

Sheet 1-3 Sheets.

A.C. Gallahue.  
Pegging Machn.

N<sup>o</sup> 9947

Patented Aug. 16. 1853

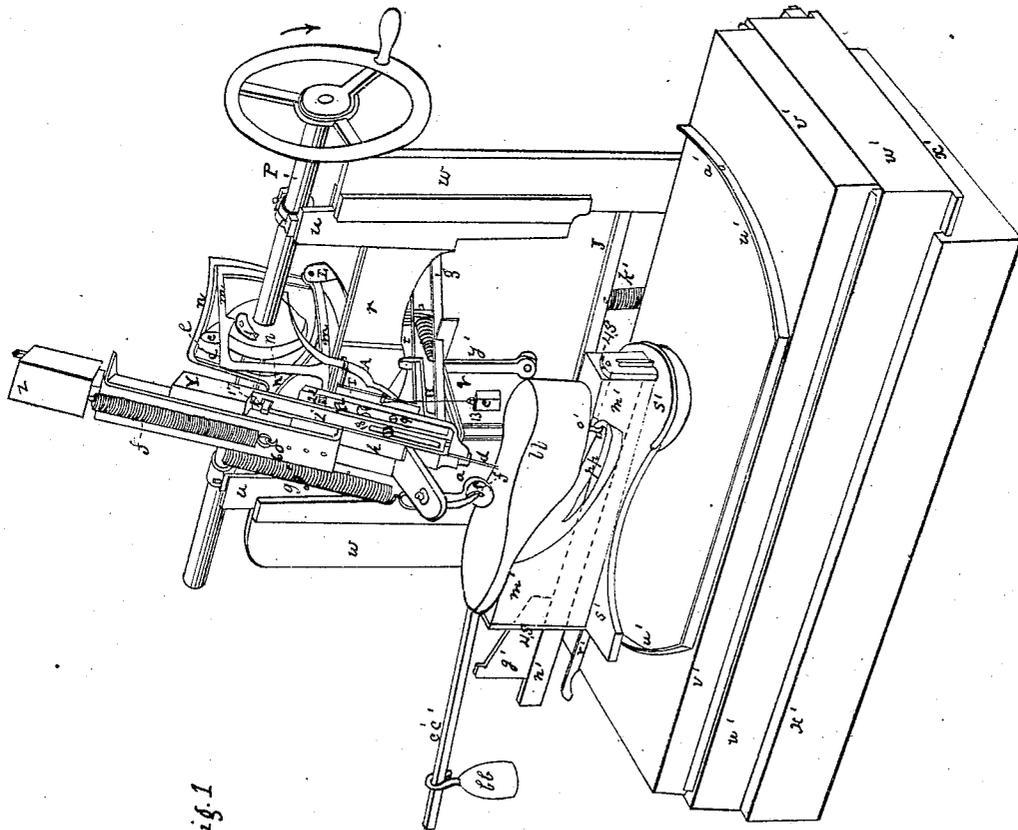


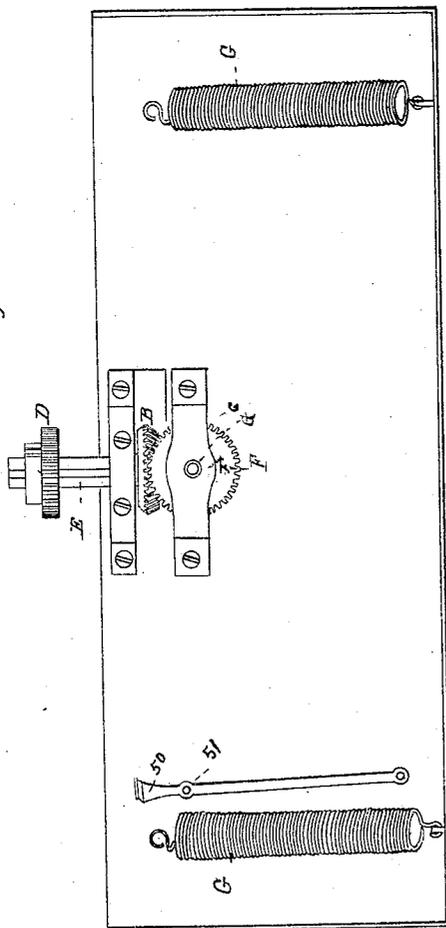
Fig. 1

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Fig. 2



4 c.

4 c.

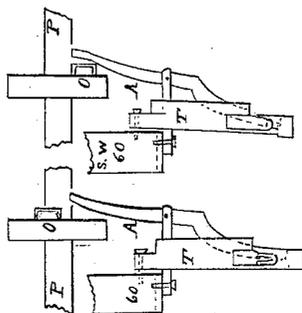


Fig. 5

Fig. 6

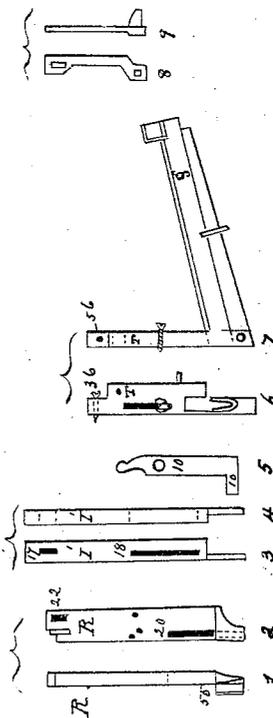


Fig. 4

Sheet 3- 3 Sheets

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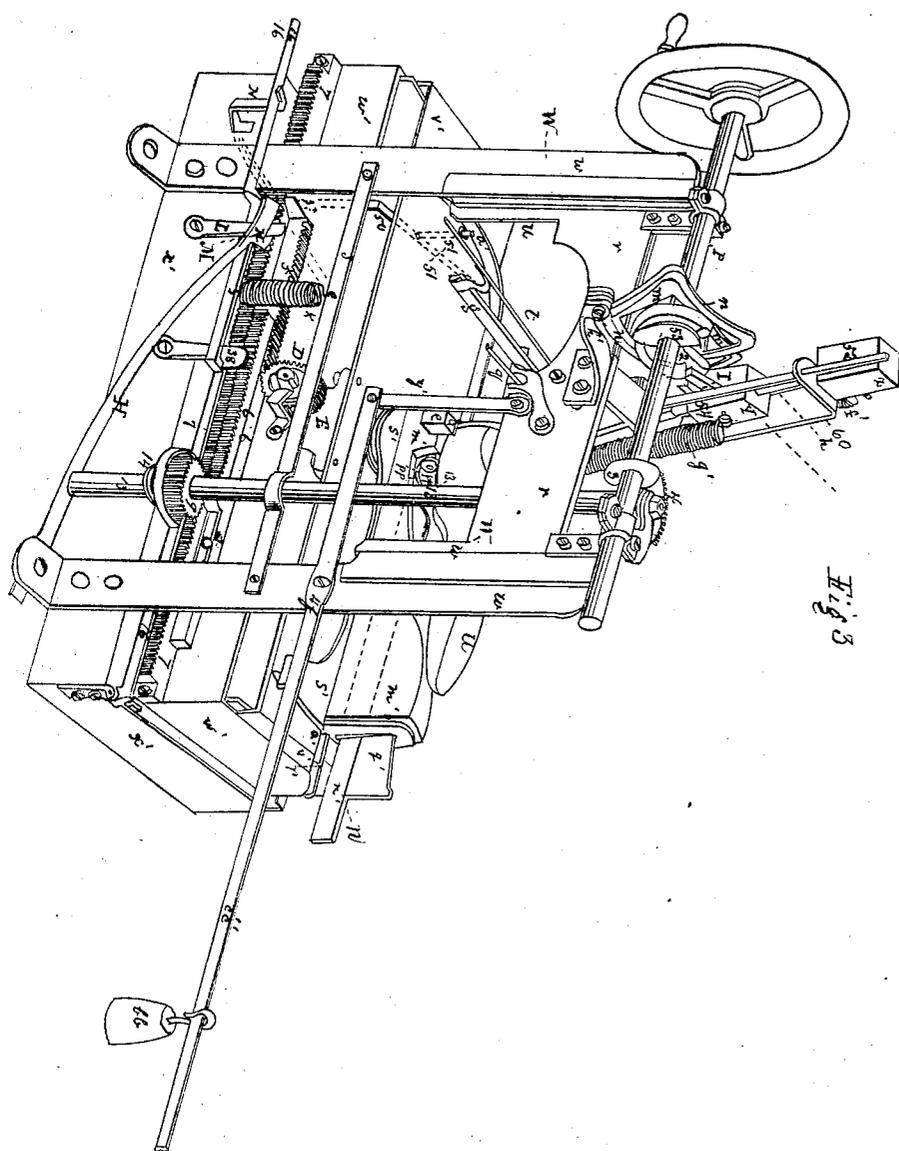


FIG. 3

# UNITED STATES PATENT OFFICE.

ALPHEUS C. GALLAHUE, OF ALLEGHENY, PENNSYLVANIA.

## MACHINE FOR PEGGING BOOTS AND SHOES.

Specification forming part of Letters Patent No. 9,947, dated August 16, 1853; Reissued July 6, 1869, No. 3,533.

To all whom it may concern:

Be it known that I, ALPHEUS C. GALLAHUE, of Allegheny city, in the county of Allegheny and State of Pennsylvania, have  
5 invented a new and useful Machine for Pegging Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making  
10 a part of this specification, of which—

Figure 1, is a perspective front view. Fig. 2, a bird's eye view of the table reversed. Fig. 3, a perspective view as seen from the back. Fig. 4, sectional drawings.

15 The nature of my invention consists in so constructing a machine, that the punching of holes, cutting pegs and driving them by percussion (not forcing) into the soles of boots or shoes, is performed at one operation,  
20 and that instead of moving the machine over and around the work, which is attended with great complexity of machinery and expense, I am enabled to move my work under the operative portions of the machine  
25 and by simplifying the mechanism, greatly reduce the cost, and render practical the operation as applied to all sizes and shapes of the sole, without any change being necessary except that of substituting one of the  
30 ordinary lasts for another.

To enable others skilled in the art to make and use my invention I will describe it as follows:

In Figures 1 and 3, *l l*, represents the last  
35 of the ordinary form, it is provided with a staple *O'* for securing it on the block *m', m'*, at one end of this block there is a slight hollow to receive the toe, while the other end is flat to sustain the heel of the last;  
40 *S' S'* a metallic plate having uprights *4 s, 4 s*, between which the block *m', m'*, is placed, it being secured by screws to *S' S'*; this plate forms a turn table for the last, the pivot thereof being a shaft *c* Fig. 2,  
45 under the center of the heel by which the ends of the last are reversed; the last is secured to the block and turn table *S'*, by a lever *n'* passing entirely through *m' m'* and through slots in *4 s, 4 s*, and having a hook  
50 *p p*, for entering the staple *O'* in the last; by the driving of a wedge *q'* in the slot *4 s*, the lever is depressed and drawing on the hook and staple secures the last firmly on *m' m'*; *X', X'*, is the base of the machine;  
55 *W', W'*, a sliding table therein, moving

longitudinally (by tongues and grooves) through the agency of racks and a pinion; *V', V'*, a second table sliding laterally on *W', W'*; and *v', v'*, is a rail supporting the  
60 turn table *S'* and toe of the last; at each end portion of the rail is a square notch or stop *a', a'*, in which the spring handle *r'*, of the turn table drops on the alternate change in the position of the last in pegging  
65 each side; the straight portion of the rail on the edge of *V'* supports the last holder, when the heel is being pegged.

*w, w*, are uprights secured to the base *x' x'* and are braced with a cross tie *J*; *u, u*, sides of a sliding gate working in  
70 upright guides on *w, w; r, r* Figs. 1 and 3, a cross head connecting *u, u*; *P*, is the main, or driving shaft secured horizontally on the upper ends of the gate *u, u*, on it is a screw *3*, (Fig. 3,) the screw thereof only  
75 partially extending (say  $\frac{1}{3}$ ) of its circumference, the remaining portion at right angles to the shaft, it meshes into a cog wheel *4*, on the upper end of shaft *13*, giving  
80 it motion only when the screw portion is in contact, although the right angled part is always in mesh; this shaft is suspended by a nut, resting on the upper side of a bent arm bolted on the top of the upright  
85 *u*; on the lower portion of shaft *13* slides a pinion *9*, which has motion given to it, by a sliding key and slot in the shaft and pinion, this pinion engages in rack *7*, and also in rack *6*, when drawn up by the  
90 lever *16* by the helical spring *k'*, which changes the gear of the pinion in giving the table *w' w'* motion toward the right; after finishing the shoe the table is returned by hand.

The slight transverse motion of the table  
95 *v'* required on account of inequality of width of the soles, is permitted by the extension and contraction of helical springs *G G* (see Fig. 2) placed under *v'*, one end thereof being secured to the side of *v'* the  
100 other end to the side of *w'*; by means of these springs the edge of the sole is always kept up to the gage *a* Fig. 1, back of the awl *d*, under the peg driver. By a pinion  
105 *D* Figs. 2, and 3, placed on a horizontal shaft *E* which carries a bevel wheel *B* meshing in a second bevel wheel *F* on the upright shaft *C*, motion is given the turn table *s' s'* placed on the upper end of this  
110 shaft, when required in turning the last in

pegging the heel. A lever  $c' c'$ , pivoted at  $f$ , and a pitman  $y'$  attached to  $r$ , and a weight  $b b$ , as a counterpoise to adjust the weight of the sliding frame on the roller  $f$ , (Fig. 1) pressing on the sole serves as a means of giving greater or less pressure of this frame.

Suspended from the cross tie J Fig. 3, is a helical spring  $h'$  connected with lever 16, having its pivot at the end of table  $x'$ , which is drawn upward by the spring lifting the pinion 9. This lever 16 is held down by a catch 3  $s$ , until it is relieved by the short projecting arm 3  $t$ , projecting from the rack 5, striking against the catch 3  $s$  when the spring  $h'$  lifts the lever 16, and pinion from rack 7 to rack 6; H, is a flat spring secured to the base  $x'$ , the upper end thereof resting on the shoulder of another catch L; the pinion being now engaged with the rack which slides by means of a slot therein on a screw  $z'$  projecting from the table  $w'$  carries with it the rack 5, and thus gives motion to the turn table  $s'$  by the pinion D as above described; the same arm 3  $t$  now is moved against the catch L and throws it from under the spring H which depresses lever 16 and throws the pinion out of rack 6 into rack 7; N Fig. 3 is a trip lever secured to the front of the base  $x'$ , and acts on the spring 50 and trigger 51 placed under the spring handle  $r'$ , throwing said handle out of the stop  $a'$  when the lever 16 is lifted by the helical spring  $h'$ , and thus permits the turn table to change the position of the last while the pegs are being inserted in the heel after one side is finished—then the pinion 9 in gear with rack 7 continues moving the table  $w'$  and the last still farther to the right and finishes the shoe.

The pegging portion is represented by  $h h$ , a rod in Fig. 3, the lower end carries the awl  $d$ , and the upper end of the head  $z$ .  $f'$  is a helical spring attached to the head, giving the awl rod a quick stroke when released from the cam 53 (Fig. 3) the rod having been lifted by an arm 54 projecting from the square rod 52 also connected with  $z$ , this cam also holds up the rod and awl while the peg is being inserted; Y a square hammer head sliding independent of the peg driver on the awl rod  $h$ , (said rod moving in stationary ways 60) its use is to drive the pegs into the sole, and is lifted by the end of cam 2, acting on a projecting arm 1, being held up by this cam (a portion seen in dot line) while the awl is in operation;  $g'$ , a helical spring giving a quick descending motion to the hammer. I' Fig. 1, (also in Fig. 4 sectional drawings Figs. 1 and 2) is the rod of the peg driver, lifted by a stirrup  $n$  (connected at 17) and by the cam  $e e$ , on the main shaft P; it slides on the face of the peg cutter R by means of a slot 18 and

screw. The lower part of I' is rounded and reduced in size (see Fig. 4 of which 3 is the front and 4 the side view) so as to enter freely the tube 55 in R, see Fig. 4, of which 1 is the side and 2 the front view, the peg wood passes through slot 20, and stops against a spring gage plate 10; a knife represented by the angular piece at 55 of 1 in Fig. 4, is drawn upward and the knife at 55 splits the peg with the grain of the wood by the stirrup  $m, m$ , connected at 22 raising R, and forcing upward the wood against a stop passing into slot 20, arrests it, and the peg is forced into the tube; this stop is adjustable by a slot in 8 to suit different lengths of peg wood, it is represented by 8 the front and 9 the side view, see Fig. 4. T the base block upon which all the sliding portions are secured; it is swung to the frame work by a screw 56 at its upper end, so as to admit of a slight change of position, to bring the peg over (the previously punched hole in the sole) by means of the lever A afterward described Figs. 5 and 6 acted on by the side of cam O, in its revolution.  $g$  the trough carrying the peg wood connected with the base T. I, I, the finger forcing up the peg wood in  $g$  by the weight  $e$  and cord passing over the stub on the side of T; L, a bent arm on which the stirrups  $m$  and  $n$  are pivoted.

The operation is as follows: The last being turned toward the wheel and handle on shaft P, the toe thereof toward the right hand and the drop bar  $r'$  in  $a'$  under the toe; the peg wood supplied in strips in the holder  $g$ , turn the shaft P toward the right (or in direction of dart); the cam 53, raises the hammer  $z$  and rod 52 by a projecting arm 54 thereon, and the awl rod  $h h$  sliding in ways 60 and awl  $d$ ; on the arm 54 being released from the cam, the spring  $f'$  quickens the descent of the hammer and drives the awl into the sole of the shoe: then the cam  $e e$ , through the stirrup  $n$  lifts the peg driver I' (sufficient to let the peg wood under it against the gage 10,) and the cam  $o$ , (Fig. 3) the peg cutter; and the cam 2 lifts the arm 1, of the sliding hammer Y keeping it up until the awl is raised out of the way by the cam 53 again coming in play, and both hammers are kept up, until the upper end of the lever A being moved to the right in the revolution of the wheel carrying the cam  $o$  (see Fig. 5 where this change of position is shown) while the lower end of A entering a hole in the lower end of the base block T carrying the peg tube and driver gives it and them the slight side movement, independent of the awl and awl rod, for the purpose of bringing the charged tube and driver over the previously punched hole in the sole. (Fig. 6 shows the position of T in detail as seen in Fig. 1.) By the turning of cam 2, the arm 1, is released therefrom,

and permits the head Y sliding on the awl rod *h* moving in fixed ways of the frame 60, to give a quick descending stroke on the head of the peg-driver, and thus insure the perfect insertion of each peg successively into the sole of the shoe.

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

1. The sliding lever *n' n'* (having a hook *p p*, thereon for entering the staple of the last) which passing through slots in the uprights 4 *s*, 4 *s*, of the turn table, secures the last to said table *s' s'* by the introduction of the wedge *q'* as set forth.

2. I claim the turn table *s' s'* mounted on the sliding table *v' v'* which works on ways upon the moving table *w' w'* and is actuated by springs G G, for the purpose of keeping the edge of the sole at all times in contact with the gage *a*, when this is combined with mechanism for giving the turn table a semi-revolution at the point where its center is brought opposite the awl, by the motion of the table *w' w'*, that regularity in inserting the pegs may be secured.

3. I claim the combination of the spring K' lever 16, catch 3 *s* or their equivalent, sliding wheels D and 9, racks 6 and 5, miter wheels F and B; by which a semi-revolution is given the turn table (while the pegs are being inserted around the heel) by the shifting of cog wheel 9 from rack 7 into 6, on the release of lever 16 from catch 3 *s*, and the return of said cogwheel 9 into rack 7, on the release of spring H from catch L, by which means it acts on the upper side of lever 16 as set forth.

4. I claim the cam 53, rod 52 secured to

hammer Z and helical spring *f'* by which a graduated driving stroke is given the awl *d* and its rod, in combination with cam 2, rod, *h*, (upon which slides the hammer Y:) and helical spring *g'*, by which a driving stroke is given the peg driver alternately with that of the awl and its rod, it being understood that I do not claim the general features of a hammer and rod carrying an awl, and springs for driving the awl operated by a cam as this has been done heretofore; but the particular mode or combination in which they are used as here claimed.

5. I claim giving the peg tube and driver a side motion independent of the awl and awl rod, by means of cam O and lever A or their equivalent, for the purpose of bringing the peg directly over the hole punched in the sole of the shoe by the withdrawn awl, the whole constructed and operating substantially as set forth and shown.

6. I claim the combination of cam O and stirrup *m*, with the swung peg cutter R, by which the pegwood is split with the grain of the wood from below, by the knife at 55 and at the same time forced in the tube in R, it being understood that I do not claim the general feature of a peg cutter forming one side of the tube through which the peg is driven; but only the particular mode of applying it as here claimed.

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

A. C. GALLAHUE.

Witnesses:

JOHN F. CLARK,  
JOHN S. S. DEVLIN.