Aug. 31, 1943. O. H. PEARSON 2,328,229

PRESSING MACHINE

Filed April 20, 1942 3 Sheets-Sheet 1

Fig. 1.

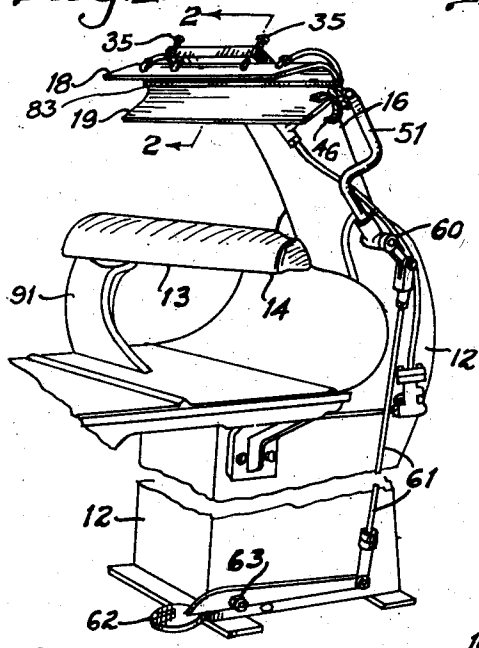


Fig. 2.

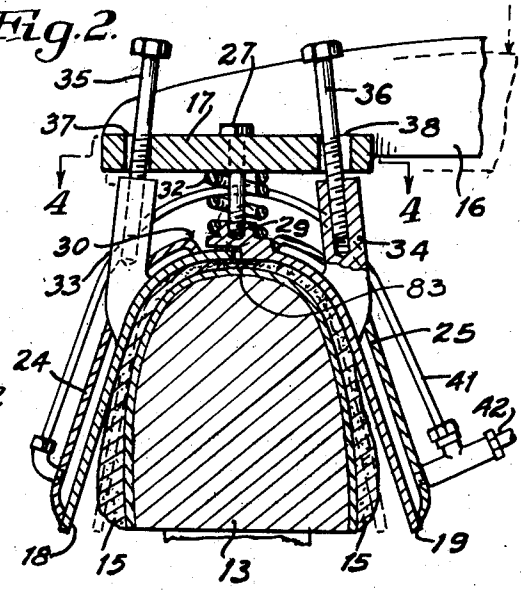


Fig. 4.

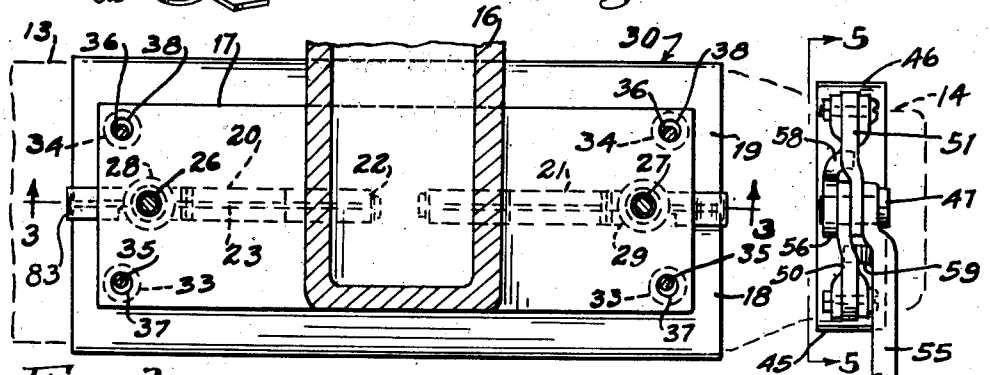
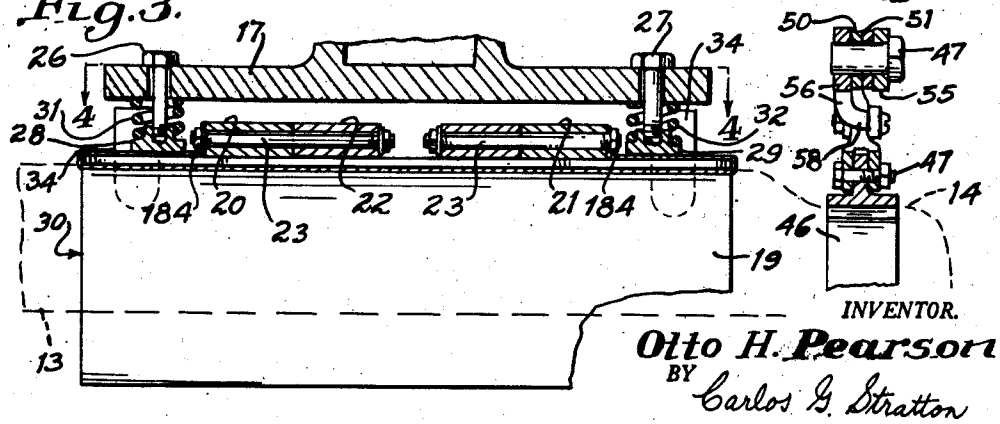


Fig. 3.



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Aug. 31, 1943. O. H. PEARSON 2,328,229

PRESSING MACHINE

Filed April 20, 1942 3 Sheets-Sheet 2

Fig. 5.

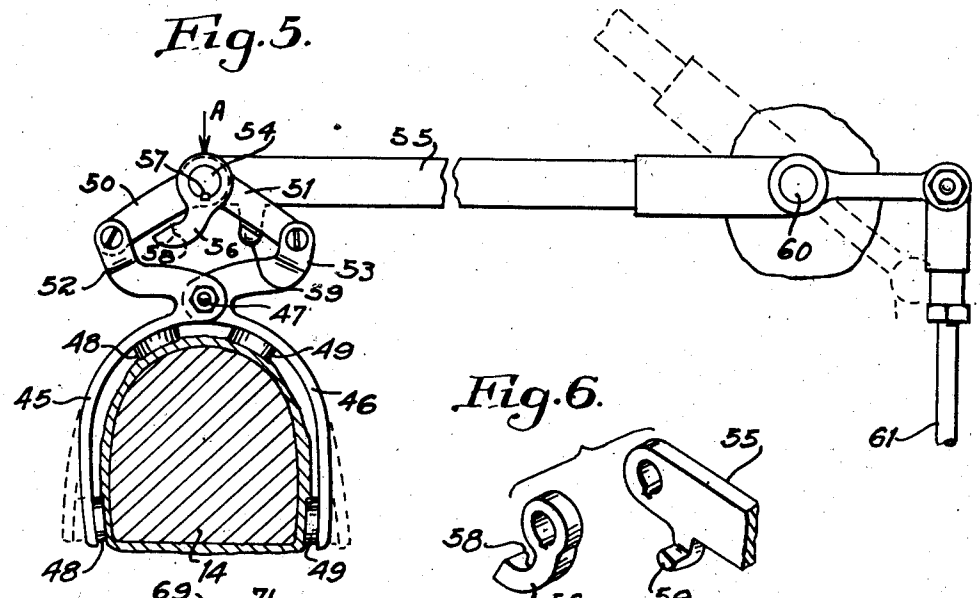


Fig. 6.

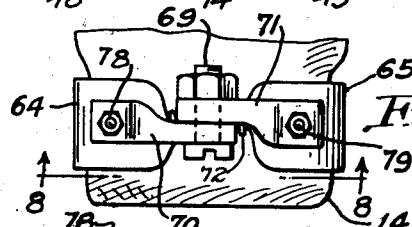
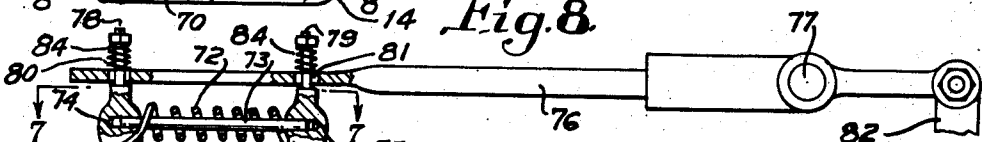


Fig. 7.

Fig. 8.



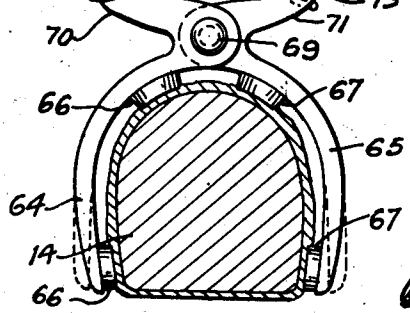


Fig. 9.

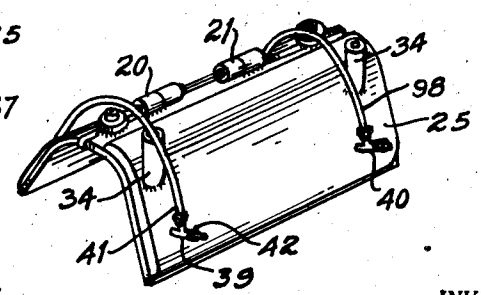
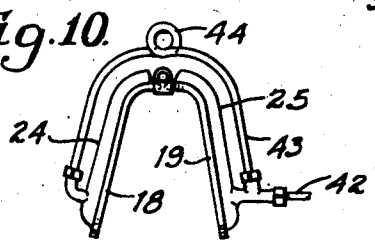


Fig. 10.



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PRESSING MACHINE

Filed April 20, 1942 3 Sheets-Sheet 3

Fig. 11.

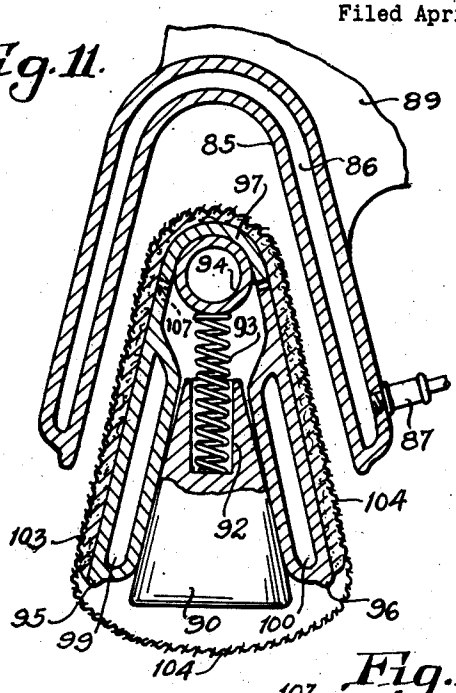


Fig. 12.

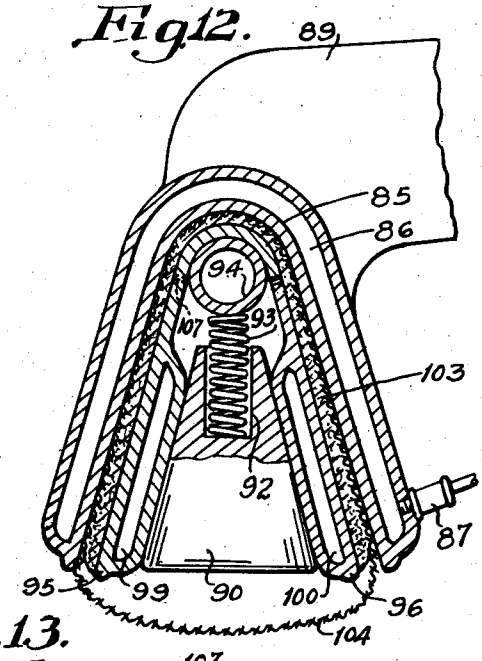


Fig. 13.

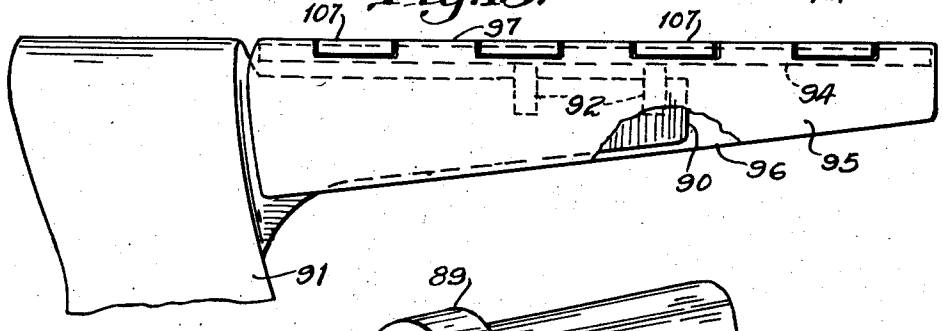


Fig. 14.

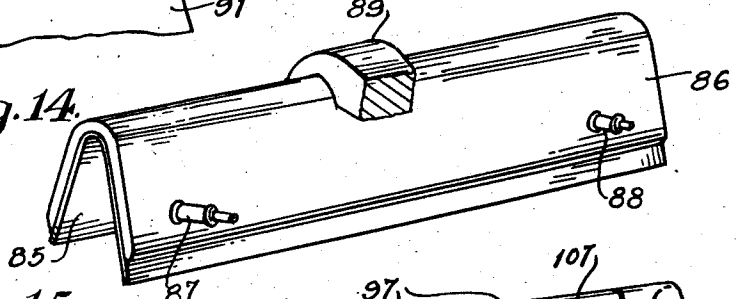
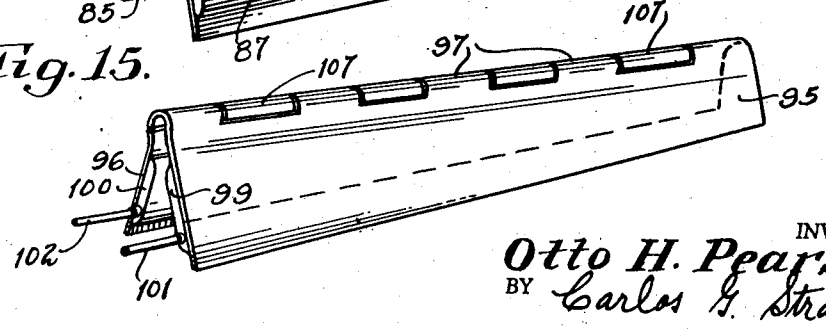


Fig. 15.



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2,328,229

UNITED STATES PATENT OFFICE

2,328,229

PRESSING MACHINE

Otto H. Pearson, Salt Lake City, Utah, assignor to Louis N. Strike, Salt Lake City, Utah

Application April 20, 1942, Serial No. 439,663

4 Claims. (Cl. 223—57)

My invention relates to pressing machines and more particularly to head elements and buck elements employed therein.

The principal object of the invention is to provide either a head element or a buck element, or both, capable of simultaneously ironing the top and sides of sleeves and the like. To carry out this object, it is the further object of my invention to provide flexibility in one or both of said elements, which will permit such element or elements to flex upon engagement with each other and exert pressure against the sides as well as the top of the garment being pressed.

Another object of my invention is to provide means for holding an end of the garment while adjacent portions are being ironed. Still another object is to provide means to prevent such flexible elements from pinching or leaving a crease upon a garment.

My invention also has for its object to provide such means and elements that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description. However, the drawings merely show and the following description merely describes one embodiment of the present invention, which is given by way of illustration or example only.

In the drawings, like reference characters designate similar parts in the several views.

Figure 1 is a broken perspective view of a pressing machine to which has been applied an embodiment of my invention.

Figure 2 is an enlarged, transverse section taken on line 2—2 of Figure 1.

Figure 3 is a longitudinal section taken on the line 3—3 of Figure 4.

Figure 4 is a plan view partly in section taken on the line 4—4 of Figure 3.

Figure 5 is a side view of a holding clamp taken on the line 5—5 of Figure 4.

Figure 6 illustrates details of the device shown in Figure 5.

Figure 7 is a plan of a modified view looking in the direction of the arrows 7 in Figure 8.

Figure 8 is a section taken on the line 8—8 of Figure 7.

Figure 9 is a perspective view of members of the flexible clamp shown in Figures 1 to 4 inclusive.

Figure 10 is a modified construction of a pressing machine head.

Figure 11 is a sectional view, similar to Figure 2, but showing a modified construction.

Figure 12 is a sectional view showing the elements illustrated in Figure 11, in a closed position.

Figure 13 is an elevation, partly broken away, of the buck shown in Figures 11 and 12.

Figure 14 is a perspective view of a head comprised in said modified construction.

Figure 15 is a perspective view of a buck comprised in said modified construction.

Referring more in detail to the drawings, the reference number 12, in Figure 1, generally designates a frame of a pressing machine having a buck 13 supported by a goose-neck 91. The end of the buck 13 is of reduced size, as shown at 14. The buck carries padding 15.

A pressing arm 16 on the pressing machine carries a cross plate 17. The pressing head includes two members 18 and 19 provided with hinge knuckles 20 and 21 on member 19, and hinge knuckle 22 on member 18. Suitable hinge pins 23 are inserted in the knuckles 20 and 22 to articulate the head members 18 and 19. Steam chests 24 and 25 are respectively mounted on the outer surfaces of the head members 18 and 19.

Bolts 26 and 27 engage nuts 28 and 29, mounted on the member 19 at the top of the wedge-shaped head 30, which head comprises the members 18 and 19. Springs 31 and 32, respectively coiled around the bolts 26 and 27, urge the nuts 28 and 29, and thereby the head 30, downwardly. Thus when the plate 17 is moved downward by the arm 16, the said plate compresses the springs 31 and 32.

Mounted upon the sloping downwardly extending sides of the head members 18 and 19 are upstanding bosses 33 and 34 which are interiorly threaded. Bolts 35 and 36 are disposed loosely in openings 37 and 38 in the plate 17. When the plate 17 is moved down to a pressing position, it not only compresses the springs 31 and 32, but also bears against the tops of the bosses 33 and 34, thus causing the head members 18 and 19 to swing inwardly toward each other, thus simultaneously pressing the top and sides of any material on the buck 13.

A steam inlet is provided at 39 and a steam outlet at 40. Similar inlet and outlet are provided for the steam chests 24 and 25. A flexible tubing 41 connects the inlets of the steam chests 24 and 25 with each other and a flexible tubing 98 connects the outlets of the two steam chests. A suitable conduit 42 connects the inlets with a source

of steam pressure (not shown). Means are provided for preventing the adjacent edges of the members 18 and 19 from pinching either the material being pressed or the material on the buck, and to prevent such adjacent edges from leaving a crease on either of such materials.

Such means comprises a relatively thin strip 83 that overlaps laterally, and extends along, the inner face of the join provided by the adjacent edges of the members 18 and 19. The ends of the strip 83 are bent back upon the top of said join, at the ends thereof, and are fastened by nuts 184 on the hinge pins 23. The strip 83 does not interfere with the pressing operation but does prevent creasing and pinching of the buck or material being pressed.

In the modified construction shown in Figure 10, the flexible connecting tubing 43 is shown as looped at 44 to increase its flexibility.

A holding means is provided for holding the end of the sleeve while adjacent portions of the sleeve are being pressed. This means comprises side plates 45 and 46 hinged to each other at 47. Pads 48 and 49 are provided on the inside of the plates 45 and 46 respectively, to grip an end of a sleeve on the buck end 14.

Means for pressing the members 45 and 46 toward each other include links 50 and 51 which are respectively pivoted to arms 52 and 53 on the side plate members 45 and 46. A shaft 54 is carried by an operating arm 55. The shaft is keyed to the arm 55 and to an abutting finger 56, as shown at 57. The finger 56 has a tip 58 that extends under link 50 to prevent the links 50 and 51 from reaching dead-center. A lug 59 on the arm 55 similarly limits link 51.

The arm 55 is pivoted at 60 on the frame 12 of the machine. A connecting rod 61 actuates lever arm 55. A pedal 62, pivoted at 63, operatively connects with the connecting rod 61. Thus the holding means 45 and 46 may be moved to a buck-engaging position to hold the garment in place prior to the descent of the head to a pressing position.

In the modification shown in Figures 7 and 8, side plates 64 and 65 carry on their inner faces pads 66 and 67 respectively, for engaging the padded sides 68 of the buck 14. The side plates 64 and 65 are pivoted to each other at 69. Arms 70 and 71 on the side plates 64 and 65, are urged together by a coil spring 72 which hooks around the arms 70 and 71, as shown in Figure 8. A stiffening rod 73 maintains the spring 72 in alignment. The rod 73 reciprocates in recesses 74 and 75 in the arms 70 and 71 respectively.

Actuating means for the holding device shown in Figures 7 and 8, includes a lever arm 76 pivotally mounted at 77 and connected to bolts 78 and 79 on the arms 70 and 71. Slots 80 and 81 in the lever 76 permits the bolts 78 and 79 to move toward and away from each other laterally during movement of the arms 70 and 71 toward and away from each other.

The lever 76 is operated by a connecting rod 82 in the same manner as the connecting rod 61 and associated parts actuate the lever arm 55.

In the form shown on Sheet III of the drawings, the head 85 has a fixed cross-sectional shape. A steam chest 86 is provided for heating the head 85. Inlet and outlet connections 87 and 88 are provided for the steam chest 86. Arm 89 on the pressing machine, similar to arm 16, supports the head 85.

The buck, in this form, is the flexible member. A wedge-shaped core member 90 of the buck extends laterally from a goose-neck 91. Recesses 92 in the buck member 90 carry helical springs 93, which in turn support a ridge member 94. Side members 95 and 96 of the flexible buck respectively, have alternating fingers 97 and 107 that hook over the ridge member 94, whereby the side members 95 and 96 may swing towards and away from each other. Steam chests 99 and 100 are disposed on the inner faces of the side members. Inlets 101 and 102 are provided for the steam chests 99 and 100. Suitable outlets (not shown) are also provided.

Padding 103 extends over the buck members 95 and 96 from edge to edge of the buck. A facing material 104 is in turn applied to the padding. The material 104 may also be continuous across the bottom of the buck, to cover same. However, there should be a looseness in the portion of the material 104 that is under the buck, to permit expansion of the sides of the buck.

In the operation of my device, actuating means for the arm 16 may be any suitable motive means. The actuating means per se forms no part of the present invention.

The arm 16, when lowered, carries the wedge-shaped head 30 down into contact with the padding 15 on the buck. The springs 31 and 32 resiliently urge the head 30 against the top surface of the buck. Further downward movement of the plate 17 causes it to bear against the upper surface of the bosses 33 and 34, which, because of their position, thereby cause the head members 18 and 19 to swing inwardly toward the buck. This effects pressing of the material at the sides of the buck. The introduction of steam through the inlet connection 39, and the discharge of condensate through the outlet connection 40 heats the head members. Conduits 41 and 98 connect the steam chests of the head members with each other, whereby steam is introduced to steam chest 24 through the conduit 41 and condensate is discharged from that steam chest through the conduit 98.

The holding means comprising the side plates 45 and 46 (or 64 and 65) is first lowered to hold a portion of the garment such as a cuff on the reduced end 14 of the buck. The remainder of the garment, such as the sleeve, may then be drawn over the buck, to the left in Figure 1, to eliminate wrinkles. Thereupon the member 30 is lowered into the pressing position as described.

Cushions 48 and 49 (or 66 and 67) engage and firmly hold the portion of the garment contacted by same. Thereupon the lever 55, through the intermediary of the links 50 and 51, cause the plate members 45 and 46 to move inwardly toward buck 14.

In the form shown in Figures 7 and 8, the lever 76 presses downward on the arms 70 and 71, thus causing the side plates 64 and 65 to grip the buck. When the lever 76 is raised the spring 72 draws the side plates 64 and 65 away from the buck. Springs 84 tend to maintain the lever 76 and the ends of the arms 70 and 71 in contact with each other.

In the operation of the form shown in Sheet III, the side members 95 and 96, which are arranged in a wedge-shape, rest upon the sides of the wedge-shaped buck 90. The garment to be pressed is placed on the material 104 and the head 85 is caused to descend. As the head 85 moves downward, after contact with the garment, the side members 95 and 96 ride downward on the outward flaring, wedge-shaped mem-

ber 90, thus swinging the side members outward around the axis of the ridge member 94.

In the forms shown in both Sheet I and Sheet III, the flexible member first contacts the other pressing member, substantially at the flexing axis thus pressing the portion of the article on top of the buck, and then by further pressing movement, the side members of the flexible members swing toward the other pressing member, thus pressing the portion of the article at the sides of the buck.

The springs 93 raise the side members 95 and 96, so that they can swing toward each other as such members ride up on the flaring member 90, after the head 85 is raised.

While I have illustrated and described what I now regard as the preferred embodiment of my invention, the construction is, of course, subject to modifications without departing from the spirit and scope of my invention. I, therefore, do not wish to restrict myself to the particular form of construction illustrated and described, but desire to avail myself of all modifications that may fall within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a pressing machine, including a downwardly opening wedge-shaped pressing head and a conformably shaped stationary buck downwardly upon which the head is movable in the pressing operation, said buck consisting of a rigid wedge-shaped core member having upwardly opening recesses spaced therealong, a ridge member, springs seated in said recesses and yieldingly engaging and supporting the ridge member above and along the core member, and side members disposed against the core member and having upper, inwardly-curved extensions movably seated on the ridge member in staggered relation therealong, the side members being forced to swing laterally by the wedge-shaped core member when pressure of the head on the ridge member forces downward movement of the ridge member.

2. In a pressing machine, including a downwardly opening wedge-shaped pressing head and a conformably shaped stationary buck downwardly upon which the head is movable in the pressing operation, said buck consisting of a rigid wedge-shaped core member, a ridge member vertically yieldingly supported by, and disposed above and along, said core member, and side members disposed at opposite sides of the core member and having upper hook portions seated on the ridge member, whereby downward pressure of the pressing head on the ridge member causes downward movement and lateral shifting of the side members.

3. A pressing machine including a downwardly movable wedge-shaped pressing head, a stationary goose neck, a wedge-shaped core member extending rigidly from said goose neck, a pair of side members disposed against the tapering sides of said core member, and a ridge member vertically yieldingly supported by the core member, along and above the same and with which the side members are hingedly in connection along their upper portions, whereby downward pressure of said head on the yielding ridge member causes lateral swinging movements of the side members.

4. In a pressing machine, an expansible buck including a rigid core arm having tapering sides, a ridge member above and along said core arm, spring means between said core arm and the ridge member, and side members disposed against the tapering sides of the core arm and movably hung at their upper ends on the ridge member.

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