

tion of the saw C, former D, pin F, arm K, with vertical lever J, arm L, adjustable guide bar H and the feed table a; 3rd. The combination of the band or endless saw with a guide or former, the saw running through the same, for the purpose of receiving the desired curvature required in jointing staves.

No. 10,052. Lozenge Machine. (*Machine à pastilles.*)

Thomas Robertson, Toronto, Ont., (Extension of Patent No. 3620), 7th June, 1879, for 5 years.

No. 10,053. Machine for Measuring and Weighing Skins. (*Machine pour mesurer et peser les peaux.*)

David T. Winter and Charles E. Teague, Peabody, Mass., U. S., 7th June, 1879, for 5 years.

Claim.—1st. A stationary slatted table having longer continuous openings between the slats, to permit the descent of rows of measuring weights; 2nd. The counterpoised measuring lever table D, having a system of suspended weights and fulcrumated at or near its rear, and flexibly connected at its front with the balance or indicating apparatus; 3rd. In combination, the lever table D and a weighted lever-arm supported above such table and serving to aid in lifting it; 4th. A system of graduated weights suspended from the under side of the lever table or beam, and having those of each row heavier than those of its next adjacent forward row; 5th. A system of weights suspended from the under side of the lever table or beam, and having those of each row hang lower than those of its next adjacent forward row; 6th. In combination with the fulcrumated table or beam, the weighted rod or lever Q, the guide pulley S and its stationary support or support; 7th. The counterpoised or balanced lever table D, having its rearmost or counterpoise weight located thereon, at a point or in a plane above that of the fulcrum or pivotal points of such table, and serving thus to hold it up when raised, and to keep it level when lowered; 8th. In combination with the fulcrumated table or beam, a system of weights suspended therefrom, the stationary slatted table and a device for clamping this table to the weighted rod or lever.

No. 10,054. Machine for Driving Nails in Boots and Shoes. (*Machine pour chasser les clous des chaussures.*)

Samuel Shepherd, Erastus D. Whitcomb, Nashua, N. H.; Timothy A. Coolidge, Marlboro, and Homer Rogers, Boston, Mass., U. S., 7th June, 1879, for 5 years.

Claim.—1st. The combination with the nail hopper and the driveway of a machine, for nailing boots and shoes, of a spiral carrier extending from the hopper to a point at or near the drive way, and a raceway, located over the carrier and in close proximity thereto, whereby the upper ends of the nails are held in proper positions by the raceway, and the lower end supported upon the shaft of the carrier and the nails transported from the hopper to the driveway by the spirals of the carrier; 2nd. The eccentric shaft N, in combination with the movable plate M and raceway Q; 3rd. The combination of the raceway Q, the trough L L and the movable plate M; 4th. The combination of the raceway Q, of the spring plate I; 5th. The plate or shield T, in combination with the springs U V, attached respectively to opposite sides of the raceway and arranged at the end of the latter, near the driveway for the nails.

No. 10,055. Machine for Grading and Ditching. (*Machine pour niveler et fossayer.*)

Stephen E. Smith (Assignee of Charles C. Skinner), Eau-Claire, Wis., U. S., 7th June, 1879, for 15 years.

Claim.—1st. The combination with the arrow-shaped knife E and side knives F, of the fingers G; 2nd. The combination with an elevator H, composed of a series of plates h, connected together by links h², of a series of overlapping supporting wheels or pulleys h¹⁰; 3rd. A grading or ditching machine supported on axles B C, geared together by means of an endless chain; 4th. The combination with cutters, of the land side M, placed in the rear of the side cutters F and divided by a hinge m² into two sections, the rear one being horizontally adjustable in relation to the forward section; 5th. The combination of the wheels B, constructed with flanged sections b² b³, connected together by strips b³; 6th. The combination of a side carrier J, pivoted at an angle to the machine, and provided with an endless chain, of plates l¹, supported at each end on revolving axis, and intermediately by an overlapping series of pulleys, wheels or rollers.

No. 10,056. Spark Extinguisher. (*Extincteur de flamme.*)

John Abell, Woodbridge, Ont., 7th June, 1879, for 5 years.

Claim.—1st. The combination with the annular water receptacle B₂, of the centrally placed smoke deflecting cone C, provided with a central independent discharge for the exhaust steam; 2nd. The combination with the lower water receptacle, of an upper water receptacle formed on the top of the deflecting cone; 3rd. An upper and lower water receptacle arranged, in relation to each other and the smoke current, in such manner that the water fed into the upper receptacle shall overflow into the lower receptacle in a thin curtain through which the smoke and other products of combustion must pass; 4th. The combination of the upper and lower water receptacles, the deflecting cone provided with a central independent steam outlet, the domed cover and the grating placed above all, whereby the smoke and sparks are deflected twice into water, thereby ensuring the extinguishment and arrest of the sparks.

No. 10,057. Improvements on Adjustable Axles. (*Perfectionnements aux essieux mobiles.*)

Orrin B. Thompson, Jersey, Ohio, U. S., 7th June, 1879, for 15 years.

Claim.—1st. The combination, with the threaded spindle, of one or more sleeves or collars independently adjustable thereon, and adapted to lengthen or shorten the bearing surface; 2nd. The combination with the threaded

spindle, of one or more independently adjustable sleeves or collars, arranged and adapted to form an adjustable shoulder or collar for a bearing for either the box or nut.

No. 10,058. Improvements on Welt Shoe Machines. (*Perfectionnements aux machines à souliers à trépointe.*)

Joseph S. Turner, Rockland, Mass., U. S., 7th June, 1879, for 5 years.

Claim.—1st. In a machine for perforating a welt and outer sole, two awls adapted to simultaneously penetrate the welt and outer sole, combined with a rest or support for the shoe while being acted upon by the awls; 2nd. Two awls adapted to simultaneously enter and pass through the said welt and outer sole, combined with a rest for the shoe and a gauge to co-operate either with the upper or with the channel, to place the series of perforations at the desired distance from the upper; 3rd. Two awls to perforate the welt and outer sole in opposite directions, combined with a gauge adapted to bear upon the upper near the welt, and mechanism to move the said gauge toward and from the path of movement of the awls; 4th. A pivoted gauge to bear against the upper near the welt and stops to determine the movement of the fulcrum pins of the gauge, toward or from the path of movement of the awls; 5th. Two awls and a support for the boot or shoe, combined with two independent pressers to bear upon the material, at the front and the rear end of the awls, and mechanism to raise and lower the pressers; 6th. Two awls to simultaneously enter and penetrate the welt and outer sole, combined with two feet e², to support the material, one of the said feet being adapted to yield and remain in the channel of the outer sole, notwithstanding the curvatures in the channel; 7th. A pivoted rest, or foot e¹, provided with a shoe-supporting surface and a ledge l⁹, to enter and open the channel in the outer sole, combined with a spring to maintain the foot in upright position, but yet permit it to yield toward and from the centre of oscillation of the awls; 8th. Two cutters or blades to enter from opposite sides and trim the outer sole, or outer sole and welt, parallel with the series of perforations made therein; 9th. Two curved awls and two curved cutters, having substantially coincident centres of oscillation, combined with a rest or support for the material; 10th. The combination with mechanism for perforating a welt and outer sole, and mechanism to trim them parallel with the series of perforations of a channel guide and support for the boot or shoe, and a presser to operate as described; 11th. The combination with mechanism to perforate a welt and outer sole, of two cutters to enter the sole from opposite sides, and a rest or support for the material, and a gauge to bear against the upper near the welt to regulate the distance from the upper of the perforations made by the awls; 12th. In a machine for simultaneously perforating and trimming a welt and outer sole, an awl and cutter having coincident centres of vibration or movement combined with mechanism to move the awl and cutter-carrier horizontally when the awl and cutter engage the welt and sole, to feed the boot or shoe forward; 13th. Two awls and two cutters to enter the welt and outer sole from opposite sides to perforate and trim them, combined with a fixed rest or foot, and a movable rest or foot provided with a channel gauge; 14th. Two awls to perforate and two cutters to trim a welt and outer sole, at the desired distance from the upper, combined with mechanism to operate the awl and cutter carriers, to permit the cutters to almost meet and subsequently to move one cutter forward while the other is retracted, to cut that portion of the sole which rests between the cutters, when they nearly approach each other; 15th. The combination with a perforating awl and a laterally or horizontally moving carriage to cause the awl to feed the material, of a handle or lever made movable between adjustable stops, adapted to arrest the lever at its two extremes of movement to produce and ensure a certain length of feed about the forepart of the boot or shoe, and a longer feed at the shank; 16th. A cutting blade to penetrate the welt or upper side of the sole, combined with a second cutter to cut into and trim the sole from its wearing face; 17th. In a machine to simultaneously prick holes in, and trim the edge of a sole or welt on a last, a curved awl and a curved cutter, to enable the sole or welt to be perforated and trimmed at its concave or shank portion; 18th. In a machine to trim soles, a gauge to enter the channel in an outer sole and two cutters to enter the sole from its opposite faces or sides; 19th. A cutter to enter and trim a sole, combined with mechanism to move it laterally while in the sole, to assist in feeding the shoe after each cutting operation; 20th. The gauge C, to bear upon the upper at or near the welt, combined with a spring held rod or marker to mark the outer sole; 21st. The gauge to bear against the upper near the welt, and a device to mark or channel the bottom of the outer sole, combined with a vertically adjustable frame to provide for soles of different thickness; 22nd. The gauge to bear against the upper near the welt, and a device to mark or channel the outer sole, combined with a marker-holder made horizontally adjustable toward or from the face of the gauge; 23rd. That improvement in the art or method of making welted boots and shoes, to ensure a uniform projection of the welt and sole beyond the upper, and a uniform placing of the thread parallel with the sole and welt edge, which consists in employing the upper near the welt as a gauging surface, to determine the distance from the said upper, at which a piercing awl and cutter shall operate, the former to prick the sole and welt at a uniform distance from the upper, and the latter to cut them and remove the uneven unshaped edges of the welt and sole, at a uniform distance from the lines of perforations; 24th. That improvement in the art or method of making welted boots and shoes, which consists in lasting the upper upon the outer sole about the toe, ball and shank of the foot in a line at substantially concentric with the outline of the lasted upper, near the welt, then punching holes through the welt and outer sole, and simultaneously trimming the welt and the piece of leather for the outer sole, at a uniform distance from the upper, giving the said piece of leather the proper shape for the outer sole, according to the shape of the last and then sewing the welt and outer sole together by threads inserted through the said holes, the different steps being in the order.

No. 10,059. Improvements on Gas Regulators. (*Perfectionnements aux régulateurs à gaz.*)

James M. Williams, jr., Hamilton, Ont., 7th June, 1879, for 5 years.

Claim.—1st. The openings D D, in connection with the tubes E E, on opposite sides of the chamber B; 2nd. The spring C in connection with the nut I, stem O, with the valve F, in connection with the diaphragm G.