H. H. CLARK AND L. SCHAUMBURGER.

FOOT PEDAL FOR PNEUMATIC DOOR OPERATING MECHANISM.

APPLICATION FILED NOV. 9, 1920.

1,401,875. Patented Dec. 27, 1921.

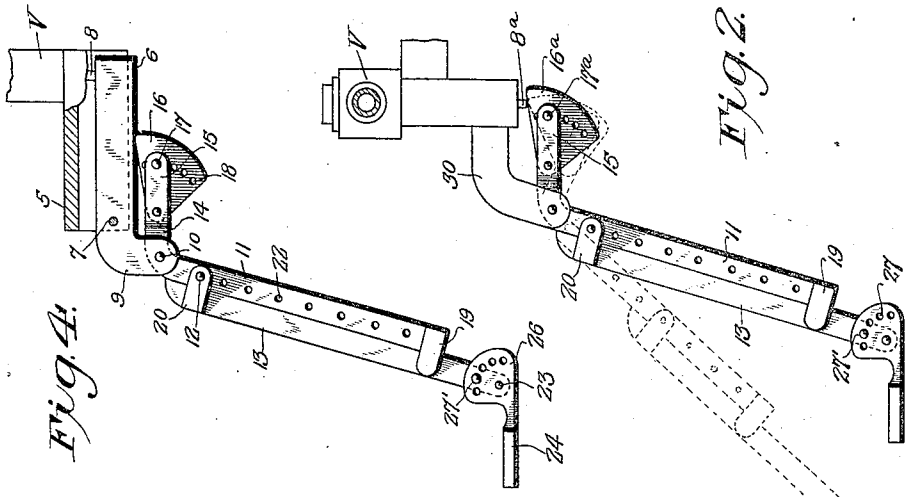

Fig. 4.

Fig. 2.

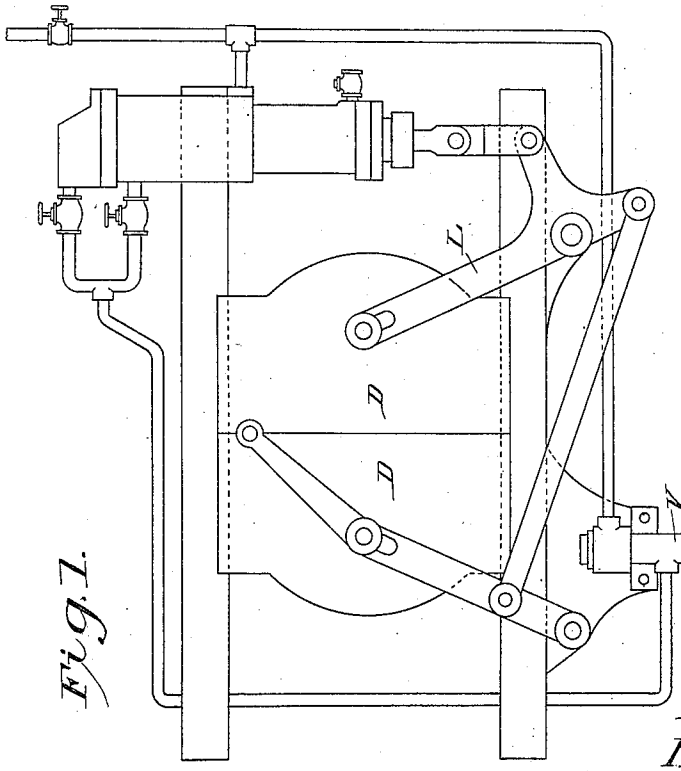

Fig. 1.

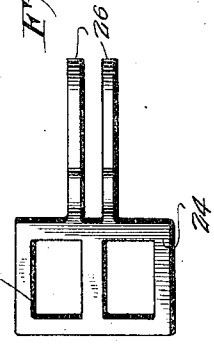

Fig. 3.

Inventor

Louis Schaumburger,

H. H. Clark,

By

Geo. P. Kimmel. Attorney

UNITED STATES PATENT OFFICE.

HARRY HUGH CLARK AND LOUIS SCHAUMBURGER, OF TERRE HAUTE, INDIANA.

FOOT-PEDAL FOR PNEUMATIC DOOR-OPERATING MECHANISM.

1,401,875. Specification of Letters Patent. Patented Dec. 27, 1921.

Application filed November 9, 1920. Serial No. 422,854.

To all whom it may concern:

Be it known that we, HARRY H. CLARK and LOUIS SCHAUMBURGER, citizens of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Foot-Pedals for Pneumatic Door-Operating Mechanism, of which the following is a specification.

This invention relates to apparatus for controlling the operation of furnace doors and more particularly to fire doors of a locomotive boiler or the like.

The primary object of the invention is the provision of a foot operated pedal device whereby the same may be applied to various types of pneumatically operated fire doors to open the controlling valve of an air pressure apparatus for actuating the doors.

Another object of the invention is the construction of a foot operated, vertically adjustable, pedal device which may be applied to different types of pneumatically operated fire doors for controlling the valve of an air pressure system, adapted to actuate the doors.

With these objects in view and others which will be manifest and suggested as the nature and purpose of the invention are revealed in the following specification and drawing wherein we have shown a practical, yet preferred embodiment thereof.

Figure 1 is a front view showing the invention applied to a modern type of fire door.

Fig. 2 is a side view of the pedal device.

Fig. 3 is a detached view of the foot pedal.

Fig. 4 is a side view of a modified form of the pedal device.

Referring now to the drawings wherein similar numerals designate like and corresponding parts in the specification, as shown in Fig. 1 of the drawing, our invention is applied in connection with an air pressure system controlling the operation of the doors D, through lever and link connections L, the usual valve V, being interposed in the pipe line, said valve being operated by the novel pedal mechanism now to be described.

In the form of the invention shown in Fig. 4 it will be seen that the sleeve 5 has a lever 6 pivoted thereto as at 7, the terminal of said lever being adapted to actuate the stem 8 of the valve V, above referred to. The depending portion 9 of the lever pivotally supports as at 10 the arm 11 which is shown apertured throughout its length to receive the removable pin 12 whereby the adjustable arm 13 may be raised or lowered to the desired height to meet the requirements of the height of the decks of different locomotives for instance. The angular extension 14 of the arm 11 is bifurcated as shown at 15 and pivotally receives the cam 16 which may be adjusted by the bolt 17 passing through the arcuately arranged apertures 18 formed therein. The opposite terminal of the said arm 11 is provided with guides 19 and the curved upper extremity of the adjustable arm 13 is provided with apertured guides 20 which receive the horizontal removable pin 12 adapted to be passed through the respective apertures 22 to regulate the height of the said arm.

Pivotally secured at 23 to the lower terminal of the adjustable arm 13 there is provided a foot pedal designated in its entirety by 24, having an open frame portion 25, and integral ears 26 also provided with arcuately arranged apertures 27 which receive the removable pin 27′ passing through the adjustable arm 13 above referred to. It will now be apparent that after the arms 11 and 13 are adjusted to the required height and the foot pedal is actuated, the cam 16 bearing on the under portion of the lever 6 will raise the same and thus raise the valve stem, consequently admitting air and thus operate the doors D. Of course, when the foot pedal is released, the stem will depress the lever and the doors will automatically close.

In the form of the invention shown in Fig. 2 as applied to a well known type of fire doors, it will be seen that the lever 6 is dispensed with. The depending rigid arm 30 pivotally supports the adjustable arms above described, and the cam 16^a directly bears on the stem 8^a to operate the valve. The respective arms and the cam are also adjustable in the same manner as above described, and as shown in the dotted line position of Fig. 2.

From the above description taken in connection with the drawing, it will be seen that we have provided a novel form of foot operated, valve control for pneumatically operated fire or furnace which is simple in construction, positive in operation and of

universal application to a class of pneumatically operated doors of the type illustrated.

In the accompanying drawing, we have illustrated our invention embodied in one form by way of example, and which in practice has been found to be highly satisfactory in obtaining the desired results. It will be obvious however that other embodiments may be adopted, and that various changes in the details of construction may be resorted to by those skilled in the art without departing from the spirit and scope of the invention. It is furthermore understood that the invention is not necessarily limited or restricted to the precise elements shown except in so far as such limitations are specified in the subject matter being claimed.

What we claim is:

1. In a foot pedal for pneumatically operated door mechanism, a support, an arm carried by said support, a cam adjustably pivoted to said arm and a pedal for operating said arm and cam to actuate the control valve for said mechanism.

2. In a foot pedal for pneumatically operated door mechanism, a support, an arm carried by said support, a cam adjustably pivoted to the upper terminal of said arm, a second arm vertically adjustable with respect to the first named arm and a pedal for operating said arms and cam to actuate the control valve of said pneumatic mechanism.

3. In a foot pedal for pneumatically operated door mechanism, a support, an arm carried by said support and bifurcated at its upper terminal, a cam having arcuately arranged apertures therein pivotally supported and adjustable in said bifurcations, guides carried at the lower extremity of said arm, a second arm vertically adjustable with respect to the first mentioned arm, and an adjustable foot pedal for operating said arms and said cam to actuate the control valve of said pneumatic mechanism.

4. In a foot pedal for pneumatically operated door mechanism, a support, an L-shaped arm having a bifurcated terminal pivotally carried by said support, a cam carried by said arm and vertically adjustable in said bifurcations, lateral guides carried at the lower extremity of said arm, a second arm having apertured guides at its upper terminal and adjustable in apertures in the first mentioned arm, and a vertically adjustable pedal pivotally connected to the lower extremity of the adjustable arm for actuating the control valve of said pneumatic mechanism.

5. In a foot pedal of the class described, an angular arm, having a bifurcated upper terminal, an adjustable pivoted cam carried by said bifurcated terminal, a second arm vertically adjustable in apertures formed in the first mentioned arm, and an adjustable foot pedal pivoted to the lower extremity of said second mentioned arm.

6. In a foot pedal of the class described, an angular arm having a bifurcated upper terminal, a vertically adjustable arm pivoted to and carried by said bifurcated terminal, guides carried by the lower terminal of said arm, a second arm contiguous to and vertically adjustable with respect to the first mentioned arms, apertured guides carried at the upper terminal of the second named arm and adapted to coöperate with apertures in the angular arm, and a vertically adjustable foot pedal pivotally connected to the lower extremity of said second mentioned arm.

In testimony whereof, we affix our signatures hereto.

HARRY HUGH CLARK.
LOUIS SCHAUMBURGER.