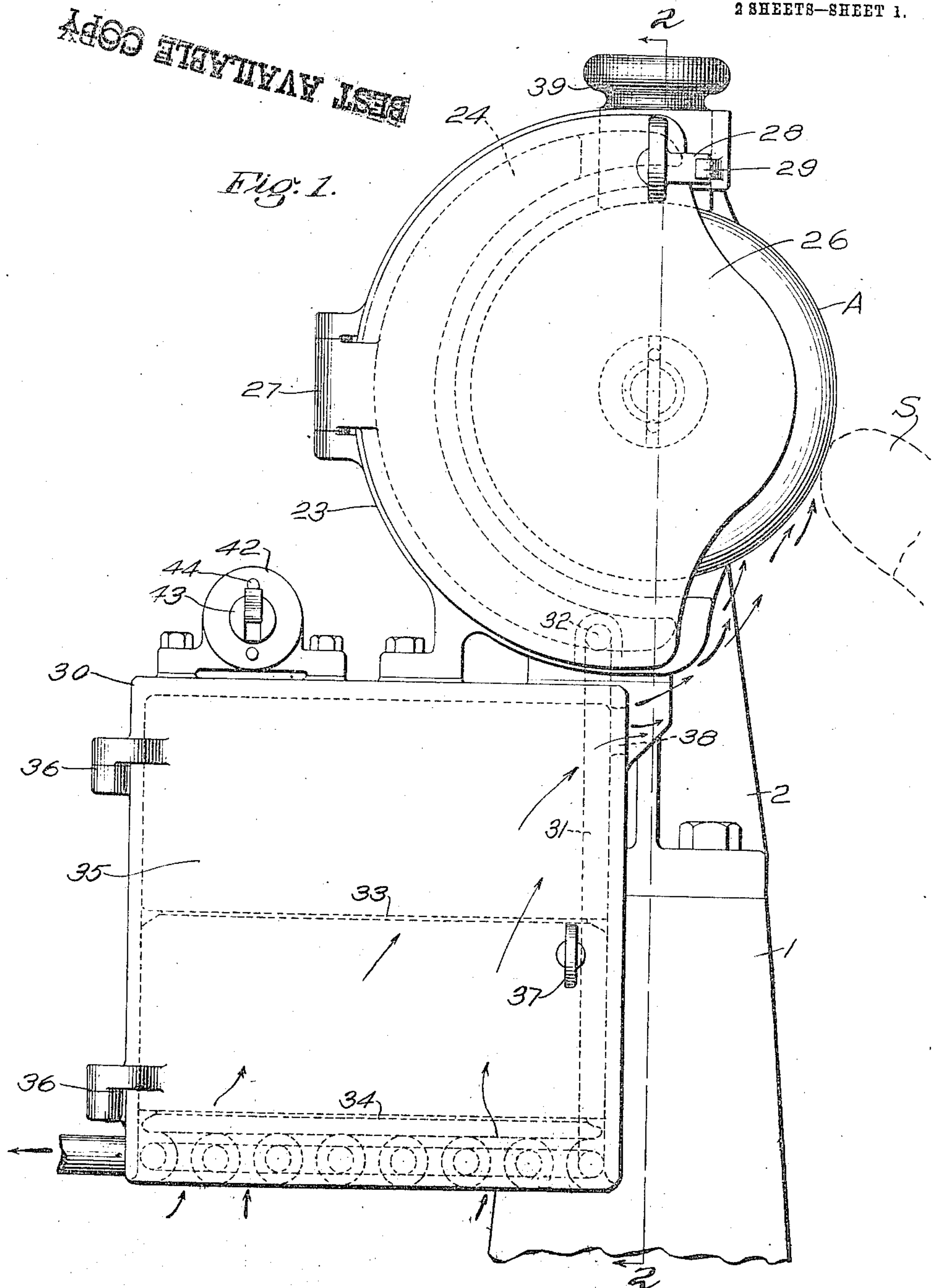


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APPLICATION FILED JUNE 14, 1909. RENEWED APR. 26, 1910.  
966,472. Patented Aug. 9, 1910.  
2 SHEETS—SHEET 1.



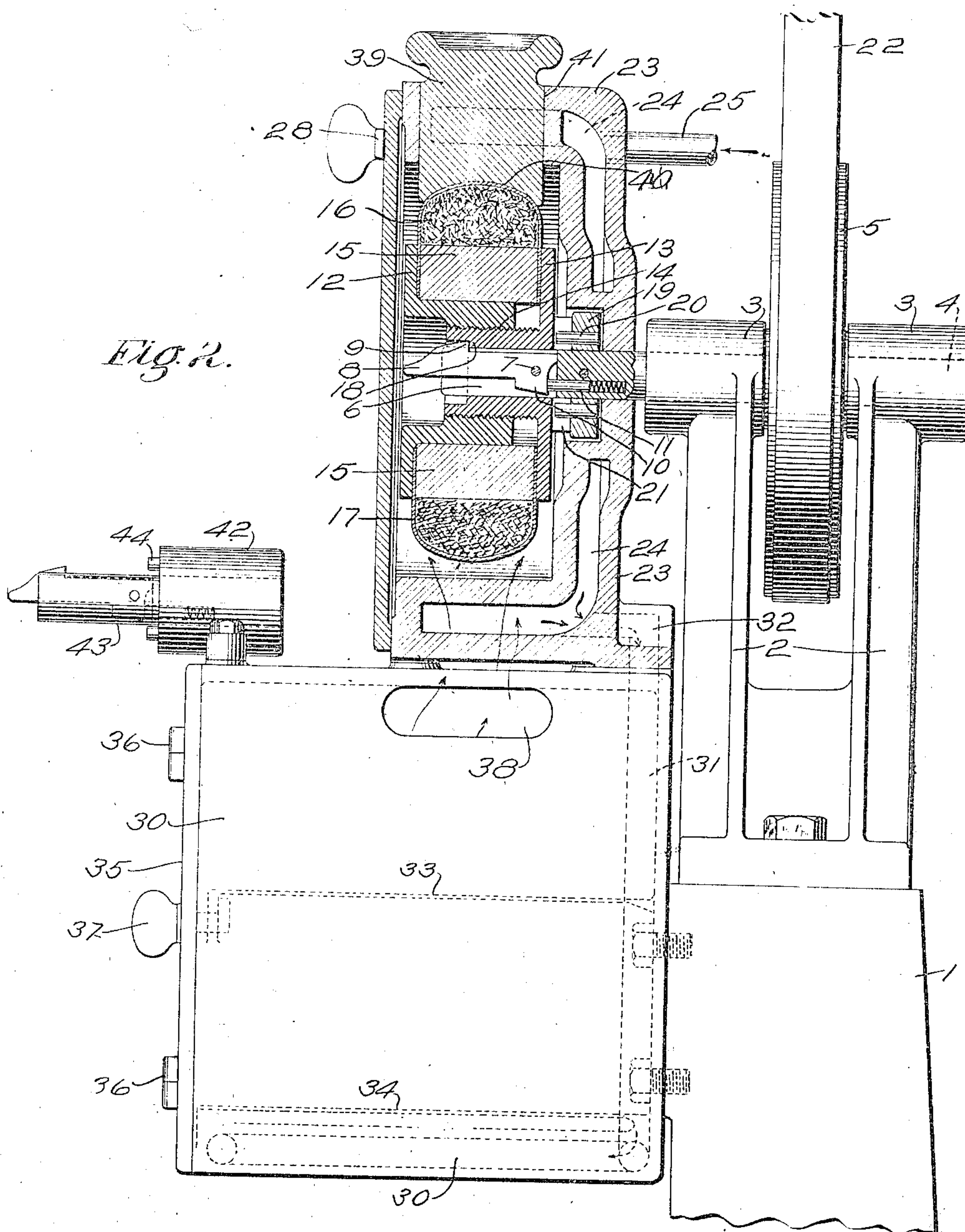
Witnesses:  
Roswell F. Hatch  
Ruford Allen

Inventor  
Thomas G. Plant  
by Robt. O. Hains.  
Attorney.

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Witnesses:  
Roerell F. Hatch.  
Rufus H. Allen.

Inventor  
Thomas G. Plant  
by Robt. P. Harris  
Attorney.



# UNITED STATES PATENT OFFICE.

THOMAS G. PLANT, OF BOSTON, MASSACHUSETTS.

HEEL AND SOLE EDGE WAXING MACHINE.

966,472.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed June 14, 1909, Serial No. 501,919. Renewed April 26, 1910. Serial No. 557,799.

*To all whom it may concern:*

Be it known that I, THOMAS G. PLANT, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Heel and Sole Edge Waxing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

The invention to be hereinafter described relates to heel and sole edge finishing machines, and more particularly to such machines for the application to the heel or sole edge of a finishing compound, such as wax.

The aims and purposes of the present invention are to provide a convenient and simple form of machine of the above general character which will efficiently apply to the heel or sole edge, or other part to be treated, a film or light coating of the finishing material or wax. These aims and purposes and other objects of the invention will best be made clear from the following description and accompanying drawings of one form of means for carrying the invention into practical effect.

In the drawings: Figure 1 is a side elevation of a machine embodying the present invention; and Fig. 2 is a section on the line 2—2 of Fig. 1.

The machine frame is or may be formed as a supporting column 1, having secured at the upper portion thereof the standards 2, 2 provided with bearings 3, 3 for a driving shaft 4 to which is secured a driving pulley 5 which may be driven from any suitable source of power. The end of the shaft 4 is provided with a split or bifurcated portion 6 in which is pivotally mounted at 7 a holding catch 8 having a shoulder 9. The catch 8 is provided with a heel 10 on which bears a spring-pressed plunger 11, the construction being such that the holding catch 8 is normally turned about its pivotal support 7 to throw its holding shoulder 9 upward for a purpose that will presently appear.

The waxing wheel which is to be applied to the end of the shaft 4 may be variously formed, but in the construction illustrated it comprises the disks 12 and 13 having a screw-thread connection 14 and holding between them the disk 15 for a yielding convex rim

16, preferably formed of felt or other absorbent material. The felt, or like material, 16 is preferably surrounded by a fabric 17, the edges of the fabric being clamped against the sides of the disk 15 by the flanged portions of the disks 12 and 13, as will be readily apparent from Fig. 2.

The hub portion of the disk 13 is provided with a shoulder 18, Fig. 2, which is adapted to engage the shoulder 9 of the catch 8, the construction being such that when the waxing wheel is placed upon the end of the shaft it will ride readily over the projecting portion of the catch 8 and, when seated in driving connection with the shaft, as will presently appear, the shoulders 9 and 18 will engage and hold the waxing wheel detachably to the shaft.

The shaft has secured thereto a pin disk 19, Fig. 2, having pins 20 which are adapted to engage in suitable apertures or slots 21 formed in the disk 13 of the wax wheel. Obviously the driving connection between the shaft and the wax wheel may be of any desired or preferred character, that described being found an efficient and convenient form of such device, though not essential thereto. Likewise the catch 8 and its coacting shoulder 18 on the wax wheel are found to be good practical forms of means for holding the wax wheel detachably to the shaft, though the details of such means may be varied within wide limits.

The wax wheel is preferably constituted as a reservoir for wax, and to this end it is boiled in wax so that the felt or absorbent material 16 becomes saturated or substantially full of wax, this feature of the invention being such that, upon heating the waxing wheel, the wax contained in the reservoir or absorbent material 16 will exude and appear upon the outer surface of the rotating wheel ready for application to the work, as will be readily understood by those skilled in the art.

In order that the waxing wheel may apply the wax to the heel or other part as a thin film or coating, the present invention contemplates driving the waxing wheel yieldingly so that when the work is pressed against the wheel and turned so as to apply the wax to the heel of a shoe, as indicated in



Fig. 1, the surface of the waxing wheel will roll on the surface of the heel or other part without rubbing action and thus lay or roll upon the heel the film of wax in contra-distinction to rubbing or attritionally acting upon the heel or other part. To this end the shaft 4 is or may be driven by a belt 22, Fig. 2, loosely connecting the pulley 5 with a source of power, the belt 22 being sufficiently loose or slack to allow the waxing wheel to be retreated in its rotative movement when the work is pressed lightly thereagainst so that said waxing wheel will act to roll or lay the film of wax upon the work in the manner hereinbefore noted. This action of the waxing wheel is of importance because it obviates the defects heretofore present in wax applying machines wherein the waxing wheel has been driven at high speeds and positively, thereby rubbing the surface of the heel or other part with the result that, in the hands of inexperienced operatives, the wax becomes bunched on the heel, especially at the line of the heel breast, as will be readily understood by those familiar with the art. It will be obvious, of course, that other means may be employed to rotate the waxing wheel yieldingly to permit the rolling action of the wheel upon the work in the manner hereinbefore indicated.

Suitably supported from the main supporting frame or column 1 is a casing 23 partially surrounding the waxing wheel when in position on the driving shaft 4, as indicated in the drawings. This casing preferably extends over the top and rear portion of the waxing wheel, or over that portion which is inactive, for the time being, with respect to the work. The casing 23 is cored or formed with a suitable conduit 24 for a heating fluid, such as steam, which may be supplied through the pipe or other conduit 25, Fig. 2. This conduit 24 extends about the waxing wheel, and constitutes in effect a heating chamber to maintain the rear or inactive portion of the waxing wheel for the time being in heated condition, so that the wax may act in a manner hereinbefore noted and be properly rolled upon the work. One side of the casing 23 is provided with a door 26 hinged at 27, Fig. 1, to the casing and provided with a turn button 28, the end of which is adapted to engage under a lug 29 formed on the casing, the construction being such that upon disengagement of the turn button 28 from the lug 29 the door 26 may be swung back to permit exchange of waxing wheels or for other purpose. It will be evident that since the waxing wheel is engaged upon the end of the shaft 4 and the casing 23 is provided with the side door 26, such casing may be made of an extent sufficiently large to embrace a major part of the waxing wheel, leaving the front of

the waxing wheel exposed for the application of work.

Disposed below the casing 23 is a chamber 30 having extended therinto the fluid or steam conduits 31 which are preferably connected at the top portion of the heating chamber 30, as at 32, with the conduit or heating chamber 24 of the casing 23, as clearly indicated in the drawings.

The heating chamber 30 disposed below the waxing wheel is preferably provided with two shelves or supports 33 and 34 for the purpose of sustaining therein extra waxing wheels and maintaining them in heated condition ready for use. The heating chamber 30 is provided with a door 35 hinged at 36 and provided with a turn button 37 for holding it closed, the construction being such that the door 35 may be opened when desired to permit access to the heating chamber 30.

Since the waxing wheels constitute the reservoir for the wax by being previously boiled and waxed, it is desirable that they be maintained in heated condition in the chamber 30 so that when a waxing wheel on the driving shaft is to be replaced by another, that other may be in ready working condition for the application of the film of wax upon the heel or other part.

The heating chamber 30 is provided with a heating fluid conduit 38 disposed below the waxing wheel, which, for identification as a whole, may be designated in Fig. 1 as A, and such conduit serves to direct the heated air or other fluid from the lower heating chamber onto the front face of the waxing wheel A at or near the point where the work S is being treated, as indicated in Fig. 1, the effect being that the wax at the moment of application to the work is maintained in suitable liquid or semi-liquid form to be rolled upon the cold surface of the heel or other part presented to the waxing wheel, as will be readily understood. This direct application of hot air or fluid to the waxing wheel at the point where it is acting upon the work is of importance in enabling the waxing wheel A to effectually roll the film of wax onto the surface to be treated and for maintaining the waxing wheel and its load of wax exuding from the surface thereof in proper heated condition.

In order that the wax may be maintained in properly spread condition over the convex yielding rim of the waxing wheel, the present invention contemplates the provision of a wax spreader 39 having a concave bearing surface 40 to contact with the convex yielding bearing surface of the waxing wheel, the concave bearing surface 40 of the wax spreader being preferably of relatively unyielding material. As one form of means for maintaining the wax spreader 39 in operative position and properly bearing



upon the yielding convex rim of the waxing wheel, the casing 23 is provided with an opening 41 leading therethrough, Fig. 2, and in this opening the wax spreader 39, preferably formed as a plug to be sustained by said opening 41, is passed, its inner concave surface resting upon the convex yielding surface of the waxing wheel, and the weight of the plug ordinarily being sufficient to cause the wax to be properly spread upon the surface of the waxing wheel, as will be clear from the drawings.

From the construction described it will be apparent that the waxing wheel, previously saturated with wax, is maintained with its rear or inactive portion for the time being in close relation with and surrounding the heating chamber, and that the front or working face of the waxing wheel for the time being has directed thereupon heated fluid or air currents which maintain the front or working face of the wheel in proper condition for the application of the wax to the surface to be treated, it being understood that the wax spreader 39 serves to even or spread out the wax upon the surface of the waxing wheel.

Inasmuch as the waxing wheel is provided with a textile covering 17, it is desirable that it be properly supported during the application of such covering, and to this end the lower heating chamber 30 has mounted thereon a bearing 42 in which is sustained a spindle 43 provided with a catch similar to the catch 8, hereinbefore described, and actuated in a similar manner. The bearing 42 is provided with one or more pins 44 to engage proper recesses in the waxing wheel to hold the same from rotating during the application of the covering thereto. Should it be desirable to provide a coating of wax to the textile covering during the operation of the machine, a stick or piece of wax may be held thereto in the manner as heretofore ordinarily practiced.

Obviously changes and variations in the form and relation of the parts may be made within the true scope of the present invention which is definitely pointed out by the claims.

What is claimed is:

1. In a heel and sole edge finishing machine, the combination of a waxing wheel having a yielding wax applying rim, a heating chamber partly surrounding said rim to maintain the rear or inactive portion of said rim heated, and means for directing heated currents of air upon the front or acting portion of the waxing wheel when it acts upon the work.

2. In a heel and sole edge finishing machine, the combination of a waxing wheel having a yielding wax applying rim, a casing having a heating chamber partly surrounding said waxing wheel, and a heat con-

duit directing a heated fluid directly onto the waxing wheel where it acts upon the work.

3. In a heel and sole edge finishing machine, the combination of a waxing wheel saturated with the waxing compound, a heating chamber extending about a portion of said waxing wheel, a hot air conduit directing heated air upon the waxing wheel where it acts upon the work, and means for spreading the wax on the rim of the waxing wheel.

4. In a heel and sole edge finishing machine, the combination of a waxing wheel saturated with the waxing compound, a heating chamber extending about a portion of said waxing wheel, a hot air conduit directing heated air upon the waxing wheel where it acts upon the wax, and a spreader having a surface conforming to the rim of the waxing wheel to spread the wax over said rim.

5. In a heel and sole edge finishing machine, the combination of a rotating waxing wheel having a yielding convex rim, means for directing heated fluid currents onto the said convex rim, and a stationary wax spreader having a concave unyielding bearing surface resting on the convex rim to spread the wax thereon.

6. In a heel and sole edge waxing machine, the combination of a rotating waxing wheel having a yielding convex rim, a heating chamber partly surrounding said rim, a conduit directing heated fluid currents onto the portion of the convex rim acting upon the work, and a spreader having a concave relatively unyielding surface bearing upon the convex yielding rim to spread the wax thereon.

7. In a heel and sole edge waxing machine, the combination of a rotating waxing wheel having a yielding convex rim, means for yieldingly rotating said waxing wheel which may be retarded by the work to cause it to move at substantially the same speed as the work pressed against it and roll a film of wax on the work, and means for heating the waxing wheel.

8. In a heel and sole edge waxing machine, the combination of a rotating waxing wheel having a yielding convex rim, means for yieldingly rotating said waxing wheel which may be retarded by the work to cause it to move at substantially the same speed as the work pressed against it and roll a film of wax on the work, and means for directing heated fluid currents directly onto the convex rim of the waxing wheel.

9. In a heel and sole edge waxing machine, the combination of a rotating waxing wheel having a yielding convex rim, means for yieldingly rotating said waxing wheel which may be retarded by the work to cause it to move at substantially the same speed as the work pressed against it and roll a film of



wax on the work, a heating chamber partly surrounding the waxing wheel, and a conduit directing heated fluid currents onto the rim of said wheel where it acts upon the work.

10. In a heel and sole edge waxing machine, the combination of a waxing wheel having a yielding convex rim, means for rotating said waxing wheel to cause it to roll a film of wax on the work presented to it, a casing partly surrounding said waxing wheel, and a spreader mounted on said casing and having a concave relatively unyielding surface bearing on the said convex rim of the waxing wheel.

11. In a heel and sole edge waxing machine, the combination of a waxing wheel having a yielding convex rim, a shaft for rotating said waxing wheel, a casing partly inclosing said waxing wheel, means for detachably connecting the waxing wheel to the shaft within the casing, and a door closing one side of the casing.

12. In a heel and sole edge waxing machine, the combination of a rotating waxing wheel having a yielding wax applying rim, a heating chamber disposed about the waxing wheel, a heating chamber disposed below the waxing wheel, and a conduit leading from the chamber below the waxing wheel directing heated fluid currents upon the wax applying rim of said waxing wheel at the point where it acts upon the work.

13. In a heel and sole edge waxing machine, the combination of a rotating waxing wheel having a yielding wax applying rim, a heating chamber disposed about the waxing wheel, a heating chamber disposed below the waxing wheel, heated fluid conducting conduits connecting said chambers, and a conduit leading from the chamber below the waxing wheel directing heated fluid currents upon the wax applying rim of said waxing wheel from below the point where it acts upon the work.

14. In a heel and sole edge waxing machine, the combination of a rotating waxing wheel having a yielding wax applying rim, a heating chamber disposed about the waxing wheel, and a wax spreader having a

relatively unyielding wax spreading surface and disposed above and resting on the unyielding rim of the wax applying wheel to spread the wax thereon.

15. In a heel or sole edge waxing machine, the combination of a rotatable waxing wheel having a yielding wax applying rim, a heating chamber partly inclosing said waxing wheel, and a wax spreader having a relatively unyielding wax spreading surface resting against the yielding wax applying rim of the waxing wheel.

16. In a heel or sole edge waxing machine, the combination of a rotatable waxing wheel having a yielding wax applying rim, a heating chamber partly inclosing said waxing wheel, and a wax spreader extending into said heating chamber and having a relatively unyielding wax spreading surface resting against the yielding wax applying rim of the waxing wheel.

17. In a heel or sole edge waxing machine, the combination of a rotatable waxing wheel having a yielding wax applying rim, a casing partly surrounding said waxing wheel and forming a heating chamber therefor, said casing having an opening, and a wax spreader extending through said opening in the casing and having a surface resting on the yielding rim of the waxing wheel to spread the wax thereon.

18. In a heel or sole edge waxing machine, the combination of a waxing wheel having a yielding wax applying rim, a heating casing partly surrounding said waxing wheel, and a wax spreader having a relatively non-yielding wax spreading surface, said wax spreader being loosely supported to be movable toward and from the waxing wheel and with its wax spreading surface resting on the yielding rim of the waxing wheel.

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

THOMAS G. PLANT.

Witnesses:

FRANCIS H. ROWSOM,  
WILHELMINA SCHUERCH.