April 19, 1932. E. DAVIS 1,854,888

CONTROLLING MECHANISM FOR PRESSING MACHINES

Original Filed April 14, 1926

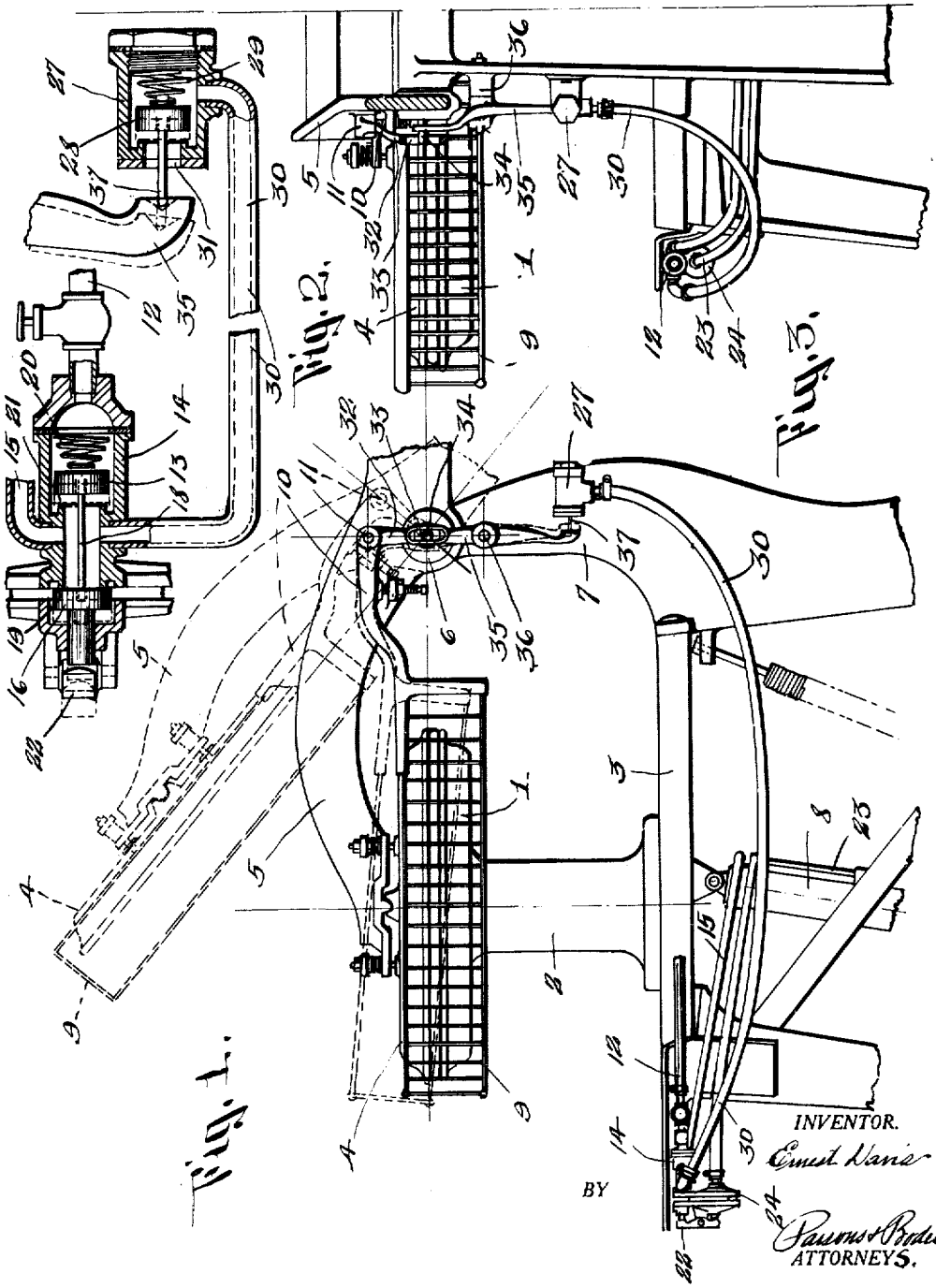

Fig. 1.

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Patented Apr. 19, 1932 1,854,888

UNITED STATES PATENT OFFICE

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CONTROLLING MECHANISM FOR PRESSING MACHINES

Application filed April 14, 1926, Serial No. 102,001. Renewed May 17, 1930.

This invention relates to pressing machines, particularly garment and laundry pressing machines which are actuated by a motive fluid as steam or air, and has for its object means for cutting out or rendering ineffective the motive fluid, which means is controlled by a guard movable by an obstruction in the path of the guard.

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 fragmentary side elevation of a pressing machine embodying my invention.

Figure 2 is a diagrammatic view of the means for controlling the head of the machine.

Figure 3 is a fragmentary rear elevation looking to the left in Figure 1.

This pressing machine comprises, generally, a frame, a buck supported by the frame, a head movable toward and from the buck, a guard carried by the head and normally movable as a unit therewith and held from movement with the head by an obstruction in its path during the closing of the press or permitting relative movement of the head and the guard when the guard is retarded in its movement, means for controlling the actuation of the head including a conduit for a motive fluid as air, a normally closed intake valve in the conduit, manual means for opening the valve, a normally closed exhaust valve connected in said conduit to cut out the effective supply of fluid from the intake valve when the guard is moved relatively to the head and connections operated by the guard to open the exhaust valve.

The pressing machine may be of any desired form, size and construction.

1 designates the buck, which is mounted upon a suitable bracket 2, which in turn is mounted upon a frame or table 3.

4 is the head movable toward and from the buck, it being here shown as carried by a yoke or supporting lever 5 pivoted at 6 to a standard 7 rising from the frame.

This construction of a pressing machine is old and well known. The yoke 5 is actuated through suitable power mechanism, which also is well known to those skilled in the art, and this power mechanism is actuated by a fluid motor, that is a motor operated preferably by compressed air, and the flow of air is controlled by a manually operated valve. In the machine here illustrated the motor, which is operated by compressed air, includes a cylinder 8 the piston of which is connected to motion transmitting mechanism connected to the yoke 5 in any well known manner.

9 is a guard carried by the head and normally movable as a unit therewith, it being also capable of movement relatively to the yoke or head if an obstruction is encountered during closing of the press. The guard is here shown as carried by a supporting arm 10 pivoted at 11 to the yoke 5.

The means for controlling the actuation of the head includes a conduit 12 for a motive fluid as compressed air, a normally closed intake valve 13 located in a casing 14 connected in said conduit 12, the casing being connected through a pipe 15 to the cylinder 8.

A normally open exhaust valve 16 is combined with the intake valve 13 to move as a unit therewith, it being connected thereto by a stem 18 extending through the casing 14. This exhaust valve is movable into engagement with a seat 19. The valve 13 is acted upon by a spring 20 acting to press it towards its seat 21, and normally hold it in closed position, and hold the exhaust valve 16 away from its seat or in open position. The intake and exhaust valves are operated by means of a handle or lever 22, which when depressed presses against the stem of the exhaust valve 16 closing the exhaust valve and opening the intake valve 13 so that the air can pass from the main line 12 through the valve casing 14 and the pipe 15 to the cylinder. The lever 22 is held depressed after the piston has moved through its power stroke by back pressure through a pipe 23 to a diaphragm chamber 24, the diaphragm in the chamber acting upon the lever 22 to hold the exhaust valve 16 closed in the conventional manner. The exhaust valve is

opened by moving the diaphragm manually but as the manual controls, the pipe 23, diaphragm chamber 24, and lever 22 forms no part of this invention further description is thought to be unnecessary.

27 is an exhaust valve casing mounted on the frame and having a movable valve 28 therein normally in closed position and pressed toward closed position by a spring 29. A pipe 30 connects the valve casing 27 to the feed line to cut out the intake valve 13 so that when the valve 28 is open the air will pass through the pipe 30 and out through the outlet 31 instead of passing from the valve 14 to the cylinder through the pipe 15. Hence when the valve 28 is open the press head will not continue its closing movement. The opening of the valve 28 is controlled by the relative movement of the guard 9 and head 4 and such relative movement is communicated to the valve through mechanism including parts arranged concentric with the axis 6 of the support or yoke 5.

These connections as here shown include an arm 32 extending downwardly from the pivot 11 of the guard 9 and having a slot 33 for receiving a pin 34 at the upper end of a lever 35 pivoted between its ends at 36 to the frame, and having its inner end arranged to press against the stem 37 of the valve 28, the pin 34 being located substantially at the axis of the yoke 5.

Obviously when the press is being closed by power due to the operator depressing the lever 22 to open the intake valve 13, if the guard 9 engages an obstruction as the hand of the operator so that the guard cannot continue its movement as a unit with the head, the relative movement of the head and the guard will cause the lever 35 to be actuated and thus open the valve 27 so that the motive fluid instead of flowing to the cylinder 15 to finally close the press head will escape through the valve casing 27.

What I claim is:—

1. A pressing machine comprising a frame, a buck mounted on the frame, a head movable toward and from the buck, a pivoted supporting lever for the head, a guard carried by the head and normally movable as a unit therewith, means for controlling the actuation of the head including a conduit for a motive fluid, a normally closed intake valve in the conduit, manual means for opening the valve, a second normally closed exhaust valve connected in said conduit to cut out the intake valve upon relative movement of the guard and the head and connections between the guard and the second valve, said connections including portions arranged concentric with the axis of the supporting lever for the head.

2. A pressing machine comprising a frame, a buck mounted on the frame, a head movable toward and from the buck, a pivoted supporting lever for the head, a guard carried by the head and normally movable as a unit therewith, and connected to the head to permit relative movement of the head and guard, means for controlling the actuation of the head including a conduit for a motive fluid, a normally closed intake valve in the conduit, manual means for opening the valve, a second normally closed exhaust valve connected in said conduit to cut out the intake valve upon relative movement of the guard and the head and connections between the guard and the valve, said connections including a lever pivoted to the frame and having one end coacting with the second valve to open it and its other end arranged concentric with the axis of the supporting lever for the head and the guard being pivoted to the said supporting lever and having an arm coacting with the second mentioned lever substantially at the axis of said support.

3. A pressing machine comprising a frame, a buck mounted on the frame, a head movable toward and from the buck, a pivoted supporting lever for the head, a guard carried by the head and normally movable as a unit therewith and mounted to permit relative movement of the head and the guard, means for controlling the actuation of the head including a conduit for a motive fluid, a normally closed intake valve in the conduit, manual means for opening the valve, a second normally closed exhaust valve, connected in said conduit to cut out the intake valve upon relative movement of the guard and the head and connections between the guard and the valve, said connections including a lever pivoted to the frame and having one end coacting with the second named valve to open it and its other end arranged concentric with the axis of the supporting lever for the head and the guard being pivoted to the said supporting lever and having an arm coacting with the second lever substantially at the axis of said supporting lever, the arm of the second lever being connected by a pin and slot, the pin of which is normally located concentric with the axis of said supporting lever.

4. In a pressing machine, a buck, a head movable toward and from the buck, means for controlling the actuation of the head including a conduit for a fluid, a normally closed valve in the conduit, manual means for opening the valve, a guard carried by the head and normally movable as a unit therewith, a second normally closed valve connected in the conduit and connecting links between the guard and the second valve for transmitting motion of the guard, relative to the head, to said second valve to operate the same.

5. In a pressing machine, a buck, a head movable toward and from the buck, manual means for controlling the actuation of the

head including a conduit for a fluid, a normally closed intake valve in said conduit, head including a conduit for a fluid, a normally closed exhaust valve connected in said conduit, a guard carried by the head and normally movable as a unit therewith, and connections operated by the relative movement of the guard and the head to positively open the exhaust valve when the guard is moved relatively to the head.

6. In a pressing machine, a buck, a head movable toward and from the buck, means for controlling the actuation of the head including a conduit for a motive fluid, a normally closed valve in the conduit, manual means for opening the valve, a guard carried by the head and normally movable as a unit therewith, means to prevent the effective flow of motive fluid through the conduit, and connections between said last mentioned means and the guard for transmitting movement of the guard, relative to the head, to said last mentioned means.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga and in the State of New York, this 6th day of April, 1926.

ERNEST DAVIS.

CERTIFICATE OF CORRECTION.

Patent No. 1,854,888. April 19, 1932.

ERNEST DAVIS.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, line 15, after the word "valve" insert the word casing, and line 29, for "inner" read lower; page 3, line 3, claim 5, strike out the words "head including a conduit for a fluid" and insert instead means for opening the intake valve; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 12th day of July, A. D. 1932.

M. J. Moore,
Acting Commissioner of Patents.

(Seal)

head including a conduit for a fluid, a normally closed intake valve in said conduit, head including a conduit for a fluid, a normally closed exhaust valve connected in said conduit, a guard carried by the head and normally movable as a unit therewith, and connections operated by the relative movement of the guard and the head to positively open the exhaust valve when the guard is moved relatively to the head.

6. In a pressing machine, a buck, a head movable toward and from the buck, means for controlling the actuation of the head including a conduit for a motive fluid, a normally closed valve in the conduit, manual means for opening the valve, a guard carried by the head and normally movable as a unit therewith, means to prevent the effective flow of motive fluid through the conduit, and connections between said last mentioned means and the guard for transmitting movement of the guard, relative to the head, to said last mentioned means.

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