(No Model.) 3 Sheets—Sheet 1.

J. W. D. FIFIELD.

TAP SOLE CUTTING MACHINE.

No. 246,302. Patented Aug. 30, 1881.

Fig. 1.

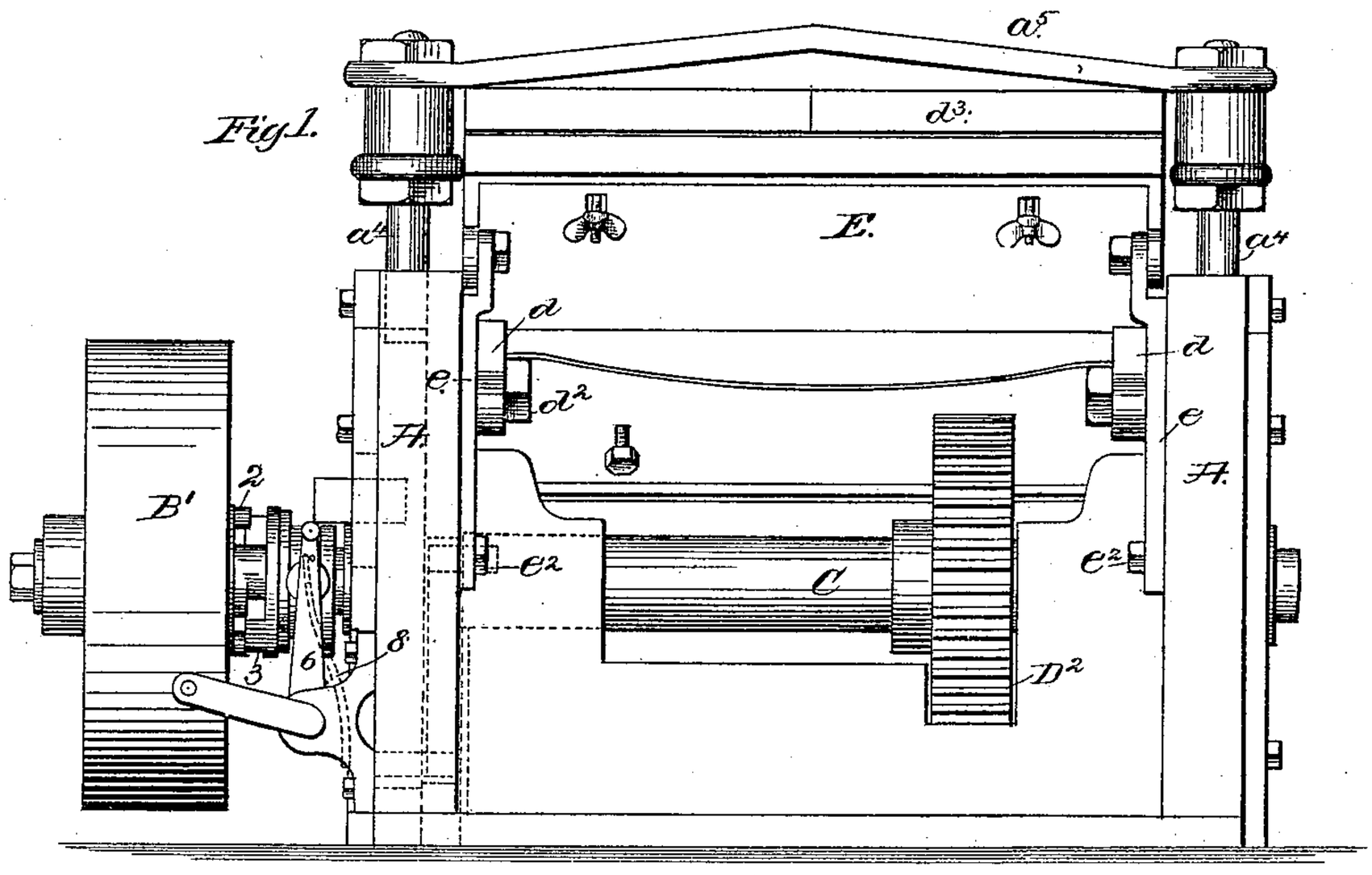
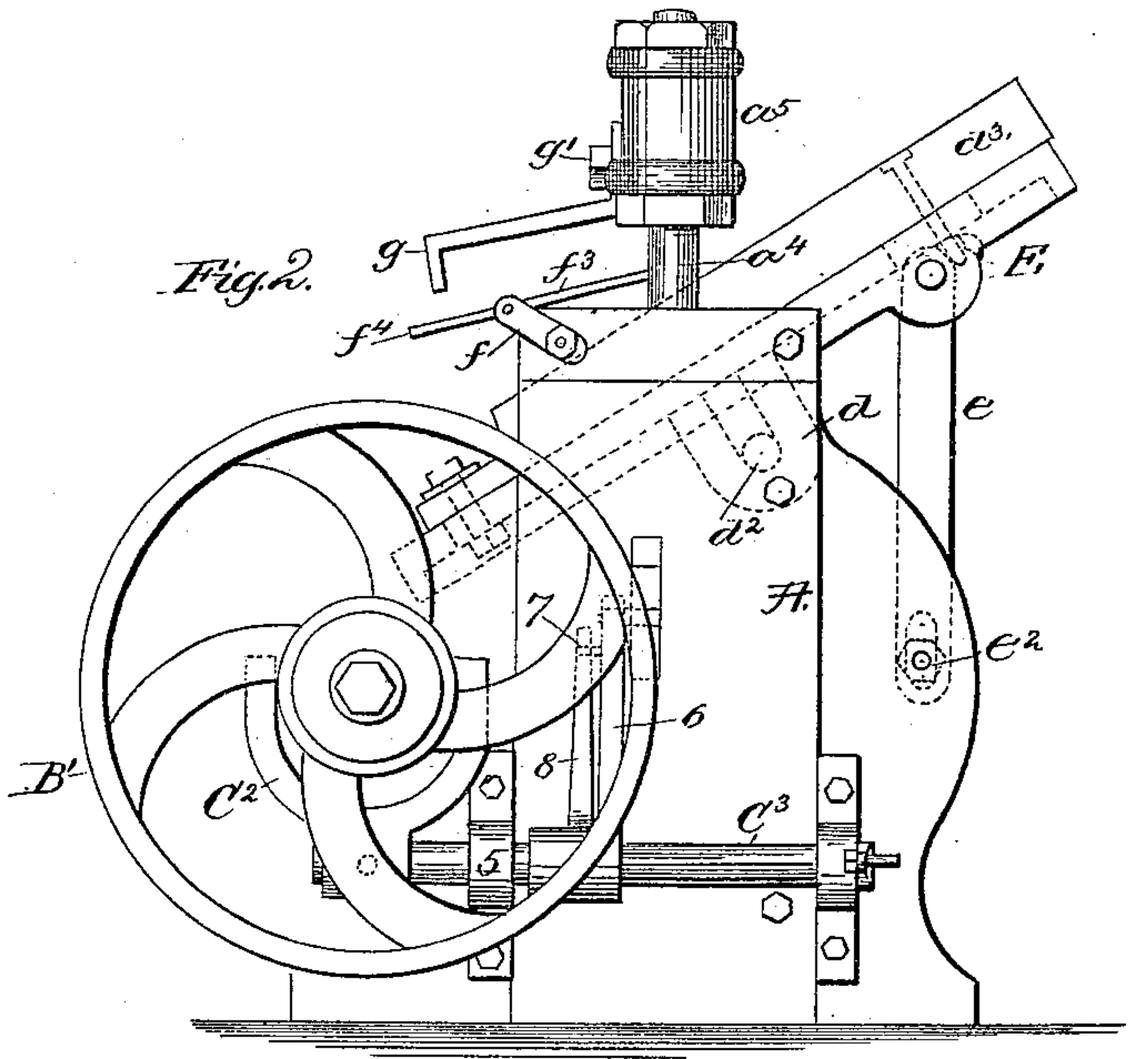


Fig. 2.



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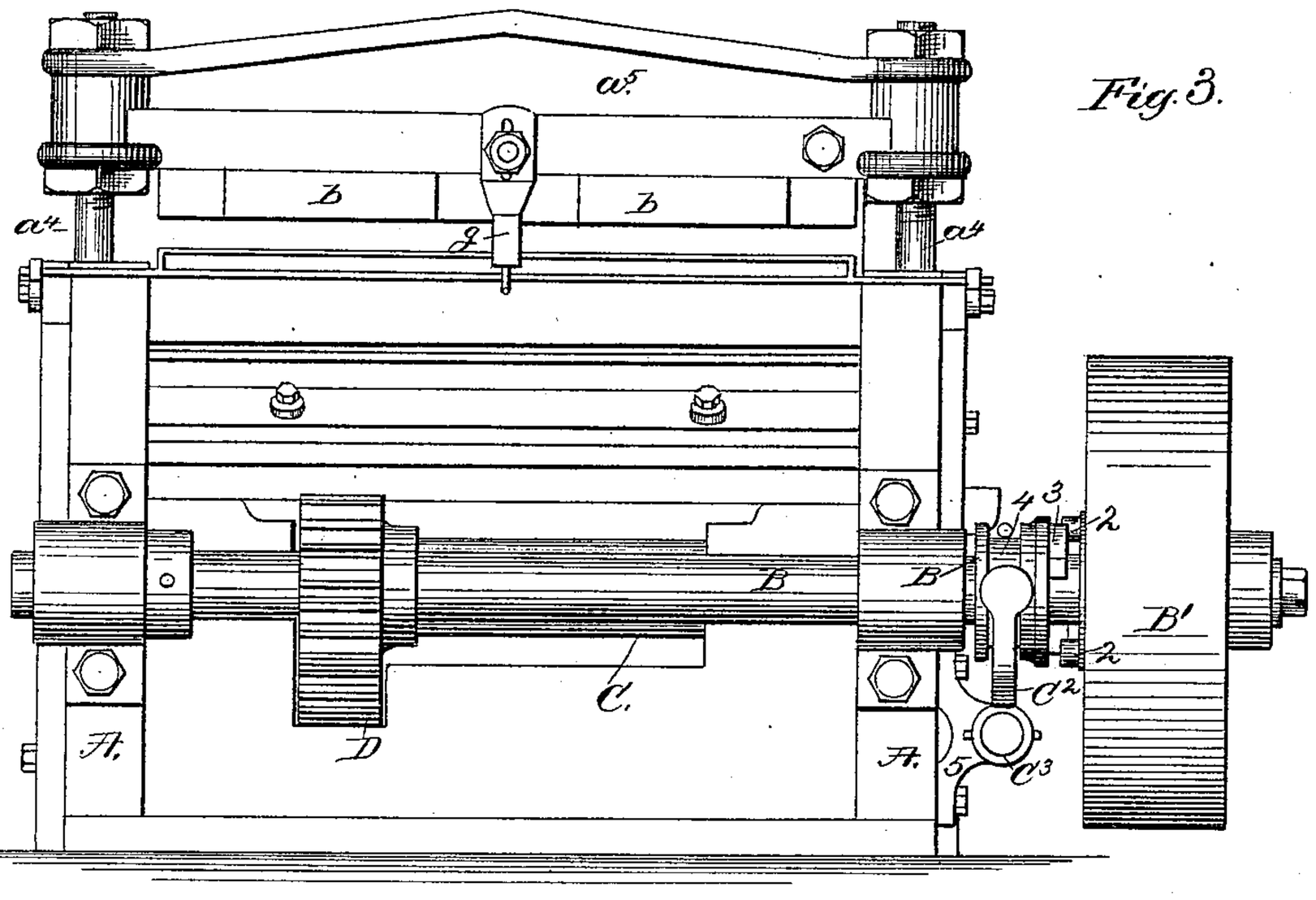

Fig. 3.

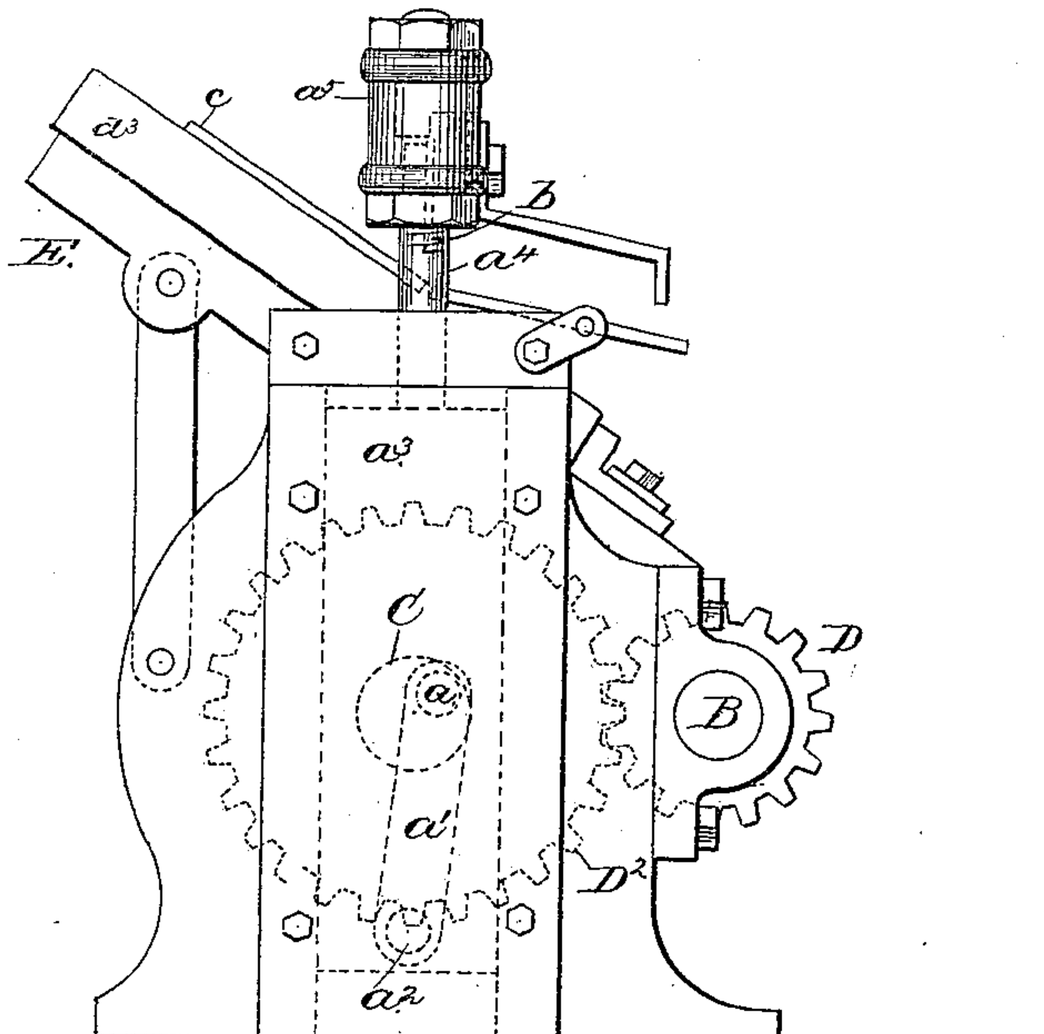

Fig. 4.

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TAP SOLE CUTTING MACHINE.

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Fig. 5.

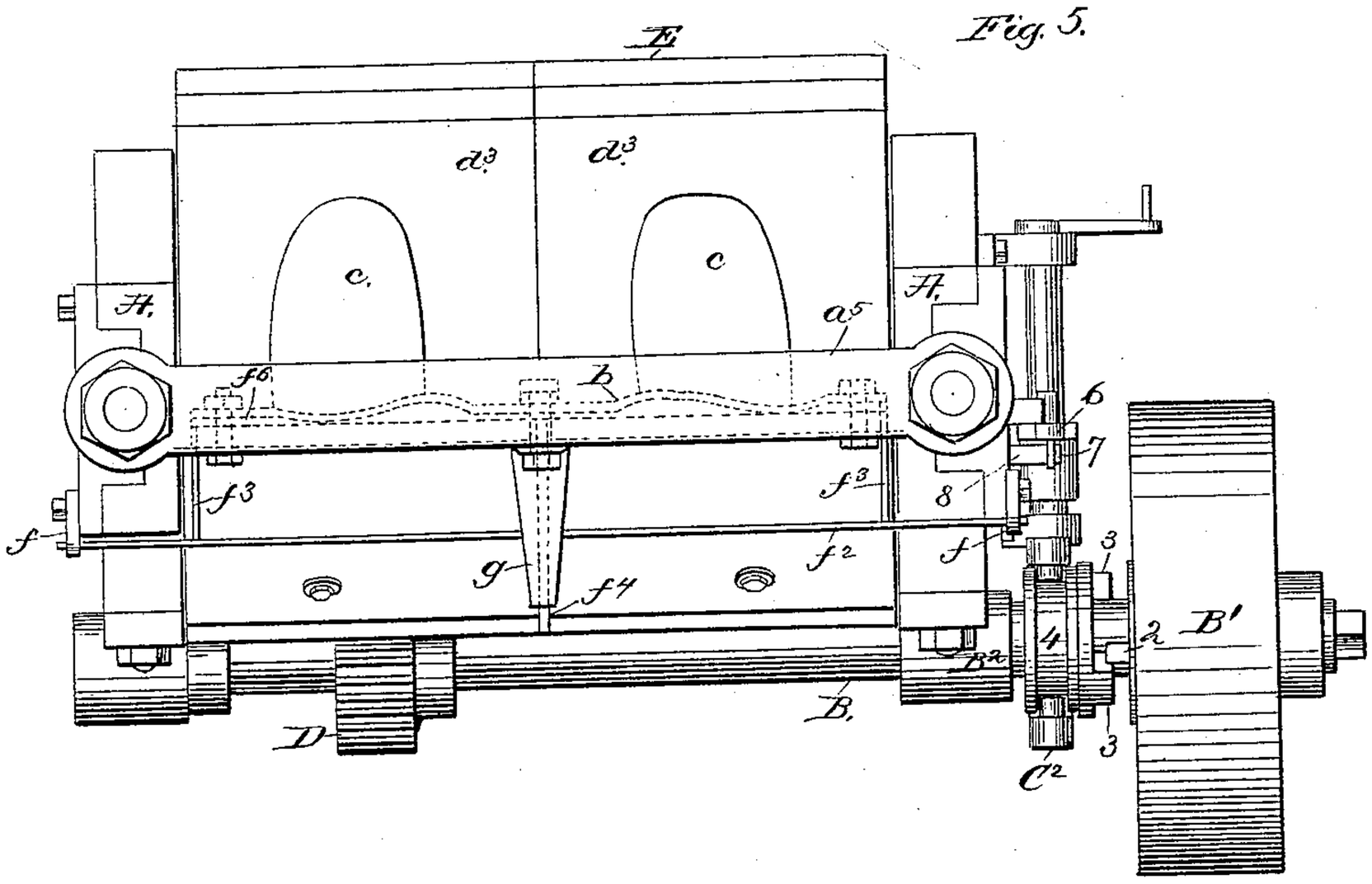
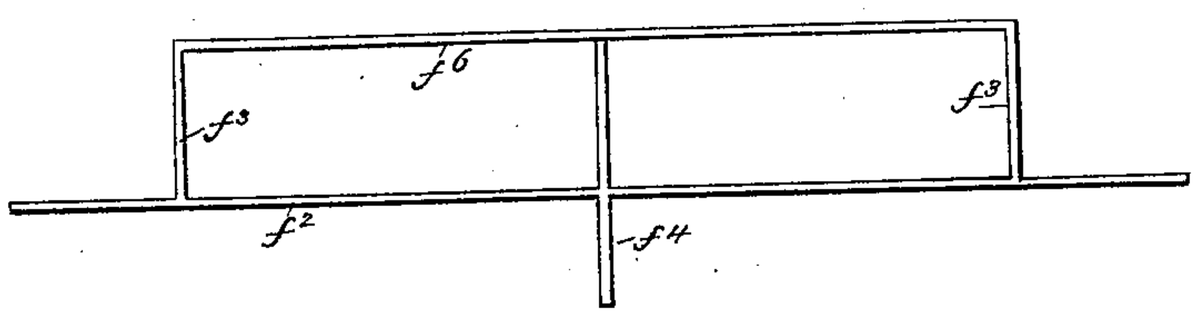


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN W. D. FIFIELD, OF NORTH BROOKFIELD, MASSACHUSETTS.

TAP-SOLE-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 246,302, dated August 30, 1881.

Application filed July 11, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. D. FIFIELD, of North Brookfield, county of Worcester, State of Massachusetts, have invented an Improvement in Tap-Sole-Cutting Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to mechanism for beveling and shaping the large or rear ends of tap-soles.

A tap-sole previously cut out in a sole-cutting machine is placed in this my improved machine on an inclined cutting-bed, with the large end of the tap-sole placed against a suitable gage, when a cutting-blade is made to approach the said bed at an acute angle and bevel the large end of the sole. The gage, which holds the sole in place on the inclined cutting-bed, is tipped and freed from the sole automatically as soon as the cutting and beveling blade touches the sole, so that the chip may fall, and also the tap-sole, as soon as the cutting-blade in its upward movement passes above the surface of the tap-sole.

Figure 1 represents, in front elevation, a tap-sole beveling and shaping machine embodying my invention; Fig. 2, a left-hand elevation thereof; Fig. 3, a rear side elevation of Fig. 1; Fig. 4, a right-hand elevation of Fig. 1; Fig. 5, a top or plan view of Fig. 3, and Fig. 6 a separate detail of the gage.

The frame-work A of the machine has suitable boxes or bearings to support the driving-shaft B and the crank-shaft C, which latter is provided with two cranks, *a*, one shown in dotted lines, Fig. 4, each connected by a link, a', with a pin, a^2, at the lower end of a slide, a^3, fitted in each side frame, A, (see dotted lines, Fig. 4,) and provided at its upper end with an upright, a^4. These uprights on the slides a^3 at opposite sides of the machine carry the cross-head a^5, to which is secured the cutting blade or knife *b*, (see Fig. 3,) properly shaped (see dotted lines, Fig. 5) to impart to the larger end of the tap-sole *c* the desired shape.

The shaft B is provided with a loose power-driven pulley, B′, having at its inner end suitable projections, 2, to be engaged by projections 3 at one side of a clutch, B^2, splined to slide on but be rotated with the said shaft B. This clutch is grooved at 4 and receives pins of a yoke, C^2, on a rock-shaft, C^3, having a suitable handle, by which to turn the said shaft at the proper times and move the clutch into or from engagement with the constantly-rotating pulley B′, to start or stop the machine.

The rock-shaft C^3 has an arm, 6, provided with a pin, 7, acted upon by a spring, 8, the tendency of which is to move the rock-shaft in the opposite direction, release the clutch, and stop the machine, when the said spring is permitted to act.

The shaft B has a pinion, D, which engages the gear D^2 on and drives the shaft C when the clutch and pulley are in gear.

The bed E, on which the tap-soles *c* are placed to be shaped and beveled at their large ends, is provided with ears *d*, slotted to receive bolts d^2, which serve as pivots about which the said bed may be turned or adjusted, so as to place the wooden block or blocks d^3, forming the top of the bed, at a greater or less angle to the horizon, or to the perpendicular path in which the cutter *b* is made to descend upon the tap-soles. At each side this bed E has links *e* pivoted to it, the lower ends of which are adjustably connected with the side frames by bolts e^2, the links and bolts maintaining the cutting-bed at the proper inclination.

The ears *f*, secured to the side frames, support the gage, which acts against the lower ends of and holds the tap-soles in position on the inclined bed E while the knife *b* is descending. This gage is a pivoted one composed of a rod, f^2, arms f^3, connected at their front ends by a second rod, f^6, and a rearwardly-extended tail-piece, f^4. The arms f^3 and bar f^6 preponderate in weight, and consequently the normal tendency of the bar f^6 is to rest against the bed E or the block d^3 thereon, so as to serve as a gage or stop, against which the large or inner ends of the tap-soles will be lodged, and by which they will be held when placed on the inclined bed.

The cross-head a^5 has at its rear side a tripping device, *g*, shown as a finger adjustably connected therewith by a screw, g', the latter being adjusted so that as the cutter *b* meets the upper side of the sole the said finger will strike the said tail-piece f^4 and lift the gage-bar f^6, permitting the chip cut off by the said blade to drop. The cross-head and cutter rise

more rapidly than does the rather evenly balanced gage, and the tap-sole, as the cutter rises above it, slides down past the end of the gage before the latter has time to drop and arrest its descent; but as the tap-sole passes below the gage the latter drops below the small end of the tap-sole upon block d^3.

I claim—

1. In a machine to shape and bevel tap-soles, the pivoted adjustable inclined cutting-bed E d^3 and cross-head and its attached blade b, to shape and bevel the large end of the tap-sole, substantially as described.

2. The inclined cutting-bed and cross-head and its attached blade, to shape and bevel the large end of the tap-sole, combined with the gage, to hold the sole until the said cutter meets the tap-sole, and with the tripping device, to strike and move the gage and release the sole after or just as the cutter engages the sole, substantially as and for the purpose described.

3. In a machine to shape and bevel tap-soles, the inclined adjustable bed E d^3, the cross-head and its shaping and beveling blade or cutter b, and means, substantially as described, to actuate the said cross-head, combined with a movable gage, to first arrest the movement of and then retire from in front of the said tap-sole, to permit it to be discharged from the machine, substantially as and for the purpose set forth.

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

JOHN W. D. FIFIELD.

Witnesses:

J. B. MAXWELL,
A. E. FAIRMAN.