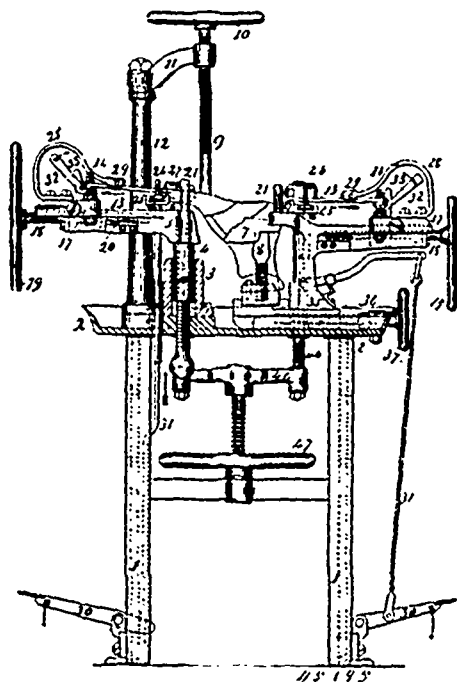


A hot water heater, having a fire-pot section, a self-feeding fuel section above such fire-pot, tubular connections and an enclosing casing, for the purposes set forth. 5th. A hot water heater, having a water-jacketed fire-pot section, a water-jacketed self-feeding fuel section, tubular connections between same, flow pipes taken from the feeder section and return pipes connected with the fire-pot section, and an enclosing shell or casing for the purposes set forth. 6th. In a hot-water heater, the combination of the outer enclosing shell or casing, the water-jacketed fire-pot section suitably supported in same, the water-jacketed feeder section above such fire-pot section, the tubular connections between the fire-pot and feeder sections and supporting the latter, auxiliary water heating tubes or parts in connection with said feeder section, flow pipes from such section and return pipes connected with the fire-pot section. 7th. The combination of casing B, C, D, fire-pot section A, suitably supported feeder section E, provided with cover J, tubular connections c, c, flow pipes g, g, and return pipes h, h, as shown and described. 8th. The combination of casing B, C, D, fire-pot section A, suitably supported, feeder section E, having auxiliary tubes f, f, and provided with cover J, tubular connections c, c, flow-pipes g, g, and return pipes h, h, as shown and described.

No. 45,195. Machine for Lasting Boots and Shoes.

(Machine à enformer les chaussures.)



John Blakey, Lady Lane, Leeds, York, England, 31st January, 1894; 6 years.

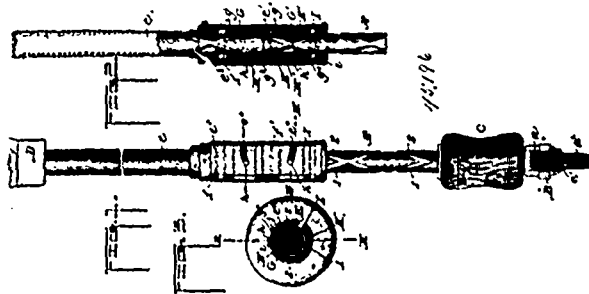
Claim.—1st. In a boot lasting machine, the use of the operating jaws 13 for forcing the finger of the upper over the toe and heel of a boot last, such said jaws being opened and closed in the manner, substantially as herein shown and described. 2nd. In a boot lasting machine, the use of the jaws 13 perforated as at 22, for purposes specified. 3rd. In a boot lasting machine, the means of making the toe or heel mechanism to advance backwards and forwards for purposes, and in manner substantially as shown and described. 4th. In a boot lasting machine, the use of sliding jaws 13 operated as described and formed upon the finger of the upper by springs such as 25 or equivalent devices. 5th. In a boot lasting machine, the pincers 38 operated by lever arms 42 in combination with rack and holding catch or pawl 45, as shown and for purposes described. 6th. In a boot lasting machine, the pincers 38 operated by lever arms 42, such said pincers being adjustable by screws 48, for purposes and in manner described. 7th. In a boot lasting machine, the combination therewith of the treadle 30 connecting rod 31, and plate 27 for removing the pressure off the jaws 13 or for the last, substantially as described. 8th. The general arrangement and combination of parts comprising a boot lasting machine, substantially as herein described and illustrated in the drawings.

No. 45,196. Screw Driver. (Tourne-vis.)

Thomas Edwards, Jr., and John J. Edwards, both of Grand Rapids, Michigan, U.S.A., 31st January, 1894; 6 years.

Claim.—1st. The combination, with the stock having right and left hand spiral grooves, of a cylinder or case loosely fitted on said

stock and provided with two set of ratchet-teeth, which are inclined in opposite directions, a pair of thimbles within said cylinder, each



provided with a lug or lugs engaging the respective spiral grooves of the stock, and with ratchet-teeth adapted to interlock with one set of teeth on the cylinder when properly shifted, and means for shifting either thimble into engagement with the cylinder and simultaneously disengaging the other thimble, substantially as described. 2nd. The combination of the stock having right and left hand spiral grooves, a cylinder loosely fitted thereon, and a pair of thimbles loosely fitted on the stock within the cylinder having internal lugs engaging the respective grooves of the stock and adapted to be locked to the cylinder, together with the clips loosely connected to said thimbles, having projecting studs, and a sleeve enclosing said cylinder, the wall of said cylinder and the sleeve being slotted and channelled or grooved for the reception of the studs, substantially as described. 3rd. The combination of the stock having right and left hand spiral grooves, the cylinder thereon having two sets of ratchet-teeth, located the one centrally thereof and the other at one end, and a pair of thimbles loosely fitted on the stock within the cylinder, having internal lugs engaging the respective grooves of the stock, one of said thimbles being adapted to engage the inner set of ratchet-teeth, and the other thimble the outer set of teeth, together with mechanism for simultaneously shifting said thimbles, so as to engage one with and disengage the other from the ratchets of the cylinder, substantially as described. 4th. The combination of the stock having right and left hand spiral grooves, and a cylinder or case loosely fitted on said stock, having a centrally disposed ring with ratchet-teeth thereon, and a head with oppositely inclined ratchet-teeth, a pair of thimbles within said cylinder, each having ratchet-teeth on its upper end adapted to engage the opposed ratchets at the centre and end of the cylinder, and each having internal lugs respectively engaging the right and left hand spiral grooves of the stock, and mechanism for throwing either thimble into engagement with the cylinder and simultaneously disengaging the other thimble therefrom, so as to reverse the rotary movement of the stock, substantially as described. 5th. In combination with the spirally grooved stock, the reciprocating handle, the cylinder with oppositely inclined ratchet-teeth thereon, the thimbles with ratcheted ends adapted to engage or interlock with the corresponding ratchet of the cylinder, the rotatable sleeve fitting over said cylinder, and means connected therewith for effecting the engagement of one thimble and simultaneously disengaging the other, so as to cause the stock to rotate in either forward or backward direction by the reciprocating movements of the handles, substantially as described. 6th. In combination with the stock having the opposite spiral grooves, the pair of thimbles thereon having lugs which respectively engage said grooves, said thimbles being provided with ratchets on their upper ends, the cylinder having ratchets adapted to engage the ratchets of said thimbles, the clips loosely connected to said thimbles, for longitudinally shifting the same and having projecting studs thereon, the diagonal slots in said cylinder for the passage of said studs, the sleeve fitted on the cylinder and having the internal longitudinal groove to receive the ends of the studs, and the spring interposed between said thimbles and sleeve, so as to retain the same in operative position, substantially as described. 7th. In combination with the spirally grooved stock, the ratcheted cylinder and the thimbles with ratchet-teeth for engaging the ratchets of the cylinder, the sleeve fitted over said cylinder and thimbles, and means connected therewith for effecting the engagement of either one of the thimbles and the simultaneous disengagement of the other, together with the interposed spring adapted to retain the sleeve and thimbles in operative position, substantially as described. 8th. In combination with the spirally grooved stock, a pair of loose thimbles fitting thereon each having an internal lug or lugs engaging the said grooves and provided with ratchet-toothed ends, the teeth upon one end of each thimble being inclined in an opposite direction to those upon the other end thereof, a pair of non-rotating ratchet-toothed collars for each thimble each adapted to engage a correspondingly toothed interlocking end of the adjacent thimble, and means for shifting either thimble independently of the other so as to cause one or the other of said collars to interlock therewith and disengage the other collar, whereby either or both thimbles may be locked so as to cause the stock to rotate either to the right or the left continuously in the same direction, on both the forward and back reciprocatory move-