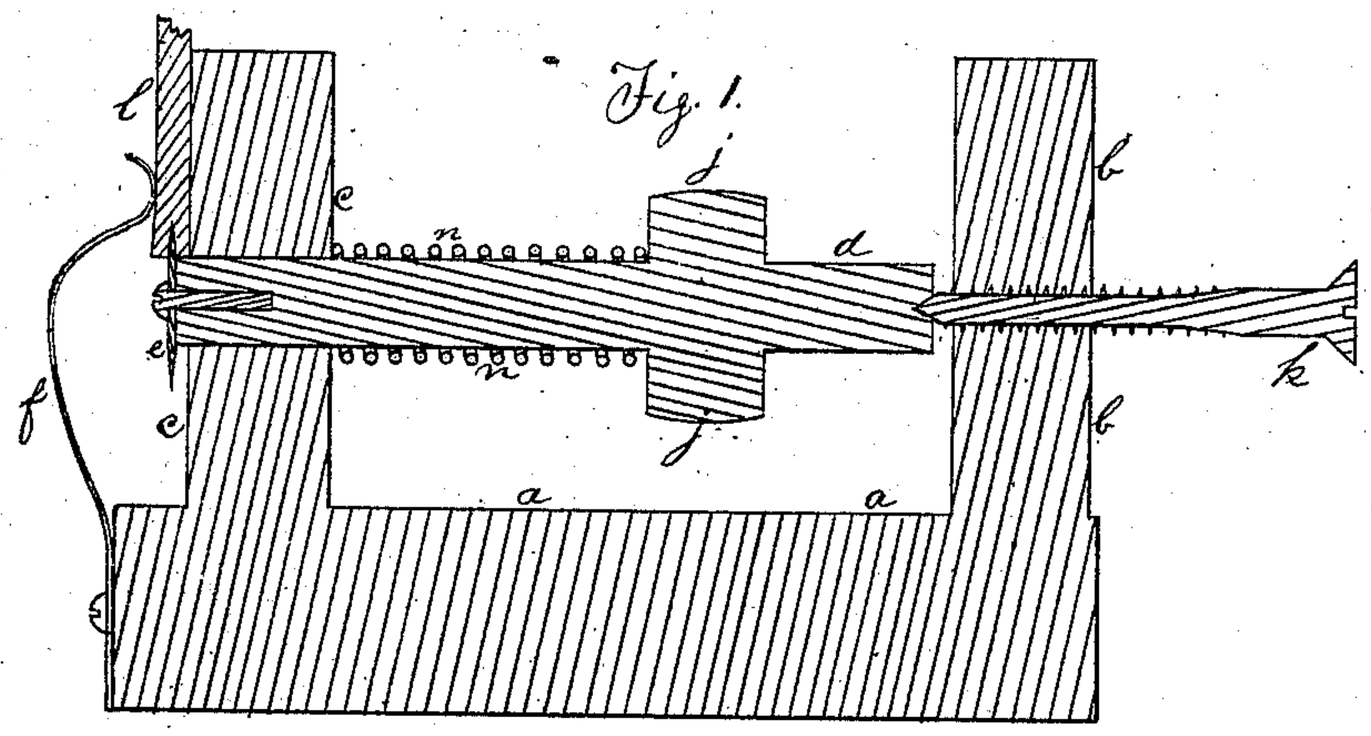
W. WICKERSHAM.

Machine for Slitting Soles for Boots and Shoes.

No. 133,734. Patented Dec. 10, 1872.

Fig. 1.



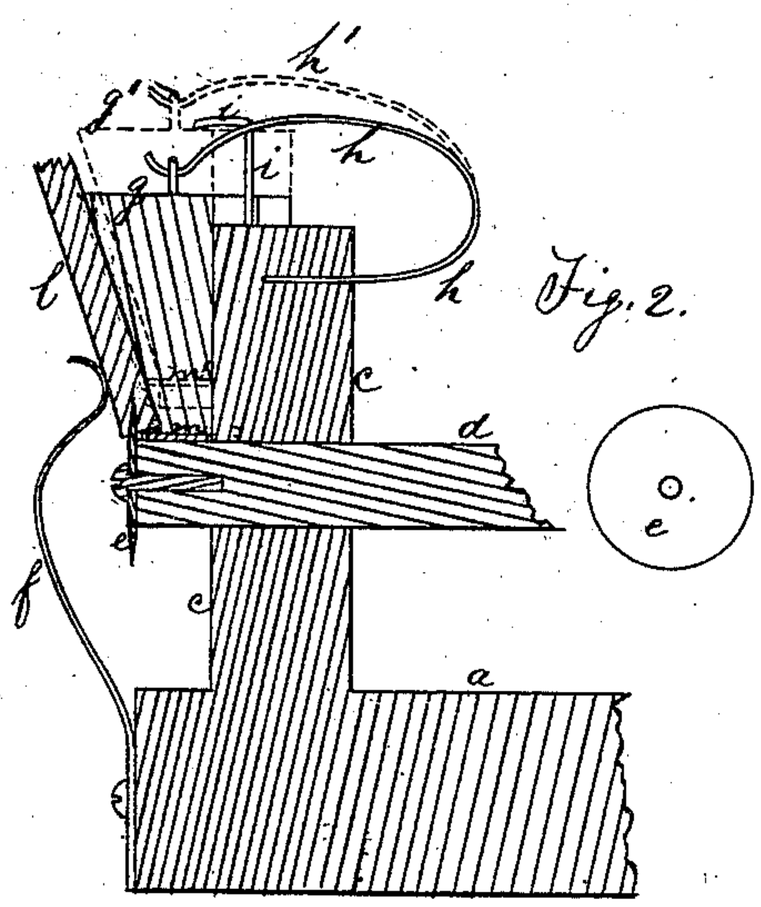


Fig. 2.

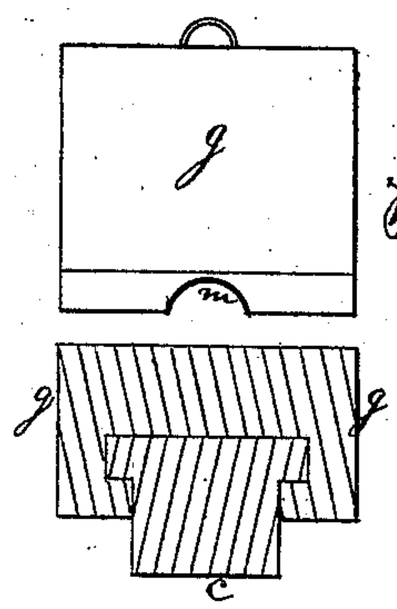


Fig. 3.

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WILLIAM WICKERSHAM, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR SLITTING SOLES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **133,734**, dated December 10, 1872.

To all whom it may concern:

Be it known that I, WILLIAM WICKERSHAM, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Machines for Slitting Soles for Shoes and Boots, of which the following is a specification:

The first feature of my invention relates to a revolving cutter in combination with a guide and a spring-presser pad; and consists of a small revolving cutter placed on the end of a shaft, which projects through a post in such manner that the post may become the guide for one side of the sole while the edge of the same is pressed into the edge of the revolving cutter; at the same time the spring-presser pad presses the sole close against the post, thereby guiding the sole while the successive parts of its edge are being moved over the cutter and thereby slitted. The second feature of my invention relates to the combination of the revolving cutter with the movable shaft; and consists in a revolving cutter placed on the end of a shaft, which is so placed on a post or posts that it is movable in the direction of its axis, thereby rendering the cutter adjustable further from or nearer to the post. The third feature of my invention relates to a device for holding and guiding the sole so as to cut a slit in its edge inclined to its side surface; and consists in a slide fitted movably onto the post so that it can slide in a direction parallel to the front surface of the post, yet having a front surface for the sole to rest against inclined to the surface of the post, so that when the sole is placed against the front surface of the slide, and is moved downward with the slide onto the cutter, a perpendicular slit will be cut into its edge, which will be inclined to its side surface. The fourth feature of my invention relates to a device for holding the slide in its upper position ready for the sole to be placed on it before it is moved downward onto the cutter; and consists in the combination of a stop and a spring, the stop being attached to the top of the post and so formed and arranged that the slide will strike against it and be stopped when it rises to the proper height, and the spring having one end attached to the post and the other end so attached to the slide as to raise it up as high as the stop will allow it to go.

In my drawing, Figure 1 is a perpendicular section parallel to the axis of the shaft, showing most of the parts. Fig. 2 is a perpendicular section, showing the slide and its connection with the post and the cutter. Fig. 3 is a front view and a cross-section of the slide.

A is a stand to which the posts and the spring for holding the sole in its place are attached. *b* is a post having a screw-center in it to support one end of the shaft. C is a post supporting a shaft holding the cutter, and at the same time serving as a guide for one side of the sole. *d* is the shaft. *e* is the cutter. *f* is the spring which presses the sole against the post *c* or slide *g*. *h* is the spring which holds the slide up. *i* is the stop to hold the slide when at its proper height. *j* is the pulley for the belt to work on. *k* is the screw-center to support one end of the shaft *d*, and by which it is adjusted or moved endwise. *l* is the sole. *m* is a small curved projection at the lower end of the slide *g*, on which the lower edge of the sole is placed before it and the slide are moved downward. As the sole is pressed onto the cutter the slide is moved downward by a pressure of the sole on this projection *m*. *n* is the spring around the shaft *d* and between the pulley *j* and the post C, and by its action tends to move the shaft in the direction of the post *b*, keeping the cutter as near to the post C as the screw-center *k* will admit of.

I will now explain the operation of my machine: I first determine the thickness of that portion of the split edge of sole next to the post C. I then turn the screw *k* until the space between the cutter and the post C is equal to this thickness, and then the machine is adjusted for work. I then place the sole between the spring *b* and the post C, with its lower edge on the edge of the cutter *e* pressing it down until its inner edge touches the shaft *d*, which is the guide for the lower edge of the sole while the slitting is going on, and then, while the cutter is revolving rapidly, I move each part of the edge of the sole successively against its cutting-edge, thereby cutting a slit all the way round in the edge of the sole, the slit being parallel to the side surfaces of the sole. But in order to cut a slit in the edge of the sole which is inclined to the side surfaces the slide *g* is used. I place this slide *g* onto

the post C with its inclined surface over the cutter, and the spring *h* holds it up in the position of the dotted lines G′ *h*′, its upper end resting against the catch *i;* then the sole is placed against the inclined front side of the slide with its lower edge resting on the projection M just above the edge of the cutter. The sole and the slide are then moved down, causing the revolving cutter to cut an inclined slit in the edge of the sole. The edge of the sole is then moved against the cutting-edge until each part is successively slitted. The sole is then removed, and the slide is raised again to its upper position by the spring *h*, ready for the application of another sole. The projection M is important, as when the lower edge of the sole rests on it the slide and the sole may both be moved down together by merely pressing the hand on the sole, making the operation very simple. This inclined slitting is used principally for out-soles.

Having thus described my invention, I will state my claims to be as follows:

1. I claim the combination of the revolving cutter *e*, the guide *c*, and the spring-pressure pad *f*, substantially in the manner and for the purpose set forth.

2. I claim the revolving cutter *e*, in combination with the movable shaft *d* and the screw-point *k*, substantially as and for the purpose specified.

3. I claim the slide *g* or its equivalent, constructed and arranged as and for the purpose specified.

4. I claim the spring *h*, in combination with the catch or stop *i* or their equivalents, constructed and arranged substantially in the manner and for the purpose set forth.

5. I claim the projection M, as and for the purpose set forth.

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Witnesses:

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