C. H. CAREY.

HEEL PRESS.

APPLICATION FILED JAN. 2, 1917.

1,352,501. Patented Sept. 14, 1920.

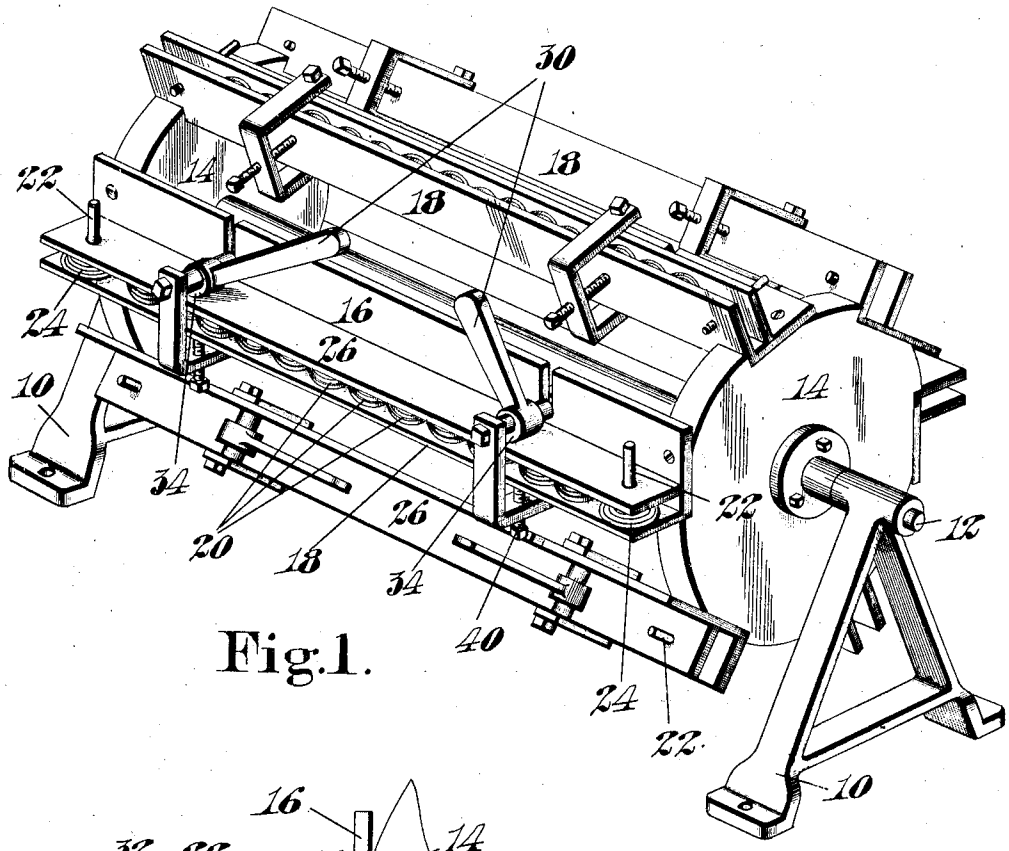


Fig.1.

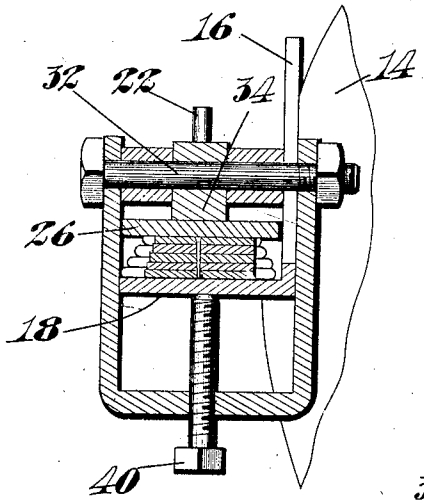
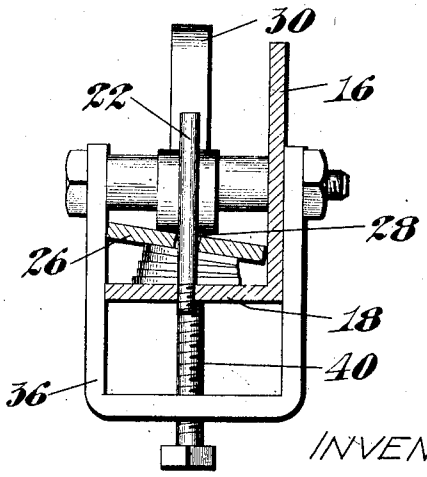


Fig.2.



INVENTOR.

Fig.3. Charles H Carey

UNITED STATES PATENT OFFICE.

CHARLES H. CAREY, OF SALEM, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

HEEL-PRESS.

1,352,501. Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed January 2, 1917. Serial No. 140,106.

To all whom it may concern:

Be it known that I, CHARLES H. CAREY, a citizen of the United States, residing at Salem, in the county of Essex and State of Massachusetts, have invented certain Improvements in Heel-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 heel presses and, more particularly, to a device of this class for receiving freshly built heels and holding them under pressure until the paste employed in the heel building has had time to set.

According to the method of heel building which has been almost universally practised for many years, the separate pieces or lifts which are to form the heel are selected, pasted and assembled in a form or mold where a nail is driven through them, either by hand or by mechanical means, to secure the lifts together sufficiently to prevent them from dropping apart until the paste has set. The paste is depended upon chiefly to secure the lifts together in such a way that no cracks or joints will be visible in the finished heel.

After the nail is driven, the heel is immediately removed from the form in which it was nailed together and, according to the common practice, is placed upon a board near the operative. When a sufficient number of heels (usually about 50) has accumulated to fill the board, the latter, with the heels upon it, is removed, and a new board substituted, which is in turn filled with heels as they are built. The boards with the heels upon them are piled one upon another and, when a sufficient number has accumulated, the stack is subjected to pressure in some form of press, usually a screw press, which is known as a jack press. The theory is that each of the heels is subjected to sufficient pressure to force the pasted lifts closely together and keep them together until the paste has set, so that they will permanently and completely adhere to each other.

It is well known in the art as a practical fact that so long a period of time elapses between the building of the first heels and the accumulation of a sufficient number of heels to fill the boards and the press that the paste in the heels first built is often sufficiently set before the heels are subjected to pressure, so that it is no longer sticky and, consequently, even though the heels may be subjected to considerable pressure, the lifts will not adhere to each other. When such a heel is eventually attached to a shoe, it is liable to check and show unsightly cracks or joints in the heel edge.

Attempts have been made to overcome the difficulties enumerated above by the use of various so-called "individual jack presses." In machines of this type each freshly built heel is inserted by the operator in an individual clamp or press and placed under pressure immediately. The heels thus produced are of good quality and free from checking, but the necessity of operating each individual clamp or press after a heel is inserted in it consumes so much of the operative's time as to materially reduce the quantity of heels produced.

The object of the present invention is to produce a heel press which may conveniently be used in such a way that the heels shall be subjected to pressure before the paste has dried to any appreciable extent and by the aid of which, therefore, heels of superior quality, free from checks and cracks, shall be produced without consuming so much of the operative's time as to interfere with the quantity of work produced.

To the end that this object may be attained, a feature of the invention consists in the provision of a plurality of multiple heel supports conveniently located upon a suitable carrier and provided with individual means for exerting pressure upon the heels on each of said supports. By making each support of sufficient size to accommodate a suitable number of heels, the support may be filled with freshly built heels, and the pressure mechanism for that support then operated once to place all the heels upon the support under pressure. The support may conveniently be made of such a size that it can be filled with heels before the paste in the first heel placed upon the support has dried sufficiently to prevent adhesion of the lifts when the pressure is applied. By mounting the supports upon a suitable carrier, a filled

support may be readily moved away and a fresh one be brought into position to be filled with heels without loss of time.

In a convenient and satisfactory embodiment of the invention, each multiple heel support may consist of a shelf, of suitable size and proportions for supporting a row of heels, and a series of shelves may be mounted upon a rotary carrier or turret in such a manner that they may be readily moved into and out of heel receiving position.

A further feature of the invention relates to a press couple comprising a heel support and a press plate mounted loosely upon the support, to permit it to adjust itself readily to heels having different amounts of wedge, combined with operating means for forcing the press plate into engagement with a heel upon the support, regardless of the amount of wedge in the heel.

As a development of the features already mentioned, it is convenient and advantageous to make both the heel support and the press plate in an elongated form, so that a row of heels may be placed between them and to provide a plurality of operating devices such, for example, as cams, arranged to engage the press plate at separated points and force it toward the supporting member, so that all the heels may be subjected to practically an equal amount of pressure.

Other features and details of the invention will be apparent from the following detailed description of one embodiment thereof when read in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of a multiple heel press embodying the invention;

Fig. 2 is a cross section through one of the press couples, showing a flat heel held under pressure thereon; and

Fig. 3 is a cross section through one of the press couples, showing a wedge heel and a detail of the mounting of the press plate.

Referring to the drawings, 10 indicates any suitable form of base, in which the shaft 12 is mounted for rotation. Upon the shaft 12 are mounted disks 14 comprising a rotary carrier or turret to which are secured plates 16 having angularly projecting portions 18, forming shelves which constitute the heel supports. These heel supporting shelves are preferably of such dimensions that a row of heels 20 may be placed upon each. Near the ends of each shelf 18 is a pair of upstanding pins 22 which are rigidly mounted in the shelves. A compression spring 24 surrounds each of the pins 22 and supports a press plate 26 which is substantially coextensive with the shelf. The pins 22 pass through holes 28 in the press plate and serve to retain the plate and guide it in its movements relatively to the shelf 18. The holes 28 are substantially larger than the pins, so that the plate may have sufficient angular movement to accommodate wedge heels of any shape, as shown most clearly in Fig. 3.

As a means for operating the press plates, I have illustrated levers 30, which are journaled upon pins 32 and are provided with cams 34 bearing upon the upper face of the press plate 26. The cams are so designed that, when the levers 30 are thrown over, the cams operate to force the plate 26 into engagement with the heels 20. The engagement between the cams 34 and the plate 26 is loose, so that the plate may move freely into any position required to adjust itself to the angular relation between the seat and tread faces of the heels.

To avoid the necessity of providing cams of excessive throw and to provide for adjustment to accommodate heels of all heights, the pin 30 is made in the form of a bolt which passes through a U-shaped member 36 embracing the plate 26 and shelf 18 which form the press couple. An adjusting screw 40 is threaded through the member 36 and bears upon the under side of the shelf 18. By turning this screw, the distance between the bolt 32 and the shelf 18 may be adjusted appropriately for heels of various heights, while the points of the two screws 40, employed in connection with each of the press couples, are maintained in engagement with the plates 18 by the compression springs 24.

One mode of operating the press of the present invention may be described as follows: The rotary carrier or turret having been turned to bring one of the shelves 18 into convenient heel receiving position and the cam levers 30 being in such position as to permit the spring 24 to separate the elements of the press couples, the operative places the fresh heels, as they are built, in a row upon the shelf of the press. If she begins at one end of the shelf, she may partially fill the shelf and then press down the cam lever 30 at that end of the shelf lightly, to place the heels under slight pressure without interfering with the insertion of the remainder of the row of heels required to fill the shelf. When the shelf has been filled, or as many heels placed upon it as desired, both cam levers 30 are forced down to cause the plate 26 to engage all the heels and exert pressure upon them. The number of heels in the row upon the shelf may be so selected that the paste in the first heel placed upon the shelf will not have set by the time the row of heels is completed and the final pressure applied. After one of the supports 18 has been filled and pressure applied to the heels, the carrier is rotated to bring the next support into heel receiving position and the operations just described are repeated. A sufficient number of press couples are provided upon the carrier, so

that by the time the one which was first filled with heels arrives again in heel receiving position, the heels therein will be sufficiently dry to permit them to be removed. Upon the arrival of this press couple in heel receiving position, the cams 34 are released to relieve the pressure upon the heels, the heels are removed and placed in any suitable receptacle, and the press couple is then ready to receive a fresh row of heels. The operations described may continue indefinitely.

It will be understood that, by the provision of press couples, constructed to accommodate a plurality of heels, the frequency with which the clamp or press plate operating devices must be manipulated, is reduced to a minimum, whereby a great advantage in speed is secured over those individual clamps which must be operated for each heel, without losing the benefits secured by placing the heels under pressure before the paste has set sufficiently to cause it to lose its adhesive power.

Having described the invention, what is claimed as new and desired to be secured by Letters Patent of the United States is:—

1. In a heel press, the combination of a rotary carrier, a plurality of heel supporting shelves upon the carrier, a loosely mounted press plate coöperating with each shelf to form a press couple, and means loosely engaging the plate for forcing it into intimate engagement with the heels upon the shelf.

2. In a heel press, the combination of a heel support, a press plate mounted loosely in predetermined relation to the heel support, to permit it to assume any desired angle relatively thereto, and forming with the heel support a press couple, and means loosely engaging the plate to cause it to press together the lifts of a heel resting upon the support, regardless of the angle between the opposite faces of the heel.

3. In a heel press, the combination of a rotary carrier, a plurality of heel supporting shelves upon the carrier, a press plate loosely mounted on each shelf and coöperating therewith to form a press couple, a spring operating to open the couple, and means for forcing the plate, against the tension of the spring, into intimate engagement with heels of any wedge shape resting upon the shelf.

4. In a heel press, the combination of a heel support, a press plate mounted loosely upon the heel support, to permit it to assume any desired angle relatively thereto, and forming with the heel support a press couple, and means loosely engaging the plate to cause it to press together the lifts of a heel resting upon the support, regardless of the angle between the opposite faces of the heel.

5. In a heel press the combination of a turret rotatable about a horizontal axis, a plurality of heel supports carried by the turret, and a press plate for each heel support, said press plate being mounted for a limited amount of universal movement, whereby it may adjust itself to a heel upon the support, whatever the angle between opposite faces of the heel.

6. In a heel press, the combination of a turret, a plurality of heel supporting shelves on the turret, upstanding pins on each shelf, a press plate guided upon the pins for movement toward and from the shelf and rocking movement relatively thereto, springs for separating the plate and shelf, and cams for forcing the plate toward the shelf against the tension of the springs.

7. In a heel press, the combination of a heel support, a press plate coöperating therewith to form a press couple, a member embracing the press couple, an operating device mounted upon said member, for closing the press couple upon a heel, and means for adjusting said member to vary the space between the members of the couple when the couple is closed by the operating device.

In testimony whereof I have signed my name to this specification.

CHARLES H. CAREY.