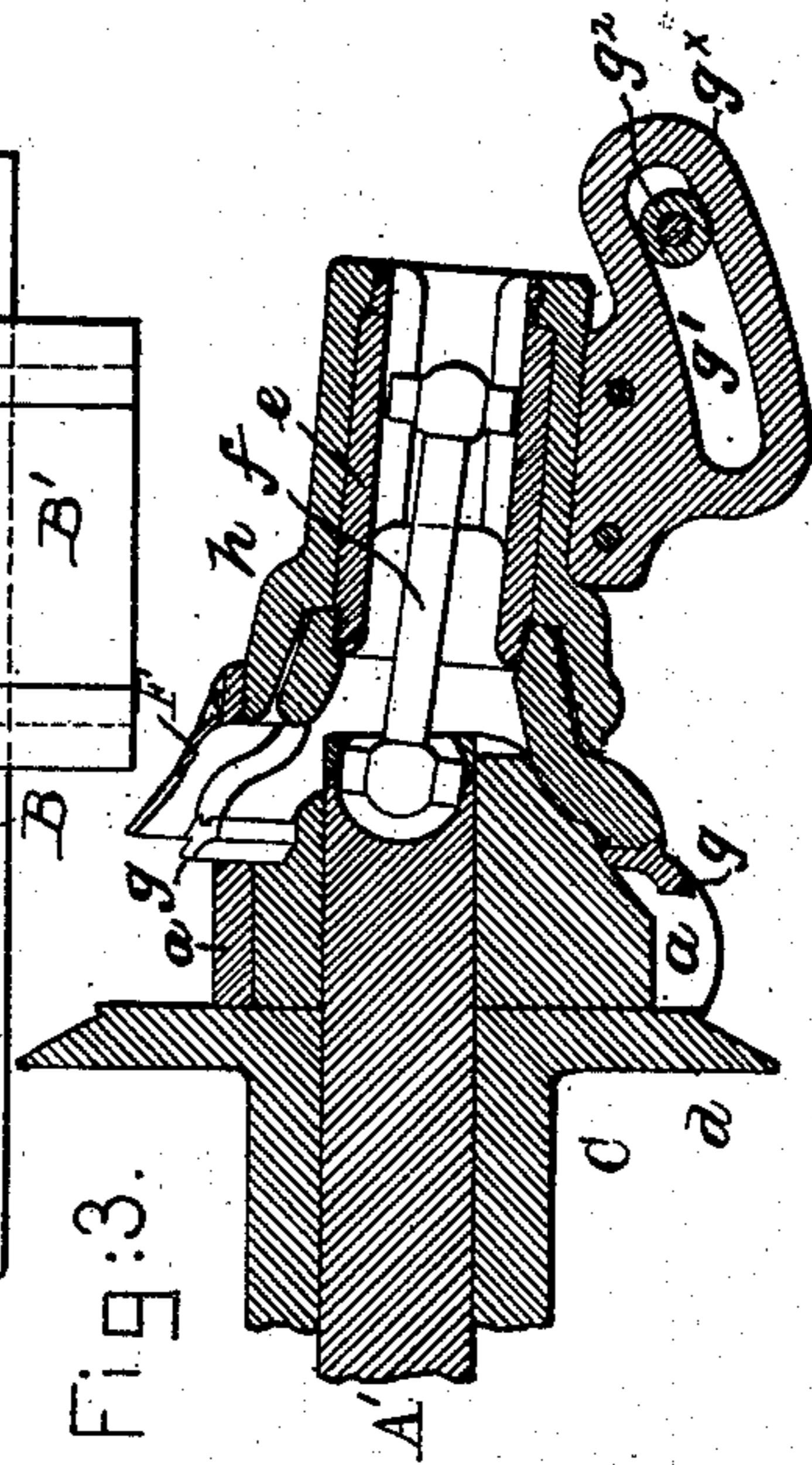
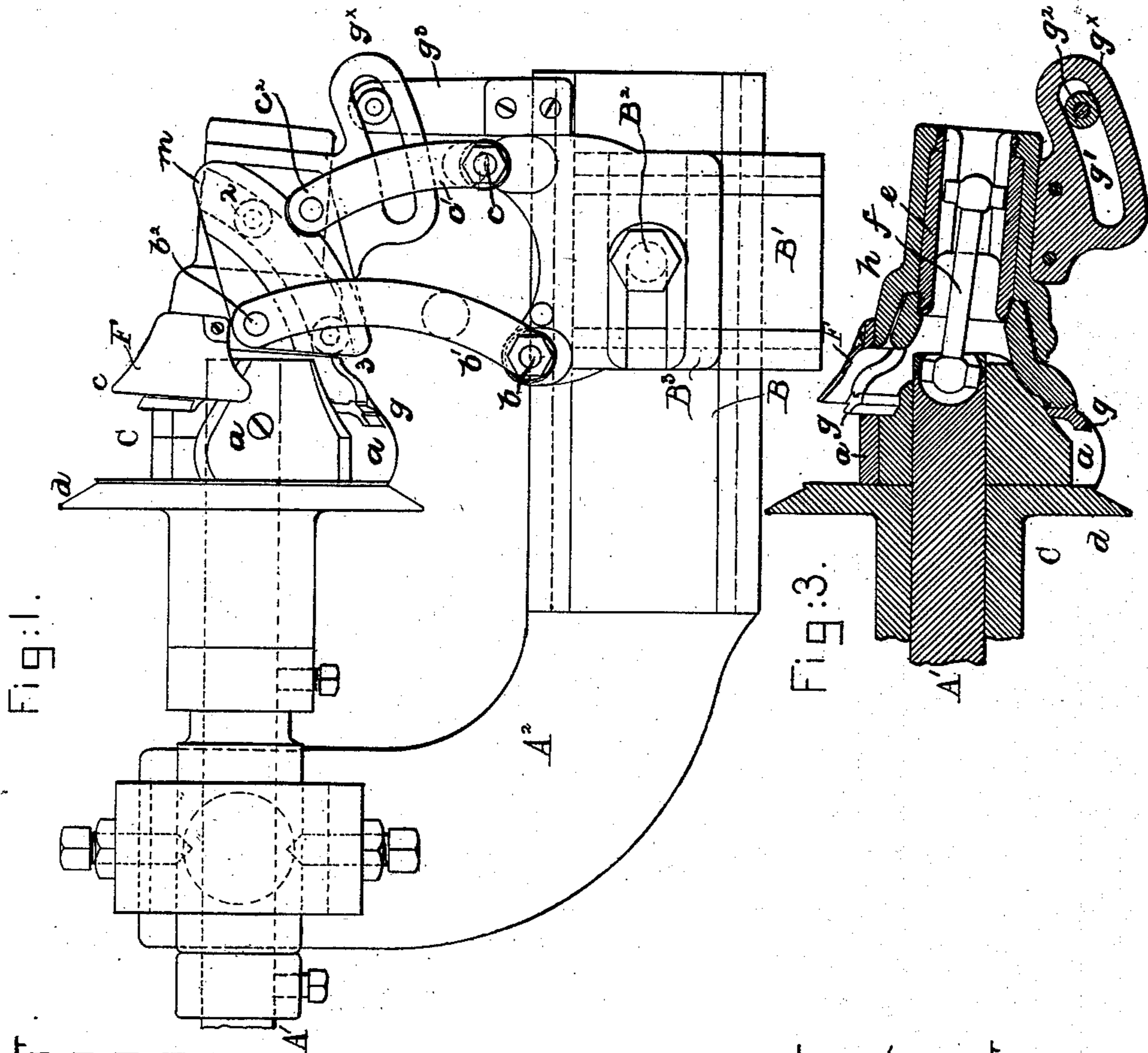
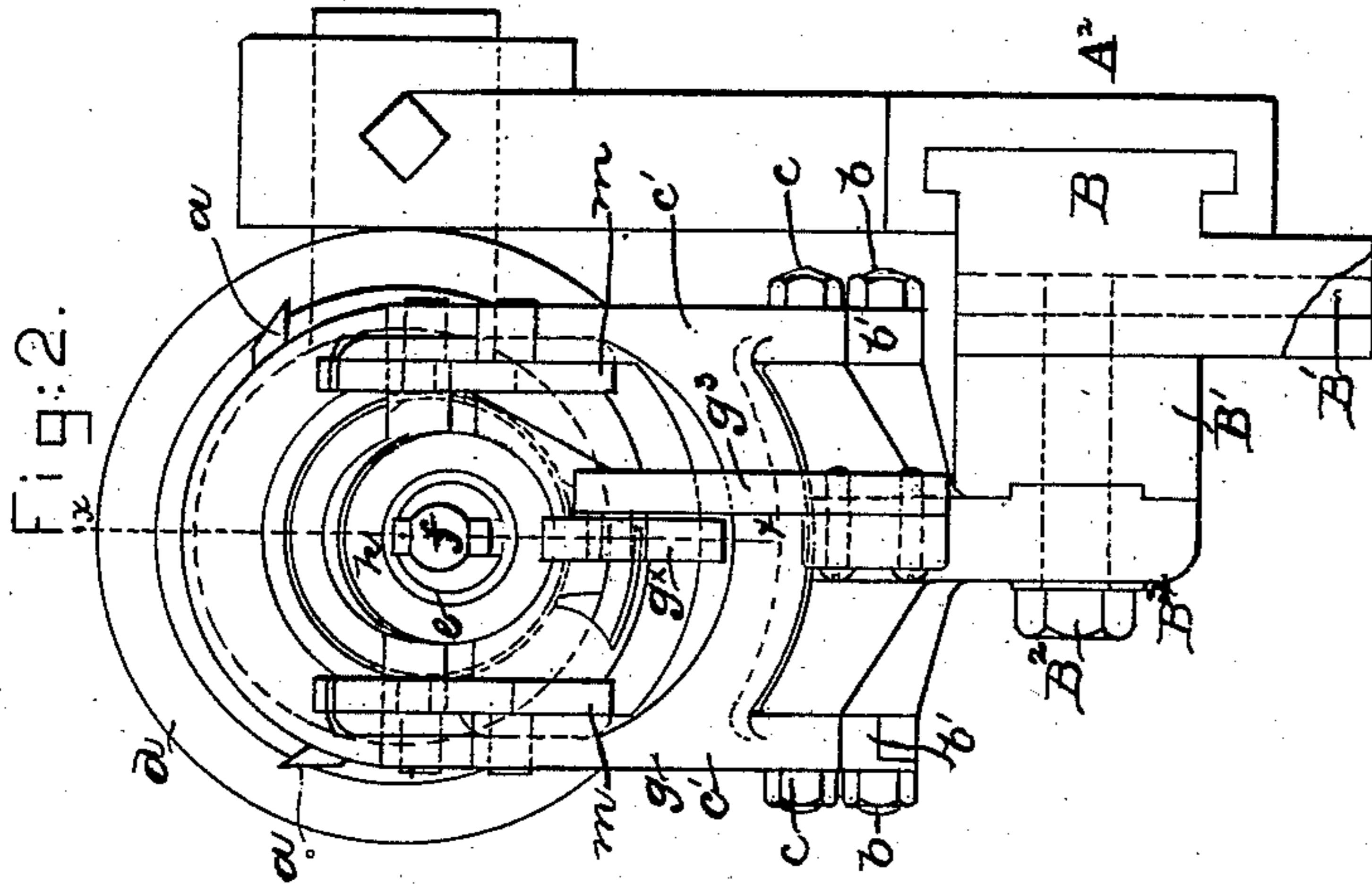


(No Model.)

C. W. GLIDDEN.  
SOLE TRIMMING MACHINE.

No. 410,089.

Patented Aug. 27 1889.



Witnesses.  
Edgar A. Goddin  
Frederick L. Emery.

Inventor  
Charles W. Glidden  
by Leroy Gregory attys.

# UNITED STATES PATENT OFFICE.

CHARLES W. GLIDDEN, OF LYNN, ASSIGNOR TO JAMES W. BROOKS, TRUSTEE,  
OF CAMBRIDGE, MASSACHUSETTS.

## SOLE-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 410,089, dated August 27, 1889.

Application filed May 28, 1888. Renewed March 7, 1889. Serial No. 302,393. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. GLIDDEN, of Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Heel-Trimming Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention, relating to heel-trimming machines of that class containing a rotating molded cutter and co-operating rand or counter guard having a movement to uncover more or less of the acting edges of the cutter as the rear part of the heel is being trimmed, has for its object to give to the said rand or counter guard, in addition to its usual movement due to the links which support it, a tipping movement of greater or less extent, the extent of the said tipping movement depending upon an independent cam which is fixed with relation to the carrier carrying the rand or counter guard, the said cam determining independently of the said links the extent of the tipping movement of the rand or counter guard as the links are swung about their pivots.

This invention is an improvement on the inventions described in applications Serial Nos. 262,871 and 275,880.

Figure 1 is a plan view of a sufficient portion of a heel-trimming machine embodying my improvements to enable the same to be understood. Fig. 2 is an end elevation of Fig. 1; and Fig. 3 is a partial section in the line  $\alpha$ , Fig. 2.

The arm  $A^2$ , forming part of the frame-work of the machine, having suitable bearings for the reception of the shaft  $A'$ , carrying the rotary molded cutter  $C$ , having molded blades  $a$ , the rand or counter guard  $F$ , having a lip  $c$ , the tread-guard  $d$ , the hub  $e$ , the link  $f$ , jointed to the shaft  $A'$  and adapted to rotate the hub  $e$ , and the rand-cutter  $g$ , are and may be all substantially as in United States application Serial No. 262,871, where the substantially like parts are designated chiefly by like letters. The forward end of the arm  $A^2$  is shaped to receive a slide  $B$ , which is made adjustable thereon. The slide  $B$  is grooved to receive a second cross-slide  $B'$ , carrying a

slide or bolt  $B^2$ , by which to attach to the cross-slide  $B'$  a removable shoe  $B^3$ , the latter being slotted, as shown in Fig. 1, so that it and its attached parts may be readily removed when it is desired to grind the blades of the cutters. The shoe  $B^3$  has at its opposite sides suitable like journals  $b\ c$ , which receive, respectively, the links  $b'\ c'$ , the lower ends of the said links being connected, respectively, to pins or studs  $b^2\ c^2$ , extended from the sides of two like track-plates  $m$ , the inner sides of the said track-plates being grooved in the arc of a circle, as shown by dotted lines, Fig. 1, described from the edge of the lip  $c$ , the said grooves receiving like roller or other studs, as 2 3, extended from opposite sides of a carrier  $h$ , herein shown as cylindrical and as having screwed or attached to it the rand or counter guard  $F$ , the said carrier and rand or counter guard being herein shown as of two pieces rather than as one piece, as in the said application. The carrier has attached to it a cam-plate  $g^x$ , slotted, as shown at  $g'$ , for the reception of a roller or other stud  $g^2$ , extended from a projecting arm  $g^3$ , attached to the shoe  $B^3$ . The links  $b'\ c'$  are herein shown as curved and of different lengths; but they might equally well be of other than curved shape or of the same length as in the application Serial No. 262,871, referred to.

Herein, as the lip of the rand or counter guard travels in the rand-crease, the said rand or counter guard is moved more or less as the approximately-circular rear part of the heel is being trimmed by the rotating cutter, and in so doing more or less of the acting edges of the blades  $a$  are uncovered, the links  $b'\ c'$  permitting the rand or counter guard to swing or move away from the end of the rotary molded cutter and carry with it the rand-cutter. With the links above and attached to the carrier the movement of the rand or counter guard in uncovering the blades of the rotary molded cutter would follow the contour of the edges of the blades  $a$ , but the counter-guard would not tip, as is fully described in the said application; but as for the best results the said counter-guard should rock or tip as the blades are being uncovered, I have applied to the carrier the cam-plate  $g^x$ ,

the slot of which will be made to correspond with the amount of tipping motion which it is desired to give to the rand or counter guard, the said cam-plate wholly controlling and determining the extent and time of the said tipping motion and entirely independent of the said links.

In order that the carrier may be tipped effectually by the said cam-plate, it has been found necessary that the slots in which the rollers 2 3 of the carrier travel be in the arc of a circle described from that part of the rand or counter guard which enters and lies directly in the rand-crease. In this way the uncovering movement of the rand or counter guard in the rand-crease is wholly dependent on the links, while the tipping movement of the rand or counter guard is dependent wholly on the cam-plate.

I have herein shown a rotary molded cutter, a carrier having an attached rand or counter guard, and links to support the said carrier, so that the carrier, together with the rand or counter guard, may be tipped as the counter-guard moves to uncover the blades of the cutter; but such devices are not herein claimed, broadly, as they are made the subject of claim in another application filed by me, Serial No. 275,880.

I have herein shown a rotary heel-cutter, a carriage, a support therefor, a rand-guard attached to the said carriage and shaped to project over the heel-cutter, a rotary rand-cutter, and a tread-guard; but I do not herein claim any one of the said devices or the combination of any one or more of the said devices, broadly, as the same form the subject-matter of several claims in my application, Serial No. 275,880, filed June 2, 1888.

I claim—

In a heel-trimming machine, a rotary molded cutter and a rand or counter guard and links to support it, combined with a cam to automatically control independently of the links the tipping movement of the rand or counter guard as the latter moves to uncover the blades of the rotary molded cutter, substantially as described.

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

CHARLES W. GLIDDEN.

Witnesses:

GEO. W. HAMMATT,

H. P. FAIRFIELD.