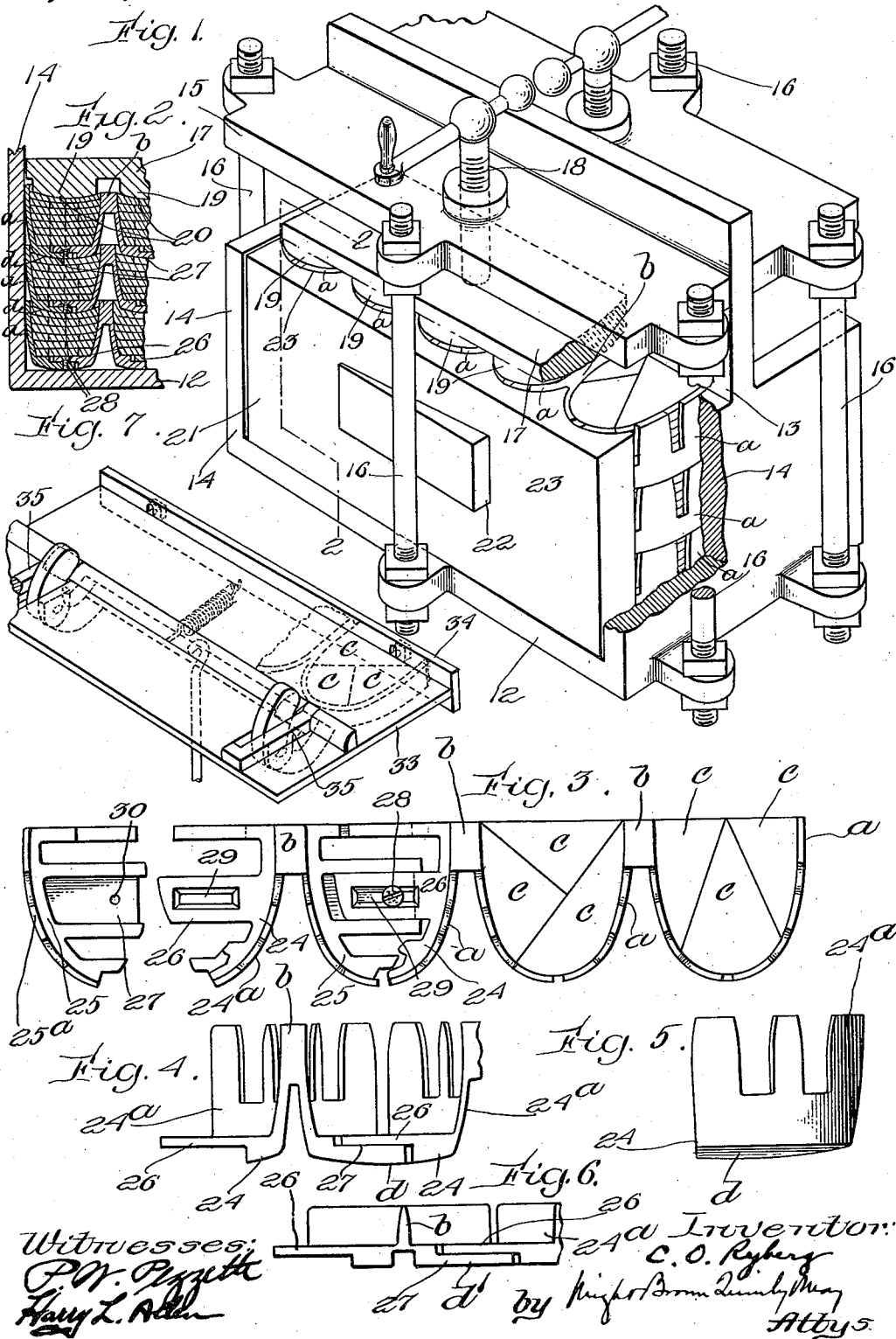


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HEEL BUILDING AND PRESSING MACHINE.
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1,015,589.

Patented Jan. 23, 1912.



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UNITED STATES PATENT OFFICE.

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HEEL BUILDING AND PRESSING MACHINE.

1,015,589.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES O. RYBERG, a citizen of the United States, and resident of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Heel Building and Pressing Machines, of which the following is a specification.

This invention relates to heel building and pressing machines of the type shown in Letters Patent of the United States, No. 990,598, dated April 25, 1911, the machine therein shown comprising a press having a bed and a movable platen opposed thereto, and a series of heel-lift-holding trays each adapted to hold a plurality of assemblages of pieced heel lifts in approximately the form of a heel, the trays and their contents being adapted to be stacked upon the bed and to be subjected to pressure between the bed and platen to compress the lifts sidewise, means being employed for preventing the edgewise expansion of the assembled lifts while they are under pressure.

The present invention has for its object first to enable each lift-holding tray to form concave heel seats in the series of lift assemblages held by the adjacent tray, second, to provide a tray which is capable of being adjusted to receive heel lifts of different widths, and third, to provide a press the platen of which is adapted to form concave heel seats in the lift assemblages held by the upper tray of the series.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings which form a part of this specification,—Figure 1 represents a perspective view of a heel press and a stack of trays charged with heel lifts, a part of the press being broken away; Fig. 2 represents a vertical section on the plane indicated by line 2—2 of Fig. 1; Fig. 3 represents a top plan view of one of the lift-holding trays; Fig. 4 represents a front view of a portion of the tray shown by Fig. 3; Fig. 5 represents an end view of the form of tray shown by Figs. 3 and 4; Fig. 6 represents a view similar to Fig. 4 showing a shallow tray; Fig. 7 represents a perspective view showing a device for forcing pieced lifts into the mold cavities of a tray prior to the pressing operation.

Similar reference characters indicate the same or similar parts in all the figures.

In the drawings, 12 represents a fixed press bed which is preferably a part of a frame or casing which includes a vertical side wall 13 and end walls 14, 14, said side wall and end walls forming three sides of a space above the bed 12 adapted to receive a stack of superimposed trays and their contents.

15 represents a fixed head plate located above the bed 12 and end walls 14, the side wall 13 being preferably extended upwardly along one edge of the plate 15. Said plate is rigidly supported preferably by means of rods 16 connecting it with ears on the base portion of the casing. 17 represents a platen, the under side of which is opposed to the bed 12, the platen being movable vertically by an operating screw 18 engaged with a threaded socket in the plate 15. The under side of the platen 17 is provided with downwardly projecting bosses 19, having convex pressing faces 20 adapted to form concave heel seats in assemblages of heel lifts supported by the bed 12.

The structure above described constitutes a heel press adapted to cooperate with the lift-holding trays hereinafter described, the press being provided with a horizontally movable platen 21 adapted to be pressed horizontally against a stack of trays by suitable means such as a wedge 22 interposed between the platen 21 and one of the rods 16.

Figs. 3, 4, and 5 show the construction of a heel-lift-holding tray adapted to be used with the press above described, said tray comprising a series of heel molds *a*, *a*, which are connected by necks *b*, *b*, so that they may be handled and operated as one piece or part. Each mold *a* is formed to hold an approximately heel-shaped assemblage of pieced lifts *c*, the wall of the mold being open at the end corresponding to the breast of the heel and being internally tapered to correspond to the taper of a heel from its heel seat to its top lift side, and the bottom of the mold having a convex under surface *d* adapted to form concave heel seats in the lift assemblages held in the adjacent tray.

The convex pressing faces *d* are contracted so that each is of smaller area than the mouth or outer end of the mold wall. When the molds are charged with pieced lifts, and applied in a stack on the bed 12, as indicated by Fig. 1, the pressing faces *d* of the different molds are in alinement with

each other and with the pressing faces 20 of the platen 17. It will be seen therefore, that when the platen is pressed downwardly it exerts a heel-seat-forming pressure on the lift assemblages held in the upper tray of the stack and that the bottom of each tray transmits pressure to the assemblages of lifts below it, each bottom forming heel seats in the lift assemblages on which it acts.

10 The inner surface of the horizontally movable platen 21 is provided with recesses 23 which conform to the rear ends of the walls of the molds *a*, as shown by Fig. 1.

Before stacking the trays on the bed 12 the platen 21 is removed and the platen 17 is elevated. After the trays have been stacked, the platen 21 is inserted in place and forced inwardly against the outer side of the stack by the wedge 22, thus pressing the inner side of the stack, including the breasts of the lift assemblages, against the inner wall 13. The platen 17 is then depressed and exerts pressure on the stack as above stated.

The molds *a* are preferably constructed in sections which are adjustable to vary the width of the molds, as indicated by Figs. 3 and 4. The bottom of each mold is composed of sections 24 and 25, the section 24 having a part of its bottom formed as a slotted tongue 26 and the section 25 having a part of its bottom provided with a groove 27 adapted to receive the tongue 26. A screw 28 passing through the slot 29 in the tongue 26 and engaging an orifice 30 in the bottom of the section 25 enables the sections to be positively connected to hold the mold adjusted at any desired width. The mold wall is made in sections 24^a and 25^a formed respectively on the bottom sections 24 and 25.

40 The described adjustability of the lift-holding trays enables them to be adapted to a considerable range of sizes of heels. Different platens 17 may be employed having their bosses 19 relatively spaced to correspond to the different adjustments of the trays.

The form of tray shown by Figs. 3, 4, and 5 is intended for relatively high heels which have tapered sides and concave heel seats. The invention, so far as the adjustability of the heel molds is concerned, may be embodied in a tray adapted to hold a relatively shallow accumulation of pieced lifts to form low heels or heel bodies intended to be supplemented by additional lifts to bring the bodies up to the thickness of an operative heel.

Fig. 6 shows a view of a portion of a tray, the construction of which is the same as that shown by Figs. 3, 4, and 5, excepting that the mold walls are relatively shallow and the bottoms of the molds have flat bottom surfaces *d'* instead of the convex surfaces *d*.

Fig. 7 represents a device employed for forcing the pieced lift sections into the molds

before placing the molds in the press. 33 represents a flat bed having a flange 34 at one edge. 35, 35, represent pressers which are movable on the bed and adapted to bear on one edge of a tray placed on the bed and force the tray toward the flange 34, suitable means as illustrated by Fig. 7 being employed to move the pressers 35 toward the flange 34. The tray is placed upon the bed 33 when the pressers 35 are retracted and the sections of the pieced lifts are then assembled loosely by hand in the molds of the tray. The pressers 35 are then projected toward the flange 34, the latter bearing on the breast edges of assemblages of lifts so that the pressure of the trays and lifts against the flange forces the lifts edgewise against the walls of the molds. The tray is then placed in the press with other trays similarly filled and the stack of trays is then subjected to pressure as above described.

When shallow trays formed as shown by Fig. 6 are employed, the platen 17 preferably has a flat bottom instead of being provided with the bosses 19 and convex faces 20.

I claim:—

1. A heel-lift-holding tray composed of a connected series of heel molds having heel-shaped walls and bottoms which have convex under faces, the said faces being contracted so that they are adapted to enter the molds of an adjacent tray and form concave heel seats on assemblages of lifts held by the last mentioned tray.

2. A heel-lift-holding tray composed of a connected series of heel molds having heel-shaped walls and bottoms adapted to support lift assemblages in said molds against pressure directed thereon, and to transmit pressure to lift assemblages in an adjacent tray, the wall and bottom of each mold being composed of sections which are adjustable toward and from each other to vary the width of the mold, and are provided with means whereby they may be positively connected to maintain the desired adjustment.

3. A heel-lift-press comprising a bed adapted to support a stack of superimposed heel-lift-holding trays and their contents, and a vertically movable platen opposed to said bed and adapted to exert vertical pressure on said stack, the under side of said platen being provided with a plurality of convex pressing faces adapted to form concave heel seats on a series of heel lift assemblages in said stack.

4. In combination, a heel-lift-press comprising a bed adapted to support a stack of superimposed heel-lift-holding trays and their contents, a vertically movable platen opposed to said bed and adapted to exert vertical pressure on said stack, the under side of said platen being provided with a plurality of convex pressing faces adapted

to form concave heel seats on a series of
heel lift assemblages in said stack, and a
series of lift-holding trays adapted to be
stacked on the said bed, each tray being
5 composed of a connected series of heel molds
having heel-shaped walls and bottoms which
have convex pressing faces, the said faces
being contracted so that the faces of each

tray are adapted to enter the molds of the
tray below it.

In testimony whereof I have affixed my
signature, in presence of two witnesses.

CHARLES O. RYBERG.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."