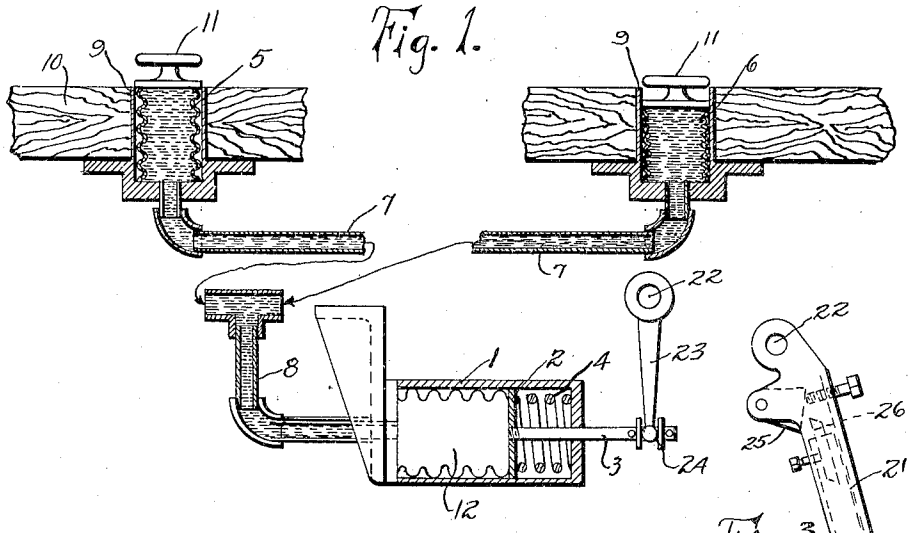
Aug. 11, 1925. 1,549,459

E. DAVIS

TWO-HAND CONTROL

Filed Sept. 4, 1924

Fig. 1.



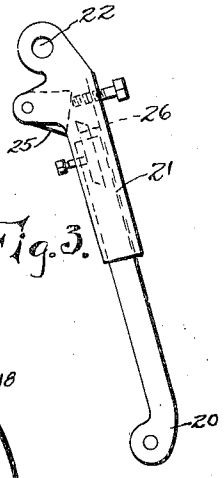


Fig. 3.

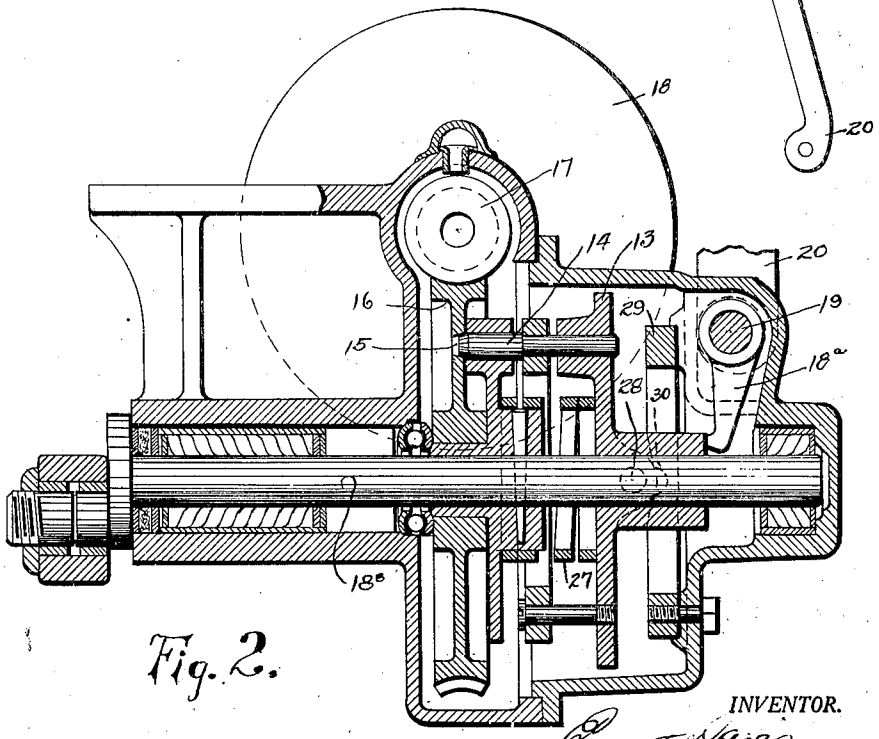


Fig. 2.

INVENTOR.

Ernest Davis

BY

James Bidell

ATTORNEY.

Patented Aug. 11, 1925. 1,549,459

UNITED STATES PATENT OFFICE.

ERNEST DAVIS, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO LIBERTY NATIONAL BANK, TRUSTEE.

TWO-HAND CONTROL.

Application filed September 4, 1924. Serial No. 735,885.

To all whom it may concern:

Be it known that I, ERNEST DAVIS, a citizen of the United States, and a resident of Chicago, in the county of Cook and in the State of Illinois, have invented a certain new and useful Two-Hand Control, of which the following is a specification.

This invention has for its object a two hand control, for machines, such as presses, particularly garment and laundry pressing machines, where both hands of the operator must be used to close the press and while the press is closing, and whereby if one hand is removed before the press is completely closed the closing movement will be discontinued, which two hand control is particularly simple in construction, is composed of a minimum number of parts and is highly efficient in use.

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 drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary vertical sectional view of this two hand control.

Figure 2 is a vertical sectional view of a clutch embodying a shiftable member or section controlled by this two hand control.

Figure 3 is a detail view of the connection between the two hand control and the clutch.

This two hand control comprises generally a fluid operated motor connected to the part to be shifted, a pair of containers for a medium, as oil, the containers being connected together and also connected to the motor, means for compressing the containers to move such fluid as oil, into the motor to actuate it in the event both of such hand controls are operated simultaneously.

1 designates the fluid motor which is here shown as a cylinder, having a movable head or piston 2 therein, which is connected by a rod 3, to a part to be shifted, the head 2 being movable by a medium, as oil, against the action of a compression spring 4.

5 and 6 designate the containers, the interior of which are connected together by a pipe 7, the pipe 7 being connected to the motor, as by a branch 8. The containers 5 and 6, may be connected in series or in multiple with the motor. As here shown the containers are in the form of bellows or sylphons, compressible in suitable tubes or guides 9 supported on the frame or table 10 of the machine provided with this two hand control. The bellows or sylphons are provided with suitable handles 11.

The fluid motor is also provided with similar bellows or sylphon 12, one end of which communicates with the pipe 8 and the other end of which is closed by the head or member 2.

There is sufficient oil in the bellows 5, 6, and pipes 7, 8, so that, upon the compression of one bellows 5 or 6 the oil is forced into the other bellows 5 or 6, and upon compression of both bellows 5 and 6 the oil passes into the fluid motor, and expands the sylphon 12, and hence, actuates the head or piston 2 against the action of the spring 4, and operates the part to be shifted.

In pressing machines this part is a shiftable clutch section 13, which acts to shift the clutch pins 14 into holes 15 in a driving wheel 16, meshing with a worm 17 which is actuated from a constantly running motor 18, the clutch section 13 being mounted on and slidable axially of a shaft 18^B and rotatable with such shaft, so that, when the clutch section 13 is shifted to engage the pins 14 in the holes 15 of the driving wheel 16, the shaft 18^B will be rotated with the wheel 16. This clutch is shifted to its "in" position by a shifting lever 18^a, mounted on a rock shaft 19 and thrusting against one end of the hub of the clutch section 13. The shaft 19 is provided with a lever arm 20 thereon, which coacts with a lever arm 21 mounted upon a shaft 22 having a rock arm 23 thereon, connected at 24 to the piston rod 3 of the motor. The connection between the lever arms 20 and 21, is such that rotation of the rock shaft 22 in a counter clockwise direction rocks the lever arm 20 in a clockwise direction. As here shown the lever arm 21 is in the form of a channel and houses the lever arm 20, and arm 21 is provided with a pivoted pawl 25 coacting with a tooth 26, on the upper end of the lever arm 20, in such a manner that movement of the lever 21 to the right causes the pawl 25 to engage the tooth 26 and thus thrust the lever arm 20 to the right until the pawl clears the tooth, whereby the lever arm 20 is free to assume its normal position. Dur-

ing retrograde movement of the lever arm 21 by its weight the pawl 25 ratchets past the tooth 26.

The clutch section 13 is thrust to its out position by means of a spring 27 and is held to its in position while the shaft is making a predetermined movement as a half revolution, by followers 28 on the clutch 13, coacting with the cam ring 29, concentric with the shaft, the cam ring having notches at 30 for receiving the followers, shifting of the clutch section 13 to move the followers out of the notches 30 and during initial rotation of the section 13 the followers ride upon the cam 29 until the shaft has made a one-half revolution, when the followers again come into alinement with the gear 30 and permit the followers to again react and throw the clutch out. However, any other shiftable part may be operated by this two hand control means.

This control means is particularly advantageous in that both hands must be employed to throw the clutch.

What I claim is:—

1. The combination of a shiftable part, of a two hand control for shifting said part, comprising a fluid operated motor connected to said part, a pair of containers for a fluid, the containers having outlets connected together and also connected to said motor, and means independent of each other for compressing the fluid in the containers, whereby compression of either of said means moves the fluid into the container of the other means, and the compression of both of said means moves the fluid into the motor to actuate the same.

2. The combination of a shiftable part, of a two hand control for operating the same, comprising a fluid operated motor connected to said part, a pair of manually compressible bellows, and conduits connecting the interiors of the bellows together and to said motor.

3. The combination of a shiftable part, of a two hand control for operating the same, comprising a fluid operated motor connected to said part, a pair of sylphons, a conduit connecting the interiors of the sylphons, and also connecting the sylphons and the motor.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga, and in the State of New York, this 20th day of August, 1924.

ERNEST DAVIS.