

vided with a suitable outlet, another shell or casing arranged within and concentric with the outer casing, a coil formed of a flattened tube lined with non-corrosive material and arranged within the inner shell, a bulb fitted on the inner end of the coil, a pipe extending from the lower portion of said bulb, another pipe leading from the upper part of the bulb, and a hydro-carbon burner arranged within the inner shell below the coil therein, substantially as shown and described for the purpose specified.

No. 37,738. Time Recorder. (*Régistre horaire.*)

Willard Le Grand Bundy, Binghampton, New York, U.S.A., 5th November, 1891; 5 years.

Claim.—1st. In a time recording apparatus, hour and minute wheels, a rotating key provided with a number or character upon a bit thereof, to register the operator, upon a strip and an impression hammer. 2nd. In a time recording apparatus, the combination with the impression hammer, of hour and minute registering wheels, a key inserted and turned to bring the number or character upon the bit thereof into alignment with said wheels and a registering strip. 3rd. The combination with the key, of the slotted receiver receiving it and rotating with it. 4th. The combination with the key and the slotted receiver, receiving it and rotated by the turning of the key, of the impression hammer. 5th. The combination of the key, the slotted receiver, receiving it and rotated by the turning of the key, and the hour and minute registering wheels, of the registering strip and the impression hammer. 6th. The combination with the key, the bit thereon carrying the numeral or character, the slotted receiver, and rotated by the turning of the key, of the registering strip and the impression hammer. 7th. The combination with the key, the bit thereon carrying the numeral or character, the beveled ward upon said key, and the slotted receiver receiving the key, of a swinging pawl provided with a series of steps on its face with which the key ward successively engages. 8th. The combination with the key, its beveled ward, and number bit, and the slotted key receiver, of a swinging pawl provided with steps on its face, with which the key ward successively engages, a frame with which said pawl engages when the key is turned, and intermediate mechanism actuated by the movement of said frame by which the hammer is actuated, hour and minute registering wheels, and a registering strip. 9th. The combination with the hour registering wheel and a disk connected thereto, provided with notches in its edge, of a disk provided with a single tooth adapted to engage with said notches successively, and synchronously with a clock movement through intermediate mechanism rotating the latter disk. 10th. A clock movement, hour and minute registering wheels, synchronous mechanism actuating said wheels, independently of each other and actuated by the clock movement, and a key provided with a bit carrying numbers brought into alignment with the hour and minute wheels by the turning of the key, a registering strip and an impression hammer in combination as set forth. 11th. A clock movement, hour and minute registering wheels, synchronous mechanism actuating said wheels independent of each other, and actuated by the clock movement, a key provided with a bit carrying numbers brought into alignment with the hour and minute wheels by the turning of the key, a ward upon the key, a registering strip, an impression hammer, operated by mechanism actuated by the ward of said key as it is turned, in combination as set forth. 12th. The combination with the key, and the slotted key receiver, of the steps upon the receiver controlling the forward and back turning of the key and receiver.

No. 37,739. Loom for Making Mesh Fabrics.

(*Métier pour faire les mailles des tissus.*)

James Knox, Kilbirnie, Ayr, North Britain, 6th November, 1891; 5 years.

Claim.—1st. In a net weaving machine or loom of the vertical class, the arrangement and use of vertical oscillating or reciprocating faller needles or needle hooks *a* operated from a treadle lever or its equivalent, and acting in combination with the front hooks *B* *b* alone, after the thread has been released from the ordinary fallers *A* for the purpose of putting a double loop turn or twist of the thread round the front hooks *B* *b* in forming the double knots on the net meshes, substantially as herein described. 2nd. In a net weaving machine or loom of the vertical class, the forming of a groove *c* in cam plate for a pin or arm *c* to traverse vertically in, for giving an auxiliary forward and backward motion to the front hooks *B* *b* to take up the double loop turn or twist of thread necessary to form the double knots on the net meshes from the vertical moving faller needles *a*, substantially as herein described and shown. 3rd. In a net weaving machine or loom of the vertical class, the constructing of the front hooks *B* with a new grooved part *b*, and the stationary needles *C*, with curved in points *c* for the purpose of forming a double knot on the net meshes, substantially as herein described. 4th. In a net weaving machine or loom of the vertical class, to produce double knots, the construction and combination of a plate or bar *c* with serrated or saw-like teeth below the points *c* of the needles *C*, substantially as and for the purposes herein described. 5th. In a net weaving machine or loom of the vertical class to produce double knots, the construction and combination of the pressing or "chapping" bar *D* with serrated or saw-like teeth *d*, substantially as and for the purposes herein described. 6th. In a net weaving machine or loom of the vertical class, the construction and combination of a lever *f* *f* or its equivalent operating a toothed wheel *f* for the purpose of giving a momentarily slackening back motion to the taking up net beam *F* during the forming of the double knot, substantially as and in the manner herein described.

No. 37,740. Bearings for Journals or Shattling. (*Coussinets pour tourillons ou arbres de couche.*)

William Stafford, Lancaster, Ontario, Canada, 6th November, 1891; 5 years.

Claim.—1st. The loose inner shell *d*, *d*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of inner shell *d*, *d* and slots *g*, *g*, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of inner shell *d*, *d*, slots *g*, *g*, and projections *f*, *f*, substantially as and for the purpose hereinbefore set forth. 4th. The combination of inner shell *d*, *d*, pedestal *a*, or any other form of pedestal, hanger, bracket, or any other bearing in shafting or machinery, substantially as and for the purpose hereinbefore set forth. 5th. The combination of inner shell *d*, *d*, recess *i*, hole *k*, spiral spring, ring, chain or any other similar oil conveyer, substantially as and for the purpose hereinbefore set forth.

No. 37,741. Safety Rolling Step Ladder.

(*Echelle roulante de sûreté pour vitriers.*)

Charles Hercule Damase Sincennes, Montreal, Quebec, Canada, 1891; 5 years.

Claim.—1st. A travelling step ladder supported on rollers about midway of its length, substantially as described. 2nd. A travelling step ladder, the combination with store shelving provided with guide railing, one at the top and the other about midway to the bottom, of a step ladder having travelling connection with such railing and means for supporting such ladder midway of its length, substantially as described. 3rd. The combination with store shelving and rails running longitudinally along the face of same at the top and midway to the bottom, of a step ladder having travelling connection and confined between said upper and lower guide rails, substantially as described. 4th. The combination with store shelving and rails running longitudinally along the projecting top board and the counter ledge of same, of a step ladder carrying rollers at its upper end to travel along the top board rail, and a support carried by the ladder and projecting rearwardly to the counter ledge rail with which it has a travelling connection, as set forth.

No. 37,742. Electric Comb. (*Peigne électrique.*)

John Matthew Riley, Cleveland Ave., Township of Harrison, New Jersey, U.S.A., 7th November, 1891; 5 years.

Claim.—1st. An electrical comb combining therein a series of electrically different plates separated by an electrical non-conductor a chamber for an excitant and means for holding said plates and insulators in a voltaic pile, substantially as set forth. 2nd. An electrical comb, the back of which provides a longitudinal receptacle, a series of toothed and electrically different plates arranged within said receptacle, and means for insulating said plates and for exciting electrical action, substantially as set forth. 3rd. The improved electric comb herein described, combining with a slotted tube, furnishing rigid abutments at its opposite ends, a series of insulated and alternating plates, forming a voltaic pile, held rigidly within said tube by said abutments, substantially as and for the purposes set forth. 4th. The improved electric comb herein described, combining therein a slotted tube having one end turned inward to form an abutment, a series of insulated plates pressed against said abutment and held by a co-operating abutment secured to the opposite end of the tube, the said plates being provided with combining teeth and perforated to form a chamber for generating material, substantially as and for the purposes set forth. 5th. In combination with the slotted tube, the dissimilar plates *c*, *d*, having projections *c*, and insulating washers *e*, all arranged and combined substantially as and for the purposes set forth.

No. 37,743. Carbon for Arc Lamps.

(*Carbon pour lampes à arc.*)

Samuel Irwin, Markdale, Ontario, Canada, 7th November, 1891; 5 years.

Claim.—1st. A continuous carbon for use in electric arc lamps consisting of a series of sections, each section being fitted at one end with a male joint consisting of a pin fitted on its side face with a lug, and a female joint consisting of a recess to receive the pin of the adjacent section, a slot entering into said recess of the female joint to receive the lug on the pin of the male joint, said slot bent to form an angular recess into which said lug is turned to securely hold the two sections together, substantially as described. 2nd. A continuous carbon for use in electric arc lamps consisting of a series of sections, each section being fitted at one end with a male joint consisting of a pin having a groove or channel extending lengthwise along said pin to its free end, said groove bent to form an angular recess, and at the other end with a female joint consisting of a recess, a lug secured to the inner face of said recess to enter said channel in the pin of the male joint of the adjacent section, substantially as described.

No. 37,744. Cork Screw. (*Tire-bouchon.*)

David W. Davis, Detroit, Michigan, U.S.A., 7th November, 1891; 5 years.

Claim.—As a new article of manufacture, a corkscrew having a foldable handle, a fulcrum plate consisting of a flat blade pivoted in one end of the handle, said fulcrum having pointed arms adapted to fit between the mouth of the bottle and the cork, and a pointed and concealed wire cutter extended therefrom and forming part thereof, substantially as described.

No. 37,745. Pocket Attachment.

(*Attache pour poches.*)

Joseph Ledoux, Montreal, Quebec, Canada, 7th November, 1891; 5 years.

Claim.—1st. The combination in a pocket attachment of the pocket frame *A*, consisting of the bar *a*, having arms provided with clasps adapted to grasp the side of the pocket, with the article to be attached having a hook secured thereunto adapted to engage with