C. A. ANDERSON.

FURNACE DOOR OPERATOR.

APPLICATION FILED OCT. 31, 1908.

922,234. Patented May 18, 1909.

Fig. 1.

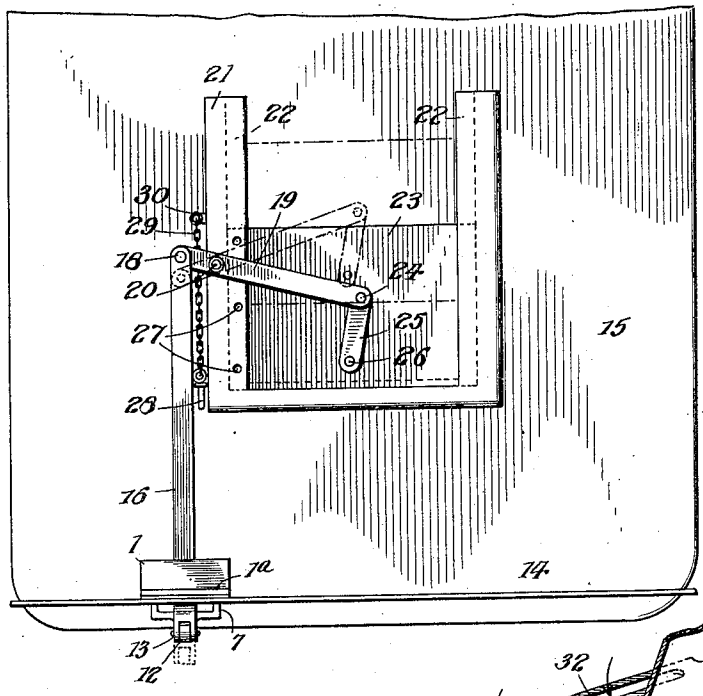


Fig. 4.

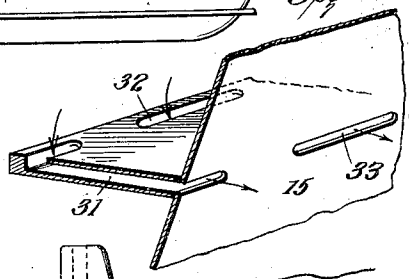
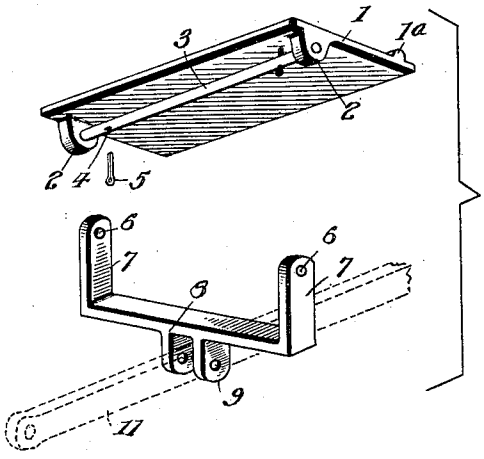


Fig. 3.



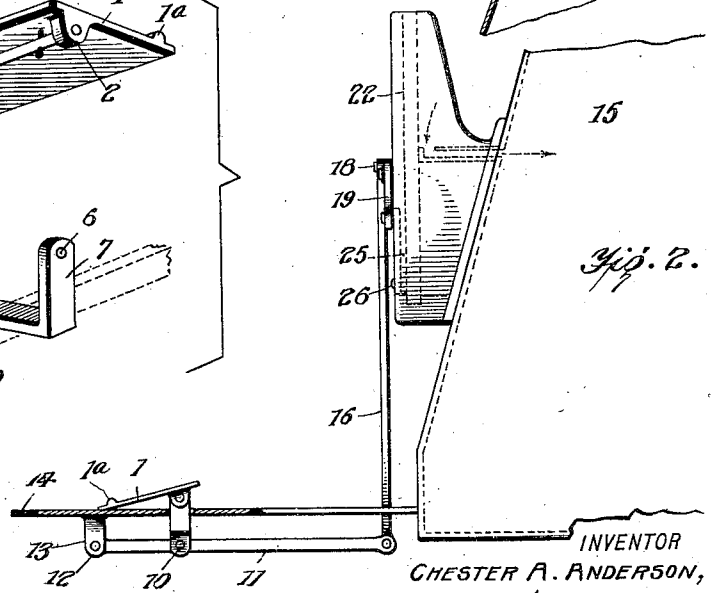


Fig. 2.

WITNESSES

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FURNACE-DOOR OPERATOR.

No. 922,234. Specification of Letters Patent. Patented May 18, 1909.

Application filed October 31, 1908. Serial No. 460,484.

To all whom it may concern:

Be it known that I, CHESTER A. ANDERSON, a citizen of the United States, and a resident of Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Furnace-Door Operators, of which the following is a specification.

My invention is an improvement in furnace door operators, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof Figure 1 is a front view of a portion of a furnace provided with my improvement. Fig. 2 is a side view, Fig. 3 is a detail perspective view of the treadle, and Fig. 4 is a perspective view of a portion of the upper part of the casing for the door.

The present embodiment of my invention comprises a treadle 1, provided on each side with depending lugs 2, each having a bearing therethrough, in which is journaled a rod 3. The rod adjacent to each bearing is provided with an opening 4 for receiving a cotter pin 5, and between the cotter pin and the lug 2, the rod passes through bearings 6 in the arms 7 of a yoke 8, the cotter pins preventing lateral movement of the rod with respect to the yoke and the treadle.

The body portion of the yoke is provided with outwardly projecting spaced lugs 9, provided with openings through which pass a pin 10, also traversing a lever 11, interposed between the lugs and provided with an opening registering with the openings of the lugs.

The lever 11 has one of its ends pivoted as at 12 to a lug 13, depending from a platform 14 arranged in front of the furnace 15, and the opposite end is pivoted to one end of a link 16. The link 16 extends upwardly and its other end is pivoted as at 18 to a lever 19, which is pivoted as at 20 to a casing 21, extending outwardly from the door opening.

The casing has an open front, and the sides of the opening are formed into guide ways 22, within which are slidable the ends of the door 23, which may be of any suitable shape or construction. The free end of the lever 19 is pivotally connected as at 24, to one end of a link 25 whose other end is pivoted to the door as at 26.

It will be evident from the construction that when the treadle 1 is depressed, the outer end of the lever 19 will be swung downwardly, and the door will be lifted as shown in dotted lines in Fig. 1. One of the guide ways 22 is provided with a series of openings 27, in one of which is adapted to be placed a pin 28 connected by a chain 29, with a lug 30 on the casing, whereby to retain the door in its lifted position.

While stoking, the door is lifted during the insertion of a shovel full of fuel, and immediately lowered. As the fireman walks from the fuel supply to the furnace with a supply of coal, he depresses the treadle, which opens the door to permit the insertion of fuel, after which the door is immediately dropped. While cleaning the fire, the door may be retained in its uppermost position by means of the pin.

It will be observed that the treadle is on the left hand side of the door in the most convenient position for engagement by the foot of the fireman when he is in position to swing the shovel toward the door opening.

The upper part of the casing is cored at 31, and openings 32, 33 are provided leading from the cored portion to the upper surface and to the furnace, for admitting air to the furnace, the openings 33, communicating with the furnace. The treadle is also provided with a rib 1^a as shown for preventing slipping of the fireman's foot therefrom.

I claim:

1. The combination with the furnace having a door opening, and a casing encircling the opening and provided with vertical guideways, a door slidable in the guideways, a lever pivoted to the casing, a link connecting one end of the lever with the door, a second lever pivoted at one end in front of the furnace and perpendicular thereto, a link connecting the other end with the free end of the first lever, a yoke whose body portion is provided with spaced downwardly projecting lugs between which the last named lever is received, a bolt traversing the lugs and the lever, and a treadle pivoted between the arms of the yoke for the purpose set forth.

2. The combination with the furnace having a door opening, a vertically slidable door in the opening, of a lever pivoted at one end perpendicular to the furnace, a connection between the other end of the lever and the

door for moving said door when the free end of the lever is depressed, a yoke whose body portion is provided with spaced lugs between which the lever is received, a bolt traversing the lug and the lever, and a treadle having at each end a lug, which lugs are received between the arms of the yoke, a bolt traversing the lugs and the arms, and cotter pins traversing the bolt inside of the arms.

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Witnesses:
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