

McKay & Blake,

Shoe Sole Machine,

N^o 43,923.

Patented Aug. 23, 1864.

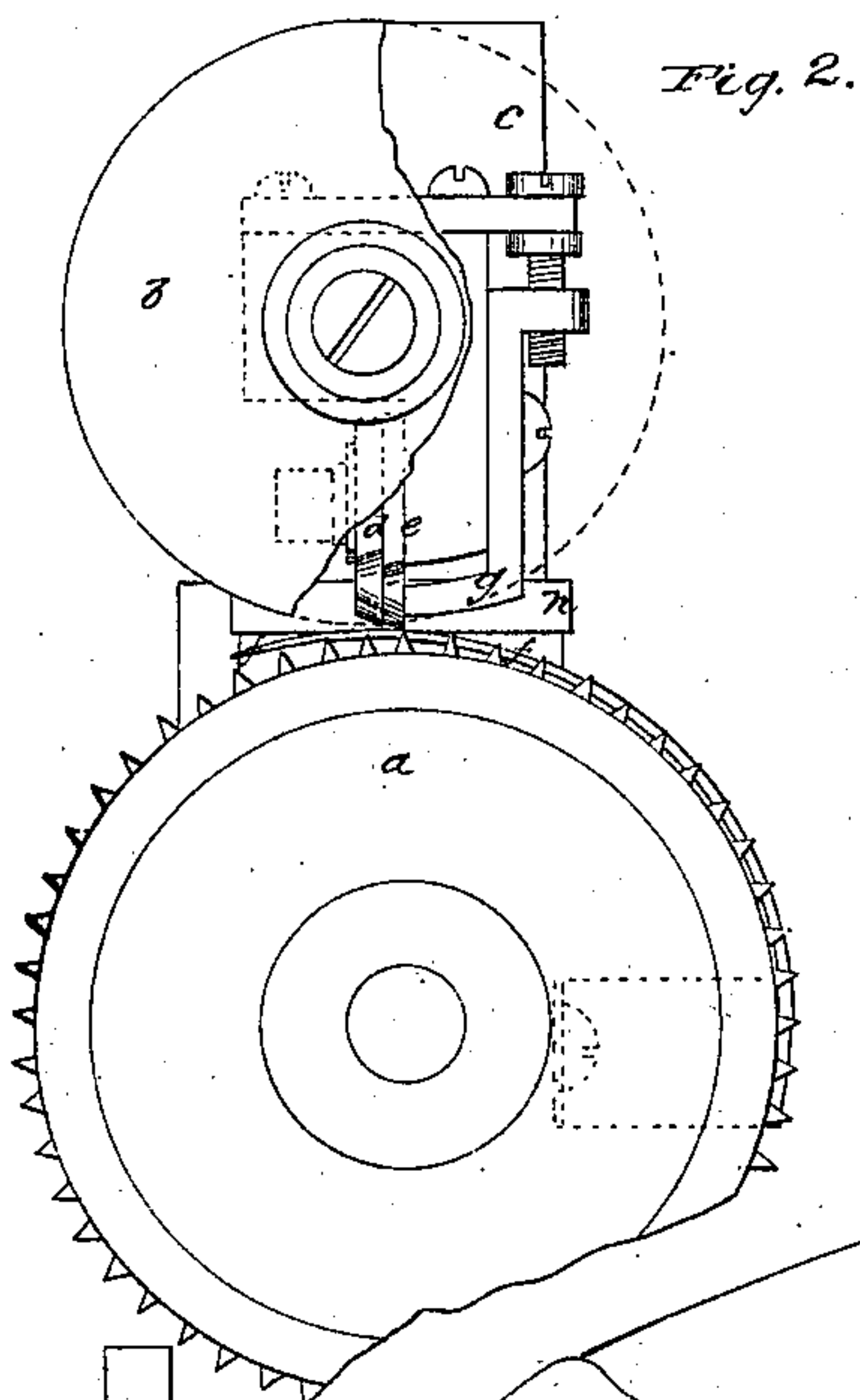
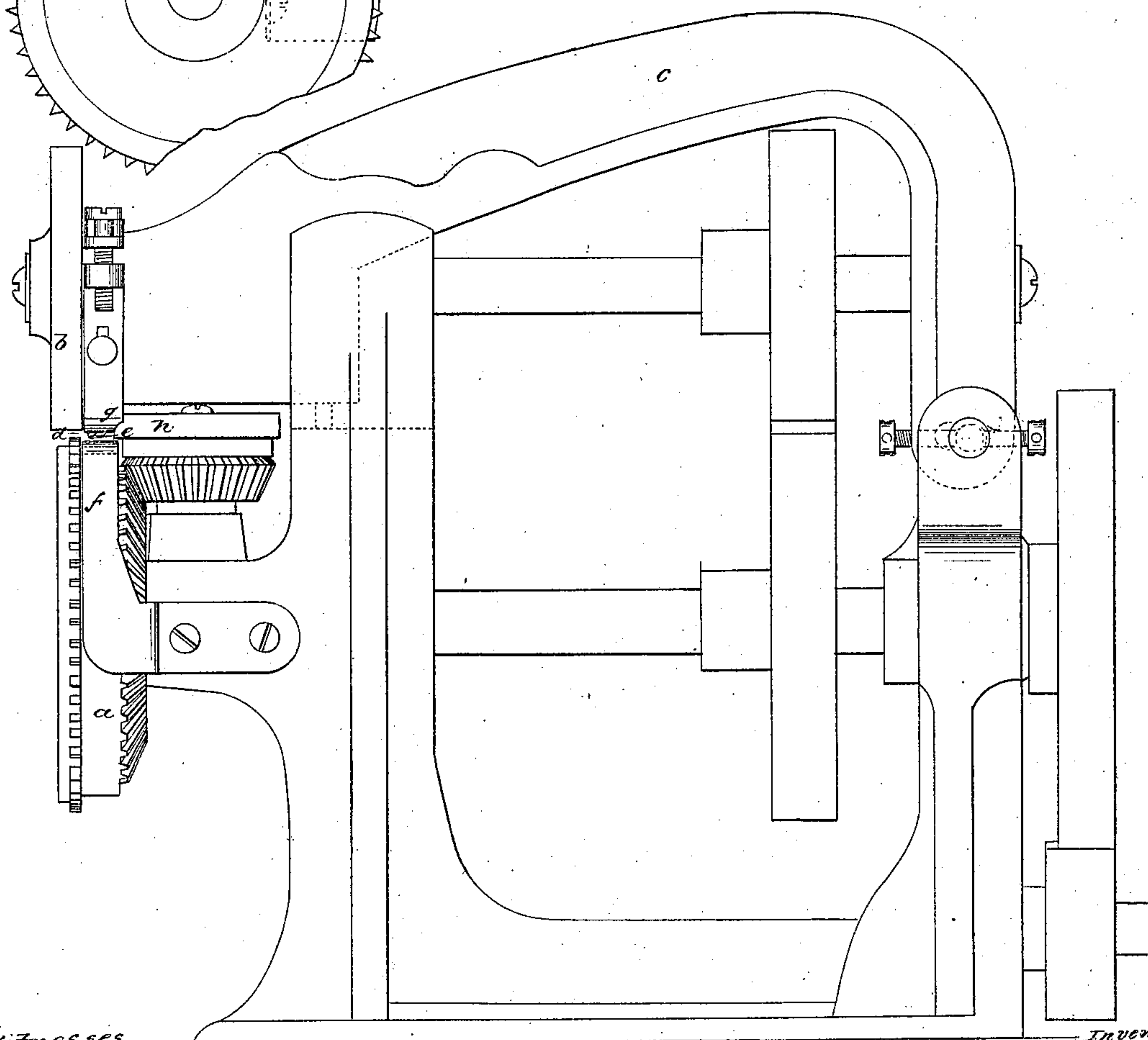


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

GORDON MCKAY, OF BOSTON, AND LYMAN R. BLAKE, OF QUINCY, MASS.

CHANNELING-MACHINE.

Specification forming part of Letters Patent No. 43,923, dated August 23, 1864.

To all whom it may concern:

Be it known that we, GORDON MCKAY, of Boston, county of Suffolk, and State of Massachusetts, and LYMAN R. BLAKE, of Quincy, county of Norfolk, and State of Massachusetts, have invented certain new and useful Improvements in Channeling-Machines; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

Our invention relates to channeling-machines generally, but more particularly such as are organized to form channels in boot and shoe soles in which pegs, nails, and stitches which unite the parts are covered from sight, examples of which machines may be found upon reference to the patent granted to Martin Wesson, May 24, 1859; to the patent granted to Gordon McKay, April 5, 1864, and to the Patent granted to Curtis Stoddard, April 5, 1864, all of which patents are owned by Gordon McKay, one of the applicants herein. In said patented channeling-machines it is difficult to turn short corners—like those of the toe of a sole, for example—the sole being pinched between the lower feed-wheel, which is provided with teeth and an upper feed and presser roll. The teeth of the feed-roll are embedded in the leather and short corners are turned by using the sole as a lever and twisting it upon the teeth, which tears and disfigures the stock. To remedy this difficulty is the object of one part of our invention, which consists in so applying a spring to act in conjunction with the feed wheel that when pressure is exerted upon the sole from above the spring will be depressed with reference to the teeth of the feed-wheel, allowing them to project a considerable distance above the upper or bearing surface of the spring, and so that the teeth will penetrate the stock and have a good hold thereupon by pressing the sole down upon the teeth, and so that when pressure is removed from the stock the reaction of the spring will lift the stock off from the feed-teeth and hold it by simple pressure between two smooth surfaces, the top of the spring and the lower edge of the presser-roll. In this condition a very sharp corner can be turned by the sole using it as a lever, and the facility with which the sole can be guided or

turned, will depend upon the amount of hold which the teeth have on the sole.

In former channeling mechanisms, to vary the depth of the channel it was necessary to change the adjustment of the knife with reference to that part to which the knife was secured, and as this is a matter of some trouble, and as the operator dislikes to change the fastening of his knife when it is so set as to operate well, it is an object of some importance to be able to alter the depth of the channeling without disturbing the set or adjustment of the knife; and in the means by which we accomplish this may be found the second part of our invention, which consists in making the presser-foot adjustable upon the head or lever which carries the knives, and with reference to the knives, so that when the presser foot is adjusted upward the knife or knives are allowed to cut to greater depth, and when the adjustment of the presser-foot is downward the channel is cut shallower.

In the drawings, Figure 1 shows in side elevation a channeling-machine embodying our invention, and Fig. 2 shows in front view or elevation that part of the machine which embodies the invention, part of the presser-wheel being represented as removed to show details beyond.

a is the lower feed-roll; *b*, the upper feed presser-roll; *c*, the pivoted lever to which the roll *b* and knives *d e* are secured, all arranged as shown in some of the patents before referred to.

Above the surface of the wheel *a*, and beneath the knives, a spring, *f*, is located, one end being free and the other fixed to the frame of the machine, as shown in the drawings.

It will be obvious that hold of the teeth of the feed-wheel *a* can only be had upon the leather when this is pressed downward from above, so as to depress spring *f*, and that when little or no pressure is so exerted the leather will rest between the two smooth surfaces of the spring *f* and the presser-bar *g*, between which it can be easily twisted, and also that when the difficulty of turning or twisting the sole is increased by pressure from above the feed-teeth are driven into the leather and the spring *f* depressed.

Another adjustment of the machine to regulate the distance of the channel from the edge of the sole without movement of the

knives relatively to the lever *c* is effected by giving to the lever *c* a capability of longitudinal movement, so as to carry the knives toward or away from the edge guide-roll *h*. This is accomplished by making an elongated bearing-slot in the lever, where it is pivoted to the main frame of the machine, and, applying adjusting-screws to this slot and the pivot running through it, the lever can be set forward or back, as may be desired, and as will be readily understood from Fig. 1 of the drawings.

We claim—

1. The spring *f*, when applied to operate in

connection with a toothed feed-wheel and presser bar or roll.

2. The adjustable presser-foot *g*, operating in connection with the feed-wheel *a* or the spring *f* to regulate the depth of cut of the channeling-knives without displacement or adjustment of the knives.

In witness whereof we have hereto set our hands this 28th day of May, A. D. 1864.

GORDON MCKAY.
LYMAN R. BLAKE.

Witnesses:

F. GOULD,
S. B. KIDDER.