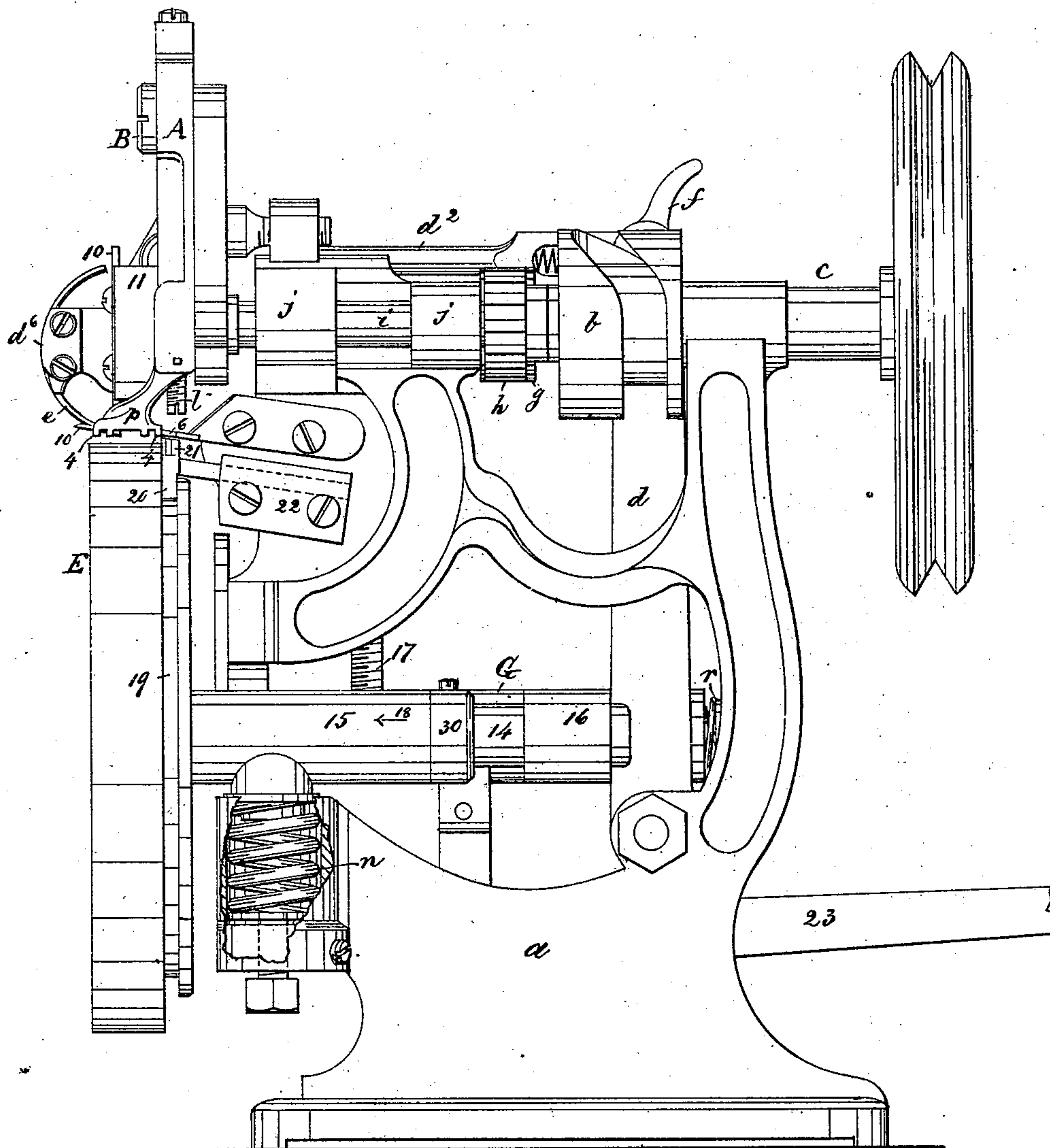


M. A. C. HOLMES.
Mechanism for Channeling and Pricking the Soles
of Boots and Shoes.

No. 227,167.

Patented May 4, 1880.

Fig:1.



Witnesses.

L. H. Connor
Jos. P. Livermore

Inventor.

May A C Holmes,
by Crosby Gregory Atty

M. A. C. HOLMES.
Mechanism for Channeling and Pricking the Soles
of Boots and Shoes.

No. 227,167.

Patented May 4, 1880.

Fig: 2.

Fig: 5.

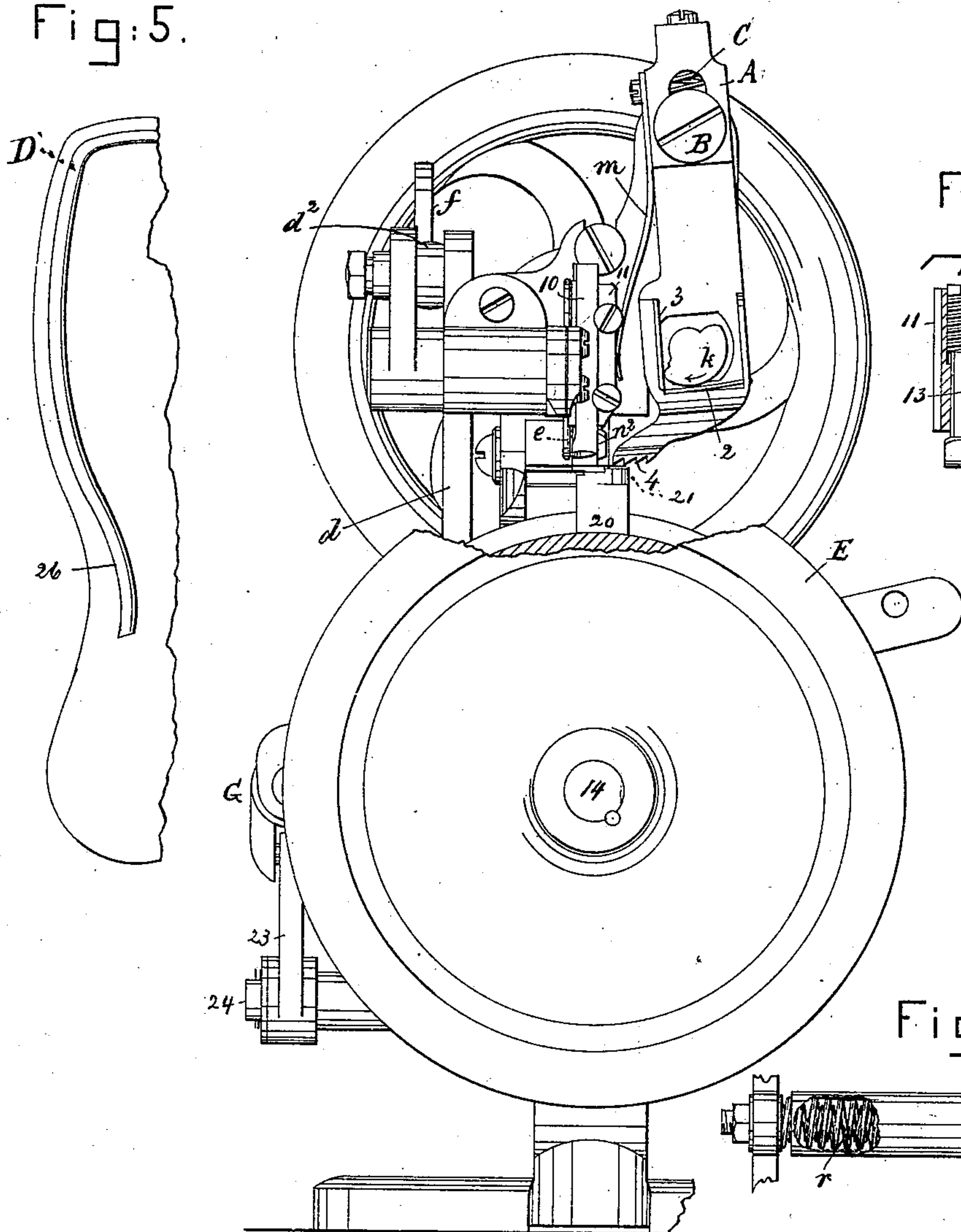


Fig: 3.

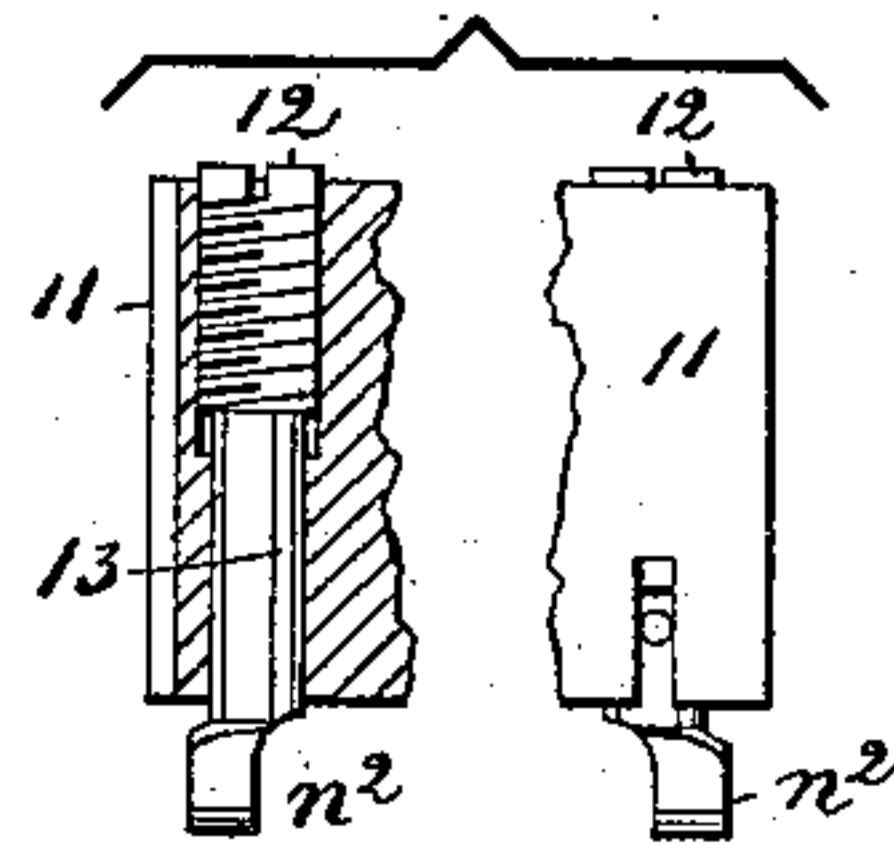
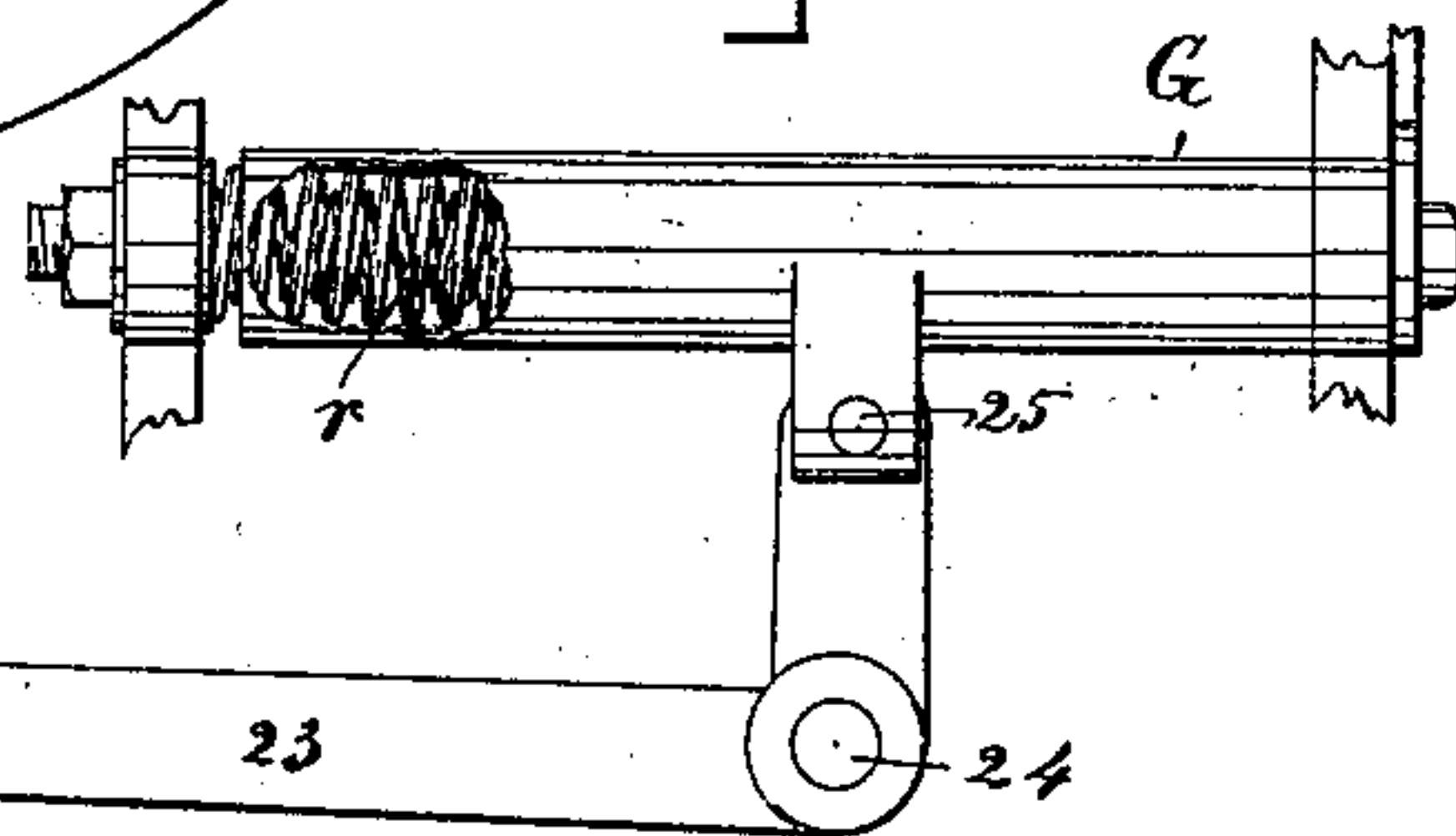


Fig: 4.



Witnesses
L. F. Connor.
Jos. P. Livermore

Inventor.
Mary A. C. Holmes.
by Crosby & Mayson Atty.

UNITED STATES PATENT OFFICE.

MARY A. C. HOLMES, OF NEWPORT, RHODE ISLAND.

MECHANISM FOR CHANNELING AND PRICKING THE SOLES OF BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 227,167, dated May 4, 1880.

Application filed February 16, 1880.

To all whom it may concern:

Be it known that I, MARY A. C. HOLMES, of Newport, county of Newport, and State of Rhode Island, have invented an Improvement in Mechanism for Channeling and Pricking Soles for Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to mechanism for channeling and pricking inner soles to be used in connection with welted work, and is an improvement on United States Patent No. 222,628, granted to me December 16, 1879, to which reference may be had. In that machine the sole rested upon and was fed by a rough-surfaced wheel, which, to some extent, marked the outer face of the sole; so I have herein provided a loosely-held smooth-surfaced work-support to sustain the sole on its grain side, and to feed the sole I have provided a drop or four-motioned feeding device having teeth at or near its side edges to take hold of the sole.

In this class of work it is often, if not almost always, desirable to cause the "wale," to which the upper and welt are stitched, to occupy at the shank of the sole a position more remote from the edge of the sole than about the ball of the sole. To do this automatically I have made the edge-gage and support for the sole laterally movable with relation to the channel and edge-beveling cutters by a lever or treadle under the control of the operator, and so that the distance of the wale from the edge of the sole may be automatically varied as may be desired.

Figure 1 represents, in elevation, the right-hand side of my machine; Fig. 2, a front elevation thereof; Figs. 3 and 4, details of the machine to be hereinafter referred to, Fig. 4 being on a smaller scale to save room; and Fig. 5, part of a channeled and beveled sole, such as will be produced on said machine.

The frame *a* of the machine, the piercing instrument *c* and its carrier *d*⁶, and the cam *b*, link *d*², arm *d*, and hook *f*, the channeling and beveling cutters, and the spring-support *n* for the wheel on which the sole is supported are all substantially as in my said patent, and so need not be herein further described.

The main shaft *e* has fixed to it a toothed

wheel, *h*, that engages a toothed wheel, *g*, on and drives the short shaft *i*, supported in bearings *j j*, and provided at its front end with a cam, *k*, (see Fig. 2,) which, by its action on the face 2, adjustable by the screw *l*, Fig. 1, depresses the drop or four-motioned feeding device *A*, slotted at its upper end to embrace a fixed stud, *B*. The cam *k*, the feed-dog being depressed, acts on the face 3 and moves the feeding device forward while the teeth 4 engage the sole.

The feeding device is raised by the spring *C* and moved backward by the spring *m*. The under surface of this feeding device has at each side sets of teeth 4 to engage the sole each side of that part of it which is to form the wale *D*. The series of teeth 4 being made to engage the sole at opposite sides of that portion of the leather which is to form the wale leaves that part solid and in the natural state of the leather, while those parts of the leather adjacent to the wale, which are engaged and penetrated more or less by the said teeth, are afterward cut or removed by the action of the cutters, leaving a strong unbroken wale.

The channel-cutter 10 is held in a part, 11, of the frame-head, and at the rear of it is located the presser *n*², that bears on the sole just at that point where the said cutter and the edge-beveling cutter 6 are cutting or on the wale. This presser acts as did the projection on the presser-foot described in my said patent; but, as herein shown, it is carried by a rod, 13, held in the part 11 just back of the channel-cutter 10, a screw, 12, keeping the same down to the proper level with relation to the cutting-edges of the two cutters, its position with relation to them determining the depth of the wale *D*.

The supporting-surface *E*, upon which the sole rests while being channeled and pricked, is fixed to a stud, 14, loosely mounted in journals 15 16 of a pivoted bracket, *G*. This bracket is held pressed upward by the spring *p*, a screw or stop, 17, determining its upward movement, and consequently the upward position of the surface *E*. The bracket *G* has a sleeve, in which is located a spiral spring, *r*, the tendency of which is to move the bracket forward in the direction of the arrow 18.

The supporting-wheel *E* has an annular

groove, 19, in which is placed the foot 20 of the edge-gage 21, its shank being extended backward into the guide 22, so that as the said wheel is moved laterally or in opposition
5 to the direction of arrow 18, as it may be by the lever 23, pivoted at 24, and formed to embrace a pin, 25, of the bracket G, the said gage may be moved with it.

To cut the wale so that it shall appear at a point more remote from the sole at the shank, as as 26, Fig. 5, it is only necessary to depress the lever 23 by hand, or by a treadle, which may be connected therewith in any usual manner, when the bracket will be moved back-
15 ward, and one of its journal-arms will act upon the collar 30, fixed on the stud 14, and move it and the wheel E with it.

I claim—

1. The vertically-movable sole-supporting
20 surface E, a spring to press it upward, and the channel and edge-chamfering cutters, combined with the drop-feeding device, having a longitudinal central recess for the purpose described, and provided with teeth at the side
25 thereof to engage and feed the sole forward, substantially as described.

2. The channel and edge-chamfering cutters, the supporting-surface for the sole, the perforating-instrument, the edge-gage, and
30 sole-feeding mechanism to move the sole forward, combined with an arm or lever to move

the edge-gage laterally with relation to the said cutters and perforating-instrument to form the wale at varying distances from the edge of the sole and perforate it, substantially
35 as described.

3. The supporting-surface E, grooved at 19, combined with the edge-gage fitted into the said groove, the stud 14, the bracket to support the said stud, and a lever or arm to move
40 the bracket laterally, substantially as described.

4. The supporting-bracket, stud 14, and wheel E, combined with the lever or arm to move the bracket in one direction and the
45 spring to move it in the opposite direction, substantially as described.

5. In a sole-channeling and perforating machine substantially as described, the supporting-surface for the sole and the feeding
50 device provided with teeth to engage the sole to move it forward and with a space at its under side, next the said teeth, to prevent engaging and disturbing that part of the sole to form the wale, substantially as described.
55

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

MARY A. C. HOLMES.

Witnesses:

G. W. GREGORY,
N. E. C. WHITNEY.