

A. BATES.

PRESS.

APPLICATION FILED SEPT. 14, 1908.

950,986.

Patented Mar. 1, 1910.

2 SHEETS—SHEET 1.

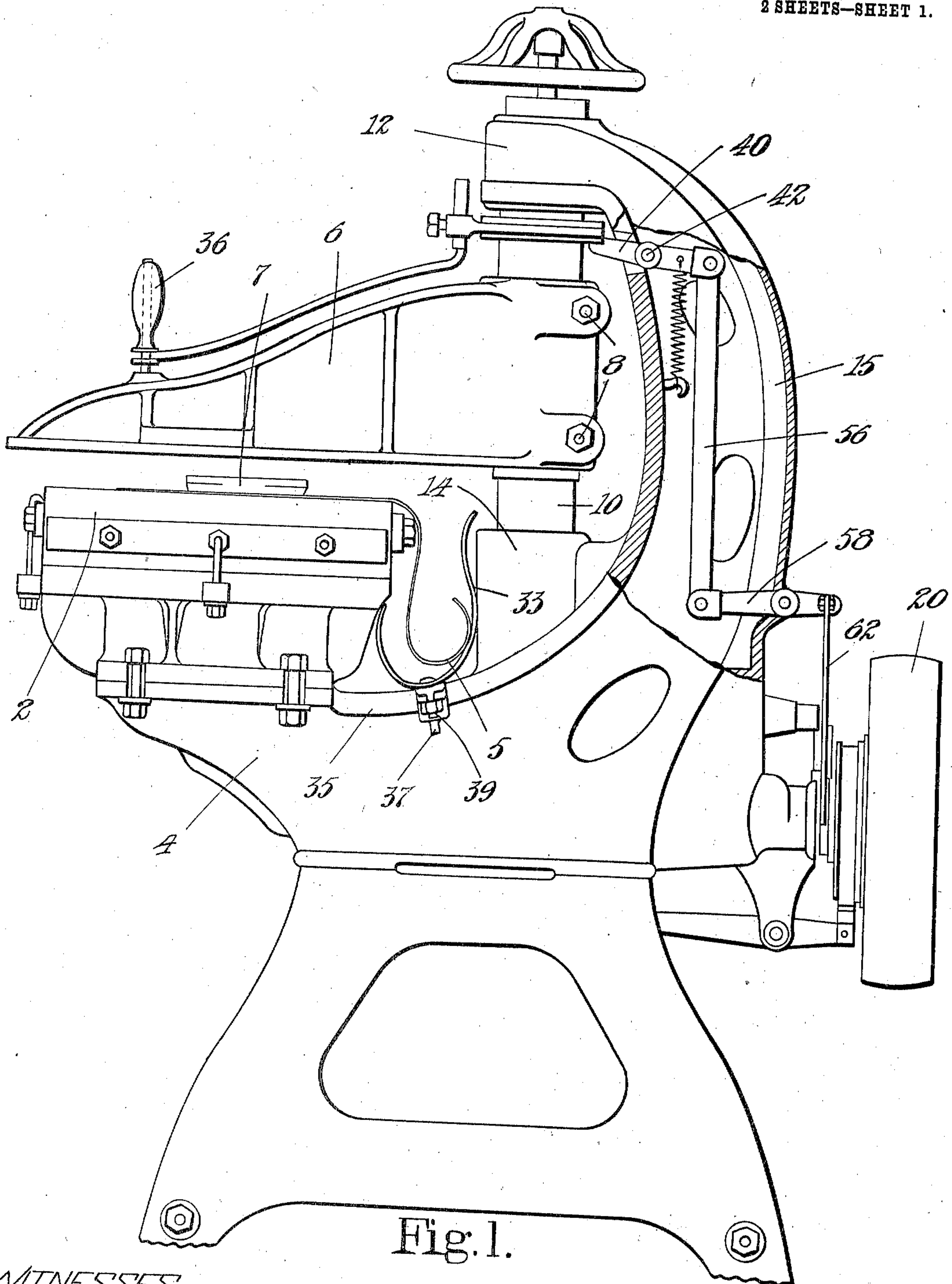


Fig. 1.

WITNESSES

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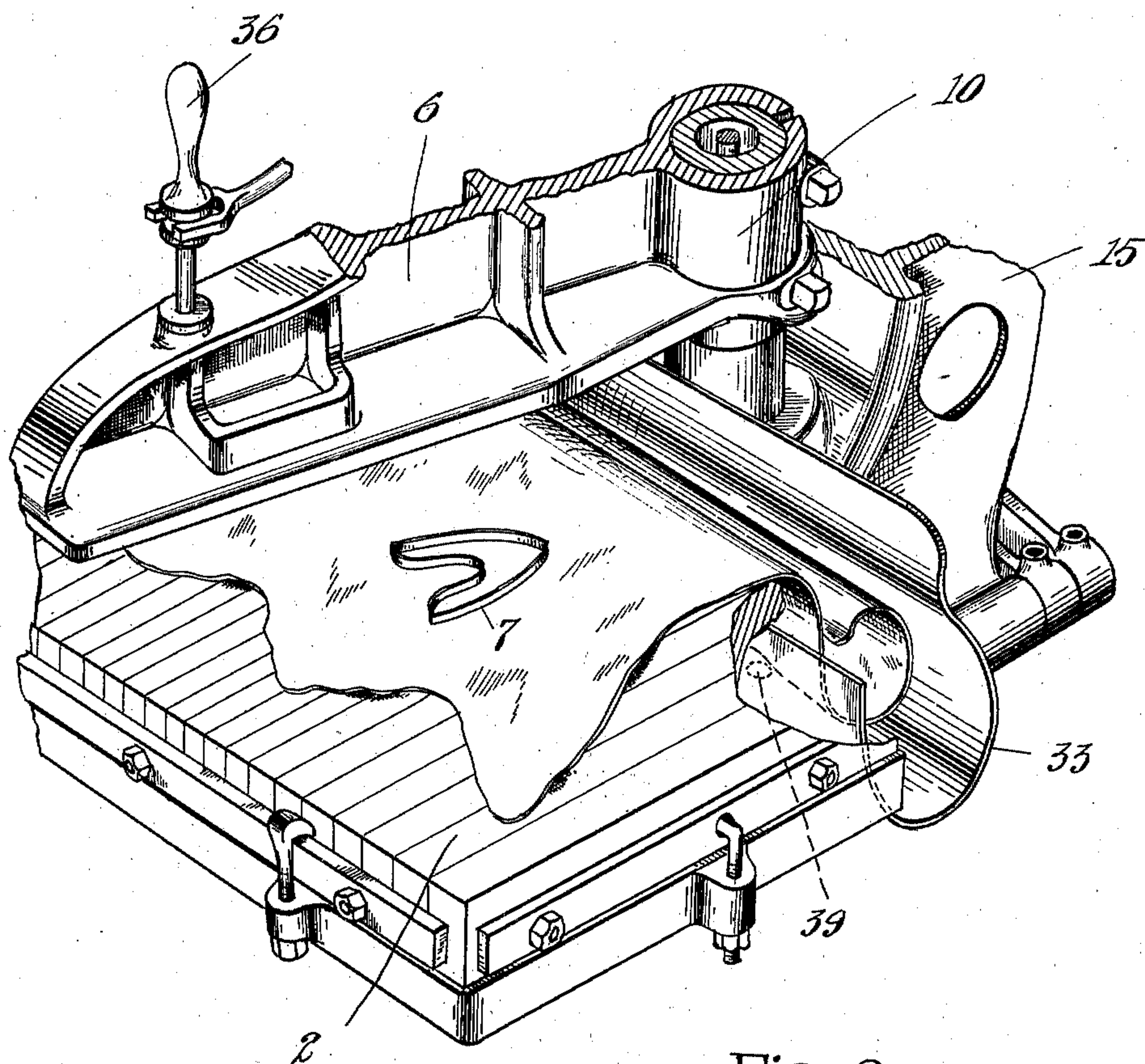


Fig. 2.

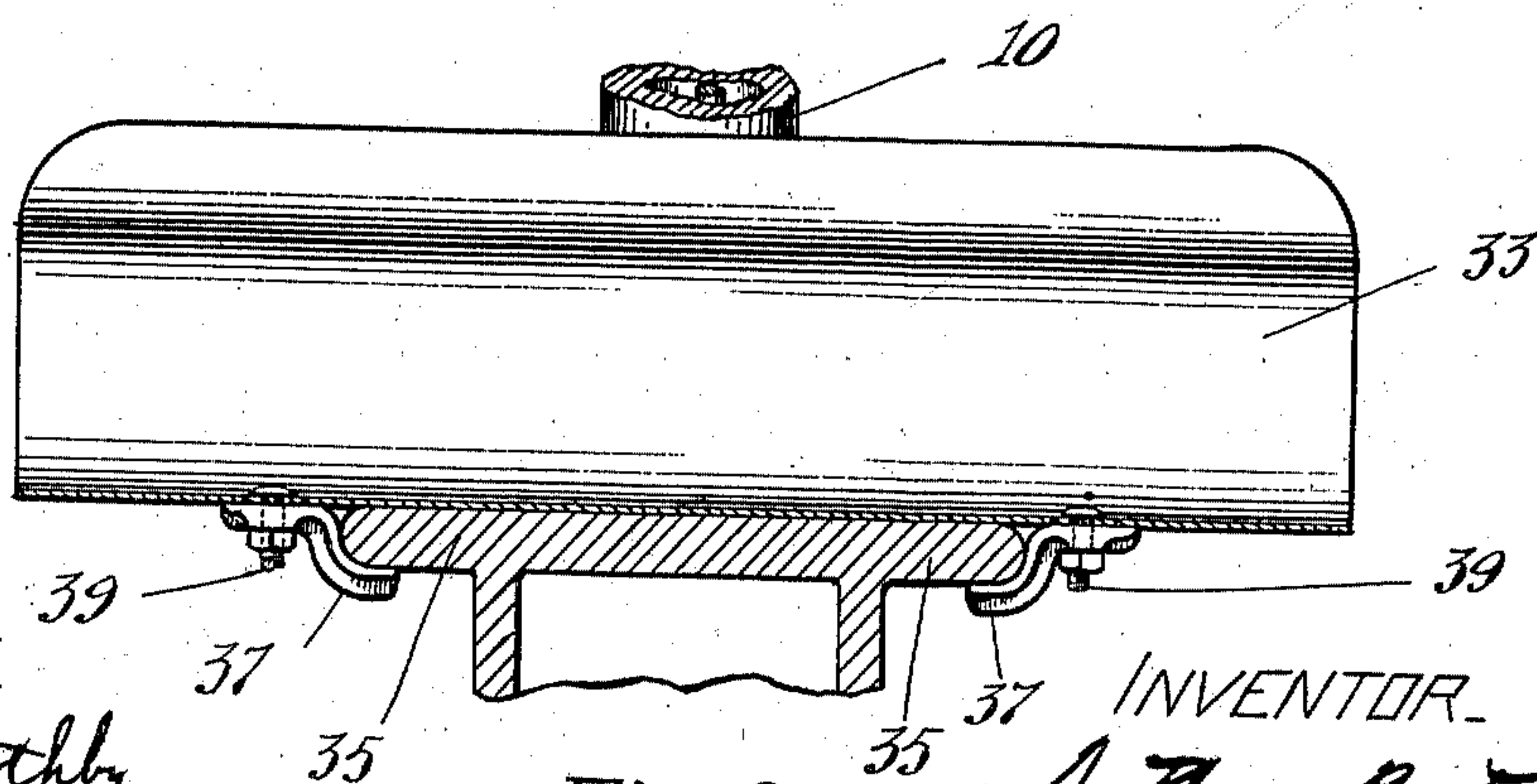


Fig. 3.

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UNITED STATES PATENT OFFICE.

ARTHUR BATES, OF LEICESTER, ENGLAND, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS, AND PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PRESS.

950,986.

Specification of Letters Patent.

Patented Mar. 1, 1910.

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To all whom it may concern:

Be it known that I, ARTHUR BATES, a subject of the King of England, residing at Leicester, in the county of Leicester, England, have invented certain Improvements in Presses, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to presses of the type in which a pressure applying member is movable relatively to a bed to effect a pressure applying operation in connection therewith. Presses of this type are used for many different purposes and frequently they are used in connection with movable dies for dying out sheet material such as leather.

The invention is shown as embodied in a machine especially adapted for employment for the purposes just specified, the illustrated machine being adapted especially for dying out thin sheet material such as skins of upper leather, and to machines intended for such uses the invention is particularly applicable, as will appear hereinafter.

Presses for dying out upper leather are preferably constructed so that a considerable surface of the leather being operated upon may be exposed, and so that the operator may conveniently place a die upon any portion of the exposed surface. To this end the stock supporting bed is usually of a width such that the operator may conveniently reach across it to place a die upon any part of its width and that he may conveniently inspect the stock within the die which is usually formed open within its outline and of such a height and shape as to permit such inspection. The pressure applying member, in a press of this type, is preferably arranged to be moved out of operative position over the die after the pressure applying operation and to be moved again into operative position over the die in the next selected location of the latter.

A machine of the type of that just referred to is illustrated in Letters Patent of the United States, No. 921,503, dated May 11, 1909, and the present application is a continuation of the application for said Letters Patent, so far as said applications disclose common subject-matter. When a machine of the type of that shown in the said patent is constructed with a die block or cut-

ting bed of such a width and length as to permit convenient inspection of the stock lying upon it and convenient manipulation of the die thereover, a portion of an ordinary skin, such as those from which upper blanks are usually cut, will project over one edge of the die block and when the operator is cutting from the portion of the skin nearest to him it is necessary that a portion of the opposite side of the skin shall project over the edge of the die block remote from the operator.

In the machine of the patent above referred to, the pressure applying member is connected to a support located behind the bed and in the specific construction therein shown this support is a vertically reciprocating plunger to which the pressure applying member is secured. To facilitate handling of the material being operated upon and to prevent it from being injured or soiled by the machine, it is desirable to provide a recess between the bed and the support for the pressure applying member to receive such surplus material as may extend beyond the rear edge of the bed, and an important feature of the present invention is the provision not only of such recess but also of a material receiving trough in said recess. Preferably this trough extends substantially the whole length of the bed.

Another important feature of the present invention is the provision of a material receiving trough between the bed and the support for the pressure applying member which is so shaped that it will cause the material to roll back upon itself toward the bed and thus further prevent it from coming into contact with said support or other parts of the machine. The trough is also useful in supporting the weight of the surplus stock and preventing it, through an excess of weight, from dragging the stock on the bed. This function of the trough is especially advantageous when the operator is cutting blanks from the portion of the stock nearest to him or when he is dying out blanks from large skins.

Another feature of the invention is the provision of an adjustable and detachable material receiving trough formed preferably of sheet metal, so that it may readily be given any desired shape and any desired position in respect to the bed. Advantages of making this trough of sheet metal are

the cheapness of construction, the above suggested ready adaptability to the various uses to which the machine may be put and its lightness.

5 The trough herein illustrated comprises preferably a piece of sheet metal of a length substantially equal to the length of the bed bent into U shape in cross-section and hav-
 10 ing its rear part somewhat higher than the front part and incurved and outcurved for purposes hereinafter to be pointed out. Clamp members carried by the trough are arranged to engage flanges provided upon
 15 the frame of the machine at the rear of the bed, this method of attachment of the trough to the machine frame permitting the ready adjustment of the trough with respect to the bed and the plunger. The clamp members are preferably also so shaped that the trough
 20 may readily be removed when it is desired to clean it or to replace it by another of different size or shape. The trough being formed of sheet metal, its shape, as above suggested, may readily be changed to suit it to the dif-
 25 ferent uses to which a machine of this type may be put.

Other novel features of the invention will be apparent from a consideration of the illus-
 30 trated construction in connection with the description thereof, and it is my intention to cover, in the annexed claims, all that is herein illustrated of my invention.

In the accompanying drawings,—Figure 1
 35 is a side elevation of a machine of the type of that disclosed in the patent above referred to, having embodied therein the invention of this application; Fig. 2 is a per-
 40 spective detail, partly in section, illustrating the construction and manner of use of the stock supporting trough which forms the main feature of the present invention; and Fig. 3 is a sectional detail showing the man-
 45 ner of attachment of the trough to the frame.

50 The press to which the invention is herein shown as applied comprises, preferably, a cutting bed 2 secured to or formed as part of a frame 4 and adapted to support the skin or other material 5 to be operated upon by
 55 movable cutting knives or dies 7. Pressure applying means comprising preferably an arm 6 is arranged above the cutting bed, said means being secured by bolts 8 to a column or plunger 10 supported in bearings
 60 12 and 14 on an upwardly extending portion 15 of the frame. The column or plunger 10 is arranged to turn in said bearings so that the pressure applying member may be posi-
 65 tioned above the work and dies or moved en- tirely clear of them by a movement of said means laterally in a plane substantially par-
 70 allel to the bed. The pressure applying means and column are arranged to receive a vertical reciprocating motion so that when
 75 the said means is lowered into contact with

the die or dies resting upon the work, pres-
 80 sure will be exerted and the work will be died out. When the said means is raised above the work it can be swung to a position
 85 sufficiently removed from the portion of the work being operated on to afford an unob-
 90 structed view of that part of the work, or it may be swung entirely clear of the bed. The vertical movement of the pressure ap-
 95 plying means and its supporting column may be obtained through any suitable mech-
 100 anism, such, for example, as that illustrated in the patent above referred to, said mech-
 105 anism being operated from a driving pulley 20 which may be clutched at will to a shaft
 110 constituting a part of said mechanism. The clutch will be preferably of the type that imparts one revolution to the driving shaft
 115 and then automatically disconnects. Provision will preferably be made for adjusting
 120 the pressure applying member vertically in order to accommodate it to different depths of cutting dies. An operating handle 36 co-
 125 operating with a lever 40 pivoted upon the extension 15 of the frame at 42 is arranged
 130 to operate the clutch and start the machine for effecting a pressure applying operation at the will of the operator through suitable
 135 connections 56, 58 and 62 with said clutch.

The foregoing mechanism, as well as that
 140 hereinafter described, is substantially the same as that illustrated and described in the patent above referred to.

The cutting bed 2, which, in the preferred
 145 construction, comprises a wooden block, is preferably of such dimensions that the op-
 150 erator may conveniently place the die on any part thereof and may inspect the stock lying within the die, the die being prefer-
 155 ably formed entirely open within its out- line. The block is therefore preferably of
 160 a width less than its length, the blocks em- ployed in machines in commercial use being
 165 usually about 18 inches wide and 36 inches long. When a skin is placed upon such a
 170 block a portion of it, at the start, will usually project beyond one of the sides of the block and for convenience in manipu-
 175 lation of the skin and the dies it is preferable that the surplus project beyond the edge of
 180 the block remote from the operator, particularly when the operator is cutting from the portion of the skin nearest to him. To
 185 provide for this, the machine is preferably so constructed that there is a comparatively
 190 shallow recess between the block and the bearing 14 for the column or plunger 10 in
 195 which the surplus portion of the stock lying upon the cutting bed may be received, and preferably a throat or trough 33 is located
 200 in this recess to sustain the said surplus por- tion of the stock without soiling or wrin-
 205 kling it. Preferably this throat 33 will be situated in front of the bearing 14 and the
 210 vertical column 10 and will extend to either

side of said column for substantially the entire length of the bed. The illustrated throat or trough comprises a piece of sheet metal bent into substantially a U shape in cross-section, one arm of the U lying just beneath the rear edge of the cutting bed 3 and the other arm of the U, which is somewhat longer than the first-mentioned arm, lying adjacent to the bearing 14 and being recurved somewhat at its upper end. The recurving of the last-mentioned arm of the U or the back part of the trough 33 is of advantage not only in holding the stock out of contact with the column or plunger 10 as it reciprocates, but in imparting to the stock as it comes into the trough a tendency to roll back upon itself, thereby aiding in preventing the formation of wrinkles, especially when operating upon stock such as patent leather.

The machine frame between the bearing 14 and the support for the cutting bed 2 is provided with lateral flanges 35 to which the trough is clamped by suitable clamps 37. These clamps are attached to the trough by clamping bolts 39 about which they may be turned to permit the convenient removal of the trough from the frame when it is desired to clean it, reshape it, or replace it by another.

It will be noted that the trough may readily be adjusted longitudinally of the flanges to place it in different relations to the bearing 14 and the cutting bed 2; that, being formed of sheet metal, it may readily be reshaped to permit its being suited to the various uses to which the machine may be put and to the various materials upon which the machine operates, and that by its method of attachment it may be readily removed for cleaning or to permit its replacement by another trough of a different shape or size or both.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. In a machine for dying out thin sheet material such as upper leather for boots or shoes, a die bed, a pressure applying member, a post on which said pressure member is mounted and from which it extends radially over the die bed and a frame supporting the die bed, said parts being constructed to provide a shallow recess between the die bed and post, and a trough in said recess for receiving the surplus portion of the material being operated upon and shielding it from contact with parts of the machine.

2. A machine of the class described, having in combination, a bed, a pressure applying member, a support therefor located at one side of said bed, a frame carrying said bed and said support and flanged between the two, and means interposed between the bed and said support, adjacent to both the

bed and the support, and clamped upon the frame flanges for holding the surplus stock and protecting it from contact with parts of the machine.

3. In a machine of the class described, the combination of a bed, a pressure applying member movable laterally into and out of position over said bed, a support for said member located at one side of the bed, said parts being arranged to provide a recess between the support and the bed, and a trough in said recess, interposed between the bed and operating parts of the machine, to receive surplus stock and hold it out of contact with parts of the machine.

4. A machine of the class described, having in combination, a bed, a pressure applying member, a support therefor located at one side of said bed, and a sheet metal trough located adjacent to the bed and between the bed and said support for holding the surplus stock and shielding it from contact with parts of the machine, said trough being turned up toward the bed on one side and turned up toward the support on the other side.

5. In a machine for dying out thin sheet material such as upper leather for boots or shoes, the combination of a die bed, a pressure applying member, a support therefor located at one side of said bed, and means, adjacent to the bed and interposed between the bed and said support for holding the surplus stock out of contact with parts of the machine and for supporting an excess of weight in said surplus and thereby preventing said surplus from dragging the stock on the bed.

6. In a machine of the class described, the combination of a bed, a vertical post supported in bearings at one side thereof, a radial pressure applying member mounted on said post and extending over said bed, means for moving said post longitudinally to cause said pressure applying member to exert pressure on the bed, and a trough or throat for receiving surplus stock and protecting it from contact with parts of the machine, said trough being located behind and adjacent to the bed, in front of said post and below the pressure member, and extending to either side of the post for substantially the whole length of the bed.

7. A machine of the class described, having in combination, a bed, a pressure applying member, a support therefor located at one side of said bed, and a trough interposed between the bed and said support for holding the surplus stock and shielding it from contact with parts of the machine, said trough having a recurved back to turn the stock back upon itself.

8. In a machine of the class described, the combination of a bed, a vertical rotatable post supported in bearings at one side there-

of, a radial pressure applying member secured to said post and extending over said bed, means for moving said post longitudinally to cause said pressure applying member to force a die through stock on the bed, and a trough or throat for receiving surplus stock and protecting it from contact with parts of the machine, said trough being located behind and adjacent to the bed, in front of said post and below the pressure member, and extending upwardly beyond the bearing for the post.

9. In a machine of the class described, the combination of a bed, an arm extending over said bed and movable laterally in a plane substantially parallel with the face of said bed, a support for said arm located at one

side of the bed from which said arm extends radially, said support being spaced from the bed to provide room for surplus stock projecting over the edge of the bed, and a trough interposed between the bed and said support for holding the surplus stock out of contact with parts of the machine and for supporting an excess of weight in said surplus and thereby preventing said surplus from dragging the stock on the bed.

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

ARTHUR BATES.

Witnesses:

AMY ILLINGWORTH,
ARTHUR ERNEST JEVRAIN.