May 19, 1925. 1,538,077

J. J. ZURUK-ZURINSKY

PRESSING AND CLEANING APPARATUS

Filed Jan. 23, 1923 4 Sheets-Sheet 1

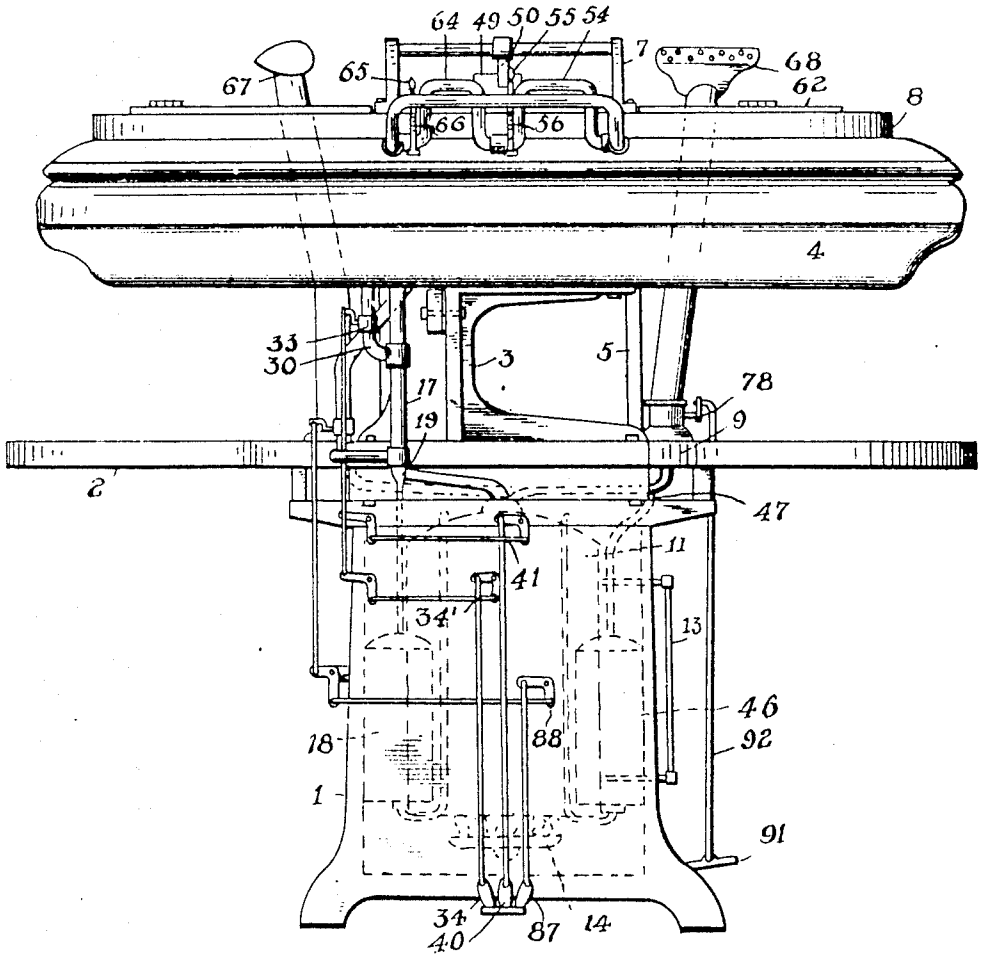


Fig 1

WITNESS
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PRESSING AND CLEANING APPARATUS

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Fig 2

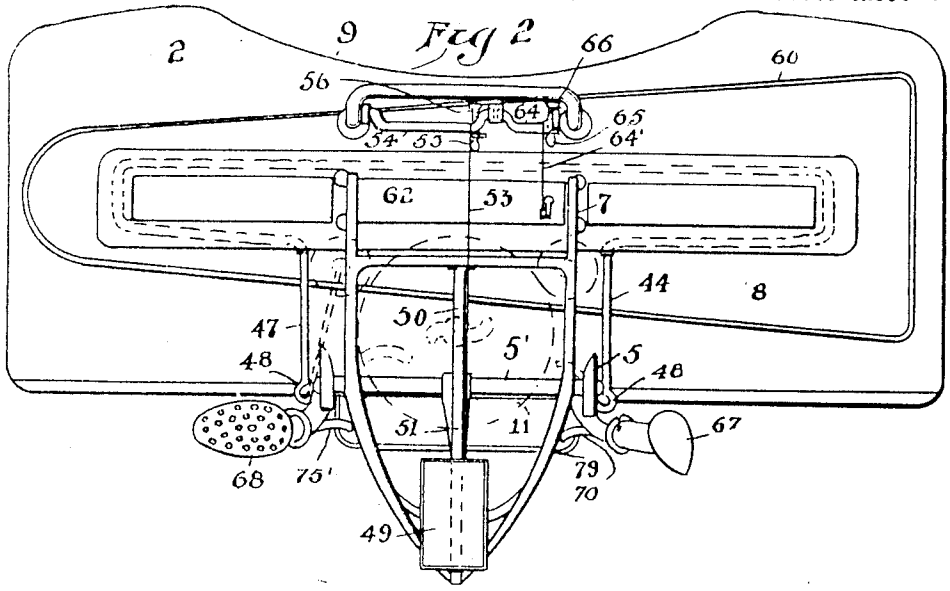
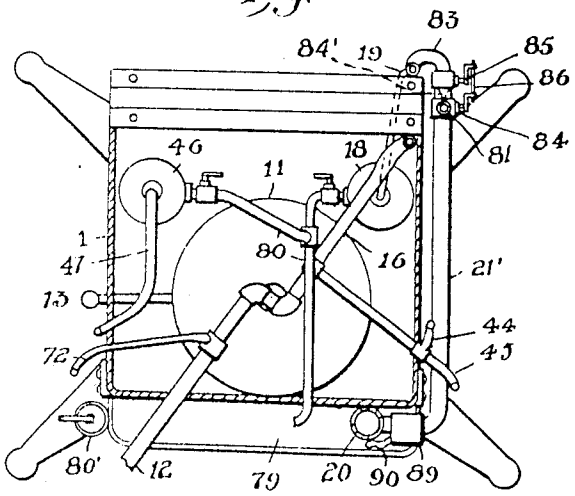


Fig. 3



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PRESSING AND CLEANING APPARATUS

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Fig. 4

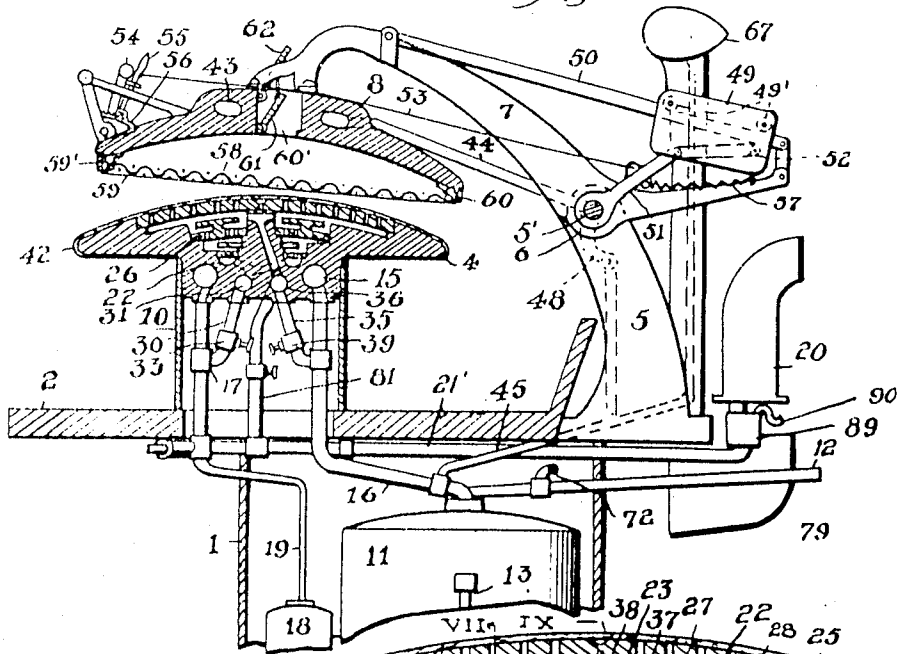


Fig. 5

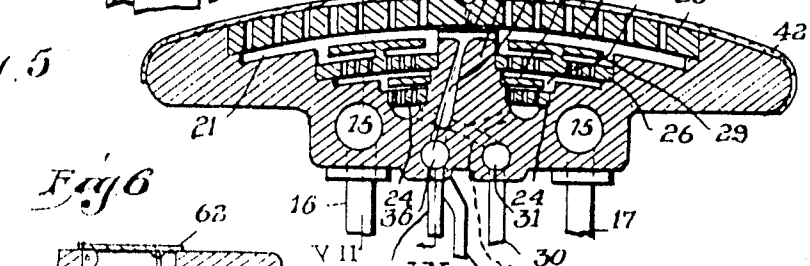
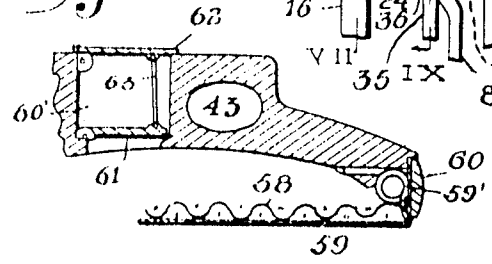


Fig. 6



WITNESS

INVENTOR.

BY

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J. J. ZURUK-ZURINSKY

PRESSING AND CLEANING APPARATUS

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Fig 7

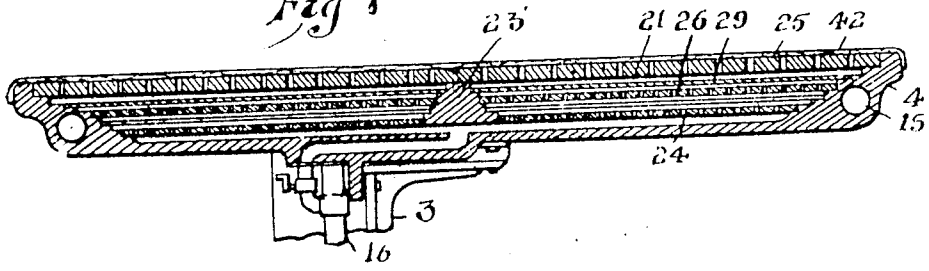


Fig. 8

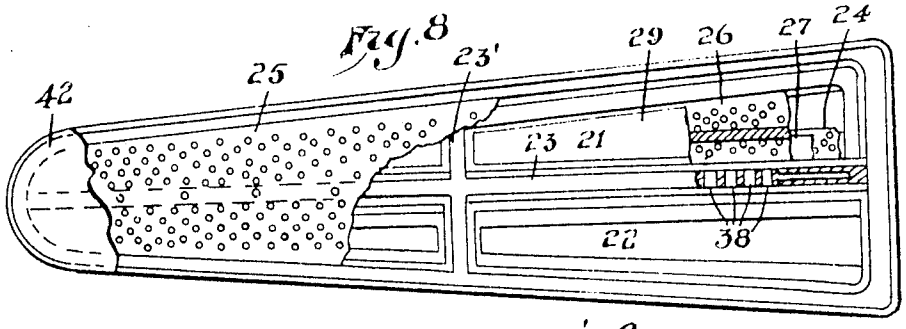


Fig. 9

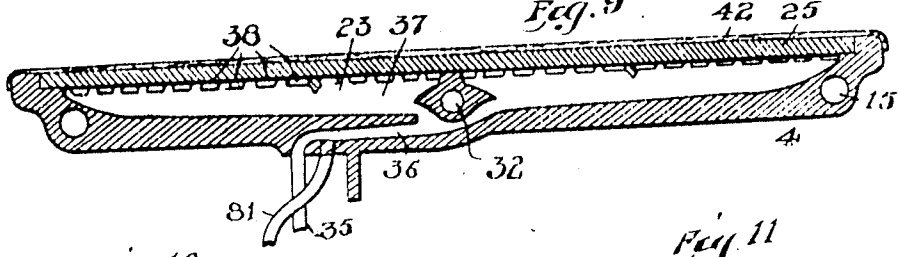


Fig. 10

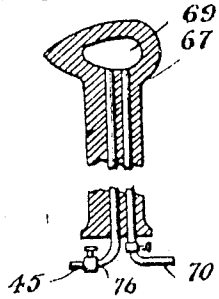
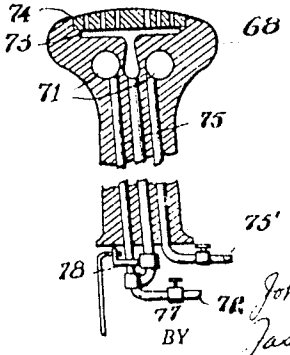


Fig. 11



WITNESS
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Patented May 19, 1925. 1,538,077

UNITED STATES PATENT OFFICE.

JOHN J. ZURUK-ZURINSKY, OF McKEESPORT, PENNSYLVANIA.

PRESSING AND CLEANING APPARATUS.

Application filed January 23, 1923. Serial No. 614,412.

To all whom it may concern:

Be it known that I, JOHN J. ZURUK-ZURINSKY, a subject of the Government of Poland, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Cleaning and Pressing Apparatus, of which the following is a specification.

This invention relates to improvements in steam utilizing garment cleaning and pressing apparatus of a construction somewhat similar to that disclosed in my United States Patent No. 1,424,549, and while embodying the objects of the said patent, has for its further object to improve an apparatus of the character stated, in a manner as hereinafter set forth, which will increase the range of usefulness in this class of machines, which is simple in its construction and arrangement, strong, durable and highly efficient in its use, compact, and comparatively inexpensive to manufacture and operate.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawing forming a portion of this specification and wherein like numerals of reference designate corresponding parts throughout the several views:—

Figure 1 is a front elevation of a garment cleaning and pressing apparatus in accordance with this invention.

Figure 2 is a top plan view thereof.

Figure 3 is a top plan view of the frame and associated parts with the table removed therefrom.

Figure 4 is a transverse sectional view of the buck and pressing head with associated parts.

Figure 5 is an enlarged detail sectional view of the buck.

Figure 6 is an enlarged detail sectional view of the pressing head.

Figure 7 is a sectional view on line VII—VII, Figure 6.

Figure 8 is a top plan view of the buck with portions broken away.

Figure 9 is a sectional view on line IX—IX, Figure 5.

Figure 10 is a vertical sectional view of a diminutive buck.

Figure 11 is a vertical sectional view of a diminutive cleaning buck.

Referring in detail to the drawings 1 denotes the main frame, which may be of any suitable size or form capable of supporting the various mechanisms, exclusive of the steam generator or boiler, at a proper elevation and sufficiently secure to resist the strains to which such mechanisms are subjected. The frame 1 is provided with a table 2 and an upstanding support 3 upon which is mounted a buck 4 of segment-shape in cross section. The frame 1 is further provided with upwardly projecting brackets 5, carrying a transverse shaft 5', between and upon which is journaled, as at 6, a rocking frame 7 carrying a vertically movable press head 8 having its lower face of arcuate contour and which conforms to the shape of the upper face of the buck.

The table 2 is preferably formed with a recessed front 9 to facilitate the manipulation of the apparatus by the operator, and is secured in a horizontal plane upon the frame 1 some distance between the pressing elements, and serves as a temporary support for the garments while being prepared for cleaning, sponging or pressing and also to protect such garments from trailing contact with underlying mechanisms and be more or less soiled by dust or lubricant.

The support 3 is substantially U-shaped and has its arms disposed horizontally. The lower arm of the support 3 is secured to the main frame 1 and the upper arm supports the buck 4 which is rigidly secured thereto so as to lie in a horizontal plane parallel with, but some distance above, the table 2, thereby allowing garments of various forms to be drawn over either end thereof. A casing 10 is secured to the support 3 and in combination with the latter forms a housing for the various supply and drainage pipes which extend upwardly through the table 2 to the buck 4, and provides a protective guard for the garments and for the operator.

A steam reservoir 11 is mounted in the

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main frame 1 and is connected with the steam generator or boiler (not shown), by the steam supply pipe 12, which enters the reservoir 11 at the top thereof. The reservoir 11 is provided with a water gauge 13 to indicate the water level in the reservoir, and with a heating element 14 located beneath the reservoir for maintaining the steam in the latter at an operating temperature.

The buck 4 consists of a cast metal body elongated laterally or from side to side of the apparatus and tapered toward the right hand end, and centrally supported upon the vertical support 3. A heating chamber 15 is formed in the lower portion of the buck 4 and extends entirely around the latter. A steam supply pipe 16 connects the reservoir 11 with the chamber 15 at the one side of the buck 4, and an exhaust pipe 17 communicates with the chamber 15 at the other side of the buck 4. The condensed steam from the exhaust pipe 17 is directed into a small condenser tank 18, mounted in the main frame 1, by the reduced pipe 19, while the uncondensed steam is dissipated through the flue 20 which is connected to the exhaust pipe 17 by the horizontally disposed suction conduit 21'.

The top portion of the buck 4 is hollowed out to form a pair of longitudinally extending cavities 21 and 22 divided by the vertically disposed and longitudinally extending partition 23, and the transversely disposed supporting bar 23'.

Each of the cavities 21 and 22 diminishes in width from its upper end to its bottom and is formed with stepped side walls, as clearly shown in Figure 5, of the drawing. A narrow perforated plate 24 is mounted adjacent to the bottom of each of the cavities 21 and 22 and a wide perforated plate 25 is positioned at the top thereof, while an intermediate perforated plate 26 is disposed between the lower plate 24 and the upper plate 25. Each of the plates 24 and 26 is divided into two sections having their ends supported on the bar 23', which latter has stepped sides arranged on a plane with those formed on the side walls of the cavities 21 and 22. The lower portion of bar 23' does not extend to the bottom of the cavities 21 and 22.

The plates 24, 25 and 26 are spaced from each other and are further supported in the cavities 21 and 22 by having their longitudinal edges resting upon respective stepped side walls of the cavities. A baffle plate 27 is fixed to the inner wall of each of the cavities and is disposed intermediate of perforated plates 24 and 26. A clearance 28 is provided between the outer edge of each of the plates 27 and the outer wall of the respective cavity. A baffle plate 29 is carried by each of the perforated plates 26 to position the same approximately intermediate of the perforated plates 25 and 26. A clearance is provided between the longitudinal edges of the baffle plate 29 and the side walls of the cavity.

The perforated plates 24, 25 and 26, and the interposed baffle plates 27 and 29 are mounted in each of the cavities 21 and 22 to permit of the diffusion of steam to create what is known to the art as "wet" steam. Such steam diffusion is augmented by the arrangement of the steam supply pipe 30 which connects the exhaust pipe 17 with the passage 31 which latter communicates with the inter-connecting port 32 in communication with the lower portion of the cavities 21 and 22. The steam supply pipe 30 is provided with a valve 33 operable by the treadle 34 and the interconnecting mechanism 34' as shown in Figure 1, of the drawings.

Dry steam is supplied to the buck 4 by means of the steam supply pipe 35 which communicates with the supply pipe 16 and with the passage 36 formed in the buck 4. The passage 36 connects with the conduit 37 which latter in turn communicates with the horizontal conduits 38 opening into cavities 21 and 22 adjacent to the top thereof. It will be noted that the arrangement of the transmission pipes for the dry steam is direct from the reservoir 11 through the supply pipe 16 allowing no diffusion of the steam until it passes through the upper perforated plate 25. The supply pipe 35 is provided with a valve 39 operable by the treadle 40 and interconnecting mechanism 41, as shown in Figure 1 of the drawings. A textile covering 42, completely covers the top of the buck 4 in the usual manner.

The pressing head 8 is formed with a heating chamber 43 which extends around the former as shown in Figure 2. A steam supply pipe 44 connects the heating chamber 43 with the steam supply pipe 16 through the conduit 45, and the steam is exhausted in a condenser tank 46 through the conduit 47. The tank 46 is fixed in the frame structure 1. To allow the proper movement of the pressing head 8 in the brackets 5 the conduits 44 and 47 are respectively provided with suitable flexible unions 48.

A shiftable weight 49 is mounted on a bar 50 suitably supported in the rocking frame 7. To facilitate the movement of the weight 49 upon the bar 50, the former is provided with rollers 49' traveling on the latter. An operating arm 51 is pivotally mounted on the transverse shaft 5' and connects with the weight 49 through the pivoted link 52. A pull member 53 is connected with the arm 51 and with the handle 54 at the front of the head 8. The handle 54 includes a lever 55 adjustably engaging a fixed tooth quadrant 56 carried by the head 8. When the

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weight 49 is drawn to the forward position on the bar 50, it will exert a pressure on the head 8 during the pressing operation. The adjustment of the lever 55 on the quadrant 56 will maintain the weight 49 in its forward or pressing position. When the lever 55 is released from the quadrant 56, the weight 49 will shift to the rearward position on the bar 50 by the action of the coil spring 57 which connects the arm 51 with the rear portion of the rocking frame 7, and acts as a counterweight to hold the head 8 in the elevated position.

The pressing head 8 has resiliently secured therewith, as well as being spaced from the lower face thereof, a flexible pressing element consisting of a strip of wire mesh 58 of a width to extend from one side edge to the other of said head and further of the same length as the length of the head. The strip 58 has its outer face covered throughout by a strip of textile fabric 59. Connected to the side edges of the head 8 and to the side marginal portions of the upper face of the strip of mesh 58 are coiled springs 59′, which provide means for resiliently connecting the pressing element to the head 8, as well as a spacing medium between the mesh 58 and the head.

A metal band 60 surrounds the head 8 and encloses the springs 59′ to prevent liability of interference of the latter with the garments during the pressing operation.

The head 8 is formed with a centrally disposed and longitudinally extending opening 60′ provided with a gate 61 hinged to the head 8 to close the lower end of the opening and a hinged gate 62 at the top of the head 8 to close the upper end of the opening. The gates 61 and 62 are connected together by the pivoted rod 63 positioned therebetween in the opening 60′. The gates 61 and 62 are simultaneously operable to desired position by means of an operating handle 64 pivotally carried by the head 8, and connected to the gate 61 by the pivoted rod 64′. The operating handle 64 includes a shiftable lever 65 engaging a toothed quadrant 66 fixed to the head 8. The adjustment of the lever 65 on the quadrant 66 will maintain the gates 61 and 62 at the adjusted position relatively to the opening 60 in the head 8. When it is desired to clean the garment by forcing steam through it, the gates 61 and 62 would preferably be brought to the open position, or partially so, but during the pressing operation they are closed to confine the heat within the head.

A pair of diminutive bucks 67 and 68 are mounted at the rear of the apparatus and are designed for use in cleaning and pressing articles readily adaptable thereto. The buck 67 provides heat only for any purpose desired and is formed with a chamber 69 communicating with the steam supply pipe 45 connected therewith. Steam is exhausted from the chamber 69 to the reservoir 79 through the conduit 70. The buck 68 is also provided with a heating chamber 71 which is supplied with steam through the pipe 72 connected with supply pipe 12. The upper portion of the buck 68 is formed with a cavity 73 covered by a perforated plate 74. The conduit 75 connected with the pipe 72 provides steam through the cavity 73 and plate 74 to permit of the use of this buck 68 primarily for cleaning purposes. The steam is exhausted from the chamber 71 through the communicating conduit 75′ which also connects with the reservoir 79. The supply pipes 45, 72 and 75 are respectively provided with suitable control valves 76, 77 and 78, which are preferably manipulated from respective sides of the apparatus.

A water reservoir 79 is mounted on the rear of the frame 1 and is adapted to receive the water from the condenser tanks 18 and 46, and the exhaust from pipes 70 and 75′, as above stated. Conduits 80 connect the bottom of each of the tanks 18 and 46 with the reservoir 79, and water is forced into the latter from the tanks 18 and 46 by the pressure of the steam exhausted therein during the operation of the apparatus. A pump 80′ is suitably mounted on the reservoir 79 to force the water therefrom into the reservoir 11.

To augment the efficiency of the drying and pressing operation a suction element is provided to draw the steam from the cavities 21 and 22 in the buck 4 after the garment has been cleaned, by the flow of steam therethrough. The suction element comprises a conduit 81 in communication with the passage 36, and connected to the suction pipe 21′. The suction element is operated by the passage of steam through the supply 83 which latter is formed with a nozzle 84′ having its outlet centrally of the suction pipe 21′. The pipes 21′ and 83 are provided with respective valves 84 and 85, which are adapted to function in unison by the action of the common actuating rod 86 which connects with the treadle 87 through the interconnecting mechanism 88. When the valves 84 and 85 are opened by operating the treadle 87 steam will rush through the pipe 21′ from the nozzle 84′ on supply pipe 83, thereby creating a suction action through the conduit 81 and sucking the steam from the cavities 21 and 22 of the buck 4. The steam from the suction pipe 21′ is exhausted in the condenser tank 89 where the uncondensed steam is dissipated through the flue 29 connected therewith, and the condensed steam is drained into the reservoir 79 through the drain pipe 90.

The valve 78 on the steam supply pipe 75 is operated by a treadle 91 which is posi-

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tioned at the side of the apparatus and is connected with the valve 78 by the connecting rod 92.

What I claim is:—

1. An apparatus for the purpose set forth comprising a support, a pressing buck mounted thereon, a rocking frame arranged over the buck and pivotally supported intermediate its ends on said support and with the pivot therefor rearwardly of the buck, a press head carried by the forward end of the frame and co-acting with said buck, a bar connected to and extending from near the forward end to the rear end of the frame, and a weight slidably mounted on said bar and means for shifting the same forwardly thereon to provide a pressure applying means for the head when co-acting with the buck and rearwardly thereon to form a counter-balance to hold the frame upwardly when the head is shifted by the frame from co-acting position, said bar being arranged at the longitudinal center of the frame.

2. An apparatus for the purpose set forth comprising a support, a pressing buck mounted thereon, a rocking frame arranged over the buck and pivotally supported intermediate its ends on said support and with the pivot therefor rearwardly of the buck, a press head carried by the forward end of the frame and co-acting with said buck, a bar connected to and extending from near the forward end to the rear end of the frame, a weight slidably mounted on said bar and means for shifting the same forwardly thereon to provide a pressure applying means for the head when co-acting with the buck and rearwardly thereon to form a counter-balance to hold the frame upwardly when the head is shifted by the frame from co-acting position, said bar being arranged at the longitudinal center of the frame, a spring controlled shifting means for the weight connected thereto and to said pivot and frame, and a combined actuating and locking mechanism for said means, said mechanism carried by said head and connected to said means.

In testimony whereof I affix my signature.

JOHN J. ZURUK-ZURINSKY.