March 7, 1944. H. D. FORSE 2,343,289

APPARATUS FOR PRESSING SHIRTS AND THE LIKE

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FIG. 1

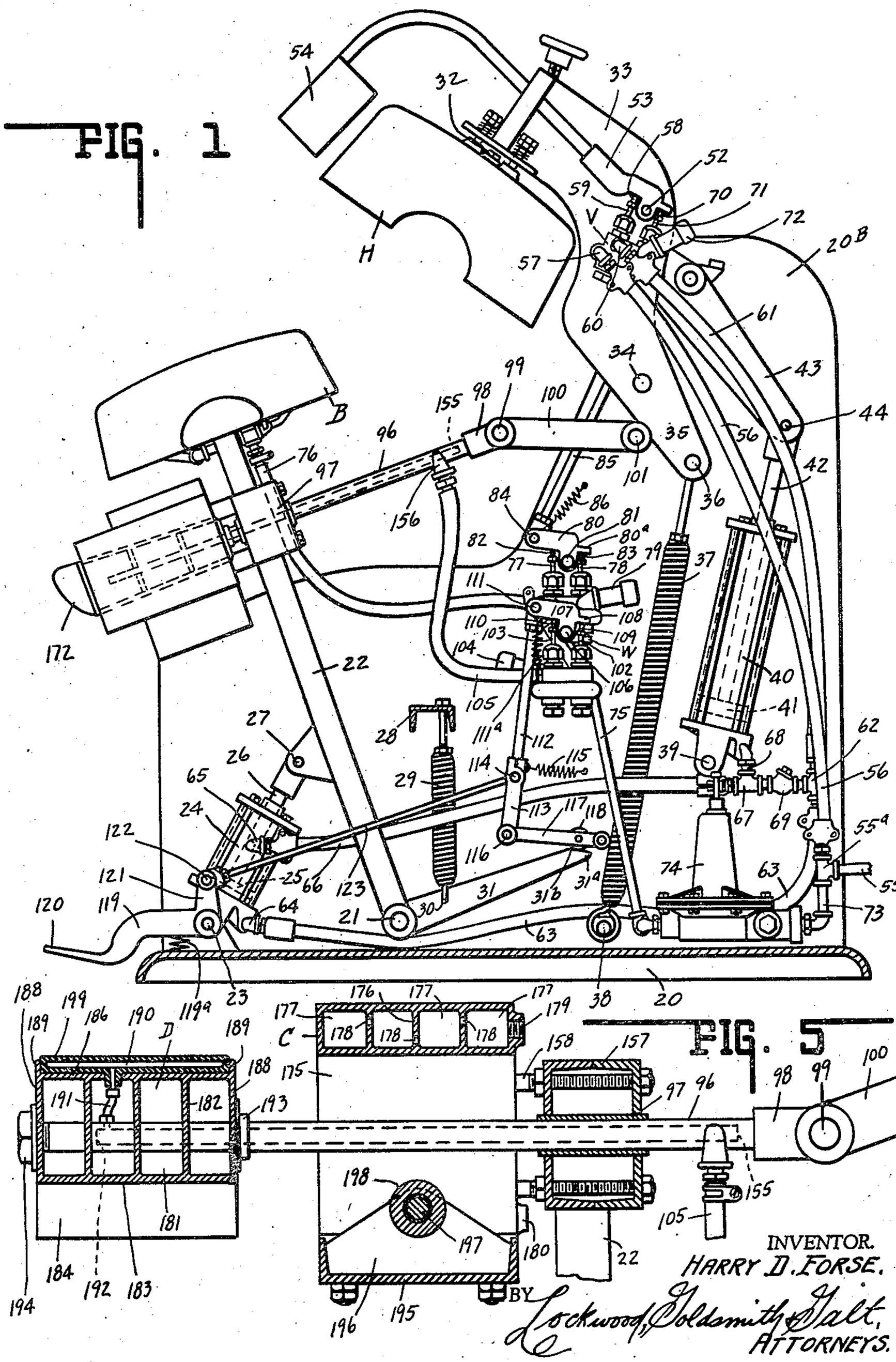

FIG. 5

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FIG. 2

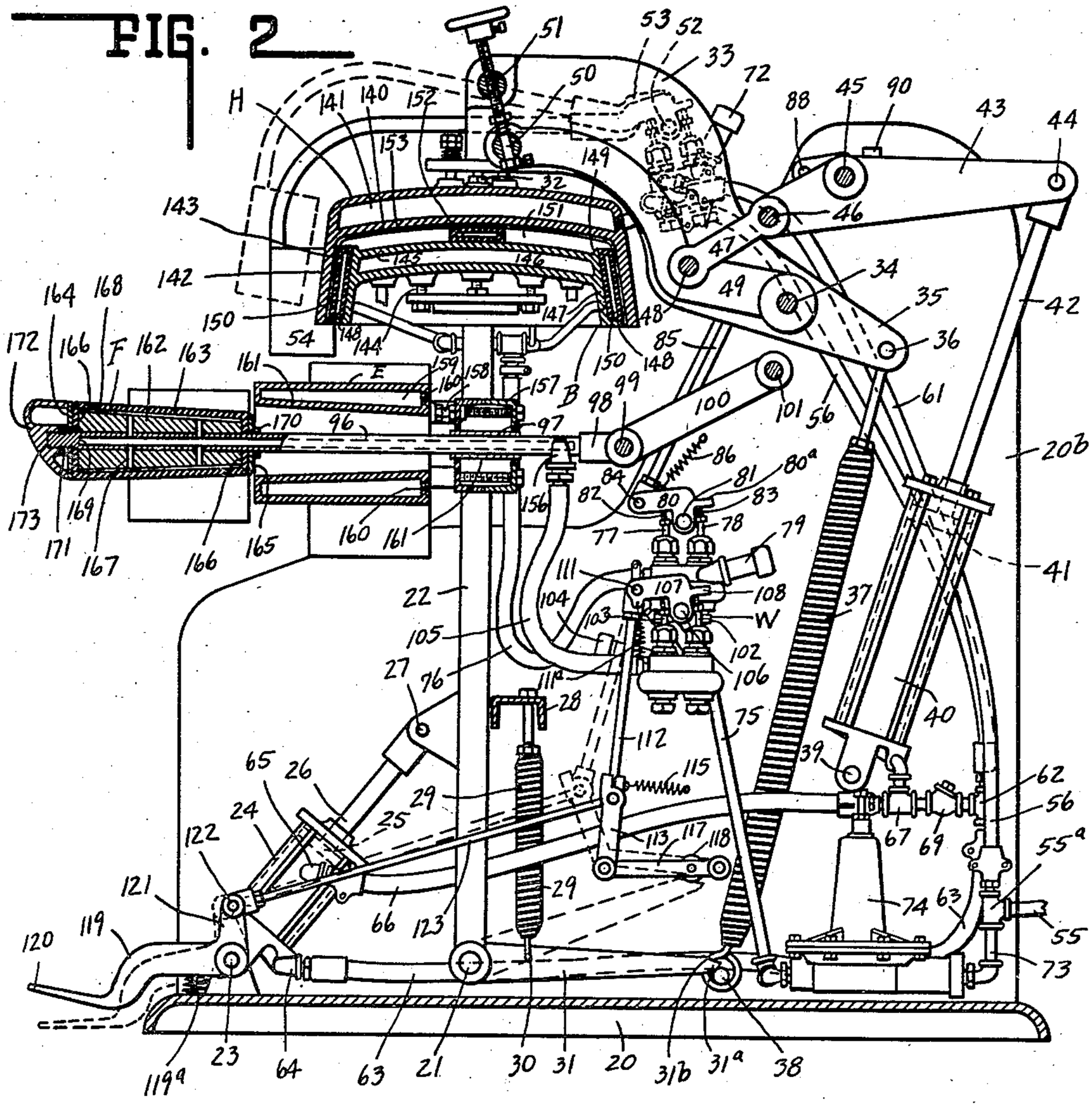

FIG. 4

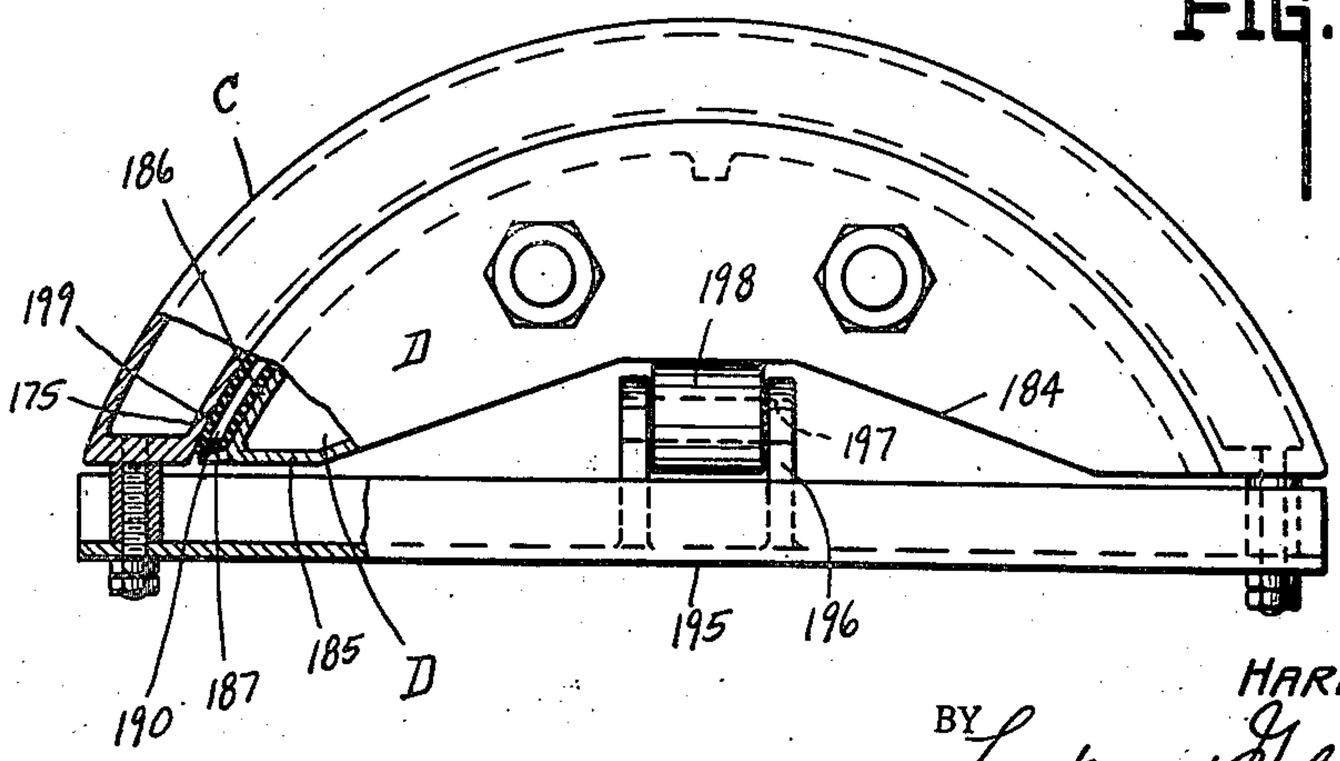

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FIG. 3

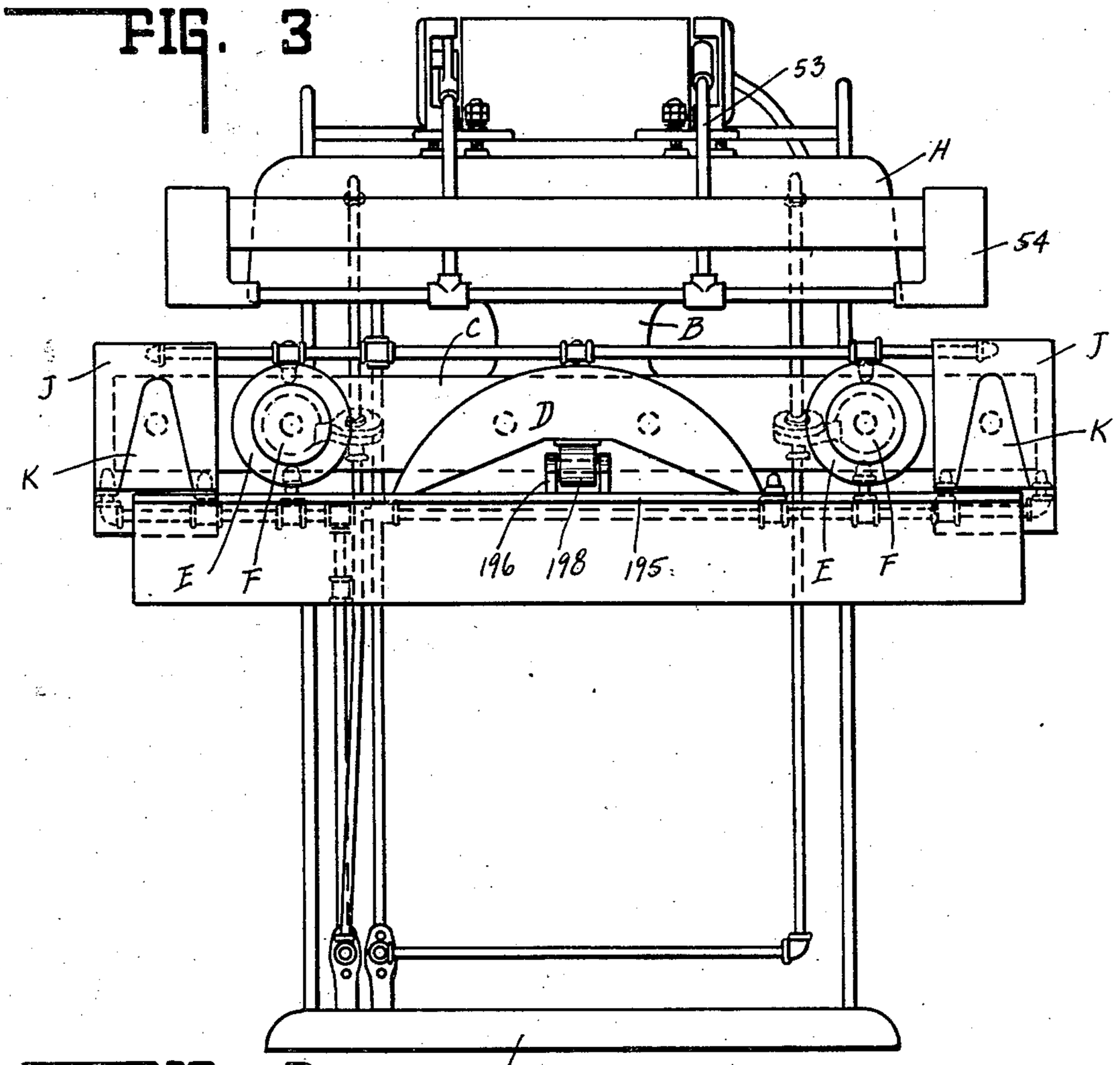


FIG. 6

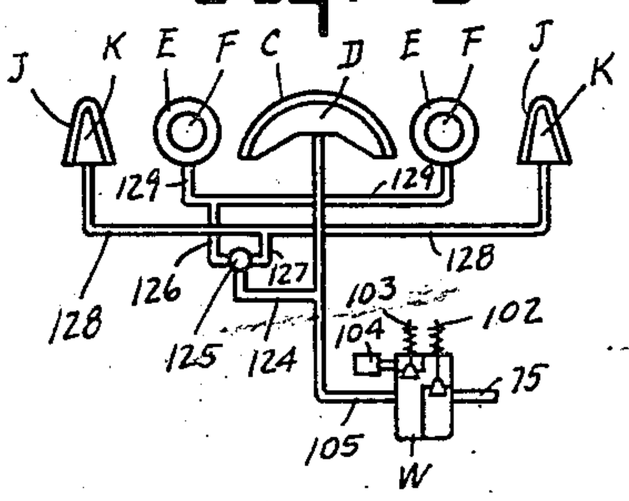


FIG. 7

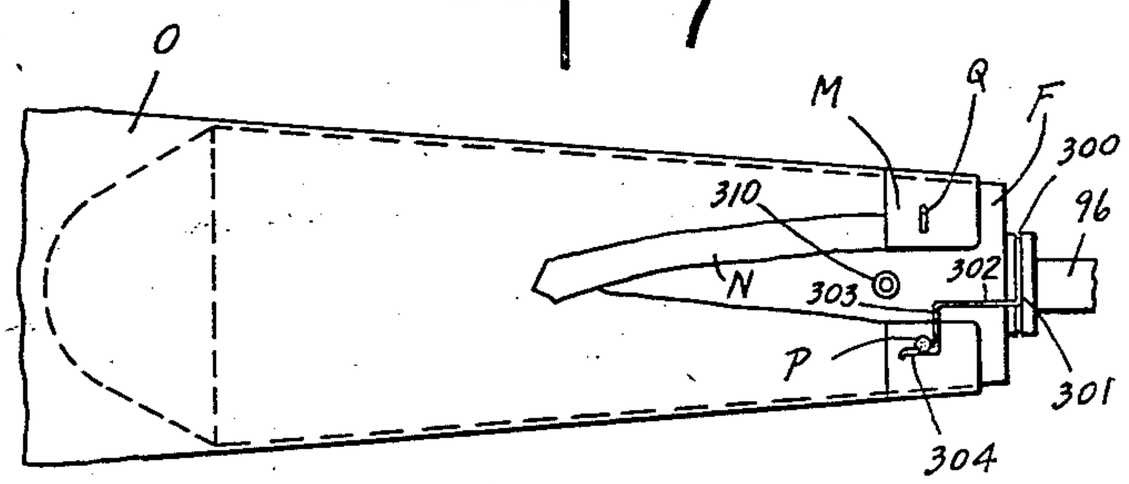
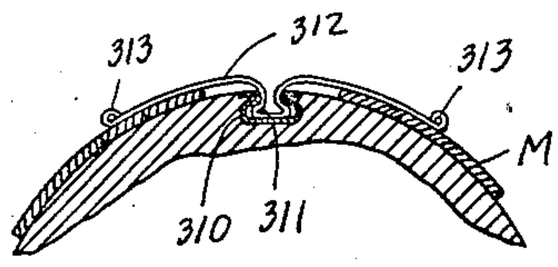


FIG. 8



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APPARATUS FOR PRESSING SHIRTS AND THE LIKE

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FIG. 9

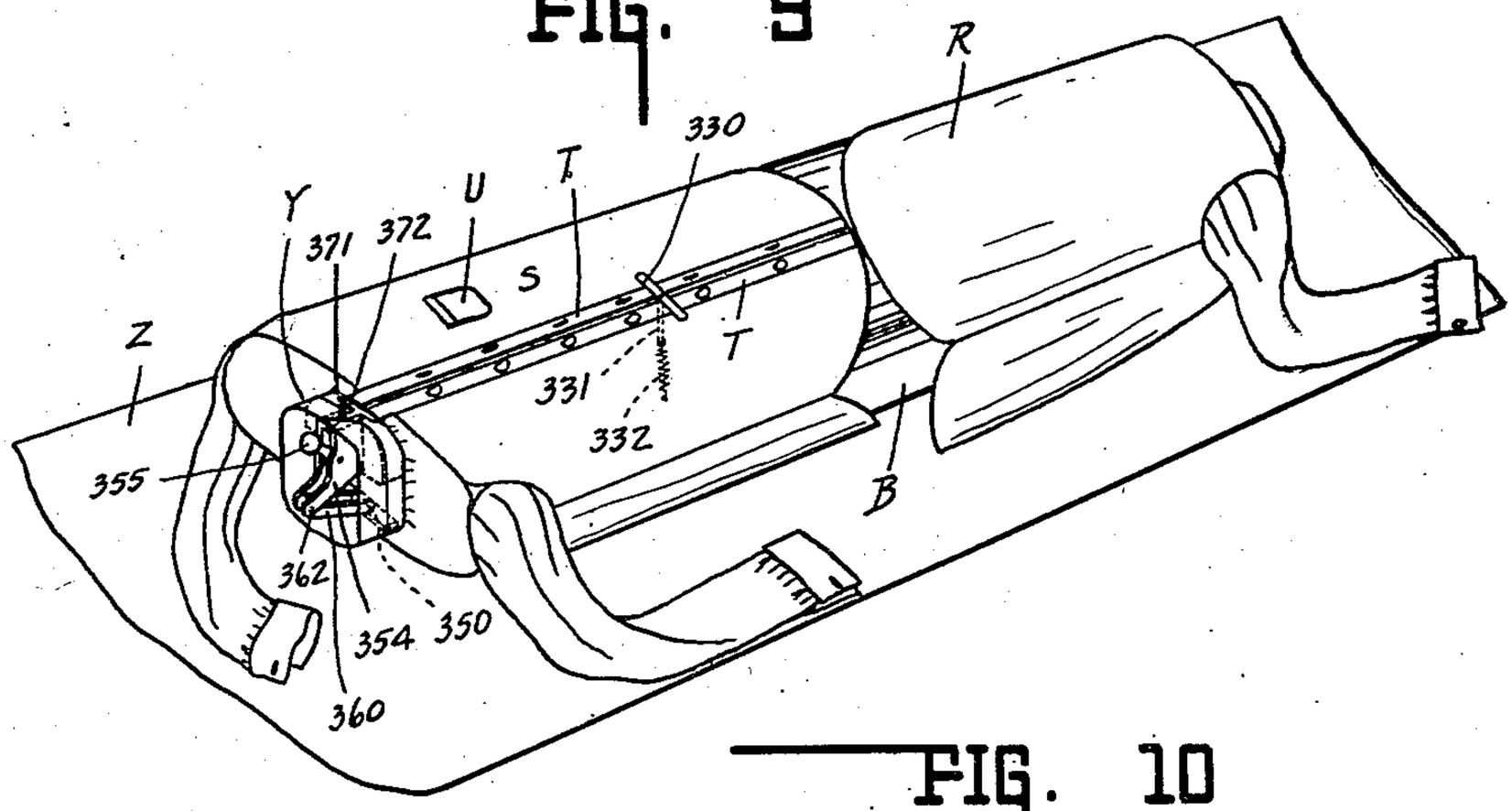

FIG. 10

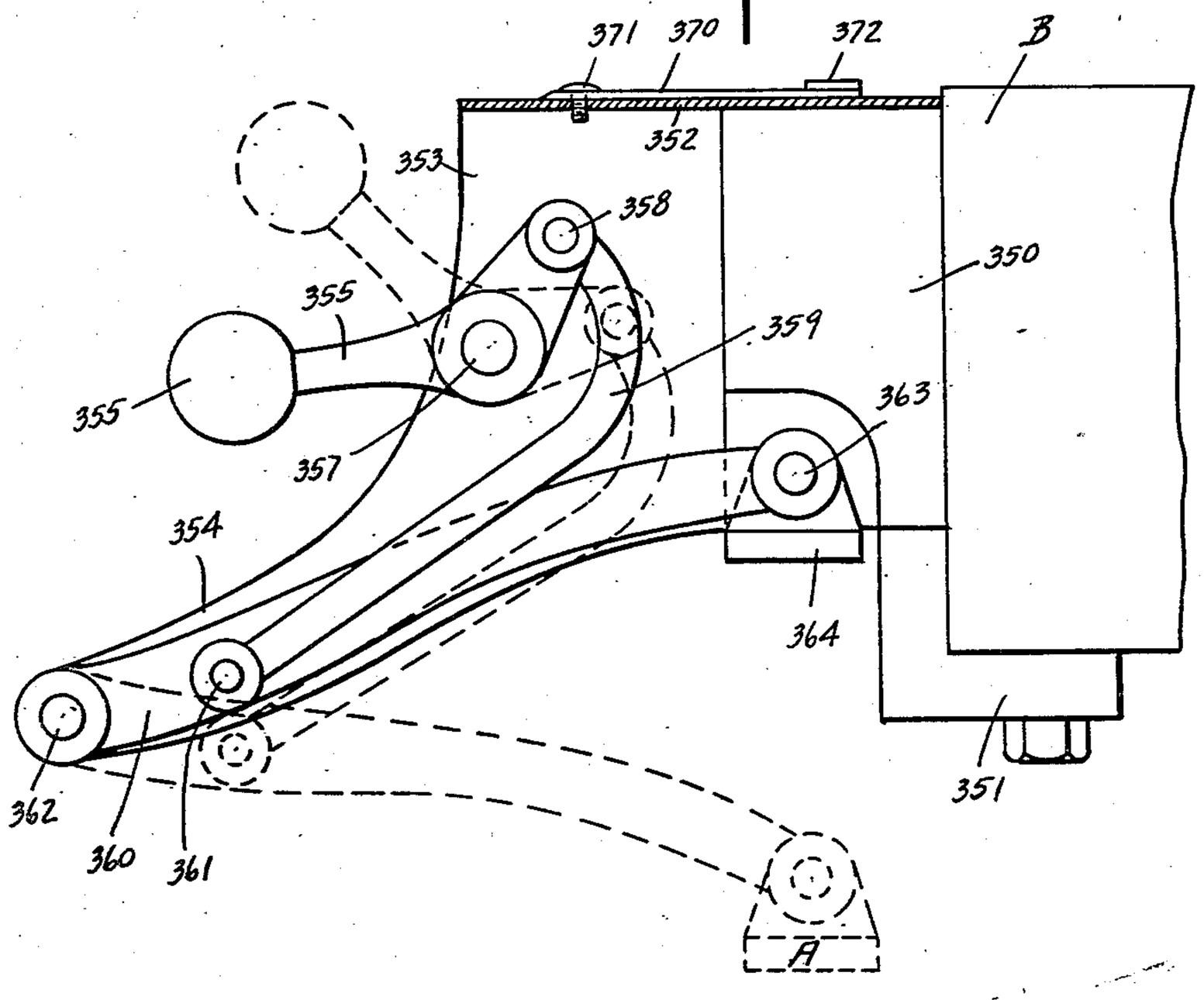

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FIG. 11

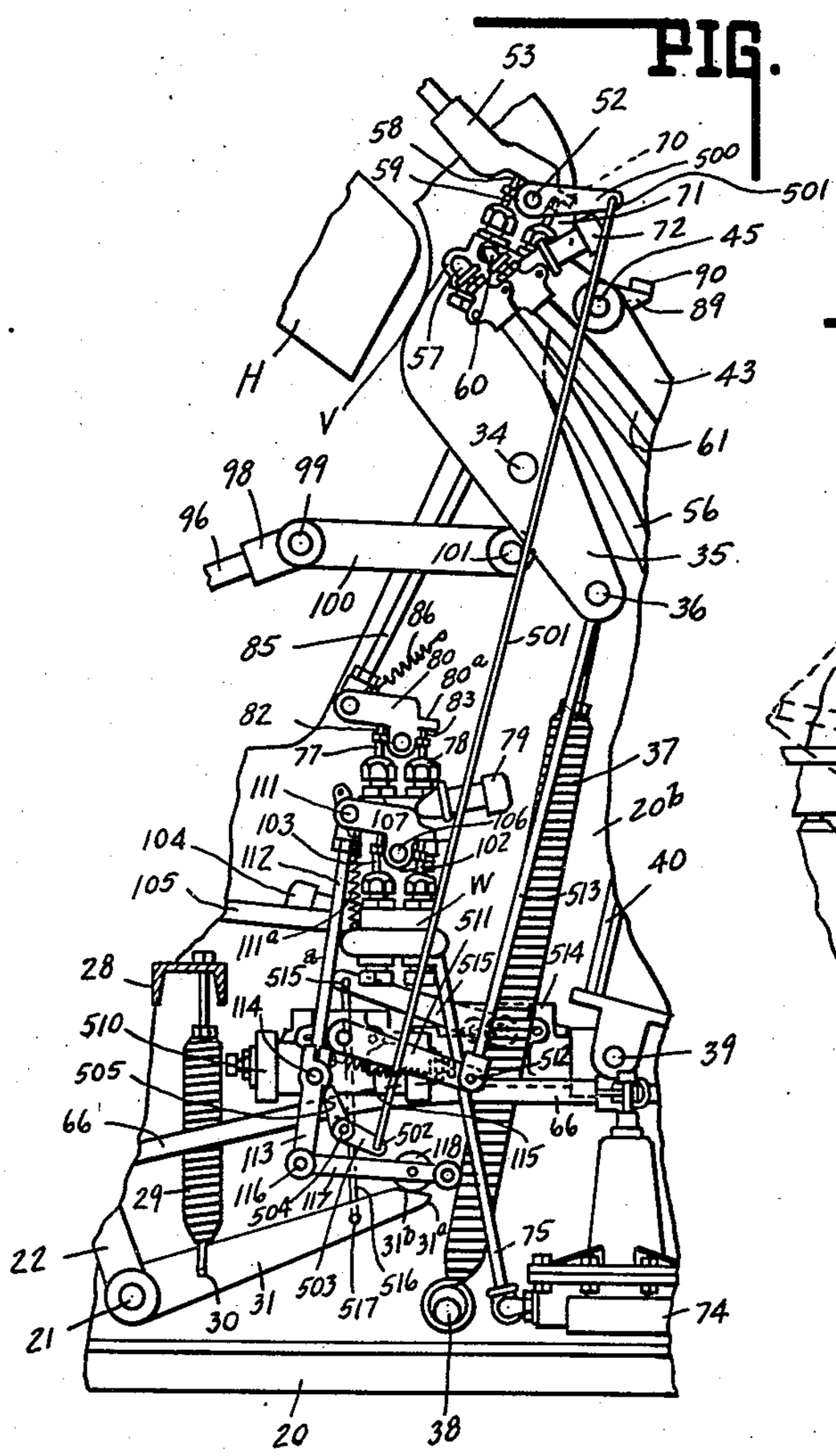


FIG. 12

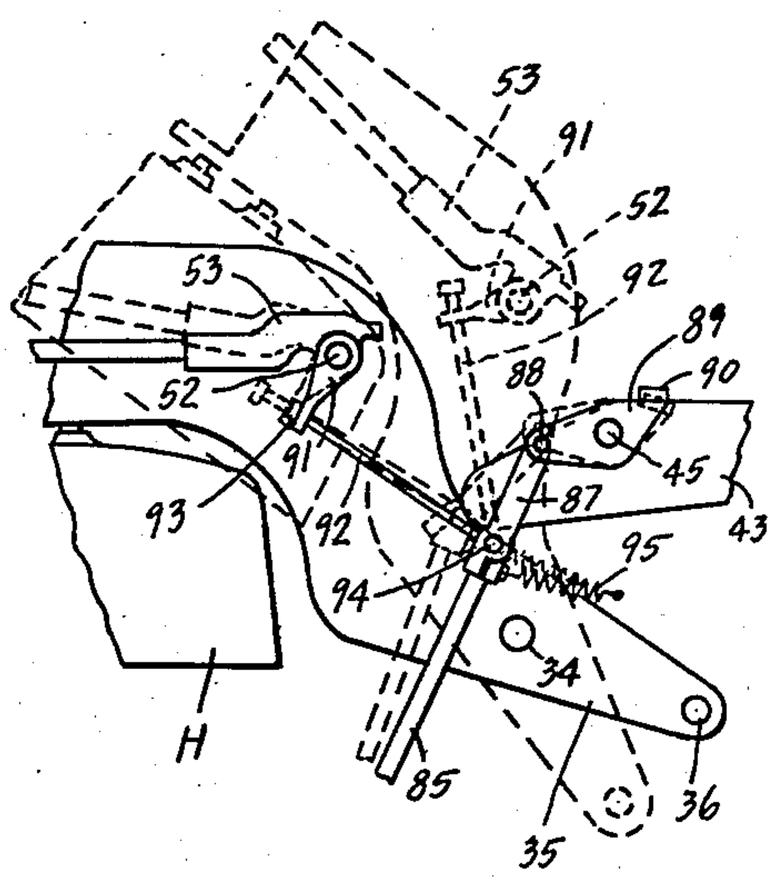
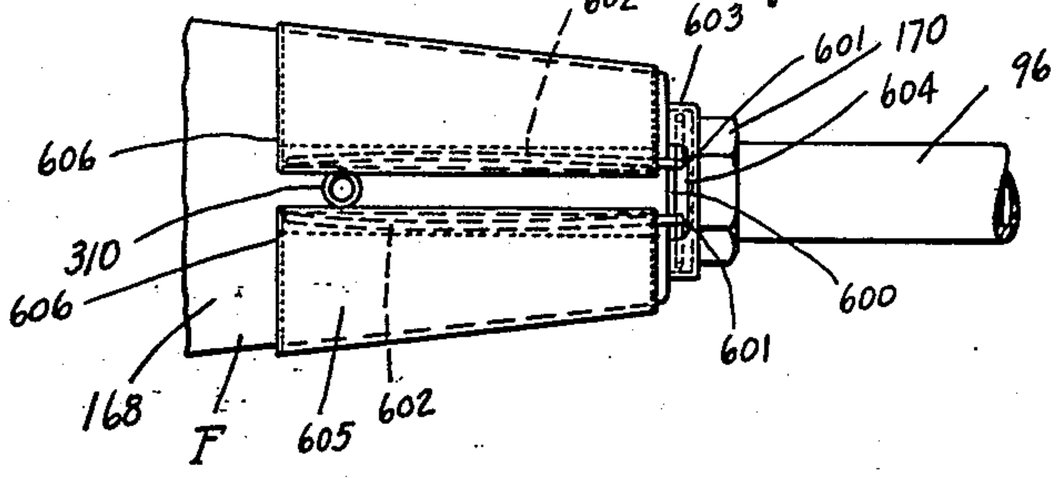


FIG. 13



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Patented Mar. 7, 1944

2,343,289

UNITED STATES PATENT OFFICE

2,343,289

APPARATUS FOR PRESSING SHIRTS AND THE LIKE

Harry D. Forse, Anderson, Ind.

Application October 3, 1940, Serial No. 359,525

31 Claims. (Cl. 223—57)

This invention relates more particularly to a shirt and similar garment type press.

The chief object of the present invention is to provide a press for the pressing of wearing apparel such as shirts and the like whereby the unit time per shirt may be materially reduced and to approximately one-half that now required for pressing shirts. This reduction is obtained by reducing the number of operations and combining some of the operations whereby they are automatically effected in succession for each handling of the article.

Another chief object of the invention is to reduce the investment cost of shirt pressing machinery by so arranging the parts of the present invention so that a single machine now is arranged to duplicate the functions of from two to six machines now utilized in the shirt pressing art and the operating area is correspondingly reduced.

Another object of this invention is to require a smaller number of operators for ironing of shirts.

The present invention, as illustrated and hereinafter described, is a single machine arranged to accommodate and press an entire short except that portion of the sleeve from the gusset to the shoulder; and for pressing of that portion of the shirt, a sleeve former machine well known in the laundry industry is utilized, wherefore, a further object of the invention is to provide an improved process of pressing shirts.

The chief feature of the present invention relates to a multiple buck and head arrangement whereby one buck and head when in associated and pressing relation is adapted for pressing part of the shirt and the other bucks and heads, in disassociated relation, permit the operator, during the pressing interval required for pressing by the first mentioned buck and head, to properly position other shirt portions with said other bucks and heads for subsequent pressing thereby. During this latter interval the operator can remove the previously pressed portion of the shirt from the first mentioned buck, etc., as hereinafter set forth.

This invention further is characterized by the successive pressing operations being automatically actuated for sequential operation, the latter operation being of multiple character so that the collar and the cuffs, including the gussets, are pressed simultaneously.

One feature of the invention is a bypass exhaust arrangement whereby the speed of press operation is materially increased.

Another feature consists in the form and construction of the body finishing buck.

Another feature of the invention consists in the peculiar construction and operation of the collar and/or the cuff and gusset buck and head structure.

Another feature of the invention relates to the automatic and quick action control included in the press for supplying a pressure medium thereto and relieving such pressure from the several inflatable portions of the press.

A further feature of the invention is in the quick detachable cuff and gusset clamp associated with the cuff and gusset inflatable bag buck.

A further feature of the invention consists in associating a buck and head structure for axial telescopic association with the garment therein in an enveloping relation.

Another feature of the invention is the use of auxiliary cuff pressing bucks for the pressing of the so-called French or double cuffs and for very small cuffs and gussets that do not permit finishing on the tubular bucks.

Another feature consists of an arrangement whereby the operator can easily and quickly change air connection from tubular cuff bucks to the above mentioned auxiliary French cuff bucks depending on type of garment being finished.

The full nature of the invention will be understood from the accompanying drawings, the following description and claims:

In the drawings,

Fig. 1 is a side elevational view with parts of the housing removed of the invention showing the body press in opened relation and the multiple press arrangement in pressing position, the treadle for fluid pressure control of the latter being shown in non-controlling position and the handle control of the press being shown in the upper position.

Fig. 2 is a somewhat similar view of the aforesaid except that the body press is shown in pressing position and the multiple press is shown in non-pressing or extended relation, the handle control being shown in the lowered or down position, the treadle being shown in the non-controlling position, the dotted lines of the handle structure indicating the upper portion thereof and the dotted lines of the foot treadle indicating the actuating position thereof, parts of the body press being broken away to show the same in transverse section and parts of the multiple press arrangement being broken away to show a portion of the latter in longitudinal section.

Fig. 3 is a front elevational view of a portion

of the press illustrating more particularly the relationship of the several pressing arrangements of the multiple press arrangement.

Fig. 4 is an enlarged front elevation of the collar press of the latter, parts being broken away to show the same and other parts in transverse section.

Fig. 5 is an enlarged londitudinal sectional view of the collar press portion of the multiple press arrangement showing the parts in extended or non-pressing position.

Fig. 6 is a diagrammatic view of the inflating fluid pressure supply and selective control to the multiple press arrangement.

Fig. 7 is a perspective view of a conventional cuff applied to the cuff buck and a clip anchorage therebetween.

Fig. 8 is a transverse sectional view of a modified form of conventional cuff clip type anchorage and the associated portion of the cuff buck.

Fig. 9 is a perspective view of the body buck with two shirts laid tail to tail, a body carried shirt clamping clip, and an associated collar supporting portion carried by said buck and the control mechanism for that portion.

Fig. 10 is a front elevation of the latter arrangement.

Fig. 11 is a view similar to Fig. 1 and of a portion of a modified form of the invention including snubbers and a full automatic arrangement.

Fig. 12 is a side elevation of an air control for the body buck inflatable portions, the dotted lines corresponding to open press position, the full lines representing closed press and air supply position, other dotted lines indicated the deflating position.

Fig. 13 is a side elevational view of a cuff buck protector arrangement and, for simplicity, the cuff anchoring means shown in Fig. 7 or 8 have intentionally been omitted.

In the drawings, there is illustrated a simple, compact, shirt pressing unit upon which all shirt pressing operations can be effected except that commonly called "sleeving," the latter usually being effected by sliding the sleeve upon a heated metallic cone about three feet or so in length.

The present invention includes, see Fig. 1, a base 20 from which extends upwardly supporting portions as hereinafter pointed out. Pivoted at 21 on the base or portions carried by the base is a buck support 22. Pivotally supported at 23 is a fluid pressure cylinder 24 having piston 25 therein carried by rod 26 pivotally connected at 27 to support 22.

A portion of the base frame structure 28 adjustably supports tension spring 29 connected at 30 to arm 31 carried by rock shaft 21 and therefore movable with support 22.

The spring 29 normally tends to position the body buck B, carried by the support 22, in non-pressing position. When pressure is applied to the bottom end of cylinder 24, the piston moves upward and the support 22 moves clockwise, arm 31 extending spring 29, and the body buck B is thus positioned in pressing position.

A complementary pressing head H is adjustably supported as at 32 upon an arm structure 33 pivoted at 34 upon upward extensions 20B of the frame. Arm 33 is extended at 35 and adjustably connected at 36 is a tension spring 37, the lower end of which is anchored at 38 to a frame member. As shown in Fig. 2, member 38 is a stop limiting clockwise tilting of buck support structure 22.

Pivotally supported at 39 upon the frame or base structure is another fluid pressure operable structure including cylinder 40 within which is piston 41 carried by rod 42 pivoted to arm 43 at 44. Said arm 43 is pivoted upon portion 20b of the frame at 45 and projects forwardly therefrom and is pivotally connected at 46 to a link 47 in turn similarly connected at 48 to an arm 49 pivoted at one end at 34 before-mentioned. The forward end of the arm 49 is connected at 50 to an adjustable structure 51 carried by arm 33 before-mentioned.

A somewhat similar arrangement is shown in the copending application Serial No. 310,500 filed December 22, 1939, entitled "Pressing machine" and the broad subject matter common to both disclosures is claimed therein.

The spring 37 normally constrains the arm 35 downwardly or in a counter-clockwise direction on pivot 34, the same tending to elevate the head structure H and if not otherwise opposed, the head will be positioned in the open position, as shown in Fig. 1. The application of pressure to the lower end of cylinder 40 causes the piston 41 to elevate which elevates the piston rod 42, in turn elevating the arm 43 or rather tilting the same counter-clockwise. This tilting is applied through the link 47 to the arm 49. Thus, it will be noted that the head structure H generally is caused to move from the position shown in Fig. 1 to the position shown in Fig. 2 in opposition to the tension constraint imposed by spring 37. The head and buck structures are positioned in open relation in Fig. 1. They are positioned in closed or pressing relation in Fig. 2.

Pivotally supported at 52 is an arm structure 53 which extends forwardly and upwardly and terminates in a handle arrangement generally indicated by the numeral 54, the same being positioned forwardly with relation to the head structure H.

Carried by the arm 35 is a valve structure V. An air pressure supply line 55, see Figs. 1 and 2 and the lower right-hand portions thereof, is connected to a T-member 55a. One branch is connected by a flexible hose 56 to the valve structure V at 57. This is the power supply to the two power cylinders 24 and 40. When the handle structure 54—53 is depressed, the adjustable abutment 58 engages stem 59 of an intake valve in a chamber in the valve structure V. This intake valve controls communication to the outlet 60, in turn connected by the flexible hose 61 to a T-connection 62. The same is shown immediately above T—55 in Figs. 1 and 2. A flexible hose 63 is connected to said T-connection 62 and at 64 leads to the lower end of cylinder 24.

When valve 59 is depressed to open the supply line, pressure is applied to the cylinder 24 and piston 25 elevates, as previously described, until such time as said piston 25 uncovers a port in said cylinder 24, which port leads to the connection 65. A flexible hose 66 connected thereto at one end is connected at its opposite end to T-member 67 immediately to the left of the T—62. A flexible pipe portion 68 from said T—67 leads to the lower end of the cylinder 40. Thus, when the piston 25 uncovers the port in the cylinder 24 providing communication from the cylinder to the conduit 66, pressure is then applied to the cylinder 41. This is a timing arrangement insuring that the buck B is caused to be moved clockwise under pressure before the head H is caused to be moved downwardly and counter-clockwise. Continued application of pressure positions the buck B as shown in Fig. 2. This position, as stat-

ed, is limited by the end 31*a* of arm 31 movable with the support structure 22, as shown in Fig. 2. Continued application of pressure thereafter merely passes through the cylinder 24 and continues application of pressure to piston 41 in cylinder 40, finally lowering the head H in operative and pressing relation with respect to the buck B as shown in Fig. 2.

Connecting the T–62 and T–67 is a check valve 69. This check valve prevents the application of pressure directly from T-fixture 62 to T-fixture 67, but insures substantial equalization of pressure applied to both cylinders 24 and 40. When the handle 54 is actuated by being elevated, the intake valve controlled by stem 59 elevates and cuts off the application of pressure. The adjustable abutment 70 carried by the handle control structure engages the stem 71 of a valve which is normally closed and is associated with the interior chamber in the valve V so that the pressure between the intake valve, controlled by stem 59, and the several cylinders, is released through the muffler 72 connected to said valve structure V. When this pressure is released, gravity acting on the buck B and assisted by the spring 29 and the force of spring 37 acting on the head structure support arrangement causes the press to open and the air previously in the power cylinders escapes through the muffler 72. It will be appreciated that if the entire release were effected in the reverse manner in which the pressure was applied that cylinder 40 might not completely release, being cut off from release as soon as the piston 25 covers the port to the discharge 65 on cylinder 24. The pressure of cylinder 40, however, is released after that covering action by venting through the check valve 69 to the T-fitting 62 and by line 61 to the muffler. This arrangement insures complete release of air pressure in cylinder 40. This arrangement also insures quicker release because the pressure in cylinder 24 initially releases through line 63 as well as line 66, T–67 and check valve 69. Thus the opening movement of the press is accelerated, which is a further advantage of this check controlled bypass inclusion.

Referring to the lower right-hand portions of Figs. 1 and 2, it will be noted that the T–55*a* connects to a line 73 in turn connecting to a pressure regulator and reducer arrangement, indicated generally by the numeral 74, the low pressure discharge 75 of which constantly supplies low pressure air to a valve structure indicated generally by the letter W. This low pressure air supply is for inflation purposes.

Omitting temporarily a detailed description of the buck B, it is sufficient to state that low pressure air is supplied to inflatable portions thereof by means of the conduit 76. This conduit at its lower end connects to the valve structure arrangement indicated generally by the letter W. which includes two valves, the stems of which are indicated by the numerals 77 and 78 and associated therewith is a muffler 79.

In juxtaposition to the two stems 77 and 78 is a control member 80 pivoted at 81. This control member includes an adjustable abutment 82 and an adjustable abutment 83. The member 80 is connected at 84 to a rod 85 and the same is constrained toward the clockwise tilted position by means of spring 86, see Figs. 1 and 2. This rod 85 at its upper end is hingedly associated with another rod member 87 pivotally connected at 88 to an arm 89, also pivoted at 45 and carrying an abutment 90.

Carried by the shaft 52, see the upper part of Figs. 1, 2 and 12, is an arm 91. Slidably mounted in the free end thereof is a rod 92 having enlarged portion 93 at one end, the opposite end being associated with the pivotal connection 94 between the rods 85 and 87. A spring 95 is associated with this connection. Thus, the rod 85—87 is a toggle type structure and is controlled by the springs 86 and 95, the abutment 90 and the lever arm 91. When the head is down or closed relative to the buck, as shown in Fig. 2, the member 80 depresses the stem 77 of the intake valve so that low pressure air is applied to conduit 76 to inflate the inflatable portions of the buck. Thus, not only is there mechanical pressure application between the head H and the buck B, but there is applied to the garment therebetween an additional pressure incident to the application of low pressure fluid to the inflatable portions of the buck hereinafter to be described.

When the head is elevated into the position shown in Fig. 1, it will be observed that the tail portion 80*a* of the member 80 engages the stem 78 through the adjustable abutment 83 and the intake valve stem 77 is not actuated, or rather is released so that the intake valve then automatically moves to the closed position, cutting off the air supply to the inflatable portions of the buck. When the stem 78 of the exhaust valve is thus depressed as described, the air in the inflatable portions of the buck is released and vented through the muffler 79.

In Fig. 3 of the drawings, and the same is shown in elevation in Figs. 1 and 2, it will be noted that positioned forwardly of the buck B is a multiple pressing arrangement and all of the same is carried by the support structure 22.

Referring to Fig. 3, C generally indicates the head structure of a collar press, D the cooperating buck structure. Positioned at each side thereof is a pressing structure for a conventional cuff. Herein, the head structure thereof is of tubular character and is indicated by the letter E and the buck portion thereof is indicated by F. Adjacent thereto and at each extreme end of the pressing element is a French cuff pressing structure, the head portion thereof being indicated by the letter J and the buck portion being indicated by K. The construction of the head and buck portions of the French cuff press portion is substantially similar except for shape and dimension as the collar pressing portion C—D, the detailed construction of which will be hereinafter set forth more fully and which is illustrated in detail in Figs. 4 and 5.

The pressing arrangement E—F for conventional cuffs of a shirt is shown in detail in Fig. 2 and will be referred to more fully hereinafter. For the purpose of the present description, it is to be understood that the several heads in sequence, J, E, C, E and J are all relatively rigidly associated with the buck support structure 22 and are carried thereby and are movable therewith.

Each of the buck structures K, F, D, F and K is independently mounted upon an elongated support such as indicated in Figs. 1 and 2 by the numeral 96, each of the aforesaid being of tubular character and each of these elongated members extends through the associated head structure, as hereinafter pointed out, and each is slidably supported and guided as at 97. The ends of the members 96, not connected to the respective bucks, are adjustably connected as at 98 to members carried by a shaft 99. This shaft 99 is con-

nected by a link arrangement 100 to the frame as at 101. This linkage arrangement is of such character that as the support structure 22 is moved from the position shown in Fig. 1 to the position shown in Fig. 2 and in the reverse direction, the head and buck portions previously designated by the letters C to F inclusive and J to K maintain longitudinal alignment.

When the head H and buck B are positioned in open relation as shown in Fig. 1, the several parallel support carried heads and bucks are in pressing position. When the head H and buck B are positioned, as shown in Fig. 2, the pressing position, said several heads and bucks are positioned in extended relation or in non-pressing position.

As shown in Figs. 1 and 2, the valve structure W includes an intake control valve having stem 102 and an exhaust valve having stem 103. There is also associated with the exhaust valve, the muffler 104. Leading from the valve structure W and more especially the chamber arrangement controlled by the valves 102 and 103 is a supply line 105 which will be referred to more fully hereinafter.

Positioned adjacent the stems 102 and pivotally supported on the shaft 106 is the member 107 having the abutment portion 108 which mounts an adjustable abutment 109 for contact with stem 102. Member 107 also mounts the adjustable abutment 110 which is operatively associated with the stem 103 at the proper time. Pivotally connected at 111 to the member 107 is the upper end of an adjustable rod 112. The lower end thereof is pivotally connected to the rod portion 113 at 114. A spring 115 is operatively associated therewith. The rod 113 is pivotally mounted at 116 and the arm 117 is rigid with the rock shaft 116 or forms a bell crank for the member 113. The arm 117 mounts the roller 118 adapted to engage the portion 31*b* of the arm 31.

When the support 22 is moved from the position shown in Fig. 2, or body press closed position to body press open position, see Fig. 1, the arm 117 is engaged and tilted clockwise to tilt member 107 clockwise to actuate intake valve 102 for supplying low pressure air to the line 105 and to the several inflatable portions of the buck structures of the multiple pressing arrangement previously described.

Pivotally mounted at 23, see the lower left-hand portions of Figs. 1 and 2, is a spring constrained foot pedal structure 119 having a foot engageable portion 120 and an opposite operating arm portion 121 pivotally connected at 122 to an adjustable rod structure 123 pivotally connected to the junction 114 of the pivotally connected rods 112 and 113. When the parts of the press are in the position shown in Fig. 1, it will be remembered that air is supplied by line 105 to the inflatable portions of the several buck structures of the multiple pressing arrangement. When a sufficient pressing interval has elapsed, the operator by depressing pedal 119—120 in opposition to the spring breaks the joint between members 112 and 113 in opposition to the spring 115 and tilts the member 107 counter-clockwise. This permits valve 102, or the intake valve to line 105, to close, cutting off further supply of air to said line, and then depresses stem 103 of the exhaust valve to open the same so that the pressure fluid in the line 105 and the connected inflatable portions of the bucks of the multiple pressing arrangement can be exhausted through the muffler 104.

Reference will now be had more particularly to Fig. 6, wherein there is diagrammatically illustrated air supply connections and control. In this figure, it will be noted that the line 105 leads directly to the collar buck structure D and a branch 124 thereof connects to a three-way valve 125 in turn connected to two conduits 126 and 127. The conduit 127 is branched as at 128 and each branch 128 connects to a French cuff buck structure K. The conduit 126 is branched as at 129 and each branch connects to the conventional cuff buck structure F. This three-way valve structure is manually controlled and has three positions: closed position wherein neither conduit 126 nor 127 connect to conduit 124, or the position where either conduit 126 or 127 connects to conduit 124. The majority of shirts, at the present time, are of the conventional cuff type. A few shirts are of the French or double cuff type. Also, there are a few shirts which have no cuffs, but are cut short between the elbow and shoulder.

When the operator encounters a French cuff shirt, the valve 125 is positioned so that fluid pressure from line 105 is supplied to line 128. When the operator encounters a shirt which has no cuffs, as before described, which is very unusual, valve 125 is positioned in the closed position so that neither conduit 128 nor 129 is supplied with fluid pressure. Normally, valve 125 will be positioned to supply fluid pressure from line 105 to lines 129, the conventional cuff bucks. Thus, selective control is possible and air pressure fluid is conserved or wastage is eliminated.

The several heating connections to the bucks and heads will be described more fully in connection with the specific description of the same unless obvious.

Reference will first be had to Fig. 2 wherein the body or bosom buck and head is shown in transverse section. Then reference will be had to Fig. 3 wherein the conventional cuff buck and press is shown in front elevation. Then reference will be had to Figs. 4 and 5 wherein the collar press is shown in elevation and central section respectively.

Reference will now be had to Fig. 2 and the buck B and head H in said figure. The head H includes a pressing face 140 and a chamber 141, supplied with steam, serves to heat the same. Surrounding the face 140 is a skirt 142 of appreciable depth and the inner surface 143 thereof forms a continuation of pressing face 140. The chamber 141 does not extend into the skirt but may do so whenever desired or required. The adjustable mounting of the head has been previously referred to and briefly described hereinbefore.

The buck B is adjustably supported at 144 upon support 22. The buck includes a rigid body portion 145 chambered at 146 for heating purposes, if desired. The outer surface, with modification, substantially conforms to the pressing surface of head H but is appreciably smaller so that padding and inflatable portions may be interposed between the buck and head.

Herein, the lower portion of the buck body includes a depending skirt 147 terminating in an outwardy projecting flange 148 which seats within but terminates just short of engagement with skirt 142. A ridge 149 is provided as an upward extension of and is in alignment with skirt 147. Inflatable means 150 of peripheral type or of sequentially positioned multiple bag type are interposed between the skirts and are supported

by the buck. Same at the upper portion terminates below the top of the padding 151 of the buck pressing face, in fact, the padding overlaps the bags.

Upon inflation, each bag expands from the buck toward the pressing surface of the head, whether there be mechanical pressure exerted therebetween or not. Since the skirt arrangements are flared outwardly and downwardly to a slight degree, there will be such mechanical pressure exerted but of relatively minor character. The bag expansion insures adequate pressure. The skirt supported bag or bags can only expand outwardly and upwardly due to flange 148, thus insuring side pressing and corner or fillet pressing without "rough drying" effects.

The padding 151 may be relieved where desired and an air bag included therein as indicated at 152. Over all bags and padding is the cover fabric 153. This bag 152 is of sufficient length to accommodate the pleats and of sufficient width to accommodate that shirt pocket or pockets. This bag when inflated naturally exerts a pressure in addition to the mechanical pressure between the elements and in this way the multiple thickness portions of the shirt front can be properly pressed. Bag 152 need not be longitudinally coextensive with the long dimension of the buck unless desired.

Reference will now be had to the multiple press arrangement immediately below and forwardly of and movable with the buck B and supported by structure 22. As previously briefly described, the multiple press arrangement includes two French cuff presses, two conventional cuff presses and a collar press. The latter is illustrated in Figs. 4 and 5. The conventional cuff press is illustrated in Fig. 2 to which reference now will be had.

A member 99 at opposite ends is connected to the ends of links 100 pivoted at 101 to the frame of the machine. Each cuff press includes a bearing 98 pivotally mounted on shaft 99 parallel to the front of the machine. Threaded into the forward end of member 98 is the rear end of tube 96 plugged or sealed as at 155. An air connection 156 connects indirectly to supply line 105, as shown in Fig. 6.

Rigidly clamped to the support structure 22 is the anchorage 157 which adjustably mounts as at 158 the head structure E, same being tubular and hollow. The chamber 159 thereof is adapted to receive and discharge steam from ports 160 for drying purposes. The inner pressing face is tapered as at 161.

The auxiliary support or anchorage 157 includes an elongated bearing 97 which is slidably associated with tube 96 and said tube extends through the tubular head E and when this press is open normally projects beyond same and supports at its outer free end, the conventional cuff buck F.

This cuff buck includes a rigid body portion 162 of light metal, wood or similar material rigidly secured to said tube 96. This body is enveloped by an inflatable member 163. Clamping heads 164 and 165 secure the ends 166 to the body ends. One or more passages 167 extend from the interior of tube 96 to the exterior of the body 162 and upon application of pressure to fixture 156 the bag 163 is inflated.

The clamping end plates and bag are covered by fabric and the desired amount of padding, if desired, and the same is indicated at 168. The forward end of tube 96 is closed or plugged as at 169. The heads are retained in clamping relation as at 170 and 171. A combination guide 172, etc., to facilitate cuff and gusset application to buck F is threaded as at 173 upon the free end of the tube 96.

As hereinafter set forth, the cuff is mounted on buck F when the parts are positioned as shown in Fig. 2. When the buck F and head E are telescopically associated together, as shown in Fig. 1, pressure is automatically applied to the bag portion and the cuff and gusset is dried and pressed. Then the pressure is released manually or automatically and the press opened as illustrated in Fig. 2. This sequence is desirable to facilitate the insertion and withdrawal of the cuff and prevent wrinkling thereof. Since the structure is of tapered character, for some purposes, the aforesaid cycle may be varied slightly.

Reference will now be had to Figs. 4 and 5 wherein there is illustrated the details of the collar press. It is to be understood that since the French cuff press is similar thereto, that the following description of the collar press is substantially applicable to the French cuff press except as to modifications of size and shape and air connections and individual control as illustrated in Figs. 3 and 6.

Parts 98, 96, 157, 158 and 155 of the collar press are identical to parts previously described in the conventional cuff press. The collar head C is carried on support structure 22 by the portions 157—158 and includes an arch shaped arrangement having in this instance an arcuate interior pressing face 175. The head is reenforced as at 176 and the several chambers 177 communicate as at 178, 179 and 180 indicate the steam inlet and outlet, respectively, to the head for heating purposes.

Extending through the head, in a manner similar to the conventional cuff press, is tube 96 and mounted on the forward end thereof is the collar buck D. This collar buck is hollow, as at 181, for lightness but is reenforced at 182.

The bottom includes the central flat portion 183 downwardly and outwardly projecting portions 184, and outwardly directed portions 185 parallel to portion 183. The outer ends of portions 185 are connected to the arch shaped portion 186, reenforced by members 182 and conforming to but spaced from surface 176 when the press is closed. The lower outer ends of member 186, or portions 185, are extended sidewardly as at 187 but terminate short of meeting engagement with surface 175 when the press is closed. Side plates 188 connect the superposed front and rear edges of the bottom and member 186 and project outwardly, as shown at 189, terminating short of surface 175 when the press is closed.

These outwardly and upwardly projecting portions with member 186 form a seat to receive an inflatable bag 190 connected as at 191 to tube 96 plugged or sealed as at 192. Means 193 locates the rear end of the buck D on tube 96. The washer and nut 194 retain the buck D on the end of tube 96.

A connection 195 is secured to the lower ends of head C and forms a support for spaced plates 196 supporting shaft 197 upon which, between the ears on plates 196, is mounted a roller 198. Said roller is engaged by bottom central portion 183 of the buck D when the press is being opened and closed and when closed.

When the press is closed, the bag 190 is in-

flated. Flanges 187 and 189 confine such expansion and direct same toward the pressing face 175 of head C. A fabric 199 covers the buck pressing portion.

Reference will now be had to Fig. 7 and in said figure the conventional cuff buck F has shown applied thereto the cuff M with gusset N of a shirt sleeve O. Encircling the tube 96 at the rear end of the buck is a spring wire or like loop 300 for mounting purposes. The extension 301 includes a lateral portion 302 terminating in an L-shaped free end 303—304, the latter having engagement with the connection of button P of the cuff for holding this end of the cuff to the buck and preventing dropping of the cuff therefrom since Fig. 7 is a view of the buck looking at the same approximately from the side. The aforesaid, therefore, indicates that the end of the cuff having buttonhole Q lies uppermost so no retention is desired therefor. This cuff retaining clip may be readily manipulated and only leaves a line impression in the cuff which is subsequently concealed when the cuff is buttoned.

In Fig. 7, the air bag is shown provided with a sealed in socket 310 and same is positioned approximately in alignment with the junction of the cuff M with the sleeve. Referring to Fig. 8, it will be noted that the sealed-in metallic socket 310 yieldingly receives the midportion 311 of a resilient flexible clip having oppositely directed portions 312 terminating in curved ends 313. This clip may be forcibly and readily applied to and detached from the socket 310. This clip can be swivelled in its socket or the free ends can be elevated as desired or required to apply the cuff to the buck and retain the cuff thereon for pressing purposes.

Reference will now be had to Figs. 9 and 10 wherein the body buck B is somewhat diagrammatically illustrated. This buck is centrally supported and on structure 22 so that shirts can be applied to the buck from either end. As previously mentioned, the width of the buck with side portions is such that at least half and preferably more than that amount of a shirt is pressed at one pressing application. Similarly, the buck length is sufficient, as shown in Fig. 9, to accommodate simultaneously two average length shirts so that at one pressing operation, in effect, the entire body of a shirt is pressed.

It will be noted in Fig. 1 that the near end of the head H (the same as the right end in Fig. 9) is recessed to expose the collar portion of the right-hand shirt. The buck B is provided with a collar form at the right-hand end and same is suitably secured to the buck so that the collar is supported by the form in offset and depending relation for properly pressing the shirt back R. Since another collar form is at the opposite end of buck B, but of more complicated form, no further description or illustration of the right end collar support form is believed necessary.

Mounted in the left half of the buck pressing face and approximately centrally thereof and closer to the middle of the buck than the left end is a flexible clip 330, the midportion being carried by member 331, yieldingly anchored by member 332 to the buck B.

A shirt is mounted on the buck from the left end and with the front half, indicated by S, exposed. It has pleats T and a pocket U. The lay is made with the collar upon the left-hand collar form, hereinafter to be described. The front is stretched to the right with pleats parallel as shown. The clip 330 lying longitudinal is then elevated and turned at right angles to overlie the two pleats as shown. This holds the shirt to the buck and prevents either side from dropping off or down from the buck to the platform Z, not shown in Figs. 1 and 2 for clearness.

Reference will now be had to both Figs. 9 and 10 wherein the left-hand collar form and top bosom clip is illustrated in detail. Extending outwardly from the block 350, secured as at 351 to the buck B, is an inverted U-shaped frame having the midportion 352 and sides 353 extending downwardly and outwardly as at 354. A lever 355 having hand knob 356 at one end is mounted on shaft 357 mounted in sides 353. The other end of lever 355 is connected at 358 to a link 359 pivotally connected at 361 to an arm 360 pivoted on shaft 362 carried by the outer ends of ears 354.

The free end of arm 360 is directed rearwardly toward form 350 and is adapted to immediately underlie the same, as shown by the full lines in Fig. 10. Note from Fig. 9, form 350 is U-shaped and inverted. Pivotally carried on shaft 363, in turn carried by the free end of arms 360 is a cross member 364. This may have a suitable form. Herein, it has a straight formation, the same, however, may be curved upwardly at its outer ends, if desired.

When the collar Y of the shirt is mounted on the form and the bosom stretched as illustrated in Fig. 9 and clamped, the member 355 is elevated to dotted line position sufficient that gravity effective upon link 359 and arms 360, is sufficient to hold the lever 355 tilted upwardly and the member 364 in lowered position, the latter being limited by collar engagement, as shown in Fig. 9. To free the collar from such restraint for shirt removal, the handle 355 is depressed. The parts then lock in overcenter position which is the full line position in Fig. 10.

To prevent the collar dropping, etc., an additional clip is provided. This is a T-shaped member 370 secured at one end at 371 to the midportion 352. The wings 372 extend laterally and are adapted to overlie the shirt at the collar portion and yieldingly retain the collar and shirt upon the form and buck respectively, the anchorage 371 lying below the overlapping tips of the unfolded collar Y, as shown in Fig. 9, and portion 370 extending through the opening or space formed when the tips but partially overlap. Member 371—372 is resilient and yieldingly clamps the shirt in position as illustrated.

Reference will now be had to Figs. 11 and 12. Reference to Fig. 12 is solely for the purpose of illustrating the operation of control 85 for the upper set of valves in valve structure W as same has been previously described in detail.

In Fig. 11, there is illustrated two modifications of the invention illustrated broadly in Figs. 1 and 2. It will be remembered the lower set of valves in valve structure W was operated by the foot treadle and arm 31. In Fig. 11, like numerals indicate like parts. In Fig. 11, arm 31 again operates rod 112—113, as previously described.

However, in the present form, the treadle "air release" is omitted and its equivalent is a handle operation. The mechanism includes an arm 500 carried by shaft 52 actuated by arm 53 of the handle structure. The end of arm 52 connects to the upper end of rod 501, the lower end of which at 502 connects to one end of bell crank 503 pivoted at 504 adjacent pivot 114 of toggle

member 112—113. Abutment 505 is the other and operative end of bell crank 503.

When 53 is tilted downwardly, arm 500 tilts upwardly and, therefore, the bell crank is tilted counter-clockwise to "break" the toggle by the abutment 505 in opposition to spring 115. When broken, spring 111*a* pulls down on rocker 107 for exhaust valve 103 opening. This abutment action is a "push" instead of a "pull" from the pedal as in Figs. 1 and 2. The effect is the same. The proper timing is determined by the position of arm 500 on shaft 52 and arm 503 on shaft 504 plus a linear adjustment in rod 501, not shown for clearness.

When the "joint" is "broken" and the handle released, etc., the parts assume a convenient position of non-interfering character so that the valves operate as before described.

Another modification, shown in Fig. 11 and briefly referred to hereinbefore, is for simplicity and clearness illustrated in Fig. 11. This is the addition of snubbers for snubbing the movements of the buck B or head H or both. A snubber 510 shown below valve W in Fig. 11 is provided with operating arm 511 connected at 512 to rigid link 513 connected to connection 36. This is the head snubber.

Snubber 514 includes arm 515 connected at 515*a* to rigid link 516 connected as at 517 to bell crank or arm 31. This is the tiltable buck snubber. Each rigid link is, for simplicity, shown of non-adjustable length but it is to be understood same preferably is of adjustable character, such as for example the upper end of rod 112, the lower end of rod 85, or the connection between 96 and 98.

In Fig. 13, there is illustrated an addition element which has been found highly desirable, although not absolutely necessary and the desirability thereof is predicated upon the fact that the cuffs are starched previous to ironing and, consequently, inasmuch as the cuff buck F usually includes an expansible fabric cover 168 as beforementioned, the pores thereof may become clogged with starch accumulation so as to gradually reduce and finally prevent proper expansion when low pressure is applied to the expansible or inflatable element for pressing purposes. The present invention, therefore, contemplates providing an intermediate cover which is somewhat elastic yet which will have direct contact with the starched areas, and thus prevent starch clogging of the cover fabric 168 so that the latter will function properly together with the inflatable portion for inflation and deflation.

Herein, the cuff buck F supported by the pipe 96 and covered by the fabric 168 is as before retained by the nut 170. A housing 603, apertured at 604, is mounted on conduit 96. Encircling shaft 96 is the element, to-wit: the plate that retains the fabric and inflatable portion upon the rigid body of the buck at the right hand end thereof. Encircling this element in much the same manner as the clip shown in Fig. 7 encircles such an anchorage, is the clip 600 herein, and two upwardly extending ends 601 project upwardly and outwardly through the opening 604 and thence are directed angularly of such extending portions as indicated at 602 in substantial parallel relation. This is a flexible wire element. An expansible fabric sleeve-like member 605 is seamed at two adjacent ends, forming hems 606 of loop character into which extend the free ends of the resilient wire arms 602. This fabric, as before stated, is of semi-elastic type in that it will expand and contract when the buck is expanded and contracted. Furthermore, the anchorage is of such character that the two arms 602 of the wire anchor arrangement can move apart or towards each other in the expansion and contraction of the buck.

It will be quite apparent that any starch which is transferred from the starched cuffs to the cuff buck is transferred to this fabric 605 arranged in sleeve formation upon the cuff buck. When sufficient starch has been accumulated so that the desired pressing is not effected, the fabric 605 may be readily slipped from the wires 602 and a clean fabric or sleeve-like member replace the starch accumulated member.

Various other cuff buck protectors of quick detachable and replaceable character may be utilized in lieu of the foregoing. However, this form illustrated in Fig. 13 is arranged to expose the socket 310 for use of the clip shown in Fig. 8 and, also, there may be supported adjacent the connection of shaft 96 to the cuff buck in the manner shown in Fig. 7, the angular type cuff retainer illustrated in Fig. 7 and all without interference by the aforementioned cuff buck protector shown in Fig. 13.

As previously stated, the primary purpose of this cuff buck protector is to insure the proper pressure application for pressing purposes and the cuff protector prevents clogging of the pores of the fabric 168 with starch, thereby insuring that the cuff buck will expand and contract, as previously described.

Operation and process

The operation is as follows:

The press is normally open and air bags are in deflated condition. The operator pulls down the handle which closes body press and opens collar and cuff press. The operator makes lay of the collar and cuffs on number one shirt and then raises the handle which opens the bosom head and closes collar and cuff heads. After allowing sufficient drying time, the operator depresses the foot pedal thereby deflating collar and cuff bags and then pulls down on handle to close body head and expose the collar and cuff bucks for collar and cuff removal. The lay of the collar and suffs of the second shirt on collar and cuff buck is then made and the handle pushed up to open the body head for again closing collar and cuff press and inflating bags on the collar and cuff press.

Operator now makes first lay of back of number one shirt at right end of body buck, by placing collar around vertical collar supporting block at lower center of right end of body buck and stretching shirt from right end towards center of buck. Operator now depresses pedal deflating collar and cuff press and pulls down on handle, thereby closing body head for pressing back of number one shirt and exposing the collar and cuffs of second shirt. Operator now removes second shirt and lays it aside but conveniently close and applies the collar and cuffs of a third shirt to the collar and cuff press, then raising the handle to open body head. Operator now removes first shirt from right end of buck where back and part of yoke have been pressed and transfers this shirt to the left end of the body buck with the pocket and pleat up for bosom pressing, first placing the open ends of collar around collar supporting block vertically positioned at lower left center of body buck and then stretches bosom of shirt to right or towards center

of buck where ends of shirt are clamped in stretched position for perfect finishing.

The operator then picks up the second shirt and makes the back lay at right end of body buck as previously described, depresses foot pedal to deflate the collar and cuff bags and brings down the handle to close body head on first and second shirts and open the collar and cuff press for third shirt exposure. The third shirt collar and cuffs are then removed and collar and cuffs of fourth shirt are then placed on collar and cuff buck.

The handle is again raised to open body press and close collar and cuff press on fourth shirt. Number one shirt is removed from left of the body press and passed to operator for sleeve finishing and subsequent folding. Number two shirt is removed from right end of body press and positioned at left end of body press like number one shirt, as previously described. Number three shirt is now picked up and placed at right end of body press as previously described for the number one and number two shirts for back finishing.

The body press is of sufficient length to accommodate two average size shirts. Only in exceptional shirts will the tails of the shirts overlap at the center of the body press and this is not objectionable.

It has been ascertained that an average competent shirt folder can handle in excess of 100, and usually 125, shirts per hour where no hand touch-up is required. Inasmuch as each sleeving operation, which is performed by sliding the sleeve over an elongated, vertically extending, tapered, heated form, requires two or three seconds, it will be obvious that the shirt folder will have plenty of time to remove each shirt from the left end of the body press and place the sleeves thereof on the sleeve former, which sleeve former is of double sleeve type. Following sleeving, the shirt folder removes the then finished shirt and folds the same provided touch-up is not required. The first operator, it will be noted, merely applies the collars and cuffs to the collar and cuff press, transfers the shirt when so finished to the right-hand end of the bosom press after having previously removed at the proper time the right-hand back pressed shirt to the left-hand portion of the body press for front pressing.

The estimated time of shirt operation, after the initial cycle is completed on the first shirt and the other shirts follow in succession, is approximately 40 seconds for the first or main operator per shirt. The estimated shirt production per machine, therefore, is approximately 90 per hour or in the neighborhood of 40 to 45 per operator for one press unit per hour. Present methods average 20 or less. A few exceptional operators with the modern pressing machinery have been able to produce 25 to 30 shirts per hour. The efficiency of the present machine, therefore, is approximately 200% compared to present standard modern machine efficiency or double the production rate thereof.

From the previous description and the drawings, it will also be observed that the floor space required for the present machine is not excessive and is very materially less than the requirement for the aforesaid present modern machinery.

Furthermore, the actual cost of the present invention calculated on its production basis is very materially less than that of the cost of present standard machines required to produce an equivalent number of shirts.

The present machine has the advantage, excluding the sleeve operation wherein dampening is relatively unimportant, that the rapidity of operations and the reduced number of operations is such that a dampened shirt can be completely ironed, including sleeving, without requiring any intermediate dampening, a customary procedure and normally required with present standard shirt pressing machinery.

High speed shirt pressing machinery at present employed requires four operators and from eight to eleven pressing operations, whereas from the preceding description, including the sleeving as one operation, only four operations are required for complete ironing of a shirt, thereby reducing the number of operations by half or more. This accounts for the high production rate mentioned hereinbefore.

With standard shirt pressing machinery, the speed of any unit is determined by the slowest operator of the four. In the present invention, the speed of the unit is determined only by the number one operator since the shirt folder has ample time to perform all her work and, in addition, can, if desired, assist the first operator such as making the bosom lay but more particularly in removing the bosom pressed shirt from the body press.

Herein, the term bosom and body have been used interchangeably in referring to that portion of the press upon which the back and bosom of the shirt is pressed.

While the invention has been illustrated and described in great detail in the foregoing description, the same is to be considered as illustrative and not restrictive in character.

The several modifications described herein, as well as others which will readily suggest themselves to persons skilled in this art, are all considered to be within the broad scope of the invention, reference being had to the appended claims.

The invention claimed is:

1. In a press adapted for laundry service, the combination of a base, a pressing head element pivoted thereon and movable downwardly and forwardly into pressing position, a pressing buck element pivoted on the base and movable upwardly and rearwardly into pressing position, and means for moving both elements towards and away from each other, said elements when operatively engaged, having a predetermined position and being arranged for pressing purposes and when in disengaged position the buck element is positioned forwardly of and below that predetermined position for garment laying and removal purposes and the head element is then positioned rearwardly and upwardly of that predetermined position for operator clearance.

2. A press as defined by claim 1 characterized by one of the pressing elements being of inflatable surface pressing character, and means for inflating same when the elements are operatively engaged.

3. A press as defined by claim 1 characterized by one of the pressing elements being of inflatable surface pressing character, and means for inflating same when the elements are operatively engaged, one of the cooperating elements being arranged to nest the other of the elements when said elements are operatively engaged and for limiting the extent of inflation and insuring complete pressing contact of the element pressing surfaces.

4. In a press adapted for laundry service the combination of a base, a pressing head element pivoted thereon, a support therebeneath and

tiltably mounted on the base, a pressing buck element carried by and movable with said support, operative engagement of the elements effecting pressing, a second pressing head element carried by and movable with the support, a second pressing buck element carried by and movable with the support and movable upon the support into and out of operative engagement with the second mentioned head element, the operative engagement being of sequential character.

5. A press as defined by claim 4, characterized by one element of each cooperating pair of elements being of inflatable character, one element of the cooperating pair nesting the other element of the cooperating pair.

6. A press as defined by claim 1, characterized by one of the pressing elements being of inflatable surface pressing character, means for inflating same when the elements are operatively engaged, and means controlling inflation and deflation, inflation automatically occurring when the elements are in registration.

7. A press as defined by claim 4, characterized by one element of each cooperating pair of elements being of inflatable character, one element of the cooperating pair nesting the other element of the cooperating pair, and means controlling the inflation and deflation of each inflatable element, inflation automatically occurring when the paired elements are in position for pressing.

8. A press as defined by claim 4, characterized by the addition of independent fluid operable means for tilting the support and the first mentioned head element, and control means for the fluid pressure operable means.

9. A press as defined by claim 4, characterized by the addition of independent fluid operable means for tilting the support and the first mentioned head element, control means for the fluid pressure operable means, and manually operable means for said control means.

10. A press as defined by claim 4, characterized by the addition of independent fluid operable means for tilting the support and the first mentioned head element, and control means for the fluid pressure operable means, one of said independent fluid operable means having selective sequential connection to the other for timed operation therebetween.

11. A press as defined by claim 4, characterized by the addition of independent fluid operable means for tilting the support and the first mentioned head element, control means for the fluid pressure operable means, one of said independent fluid operable means having selective sequential connection to the other for timed operation therebetween, and a check controlled bypass around the first actuated fluid operable means for directly releasing the last actuated fluid operable means to secure initial release of the later prior to release of the first actuated pressure operable means.

12. A press as defined by claim 4, characterized by the addition of independent fluid operable means for tilting the support and the first mentioned head element, control means for the fluid pressure operable means, and independent yielding means normally opposing each fluid pressure operable means.

13. A press as defined by claim 4, characterized by the addition of independent fluid operable means for tilting the support and the first mentioned head element, control means for the fluid pressure operable means, independent yielding means normally opposing each fluid pressure operable means, and a snubber structure for each fluid operable means and associated yielding means for the purpose described.

14. A press as defined by claim 4, characterized by one element of each cooperating pair of elements being of inflatable character, one element of the cooperating pair nesting the other element of the cooperating pair, independent fluid operable means for tilting the support and the tiltable pressing head, a common source of fluid pressure for inflatable element inflation and fluid operable means operation, a pressure regulator reducing the source pressure for the inflation of the elements, independent controls for said inflatable elements, and control means for the independent fluid operable means.

15. A press as defined by claim 4, characterized by one element of each cooperating pair of elements being of inflatable character, one element of the cooperating pair nesting the other element of the cooperating pair, independent fluid operable means for tilting the support and the tiltable pressing head, a common source of fluid pressure for inflatable element inflation and fluid operable means operation, a pressure regulator reducing the source pressure for the inflation of the elements, independent controls for said inflatable elements, and control means for the independent fluid operable means, said independent control means having automatic sequential operation incident to first mentioned movable element and support movement.

16. A press as defined by claim 4, characterized by one element of each cooperating pair of elements being of inflatable character, one element of the cooperating pair nesting the other element of the cooperating pair, independent fluid operable means for tilting the support and the tiltable pressing head, a common source of fluid pressure for inflatable element inflation and fluid operable means operation, a pressure regulator reducing the source pressure for the inflation of the elements, independent controls for said inflatable elements, control means for the independent fluid operable means, said independ control means having automatic sequential operation incident to first mentioned movable element and support movement, and manually operable means for said control means.

17. In combination a support structure, a plurality of recessed pressing head elements supported thereby, and with the recesses arranged in parallel, a plurality of buck elements, complementary to and receivable by the head elements and in parallel relation, means for moving one of said last mentioned group of elements relative to the cooperating complementary member for nesting the buck in the head for pressing purposes, said means being connected to all elements of one group and arranged for alternate nesting operation, and inflatable means on each of the elements of one group and arranged for selective inflation when the inflatable element and the supporting element is nestingly associated with the complementary element.

18. In combination a support structure, a plurality of recessed pressing head elements supported thereby, and with the recesses arranged in parallel, a plurality of buck elements, complementary to and receivable by the head elements and connected together in parallel relation, means for moving one group of elements relative to the other for nesting the bucks in the heads for pressing purposes, including a corresponding number of elongated members, each supporting

at one end a pressing buck element and connected together at the opposite end and extending through the cooperating head element.

19. A press as defined by claim 18, characterized by the addition of a base upon which the support structure is pivotally supported, guide means upon the latter for the elongated members, and means connecting the connected ends of the elongated members to the base, tilting movement of the support structure upon the base effecting nesting and separation of the cooperative complementary elements.

20. A press as defined by claim 18, characterized by the addition of a base upon which the support structure is pivotally supported, guide means upon the latter for the elongated members, means connecting the connected ends of the elongated members to the base, tilting movement of the support structure upon the base effecting nesting and separation of the cooperative complementary elements, and inflatable means on each of the elements of one group arranged for inflation when the groups are nestingly associated together.

21. In a press a head element having a pressing face of concave transverse outline, a buck element having a complementary pressing face, means supporting one element for movement relative to the other element and longitudinally of the axis of said elements including roller means carried by one element for engagement by the other element for the support thereof when the complementary faces are in registering position for pressing.

22. In a press a head element having a pressing face of concave transverse outline, a buck element having a complementary pressing face, means supporting one element for movement relative to the other element and longitudinally of the axis of said elements including roller means carried by one element for engagement by the other element for the support thereof when the complementary faces are in registering position for pressing, and inflatable means carried by one element and inflatable when the faces are in registering position for pressing.

23. In a press a tubular head element, a buck element having a complementary conformation, said elements being arranged for telescopic association and disassociation, inflatable means carried by one element and inflatable when the elements are telescoped for pressing and, means supporting at one end the buck element and positioned within the tubular element, and means supporting the tubular element, and guidingly supporting the last mentioned support means.

24. In a press the combination with a pressing head element, and a pressing buck element, one of said elements having an inflatable portion, the other member exerting an opposing pressure for limiting inflatable portion expansion and attaining pressing operation, of a combination press guard and manual control, means for bringing the elements into pressing positions and removing same therefrom and controlled by said control, and means controlled by the control and one of said elements for controlling the time of inflation and deflation of the inflatable portion in timed relation to relative positioning of said elements, said second mentioned means being of toggle type and normally constrained to aligned position and positively movable into angular position in opposition to the constraint.

25. In a press adapted for laundry service, the combination of a base, a pressing head element pivoted thereon, a pressing buck element pivoted on the base, means for moving both elements towards and away from each other for mechanical pressure pressing therebetween when operatively engaged, one of the pressing elements being of inflatable surface pressing character, means for inflating same when the elements are operatively engaged, and means controlling inflation and deflation, inflation automatically occurring when the elements are in registration, deflation automatically occurring incident to initial operation of the first-mentioned means.

26. A press as defined by claim 4, characterized by one element of each cooperating pair of elements being of inflatable character, one element of the cooperating pair nesting the other element of the cooperating pair, means controlling the inflation and deflation of each inflatable element, inflation automatically occurring when the paired elements are in position for pressing, the control means for each inflatable element being independent of each other and of singular character and manually operable in one direction and automatically operable in the opposite direction, movement in one direction being for inflation and movement in the opposite direction being for deflation.

27. A press as defined by claim 4, characterized by one element of each cooperating pair of elements being of inflatable character, one element of the cooperating pair nesting the other element of the cooperating pair, and control means of segmental automatic operable type for each cooperating pair of elements, and for automatically inflating and deflating the inflatable element of each cooperating pair.

28. A press as defined by claim 4, characterized by the addition of independent bumper structures for the support and the first mentioned head element and operatively connected to the same for the purpose described.

29. In a pressing machine, adapted for laundry purposes having a recessed pressing element, the combination of a second pressing element substantially corresponding in outline and contour to the recess, said second element including inflatable portions nested in the element confronting surface of the second element and confined against extreme expansion by the first element, and resilient padding between the inflatable portions and supported by the second element and filling out the pressing surface thereof whereby said second element has a confronting resilient surface completely conforming to that of the first element for operative engagement therewith.

30. In a press a tubular head element, a buck element having a complementary conformation, said elements being arranged for telescopic association for pressing and disassociation for garment application and removal, inflatable means carried by one element, means for automatically inflating the inflatable means and only when the elements are telescoped, the other element opposing and limiting the expansion of the inflatable means, the article to be pressed being at that time positioned between the inflatable and said other opposing means, means relatively stationarily supporting one element, other means supporting the other element, and means effective upon said last mentioned other means for effecting telescopic association and disassociation of said elements.

31. A shirt press including a pressing head member having a comparatively large area pres-

sure surface for shirt bosom and side pressing, a buck member having a complementary pressing surface, means moving at least one member into engagement with the other for exerting mechanical pressure between the surfaces, inflatable means included in one of the members and forming a part of the pressing surface thereof, said inflatable means having a position therein corresponding to shirt pleat and pocket portions of a shirt bosom when a shirt is laid between surface for pressing, and means for inflating the inflatable means when the members are in pressing engagement for applying additional and inflation pressure application to the pleat and pocket portions of the shirt and deflating the inflatable means prior to termination of mechanical pressing engagement between members.

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