

No. 743,956.

PATENTED NOV. 10, 1903.

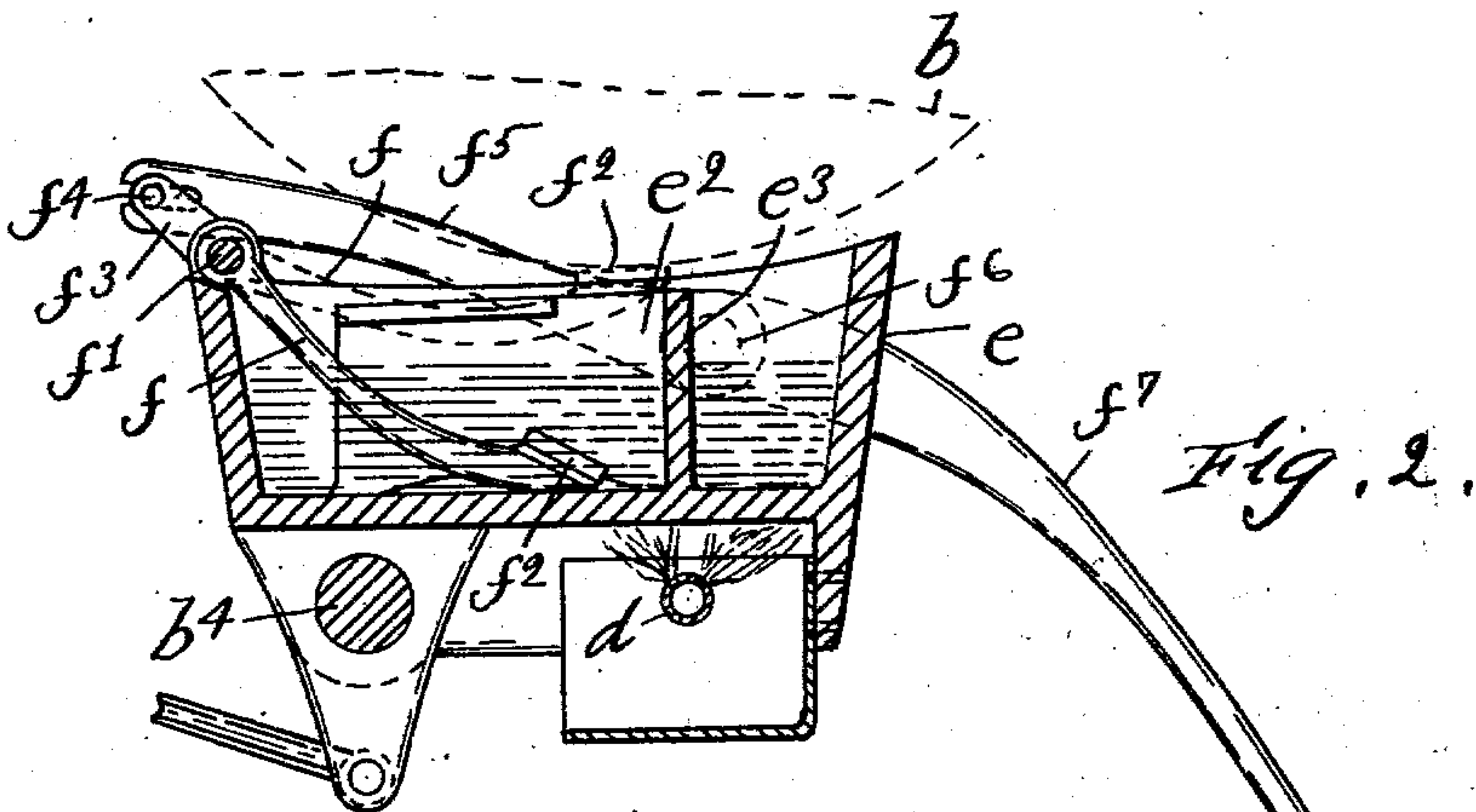
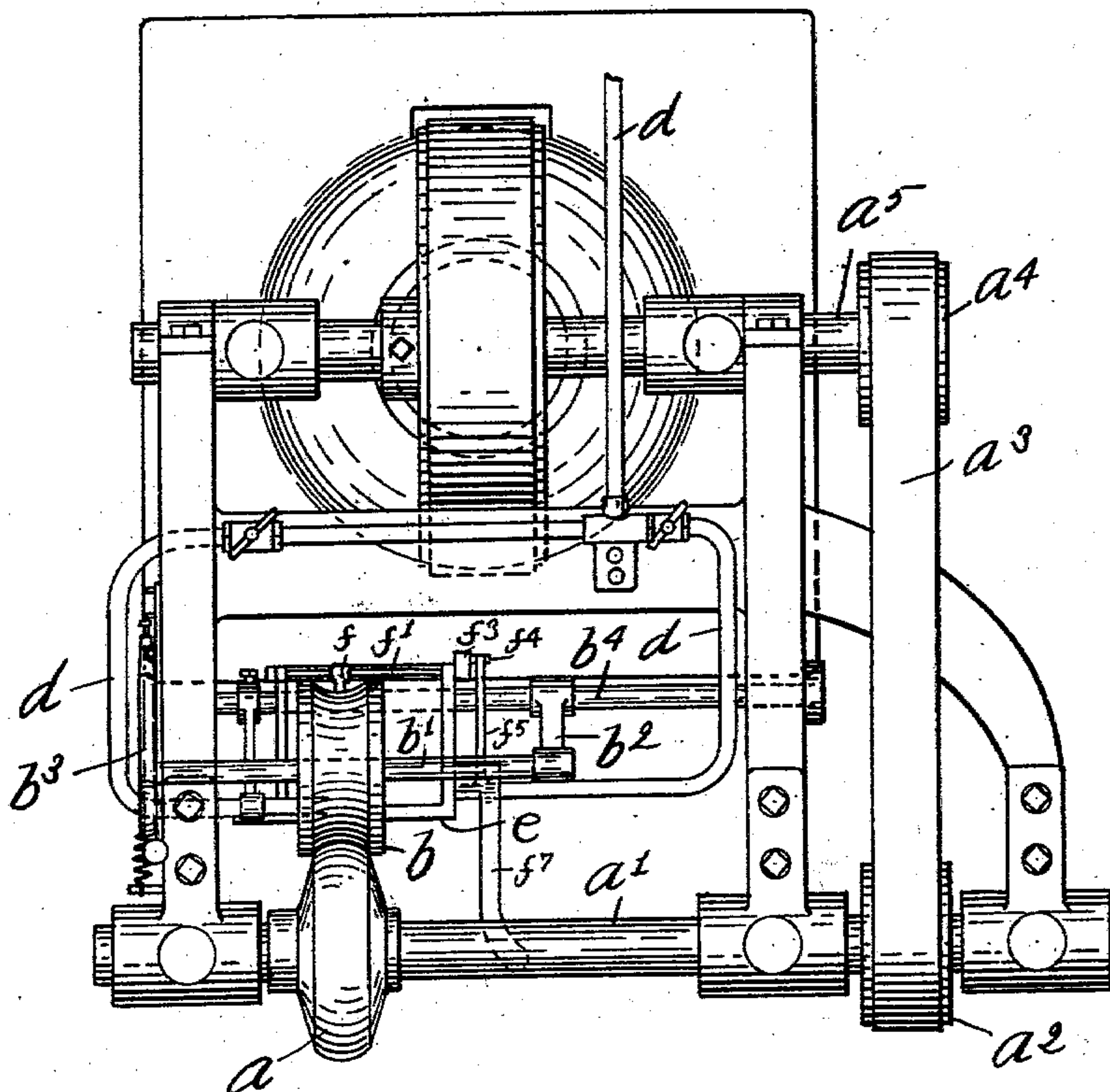
R. W. THOMSON.  
HEEL FINISHING MACHINE.

APPLICATION FILED NOV. 3, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses:  
H. B. Davis  
Maud M. Piper.

Inventor:  
Robert W. Thomson  
by Hayes & Harriman.  
Atty

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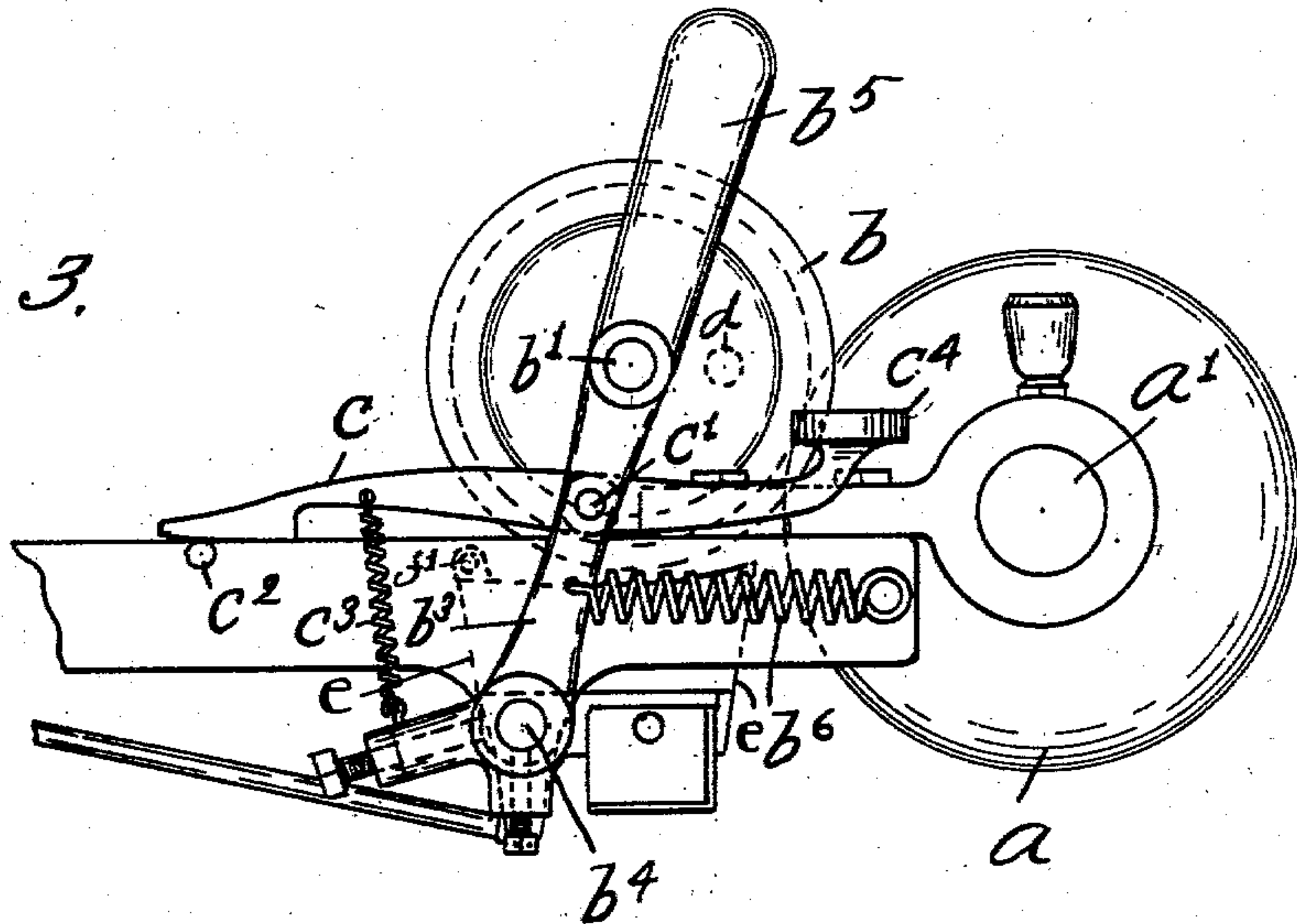
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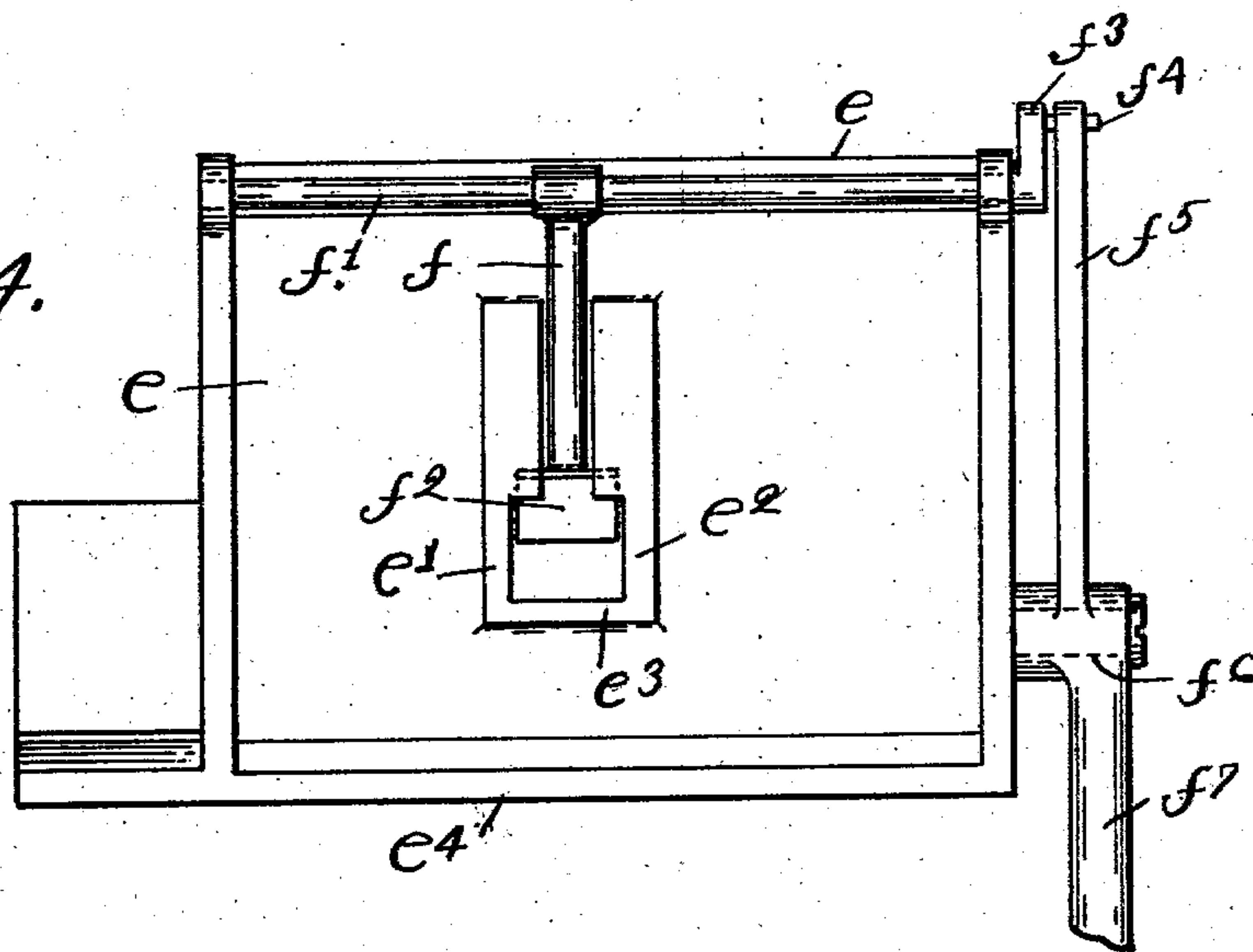
NO MODEL.

2 SHEETS—SHEET 2.

*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

ROBERT W. THOMSON, OF LYNN, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED-XPEDITE FINISHING COMPANY, OF BERWICK, MAINE, A CORPORATION OF MAINE.

## HEEL-FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 743,956, dated November 10, 1903.

Application filed November 3, 1902. Serial No. 129,998. (No model.)

*To all whom it may concern:*

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

This invention is intended as an improvement upon the heel-finishing machine shown and described in my application for Letters Patent, Serial No. 99,851. In practice I find it is desirable to arrange a heated roll so that it shall run constantly in engagement with the work-rubbing wheel while said wheel is being used in order to heat and shape the rim of said wheel and that it is only necessary to apply wax to the heated roll occasionally for a very short interval of time, as but very little wax is required.

This invention has for its object to improve the construction of the machine shown in said application to the end that the heated roll, which transfers the wax to the work-rubbing wheel and by engaging said wheel shapes the rim thereof, may run in engagement with said wheel constantly until positively thrown out independently of the wax-supplying means and that the wax-supplying means may be caused to apply wax to said heated roll whenever desired while the latter is in engagement with said work-rubbing wheel.

Figure 1 shows in plan view a heel-finishing machine embodying this invention. Fig. 2 is an enlarged vertical section of the wax-pot and wax-applying device. Fig. 3 is a side elevation of the head of the machine enlarged, and Fig. 4 is a plan view of the wax-pot and wax-applying device.

*a* represents the work-rubbing wheel, which is herein shown as a cloth wheel or cloth-covered wheel of any usual or suitable construction. The wheel *a* is secured to a shaft *a'*, having a belt-pulley *a<sup>2</sup>* thereon, over which a belt *a<sup>3</sup>* passes, which also passes around a belt-pulley *a<sup>4</sup>*, secured to the main driving-shaft *a<sup>5</sup>*. The work-rubbing wheel *a* has a convex yielding heel-engaging rim, especially

adapting it to conform to the shape of the heels of boots and shoes.

*b* represents a roll heated in any suitable manner, which serves as a shaping-roll for the heel-engaging rim of the wheel and also as a wax-transferring roll for conveying wax to the work-rubbing wheel, and said heated roll has a grooved periphery adapting it to fit and by engaging to shape correctly the yielding heel-engaging rim of the work-rubbing wheel.

The heated roll *b* is mounted to revolve freely upon a bar *b'*, which is supported at its ends in arms *b<sup>2</sup>* *b<sup>3</sup>*, both of which are rigidly secured to a shaft *b<sup>4</sup>*, having its bearings in the frame, said shaft *b<sup>4</sup>* being adapted to rock in its bearings in order that the roll *b* may be moved into and out of engagement with the work-rubbing wheel. The bar *b'*, arms *b<sup>2</sup>* *b<sup>3</sup>*, and rock-shaft *b<sup>4</sup>* constitute a movable frame for supporting the roll *b*. For enabling the workman readily to move the heated roll toward and from position to engage the work-rubbing wheel one of the arms, as *b<sup>3</sup>*, is suitably extended to provide a handle, by means of which the roll-supporting frame may be actuated and the roll moved back and forth.

A spring *b<sup>6</sup>* is attached at one end to the arm *b<sup>3</sup>* and at the other end to a fixed point on the frame and pulls the movable roll-supporting frame in a direction toward the work-rubbing wheel, holding the heated roll in engagement with said work-rubbing wheel when permitted to do so. The heated roll is revolved by its frictional engagement with the work-rubbing wheel.

Whenever it is desired to throw the heated roll *b* out of engagement with the work-rubbing wheel, the supporting-frame will be swung backwardly by means of the handle *b<sup>5</sup>*, carrying the heated roll away from the wheel.

It is very desirable to hold the heated roll *b* in a position remote from the work-rubbing wheel when the machine is not in use, so that the heat of the roll will not injure the work-rubbing wheel, and to accomplish this result a locking device is provided which, as herein shown, consists of a latch *c*, pivotally connected to the arm *b<sup>3</sup>* at *c'* and adapted to en-



gage a fixed pin  $c^2$  on the frame. A spring  $c^3$  is connected at one end to the latch and at the other end to a fixed point on the frame, the tendency of which is to draw the latch into engagement with the fixed pin  $c^2$  whenever permitted so to act. The latch  $c$  has a finger-piece  $c^4$ , by depressing which the latch may be disengaged from the fixed pin.

The roll  $b$  and the wax-pot (to be described) will be heated in a suitable manner—as, for instance, by the gas-pipes  $d$ , which terminate adjacent to them. The roll  $b$  is shown as having a wide rim and a thin web connecting the rim to the hub, thus providing the roll with recessed or hollow ends to receive the gas-flame from the pipes  $d$  for heating the roll.

It will be seen that the heated roll may be brought into engagement with the work-rubbing wheel and there held in constant engagement while the work-rubbing wheel is being used, and whenever it is desired said heated roll may be moved out of engagement with the work-rubbing wheel and locked in its remote position.

The wax-supplying means herein shown comprises a wax-pot  $e$ , (see Figs. 2 and 4,) supported on the shaft  $b^4$  or otherwise, and a wax-transferring device which consists of an arm  $f$ , secured to a rock-shaft  $f'$  and bearing at its extremity a blade  $f^2$ , which is shaped to engage the periphery of the heated roll  $b$  to apply thereto the wax. The arm  $f$  is made of suitable length to work up and down in the wax-pot. At one end of said rock-shaft  $f'$  a crank-arm  $f^3$  is provided, bearing a pin  $f^4$ , which is engaged by the bifurcated end of a lever  $f^5$ , pivoted at  $f^6$  and having a handle portion  $f^7$ . By moving the handle up and down the wax-applying blade will be brought into and out of engagement with the periphery of the heated roll.

An antispashing device for the wax is contained in the wax-pot, which consists of two parallel side walls  $e'$   $e^2$  and an end wall  $e^3$ , which form a rectangular compartment which is open at one end for the passage of the melted wax. The walls  $e'$ ,  $e^2$ , and  $e^3$  extend up to a point near the top of the wax-pot, and at the top of the walls  $e'$  and  $e^2$  an intumed flange or lip is provided which partially covers the top of the rectangular compartment.

The blade  $f^2$ , which applies the wax to the heated roll, is located within and works up and down in the rectangular compartment formed by the walls  $e'$   $e^2$   $e^3$ .

It will be seen that as the wax-applying lever is provided with a handle said lever may be manually operated whenever desired, and this is important for the reason that only occasionally does it become necessary to apply wax to the heated roll and then only for a short interval of time.

I do not desire to limit my invention to the embodiment thereof herein illustrated and described, to the particular details of construction of the several parts of the mechan-

ism, or to the means herein shown for actuating the operating parts, as it is obvious that the invention may be embodied in many other forms and that many changes may be made in the mechanisms which will come within the spirit and scope of this invention.

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

1. In a machine of the character described, the combination of a work-rubbing wheel, a heated roll engaging it, a wax-applying device and means for moving said wax-applying device toward and from position to apply wax to said roll, substantially as described.

2. In a machine of the character described, the combination of a work-rubbing wheel, a heated roll engaging it, means for moving said heated roll into and out of engagement with said wheel, a wax-applying device and means for moving said wax-applying device into and out of engagement with said heated roll, substantially as described.

3. In a machine of the class described, a work-rubbing wheel, a roll arranged to engage said wheel, means for heating said roll, a locking device for securing the roll in an inoperative position out of engagement with the work-rubbing wheel, a wax-applying device, and means for moving said wax-applying device into and out of engagement with the roll, substantially as described.

4. In a machine of the character described, a work-rubbing wheel, a heated roll engaging it, a movable frame bearing the heated roll, said frame having provision whereby it may be actuated for moving the heated roll toward and from position to engage the work-rubbing wheel, and a spring arranged for holding the heated roll in engagement with the work-rubbing wheel, substantially as described.

5. In a machine of the character described, a work-rubbing wheel, a heated roll engaging it, a movable frame bearing said heated roll, a spring attached to said frame for holding the heated roll in engagement with the work-rubbing wheel, and a locking device adapted to hold the heated roll out of engagement with said work-rubbing wheel, substantially as described.

6. In a machine of the character described, a work-rubbing wheel, a heated roll engaging it, a frame bearing said heated roll and having provision whereby it may be operated, and a spring connected to said frame for yieldingly holding said heated roll in engagement with the work-rubbing wheel, substantially as described.

7. In a machine of the character described, a work-rubbing wheel, a heated roll engaging it, a frame bearing said heated roll and having provision whereby it may be operated, a spring connected to said frame for yieldingly holding said heated roll in engagement with the work-rubbing wheel, and a locking device for holding said frame with the heated



roll out of engagement with the work-rubbing wheel, substantially as described.

5 8. In a machine of the character described, the combination of a work-rubbing wheel, a heated roll engaging it, wax-supplying means comprising a wax-pot and a wax-transferring device consisting of a pivoted arm having a wax-applying blade, and means for moving said blade into engagement with said heated  
10 roll, substantially as described.

9. In a machine of the character described, a work-rubbing wheel having a convex yielding rim, a heated roll having a correspondingly-shaped groove in its periphery, means  
15 for moving said roll into and out of engagement with said wheel, wax-supplying means comprising a wax-pot and a movable blade adapted to engage the grooved periphery of the roll and means for operating said blade  
20 whenever desired, substantially as described.

10. In a machine of the class described, a work-rubbing wheel, a heated roll for engaging it, means adapted to be rendered operative at the will of the workman for moving  
25 said roll into operative relation with the work-

rubbing wheel, and other means for holding said roll out of operative relation with said wheel.

11. In a machine of the class described, a work-rubbing wheel, a wax-conveyer, and a  
30 wax-supplying means comprising a wax-pot, and a wax-transferrer adapted to be operated at the will of the workman for taking wax from the wax-pot and delivering it to the conveyer.

12. In a machine of the class described, the combination of a work-rubbing wheel, a roll for engaging the periphery of said wheel, means for heating said roll, a device for applying wax to the roll, said device normally  
35 occupying an inoperative position, and means under control of the workman for actuating said device.

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

ROBERT W. THOMSON.

Witnesses:

SABINA W. McDERMOTT,  
JOHN M. BARRY.