(No Model.) 3 Sheets—Sheet 1.

C. H. TRASK.

SOLE AND HEEL TRIMMER.

No. 406,974. Patented July 16, 1889.

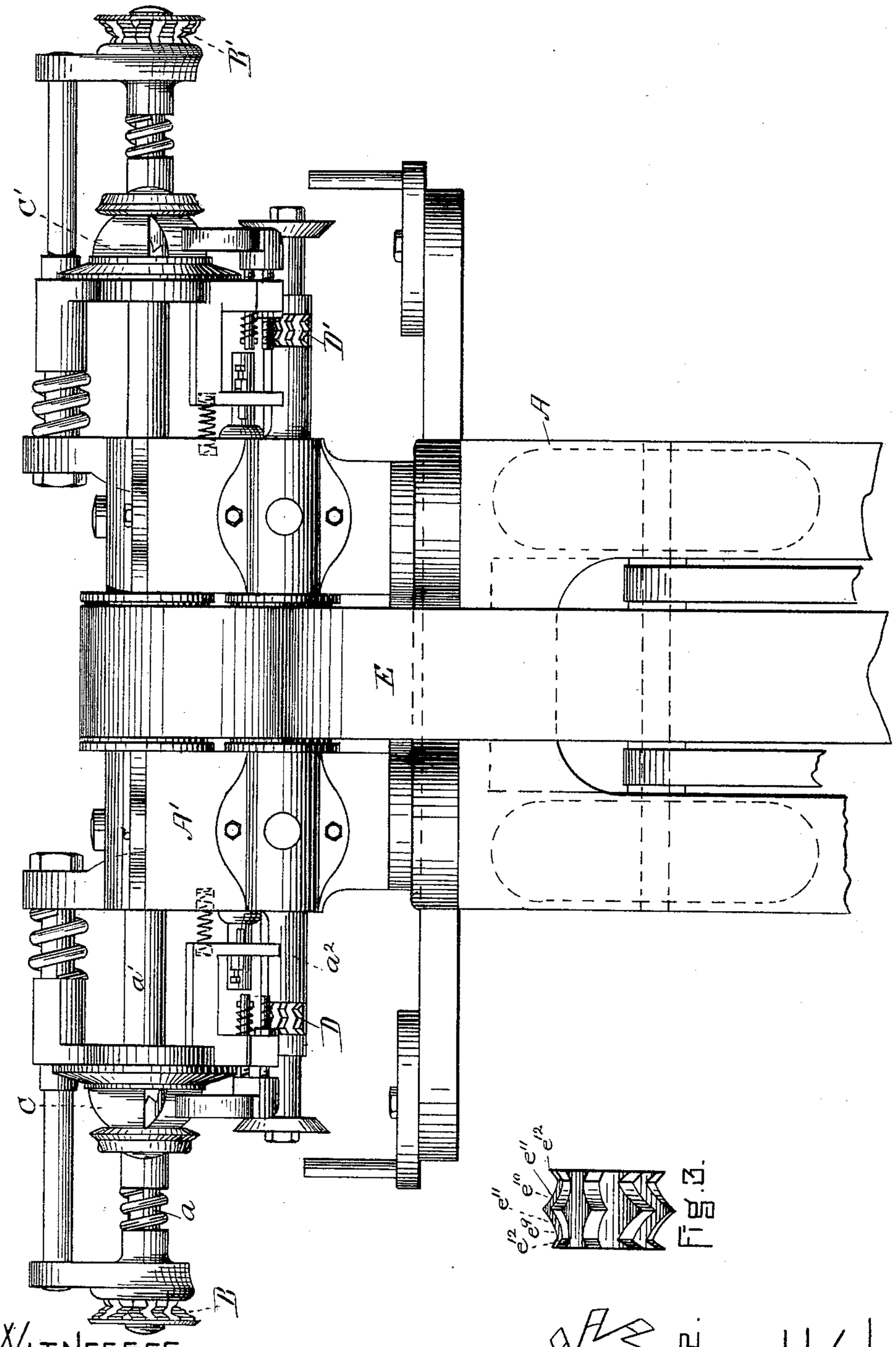

Fig. 1.

Fig. 3.

Fig. 2.

WITNESSES.

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Clarke & Raymond.

(No Model.) 3 Sheets—Sheet 2.

C. H. TRASK.

SOLE AND HEEL TRIMMER.

No. 406,974. Patented July 16, 1889.

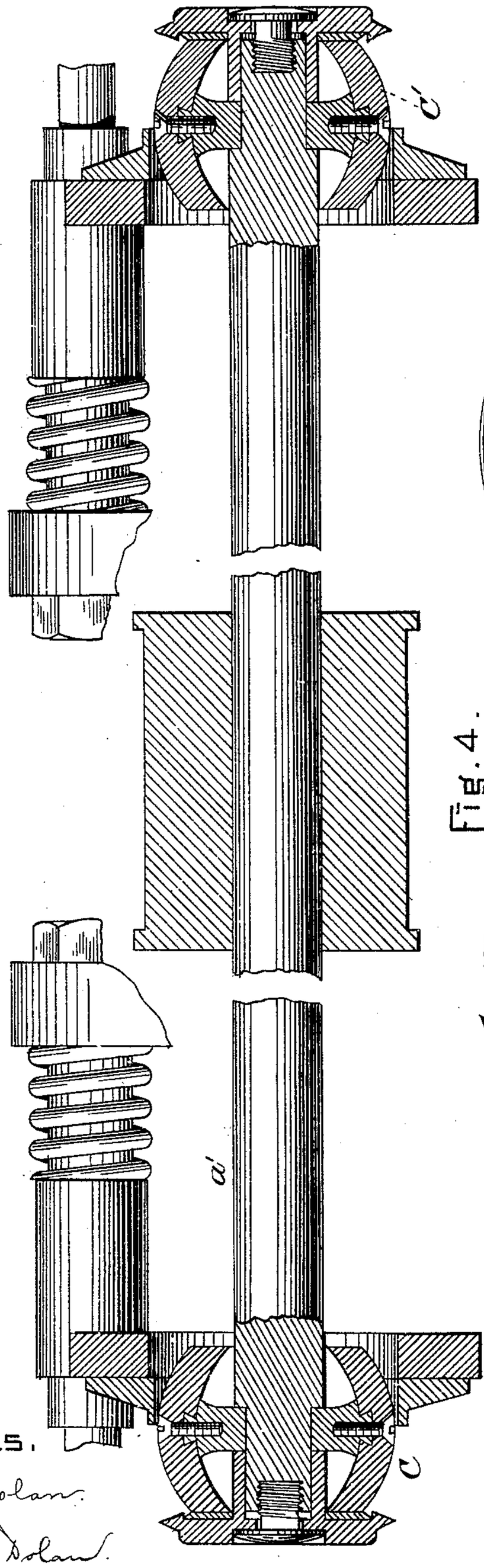

Fig. 4.

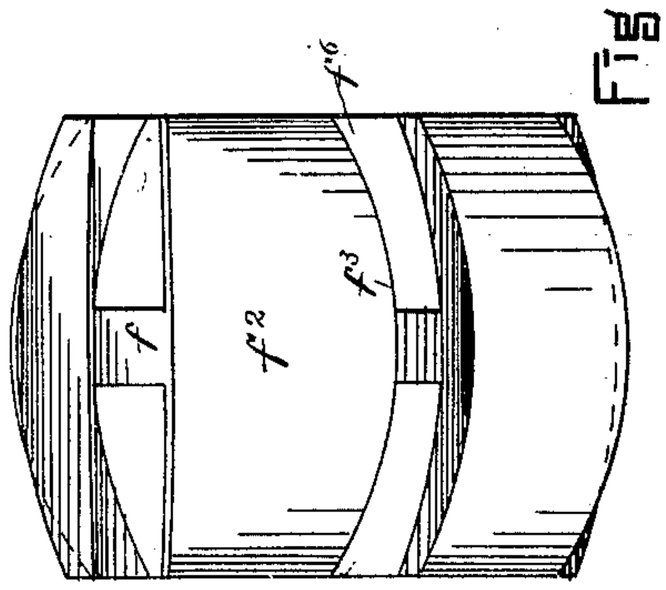

Fig. 6.

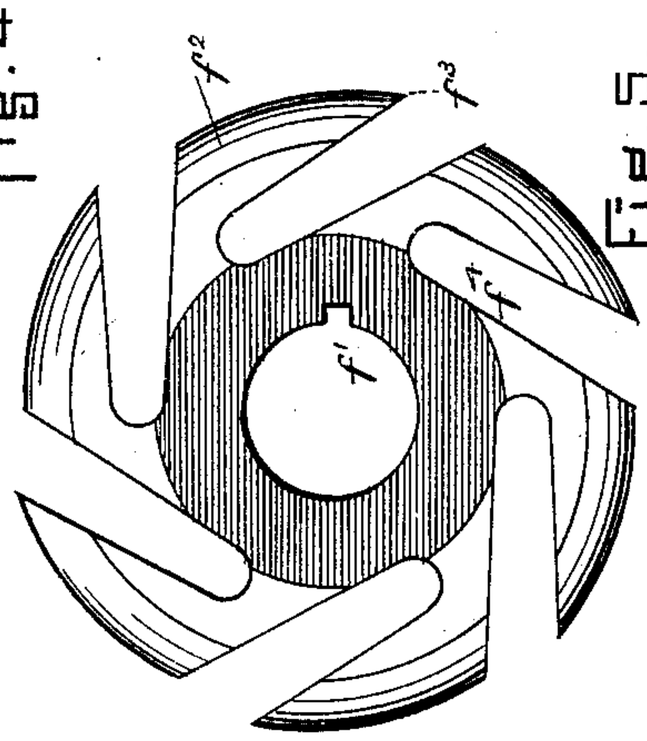

Fig. 5.

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(No Model.) 3 Sheets—Sheet 3.

C. H. TRASK.

SOLE AND HEEL TRIMMER.

No. 406,974. Patented July 16, 1889.

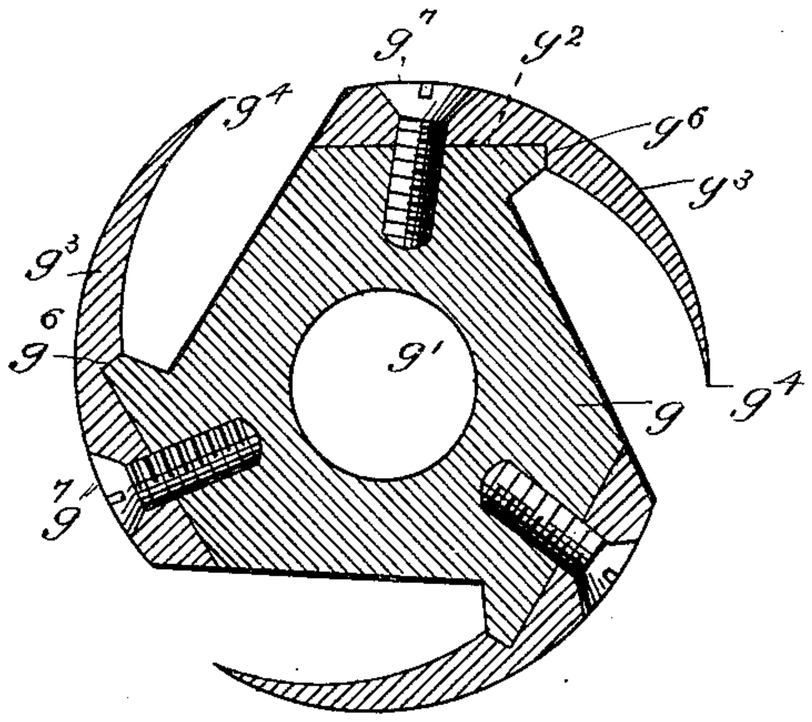

Fig. 7.

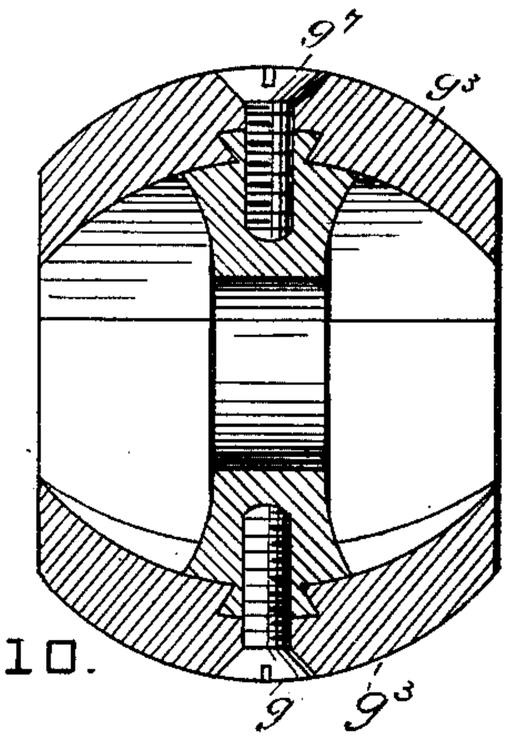

Fig. 10.

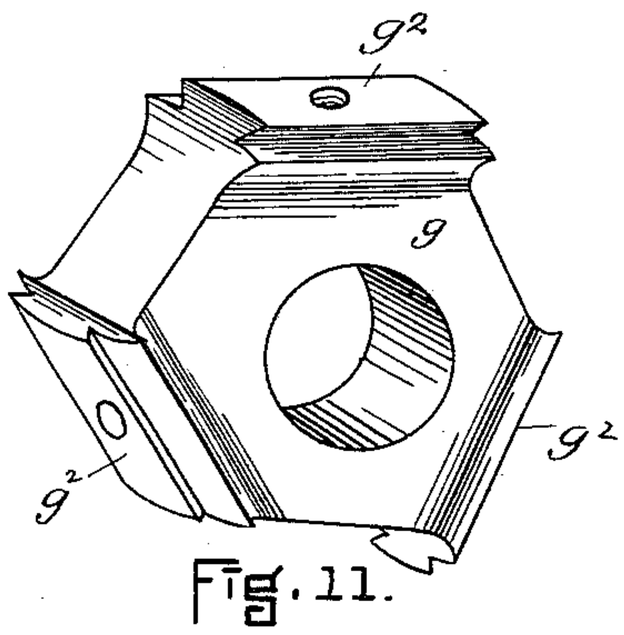

Fig. 11.

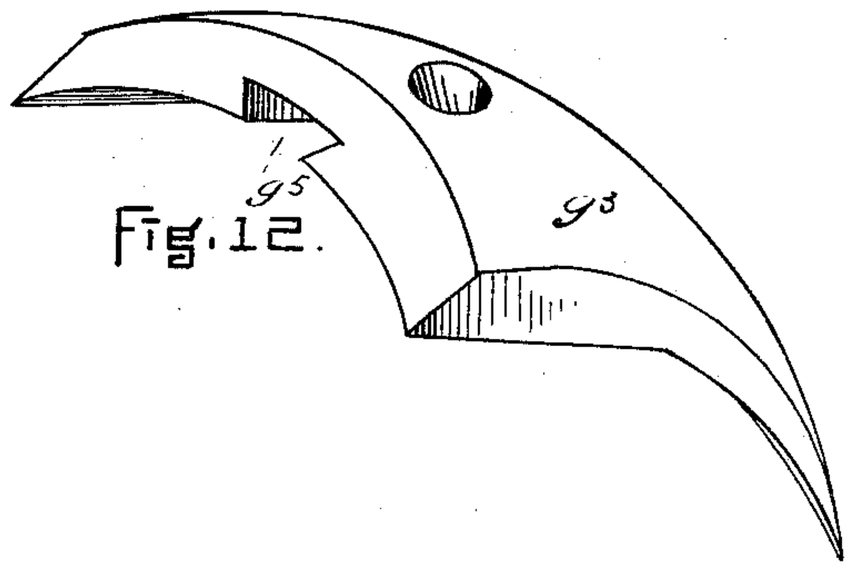

Fig. 12.

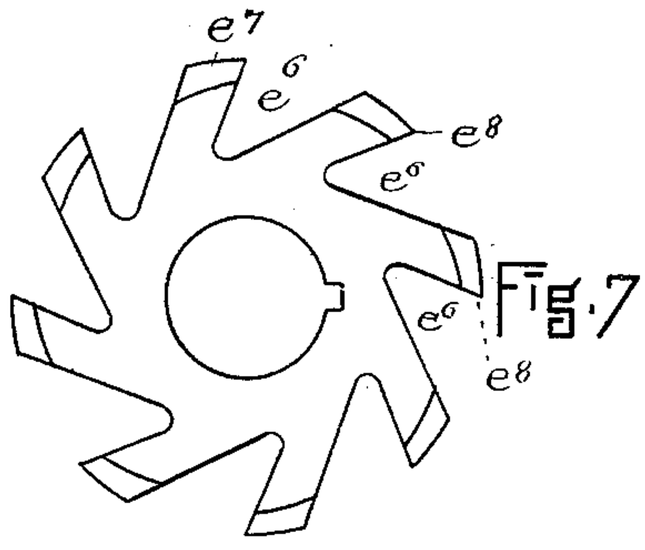

Fig. 7

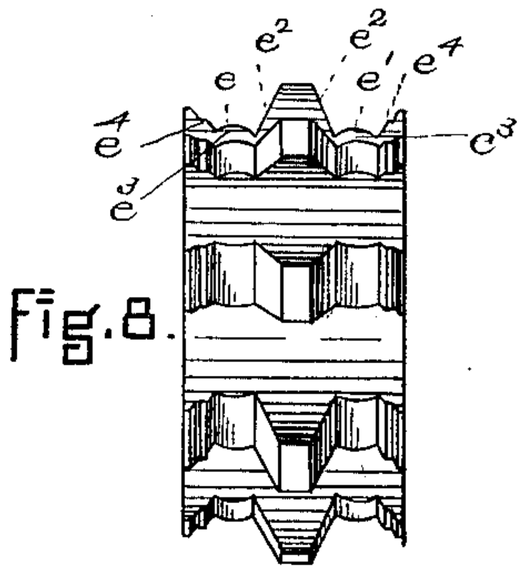

Fig. 8.

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UNITED STATES PATENT OFFICE.

CHARLES H. TRASK, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE DUPLEX SHOE TRIMMER COMPANY, OF PORTLAND, MAINE.

SOLE AND HEEL TRIMMER.

SPECIFICATION forming part of Letters Patent No. 406,974, dated July 16, 1889.

Application filed February 12, 1887. Serial No. 227,355. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. TRASK, of Lynn, in the county of Essex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Right and Left Trimmers or Cutters for Duplex Sole and Heel Trimming Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

In the drawings, Figure 1 is a view in front elevation of the upper portion of a duplex sole and heel trimming machine containing the features of my invention. Figs. 2 and 3 show, respectively, in end elevation and in side elevation a duplex or double shank-edge trimmer. Fig. 4 is a view, enlarged, in horizontal section and in plan of portions of the shaft carrying the heel-trimmers and certain of the parts connected therewith. Fig. 5 is a view in end elevation and Fig. 6 in side elevation, of a duplex rotary heel-trimmer. Fig. 7 is a view in end elevation, and Fig. 8 in side elevation, of a duplex rotary sole-edge trimmer. Figs. 9, 10, 11, and 12 relate to a duplex heel-trimmer of somewhat different construction from that illustrated in Figs. 5 and 6.

Referring to the drawings, A represents the frame of the machine; A′, the head carried or supported thereby; *a*, the sole-edge shaft.

B is a duplex sole-edge trimmer in a position for use as a right trimmer, and B′ represents a duplex sole-edge trimmer upon the end of the shaft opposite that holding the trimmer B and in position for use as a left trimmer.

a′ is the shaft which carries the heel-edge-trimmer, and the heel-edge trimmer C at the right hand of the shaft is represented as exposing its right trimming-edge, and the heel-edge trimmer C′ at the left of the shaft is shown exposing its left trimming-surface.

a^2 is the shank-edge-trimmer shaft, and it has at its right end the duplex shank-edge trimmer D in position as a right-edge trimmer and at its other end a duplex shank-edge trimmer D′ in position as a left trimmer.

Each of the shafts *a a′* a^2 has a pulley over which the belt E travels, so that all the shafts are turned in the same direction, and this of necessity requires that the cutters upon the right ends of the various shafts should be right cutters and those upon the left ends left cutters when the shafts are rotated in one direction. Of course the rotation of the shafts in the opposite direction makes a reversal of the cutters necessary.

The various parts—such as the covers for sole-edge and shank-edge trimmers, the rand-guides, and the guides, guards, and rest used in connection with the heel-trimmers—are like those described in another patent application of mine and need not further be described here.

Each of the cutters in question has two cutting-sections, one section being a right-cutting section and the other a left-cutting section. These cutting-sections in shank-edge and sole-edge trimmers are separated from each other. In the heel-edge trimmer they may overlap at the center of the cutter.

In Figs. 7 and 8 I have illustrated a double sole-edge trimmer, and it has the right trimming-cutter *e* and the left trimming-cutter *e′*. Each cutter is the same or substantially the same in edge configuration, but they are oppositely arranged—that is, each trimmer has the cutting-sections e^2 e^3 e^4. The trimmer is preferably made from a solid block of metal, which is first bored to provide a shaft-hole e^5, then mounted upon an arbor and presented to a turning-tool, whereby the two sections *e e′* are formed, and then submitted to a milling-tool, whereby the cross-recesses e^6 are made, which provide the teeth e^7, extending entirely across the trimmer from end to end. These teeth are backed off to produce the cutting-edges e^8.

The duplex shank-trimmer is represented in Figs. 2 and 3. It has the right cutter e^9 and the left cutter e^{10}, and each cutting-section has the cutting-sections e^{11} and e^{12}.

The heel-edge cutter represented in Figs. 5 and 6 has a right cutting-section and a left cutting-section. The right cutting-section extends from the right of the central line of the trimmer, as represented in Fig. 6, to the right end of the cutter, and the left cutter-section extends from the left of the central line to the left end of the cutter, as therein shown. The cutter is represented in the figures as made from a solid block of metal, the

teeth of the cutter being integral with a central supporting-web. f represents the central web; f', the shaft-hole; f^2, the teeth, which have the cutting-edges f^3. f^4 are the recesses, which are made in the block to form the teeth and which open into the cavities f^5 f^6 on each side of the central web.

In Figs. 9, 10, 11, and 12 I show a duplex heel-trimmer which differs from that above described in that the blades are detachable. It comprises a central block g, having a shaft-hole g' and the straight dovetails g^2, which receive the butt-end of the cutter g^3. These cutters are made from steel castings or by drop-forging, and are formed to the proper curvature, gradually reduced in thickness to the cutting-edge g^4, and have dovetail recesses g^5, in their butt-ends, which fit the dovetail projections g^2, the recesses extending to the shoulder or stop g^6, (see Fig. 9,) and each cutter is locked in place on the head by the screw g^7.

While I have described these duplex right and left cutters as applicable to sole and heel edge trimming, I would not be understood as limiting the invention to this particular use, because rotary cutters of this character may be employed on any form or kind of machine where the cutter may be alternately used upon each end of a shaft rotating in the same direction to serve first as a right cutter and then as a left cutter.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The trimmer having the block g, provided with a shaft-hole g' and a straight dovetail projection g^2, with the trimming-blades g^3, having dovetail recesses g^5 and stops g^6, and fastening-screws g^7, substantially as described.

2. The curved trimming-blade made thick at the butt and having a straight dovetail recess g^5 therein, gradually reduced in thickness from its butt to form the sharp cutting-edge g^4.

CHARLES H. TRASK.

In presence of—
F. F. RAYMOND, 2d,
J. M. DOLAN.