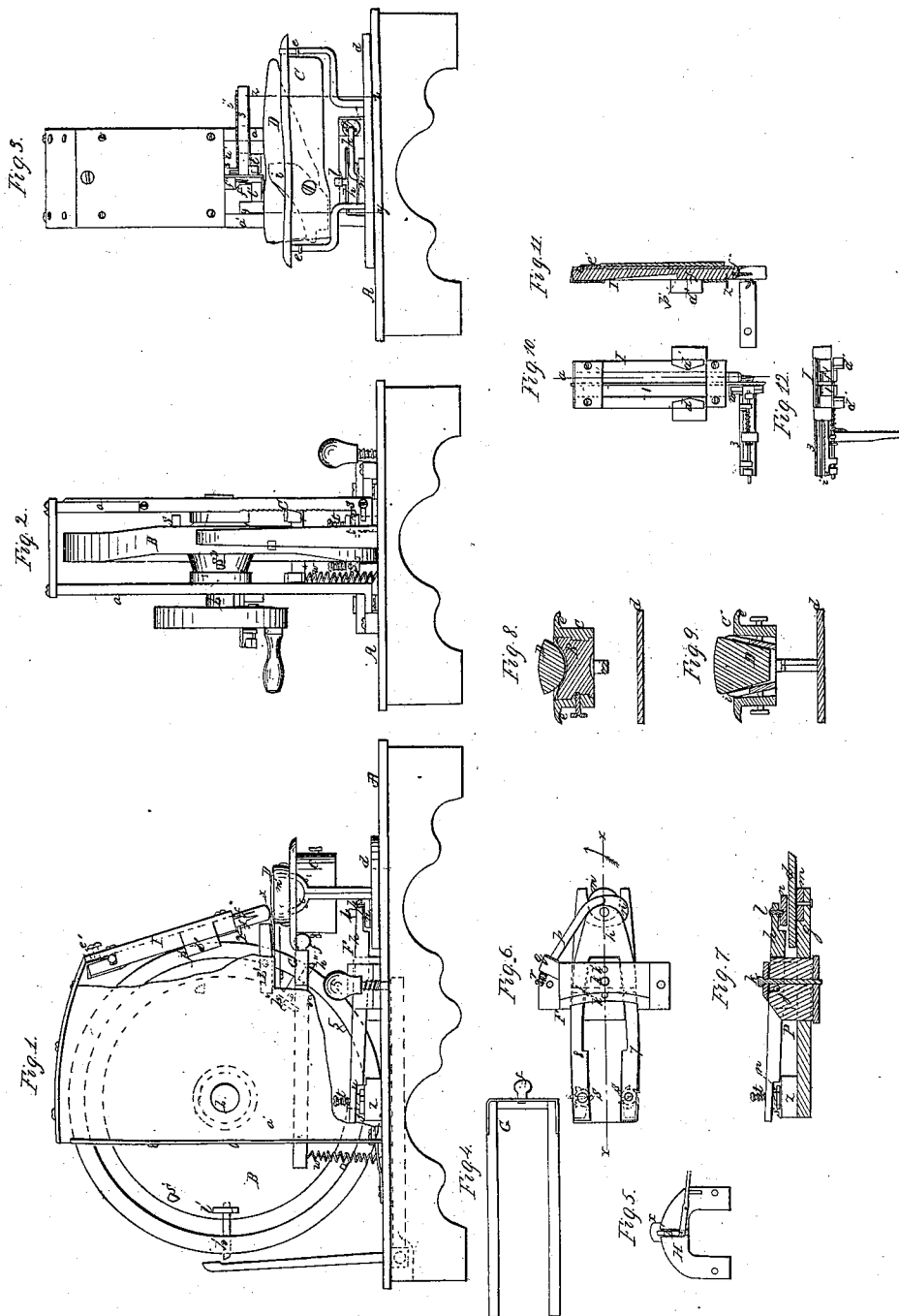


W. B. Johnson,  
Pegging Machine

N<sup>o</sup> 14,020.

Patented Jan. 1 1856.



# UNITED STATES PATENT OFFICE.

WATERMAN B. JOHNSON, OF SANDWICH, NEW HAMPSHIRE.

## MACHINE FOR PEGGING BOOTS AND SHOES.

Specification of Letters Patent No. 14,020, dated January 1, 1856.

*To all whom it may concern:*

Be it known that I, WATERMAN B. JOHNSON, of Sandwich, in the county of Carroll and State of New Hampshire, have invented a new and useful Improvement in Machines for Pegging Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, forming part of this specification, in which—

Figure 1 is a side elevation of machine, with casing partly removed to show details. Fig. 2 is an elevation of rear edge of machine. Fig. 3 is elevation of front edge of same. Fig. 4 is a plan of shoe regulator and holder. Fig. 5 is an inverted plan of gage regulating distance of pegs from edge. Fig. 6 is a plan of feeding clamp. Fig. 7 is a vertical section on  $w w$ , Fig. 6. Figs. 8 and 9 are transverse sections of jack and last on lines  $y y$  and  $z z$ . Fig. 10 is a rear elevation of awl frame and peg feed apparatus. Fig. 11 is a section on  $a a$  of Fig. 10. Fig. 12 is a plan view of parts shown in Fig. 10.

The same parts are denoted by similar characters

The invention here considered refers to the feeding of the shoe to the awl in such a manner that the pegs shall all be driven the same distance apart and at the same inclination to the surface of the sole at the several points; to an adjustment of the driver whereby the depth of awl perforation and peg insertion is regulated, and to the mode of fastening the shoe in the jack.

The nature of the invention consists in securing the shoe by clamps of peculiar construction in a jack swung at each end in a fork arising from a flat base, which receives the grip of the feeding clamp, so as to be moved around as occasion requires, as will be set forth in the description of the said clamp, the under face of the outer ledge of this jack having a groove for the reception of a knob at the end of the adjusting and holding lever, so that the jack is thereby turned at each feed of the clamp to bring the surface of the shoe sole in contact with a stop, and thereby present to the awl at each perforation a surface to which the said awl preserves a constant inclination, a spring ratchet holding the lever and jack during the perforating and driving operation. The details of construction and operation of these features as well as others con-

nected therewith will readily be understood from the following description and reference to the drawing, in which the several parts are thus represented: A, table—to which side plates  $a a'$  are secured, these plates constituting the supports of main shaft  $b$ ; B, cam wheel—by the rotation of which the several functions of the machine are produced; C, jack in which the boot or shoe is secured. It is supported by standards arising from a flat base  $d$ , the upper extremities of which standards have forks  $e$ , which are arcs of circles whose centers lie in a horizontal line through the upper point  $m'$  of the heel of the last and perpendicular to the planes of the forks, projections on the ends of the jack of like curve resting in said arcs, so that the jack shall be capable of tilting about the axis whose position is defined above when pressure is applied to the projecting ledge of said jack. The under surface of this ledge has in it a groove  $e$ , as shown in Figs. 8 and 9, for the reception of knob  $f$  of lever G, as shown in Fig. 1, the tilting of the jack being effected by this lever, as will be described. D, last—fastened in the jack by the clamp  $i$ , which grips the hollow of the last, as shown in Fig. 9, and closes sufficiently at bottom to prevent downward movement, as shown in Fig. 3; set screws holding said clamp in position. E, sliding rest for holding the toe of the last at the requisite elevation, as seen in Fig. 8. By this construction and adjustment of clamp and slide rest the last is firmly secured in the jack. F, feeding clamp—composed of two jaws  $g$  and  $h$ , the lower  $g$  flush with table A, and the upper  $h$  capable of motion about pin  $j$ , for grasping and releasing the jack base  $d$ . The entire clamp is movable horizontally about a pin  $k$ , the amplitude of this motion being determined by position of said pin. In the lip of the lower jaw  $g$ , is a circular plate  $m$ , turning freely on a center pin, and above it in the upper jaw is an oblong plate  $n$ , connected with said jaw by a pin  $l$ , so as to be capable of motion around it. These plates constitute the grasping portions of the clamp. Attached to plate  $n$  is rod  $p$ , which passes through stud  $q$ , and is attached to spring  $r$ , so that said spring shall act against the end of rod  $p$  and the face of stud  $q$  (Fig. 6). The upper jaw  $h$ , and lower jaw  $g$  are cut in rear to admit cam wheel B, which moves the clamp about pin  $k$  by its pressure against

projections Z on inner faces of the side pieces of the lower jaw. On each side of the cam wheel and under the side pieces into which the rear of the upper jaw *h* is divided are the spur wheels *s*, whose upper faces are also notched. Springs *t* press the rear of the aforesaid jaw *h* against these wheels, so that in certain positions of the wheels the small projections *u* on the jaw will fall in depressions in the wheel and permit the springs *t* to move jaw *h* about pin *j* and open the clamp, and when by turning the wheels *s* their thick portions are brought under the projections *u*, the jaw *h* is again turned about pin *j* and the clamp made to grip tightly. This action of the wheels *s* on the projections *u*, and the power exerted by the springs *t* produce the opening and closing of the clamp, studs on the cam wheel rotating these wheels in a manner which will be fully set forth. G, bifurcated tilting lever, embracing cam wheel and having its fulcrum or pins or studs *v* of side plates *a a'*. This lever is capable of a slight longitudinal motion on these studs, in order that the knob *f* at the extremity of its short arm may at all times follow the groove *e* in the projecting ledge of the jack C, against which it is pressed by the action of the spring *w*, connecting one branch of the long arm of the lever with table A. This spring is sufficiently strong to cause lever G to lift the side of the jack under which knob *f* presses, causing the projections at the end of the jack to slip in the curved bearings *c*, thereby turning the jack around the axis above set forth. This action of the lever is designed to carry the sole of the shoe against the stop *x*, in which position it is secured by spring ratchet 6, on the rear edge of one of the side pieces, a tooth of which catches one of the branches of lever G and maintains it in the position into which it had been drawn by spring *w*. When the jack is thus held by stop *x* pressing on the shoe sole and ratchet 6 holding down the long arm of lever G the shoe is ready for the action of the awl. H, stop plate—having a sliding guard *b'*, which regulates the distance of the pegs from the edge of the shoe sole. I, awl and driver frame—moved laterally to bring the peg tube over the perforation made by the awl, by action of cam wheel on the projections *d'*. This frame contains awl slides *f' f''*, the latter capable of instant connection with the former for the purpose of making holes for a double row of pegs, by reason of the hinged flap piece *e'*. It also contains driver slides, made to move together by the flap *e'* when two perforations are made by the awls, pressure on the flap uniting the secondary with the primary slides, as indicated in the drawing. The awls and pegs are driven by the studs *h' h''* on the perimeter of the wheel B, adjustable

in direction of radii of wheel by nuts *l' l''*, for giving depth of awl perforation and peg penetration.

The operation of my improvement is as follows:—The shoe is secured in the jack as above described, and the guard *b'* adjusted to the required distance of the row of pegs from the edge of the sole. The greater the protrusion of the guard the nearer the edge will be the awl perforations. The pin *h* is then inserted in the perforation *h'* that will insure the clamp F the motion necessary for the desired distance between the pegs. The base *d* of the jack C is inserted between the jaws of the feeding clamp, and the ratchet 6 being removed from lever G, the knob *f* of said lever is placed in groove *e* of jack. The action of the spring *w* on the lever G, tilts the jack until the sole of the shoe reaches the stop *x*, the edge of the sole being placed against the guard *b'*. The cam wheel B is then moved sufficient to permit the spring ratchet 6 to engage with one of its teeth the lever G, at which moment the jaws of the clamp F tighten upon the base *d*, and the shoe is ready for the awl perforation. The continued rotation of cam wheel B in direction of arrow brings radial stud *h'* in contact with flat portion *p'* of awl carrier, (Fig. 11,) giving it a smart blow sufficient to carry the awl the requisite distance into the sole. Then stud *s'* strikes the inner arm of lever *t'*, throwing up the awl carrier and removing the awl from the perforation. The curve of the cam rim, acting on projections *d' d'* of awl frame, moves it so as to bring the peg tube *w'* over the perforation just made, to which the peg wood is fed by any of the usual and well known modes, the precise device being altogether independent of this improvement, and therefore not here considered. Radial stud *h''* then strikes a seat of driver slide 1 similar to *p'* of awl slide, driving the peg into the perforation made by the awl. Stud *s''* then strikes lever *t''* and throws up the driver in the same manner as the awl was removed. The ends of levers *t' t''* which strike ledges 2 for lifting awl and driver are shown in Fig. 3. If the double awls and drivers be united by pressing flap *e'* inward, which is effected by a screw passing through the case and having its extremity in contact with the said flap, then a double row of pegs may be driven. It should be remarked in this connection that the radial studs *h' h''* are adjusted by nuts *l' l''* to the required distance the peg is to be driven. As the driver is lifted frame I is carried outward by action of cam wheel on projections *d' d'*, and studs 4, projecting from the sides of the wheel, encounter the spur wheels *s*, turning them so as to bring the projections *u*, on under surface of rear portion of jaw *h*, into the depressions in the upper surfaces

of the aforesaid spur wheels, as set forth in the description of the wheels, the springs *t* opening the clamp *F* by depressing the rear of jaw *h*. Simultaneously with the opening of the jaws the cam wheel removes ratchet 6 from off long arm of lever *G*. The side projecting rim of the cam wheel then presses upon one of the sides *Z* of the lower jaw *g* of feeding clamp, so as to turn the mouth of the clamp in direction of arrow and about pin *k* (Fig. 6). The clamp being open, this movement does affect the position of the jack, which remains precisely as it was when the jaw *h* was lifted. Stud 5 then engage the spur wheels *s s*, revolving them and bringing their thick portions under projections *u*, thereby tightening the clamp *F* upon the base *d* of the jack, as before set forth. It should be observed that as the jaws *g h* were carried forward in direction of arrow a portion of base *d*, in advance of the previous hold, is now firmly grasped by the plates *m* and *n*. At this instant cam wheel *B* presses against side piece *Z* of jaw *g*, on the opposite side from that previously acted upon, and consequently turns the clamp *F* about the bolt or pin *k*, carrying its mouth in direction the reverse of that indicated by arrow. As base *d* is tightly grasped by the clamp, the jack of necessity moves with the clamp. This movement of the jaws tends to contract spring *r* by the motion of rod *p* with jaw *h*, but plate *n* being capable of turning about pin *l*, the expansion of spring *r*, draws the end of plate *n* attached to rod *p*, in the direction of the arrow, as the clamp moves in the opposite direction. The base *d* being held between plates *m* and *n*, is of necessity drawn in direction of arrow by plate *n*, plate *m* revolving to facilitate this movement. This gives the turn to the jack necessary to keep it against the guide *b'*. When the jack has assumed its new position, spring *w* drawing

on lever *G* causes the jack so to adjust itself as to bring the sole against stop *x*, when the spring ratchet 6, released by cam wheel, flies in and secures the lever *G*, as above described, and the shoe is ready for another awl perforation.

It will be seen from the above description that at each feed the lever *G* carries the sole against the stop *x*, so that the awl always enters the sole at the same angle. Moreover, the shoe is moved the same distance each feed and turned so as to bring the edge of the sole against the guide *b'*, thus insuring the pegging at equal distances in all parts of the sole and at the same distance from the edge.

What I claim as my invention is as follows:

1. The vibrating jaws *g h*, constructed and operating substantially as described for feeding the shoe, whether actuated in the manner set forth or in any other way which will enable them to perform the aforesaid function.
2. The combination of lever *G*, stop *x* and swinging jack, constructed, arranged and operating substantially as specified for submitting the surface of the sole to the awl at a given angle, in every position, substantially as herein set forth.
3. The adjustment of the drivers on the perimeter of the cam substantially as and for the purposes set forth.
4. The double binding side clamps for securing the last in the jack constructed and operating substantially as and for the purposes specified.

In testimony whereof, I have hereunto signed by name before two subscribing witnesses.

W. B. JOHNSON.

Witnesses:

GEO. PATTEN,  
JAS. D. CLARY.