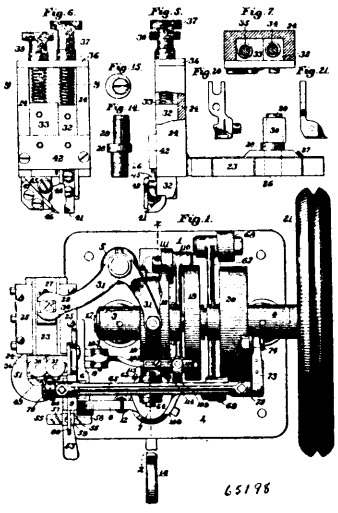
No. 65,198. Insole Channelling and Lip Turning Machine. (*Machine à canneler et tourner le bout des fausse-semelles.*)



The Economy Machine Company, Portland, Maine, assignee of Albert Edward Johnson, 4th December, 1899; 6 years. (Filed 13th November, 1899.)

Claim.—1st. In an insole channelling machine, the combination of a work support, a vibratory feed arm provided with a feed point to engage the sole to feed the same, means for imparting to said feed point a four motion movement, a horizontally movable slide, a vertically yielding tool stock carried by said slide, a cutter carried by said stock and having a cutting edge parallel to the work support and at right angles to the line of direction of the feed, a pressure surface also carried by said stock and arranged in close proximity to said cutter and parallel to said work support, and means for imparting to said slide and the tools carried thereby a succession of series of rapid reciprocations with a stand still after each series. 2nd. In an insole channelling machine, the combination of a work support, a horizontally movable slide, a pair of vertically yielding tool stocks carried by said slide, a cutter carried by one of said stocks and arranged with its cutting edge parallel to the work support and at right angles to the line of direction of the feed, a cutter carried by the other of said stocks with its cutting edge inclined to the upper surface of said work support and substantially at a right angle to the line of direction of the feed, a pressure surface carried by each of said stocks and movable vertically therewith and arranged in front of, and in close proximity to the cutting edges of said cutters, means for imparting to said slide and the tools carried thereby a succession of series of rapid reciprocations in the direction of the line of feed, with a stand still after each series, a feed bar provided with a feed point arranged to enter the sole and to be vibrated between the ends of said pressure surfaces, and means for imparting to said feed point a four motion movement to feed the material. 3rd. In an insole channelling machine, the combination with a work support, of a work feeding mechanism comprising the following elements, viz; the longitudinally slotted feed arm 79 provided with feed point 81, a vertically adjustable fulcrum about which said feed arm may be vibrated, the swivelling forked stud 64, the lever 65, the cam path 66, the lever 67 operated by said path, the link 69, the cam path 78, the lever 74 vibrated by said path, the link 78 pivoted at one end to the upper end of said lever 74, and ball and socket joints connecting the feed arm, and the links 69 and 73 to said lever 65. 4th. In an insole channelling machine, the combination with a work support and suitable pressure devices for holding the work to the work support, of a feed arm provided with feed points to engage the sole, means for imparting to said feed points a four motion movement to feed the work, and means for automatically pressing said feed points in a direction at right angles to the line of direction of the feed while said points are feeding the sole. 5th. In an insole channelling machine, the combination with a work support and pressure devices for holding the sole to the work support, of an adjustable gauge arranged to overhang said work support, the feed arm 79, provided with the longitudinal slot 80, and feed points 81, the vertically adjusted fulcrum pin 82, the disc 96, provided with the flat sided hub 97, to fit said slot 80, and on its outer face with the inclined or cam surfaces 101, and mounted loosely upon said pin 82, the disc 98, provided on its inner face with inclined or cam surfaces to match those on the disc 96, and secured in a non-revoluble position to the pin 82, and means for imparting to said feed points a four motion movement to feed the sole. 6th. In an insole channelling machine, the combination with a work support, of the reciprocating slide 23, 24, the vertically yielding tool stock 32, carried by said slide, the cutter 41 carried by said stock, and arranged with its cutting edge parallel or nearly so to the surface of the work support and at right angles to the line of direction of the feed, a pressure surface adjustably secured to said stock and arranged in front of and in close proximity to the cutting edge of said cutter, the feed arm 79, provided with the feed points 81, to engage the sole, means for imparting a six motion movement to said feed points, said feed points being located contiguous to the front of said pressure surface, means for imparting to said slide 23, 24, a succession of series of rapid reciprocations, with a stand still after each series, a curved ploughshare-like surface, contiguous to the upper surface of said cutter, for turning the lip, cut by said cutter, upward, a hammer for completing the turning of, and setting said lip, located in close proximity to said cutter, and means for imparting to said hammer a succession of rapid upward and downward strokes. 7th. In an insole channelling machine, the combination of a work support, a horizontally reciprocating slide, a vertically yielding tool carrying stock carried by said slide, the cutter 41 carried thereby and provided with a curved ploughshare surface to turn the lip cut thereby, pressure surface arranged in front of and in close proximity to the edge of said cutter and adjustably secured to and movable with said stock, a hammer to act upon the channell lip, the lever 102 for operating said hammer, the block 106 adjustably secured to said lever, and provided on its under surface with a series of steps or bearing surfaces at different levels to receive the upward thrust for giving the blow of said hammer upon said channell lip, the link 108 provided at its upper end with the slot 107, to receive said block and lever, the lever 110 connected at its movable end to said link, and the cam 112 for vibrating said lever. 8th. An insole channelling machine, comprising the following means for setting the channell lip, viz: a vibrating hammer arranged to strike a succession of rapid blows thereon in combination with a pivoted lexer for operating the same, the block 106 adjustably secured to said lever and provided on its under side with a series of bearing surfaces at different levels, the link 108 provided at its upper end with the slot 107, to receive said block and lever, the slotted arm 113, the forked end of which embraces said link above its slot, and is adjustably secured to the block 106, a cushion of leather 115 between the bottom of the fork of the arm 113 and the upper end of the slot 107, the spring 116 inserted in the lower end of said slot and bearing against the under side of the block 106, the lever 110 pivoted at its movable end to the lower end of said link 108, the bearing 109 for the upper end of said link, and the cam path 112 to act upon and vibrate said lever 110. 9th. In an insole channelling machine, the combination with a work support mounted upon a fixed stand, of a vertically movable bracket comprising the hub 7, the arm 8, plates 9 and 10, and the shank 11 fitted to and vertically movable in a bearing in an upright of the machine frame, the slide 23, 24, fitted and movable horizontally in a bearing in the plate 10, the tool stocks 32 and 33 fitted to and movable vertically in bearings in said slide, the cutter 41 carried by the lower end of the stock 32 with its cutting edge parallel to the upper surface of the work support and at right angles to the line of direction of the feed, a pressure surface supported by and movable with said stock 32, the block 45 secured to and adjustable transversely of the lower end of the stock 33, the obliquely arranged cutter 46 carried by said block 45, a pressure surface supported by and movable with said stock 33, the spring 12 connected at its upper end to said bracket and at its other end to the bed of the machine, and the lever 14 pivoted to the ears 16, and engaging the lower end of the shank 11 to raise it and the cutters and pressure surfaces for the insertion and removal of the sole. 10th. In an insole channelling and lip turning machine, the combination with a work support, of the lever 53 pivoted to a fixed part of the machine by a vertical pivot pin, the gauge 60 formed upon or secured to said lever and extending over the upper surface of the work support, the bracket 54 arranged to support the movable end of said lever, and provided in its upper surface with a series of ratchet teeth extending transversely thereof, and with two series of holes, the two pins 57 and 58 set in two of said holes to limit the extreme movement of said lever, and the pawl 59 secured in a fixed position on said lever in position to engage with said ratchet teeth as set forth. 11th. In an insole channelling machine, the combination of a work support, a vibratory feed arm provided with a feed point to engage the surface of the sole, to feed the same, means for imparting to said feed point a four motion movement, a horizontally movable slide, a vertically movable tool stock carried by said slide, a cutter carried by said stock, and having a cutting edge incline to the upper surface of the work support, and approximately at a right angle to the line of direction of the feed, a pressure surface also carried by, adjustable on, and vertically movable with said stock, and arranged in close proximity to said cutter, and parallel to the upper surface of said work support, and means for imparting to said slide, and the tools carried thereby, a succession of rapid reciprocations, with a stand still after each series. 12th. The combination in an insole channelling machine of a channell cutter constructed and arranged to split the edge of the sole, means for feeding the sole against said cutter, a vertically reciprocating cutter constructed and arranged to cut an incision in the surface of the sole from its edge toward its centre, in advance of the action of the channell cutter upon the sole, and a work support. 13th. The combination in an insole channelling and lip turning machine, of mechanism for cutting a series of incisions in the outer portions of the surface of the sole, said incisions extending from the outer edge of said sole towards its center, or at right angles to the line of direction of the feed, a