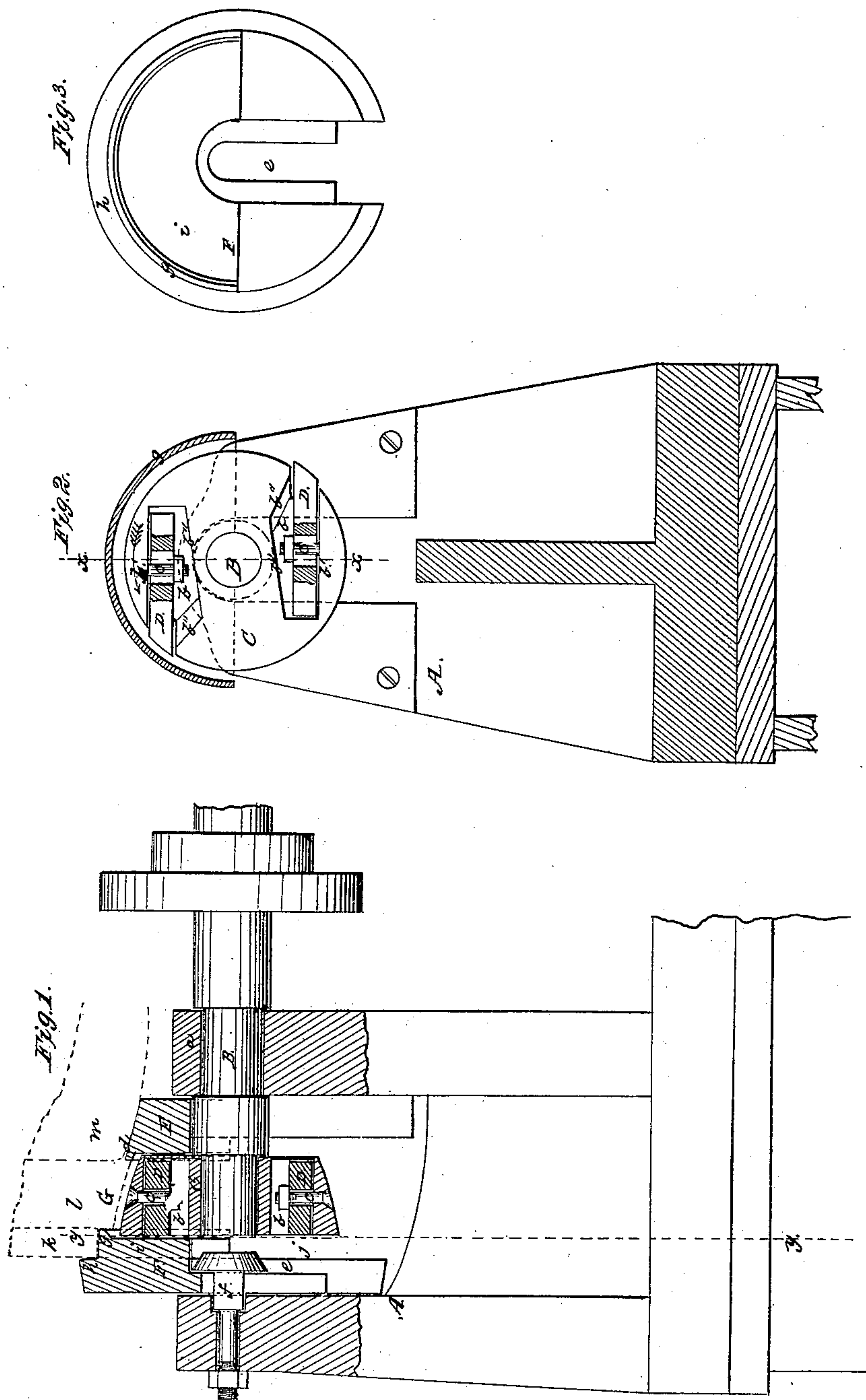


C. H. HELMS.
TRIMMING THE HEELS OF BOOTS AND SHOES.

No. 43,024.

Patented June 7, 1864.



Witnesses:
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HEEL OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. 43,024, dated June 7, 1864.

To all whom it may concern:

Be it known that I, C. H. HELMS, of Poughkeepsie, in the county of Dutchess and State of New York, have invented a new and Improved Machine for Trimming the Heels of 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, making a part of this specification, in which—

Figure 1 is a vertical section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a vertical section of the same, taken in the line *y y*, Fig. 1; Fig. 3, a detached view of a gage pertaining to the same.

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

This invention consists in the employment or use of a rotary cutter-wheel provided with a guard at each end and having cutters applied to it and fitted in throats in such a manner that the heels of boots and shoes may be trimmed with the greatest facility and very expeditiously, and a free escape allowed for the shavings, so as to effectually prevent the choking or clogging of the cutter-wheel.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a framing, which may be constructed in any suitable way to support the working parts of the machine; and B is a horizontal shaft, which works in suitable bearings, *a*, on said framing, and has a cutter-wheel, C, at one end of it. This wheel C has a beveled periphery corresponding to the form designed to be given the heel to be trimmed, and said wheel is provided with two cutters, D D, which are fitted in throats *b b* made in the outer side of the wheel. These throats *b* have plane surfaces *b'*, against which one side of the cutters D abuts, and the other sides, *b''*, are of double-inclined form, so as to leave ample room for the escape of the shavings and prevent the choking or clogging of the wheel. The edges of the cutters D are ground longitudinally to correspond in form to a transverse section of the periphery of the wheel C, and they are set a trifle beyond said

periphery according to the depth of cut desired, the cutters being secured in position by screws *c*.

E represents a guard, which is attached to the framing, and is of circular form at its upper part and provided with a lateral flange, *d*, which projects a trifle over the inner edge of the cutter-wheel C, as shown clearly in Fig. 1.

F represents a guard, which is similar to E, but is removable or detachable, said guard being of circular form and having a radial slot, *e*, made in it, extending from its center outward. (See Fig. 3.) The guard F is fitted on an arbor, *f*, in the framing, and it is provided at its upper part and inner side with a lateral semicircular flange, *g*, which projects over the outer edge of the wheel C, said flange being a portion of a circle rather smaller in diameter than the guard, so as to leave a projecting rim, *h*, above *g*. (See Fig. 1.) The flange *g* also projects from a semicircular portion, *i*, at the inner side of the guard, which admits of a space, *j*, being below it for the shavings to drop through from the throats *b b*. The heel G of the boot or shoe is made and attached to the latter as usual, the only exception being that the lower layer, *k*, is trimmed in the form and of the size designed for it, and this layer *k*, when the heel is finished or trimmed, comes in contact with and rests upon the flange *g* of the guard F, the untrimmed layers *l*, when the heel is first applied to the cutter-wheel, bearing against the periphery of the cutter-wheel, which is rotated by power being applied to the shaft B. The operator grasps the boot or shoe and keeps turning the heel on the cutter-wheel C, the intermediate layers of the heel being cut away until the lower layer, *k*, comes in contact with the flange *g*, and the counter *m* of the boot or shoe comes in contact with the flange *d* of the guard F, when the work is completed. The rim *h* of the guard F serves as a guide for the heel to keep the same in proper position over the cutter-wheel.

By this device the heels of boots and shoes may be trimmed very expeditiously, with great facility, and in a perfect manner.

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

1. The employment or use of the cutter-wheel C, in connection with the guards E F, either or both, substantially as and for the purpose set forth.

2. Providing the cutters D with throats *b*,

arranged as shown, in connection with the space *j* between the guard F and the outer side of the cutter-wheel C, to admit of the free escape of the heel-shavings, as described.

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