J. Blakeney,

Pegging Machine,

No. 47,085, Patented Apr. 4, 1865.

Fig 1

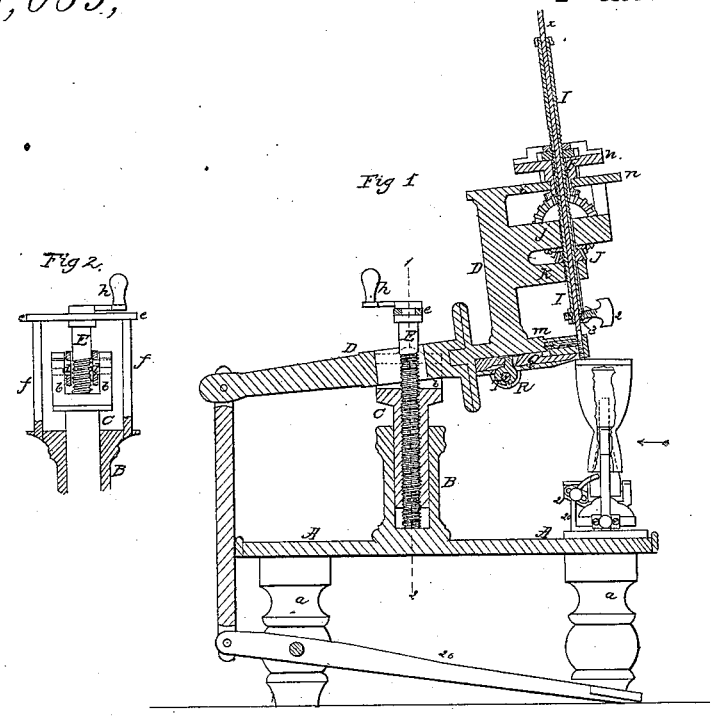


Fig 2.

Fig 3.

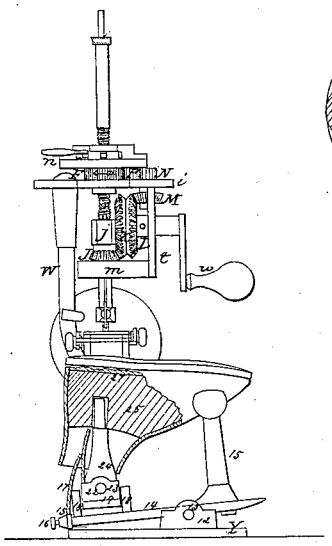


Fig 4

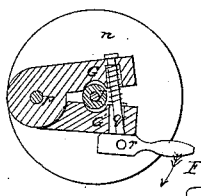


Fig 5.

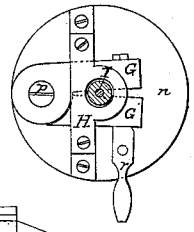


Fig 6.

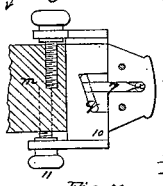


Fig 8

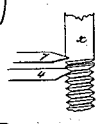
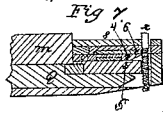


Fig 7



Witnesses;

Wm. Albert Stuart
Chas B. Price.

Inventor;

J. Blakeney
by his Attys
Henry Howson

UNITED STATES PATENT OFFICE.

JOHN BLAKENEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED MACHINE FOR SECURING SOLES TO BOOTS AND SHOES.

Specification forming part of Letters Patent No. **47,085**, dated April 4, 1865.

To all whom it may concern:

Be it known that I, JOHN BLAKENEY, of Philadelphia, Pennsylvania, have invented certain Improvements in Machinery for Securing Soles to Boots and Shoes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of certain improvements, fully described hereinafter, in machinery heretofore used in attaching soles to the welts of boots and shoes by means of short screws.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a vertical section of my improved machine for screwing soles to boots and shoes; Fig. 2, a transverse section on the line 1 2, Fig. 1; Fig. 3, a front view of part of the machine, looking in the direction of the arrow, Fig. 1; Figs. 4, 5, 6, 7, and 8, views of detached portions of the machine, drawn to an enlarged scale.

Similar letters refer to similar parts throughout the several views.

A is the bed of the machine, supported on suitable legs, *a*, and from this bed projects a hollow column, B, for receiving the adjustable bar C, the latter terminating at the upper end in two projections, *b b*, forming bearings for the trunnions *d d* of the rocking frame D, the latter occupying a position between the said projections *b b*, as illustrated in Fig. 2. A screw-rod, E, passes through the adjustable bar C, internal screw-threads in the latter being adapted to similar screw-threads on the rod, the upper end of which turns in a cross-bar, *e*, on vertical rods *f f*, secured to lugs on the column B, so that the bar C, with the rocking frame D, may be raised and lowered at pleasure by turning the handle *h*, attached to the screw-rod E.

On the front end of the rocking frame are four projections, *i*, *j*, *k*, and *m*. In the first of these turns the hub of a cog-wheel, F, above and forming part of which is a circular plate or disk, *n*, and to a pin, *p*, on the latter are hinged the two arms G and G′. (See Figs. 4 and 5.) These two arms are connected together near their outer ends by a rod, *q*, one end of which is connected to the lever *r*. On moving the latter in the direction of the arrow, Fig. 4, the two arms will be moved toward each other and embrace the screw-rod I, the arms being made concave at one point to suit the rod, and these concave portions having screw-threads adapted to those of the said rod. On moving the lever *r* in a direction contrary to that pointed out by the arrow a spiral spring on the rod *q* will tend to force the arms G and G′ apart and clear of the screw-rod I. This rod passes freely through the plate *n* and cog-wheel F, as well as through the projections *j* and *k* of the rocking frame and through a bevel-pinion, J, situated between the said projections *j* and *k*, there being on the pinion a key or feather adapted to a longitudinal groove in the screw-rod, so that while the latter is capable of sliding through the pinion one cannot revolve without the other. The pinion J gears into a bevel-wheel, K, Fig. 3, on a shaft, which turns in the portion *t* of the rocking frame, and which is furnished with a suitable handle, *w*. Another bevel-wheel, L, on the same shaft, gears into a pinion, M, on a vertical shaft, which turns in the projection *i* of the rocking frame, and which has a pinion, N, gearing into a similar pinion, *p*, the latter gearing into the above-mentioned cog-wheel F.

The screw-rod I is made hollow, for the reception of the wire *x*, which, by means of a thumb-screw, 2, and block 3, Fig. 1, at the lower end of the screw-rod I, can be clamped to or released from the said screw-rod at pleasure. (See Fig. 1.)

The screw-cutting apparatus contained in the projection *m* of the rocking frame will be best observed on reference to Figs. 6, 7, and 8.

A cutter, 4, is adapted to a groove in the portion 5 of the projection *m*, (see Fig. 7,) and above this cutter is a plate, 6, having a groove adapted to the upper cutter, 7, the whole being confined in their proper positions by the detachable plate 8. The upper cutter, 7, has a projection fitting into an inclined slot, 9, in a plate, 10, arranged to slide across the projection *m* of the rocking frame, and controlled by a set-screw, 11, by turning which the point of the

cutter can be moved from or toward the wire *x* at pleasure. The lower cutter, 4, is controlled by a precisely similar device.

In a recess in the projection *m* of the rocking frame is a bar, Q, Figs. 1 and 7, the outer steel end of the bar being reduced to a sharp cutting-edge. In this bar is a slot for receiving a portion of the arm R, Fig. 1, on a shaft which turns on projections on the rocking frame, the shaft being furnished with a suitable handle, W, Fig. 3, on moving which forward the end of the bar Q is brought to bear against the wire, which is thereby severed.

On the bed A of the machine rests a plate, *v*, on which are two bearings, 12, for receiving the projections 13 on the plate 14, and to a suitable groove in this plate the lower end of the stand 15 is so adapted that it can be moved to and fro longitudinally on the said plate, the upper end of the stand being adapted to the reception of the upper portion of the boot or shoe near the toe, as seen in Fig. 3. At the opposite end of the plate 14 is a staple-like projection, 15, through which passes a curved bar, 17, secured to the plate Y, a set-screw, 16, adapted to the projection 15, serving to secure the plate 14 to the said curved bar after adjustment.

Two projections, 18 18, serve as bearings for the rocking frame 19, which is furnished with a projection adapted to the curved bar 20, Fig. 1, secured to the plate 14, a set-screw, 21, serving to secure this rocking frame to the bar after adjustment.

The rocking frame has projections 22, adapted to trunnions 23, on the adjustable stand 24, the upper edge of which is arranged to fit in an orifice in the last 25. It will be seen that by means of the adjustable rocking frames, plates, and rocking bar the last, with its boot or shoe, can be adjusted to any desired position. When thus adjusted, the plate Y is moved to such a position on the bed-plate A that the wire *x*, Fig. 1, shall be immediately above that portion of the sole which has to be secured. The operator then places his foot on the treadle 26, and thereby depresses the front portion of the rocking frame D, and causes the projection *m* of the same to bear hard on the sole of the boot. The operator then so moves the lever *r* that the arms G G′ will embrace the screwed portion of the rod I and become the nut for the same. The set-screw 2 is also turned so that the wire *x* is secured to the rod I. The operator now turns the handle *w*, thereby imparting, through the system of gear-wheels described, a rotary motion to the screw-rod as well as to the plate *n* and the arms G and G′, which, as before remarked, form the nut for the screwed portion of the said rod I. As the latter revolves, therefore, it must descend, and consequently a screw-thread must be formed by the cutters 4 and 7, Fig. 8, on the wire *x*, and as the latter descends it will be screwed into the leather sole and welt of the shoe until it reaches an iron plate, 27, which is attached to the last. The operator then discontinues the turning of the handle *w*, and while the projection *m* of the rocking frame is still caused to bear on the sole he draws forward the lever W, and causes the cutting-edge of the bar Q to sever the end of the screwed wire. The operator then releases the treadle 26, when, by means of an appropriate spring or weight, the outer end of the rocking frame is elevated, the arms G and G′ are opened so as to be free from the screw-rod I, the wire released from the latter by turning the set-screw 2, the screw-rod is elevated a short distance, the arms G and G′ made to embrace the rod, and the wire *x* secured to the latter, when, after a proper adjustment of the boot or shoe, the above-described operations are repeated.

Machines in many respects similar to that described have been used for some time in France, and have been to a limited extent introduced in this country. There were, however, in these machines many defects, which my invention has been designed to obviate.

In the French machines, the last was removed from the boot or shoe and an iron plate on an adjustable stand was introduced into the latter. I have found that much time is saved and that the work is much better accomplished by retaining the last in the boot or shoe during the operation and by the use of the iron plate 27. In the French machine, too, the device for cutting the screw-threads on the wire was imperfect and inefficient, compared with that described. The most objectionable feature, however, in previous machines was the screw-thread on the rod I which was made as fine as that required on the wire *x*, and which became worn and useless in a short time.

By the system of gearing described above the screw-rod I is caused to revolve twice as fast as the wheel F, and arms G and G′, which form the nut for the screwed portion of the rod; hence, while the required fine screw-threads are cut on the wire, those on the rod may be coarse, or, in other words, there will be twice as many threads to the inch on the wire *x* as there are on the rod, which is consequently more durable.

I claim as my invention and desire to secure by Letters Patent—

1. The screw-rod I and its internal wire, *x*, and the nut composed of the arms G and G′, or their equivalents, in combination with the system of gear-wheels herein described, or the equivalent to the same, whereby the said screw-rod is caused to revolve at a faster speed than the nut, for the purpose specified.

2. Two or more cutters, 4 and 7, arranged in the projection *m* of the rocking frame in respect to the wire *x*, in combination with the slotted plates 10, or their equivalents, for adjusting the said cutters, as set forth.

3. The support 24, adapted to the last, in combination with the movable plate Y and the devices herein described, or the equivalent to the same, whereby the said support can be adjusted vertically and laterally in the manner described.

4. The combination of the plate Y, adjustableplate, 14, rocking frame 19, adjustable support 24, and sliding support 15, the whole being arranged and operating substantially as and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN BLAKENEY.

Witnesses:

HENRY HOWSON,

JOHN WHITE.