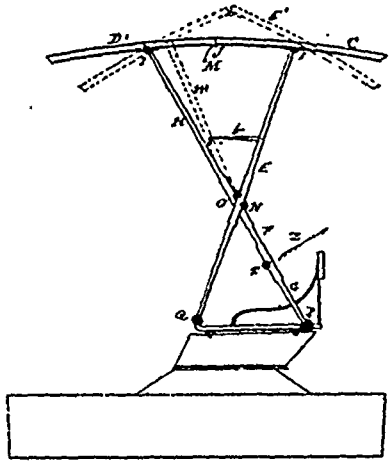
26073 Wilkinson & McCall's Washing Machine.



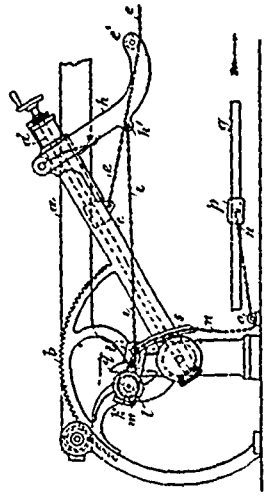
26074 Rainnie's Machine for Lifting Railway Tracks.



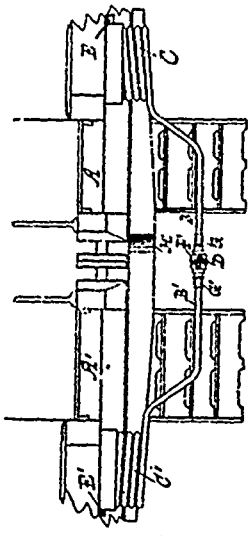
26075 Dunning's Waggon Tongue Tip.



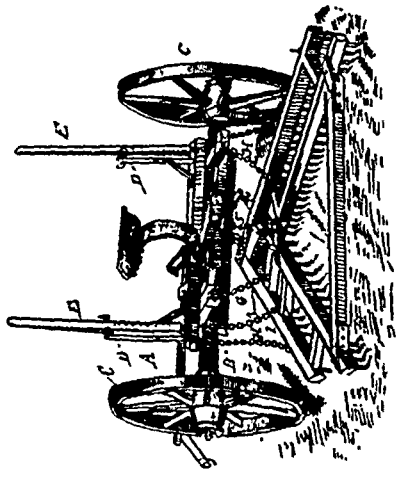
26076 Krause's Folding Canopy Top for Carriages.



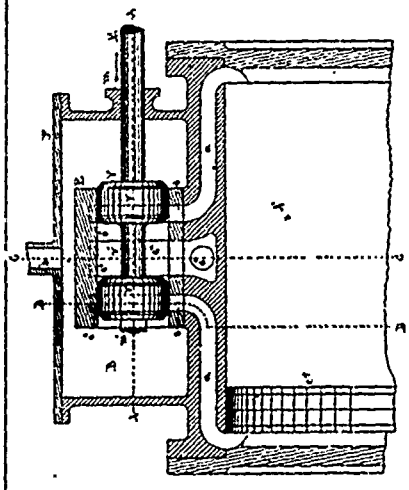
26077 Holt's Winding-on Motion for Spinning Mules.



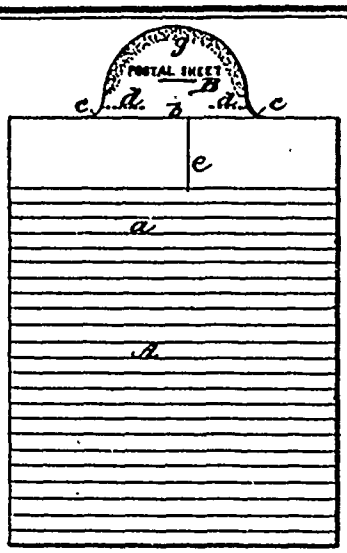
26079 Drodzowski's Steam pipe Connection Between Railway Cars.



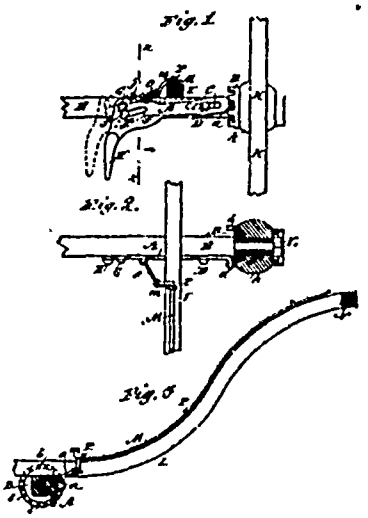
26080 Cox's Harrow.



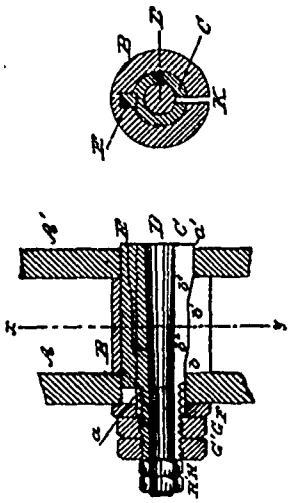
26081 Ferguson's Engine Valve.



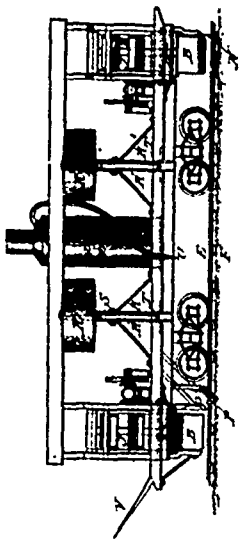
26082 Terry's Letter Envelope Sheet.



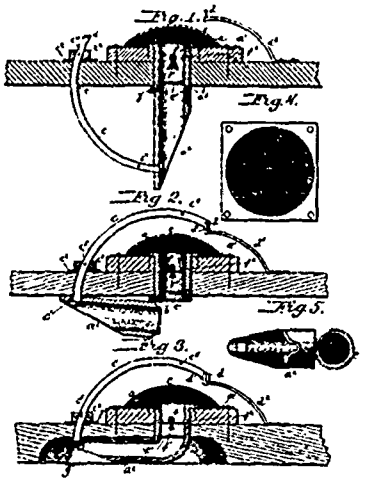
26083 Hens' Brake for Children's Carriages.



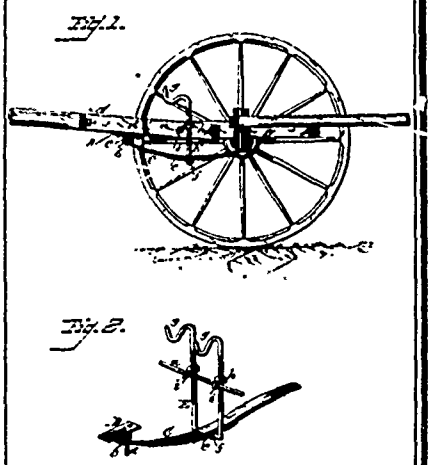
26084 Montgomery's Expansible Connecting Pin.



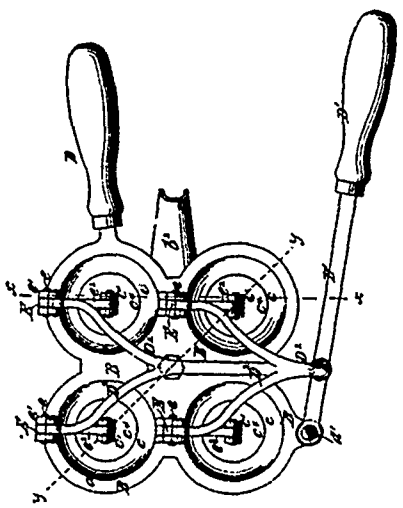
26085 Howard's Snow Plough.



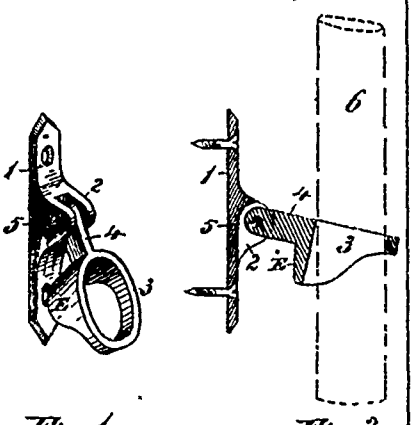
26086 Cook's Bilge Water Pump.



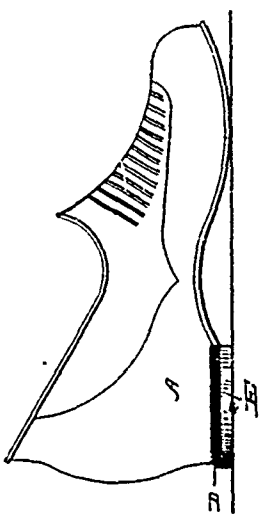
26087 Cassidy & Oldfield's Vehicle Tongue Support



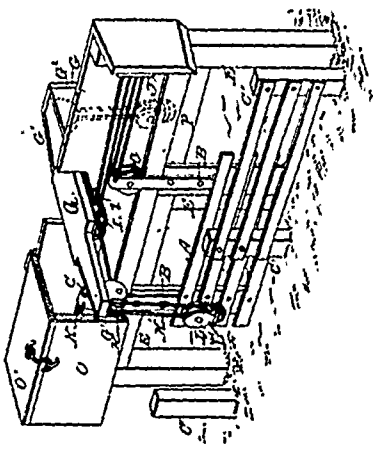
26088 Durand's Cow Milker.



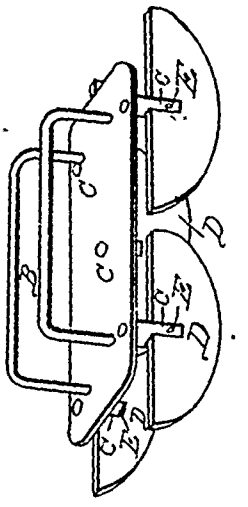
26089 Ellis' Broom Holder.



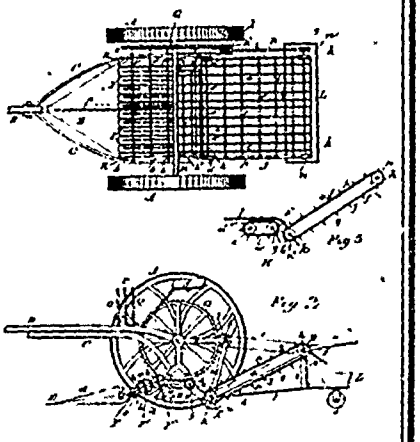
26090 Cannon's Rubber Shoe.



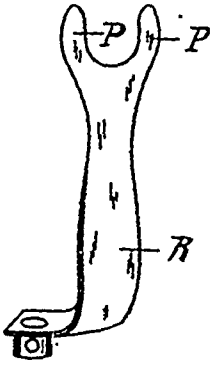
26091 James & Lazenby's Sliding Gate.



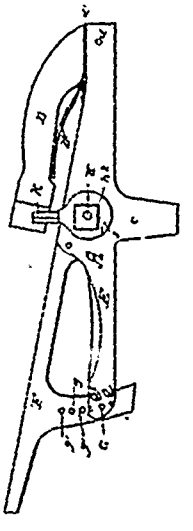
26092 Demarest's Pot Scraper.



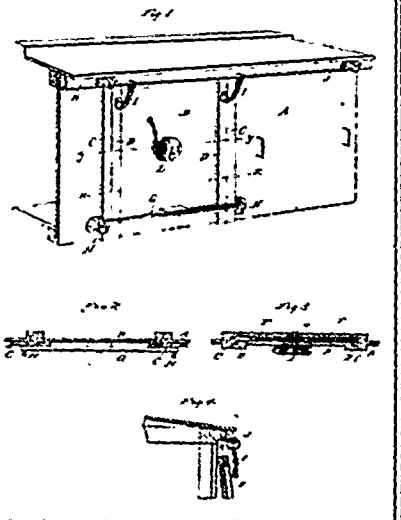
26093 Binkley's Potato Digger.



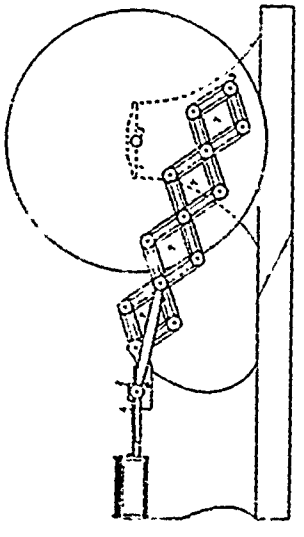
26094 Smith's Thread Releaser for Sewing Machines.



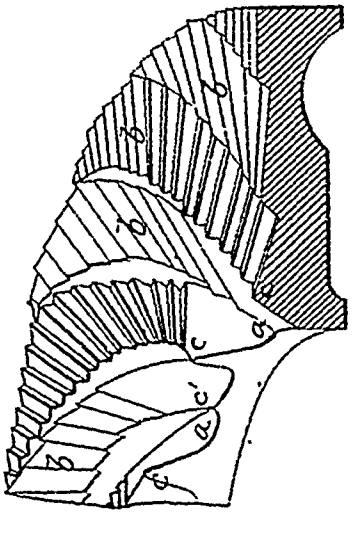
26095 Flater's Saw Set.



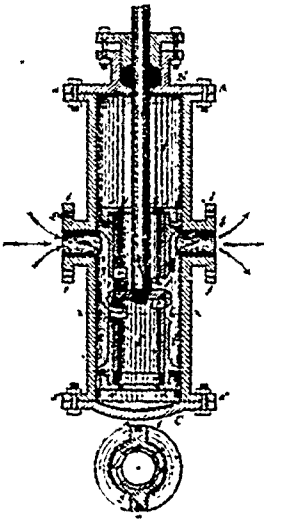
26096 Brown's Freight Car Door.



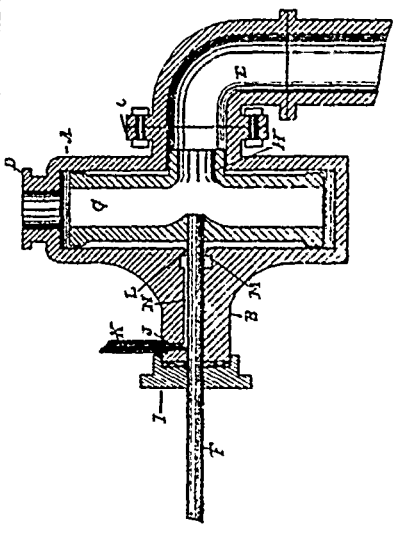
26097 Prince's Steam Engine.



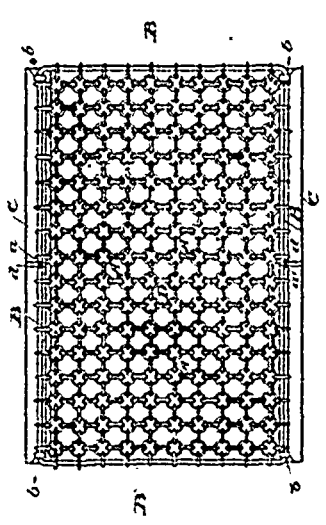
26098 Raymond's Grinding Disk.



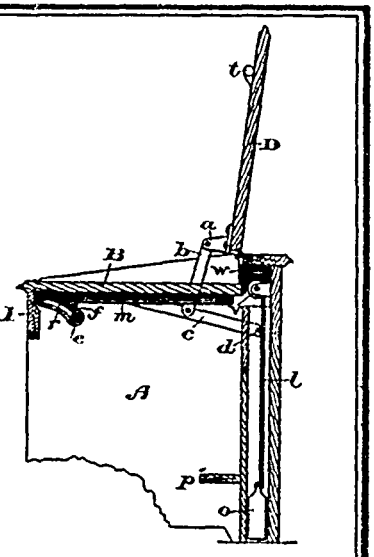
26099 Powers' Force Pump.



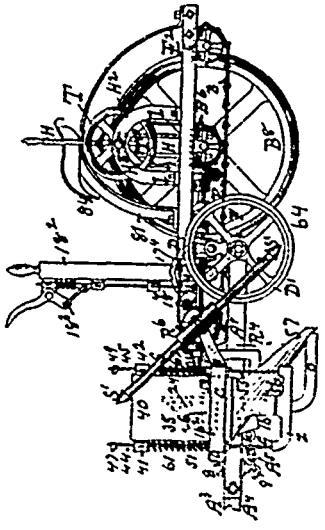
26100 Hawley's Centrifugal Pump.



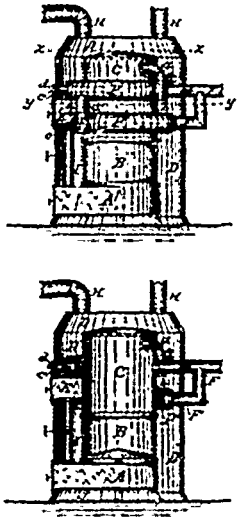
26101 Smith's [illegible]



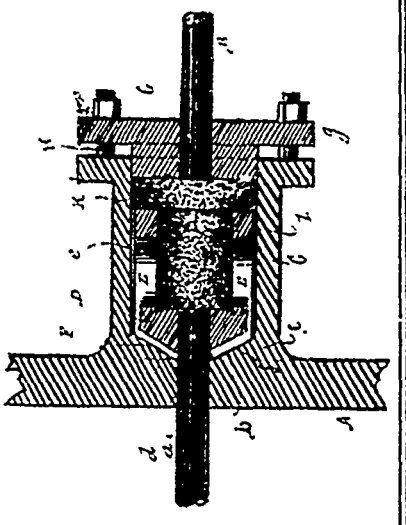
26102 Horrock's Cabinet for Type Writers.



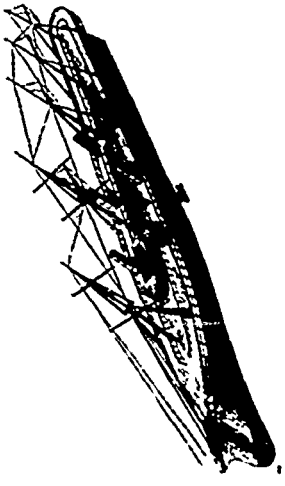
26103 Skiles' Corn Planter.



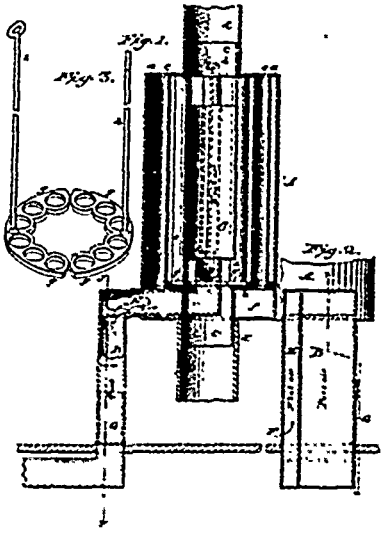
26104 Pease's Hot Air Furnace.



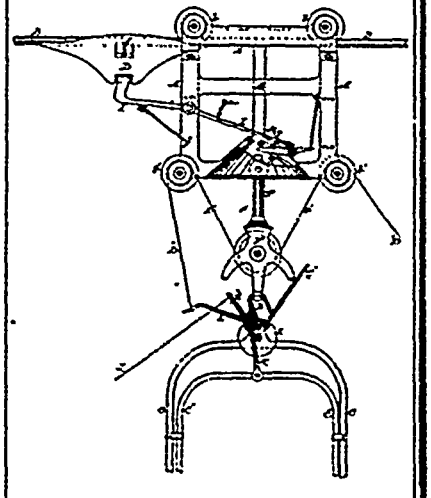
26105 Clark's Stuffing Box.



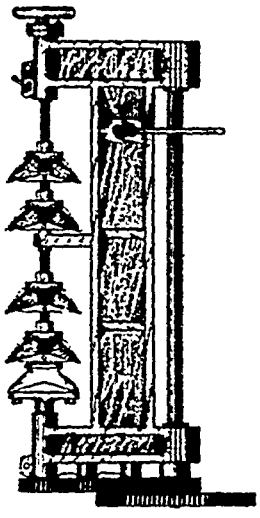
26106 Fryer's Iron Ship.



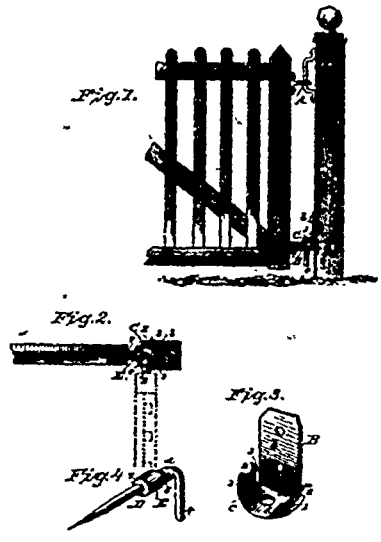
26107 Owen's Ventilator and Heater.



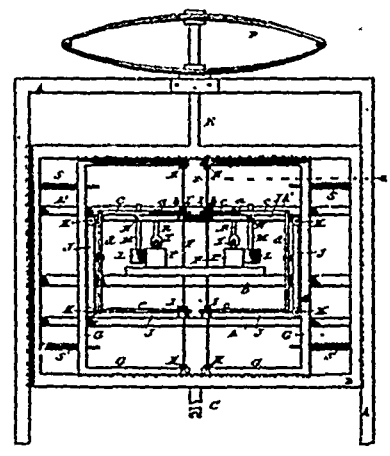
26108 Hunt's Hay Carrier and Fork.



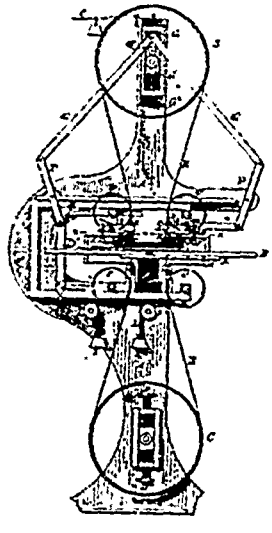
26109 Millett's Copying Lathe.



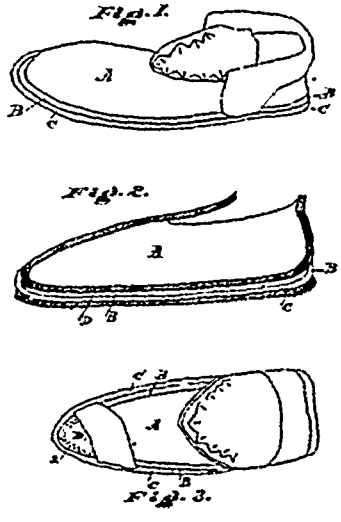
26110 Olinger's Gate Hinge.



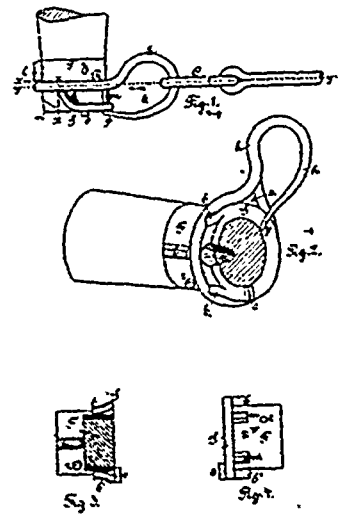
26111 Maxwell's Scroll Saw Machine.



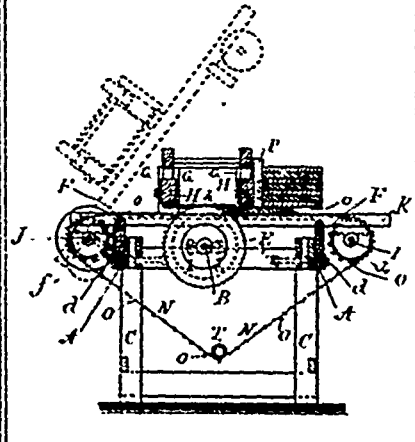
26112 Maxwell's Band Saw Machine.



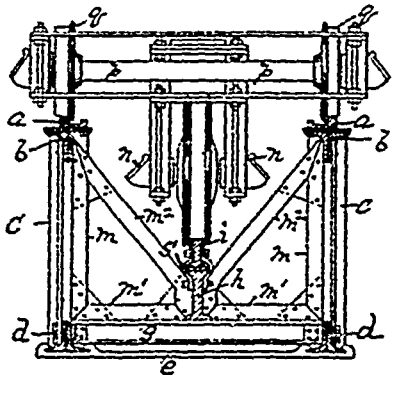
26113 Gallick's Snow-Shoe Moccasin.



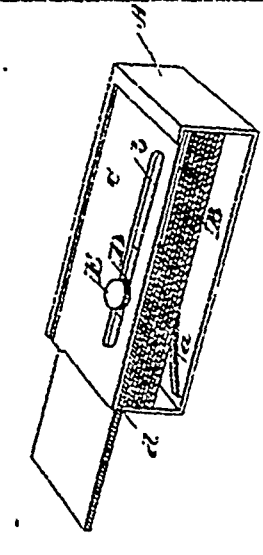
26114 Davis' Whiffletree Hook.



26115 Barnes' Gang Cross-Cut Sawing Machine.



26116 Mack's Elevated Railroad Track and Truck Therefor.



26117 Currie's Ticket Box.