

tool-holders D held within the tool-box C, in combination with the double cam G, spindle F, spur-wheel H and worm pinion J, connected to some reciprocating part of the machine, substantially as and for the purpose specified. 3rd. The tool-holders D held within the tool-box C, the double cam G connected to the spindle F, which is journaled in the tool-box C and has fixed to it the spur-wheel H, meshing with the worm pinion J fastened to the spindle J, the said spindle being journaled in the tool-box C and provided with the pulley K, in combination with the cord L wrapped around the pulley K and passing around the pulleys H and N, the said pulleys deriving motion from the vertical reciprocating movement of the feed-rod B, which is provided with dogs Q, set so that they will come alternately in contact with the arm P, substantially as and for the purpose specified.

No. 18,623. Gas Apparatus. (*Appareil à Gaz.*)

Henry J. Rogers, Watford, England, 7th February, 1884; 5 years.

Claim.—1st. The combination of retorts with a boiler heated by gas or fuel for the manufacture of gas, substantially as and for the purpose set forth herein. 2nd. The tappet and lever arrangement for automatically shutting off and re-starting the supplies of oil, steam and gas, substantially as and for the purpose herein described. 3rd. The use of the residuals either separately or mixed with the original oil for the purpose of cheapening the production of gas, substantially as herein described.

No. 18,624. Duplicate Memorandum or Sale Slip. (*Feuille d'Agenda ou de Vente Double.*)

John H. Frink, Detroit, Mich., U.S., 7th February, 1884; 5 years.

Claim.—1st. A memorandum-book for salesmen composed of the flexible back piece A, the series of paper sheets provided with the lines of perforations b, b₁ and having one end secured to one end of the back with the carbon sheet on top, the fly-leaves of the sheets from the line of perforations h outward, all lying in contact with each other, and all adapted to fold over the carbon sheet with one end of the flexible back, substantially as and for the purpose described. 2nd. A memorandum-book consisting of the series of sheets provided with the lines of perforations b, b₁ and a carbon sheet on top, and a flexible back extending the full length of the sheets and having one end turned round in the form of a fly A₁, which is confined down upon the paper and carbon sheets by an elastic band, the fly-leaves of the sheets from the line of perforations h outward, all resting directly against each other, and with one end of the flexible back adapted to fold over the carbon leaf, substantially as described. 3rd. The combination, with a block of memorandum paper perforated along the lines b and b₁, of a cover A provided with a retaining fly A₁, a carbon sheet secured with the memorandum-paper under the retaining fly, said cover also provided with flies A₂ and A₃, adapted to secure the memorandum leaf C in place, substantially as described. 4th. The combination, with a block of memorandum paper perforated along the lines b and b₁, of a cover A provided with retaining flies A₂, A₃ and A₄, a carbon sheet secured with said memorandum-paper under the retaining fly A₁, a memorandum-leaf secured under the flies A₂ and A₄ and in connection therewith, elastic bands wherewith said flies may be firmly held in place, substantially as described.

No. 18,625. Apparatus for Amalgamating Gold and other Metals and Separating the same from their Ores by means of Mercury. (*Appareil pour Amalgamer l'Or et autres Métaux et les Séparer de leurs Minerais au Moyen du Mercure.*)

Sylvanus L. Trippe, Chicago, Ill., U.S., 7th February, 1883; 5 years.

Claim.—1st. The combination of the vessel A, pipe B provided with openings a near its lower end, mechanism for rotating the said pipe, bottom of the vessel C having perforations and supported above the convex perforated and ribbed diaphragm D fixed to the pipe B, immediately above the openings n, and one or more perforated diaphragms supported within the vessel A, above the diaphragm D, substantially as described. 2nd. The combination, with the vessel A for containing mercury, rotary pipe B having openings near its base, and base of the mercury, of the device for washing the foreign matter from the surface of the mercury comprising the vessel F for containing water surrounding, and fixed to the pipe B, whereby it revolves with said pipe, and provided with one or more laterally-branching tubes m closed at their outer ends and having perforations in their lower sides, substantially as described.

No. 18,626. Machine for Making Wire and other Solder. (*Machine pour faire la Soudure du Fil de fer et autre.*)

Edward L. Young and Lucius Dyer, Millbridge, Me., U.S., 7th February, 1884; 5 years.

Claim.—1st. In wire-solder machines, the combination, with a round melting chamber C, of a side chamber C₁, tubes D, D₁ and spout g, arranged as shown and described. 2nd. In apparatus for solder, the regulating discharging tubes D, D₁ for molten metal, or either of them, constructed of an outer straining tube k, retaining as shown and described. 3rd. An apparatus for running solder or more upper exposed grooves in or around its rim, of one or more knives a₁ and conductors H or H₁, for picking up and passing off the solder from the mold, and one or more spring pressure rollers I, for bearing down on the wire in the mold in proximity to the knife or knives, substantially as specified. 4th. In combination with the horizontally rotating mold or fan A, having one or more upper ex-

posed grooves f in or around its rim, one or more conductors H or H₁, each fitted with a knife or knives at its receiving end, and constructed to rise and fall at said end, and spring adjusting means for giving an easy contact of the knife or knives with the bottom of the groove or grooves in the mold, and for relieving the knife or knives from such contact when required, substantially as specified. 5th. The combination of the posts d₁, the springs c₁, the sleeve arms b₁ and adjusting nut f₁, with the raising and lowering conductor H or H₁, having an attached knife or knives a₁, and the horizontally rotating mold or pan A, having one or more upper exposed grooves in or around its rim, essentially as and for the purposes herein set forth. 6th. In apparatus for running solder wire, the horizontally rotating rim-flanged pan A adapted to hold water, having a centrally upwardly projecting boss on its bottom for reception of its shaft, an overflow pipe g and a series of upper exposed grooves f in its flanges e, substantially as specified. 7th. In apparatus for running solder wire, the combination, with a rotating mold and means for picking up and passing off the molded wire, of the rolls J, K, having attached knives or cutters m₁, and means for throwing said knives in and out of action during the rotation of the rolls for cutting the wire or wires into measured lengths essentially as described. 8th. The combination, with the wire delivering rolls J, K of the lever knives m₁, arranged within recesses in the sides of the lower rolls K, the springs n₁ and the rollers or stops o₁, substantially as specified. 9th. In apparatus for making solder wire, the combination, with the rotating grooved mold or pan A, and devices for passing off the wire therefrom, of one or more take-up reels L or L₁, and means for driving the same by friction, with provision for slipping as the roll of wire increases in diameter on the reels and whereby undue strain is taken off the solder wire, essentially as described. 10th. In take-up devices of apparatus for casting solder wire, the combination, in a take-up reel L or L₁, of the sectionally constructed and concentrically arranged body parts d₂, e₂, having the reel heads respectively attached to them, and a fastening device for holding said sections in place, substantially as and for the purpose herein set forth. 11th. The combination, in a take-up reel for the wire in an apparatus for making solder wire, of the concentric body parts d₂, e₂, having the reel heads respectively attached to them, the spring catch f₂, the friction producing spring h₂ and adjusting nut c₂, substantially as and for the purposes herein described.

No. 18,627. Grindstone. (*Meule.*)

Edward R. Mason, Des Moines, Iowa, U.S., 7th February, 1884; 5 years.

Claim.—An improved arbor for grindstones consisting of an axle having a fixed shoulder and clutch device, and a screw-threaded section, a sleeve adapted to be fixed in the eye of a stone and having the end of its bore shaped to engage the shoulder and clutch device on the axle, and a nut to engage the screw-threaded section of the axle and the end of the sleeve, for the purposes set forth. The axle a having a clutch device b c and a screw-threaded section d, the sleeve f having a fixed flange g at one end, and a screw-thread on its opposite end, and an enlargement h₁ in the end of its bore, the disk k and the nut m arranged and combined relative to each other and a grindstone, substantially as shown and described for the purposes specified. The method of securing the sleeve centrally in the eye of a grindstone for the reception of a removable axle, which consists in the following steps: first, placing the stone over the sleeve with its flanges resting on a suitable base; second, placing the stone over the sleeve so that the sleeve will project through the centre of the eye of the stone; third, filling the eye around the sleeve with cement; fourth, screwing down the clamping-disk on the projecting portion of the sleeve to cover and confine the cement until it hardens, substantially as and for the purpose specified.

No. 18,628. Mattress Frame. (*Châssis de Sommier.*)

Walter S. Thatcher, Waverley, N.Y., U.S., 7th February, 1884; 5 years.

Claim.—A mattress-frame consisting of side bars provided with concave bearings e and perforated forward extensions, in combination with the oblique transverse rocking end bar d having its lower edge seated in the said bearings, its upper edge provided with means for receiving the wire mattress or other fabric, and the eyeballs passing respectively through the side bars, and rocking bar carrying adjusting-nuts, and a rigid cross-bar connecting the side bars at the opposite end, substantially as specified.

No. 18,629. Horse Shoe. (*Fer à Cheval.*)

Simkin W. Farnham, Canard, N.S., 7th February, 1884; 5 years.

Claim.—1st. The combination of a cross-bar having convergent shovel or hoe blades, a pole secured at its inner to the middle of the cross-bar, a curved eyed bar secured to the end of the pole and curved towards one side, and an eye for the attachment of a swivel tree secured upon the end of the cross-bar, at the side of a pole to which the eyed bar turns, as and for the purpose shown and set forth. 2nd. The combination of a pole having its rear end bifurcated, an eyed bar secured to the end of the pole and curved to one side, a pair of handles secured upon the rear end of the pole, a cross-bar secured upon the under-side of the bifurcated rear end of the pole and having two pairs of parallel longitudinal slots, two hoe blades secured upon the lower ends of two bars secured to the under-side of two plates having upright bolts sliding in the slots, and having perforated plates and fastening nuts at their upper ends, and an eye adapted to have a swivel tree attached to it and secured to the end of the cross-bar, at that side to which the eyed bar upon the pole is turned, as and for the purposes shown and set forth.

No. 18,630. Machine Knitted Stockings.

(*Bas de Tricot à la Machine.*)

John Penman, (Assignee of Richard Schofield), Paris, Ont., 7th February, 1884; 5 years.

Claim.—As an improvement in the art of manufacturing machine knitted stockings, the transferring of a plain foot from the machine