Aug. 4, 1931. P. N. BRAUN 1,817,406

MOTHPROOFING MEANS FOR PRESSING MACHINES

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Fig. 2.

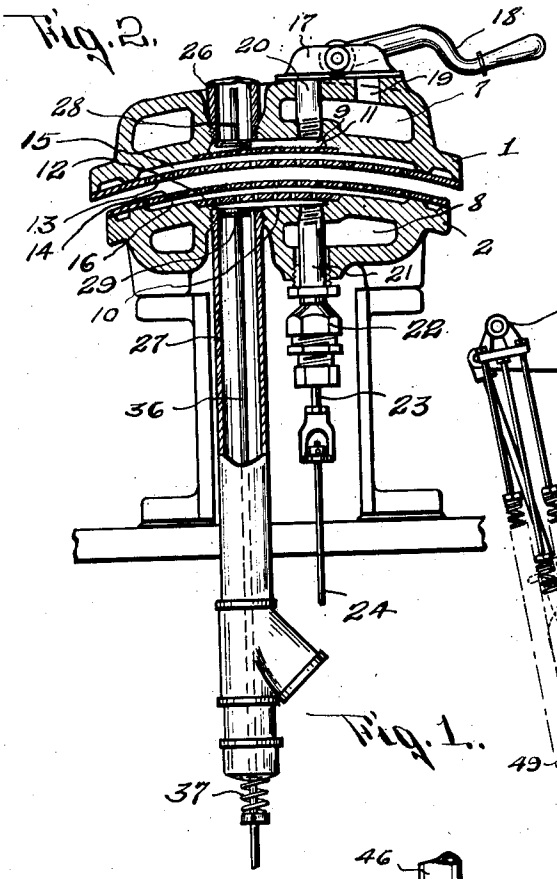
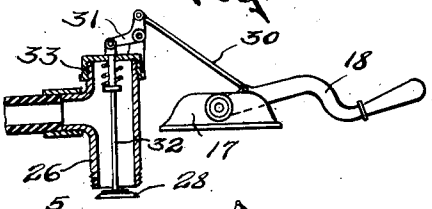
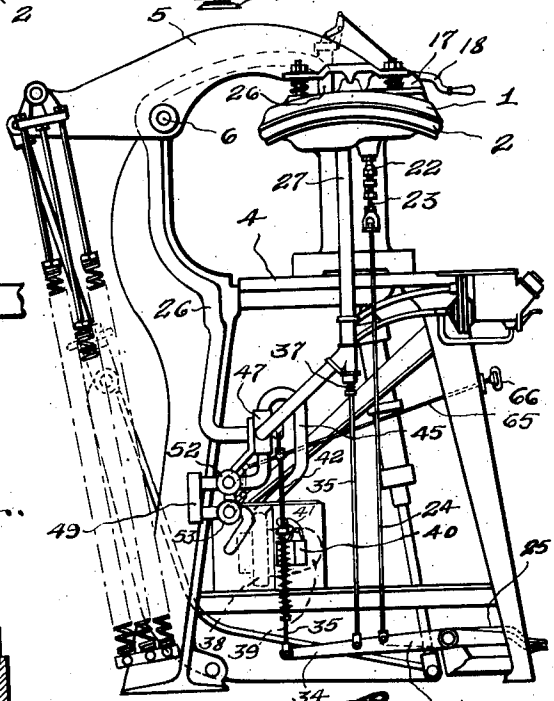



Fig. 1.

Fig. 3.



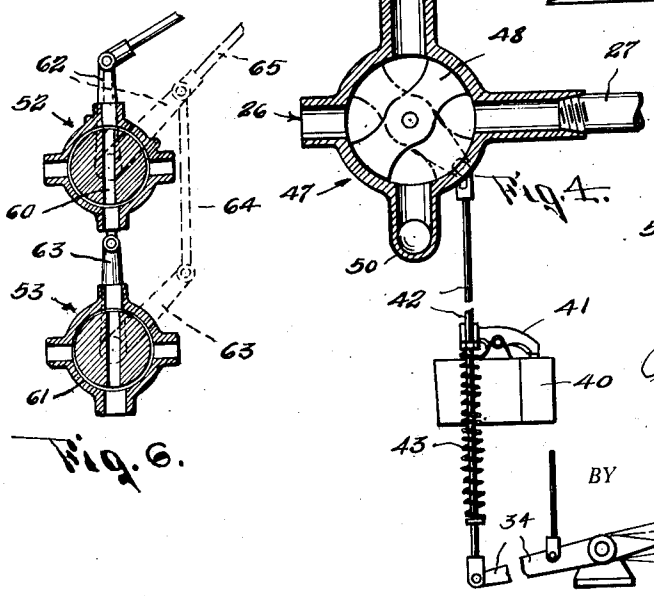




Fig. 4.

Fig. 6.

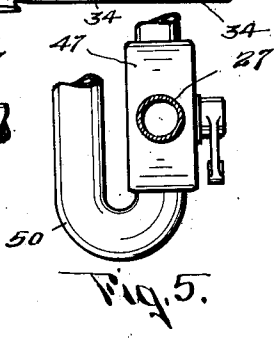



Fig. 5.

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MOTHPROOFING MEANS FOR PRESSING MACHINES

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Fig. 7.

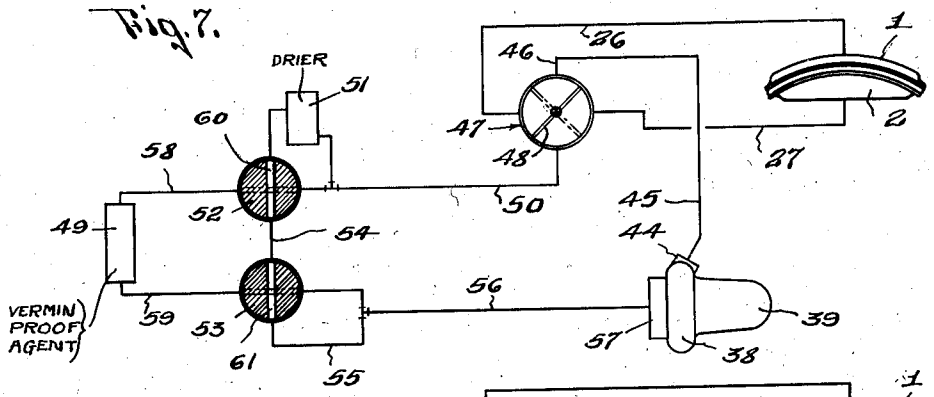
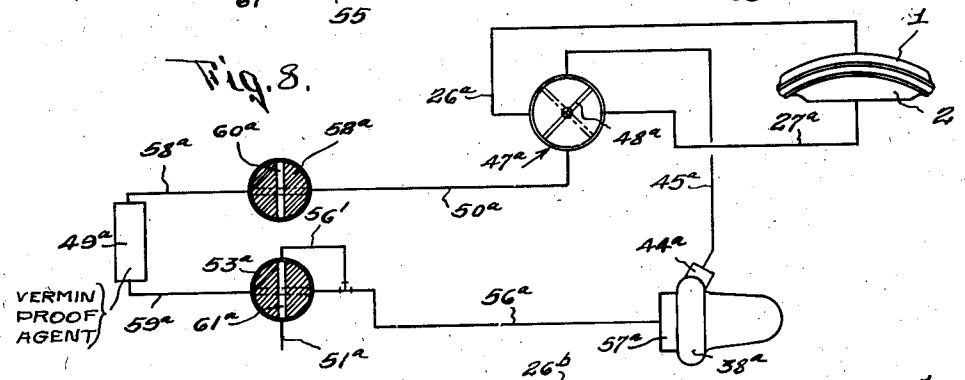



Fig. 8.



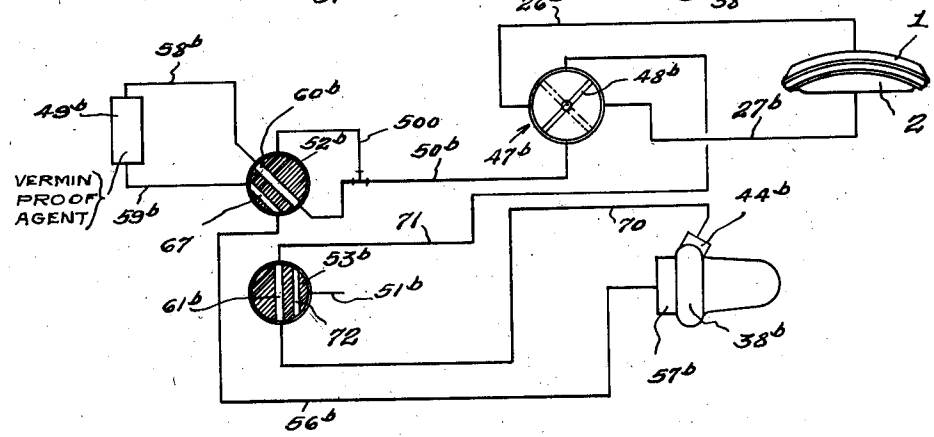




Fig. 9.

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Patented Aug. 4, 1931 1,817,406

# UNITED STATES PATENT OFFICE

PHILIP N. BRAUN, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE PROSPERITY COMPANY INC., OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK

## MOTHPROOFING MEANS FOR PRESSING MACHINES

Application filed June 12, 1929. Serial No. 370,402.

This invention relates to pressing machines, as garment and laundry presses, particularly to machines of the type set forth in my pending application, Sr. No. 363,178 filed May 15, 1929 having means for treating the work with a vermin or moth proofing agent by passing a current of air containing the agent by suction or blowing or both through or against the work, and it has for its object means for creating a closed system for the air when laden with the vermin or moth proofing agent so that said agent is not wasted by being blown into the outer air and further so that the operator is not subject to discomfort or annoyance because of the agent being blown out into the air.

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

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

Figure 1 is a side elevation of a pressing machine embodying my invention.

Figure 2 is an enlarged cross sectional view through the pressing elements of the pressing machine, said elements being shown as slightly spaced apart.

Figure 3 is a detail view of the air valve operating means in the head of the machine.

Figure 4 is an enlarged fragmentary view, partly in section, of the reversing valve of the air system and the operating means therefor.

Figure 5 is an elevation of the reversing valve and the contiguous parts.

Figure 6 is an enlarged sectional view of the valve means for controlling the cutting of the vermin proofing conduit in and out of the conduit system and for closing the system to the inlet and outlet of air when the vermin proofing branch is cut in series with the conduit system.

Figures 7, 8 and 9 are diagrammatic views of different arrangements of the air conduit system, the branch conduit in which the vermin proofing container is located and the control valves.

This invention comprises, generally, a conduit system for passing a current of air through the work being operated upon by a pressing machine or between the pressing elements of a pressing machine, a branch conduit having a chamber therein for a vermin or moth proofing or a similar agent and operator-operated valve means for cutting the branch conduit in and out of the air conduit system and for closing said system to the inlet or outlet of air, that is, making the conduit system a closed circulating system when the branch conduit is cut in, so that there is no loss of vermin proofing or other agent and also so that the agent does not pass out into the outer air where it might cause discomfort to the operator.

The invention is here shown as applied to a conventional type of pressing machine comprising cooperating pressing elements as a head 1 movable toward and from a buck 2, the buck being suitably mounted on a frame 4 and the head being supported and actuated in any suitable manner. It is here shown as carried at the front end of a forwardly and rearwardly extending lever 5 pivoted between its ends at 6 to the frame, and this lever is actuated by any suitable mechanism.

It is thought that a description of this actuating mechanism is unnecessary, especially as many forms of actuating mechanism, either foot or power operated, are well known in this art.

Each of the pressing elements is formed with an internal chamber 7 or 8 for receiving a heating medium as steam. Each pressing element is also formed with a lengthwise channel 9 or 10 which is covered by a perforated plate 11 or 12, and with a foraminous pressing plate 13 or 14 spaced apart from the plate 11 or 12 to form a steam or air distributing chamber 15 or 16.

Steam is supplied to the chambers 7 and 8 in any well known manner.

Steam is supplied to the channel 9 of the head 1 in order to be distributed through the chamber 15 and plate 13 through a valve located in the casing 17 mounted on the head and operated by a handle 18, the casing communicating with the chamber 7 through

a passage 19 and with the channel 9 through a conduit 20.

Steam is supplied from the chamber 8 in the buck 2 to the channel 10 through a pipe 21 controlled by a valve located in the casing 22, the stem 23 of this valve being connected by a rod 24 to a pedal 25 located at the base of the frame.

Obviously, operation of the handle 18 will result in steam being projected through the foraminous plate 13, and operation of the pedal 25 will result in steam being projected through the foraminous plate 14 of the buck 2.

The current of air for carrying the vermin proofing agent is also distributed through the channels 9, 10 and the foraminous plates 13, 14 through a pipe or conduit 26 opening into the channel 9 of the head 1 and a pipe or conduit 27 opening into the channel 10 of the buck 2.

Normally closed valves 28, 29 are located in the pipes 26 and 27 respectively. The valve 28 is operated from the handle 18 through suitable motion transmitting mechanism, as a link 30, connected to the link 18 and to one arm of an angle lever 31, the other arm of which is connected to the stem 32 of the valve 28. A spring 33 normally holds the valve 28 closed. The valve 29 is operated from a pedal 34 pivoted to the base of the frame, the pedal being connected by a link 35 to the stem 36 of the valve 29. The stem 36 extends lengthwise of the conduit 27. A spring 37 normally holds the valve 29 closed.

The air conduit system is here shown arranged to blow air from the head through the work on the buck and suck the air through the buck, or to blow the air through the buck and suck the air through the head, these various operations being within the control of the operator.

The currents of air may be created by any suitable means and is preferably created by a blower located in a casing 38 and actuated by an electric motor located in a casing 39. The motor is normally idle or cut out of its energizing circuit, and is connected in the circuit by a switch, not shown, located in a casing 40, the switch being operated by a lever 41 pivoted on the casing 40 and connected to a link 42 which is pivoted to the pedal 34 to be actuated thereby. The link 42 also actuates a reversing valve to be hereinafter referred to. The operation of the lever 34 is against the action of a returning spring 43.

The pedal lever 34 when initially actuated moves far enough to actuate the lever 41 to close the switch without moving the reversing valve piston 48, hereinafter described, far enough to reverse it. The spring 43 permits further movement of the pedal 43 to reverse the valve 48 while holding the switch closed through the lever 41.

As shown in Figure 7, the outlet 44 of the blower is connected by pipes 45 and 46 to the casing 47 of a reversing valve, which valve also includes a rotary piston 48. The casing 47 is connected to the pipe 26 in the head so that the air is blown through the head and the foraminous plate 13 thereof through the work, and at the same time the air is sucked through the foraminous plate 14 of the buck through the pipe 27 to the reversing valve casing 47 to the opposite side of the piston 48 which is in its full line position, thence through pipe 50, through a condenser or moisture removing device 51, valves 52, 53 connected by a pipe 54 through pipes 55 and 56 to the intake 57 of the blower. Upon reversing the piston 48, to the dotted line position, of the reversing valve by depressing the pedal 34 to its full extent, the air will pass from the outlet 44 of the blower through the pipe 45 to the reversing valve casing 47, the piston 48 being now in the position indicated by dotted lines, so that the air will pass through the pipe 27 and blow through the foraminous plate 14 of the buck through the work thereon and be drawn by suction through the foraminous plate 13 of the head through the pipe 26 back to the reversing valve casing 47, bearing in mind that the piston 48 is in dotted line position, through the pipe 50, condensing device 51, valves 52, 53 and connecting pipe 54, pipes 55, 56 to the intake of the blower.

58 and 59 designate the branch conduits in which there is a container 49 having vermin or moth proofing or similar agent therein, these conduits 58, 59 being connected to the casings of the valves 52, 53. The valves 52, 53 are provided with passages 60 and 61 which normally are so arranged as to cut out the branch vermin proofing conduit and which are operable to cause said passages 60, 61 to connect the pipes 50, 56 and the pipes 58 and 59, the latter being a branch of the pipe 56.

These valves 52 and 53 are here shown as rotary valves located in suitable casings and as operated by rock arms 62 and 63 which are connected by a link 64, the rock arms being connected to an operating rod 65 extending to the front of the machine and having a handle 66 at its front end. Obviously, upon the pushing of the handle 66, the valves 52 and 53 will be moved out of their normal position and by pulling on the handle they will be restored to their original position.

The construction thus far described, forms no part of this invention, but forms the subject matter of my pending application above referred to.

This invention relates to means whereby the conduit system is closed to the inlet of

fresh air or a fresh supply of air when the vermin proofing branch is cut in the circuit. The condensing device 51, before referred to, is for the purpose of removing the moisture from the air, that is, drying or refreshing the air after it is passed through the work between the pressing elements, and therefore, constitutes an inlet for a new or fresh supply of air.

This condensing device may be of any suitable form, size and construction.

In operation, when the valves 52 and 53 are in their normal position shown in Figure 7, the air circulates through the system and is refreshed during each cycle of movement by the condensing device 51. When the valves 52, 53 are moved to cut in the vermin or moth proofing branch, the air circulates through a closed system so that practically none of the vermin proofing agent is lost or discharged into the outer air.

In Figure 8, when the vermin or moth proofing branch is cut out of the circuit, the outer air is taken into the system, and the air is blown only either from the head or the buck and not sucked through either the head or the buck, and when the moth proofing branch is cut into the system, the inlet of air to the system from the outer air is closed.

In Figure 8, the air passes through the intake $51^a$ to the passage $61^a$ of the valve $53^a$ through the pipe 56′ to the pipe $56^a$ to the inlet $57^a$ of the blower, out through the outlet $44^a$ of the blower, pipe $45^a$ to the reversing valve casing $47^a$ on one side of the piston $48^a$ when in full line position, thence out through the pipe $26^a$ through the head against the work thereon. No suction is created through the pipe $27^a$, reversing valve casing $47^a$ and pipe $50^a$ because the passage $60^a$ of the valve $52^a$ is out of alinement with the pipe $50^a$, thus air is blown only through the head.

By operating the piston $48^a$ of the reversing valve $47^a$ into the dotted line position, with the valves $52^a$ and $53^a$ in the same position, air will be blown from the discharge outlet $44^a$ of the blower through the pipe $45^a$ to the reversing valve casing $47^a$ at one side of the piston $48^a$ which is now in dotted line position, thence cut out through the pipe $27^a$ and through the buck 2 and the work thereon. No suction will be created through the head 1 and the pipe $26^a$, reversing valve casing $47^a$, pipe $50^a$ because the passage $60^a$ of the valve $52^a$ is out of alinement with the pipe $50^a$.

Upon operating the valves $52^a$, $53^a$ to bring the passages $60^a$ and $61^a$ into operative position to cut in the branches $58^a$ and $59^a$ of the vermin proofing branch, the intake $51^a$ will be closed so that now with the reversing valve piston $48^a$ in its full line position, the air will be circulated in a closed circuit, from the discharge end $44^a$ of the blower through the pipe $45^a$, reversing valve casing $47^a$ above the piston $48^a$ into full line position through the pipe $26^a$ and through the head and by suction, through the work on the buck and through the buck to pipe $27^a$, reversing valve casing $47^a$ below the piston $48^a$ in full line position, pipe $50^a$, valve passage $60^a$ to the vermin proofing branch $58^a$, $49^a$, $59^a$, passage $61^a$ of the valve $53^a$, and pipe $56^a$ to the intake end of the blower.

By reversing the reversing valve $47^a$ to move into dotted line position, the current of air will pass in the reverse direction and blow through the buck 2 and the work thereon and suck through the head 1.

In Figure 9, the conduit system is arranged to suck air through the buck or the head in accordance with the position of the piston $48^a$ of the reversing valve, when the vermin proofing branch $58^b$, $49^b$ and $59^b$ is cut out of the system.

In Figure 9, the valves $52^b$ and $53^b$ are shown in their position assumed when the vermin proofing branch $58^b$, $59^b$ and $49^b$ is cut in the system and the system closed to the outer air. The air current passes from the blower outlet $44^b$, pipe 70, passage $61^b$ of the valve $53^b$, pipe 71 to the reversing valve casing $47^b$ to the upper side of the piston $48^b$ in full line position through pipe $26^b$, through the head, and is sucked through the buck pipe $27^b$ to the reversing valve $47^b$ below the piston $48^b$ in full line position through pipe $50^b$, passage $60^b$ of the valve $52^b$, vermin proofing branch $58^b$, $49^b$, $59^b$, passage 67 of the valve casing $52^b$ and pipe $56^b$ to the intake end $57^b$ of the blower. Upon reversing the reversing valve piston $48^b$ into dotted line position, the air will be blown through the buck and sucked through the head.

If the valve $52^b$ is rotated into position so that the passage $60^b$ establishes communication between the pipes 500 and $56^b$ and the valve $53^b$ is rotated into position so that the passage 72 establishes connection between pipe 70 outlet pipe $51^b$, then the vermin proofing attachment branch is cut out of the system. With the valves $52^b$ and $53^b$ in this position air will be sucked through the head pipe $26^b$ reversing valve $47^b$ and with the piston $48^b$ in dotted line position through the pipe $50^b$ and branch 500 thereof, passage $60^b$ of the valve $52^b$, pipe $56^b$ to the intake $57^b$ of the blower $38^b$ through the blower outlet $44^b$, pipe 70, passage 72 of the valve $53^b$ out through the outlet $51^b$ into the outer air.

By operating the reversing valve piston $48^b$ to full line position, air will be sucked through the buck pipe $27^b$ to the reversing valve casing $47^b$ to the lower side of the piston in full line position through pipe $50^b$

the same as before out through the outlet $51^b$.

In any case, the conduit system is closed to the outer air or a new supply of air when the vermin proofing branch is cut into the system and is open to the outer air through conduit 51, $51^a$ or $51^b$ only when the blowing or sucking is taking place when the vermin proofing branch is cut out of the system.

What I claim is:

1. In a pressing machine, cooperating pressing elements, a conduit system for passing a current of air through the article being operated upon by said elements, a branch conduit, a chamber for a moth proofing agent in the branch conduit, an operator-operated valve and means to connect and disconnect the branch conduit from the conduit system.

2. In a pressing machine, cooperating pressing elements, a conduit system for passing a current of air through the article being operated on by said elements, said system having a fresh air inlet, a branch conduit, a chamber for a vermin proofing agent in the branch conduit, operator-operated valve means in said system to connect the branch conduit in said system and to close the first air inlet so that the system is a closed one when the chamber is connected in the system and to disconnect the branch conduit from said system and open the air inlet.

3. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, a main conduit system open to the atmosphere for passing a current of air through the article being pressed between said elements, a branch conduit, a chamber for a vermin proofing agent in the branch conduit, operator-operated valve controlled means for connecting and disconnecting the branch conduit and the main conduit system and for closing the main system from the atmosphere when the branch conduit is connected in the system.

4. In a pressing machine, cooperating pressing elements, a conduit system connected to said elements and means connected in said system for circulating a current of air therethrough and through the article between said elements, said system having a normally open passage communicating with an air supply, a branch conduit, a chamber for a vermin proofing agent in the branch conduit and operator-operated valve controlled means operable to close the circulating system to the inlet of air from said air supply and connecting the branch conduit in said system and vice versa.

5. In a pressing machine, cooperating pressing elements, a conduit system for passing a current of air through the article being operated upon, air current creating means in said system, a branch conduit, a chamber for a vermin proofing agent connected in the branch conduit, and operator-operated valve means for connecting and disconnecting the branch conduit in series with the system and whereby the air is circulated through the system.

6. In a pressing machine, cooperating pressing elements, a conduit system normally open to an air supply for passing a current of air through the work between said elements, air current creating means in said system, a branch conduit, a chamber for a vermin proofing agent connected in the branch conduit, operator-operated valve means for cutting in the branch conduit and closing the system to the air supply whereby the air is circulated in a closed air circuit when the branch conduit is connected in the conduit system.

7. In a pressing machine, cooperating pressing elements, a conduit system for passing a current of air through the work between said elements, air current creating means in said system to circulate the air, and means in said system for drying the air during its cycle of movement.

8. In a pressing machine, cooperating pressing elements, a conduit system for passing a current of air through the work between said elements, air current creating means in said system to circulate the air, and means in said system for drying the air during its cycle of movement, a branch conduit, a chamber for a vermin proofing agent connected in the branch conduit, and operator-operated valve means for cutting the branch conduit into and out of the conduit system.

9. In a pressing machine, cooperating pressing elements one of which is movable toward and from the other, means for creating an air current and conduit means for passing said air current against the garment supported on one of said elements, a branch conduit communicating with said conduit means and having a vermin proofing agent therein, and valve means for controlling the flow of the vermin proofing agent into said conduit means.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga, and State of New York, this 3rd day of June, 1929.

PHILIP N. BRAUN.