

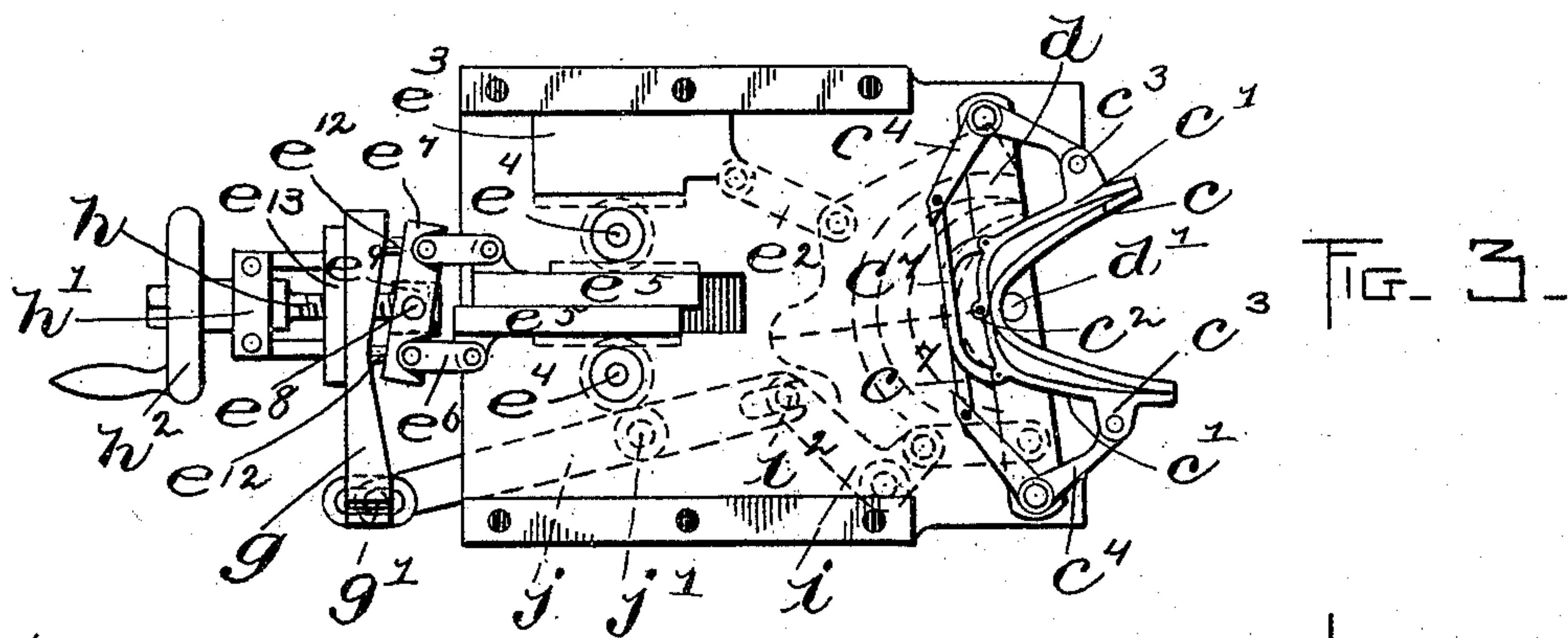
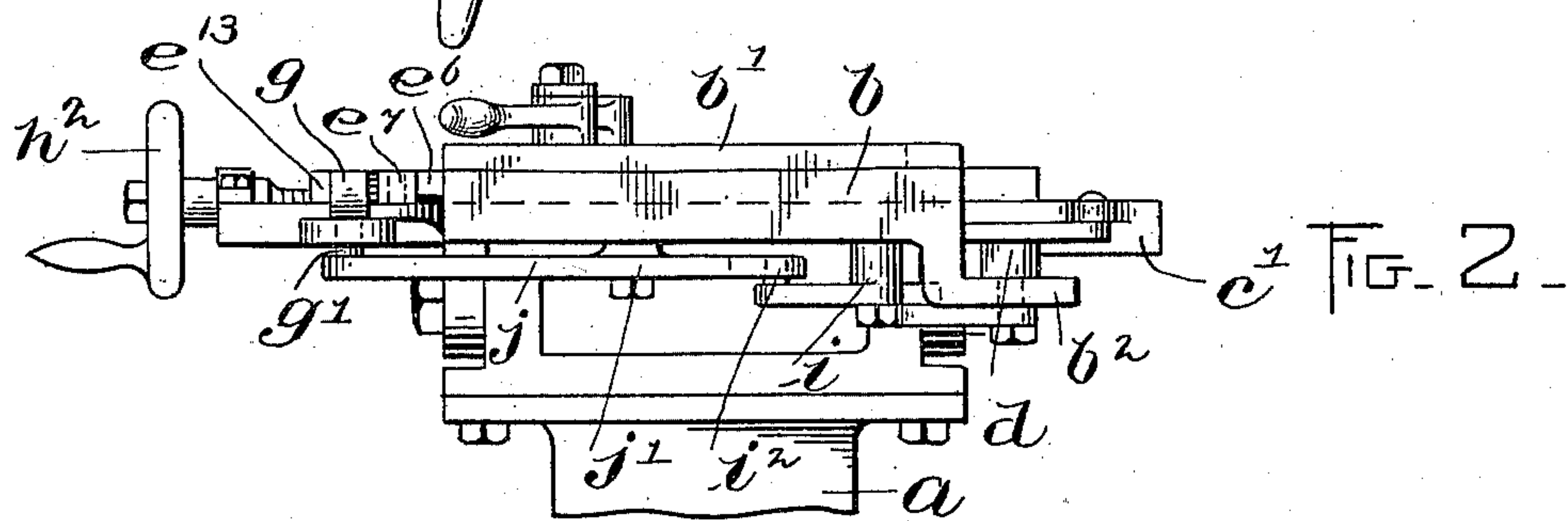
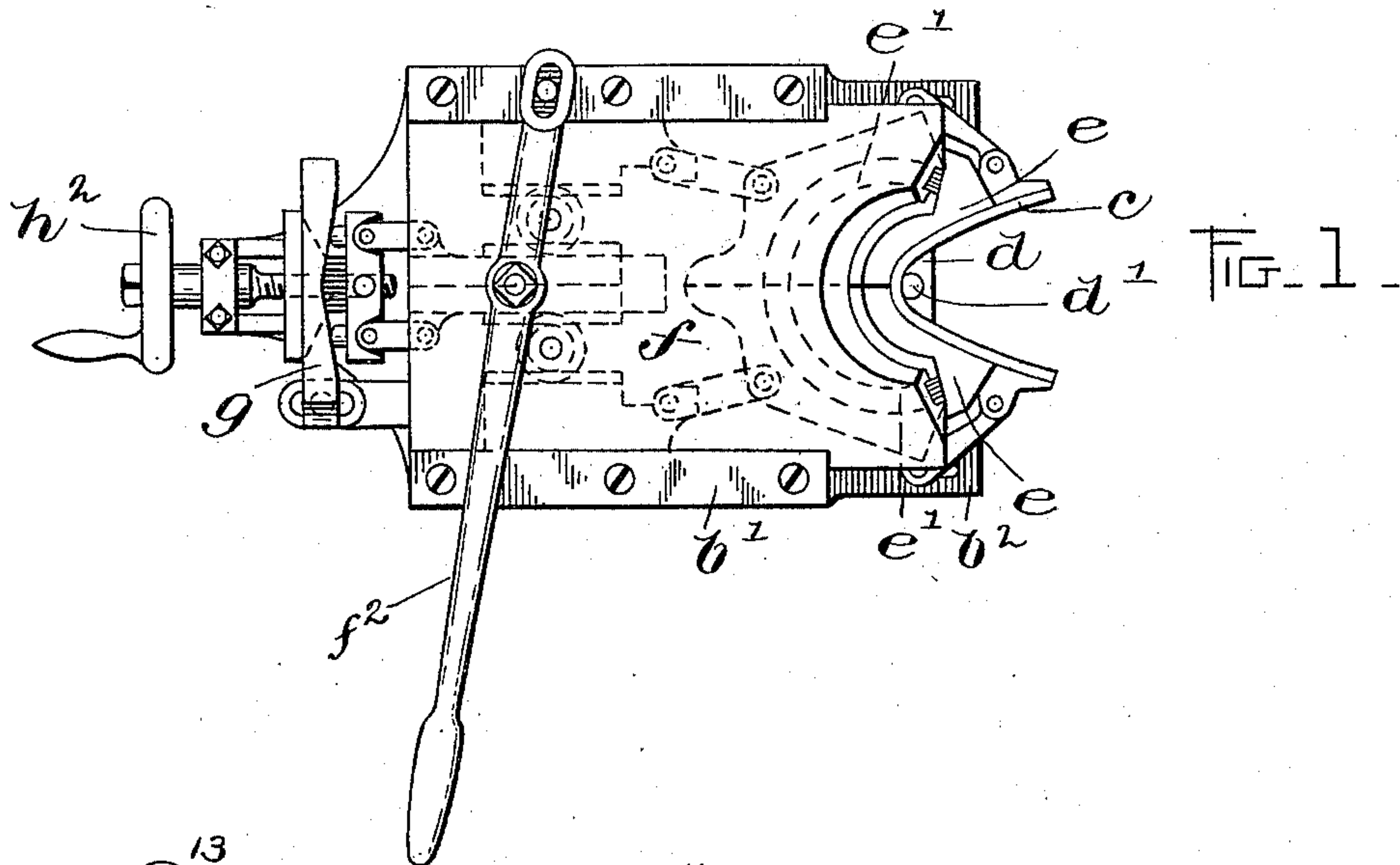
No. 635,129.

Patented Oct. 17, 1899.

A. W. EATON.
LASTING MACHINE.

(Application filed Apr. 15, 1898.)

(No Model.)



WITNESSES!

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UNITED STATES PATENT OFFICE.

ARTHUR W. EATON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO AUGUSTUS
SEAYER, OF SAME PLACE.

LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 635,129, dated October 17, 1899.

Application filed April 15, 1898. Serial No. 677,652. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. EATON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and
5 useful Improvements in Lasting-Machines, of which the following is a specification.

This invention relates to machines for lasting over the heel and toe portions of boot and shoe uppers, and has for its object to provide
10 certain improvements in the same whereby the wipers may be expeditiously and, if desired, automatically adjusted to conform to the shape or contour of the last on which they are to operate, so that the same machine may
15 be used for right and left lasts.

To this end the invention consists of a lasting-machine provided with certain features of novelty, which I have illustrated upon the drawings and shall now describe in detail,
20 the said features of novelty being substantially pointed out with particularity in the claims hereunto appended.

Reference is to be had to the accompanying drawings, and to the letters marked thereon,
25 forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 represents in plan view a portion of a lasting-machine embodying the invention. Fig. 2 represents a side
30 view of the machine, looking from beneath. Fig. 3 represents the machine in plan view with the carrier removed.

Referring to the drawings, which portray
35 one embodiment of the invention which I have selected for the purpose of illustration, a indicates a standard upon which is mounted in any suitable way a non-rotary head consisting of a bed or plate b , having side guides b' .
40 Upon this plate are mounted the toe-clamps and the wipers. The toe-clamp consists of a strip c of leather or suitable flexible material, backed by rigid curved-arm or yoke sections c' c' , which are pivotally connected together
45 at c^2 and are provided with ears c^3 c^3 , connected to bell-crank levers c^4 c^4 . The ends of the bell-crank levers are connected by curved links c^7 c^7 with the inner ends of the arms c' , the links crossing each other, so as
50 to constitute equalizing connections between

the said arms c' c' . The bell-crank levers c^4 c^4 are pivoted upon the ends of a rocking bar d of rigid construction, pivoted upon a stud or fulcrum d' , projecting forward from the shelf b^2 at the front end of the bed-plate. 55

Thus far the construction described is no different from that illustrated and described in the patent to Fred P. Bullard and William S. Hamm, No. 590,639, dated September 28, 1897. 60

The wipers e e , which are arranged above the plane of the clamp, are provided with segmental ribs e' e' , engaged with segmental slots in a carrier f , sliding in guides in the bed b , the ribs and slots causing the wipers to
65 swing in circular arcs when the wipers are pressed forward. The wipers are connected by links e^2 with slides or racks e^3 e^3 , sliding in guides in the bed b . The said racks are oppositely arranged and intermesh with pinions e^4 e^4 , provided with studs which are fitted to rotate in bearings formed in the carrier f . 70

The pinions e^4 mesh with two independently-sliding racks e^5 , the rear end of each of which is connected by a link e^6 with a rocking bar e^7 , fulcrumed on a stud e^8 , rising from a nut e^9 , sliding in guides in the bed b . The bar e^7 is provided with two rearwardly-projecting studs e^{12} , and between the said studs and a rib e^{13} , rising from the nut, is placed a double
80 wedge g . By sliding the wedge to one side or the other the cross-bar is tilted relatively to the rib on the nut and the two racks e^5 e^5 are moved to adjust the wipers in the same direction about the center of the circle of
85 which the segmental ribs form arcs.

Now it will be seen that when the carrier is moved forward by a lever f^2 , fulcrumed upon the bed, the pinions which are carried thereby are caused to roll along the stationary racks e^5 and impart an accelerated forward movement to the racks e^3 e^3 , this motion being imparted to the wipers by the links e^2 , the wipers being thus caused to move forward
90 with the carrier and to swing inward toward each other, the segmental ribs moving in the segmental slots of the carrier constituting the pivotal connections between the carrier and the wipers. 95

The described forward and inward move- 100

ment of the wipers causes them to properly wipe the upper over upon the bottom of the last, the toe portion being wiped backwardly or lengthwise of the last, while the said side portions are wiped forwardly or crosswise of the last.

In order to adjust the wipers toward or from each other, a screw-bar h , journaled in a bearing h' on the bed b and having a hand-wheel h^2 , has its end passed into the nut e^9 , so that by turning the screw-bar in one direction or the other the wipers may be caused to approach or recede from each other about a common center.

As has been previously stated, the toe-clamp is mounted upon a rocking bar, so that it is automatically adjustable by the engagement of a last therewith to fit a right or left last—that is to say, the rocking bar may be swung upon its pivot, whereby when the median line of the toe part of a last is at an inclination to the median line of the machine the toe-clamp will automatically swing to correspond thereto.

I connect the wipers with the toe-clamp, so that when the last and toe-clamp are brought into contact and the latter is automatically adjusted to fit the last the wipers are likewise automatically adjusted before the last comes into contact therewith. The connecting means consist of a bell-crank lever i , pivoted on the under side of the bed-plate b and connected by a link with the rocking bar. The other end of the bell-crank lever is provided with a stud i^2 , fitting in a slot in the end of a vibrating bar j , pivoted at j' to the said under side of the bed. The rear end of this vibrating bar is provided with a stud g' , projecting into a slot in the wedge g .

Now it will be seen that when the rocking bar is rocked about its center of motion the link i' swings the bell-crank lever around its stud, and this in turn swings the lever j about its pivot-stud and thrusts the wedge to one side or the other, this depending upon whether the tilting bar at the front of the machine has been moved to correspond with a right or a left last. Hence the wipers, which are adjustable about a center of motion, are adjusted automatically in the same direction by the last before the latter comes in contact with them. The wiper and the adjusting mechanism is comparatively light, and little resistance has to be overcome when a shoe is brought into contact with the toe-clamp and they are adjusted in accordance with its shape.

The invention has been described as adapted for use in connection with toe-wipers; but it will be understood that it can be equally applied to heel-wipers.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. A lasting-machine comprising wipers movable toward or from each other about a common center, a carrier having pinions, sliding racks intermeshing with said pinions, and connected to said wipers, adjustable racks intermeshing with said pinions, and mechanism for moving the last said racks relatively to each other, for the purpose of adjusting the wipers in the same direction about the said common center.

2. A lasting-machine comprising wipers movable toward or from each other about a common center, a carrier having pinions, sliding racks intermeshing with said pinions, and connected to said wipers, adjustable racks intermeshing with said pinions, and a bar for adjusting one of the last said racks relatively to the other.

3. A lasting-machine comprising wipers movable toward or from each other about a common center, a carrier having pinions, sliding racks intermeshing with said pinions, and connected to said wipers, adjustable racks intermeshing with said pinions, and a wedge for adjusting one of the last said racks relatively to the other.

4. A lasting-machine comprising a non-rotary head, wipers movable about a common center, slides connected to said wipers, means including a longitudinally-movable wedge for adjusting said slides relatively to each other to swing the wipers in the same direction about the said center, and mechanism movable independently of said adjusting means for operating said wipers to approach and recede from each other.

5. A lasting-machine comprising wipers movable about a common center, two pairs of opposing racks, one rack of each pair being connected to one of said wipers, mechanism for adjusting the other racks of said pairs relatively to each other, and a carrier provided with pinions intermeshing with the opposing racks of the said pairs.

6. A lasting-machine comprising wipers movable about a common center, a sliding block, slides interposed between said block and said wipers, and mechanism including coacting gearing interposed between the ends of said slides and said block for adjusting one of said slides relatively to the other, said parts being constructed and arranged whereby when the said block is moved the wipers are moved toward or from each other, and when the said mechanism is operated, the said wipers are swung in the same direction about the said common center.

7. A lasting-machine comprising wipers movable about a common center, adjustable slides connected to said wipers, a sliding block for adjusting said slides simultaneously in the same direction to move said wipers about their said common center, and mechanism interposed between said slides and said block for adjusting said slides in opposite directions.

8. A lasting-machine comprising wipers

movable about a common center, adjustable slides connected to said wipers, a sliding block for adjusting said slides simultaneously in the same direction to move said wipers about their said common center, mechanism interposed between said slides and said block for adjusting said slides in opposite directions, a movable clamp for the end of the shoe, and connections between said clamp and said mechanism.

9. A lasting-machine comprising wipers movable toward or from each other about a common center, a carrier having pinions, sliding racks intermeshing with said pinions, and connected to said wipers, adjustable racks intermeshing with said pinions, mechanism for moving the last said racks relatively to each other, for the purpose of adjusting the wipers in the same direction about the said common center, a swinging clamp for the end of the

shoe, and connections between said clamp and said mechanism.

10. A lasting-machine comprising a pivoted clamp for the end of the last, wipers movable toward or from each other about a common center, a carrier having pinions, sliding racks connected to said wipers and intermeshing with said pinions, adjustable racks also intermeshing with said pinions, a wedge for adjusting said racks, and connections between said clamp and said wedge whereby said wipers are automatically adjusted by said clamp.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR W. EATON.

Witnesses:

C. F. BROWN,

A. D. HARRISON.