

(No Model.)

C. H. HELMS.
Sole Edge Trimmer for Boots and Shoes.

No. 234,869.

Patented Nov. 30, 1880.

Fig: 1.

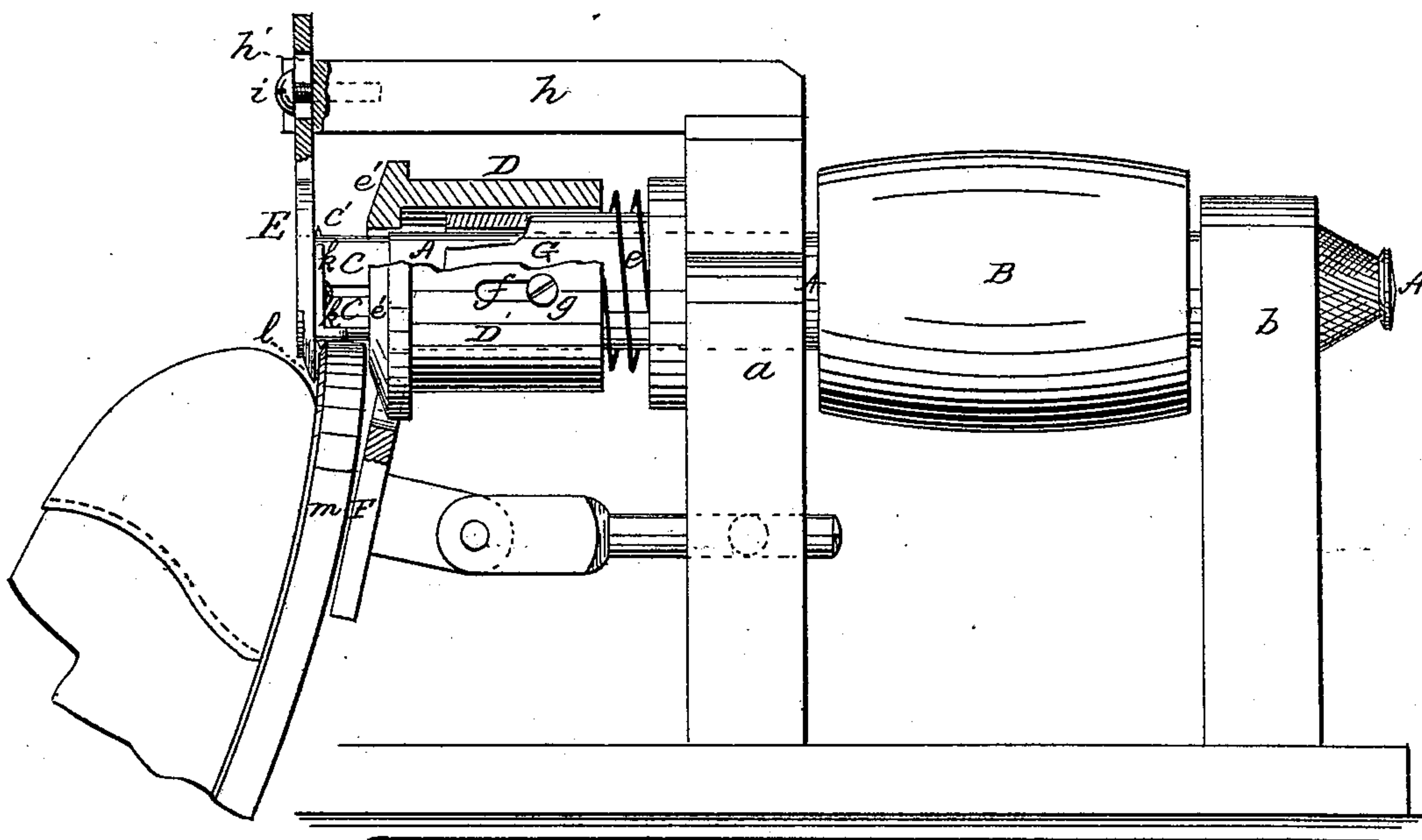


Fig: 3.

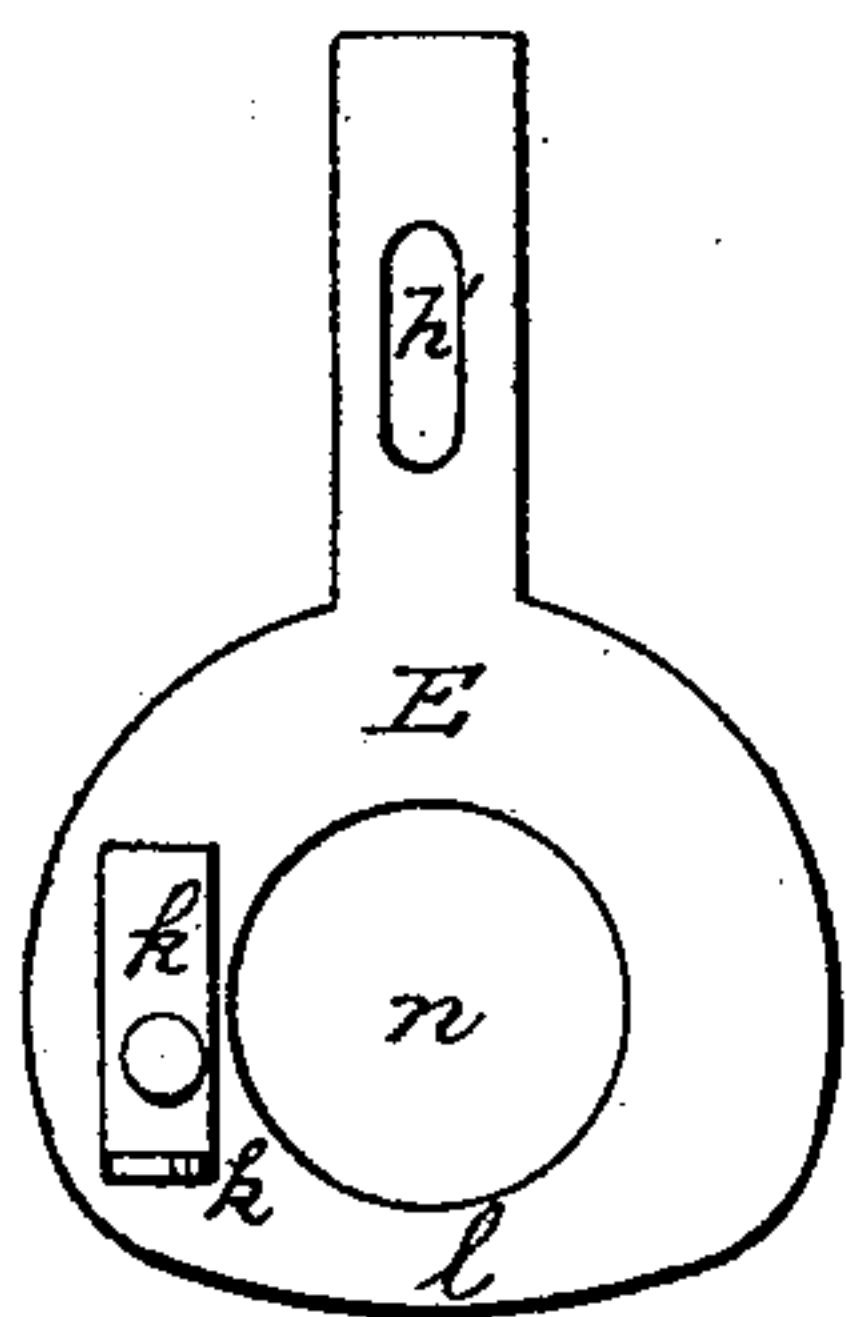


Fig: 2.

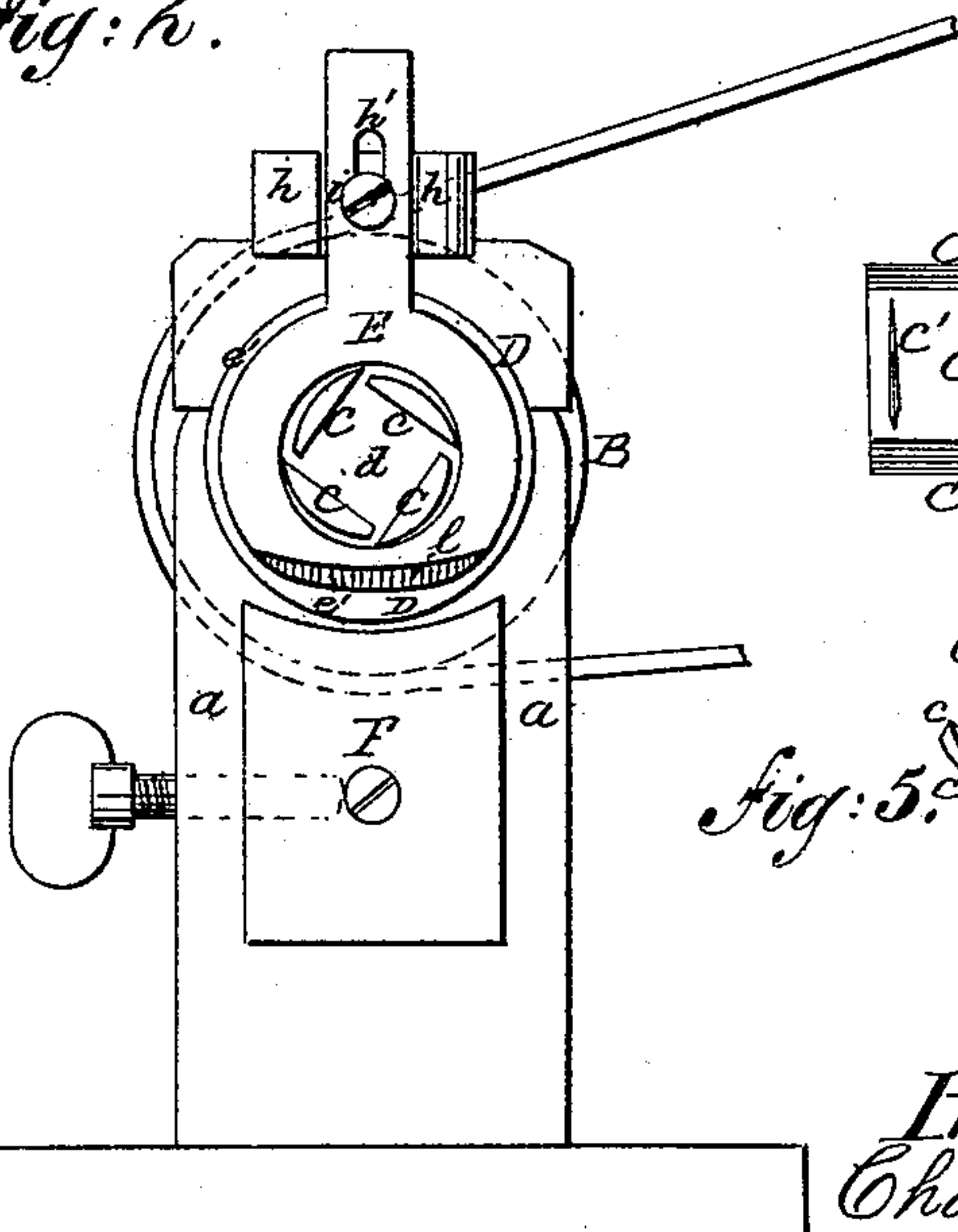
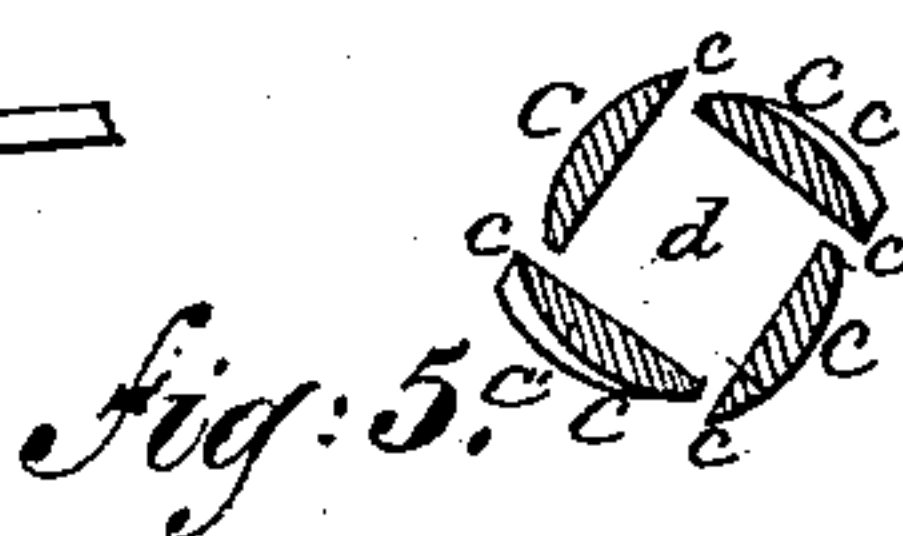
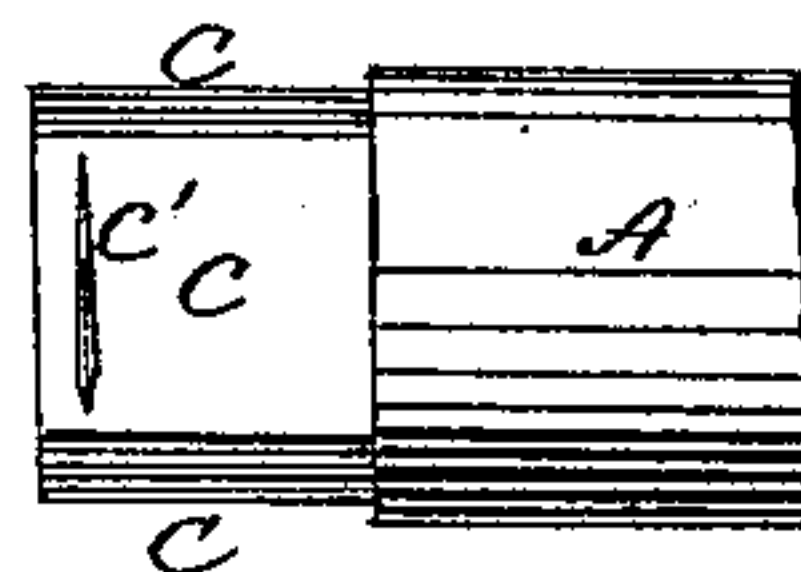


Fig: 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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SOLE-EDGE TRIMMER FOR BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 234,869, dated November 30, 1880.

Application filed April 22, 1880. (No model.)

To all whom it may concern :

Be it known that I, CHARLES H. HELMS, of Poughkeepsie, in the county of Dutchess and State of New York, have invented a new and Improved Sole-Edge Trimmer for Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

This invention is in the nature of an improvement in machines for trimming the edges of the soles of boots and shoes; and the invention consists in a machine for trimming the edges of the soles of boots and shoes, constructed with a series of horizontally-revolving cutters forming a hollow cylinder, and arranged so that they may be readily sharpened without removing them from their stock, in combination with a horizontal and automatic sleeve-rest, vertically adjustable guide and stop fixed to its rear side, and hinged rest or table, all combined and arranged in the manner more particularly hereinafter described.

In the accompanying sheet of drawings, Figure 1 represents a side view of my sole-trimming machine, partly in section; Fig 2, a front view of same; Fig. 3, a rear-side view of vertical guide; Figs. 4 and 5, detail side and cross-sectional views of cutters.

Similar letters of reference indicate like parts in the several figures.

For the purpose of trimming the edges of the soles of boots and shoes it is essential that not only should the operation be done rapidly, but that the trimming should be produced by a clean shaving cut that will leave a smooth surface to facilitate the polishing. It is also essential that the cutters which produce this shaving should be so constructed and arranged that they will not heat, and may be readily sharpened.

To accomplish these desirable results, and at the same time to render the operation of trimming the edges of boots and shoes a certain as well as an easy process, I construct my machine with an arbor, A, suitably supported in a horizontal position by bearings *a b*. This arbor has fixed to it a driving-pulley, B, and

to its front end, by means of a chuck or otherwise, a series of cutters, C. These cutters are arranged cylindrically, with the cutting-edges *c* of each cutter slightly projecting beyond the surface of its adjoining cutter, and these cutting-edges are beveled and sharpened to an edge corresponding to the edge of a knife.

The cutters are separate from each other, and they surround a space, *d*. On the upper surface of two or more of these cutters are formed rand-cutters *C'*.

Onto the arbor A, or on a sleeve, G, fitted thereon, and immediately in the rear of the cutters C, is fitted an adjustable rest, D. This rest slides on the sleeve G, and its rear end is in contact with a spiral spring, *e*, and its front end or face, *e'*, is beveled. Its sides have slots *f* formed in them, through which slots pass stop-screws *g*.

Suitably supported to an arm, *h*, or otherwise, is a vertical guide, E. This guide, by reason of a slot, *h'*, and set-screw *i*, may be adjusted vertically. The rear side of this guide E has fitted to it a stop or rest, *k*, and the under side or edge of this guide is provided with a fin, *l*.

Below the adjustable rest D, and supported in any desirable manner, is a hinged rest, F, with its upper ends curved out to correspond with the cylindrical form of the face of the rest D.

Now, my device for trimming the edges of the soles of boots and shoes being constructed substantially as hereinbefore described, its operation is as follows: The shoe or boot to be trimmed is placed with its sole against the rest or hinged table F, and with the fin *l* inserted in the channel between the upper and the sole, in which position, as the cutters C revolve, by any suitable power, they cut or trim the edge *m* of the sole, the shoe being moved by hand, so that the entire edge of the sole is fed to the action of the cutters, and this trimming of the sole by the cutters is continued until the edge of the sole is brought in contact with the stop or rest *k*, which prevents the further cutting or trimming of the sole. Now, since this stop regulates the cutting or trimming of the sole it is adjusted vertically, so

that the soles may be trimmed uniformly and to any extent desired by slackening the set-screw *i* and moving the guide E up or down, as may be desired. As the cutters C revolve
 5 and trim the soles of the boots and shoes the cutters C' trim, at the same time, the rand of the sole, and as the shoe is brought under the action of the cutters to insure a square, clean, and uniform cut, the sole not only bears against
 10 the hinged rest or table F, but it also bears against the beveled face *e'* of the sliding rest D, by this means enabling the operator to hold his shoe steadily and to produce square and uniform cuts. Since the soles of boots and
 15 shoes vary in thickness it is important that this rest D should be constructed so as to be adjustable. To that end the rest D slides on the sleeve G, surrounding the arbor A, and the spring *e* at all times exerts a yielding pressure
 20 on the rest, so that its front end or face is forced against the sole of the boot, &c., thereby forming a rest for it whether its sole be thick or thin; and the hinged table F, by reason of its adjustment, enables the operator
 25 to turn the shoe readily, as occasion may require, and at the same time preserve its support.

As the cutters C revolve against the edge of the sole of the boot or shoe, their action is
 30 to shave or make clean cuts of the leather from the edge of the sole; hence very little bur-nishing is necessary to finish the sole-edge. As the cutters revolve at great speed they would, with the ordinary construction, become
 35 so much heated that they would burn the leather of the sole. To obviate this the cutters are arranged around an opening, *d*, which, together with the open spaces between each of the cutters, permits the air to play freely
 40 about them and keep them cool, besides enabling the cutters to be made of thin pieces of metal which cannot retain the heat caused by their friction with the sole-edge to any great extent; and, besides, this arrangement and con-
 45 struction of the cutters enables the operator to readily sharpen them when they become

dull without necessarily removing them from their arbor.

The outer ends of the cutters C are received into an opening, *n*, formed in the vertical guide
 50 E, which effectually acts as a guard to these outer ends of the cutters, preventing any accidental contact of them with the shoe when in the hands of the operator, in this way pre-
 55 serving the shoe from accidental or chance injury from the cutters, and, besides, it insures the cutting of the entire thickness of the sole-edge by one operation, since the sole-edge cannot protrude beyond the edge of the cutters.

Having now described my invention, what
 60 I claim as new, and desire to secure by Letters Patent, is—

1. In a device for trimming the edges of the soles of boots and shoes, a series of cutters arranged cylindrically around the end of an
 65 arbor and projecting therefrom, and surrounding a space, *d*, with their front ends received into an opening formed in a vertical guide-plate, substantially as and for the purpose
 70 described.

2. In a device for trimming the edges of the soles of boots and shoes, a vertically-adjustable channel-guide with a stop or rest, *k*, fixed to its rear side, in combination with rotary
 75 cutters, substantially as and for the purpose described.

3. In a device for trimming the edges of the soles of boots and shoes, an automatically-adjustable rest, D, in combination with a hinged
 80 table or rest, F, located below the same, substantially as and for the purpose described.

4. In a device for trimming the edges of the soles of boots and shoes, a series of revolving cutters surrounding an opening, *d*, in combination with a vertically-adjustable guide, E,
 85 automatically-adjustable sleeve-rest D, and adjustable table F, substantially as and for the purpose described.

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Witnesses:

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