

A.C. Gallahue,

Pegging Machine,

N^o 36,292.

Patented Aug. 26, 1862.

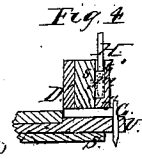
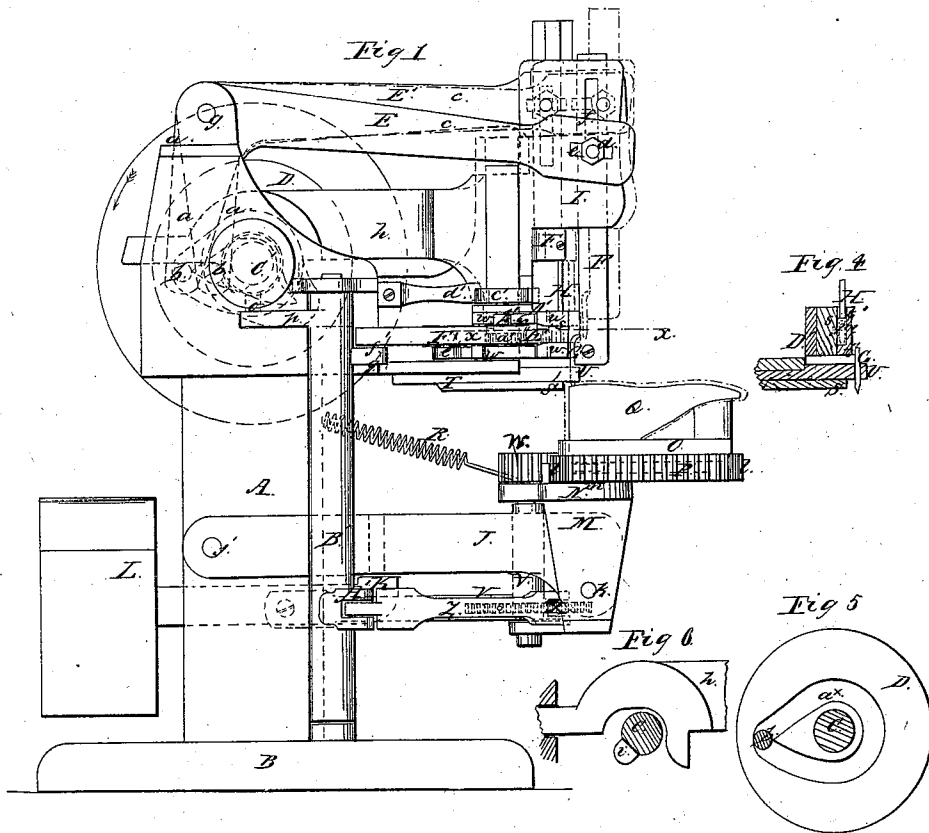


Fig 5

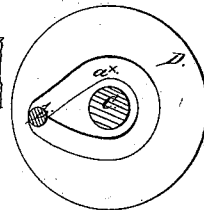


Fig 6

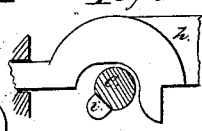


Fig 9

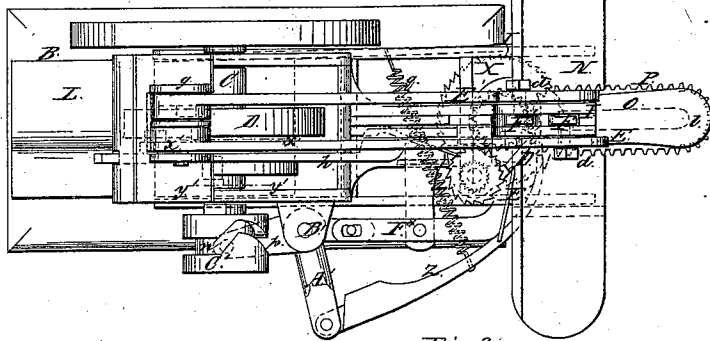
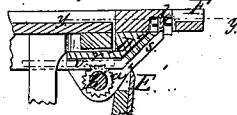


Fig 8



Witnesses
James Lind
R. Hawley

Inventor
A. C. Gallahue

UNITED STATES PATENT OFFICE.

A. C. GALLAHUE, OF KATONAH, NEW YORK.

IMPROVED MACHINE FOR PEGGING BOOTS AND SHOES.

Specification forming part of Letters Patent No. 36,292, dated August 26, 1862.

To all whom it may concern:

Be it known that I, A. C. GALLAHUE, of Katonah, in the county of Westchester and State of New York, have invented a new and Improved Machine for Pegging Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my invention. Fig. 2 is a plan or top view of the same; Fig. 3, a horizontal section of a portion of the same, taken in the line *x x*, Fig. 1; Fig. 4, a vertical section of Fig. 3 taken in the line *y y*; Figs. 5 and 6, transverse sections of the driving-shaft taken, respectively, in the lines *x' x'* and *y' y'*.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain improvements in that class of boot and shoe pegging machines in which the whole work is performed automatically, the boot or shoe sole being fed or presented to the awl and plunger, the holes made in the sole, the pegs driven therein, and the pegs cut from the wooden strip and fed to the plunger, all being arranged in such a manner that the work will be performed and the several parts operated from a single driving-shaft, and it is believed by a more simple and efficient arrangement of means than has been hitherto employed for the purpose.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents an upright post or support, which is secured to a proper base, B, and having a horizontal driving-shaft, C, in its upper part, on which a cam, D, is placed. This cam is what may be termed a "double" one, it being a wheel having a groove, *a*, made in each side of it, one part of which is of semicircular and the other of V form, as shown in Fig. 5 and by the dotted lines in Fig. 1. The cam D operates two levers, E E', which are bent in the form of right angles, their shorter arms, *a*, being provided with pins *b* at their lower ends, which fit into the grooves in the opposite sides of the wheel or cam D, and the longer arms, *c*, being connected to vertical slides or bars F F', one, F, having the awl G attached to its

lower end, and the other, F', having a rod, H, attached to its lower end, said rod H forming the plunger which drives the pegs into the sole of the boot or shoe. The bars F F' are in line with each other, and also the awl G and plunger H—that is to say, the two latter-named parts work in the same plane, which is at right angles to the driving-shaft C. The arms *c c* of the levers E E' are connected to the bars F F' by means of pins *d*, which project horizontally from said bars and pass through horizontal oblong slots *e* in the arms, and also through vertical oblong slots *f* in the sides of the box I, in which the bars F F' are fitted and work. (See Fig. 1.)

The cam D operates the levers E E', which work on a common fulcrum-rod, *g*, and the grooves in the sides of the cam have opposite positions, so that the two levers will have their longer arms, *c*, forced down alternately. The vertical slots *f* in the sides of the box I admit of the rising and falling of the bars F F' and the operating of the awl and plunger with a similar movement, of course, as they are attached to said bars.

The box I, which serves as a guide for the bars F F', is not a stationary one. It has a horizontal sliding movement toward and from the post or support A, the oblong horizontal slots *e* in the arms *c* of the levers E E' admitting of this movement.

The box I is operated by means of an arm, *h*, which projects horizontally from its back end and has a semicircular recess in its back end, which fits over a tappet, *i*, on said shaft, as shown clearly in Fig. 6. This sliding movement of the box takes place when the longer arms, *c c*, of the levers E E' are both raised or elevated, the grooves *a* in the cam D and the tappet *i* being arranged with a view to that end.

J is a swinging frame hung on pivots *j j*, which pass into the post A. This frame rests on one end of a bar or lever, K, the fulcrum of which is in the post A, said lever having a weight, L, on its outer end, which has a tendency to keep the front end of the frame J elevated, as shown clearly in Fig. 1. On the front end of the frame J there is placed a frame, M, having a platform, N, on its upper end. This frame M is pivoted at its lower end to the frame J, as shown at *k k*. On the platform N there is placed a block, O, of oblong

form, having parallel sides and semicircular ends ll , and a rack, P, extending entirely around it. The block O has a slot made longitudinally in its under surface, in which a pin, m , on the platform N fits, said pin serving as a guide for the block. On the block O the last Q, on which the boot or shoe is placed, is permanently secured. To the block O and to the frame M there is connected a spiral spring, R, which has a tendency to keep the edge of the sole of the boot or shoe in contact with a gage or bearing, S, which is at the front end of a horizontal plate, T, attached to the post A, said gage or bearing having a projection or shoulder, U, directly above it, in which a hole is made vertically to admit of the awl and plunger passing through it. (See Fig. 4.)

The weight L has a tendency to keep the sole of the shoe in contact with the under surface of the shoulder U, as will be fully understood by referring to Fig. 1.

In the frame M there is placed an upright shaft, V, having a pinion, W, on its upper end, which pinion gears into the rack P of the block O. The shaft V has a ratchet-wheel, X, on its lower end, with which a retaining-pawl, Y, engages, and also an actuating-pawl, Z, the latter being connected by a joint or pivot to an arm, A', which projects horizontally from a vertical shaft, B', which has a vibratory motion given it by means of a cam, C', on shaft C, the cam C' being formed of a wheel having a zigzag groove, n , in its periphery, into which a pin, o , attached to an arm, p , on the upper part of shaft C, is fitted. (See Figs. 1 and 2.) The two pawls Y Z are kept engaged with the ratchet-wheel X by a spiral spring, q , which is connected to both pawls.

To the front part of the box I there is attached a guide-box, D', in which the pegs are fed to the plunger H. The back part, r , of this guide-box is parallel with the sides of the box I; but its front part, s , has an oblique position and terminates at its front end with a double-tubed chamber, t , through which the plunger H passes in its descent. This double-tubed chamber is shown clearly in Fig. 4, t' representing the upper and t'' the lower tube, and t''' the space or receptacle between them, into which the pegs are fed preparatory to being driven into the sole of the boot or shoe. The space or receptacle t''' is in line precisely with the front part, s , of the guide-box, and this part s is provided with an upper and lower cleat u , which serve as guides to hold the pegs in proper position while being fed into space t''' . The back of the guide-box D is a solid block or bed, and the strip of wood, v , from which the pegs are cut, is fed in between cleats or guides $w w$, attached to the upper and lower edges of said part. Against this strip v a pressure-roller, a' , bears, said roller being on the lower end of a vertical shaft, b' , which has a ratchet-wheel, c' , on its upper end, into which a pawl, d' , attached to the post A or any fixture connected therewith engages.

E^x represents a knife, which is attached to one end of a lever, F^x , having its fulcrum at e' . The back part of this lever is connected by a joint or pin, f' , with an arm, g' , which projects horizontally from the shaft B'. (See Figs. 1 and 2.) The knife E' is so arranged relatively with the peg-wood, v , as to cut the pegs laterally from the wood directly across it at one blow, thereby insuring a straight and clean cut, the knife of course having no tendency to follow the grain of the wood, as is the case when the pegs are split from the wood.

The operation is as follows: The boot or shoe to be pegged is fitted on the last Q and the shaft C rotated by any convenient power. Each time the awl G descends a hole is punched in the sole, the awl passing through the hole in the shoulder U, and when the awl rises the box I is shoved forward, so that the tubes $t' t''$ and peg-receptacle t''' will be brought in line with the hole in the shoulder U, and the plunger H descends and drives a peg into the hole in the sole previously made by the awl in the sole, the box I moving backward after the plunger is raised out of the hole in the shoulder to admit of the awl descending through it again to make a hole for a succeeding peg. This forward and backward movement of the box I causes the pegs to be fed into the receptacle t''' , for at each backward movement of the box I the pawl d' , by engaging with the ratchet c' of shaft b' , causes said shaft to be turned, and the pressure-roller a' acts upon the strip of peg-wood, v , and causes it to be moved forward. At each termination of the forward movement of the box I the knife E' is operated so as to cut a peg from the strip v , the latter being fed along between the guides $u u$ on the part s of the guide-box D' to the receptacle t''' . Thus the pegs are cut and then fed to or underneath the plunger H. The boot or shoe is fed to the awl and plunger in consequence of the block O being moved by the pinion W, gearing into the rack P, the block being turned at each end, so that the boot or shoe will be properly pegged all around at the heel and toe, the block moving in a right line while the sides are being pegged.

The two adjustable frames J M keep the edge of the sole in contact with the gage S and shoulder U, the shoe being moved the proper distance at each backward movement of the box I by the action of the pawl Z, in order that the pegs may be driven into the sole at a proper distance apart.

The whole arrangement is extremely simple and efficient. There are no parts liable to get out of repair or become deranged by use.

I do not claim separately the block O, provided with the rack P and operated by the pinion W, for that device has been previously used for feeding the boot or shoe; but,

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The device, as described, for feeding the

peg-wood and pegs forward, to wit, by bringing the peg-wood between the surface *r* and the roller *a'*, Fig. 3, and in such connection with the ratchet *c'*, Fig. 1, and pawl *d'* and sliding guide-box *D'* that by each backward movement of said guide-box the ratchet *c'* is brought against the stationary pawl *d'*, and the peg-wood and pegs are thereby moved forward previous to the descent of plunger *H*, as set forth.

2. Conveying the pegs forward by means of the peg-receptacle *t'''* directly over the hole or chamber in the stationary shoulder *U*, and driving them through said shoulder in such a manner that the plunger shall be limited in its descent by the lower surface of the shoulder, so as not to indent the sole.

3. Cutting off the pegs laterally from a strip of peg-wood by the movable knife *E'* being brought against the surface of *r*, Fig. 3, as set forth.

4. The arrangement of the two frames *J M*

as shown, one, *J*, connected with the weight *L* and the other, *M*, pivoted to *J* and used with or without the spring *R*, for the purpose of keeping the boot or shoe properly presented to the awl and plunger, and thereby obviating the necessity of guiding the shoe by hand.

5. The combination of the two slotted levers *E E'* and the awl and plunger-bars *F F'*, box *I*, and guide-box *D'*.

6. The double-jointed feeding-pawl *Z*, operated from the shaft *B'*, as shown, when used in combination with the ratchet *X*, pinion *W*, and rack *P* on block *O*, placed in the frame *M* and arranged, substantially as shown, to properly feed the boot or shoe to the awl and plunger, and also to adjust its operations to the various sizes of the shoes pegged.

A. C. GALLAHUE.

Witnesses:

JAMES LAIRD,
J. W. COOMBS.