May 25, 1943. S. GOLDSTEIN 2,320,178

PRESSING MACHINE

Filed April 11, 1942 2 Sheets-Sheet 1

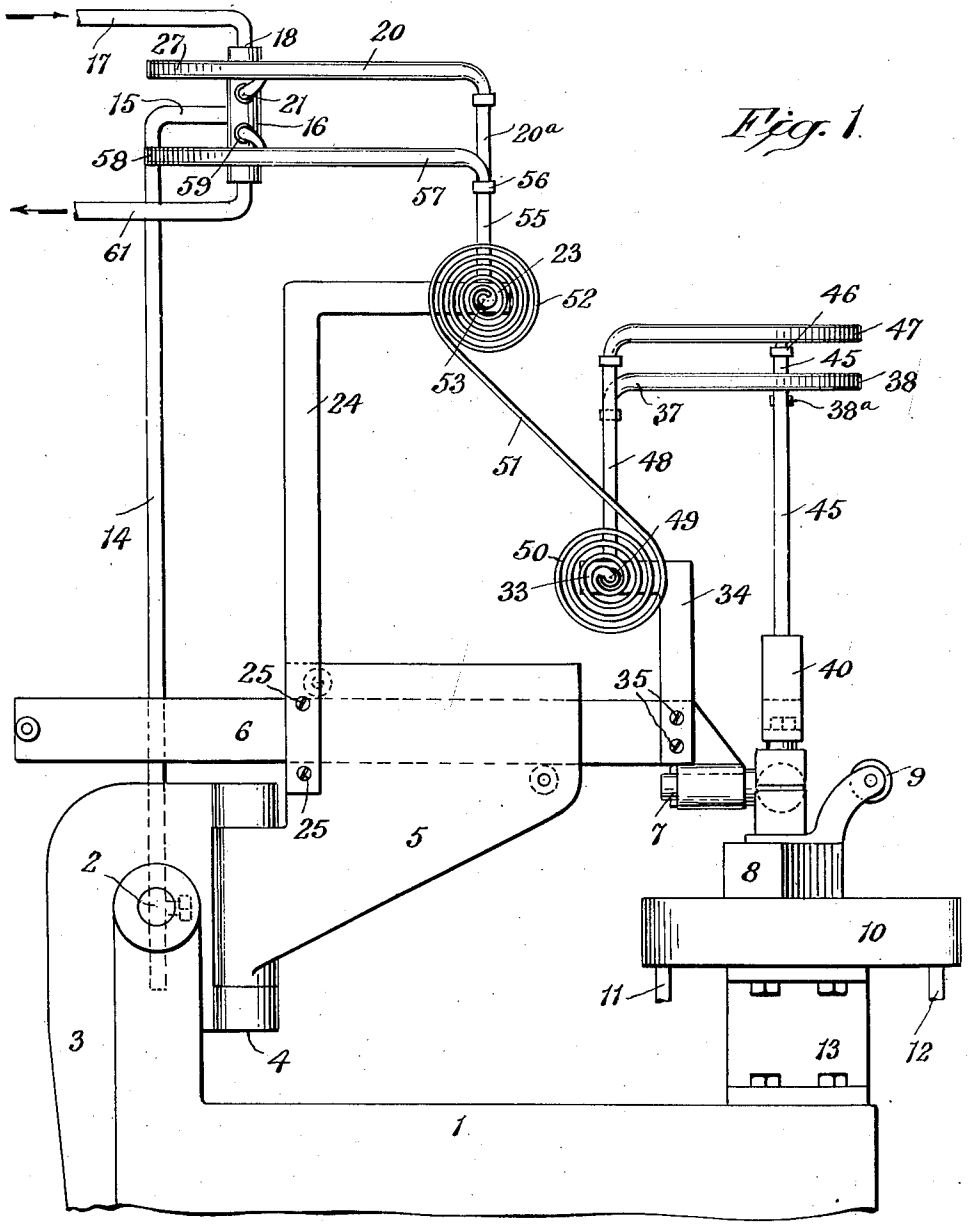



Fig. 1.

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Fig. 2.

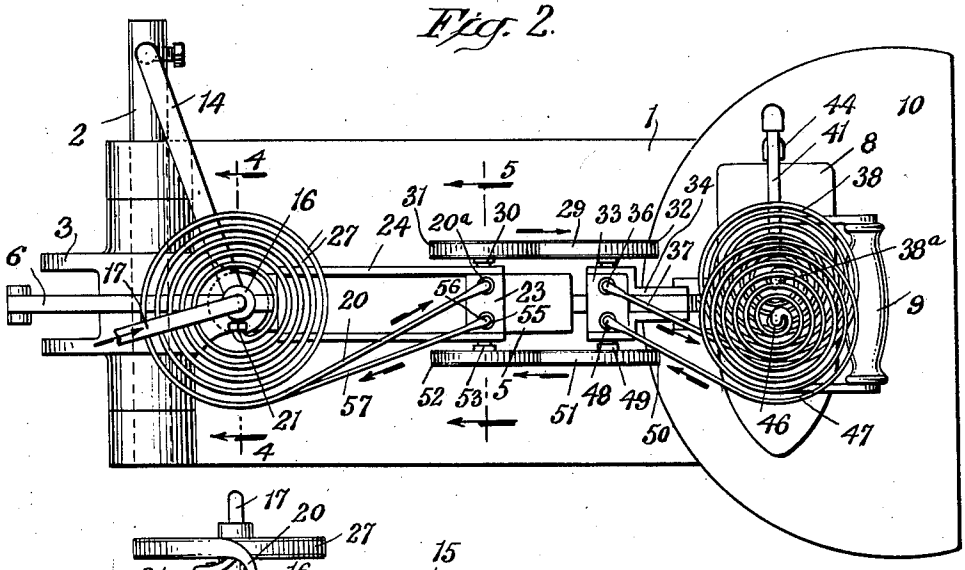



Fig. 3.

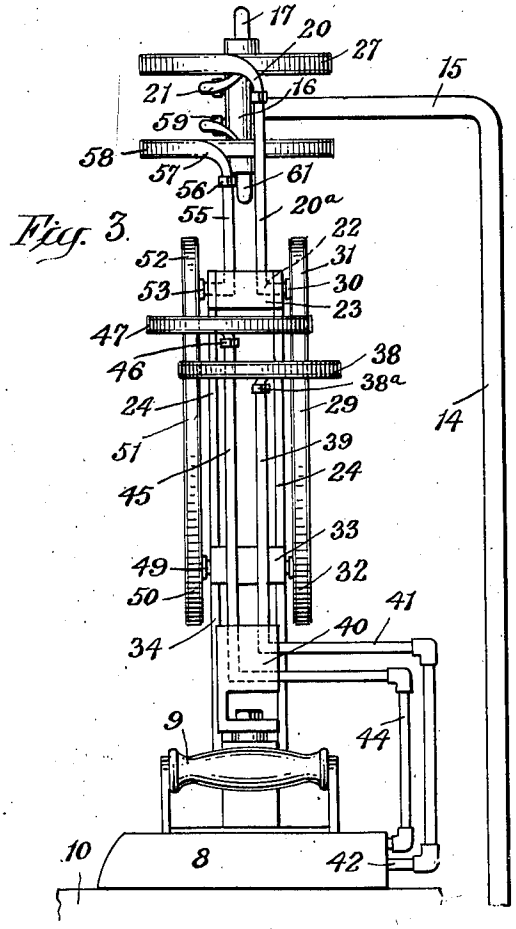



Fig. 4.

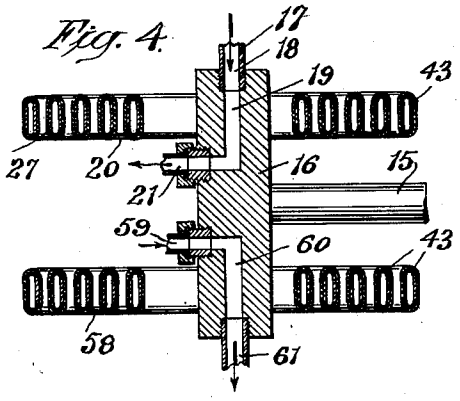
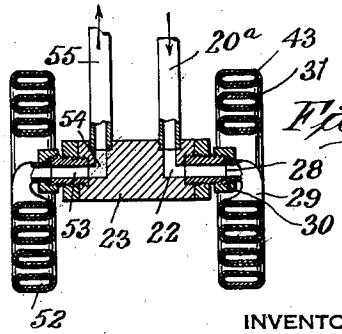



Fig. 5.




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2,320,178

## PRESSING MACHINE

Samuel Goldstein, New York, N. Y.

Application April 11, 1942, Serial No. 438,560

5 Claims. (Cl. 38—32)

This invention relates to pressing machines of the character used for pressing articles of wearing apparel or portions thereof, an example of which is shown in my Patent No. 2,197,613. In a machine of the character mentioned, a manually operated pressing iron is moved over the buck by the operator, the pressing iron being usually pivotally attached to the end of a sliding bar movable in an arm or bracket pivoted in an element supported by the machine frame. Through such relatively movable and connected elements, a universal movement is provided for the iron, whereby the same may be freely moved in any direction required by the operator and with a minimum of effort.

The pressing iron is supplied with steam, and due to the fact that the iron must be universally movable as above described, the steam is usually conveyed to the iron by one or more lengths of rubber tubing intended to permit flexibility and relative movement between the several parts forming the pressing iron support. The rubber tubing dries out, loses its flexibility, and cracks and needs frequent replacement, and moreover, is often so disposed as to be in the way of the operator.

The primary object of the present invention is to provide means by which rubber tubing as steam-conveying means is dispensed with and an effective flexible and practical arrangement, incorporating spirally arranged sections of metal tubing, is employed.

More particularly, the invention contemplates the provision of means for supporting the pressing iron, in which several connected and relatively movable elements are employed, said elements affording universal movement for the pressing iron, and being connected or joined by sections of spirally arranged flattened and normally stiff metal tubing, said tubing, because of its spirally arranged portions, permitting movement of the pressing iron in any required direction without placing unnecessary strain on the tubing or necessitating extraordinary effort on the part of the operator.

Through the arrangement above mentioned, and hereinafter described, the tubing employed is maintained in a definite position; is kept out of the way of the operator; will last indefinitely and enable the machine to be operated with a minimum of effort and with maximum satisfaction.

In the accompanying drawings, wherein an embodiment of the invention is disclosed, Fig. 1 is a side elevation of portions of the pressing machine embodying the invention; Fig. 2 is a plan view of the same; Fig. 3 is a front elevation of the portions of the machine embodying the invention; Fig. 4 is a sectional view on the line 4—4 of Fig. 2, looking in the direction of the arrows; and Fig. 5 is a sectional view on the line 5—5 of Fig. 2, looking in the direction of the arrows.

In the drawings, the upper portion of the frame of the machine, which may be of the type shown in my Patent No. 2,197,613 or a machine of generally similar construction, is indicated at 1. Pivotally mounted at 2 at the rear of the machine is a lever 3 connected to a treadle or other foot control means, said lever being provided at its upper end with a pivot 4 on which is mounted a swinging arm 5. Slidable through the swinging arm 5 is a bar 6 provided with a pivot 7 to which the pressing iron 8 is connected so that the iron may have a universal movement with respect to the sliding bar 6. The iron 8 is provided with an operating handle 9 by which it is moved over the top face of the buck 10, the buck being hollow and supplied with steam through inlet pipe 11, the condensation passing out of the buck through the pipe or tube 12. The buck is supported in fixed position on the frame portion 1 by means of the brackets 13.

From the foregoing, it will be seen that the iron may be freely moved over the buck by reason of the several movable connections between the parts, including the coupling 7 connecting the iron to the sliding bar 6, which is movable forwardly and backwardly through the pivoted arm 5, the latter being capable of swinging movement on the pivot 4.

The pressing iron 8 is adapted to be supplied with a flow of steam through a system of piping now to be described. Rising upwardly from the frame 1 is a fixed rod or bar 14 bent horizontally at its upper end as indicated at 15, said rod or bar supporting a fixed junction or terminal 16 for the steam supply. Steam pipe 17, leading from a suitable source of steam supply, enters into the terminal 16 at the upper end of the same as indicated at 18 in Figs. 1 and 4. The steam 18 conveyed into the terminal 16 passes through the passage 19 and from thence into a section of piping 20. The section of piping indicated at 20 is provided with a spiral portion 21 having one end attached at 21 to passage 19 and having its opposite end connecting to the upper end of a pipe 20a leading into a passage 22 in a terminal member 23 fixedly secured on the upper end of a bracket 24 attached by screws 25 or other

fastening means to the swinging arm 5. The section of tubing 29 is of metal and is thus normally stiff and relatively inflexible, and is compressed or flattened into tape-like formation. Surrounding the junction or terminal 16, the section of flattened tubing 29 is spirally wound so that as the arm 5 is moved with a swinging movement relatively to the fixed terminal 16, the spirally wound section 27 of the section of tubing 29 will coil and uncoil to the required amount without placing a strain on the section of tubing.

The passage 22 in the terminal 23 connects to one end 28 (Fig. 5) of a section of metal tubing 29 by means of a coupling 30. Said section of tubing 29 has a spiral portion 31 adjacent to the coupling 30 as clearly seen in Figs. 3 and 5, and the opposite end of the section of tubing 29 is also spirally wound as indicated at 32, the end of the spiral 32 being connected to a passage extending through terminal member 33, the member 33 being secured on a bracket 34 (Fig. 1), attached by screws or other fastening elements 35 to the bar 6 adjacent to its point of attachment to the pressing iron 8.

The terminal member 33 is similar in construction to that indicated at 23 and the end of the spiral section 32 of the tube 29 that is connected to terminal 33 connects to a passage within the terminal to the end 36 of a tube 37 that is provided with a horizontally disposed spiral portion 38 having its inner end attached at 38a to a rigid pipe 39, supported in a block 40, fixed to the pressing iron 8. Pipe 41, constituting an extension of the pipe 39, connects to the pressing iron as indicated at 42. Through the connected piping composed of the sections 17, 20, 29, 37, 39, 41 and 42 a flow of steam is conveyed from the source of supply to the pressing iron 8. The several spirals 27, 31, 32 and 38 formed in the relatively normally inflexible metal tubing, provide by their coiling and uncoiling action as the various movable parts of the pressing machine are operated, extreme flexibility and permit the pressing iron to be manipulated over the buck with great freedom and without noticeable effort.

The several sections of spirally formed tubing, being relatively stiff, maintain their positions and do not droop or sag or otherwise get in the way of the operator. These sections of metal tubing are preferably covered with insulating material as indicated at 43 in Figs. 4 and 5.

The system of piping heretofore described is that which constitutes the inlet passage of the steam to the iron and a second line of piping is employed for the egress of the steam and condensation. This second line of piping includes the pipe 44 connected to a passage extending through the block 40 and continuing upwardly therefrom as indicated at 45, the upper end of the pipe 45 coupling at 46 to the inner end of spiral 47. The opposite end of the tubing in which the spiral 47 is formed attaches to a pipe 48 rising from the terminal 33, said pipe 48 communicating with a passage therethrough that is coupled at 49 to the end of the spiral 50 of a section of tubing 51 similar to that indicated at 29.

The opposite end of the tubing 51 is formed with a spiral 52 having its end coupled at 53 to a passage 54 extending through the terminal 23 and connected to the lower end of pipe 55 that has its upper end coupled at 56 to the end of a section of tubing 57 provided with a horizontally disposed spiral portion 58 that is coupled at 59 to passage 60 extending through the terminal 16 and leading to an outlet pipe 61.

From the foregoing, the operation of the device will be readily understood. Any swinging movement imparted to the pressing iron 8 about a vertical axis will cause coiling and uncoiling action of the spiral coils 38 and 47. As the iron is moved forwardly and backwardly across the buck by sliding movement of the bar 6 through the arm 5, the spiral portions 38 and 47 can coil and uncoil, and at the same time the spiral portions 32, 50, 31 and 52 can coil or uncoil as required, to permit this forward and backward movement of the iron without applying strain on the several connecting tubes. When the iron is moved along the buck to cause the arm 5 to be swung from side to side, the spirals 27 and 38 will then coil or uncoil as required to permit easy swinging movement of arm 5 and connected parts without applying strain upon the tubes.

By the employment of spirally wound connecting tubes between the several movable parts of the machine, great flexibility is had in spite of the fact that tubes of relatively normal stiff material are employed. The stiff material of these tubes prevents the same from sagging and causes the tubes to be maintained in definite relationship. By utilizing flattened tape-like tubes, the coiling and uncoiling of the spiral portions of the same can be had with minimum exertion on the part of the operator since the spiral portions of the tubes act as torsional springs.

While I have shown the several movable elements of the machine connected or coupled by spiral tubes of certain conformation and disposition, it will be obvious that these tubes may be arranged otherwise and may be situated in different positions than those indicated for accommodation to other types of pressing machines and to secure particular results. The disposition and arrangement of the tubing as well as other changes may be readily made without departing from the spirit of the invention.

What I claim is:

1. In a pressing machine, a frame, an arm swingingly mounted therein, a bar slidably mounted in the arm, a swivel connection between one end of the bar and a pressing iron, a fixed steam inlet, a support carried by the swinging arm, a piece of flattened, spirally wound metal tubing connecting said support with the steam inlet, a second section of similar spirally wound tubing connected to the support and communicating with the first section, said second section being attached at one end to the sliding bar, and a third section of spirally wound tubing establishing communication between the second section and the interior of the pressing iron.

2. In a pressing machine, a buck, a pressing iron movable over the buck, a frame on which the buck is mounted, a pivoted arm carried by the frame, a bar slidable in the arm, a pivotal connection between the bar and the pressing iron, a fixed steam inlet supported by the frame, a spirally coiled section of flattened metal tubing connecting the inlet with the pivoted arm, the spiral formation of said tubing permitting pivotal movement of said arm relative to the fixed steam inlet, a second section of spirally arranged flattened metal tubing mounted on the sliding bar and connecting and communicating with the end portion of the first section that is attached to the pivoted arm, said second section permitting movement of the sliding bar relative to the arm, and a third section of spirally arranged flattened metal tubing extending between the termination of the second section on the bar and the press-

ing iron, said third section of tubing permitting pivotal movement of the pressing iron relative to the sliding bar.

3. In a pressing machine, a fixed steam inlet terminal, a movable pressing iron, a plurality of connected and relatively movable elements for the support of the iron, each of said elements and the iron being provided with a steam passage terminal, and a plurality of spirally arranged sections of normally stiff flattened metal tubing connected between the several terminals and permitting movement of the various elements and the pressing iron, with respect to each other.

4. In a pressing machine, a fixed steam terminal, a swinging arm, a bar movable therethrough, a pressing iron carried by the bar and pivotal relatively thereto, a steam-conveying piping system extending from the terminal to the arm and from the arm to the bar and from the bar to the pressing iron, said system comprising inlet and outlet passages, said system including a plurality of sections of spiralled and flattened metal tubing providing expansibility in the system between the iron, the bar, the arm, and the fixed steam terminal.

5. In a pressing machine, a fixed steam terminal, a swinging arm, a bar movable therethrough, a pressing iron carried by the bar and pivotal relatively thereto, a steam-conveying piping system extending from the terminal to the arm and from the arm to the bar and from the bar to the pressing iron, said system comprising inlet and outlet passages, said system including a plurality of sections of spiralled and flattened metal tubing providing expansibility in the system between the iron, the bar, the arm, and the fixed steam terminal, the spiral portions of some of the sections of tubing being disposed angularly with respect to other of the sections.

SAMUEL GOLDSTEIN.