Feb. 14, 1933. E. DAVIS 1,897,241

PRESSING MACHINE

Original Filed April 19, 1926 3 Sheets-Sheet 1

Fig. 1.

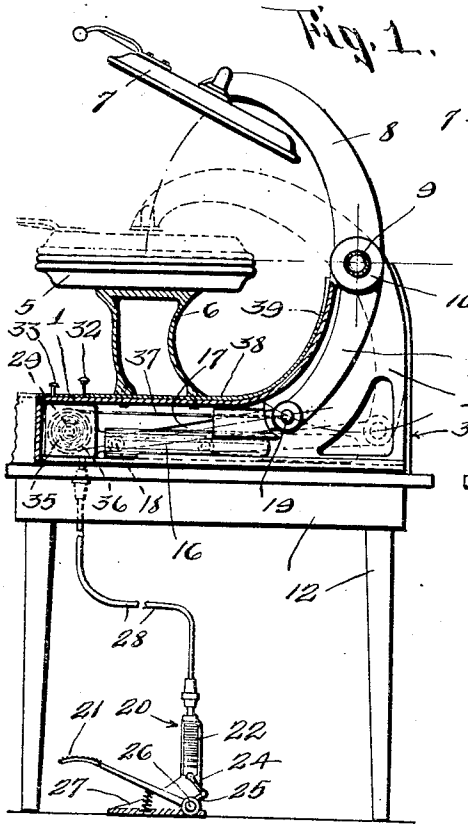
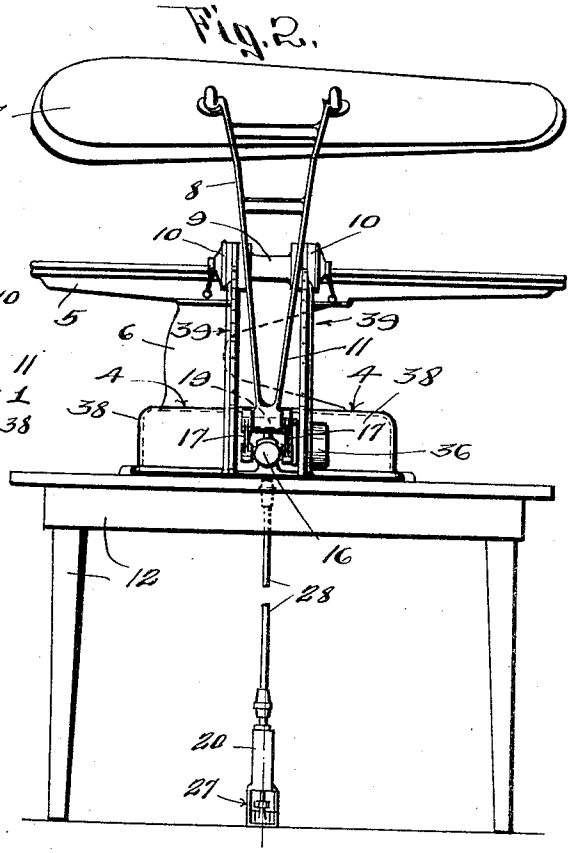


Fig. 2.



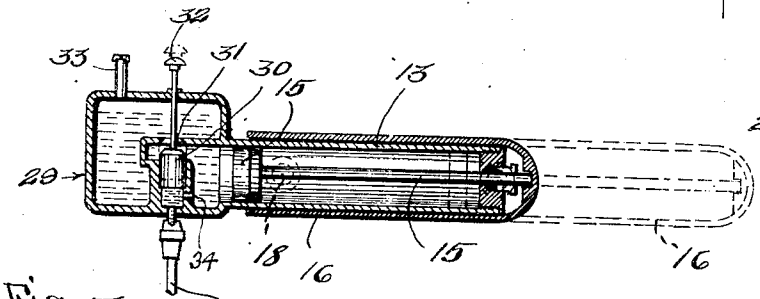


Fig. 3.

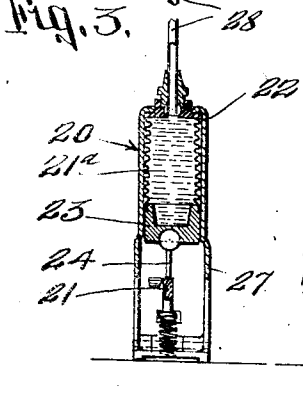


Fig. 5.

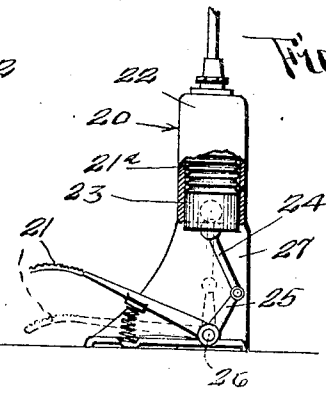
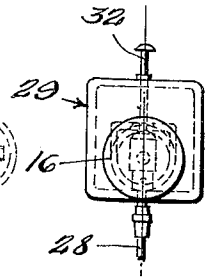


Fig. 4.



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PRESSING MACHINE

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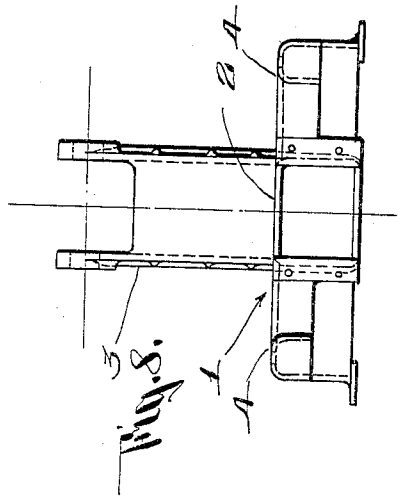

Fig. 8.

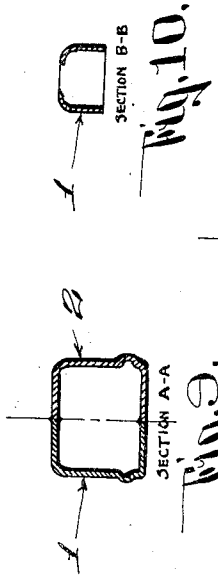

Fig. 10.

Fig. 9.

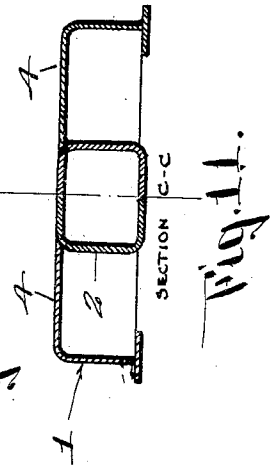

Fig. 11.

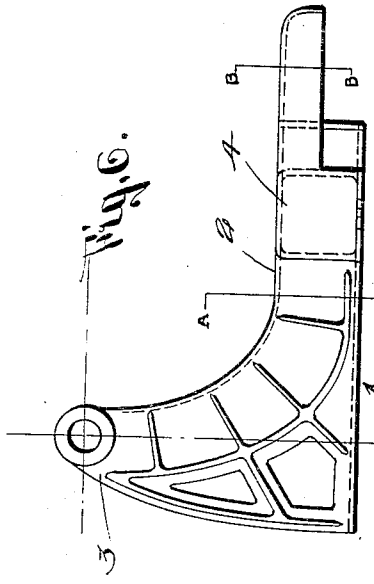

Fig. 6.

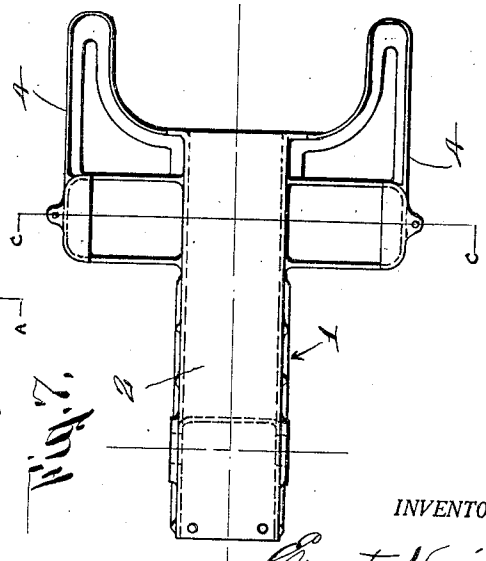

Fig. 7.

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PRESSING MACHINE

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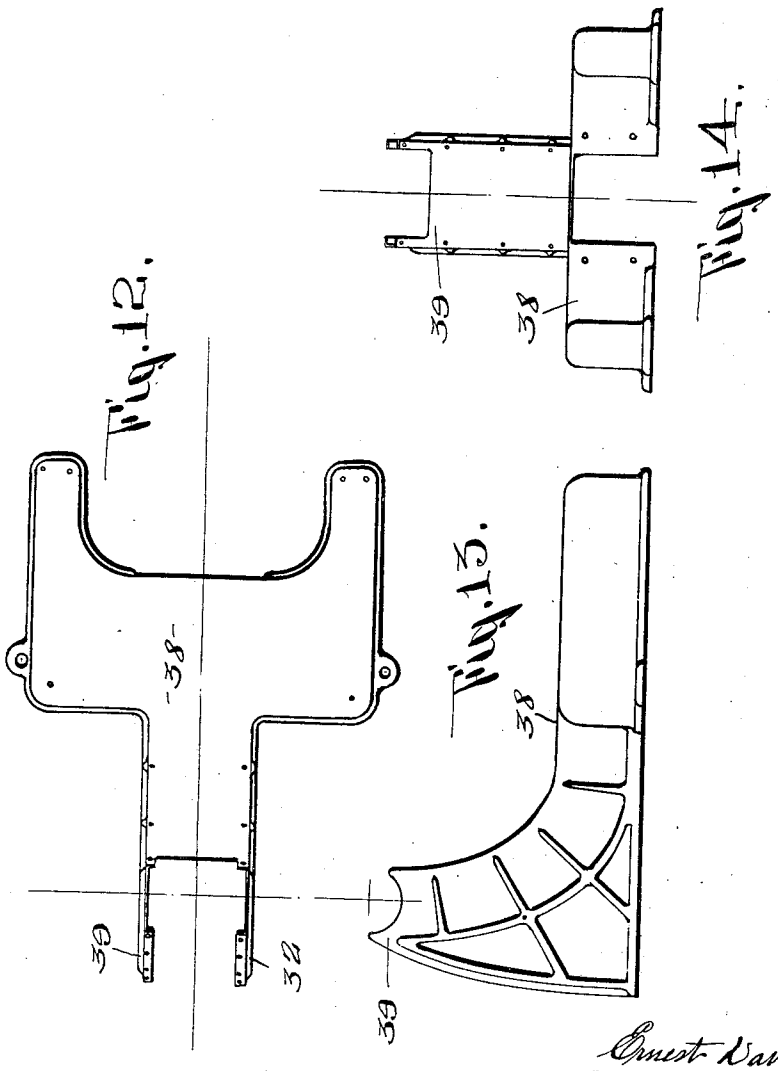

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Patented Feb. 14, 1933 1,897,241

UNITED STATES PATENT OFFICE

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PRESSING MACHINE

Application filed April 19, 1926, Serial No. 102,872. Renewed May 2, 1930.

This invention relates to pressing machines and has for its object a pressing machine, which is particularly simple and compact in its construction particularly in regard to its frame and the actuating mechanism for the head, and which is also highly efficient and durable in use and can be placed on a bench or other support and hence does not require a special table built as an integral part thereof.

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 represents corresponding parts in all the views.

Figure 1 is a side elevation partly in section of my pressing machine.

Figure 2 is a rear elevation thereof.

Figure 3 is an enlarged sectional view of the motor or actuating mechanism and means for controlling it.

Figure 4 is an end elevation looking to the right of Figure 3.

Figure 5 is an enlarged fragmentary detail view of the controlling or pedal mechanism.

Figures 6 and 7 are respectfully a side elevation and an inverted plan view of the base or housing.

Figure 8 is a front elevation thereof.

Figures 9, 10 and 11 are sectional views taken respectively on lines A—A, B—B and C—C of Figures 6 and 7.

Figures 12, 13 and 14 are, respectively, a plan view, a side elevation and a front elevation of the casing for the base.

This pressing machine comprises generally a base in the form of a housing, the base having an upright rising therefrom, a buck mounted on the base, a head movable toward and from the buck, a lever for supporting the head pivoted to said upright and having an arm extending lengthwise of the upright into the base, and mechanism for actuating the lever connected to the lower end thereof, said mechanism being located within the base. The base is of such form that it can be readily mounted on a table or bench and house the actuating mechanism for the press head, and also act as a support for such actuating mechanism.

The base 1 comprises a lengthwise central portion 2, having an upright standard 3 at its rear end, the lenghtwise portion 2 being in the form of a box. The base also includes laterally extending portions 4 upon which the bracket or goose neck is mounted which supports the buck. As here shown the base is made up of right and left halves which are welded or otherwise secured together and the uprights of said halves when assembled form a channel which is open at its rear side.

5 is the buck mounted on a goose neck 6, which in turn is mounted upon the base 1 or the laterally extending portions 4 thereof.

A head 7 is movable toward and from the buck 5 and is carried by the upper arm of a lever 8 supported between its end on a shaft 9 mounted in bearings 10 at the upper end of the upright 3, the lever having its lower arm 11 located in the upright standard 3 and extending into the base.

The lever is double and in the form of a letter C so that the end of the upper arm which carries the head 7 overhangs the buck, and the end of the lower arm 11 extends downwardly and forwardly into the base in open press position. The base is mounted upon a suitable table 12. The lever 8 is in the form of a frame or yoke as seen in Figure 2.

The actuating mechanism for the lever is for the most part located within the base and that here shown comprises a cylinder arranged horizontally in the base and preferably extended forwardly and rearwardly in the lengthwise portion 2 of the base.

13 designates the cylinder and 15 the piston and piston rod movable in the cylinder, the piston having a sleeve 16 connected to the outer end of its rod, which sleeve telescopes with the cylinder so that the cylinder acts as a guide for the sleeve 16 and the sleeve serves as a cross head. The sleeve or cross head 16 is connected to the lower end of the lever 11 by any suitable means as links 17 pivoted at 18 to opposite sides of the sleeve or cross head 16 and at 19 to the lower end of the lever 11.

The piston 15 may be actuated in the cyl-

inder by any suitable means, and in the illustrated embodiment of this machine, it is shown as operated by a fluid under pressure which is supplied thereto by a pedal device, conveniently located and connected to the cylinder.

The device here shown is a pump 20 having a piston 23 which is operated by a pedal 21. The pump is here shown as including a bellows 21*a* located within the suitable housing or cylinder 22, the bellows having the head or piston 23 at its lower end which is connected by a connecting rod 24 to an angular or rock arm 25 mounted on the shaft 26, the latter being actuated by the pedal 21. These parts are all suitably mounted as a unit in a frame 27. The bellows chamber or cylinder 22 is connected by a pipe 28 to an inlet chamber 29 for the cylinder 13. This inlet chamber is provided with a suitable valve 30 which is pressed toward the port or seat 31 by the pressure generated in the pedal device 20 and is provided with a handle 32 by means of which it can be manually tripped to release the pressure in the cylinder. The handle 32 may be raised manually to close the port 31. The chamber 29 is also formed with an air vent 33 to prevent the chamber from becoming air bound. The pump or bellows chamber 21*a* forms also a second reservoir for providing fluid to the cylinder 13 and particularly fluid under pressure.

In operation the operator may close the press by pulling down on the handle on the head 7 and thereafter stepping on the pedal 21 to apply final pressure. When so closing the press by hand the piston 15 moves towards the outer end of the cylinder 13 and the oil flows from the chamber 29 through the port 31, into the cylinder so that the cylinder is filled with oil. Hence upon the depressing of the pedal 21 to apply final pressure, such pressure will be applied through the cylinder 22, pipe 28 and cylinder 13, the pressure in the pipe 28 first closing the valve 30 against its seat 31.

In pressing clothes, the operator varies the pressure to suit the conditions in pressing different portions of the garment. In my machine, the pressure can be varied to any degree. For full pressure, the operator pulls down the head to close the press before stepping on the pedal 21 and the oil during the pulling down of the head follows behind the piston from the chamber 29 so that the cylinder 13 is full as is also the bellows 21*a* and when the head is closed a full throw or leverage of the pedal 21 can be given directly against the oil which completely fills the cylinder 13 and the bellows 21*a*. For less degrees of pressure, the operator pulls down on the head and before the head is completely closed also steps on the pedal 21 thus closing off the flow of oil from the reservoir 29 to the cylinder 13 so that the oil feeding behind the piston 15 is the oil displaced from the bellows 21*a* and hence, the pedal 21 has a shorter throw and less leverage. The length of the throw of the pedal and of course the amount of force or weight applied thereto determines the degree of pressure applied. To release the pressure, the operator presses down on the handle 32 and permits the oil to escape from the cylinder into the chamber 29 and also through the passage 34 and pipe 28 into the bellows chamber.

The head 7 is caused to open by a counterbalancing spring 35 suitably arranged to turn a reel or barrel 36 on which winds a cable 37 which is connected to the lever arm 11. During the closing of the press the spring is tensioned and when the pressure tending to hold the press closed is released the spring acts as a counter-balancing weight to actuate the lever 11 to raise the press head 7.

The base may be covered by a suitable cover or finishing plate 38 stamped of sheet metal and having portions 39 to cover the standard as well as portions to cover the base proper, this cover plate being held in position in any suitable manner. The cover is stamped from sheet metal and the parts thereof riveted or otherwise held together and the function of the cover is merely to serve as a finish for the base.

What I claim is:—

1. A pressing machine comprising a hollow base having a standard rising therefrom, a buck mounted on the base, a head movable toward and from the buck, a lever supporting the head, the lever carrying the head at one end and being pivoted between its ends to the standard and having its lower arm extending downwardly and forwardly and into the base, actuating mechanism including a motor located in the base and connections between the motor and the lower arm of the lever for moving the same in one direction and returning means located in the base and connected to the lower arm of the lever for moving the lever in the opposite direction.

2. A pressing machine comprising a hollow base having a hollow standard rising therefrom, a buck mounted on the base, a head movable toward and from the buck, a lever supporting the head, the lever carrying the head at one end and being pivoted between its ends to the standard and having its lower arm extending downwardly and forwardly through the standard and into the base, actuating mechanism for said head comprising means located in the base including a cylinder, a single acting piston and piston rod movable in the cylinder and means connecting the piston rod and the lower arm of said lever for moving the lever in one direction, and a spring located within the base and connected to the lower arm of said lever to move the lever in the opposite direction.

3. A pressing machine comprising a frame,

a buck carried by the frame, a head movable toward and from the buck, means for movably carrying the head, means for actuating the head including a single acting cylinder, a piston movable in the cylinder and connected to the head, a reservoir for a fluid normally in open communication with the cylinder whereby the fluid can flow by gravity into the cylinder, a second cylinder and piston movable therein, the second cylinder being connected to the fluid reservoir and the first cylinder, a valve for closing the connection between the reservoir and the cylinders when the piston in the second cylinder is operated, and means for operating the second piston.

4. A pressing machine comprising a hollow base having a standard rising therefrom, a buck mounted on the base, a head movable toward and from the buck, a lever carrying the head, the lever being pivoted between its ends to the standard and having one arm carrying the head and the other arm extending into the hollow portion of the base, actuating mechanism including a motor located in the base, connections between the motor and said lever to move the same in one direction, and returning means located in the base and connected to said lever for moving the lever in the opposite direction.

5. A pressing machine comprising a frame including a base member having a forwardly extending hollow box portion adapted to be arranged upon a bench or other support and an upwardly extending hollow standard at the rear end of the box portion, a buck mounted on the horizontal portion, a head movable up and down toward and from the buck, a lever pivoted to the standard and having one arm extending forwardly in a horizontal direction and carrying the head, and an arm extending downwardly into the hollow standard, and means for actuating the said lever, said means being located in the horizontal box portion beneath the buck and above the bench or support.

6. A pressing machine comprising a hollow base adapted to be arranged upon a bench or other support, a buck mounted on the base, a head movable up and down toward and from the buck, mechanism for actuating the head comprising a lever pivoted to the base and having a forwardly extending arm carrying the head and an arm extending downwardly into the base, motor means located in the base and arranged above the bench or support, and connections also located within the base above the bench or support for connecting the motor means with the downwardly extending arm of the lever to move said lever in opposite directions to open and close the press head.

7. In a pressing machine, in combination, a right frame member; a left frame member; an upstanding arm portion on each of said frame members; means securing the edges of said right and left frame members together to form an enclosed chamber; cooperative pressing elements; actuating means for said pressing elements, including a yoke member; means pivotally mounting said yoke member between the upstanding arm portions of the frame members; and means within the chamber enclosed by the frame members for operating the actuating means.

8. In a pressing machine, in combination, a right frame member; a left frame member; an upstanding arm portion on each of said frame members; means securing the edges of said right and left frame members together to form an enclosed chamber; a cover over said right and left frame members; and means securing the cover to the frame members; a fixed pressing element mounted above said cover plate; a cooperative pressing element movable with respect to the fixed pressing element; and actuating means for said movable pressing element pivotally mounted on the upstanding arms of the frame members and means within the enclosed chamber for operating the actuating mechanism.

9. In a laundry pressing machine, a pair of pressing jaws, means for closing the jaws, hydraulic means for locking the jaws in closed position, and means for applying heavy pressure to said jaws through the last mentioned means.

10. In a laundry pressing machine, a pair of pressing jaws, means for closing the jaws, hydraulic means for preventing retrograde movement of the jaws in closed relation, and means for applying heavy pressure to the jaws.

11. In a garment pressing machine cooperative pressing elements one of which is movable with respect to the other; a piston and cylinder one of which is connected with the movable pressing element; a liquid reservoir; a valve for admitting liquid from said reservoir to the cylinder during closing of the press; a foot operated liquid pump; a conduit connecting said liquid pump with the cylinder for supplying liquid under pressure to said cylinder to close said valve and transmit pressure through the piston and cylinder assembly to the movable pressing element.

12. In a garment pressing machine cooperative pressing elements, one of which is movable with respect to the other; a piston and cylinder, one of which is connected with the movable pressing element; a reservoir for a liquid; a valve for admitting liquid from said reservoir into the cylinder during the closing movement of the press and for preventing the escape of liquid from the cylinder; and means for exerting pressure to the liquid in the cylinder after the valve is closed to bring the pressing elements together under pressure.

13. In a garment pressing machine cooperative pressing elements, one of which is movable with respect to the other; a piston and cylinder, one of which is connected with the movable pressing element; a reservoir for a liquid; a valve for admitting liquid from said reservoir into the cylinder during the closing movement of the press and for preventing the escape of liquid from the cylinder during the application of heavy pressure to the pressing element; a second reservoir; and an operator-operated pump for pumping liquid into the cylinder from the second reservoir, to bring the pressing elements together under heavy pressure.

14. In a garment pressing machine cooperative pressing elements, one of which is movable with respect to the other; a piston and cylinder, one of which is connected with the movable pressing element; a reservoir for a liquid; a valve for admitting liquid from said reservoir into the cylinder during the closing movement of the press; and means operable to close said valve and supply liquid under pressure to the cylinder for transmitting pressure to the movable pressing element.

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.