

2 Sheets—Sheet 1.

## FEATHER EDGING AND CHANNELING TOOL.

Patented Dec. 27, 1887.

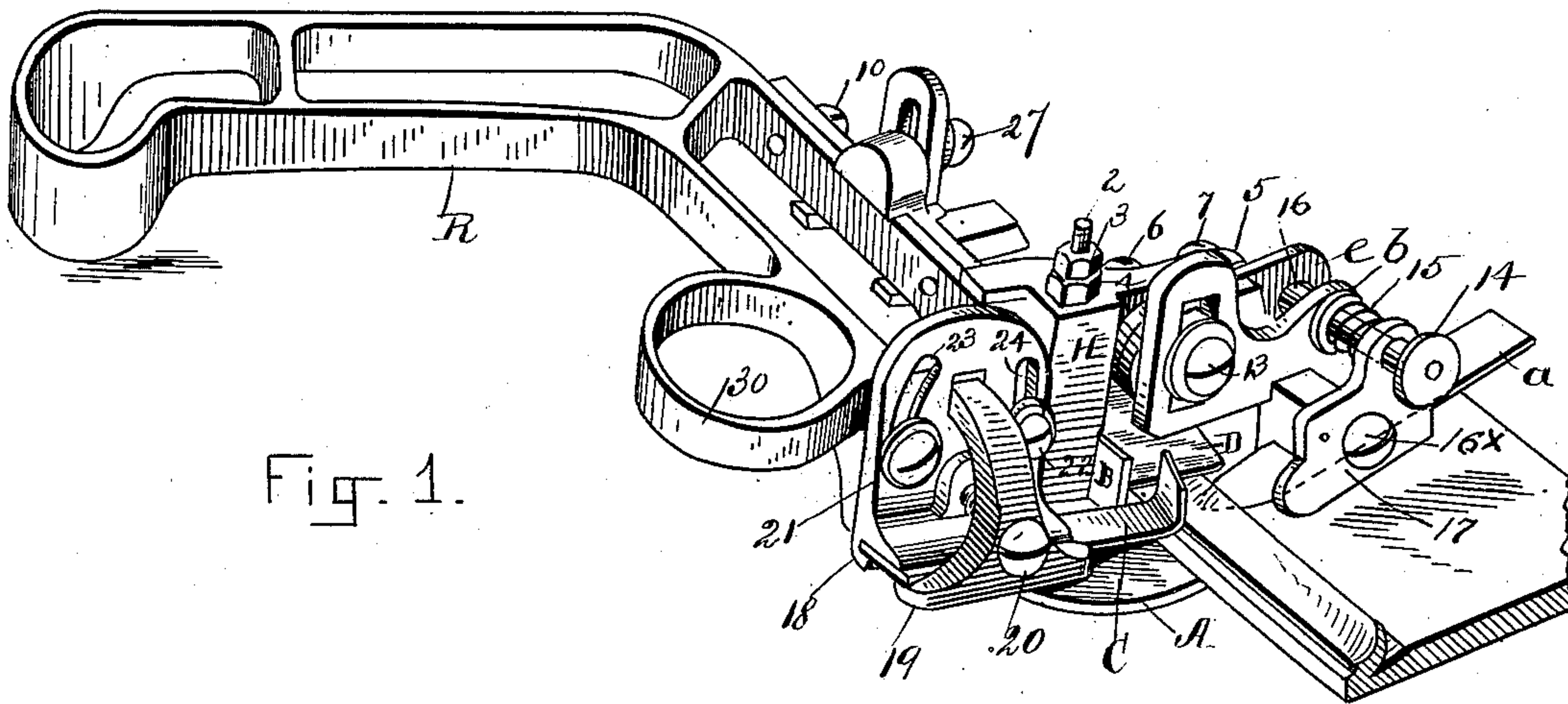


Fig. 1.

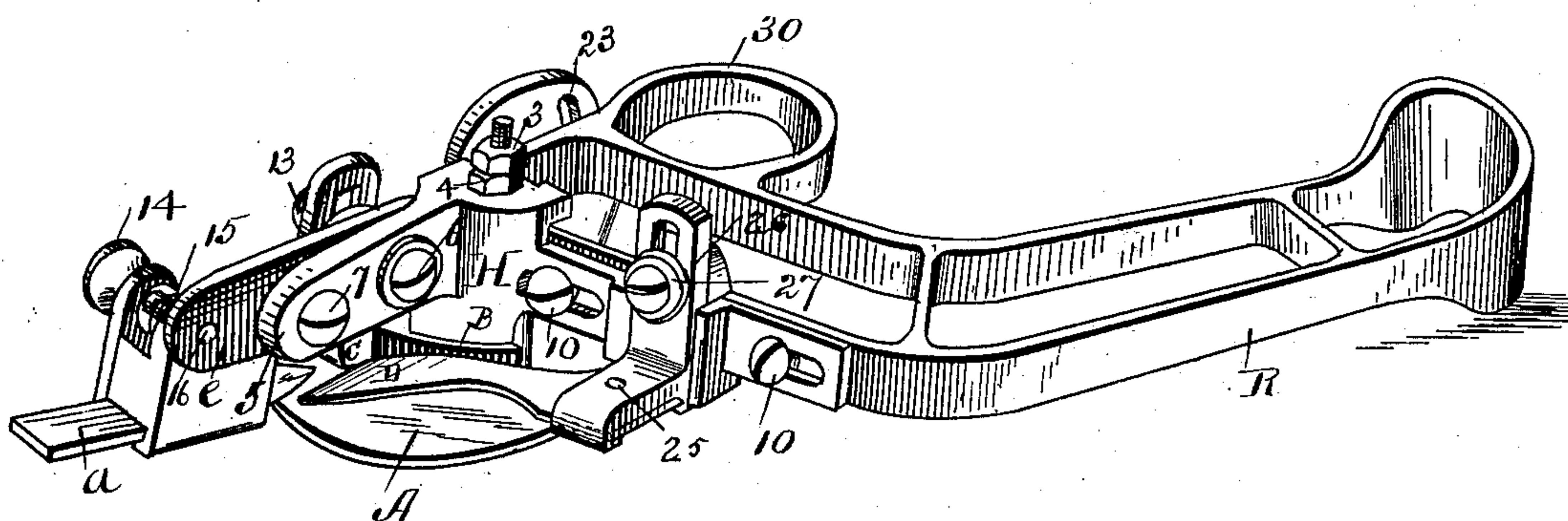


Fig. 2.

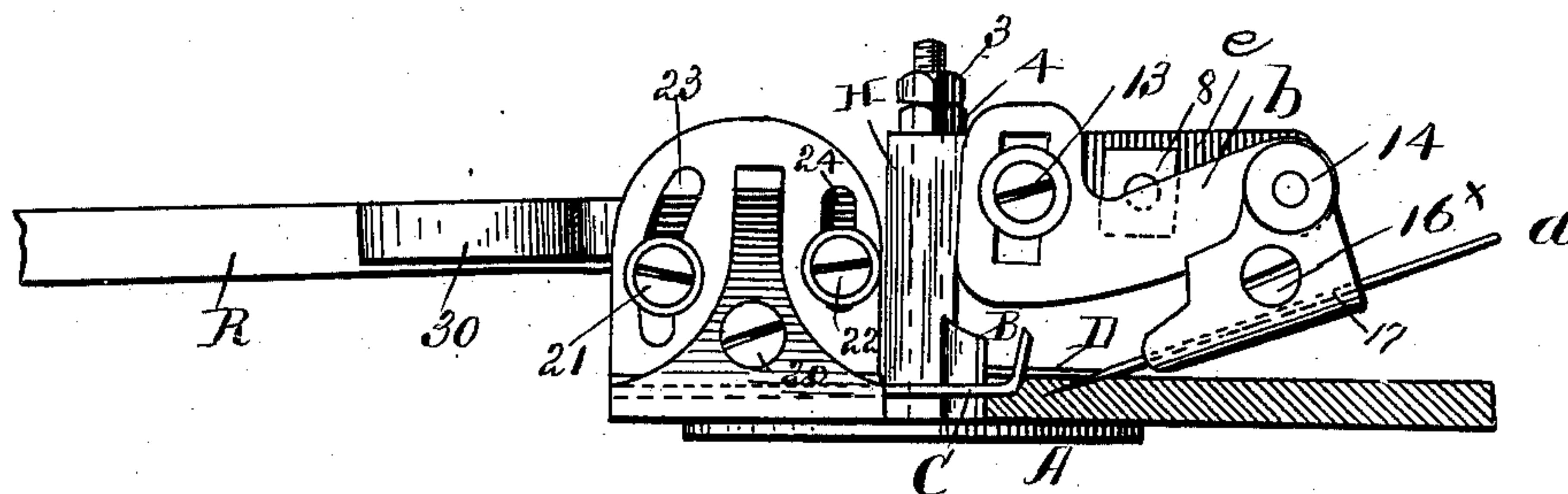


Fig 3

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(No Model.)

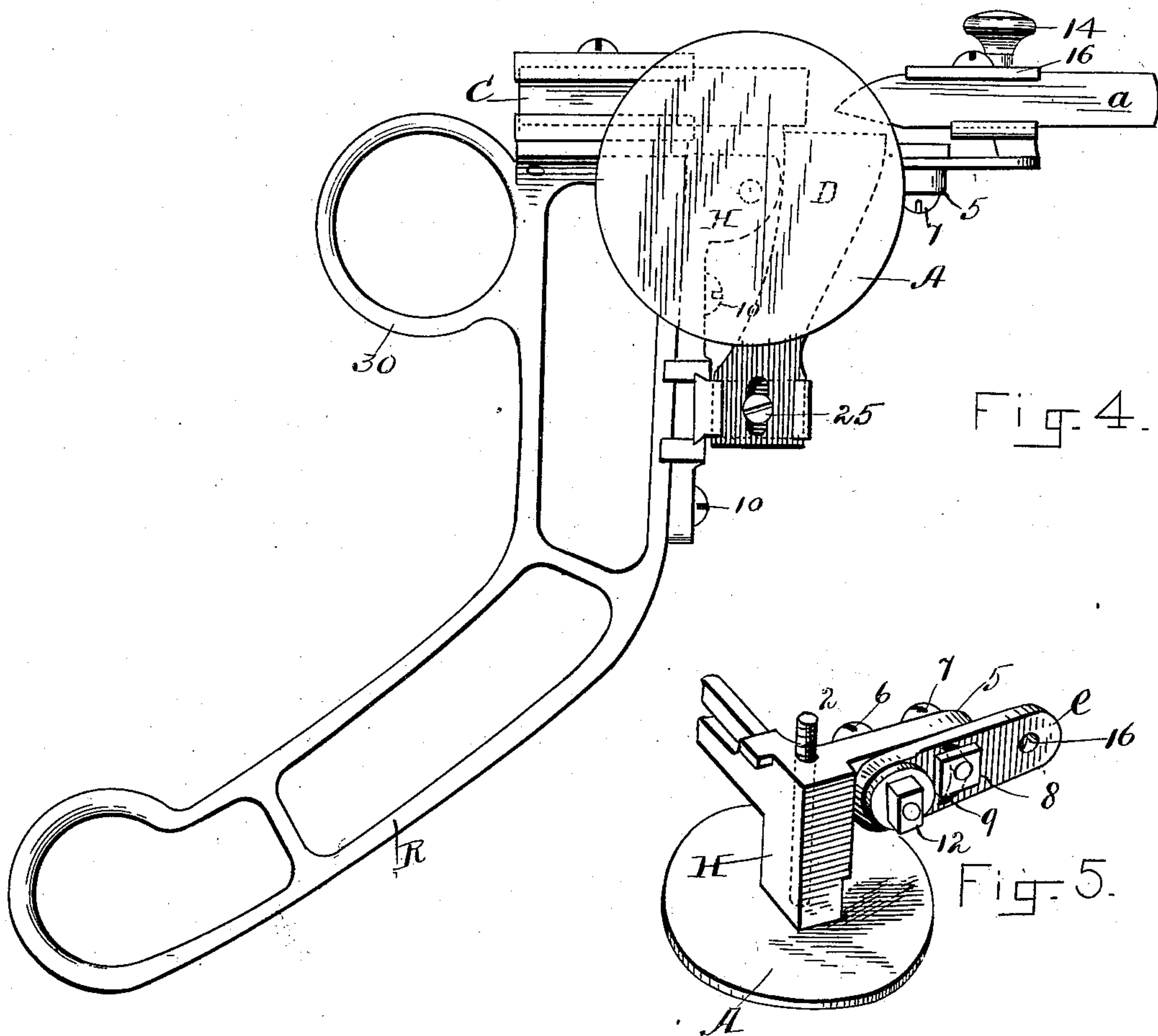
2 Sheets—Sheet 2.

G. B. DUNHAM.

FEATHER EDGING AND CHANNELING TOOL.

No. 375,345.

Patented Dec. 27, 1887.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

GEORGE B. DUNHAM, OF LYNN, MASSACHUSETTS.

## FEATHER-EDGING AND CHANNELING TOOL.

SPECIFICATION forming part of Letters Patent No. 375,345, dated December 27, 1887.

Application filed January 15, 1886. Renewed May 23, 1887. Serial No. 239,111. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE B. DUNHAM, of Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain Improvements in Combined Feather-Edging and Channeling Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to means for channeling and feather-edging boot and shoe soles, and has for its object to provide a cheap, economical machine adapted to be used as a hand implement.

The invention consists in matters of construction and in certain arrangements of parts, all of which are hereinafter fully described, and specifically pointed out in the claims.

Referring to the drawings which accompany and form part of this application, Figure 1 is a perspective view showing the top and rear end or edge of the tool. Fig. 2 is a similar view showing the top and front edge of the tool. Fig. 3 is an end elevation. Fig. 4 is an inverted plan of the tool. Fig. 5 is a perspective view of the knife-support and connecting parts, to be referred to hereinafter.

The operation of feather-edging consists in cutting away the sole on one side near the outer edge, so as to reduce the thickness of the sole at this point and thus give it the appearance when looked at edgewise of being a thin flexible sole. This work or cutting away is effected in my tool by the combined action of the bottom guard, A, the edge guard, B, and the cutting-knife C and spring D. To this end the sole is passed through between the bottom guard, A, and spring D, its edge bearing against the guard B, and the knife C being arranged to cut off the chip required to be removed in order to reduce the sole to the desired thickness. In case it is desired to cut a channel in the sole it may be effected by the knife *a*, which to this end is mounted on a movable arm, *b*, in order that it may be brought downward, as in Fig. 3, when the channel is to be cut or turned upward out of the way when the sole is to be feather-edged only.

It is necessary, in order to fit the tool for the various kinds of work commonly met with in making boots and shoes, for the several parts

referred to above to permit adjustment relative to and independent of each other. These adjustments and the construction necessitated therefor I will now proceed to describe.

The bottom plate or wheel, A, is provided with a spindle or journal stud, 2, that passes upward, as shown, (see Fig. 5,) through a suitable hole in the block H. On the end of this spindle 2, which for the purpose is screw-threaded, as shown, are two nuts, 3 4, whereby the spindle may be locked fast or permitted to turn in the block. In this way the wheel A may be locked or allowed to turn, as occasion demands.

As clearly shown, the guard-plate A is in the form of a disk, and it is journaled, in relation to the cutting-knife, so that when the sole is in place the upper face of the disk will bear upon the sole under each of the knives and afford a firm bearing for the cutting operation. By arranging the guard-disk with its face parallel with the surface of the sole I secure a bearing under both knives, and at the same time I am enabled to use a disk of light weight.

The block H is further provided with an extension, 5, to which is attached, by means of screws 6 7, the movable arm *e*. (See Fig. 5.) Said arm *e* is allowed to turn on the screw 6, and may be locked in any desired adjustment by means of screw 7. To this end it is provided with a clamp-nut, 8. So, too, the arm is provided with a slot, 9, to the end that it may be turned on the screw 6 as a fulcrum. This block H is by screws 10 10 clamped to the main handle, as represented in Figs. 1, 2 of the drawings. On the end of screw 6 (see Fig. 5) is a nut, 12, adapted to enter a groove in the arm *b*. (See Fig. 3.) The arm *b* is vertically adjustable on this nut, and may be clamped thereto by a screw, 13, all as fully represented in said Fig. 3. The nut 12 is allowed to turn on the end of screw 6, and thus operates as a journal or hinge for the arm *b*, allowing the arm to be lifted in order to raise the cutting channel-knife whenever the occasion demands. Said arm *b* carries in its outer end a pin, 14, surrounded by a spring, 15, that operates to push the pin forward, and when the arm *b* is depressed this pin 14 enters



a hole, 16, in the arm *c*, (see Fig. 5,) and thus locks the arm in this position. From this it will be understood that any required inclination of the channel-knife may be obtained by the proper adjustment of the arm *b* on the nut 12. The knife itself is held in position by the screw 16<sup>x</sup>, it being clamped between the projection or end of arm *b* and the plate 17, which two are held together by the said screw. The knife may obviously be moved downward, as occasion demands, to compensate for wear, as also to regulate the depth of the channel.

The feather-edging knife is held between the two clamps 18 19, and may be adjusted forward or backward between these clamps, which themselves are held together by means of screw 20. The clamp 19 is supported, as shown, by the clamp 18, and this clamp 18 is secured to the end face of the main handle *R* by screws 21 22. (See Fig. 1.) These screws are made to pass through slots 23 24, formed in the clamp 18, to the end that the clamp may be moved upward or downward whenever occasion requires, for raising or lowering the feather-edging knife. So, too, the slot 23 is curved, to the end that the clamp may be turned for the purpose of changing the angle of inclination of the said knife. The edge-guard *B* is clamped in a suitable groove formed in the block *H*, and is adjustable forward and backward in this groove to regulate its position relative to the edge of the knife *C*, as also to compensate for the wear thereof. The spring *D* is secured by means of screw 25 (see Fig. 4) to a slide, 26, (see Fig. 2,) and is by means of said screw and a suitable slot in the spring, adapted to be moved and adjusted endwise—that is, toward and from the cutting-knife *C*. The slide 26 is itself arranged to move up and down in a suitable groove formed in the rear arm of block *H*, and by means of a suitable slot in the clamp, together with a screw, 27, as shown, the clamp may be adjusted vertically, so as to raise or lower the rear end of the spring *D*.

In operation the tool is grasped in one hand and drawn round the edge of the sole, while it is secured by holding in the opposite hand or otherwise, as occasion requires.

To facilitate in holding and manipulating the tool I provide the finger-loop 30, which is formed integral with the main handle, as shown.

Having thus described my invention and the best method known to me of operating the same, I claim as of my invention and desire by Letters Patent to secure—

1. In a boot and shoe sole feather-edging tool, the combination of a guard-plate for the bottom of the sole, adapted to revolve in a horizontal plane, a yielding spring-plate parallel to the said bottom guard-plate for the top of the sole, an edge guard-plate extending between the two, and a cutting-knife for paring off one side of the sole near the edge thereof, all of said elements being mounted, substantially as set forth, upon a common handle and adapted

to be drawn together around the edge of the sole, substantially as described.

2. In a boot and shoe sole feather-edging tool, and in combination, a suitable handle, a cutting-knife carried thereon and adapted to operate upon one side of the material, a pin or post on the handle, and a revoluble guard-plate, *A*, mounted upon the said pin or post, so as to bear upon the other side of the material and to revolve when the tool is drawn along the edge of the material to perform the work, substantially as described.

3. In a boot and shoe sole feather-edging tool, and in combination, a suitable handle, a cutting knife or knives carried thereon and adapted to operate upon one side of the material, a pin or post on the handle, a guard-plate mounted upon the said pin or post and arranged to revolve in a plane parallel with the surface of the material and bear upon the other side of the material, and means for locking the guard-plate, substantially as described, and for the purpose set forth.

4. In a combined boot and shoe sole feather-edging and channeling tool, the combination of a guard-plate to travel along the edge of the sole, also a guard-plate to travel along the bottom of the sole, a spring or yielding plate to bear upon the top of the sole, a cutting-knife for paring off the sole on one side near the edge thereof, and a cutting-knife to cut the channel or groove in the sole, all arranged substantially as described.

5. In a tool of substantially the construction described, the channeling-knife *a*, and an arm carrying the same, pivotally secured to a supporting-arm, *e*, and adapted at its free end to be moved up or down to vary the position of the knife, substantially as described.

6. In a tool of the construction described, and in combination, the channeling-knife *a*, a supporting-arm therefor pivotally secured to the main supporting-block, means, substantially as described, for locking the same in any desired position, and a knife-carrying arm secured at one end to the said supporting-arm and adapted at its free end to be vertically adjustable, whereby the position of the knife may be varied as to height or inclination, as desired, substantially as described.

7. In a tool of the construction described, and in combination, a knife for channeling the material, an arm, *b*, carrying the same, adapted to be adjusted vertically for varying the height of the knife, and a supporting-arm for said carrying-arm, adapted to be adjusted as to inclination, substantially as described, and for the purpose set forth.

8. In a tool of substantially the construction described, and in combination with cutting-knives *C* and *a*, the yielding spring or plate *D*, arranged to bear upon the sole, as and for the purpose stated.

9. The combination of the knife *a*, the supporting-arm *b*, its arm *e*, and stud or block, substantially as described.

10. In the described tool for boots and shoes,

and in combination, a central post, H, a bottom guard-plate, an edge guard-plate, and a channeling-knife, all carried by said central post, substantially as described.

5 11. In the described tool, and in combination with the knife or knives, the spring presser-plate to travel along the top of the

sole, and a revoluble guard-plate for the bottom of the sole, substantially as described.

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Witnesses:

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