

April 6, 1943.

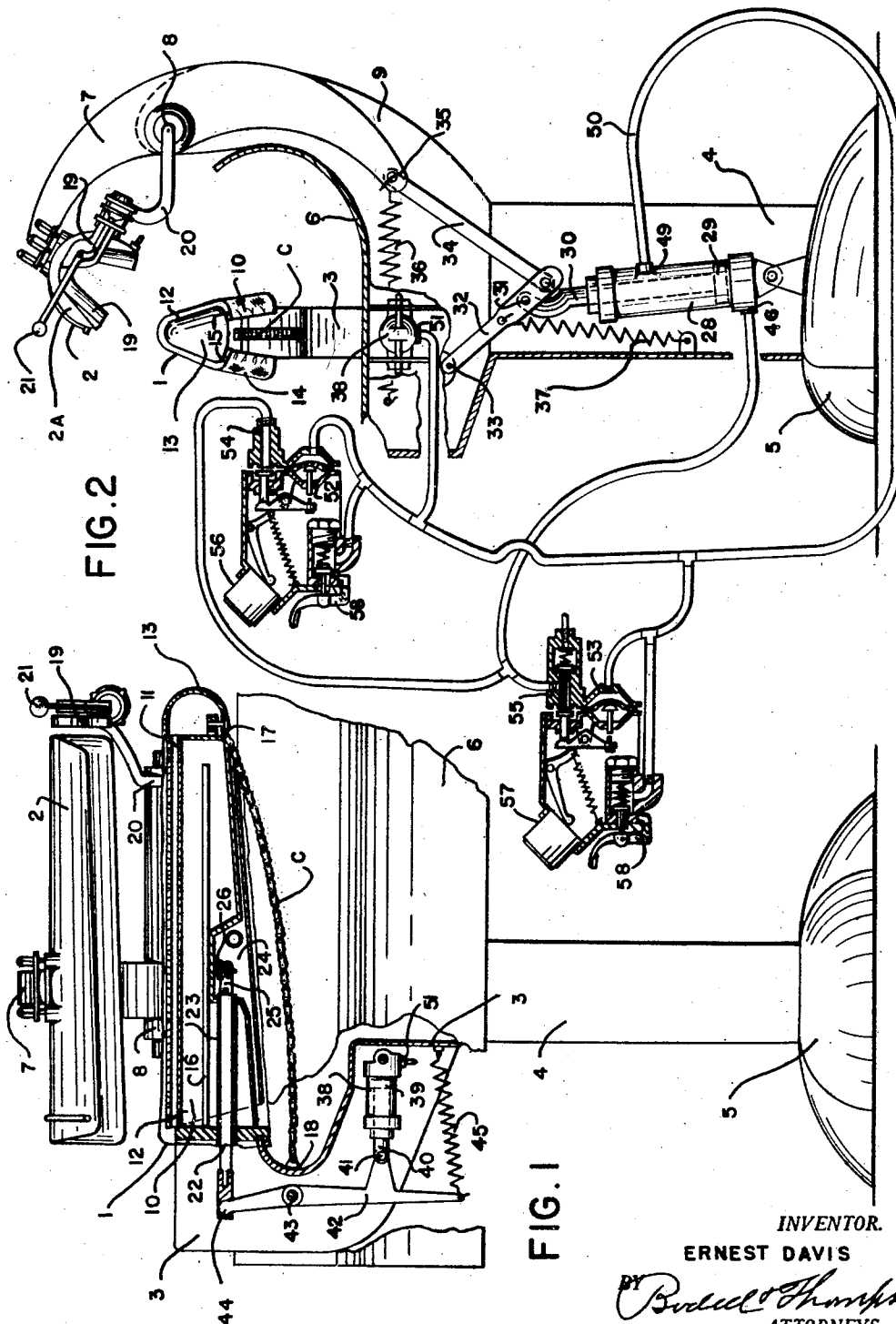
E. DAVIS

2,315,690

SLEEVE PRESS

Filed July 30, 1941

3 Sheets-Sheet 1



INVENTOR.

ERNEST DAVIS

By *Budell & Thompson*
ATTORNEYS.

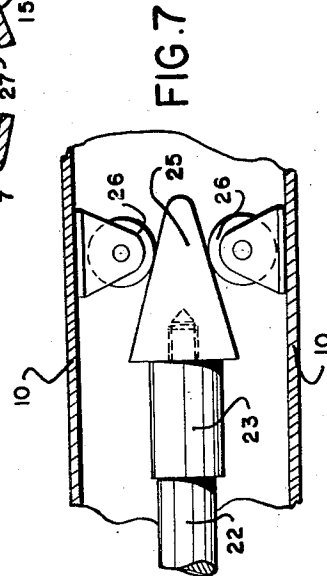
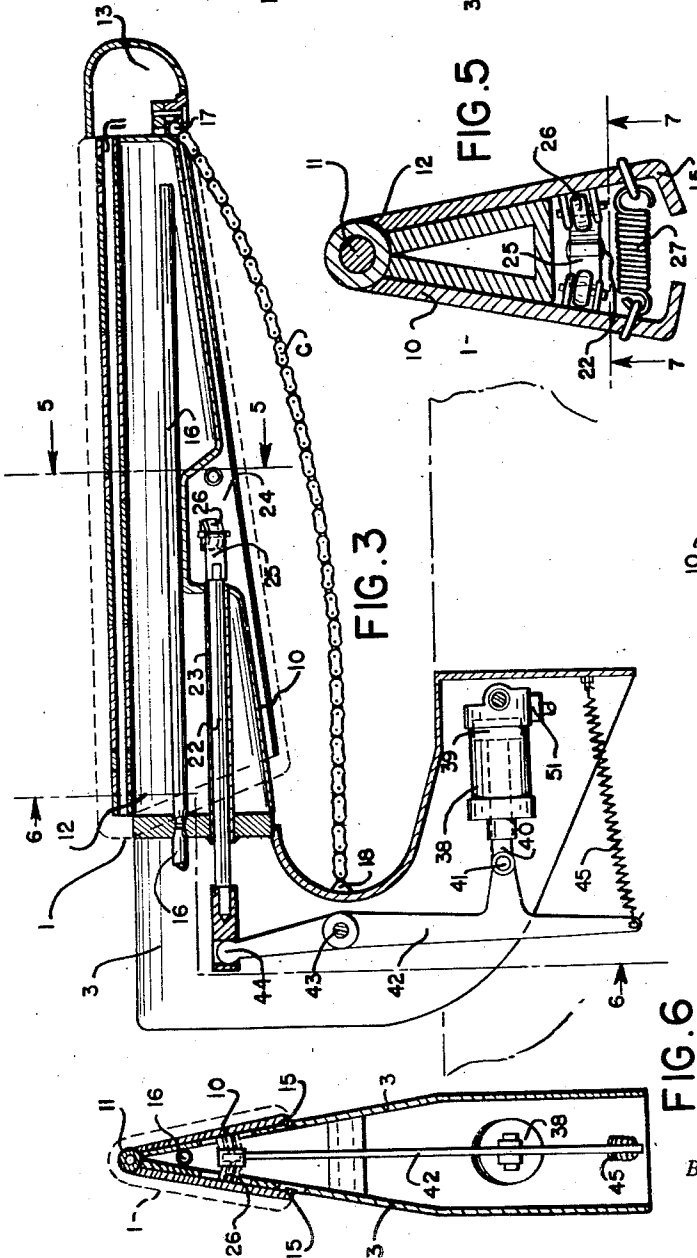
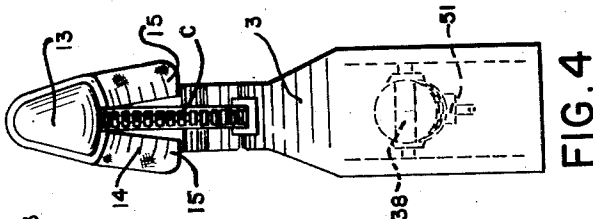
April 6, 1943.

E. DAVIS

SLEEVE PRESS

Filed July 30, 1941

3 Sheets-Sheet 2



INVENTOR.
ERNEST DAVIS

BY *Bodell & Thompson*
ATTORNEYS.

April 6, 1943.

E. DAVIS

2,315,690

SLEEVE PRESS

Filed July 30, 1941

3 Sheets-Sheet 3

FIG. 8

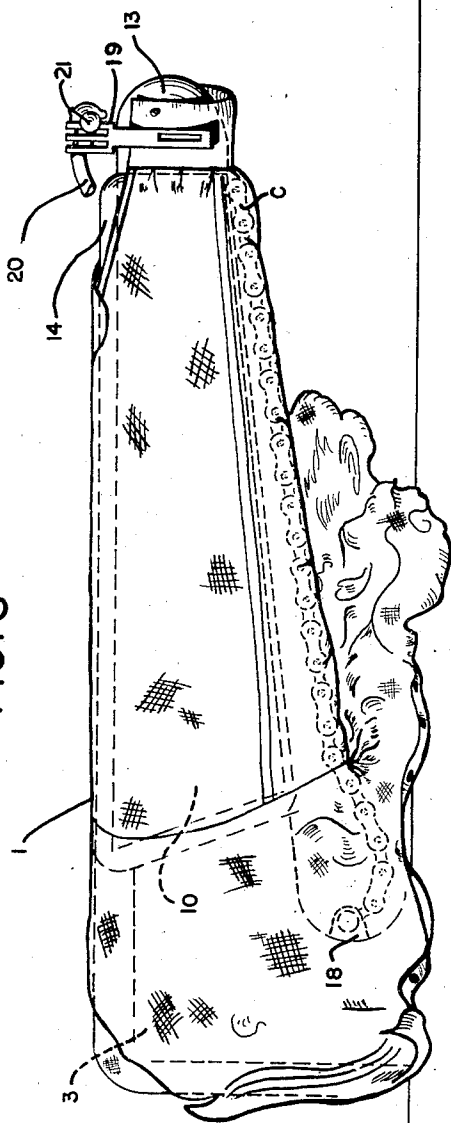


FIG. 10

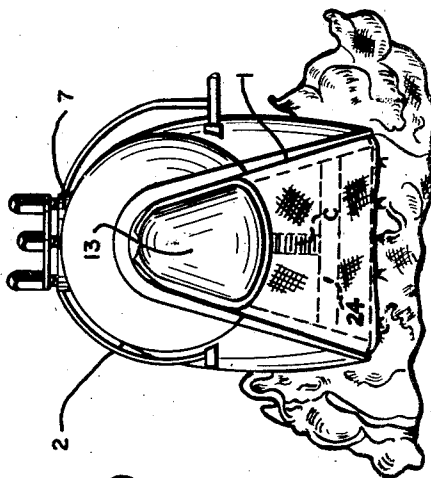
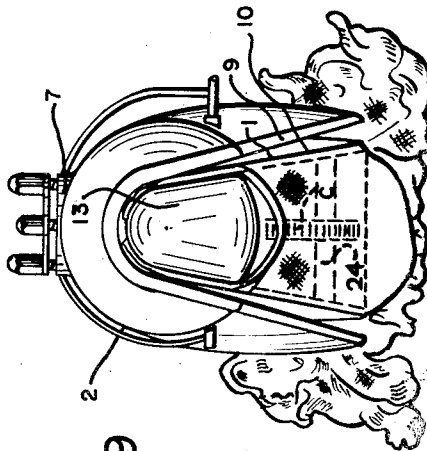


FIG. 9



INVENTOR.
ERNEST DAVIS

BY *Rodell Thompson*
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,315,690

SLEEVE PRESS

Ernest Davis, Syracuse, N. Y., assignor to The Prosperity Company, Inc., Syracuse, N. Y., a corporation of New York

Application July 30, 1941, Serial No. 404,692

2 Claims. (Cl. 223—57)

This invention relates to garment and laundry presses, and particularly to presses for pressing tubular articles, as shirt sleeves and the like, and has for its object a construction by which a maximum area of the article is pressed in one operation, and then if desired, the entire area of the tubular article can be pressed in one more lay, two lays in all, with a minimum of re-arranging or turning of the tubular article on the pressing element. More specifically, it has for its object a pressing machine in which the pressing elements on which the article is initially sleeved is channel-shaped or V-shaped in general form and cross section with its sides diverging outwardly and the sides expansible to press the article against the pressing face of a cooperating pressing element, the sides, during the expanding movement, effecting the pressing of the greater part of the tubular article.

It further has for its object a simple and efficient means for effecting the expansion of said sides.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figures 1 and 2 are respectively a front elevation and a side elevation, both partly broken away and partly in section, of a pressing machine embodying this invention.

Figure 3 is an enlarged longitudinal sectional view of the lower pressing element on the buck on which the tubular article is sleeved.

Figure 4 is an end view looking to the left in Figure 3.

Figure 5 is a vertical cross sectional view taken on line 5—5, Figure 3.

Figure 6 is a sectional view taken on line 6—6, Figure 3.

Figure 7 is a sectional view taken on line 7—7, Figure 5.

Figures 8, 9 and 10 are, respectively, a side elevation of the expansible pressing element with the article sleeved thereon; and end views looking to the left in Figure 8, Figure 9 showing the position of the sides of the lower pressing element before the sides are expanded, and Figure 10, after they are expanded in pressing position.

This machine for pressing tubular fabric articles comprises, generally, cooperating pressing elements having relative opening and closing movement, on one of which elements the article

to be pressed is sleeved, these elements being substantially channel-shaped in cross section in the general form of a V or the lower pressing element on which the tubular article is sleeved fitting within the upper pressing element, and with the sides of the channel or V formation of the lower pressing element being expansible outwardly to effect the pressing operation in cooperation with the upper pressing element, mechanism for effecting the relative opening and closing movement and expanding the sides of the lower pressing element outwardly. The sides of the pressing elements are of such extent or area as to press the greater part of the tubular article in one lay.

1 designates the lower pressing element or buck, and 2 the upper pressing element or head. The lower pressing element 1 is supported by a bracket 3 on the frame 4 here shown as in the form of a pedestal rising from a base 5. The pressing element 1 is so supported that the greater part of the same overhangs the table 6. The upper pressing element or head 2 is here shown as carried by the forward arm of a lever 7 pivoted at 8 to an upright 9 rising from the frame.

The actuating mechanism for the head 2 or the lever 7 will be hereinafter described. The pressing elements 1, 2 are complementary to each other and channel-shaped in general form, the channel being in the general form of a V or inverted V with the sides of the channel formation diverging. The sides 9 of the head 2 are substantially rigid or unyielding while the sides 10 of the lower pressing element are mounted to expand outwardly, and are here shown as hinged together at like edges, or at their edges which are toward the apex portion of the V formation, by means of a hinge, as a piano hinge at 11, the hinge leaf being large enough to provide a rounding pressing area at the apex of the V formation.

The pressing elements 1, 2 are internally heated, as by steam, and as here shown, the lower pressing element 2 is formed with a hollow triangular shaped body or frame 12 in which the hinge pin 11 of the piano hinge is mounted. Also, at the outer end of the frame, that is, the end remote from the supporting bracket 3, the frame is provided with a rounding prow or nose 13 for facilitating the drawing of a damp tubular article onto the lower pressing element.

The lower element 1 with the exception of the nose 13 is covered with a suitable padding 14.

The lower edges of the expansible sides 10 are provided with inturned flanges 15.

The lower pressing element 1 is heated by means of steam conducted to the interior of the same through a pipe as 16. For facilitating the taking up of the slack in the sleeved article and smoothing it on the buck 1, means, as the chain C, is provided suspended below the buck 1 and secured at one end at 17 to the nose 13 and at its other end at 18 to the bracket 3. This chain compensates for sleeves of different sizes or diameter and different tapers. The links of the chain serve as individual gravity weights tending to take up the slack of the sleeve evenly throughout its length, regardless of the diameter and taper of the sleeve. The chain per se forms no part of this invention. For the purpose of facilitating the arranging of the damp sleeved article on the buck 1 or the padding thereof, a suitable holder or clamp is provided for coacting with the nose 13.

19 designates generally the cuff clamp carried by an arm 20 pivoted on an axis coincident with that of the pivot 8, the cuff clamp having a handle 21. When the tubular article has been sleeved on the buck, the ends of the cuff are brought together and the cuff clamp pulled down by means of the handle 21 to hold the cuff while the article is being arranged or smoothed on the buck. During the sleeving operation, the chain 16 performs its function of taking up the slack evenly throughout the length of the sleeve. The head 2 is then brought down onto the buck 1 or the work thereon, and then the sides 10 expanded outwardly from the position shown in Figure 9 to that shown in Figure 10, so that the greater amount of the entire sleeve is pressed in one lay and operation, the remaining part hanging below the buck 1. To press this part, it is merely necessary to open the machine and turn the sleeve only a short distance, sufficient to bring the unironed slack portion onto the pressing face of the buck 1. The press is then again closed. The turning movement of the sleeve necessary to press the original slack is very slight and not sufficient to cause undue twisting of the sleeve at the shoulder of the shirt.

The mechanism for expanding the sides 10 of the lower pressing element 1 is here shown as a member or rod 22 slidable lengthwise of the buck 1 between the sides 10 thereof through a guide tube 23 extending through the steam chamber of the body 12, this rod extending at the bracket end into the bracket 3, which is hollow and also extending into a recess 24 formed in the lower side of the body 12 or frame of the buck 1, the recess 24 being located between the ends of the buck 1. The rod 22 within this recess is provided with a cam or wedge 25, best seen in Figure 7, which co-acts with followers or rollers 26 on the expansible sides 10. The expanding action is against suitable returning means, as springs 27, each connected at its opposite ends to one of the sides 10, the springs being tensioned during the expanding action. Obviously, as the rod 22 is moved inwardly, the wedge or cam 25 will press the followers and hence the sides 10 outwardly, tensioning the springs 27.

The mechanism for effecting the opening and closing movement of the press and the expanding of the sides 10 of the lower pressing element 1, as here shown, comprises a cylinder 28 mounted in the pedestal 4, and a piston 29 movable therein, and having its rod 30 connected at 31 to one link of the toggle 32 which is pivoted at

one end at 33 to the frame within the same, the other link 34 of the toggle being pivoted at 35 to the end of the head-carrying lever 7. The closing of the press is against the action of counter springs 36 and 37 connected respectively to the lever 7 and to the link 32 of the toggle. The rod 22 may be actuated in any suitable manner, it being here shown as actuated by a cylinder 38 having a piston 39 therein, the rod 40 of which is pivoted at 41 to one arm of a lever 42 pivoted at 43 within the bracket 3, the other arm of the lever being articulated at 44 to the end of the rod 22 located within the bracket 3. The movement of the lever is against suitable returning spring 45.

The flow of motive fluid, as compressed air, to and from the cylinders 28 and 38 is controlled by any suitable mechanism, preferably two hand control mechanism being shown. The two hand control mechanism operates to first permit air to enter the cylinder 28 through a port 46, actuating the piston therein to close the head 2 down toward the buck 1. When the head 2 is closed down over the buck 1 in a preliminarily closed position, the piston 29 passes a port 49 in the side of the cylinder 28, permitting air to pass through a pipe 50 to the intake port 51 of the cylinder 38 to actuate the piston therein, causing it, through the lever 42, to move the rod 22 to the right (Figures 1 and 7) and cause the wedge or cam 25 to press the followers 26 apart and hence move the expansible sides 10 of the buck into position shown in Figure 10, effecting the pressing operation. The passage of the air through the pipe 50 also operates, through diaphragm chambers 52, 53 to lock the valves 54, 55 operated by the manuals 56, 57 of the two hand control in their operated position. To open the press, either one of a pair of release levers 58 is operated to release the air from the diaphragm chambers 52, 53. This release operation permits the valves 54, 55 to return to their normal positions, so that the air is free to exhaust from both cylinders 28 and 38 and the press to open under the reaction of the springs 36, 37 and also the sides of the buck 1 to contract inwardly under the reaction of the springs 27, due to the withdrawal of the rod 22 and cam 25 to the left by the spring 45. Immediately upon the operation of the release lever, the exhaust of air from the cylinder 28 is simultaneous with the release of the valve operated by the control manual, so that the sides 10 of the buck 1 are contracted before any appreciable opening of the head 2 has taken place.

What I claim is:

1. In a machine for pressing tubular fabric articles, complementary cooperating pressing elements having relative opening and closing movement, on one of which elements the article is sleeved, said elements being elongated so that a comparatively long article may be sleeved on one of the elements with a portion hanging under said element, said elements having outwardly inclined sides extending in the general direction of the opening and closing movement and the sides of the element on which the article is sleeved being expansible outwardly, means for effecting the relative opening and closing movement and for expanding the element on which the article is sleeved, including an endwisely movable member extending lengthwise of the element on which the article is sleeved, between said inclined sides, and having an endwise operating movement, and connections between the sides

and operated by said member to expand said sides, said member and connections being housed entirely within the element on which the garment is sleeved in order to permit sleeving of the article on said element.

2. In a machine for pressing tubular fabric articles, complementary cooperating pressing elements having relative opening and closing movement, on one of which elements the article is sleeved, said elements being elongated so that a comparatively long article may be sleeved on one of the elements with a portion hanging under said element, said elements having outwardly inclined sides extending in the general direction of the opening and closing movement and the sides of the element on which the article is

5 sleeved being hinged at like lengthwise edges and diverging from each other from their hinged edges and being expansible outward, means for effecting the relative opening and closing movement and the expanding hinging movement of said sides, comprising an endwisely movable member extending lengthwise of the element on which the article is sleeved between said sides, a cam operated thereby, and followers on said 10 sides coacting with the cam, said endwisely movable member, cam and followers being located entirely within the expansible element in order to permit the article to be sleeved on said element.

15 ERNEST DAVIS.