No. 832,130. PATENTED OCT. 2, 1906.

J. A. JOSSELYN.

HEEL BUILDING MACHINE.

APPLICATION FILED SEPT. 14, 1904.

2 SHEETS—SHEET 1.

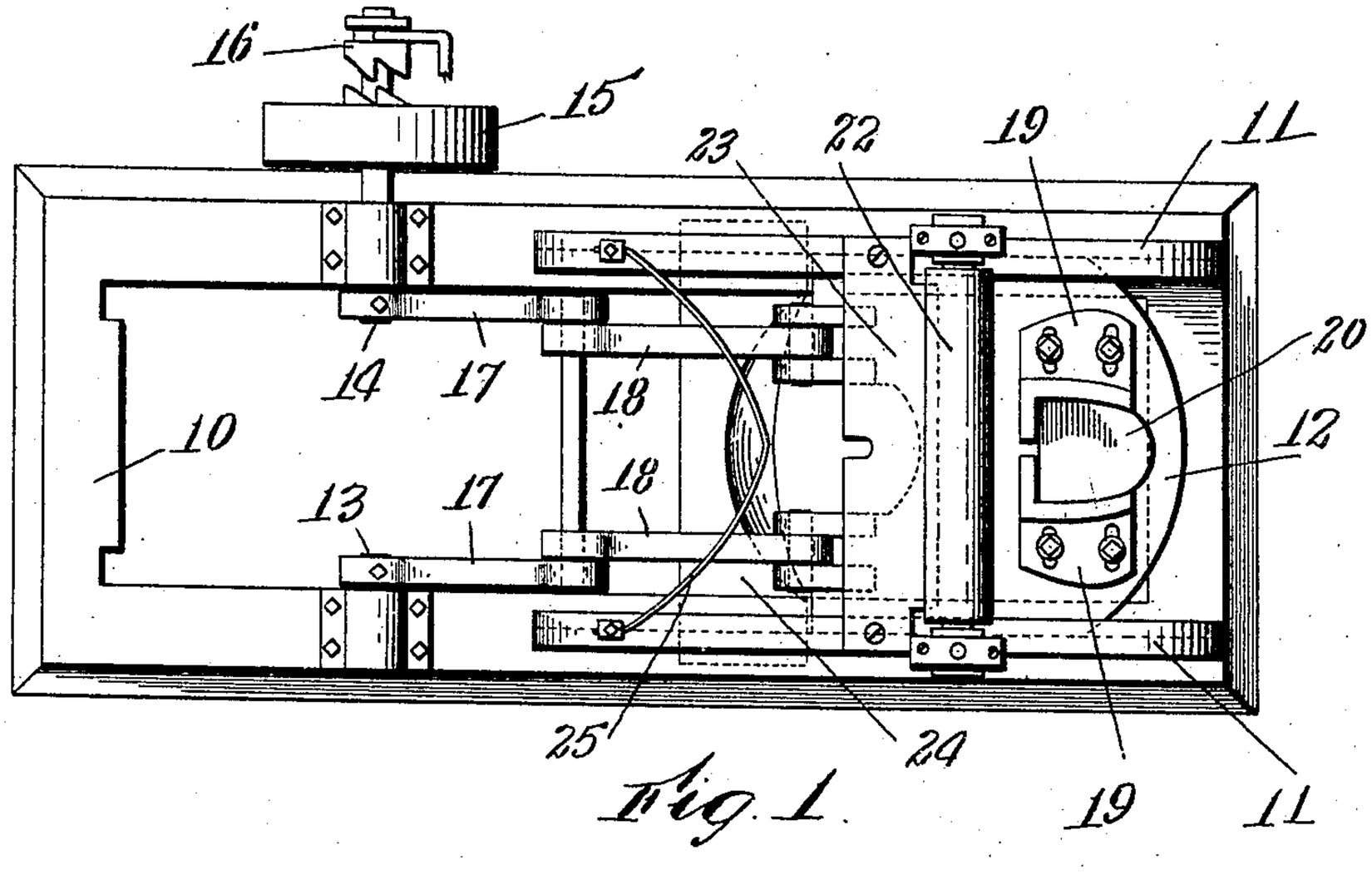

Fig. 1.

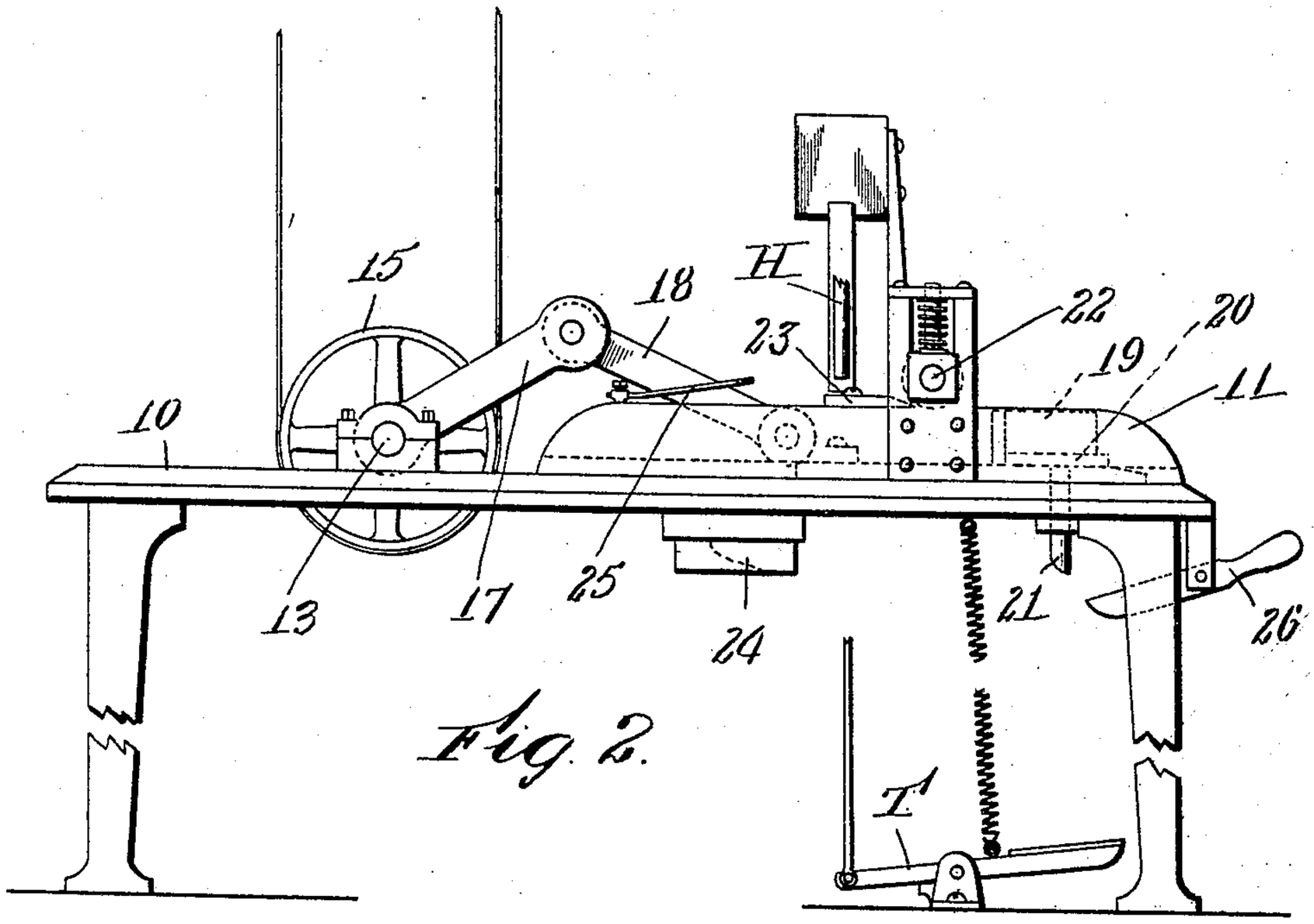

Fig. 2.

Witnesses:
C. F. Wesson.
M. E. Regan

Inventor:
J. A. Josselyn.
By his Attorneys
Southgate and Southgate

No. 832,130. PATENTED OCT. 2, 1906.

J. A. JOSSELYN.

HEEL BUILDING MACHINE.

APPLICATION FILED SEPT. 14, 1904.

2 SHEETS—SHEET 2.

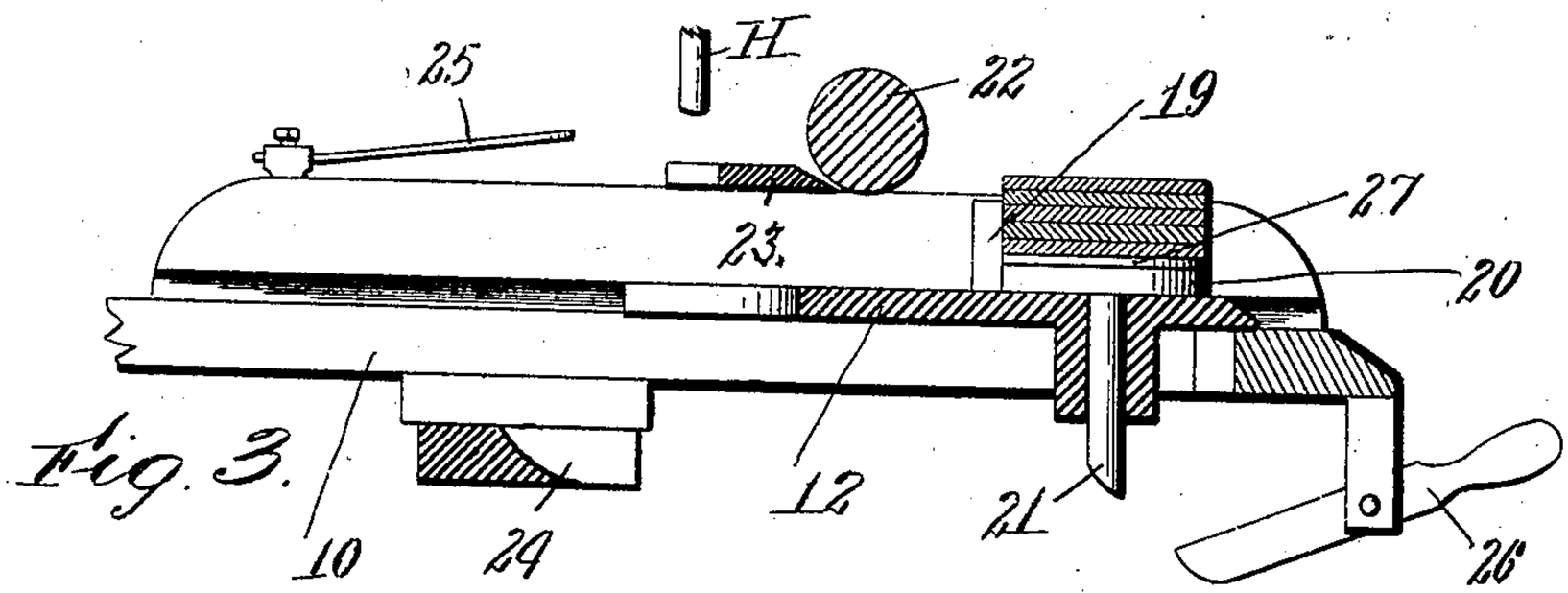

Fig. 3.

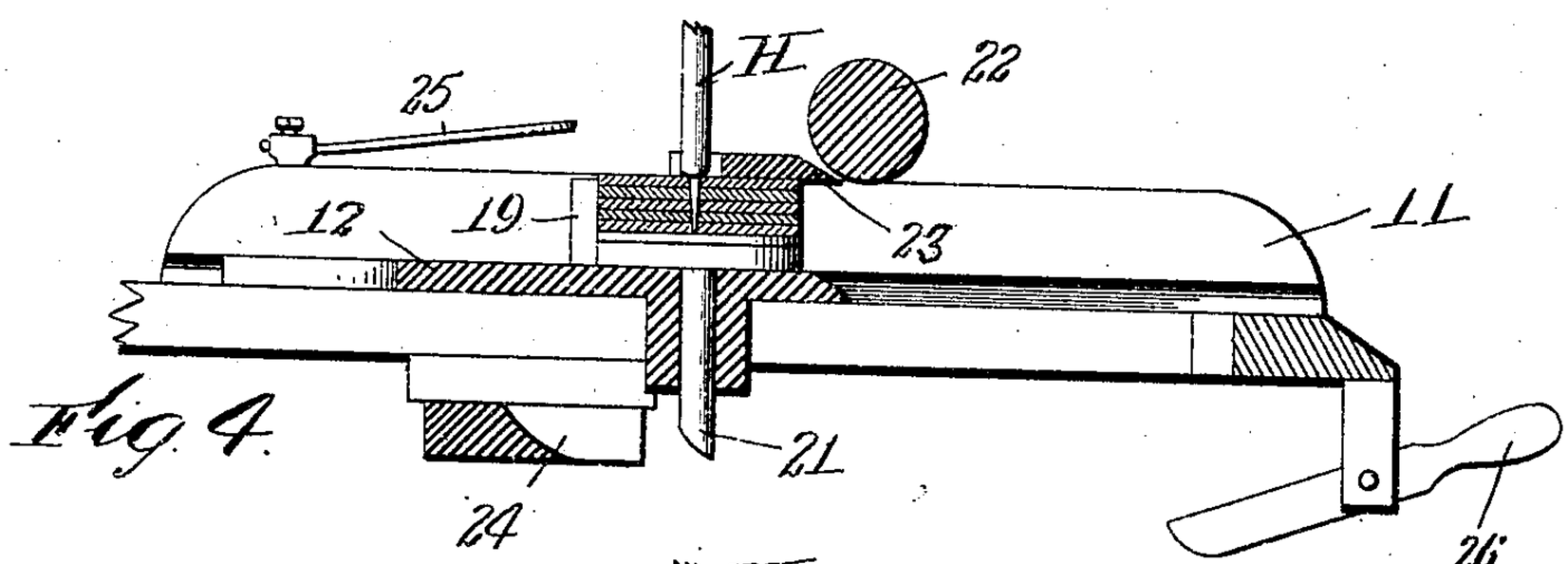

Fig. 4.

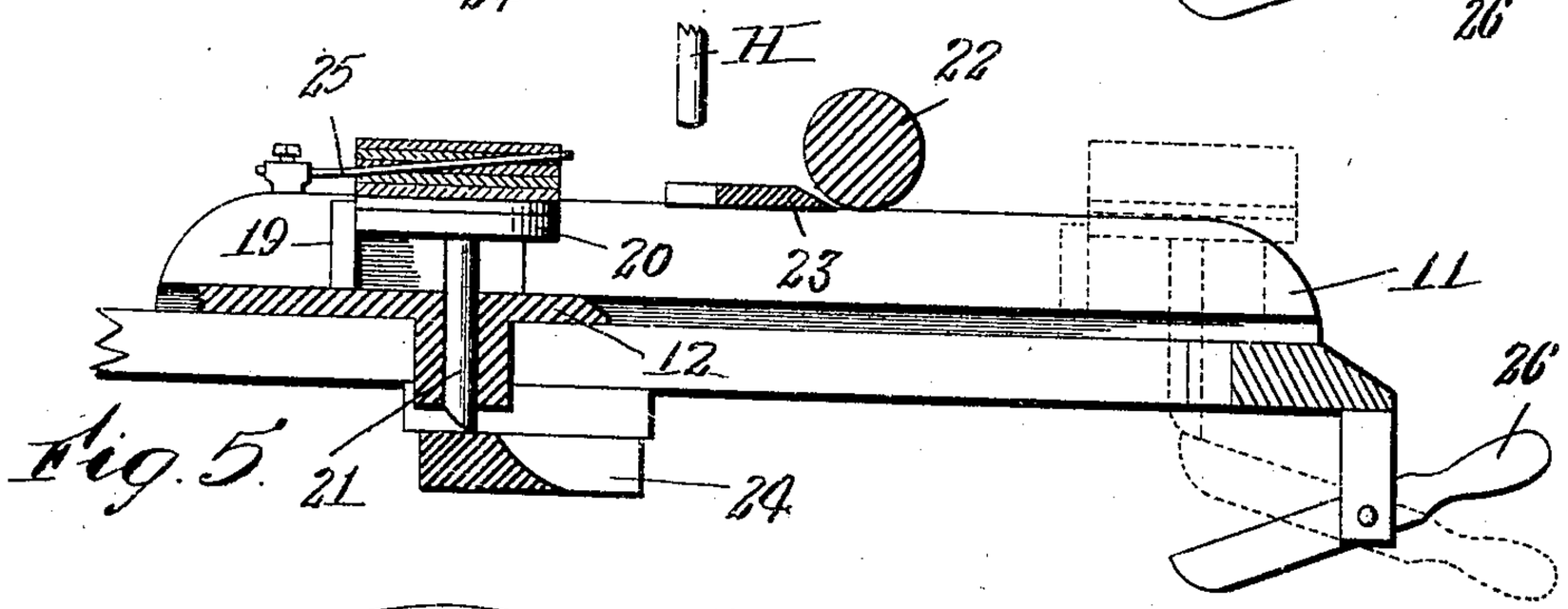

Fig. 5.

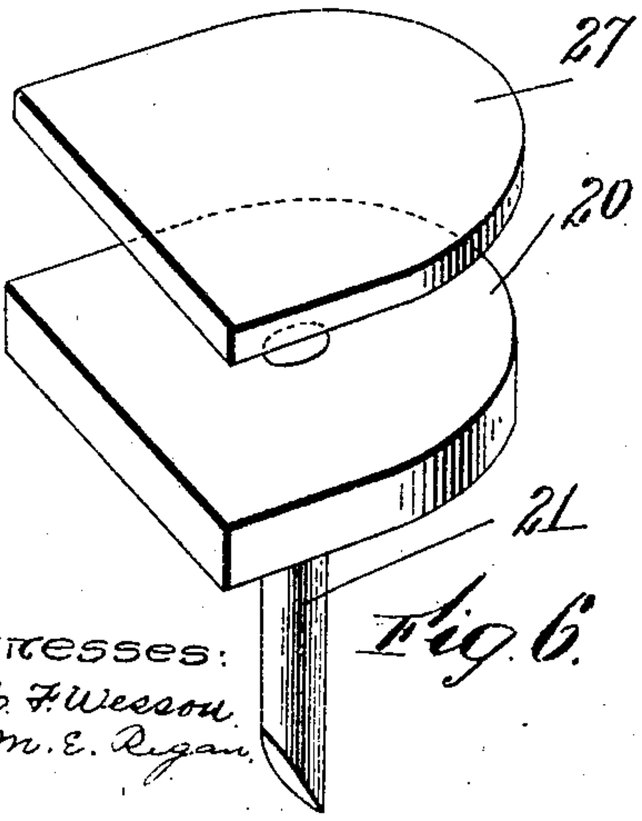

Fig. 6.

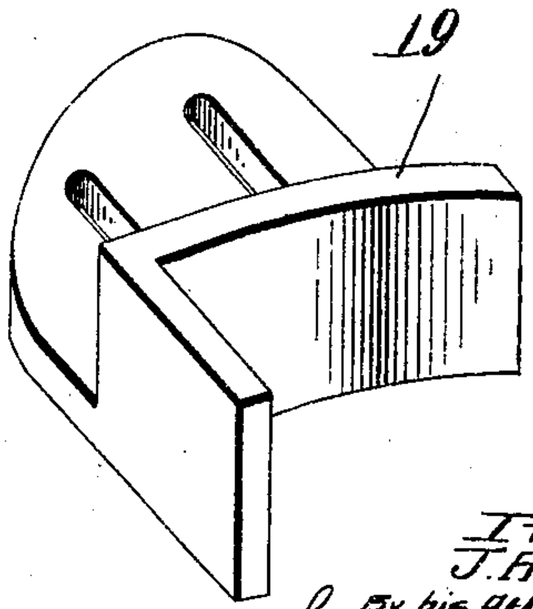

Fig. 7.

Witnesses:
C. F. Wesson.
M. E. Regan.

Inventor:
J. A. Josselyn.
By his Attorneys
Southgate and Southgate

UNITED STATES PATENT OFFICE.

JOHN A. JOSSELYN, OF NATICK, MASSACHUSETTS.

HEEL-BUILDING MACHINE.

No. 832,130. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed September 14, 1904. Serial No. 224,376.

To all whom it may concern:

Be it known that I, JOHN A. JOSSELYN, a citizen of the United States, residing at Natick, in the county of Middlesex and State of Massachusetts, have invented a new and useful Heel-Building Machine, of which the following is a specification.

This invention relates to a machine for forming heels for boots or for shoes.

The especial object of this invention is to provide a simple, efficient, and easily-manipulated machine for making heels of uniform size and density.

To these ends this invention consists of the heel-building machine and of the combinations of parts therein, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying two sheets of drawings, Figure 1 is a top plan view of a heel-building machine constructed according to this invention. Fig. 2 is a side view of the same. Fig. 3 is an enlarged sectional view showing the position of the work when placed in the machine. Fig. 4 is a similar view showing the work carried forward so as to be shaved and also showing the lifts tacked together. Fig. 5 is a similar view showing the work raised so as to be thrown out of the machine. Fig. 6 is a detail view of the plunger and of a filling-washer, and Fig. 7 is a perspective view of one of the adjustable side pieces of the heel-mold.

In the manufacture of boot or shoe heels the usual practice is for the operator to paste a number of lifts or pieces together, the heel-blanks being pressed to proper thickness under heavy pressure. In building heels in this manner the heels will spring back or expand so that they will vary to a considerable extent among themselves and are apt not to remain exactly level. In addition to this the pressed heels even after having been nailed in place upon a boot or shoe are liable to expand when moistened, such expansions frequently being uneven so as to twist the heel or even crack the seams therein.

The especial object of my present invention is to provide a heel-building machine which will produce heels of uniform thickness, which will remain exactly level, and which will be of uniform density. To accomplish this result in a heel-building machine constructed according to this invention, I provide for automatically trimming or skiving the heels while under the pressure of a pressure-roll, so that each heel will have sufficient material removed therefrom to be made of a uniform density. Combined with my heel-building machine I also preferably use a tacker for driving a single tack to hold the heel while drying and setting.

Referring to the accompanying drawings and in detail, a heel-building machine constructed according to this invention as herein illustrated comprises a supporting plate or frame 10, which is carried by legs in the usual manner.

Formed with the frame 10 are the guides 11, and movably mounted in the guides 11 is a table 12. Journaled in boxes carried by the frame 10 are shafts 13 and 14. Power is applied to one of these shafts in any desired manner. For example, the shaft 14 may be provided with a loose pulley 15, driven by a belt from any suitable source of power, and the loose pulley 15 may be connected to turn the shaft 14 by a clutch 16, which may be connected by operating a treadle T or by any of the other usual connections.

Carried by the shafts 13 and 14 are crank-arms 17, which are connected by links 18 to reciprocate the table 12. The table 12 is provided with a heel-carrier formed by the space between two adjustable side pieces 19. The side pieces 19 may be moved toward or away from each other and fastened in place by screws to accommodate the heels of different sizes or shapes, and I prefer to have the heel-carrier formed by two adjustable side pieces in this manner, as this will leave the back of the carrier open, so that the fingers of the operator after having selected lifts or pieces of the required thickness may successively lay the same into the carrier and pull them back to register through the gap at the back of the carrier.

Mounted over the table and held down by suitable springs is a pressure-roller 22, and mounted immediately behind the pressure-roller is a shaving-knife 23. The shaving-knife 23 may be provided with a gap at its rear edge for receiving the hammer H of any of the ordinary tack-driving mechanisms for fastening the lifts of each heel together after passing under the trimming-knife.

The bottom of the heel-carrier is formed by a plate 20, which is carried by a shaft or plunger 21, as shown most clearly in Fig. 6, and in order to fill the bottom of the carrier, so as to make heels of different thickness, I may employ one or more filling-washers 27.

Coöperating with the plunger 21 for removing a heel from the heel-carrier after it has been completed I provide a fixed cam 240, which serves to lift the plunger and raise a completed heel under a releasing-bow or cross-bar 25, which snaps down behind a heel, as shown in Fig. 5.

Considering now the operation of the complete machine, the operator successively selects the pieces to form a heel. These lifts or pieces are preferably pasted, and in putting the pieces in place in the heel-carrier the operator is able to draw the pieces back to registered position by means of the gap between the side pieces of the mold. The clutch is then thrown into operation and the carriage is moved forward by power, carrying the blank for the heel first beneath the pressure-roll 22 and then beneath the trimming-knife 23. This will cause the trimming-knife to skive or cut off part of the upper lift, the heel being held in place at this time under the pressure of the pressure-roll 22. As the carriage reaches the end of its stroke the heel is lifted, so that during the return travel of the carriage the releasing-bow or cross-bar 25 will engage the edge of the heel and tip the same out of the carrier, this operation taking place after a tack has been driven to hold the parts of the heel together. In some cases instead of driving a tack into each heel I may rely upon paste alone for holding the lifts together, and when this operation is desired instead of providing for automatically tipping each heel out of place in its mold I preferably remove the cam-plate 240 from the frame of the machine. As shown by dotted lines in Fig. 5, I preferably use a handle 26 for raising the plunger, so that the heel may be taken out of its carrier by hand, which operation I have found to be desirable when the heels are not tacked or nailed.

I am aware that changes may be made in the construction of my heel-building machine by those who are skilled in the art without departing from the scope of my invention as expressed in the claims. I do not wish, therefore, to be limited to the construction I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a heel-building machine, the combination of a movable carriage having a carrier or pocket for heels, a trimming-knife, means for removing a heel from the carrier after it has passed the knife, and a spring cross-piece for engaging the heel and slipping it out of the carrier while the carriage moves away from it.

2. In a heel-building machine, the combination of a reciprocating carriage, having a carrier or pocket for heels, a stationary knife, a lifting device for raising the heels up from the carrier after they have passed the knife, and a spring cross-piece for engaging the successive heels and tipping them out of the carrier when the carriage is moving back.

3. In a heel-building machine, the combination of a carriage having a carrier, a plunger extending up through the bottom of the mold, means for reciprocating the carriage, a stationary presser-roll, a trimming-knife for trimming the heels to uniform thickness when moved forward by the carriage, a stationary cam-plate engaged by the plunger to lift the heels up out of the carrier, and a bow-shaped spring cross-bar which is lifted up and snaps down behind successive heels to throw the heels out of the carrier when the carriage returns.

4. In a heel-building machine, the combination of a carriage having a carrier, means for moving the carriage, a compressing device, a trimming-knife for trimming heels to a uniform thickness, a cam-plate adapted to move the heels from the carrier, and a cross-bar located in position to be lifted up and snapped down behind the successive heels to hold them and prevent their moving beyond a certain point with the carriage, whereby the heels are removed from the carriage.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN A. JOSSELYN.

Witnesses:

PHILIP W. SOUTHGATE,

LOUIS W. SOUTHGATE.