J. A. LAZZELL.

FURNACE FEED CHUTE.

APPLICATION FILED DEC. 12, 1918.

1,313,491.

Patented Aug. 19, 1919.

2 SHEETS—SHEET 1.

FIG. 1.

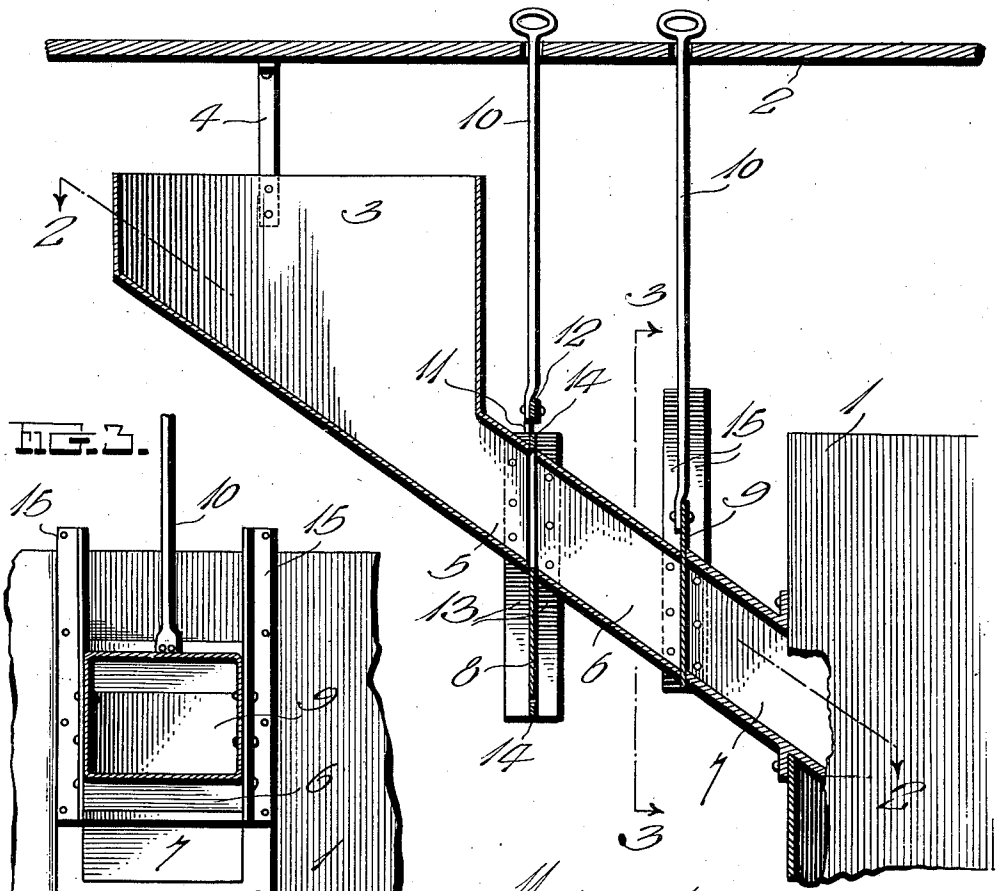


FIG. 3.

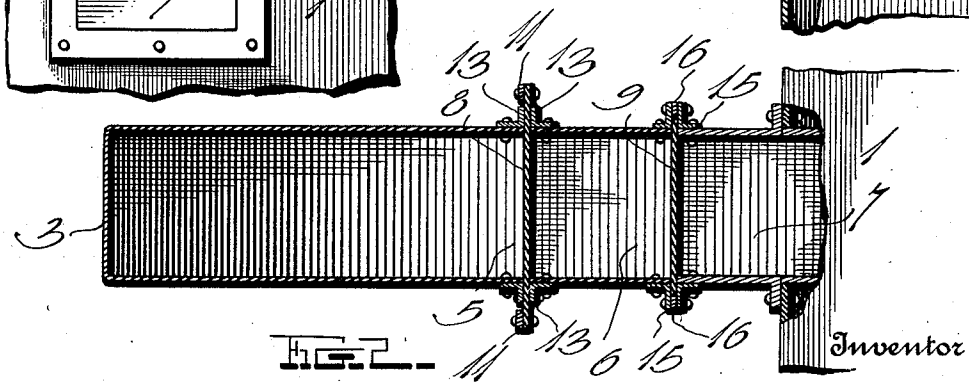


FIG. 2.

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2 SHEETS—SHEET 2.

FIG. 4.

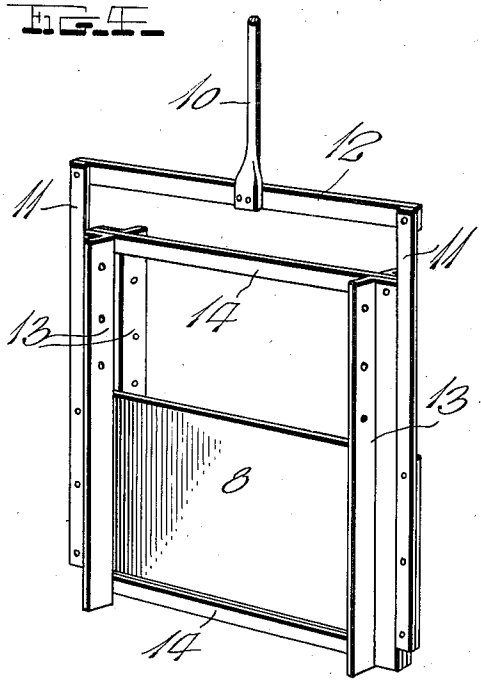


FIG. 5.

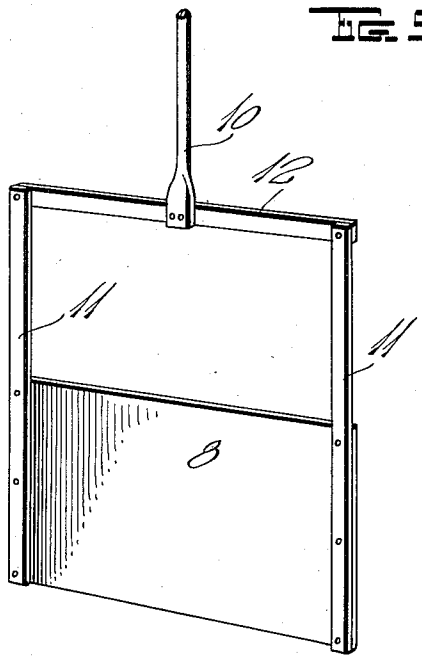


FIG. 6.

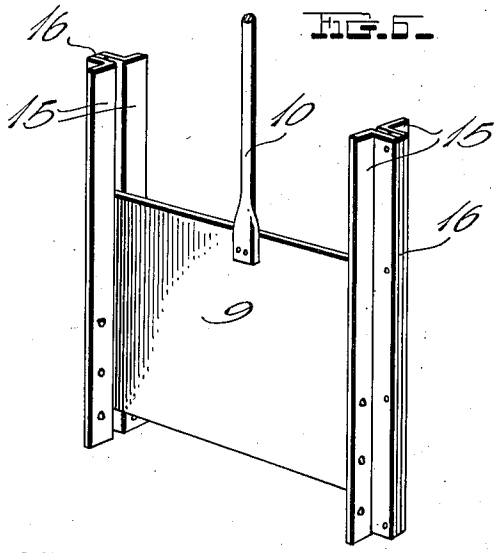
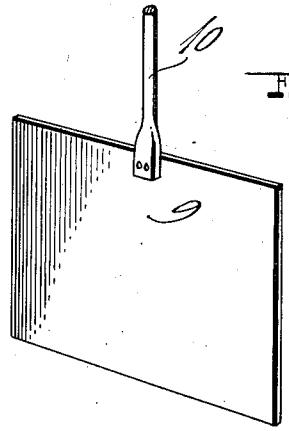


FIG. 7.



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UNITED STATES PATENT OFFICE.

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FURNACE FEED-CHUTE.

1,313,491. Specification of Letters Patent. Patented Aug. 19, 1919.

Application filed December 12, 1918. Serial No. 266,508.

To all whom it may concern:

Be it known that I, JAMES A. LAZZELL, a citizen of the United States, residing at Columbus, in the county of Bartholomew and State of Indiana, have invented certain new and useful Improvements in Furnace Feed-Chutes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a comparatively simple and inexpensive, yet a highly efficient, reliable and durable chute for feeding coal to furnaces without the need of entering the furnace room; and with this object in view, the invention resides in the novel features of construction and unique association of parts hereinafter fully described and claimed, reference being made to the accompanying drawings.

Figure 1 is a vertical section of the invention.

Fig. 2 is a sectional view on the plane indicated by the inclined line 2—2 of Fig. 1.

Fig. 3 is a transverse section on the plane designated by the line 3—3 of Fig. 1.

Fig. 4 is a perspective view of one of the gates and its frame.

Fig. 5 is a perspective view of the gate shown in Fig. 4, removed from the frame.

Fig. 6 is a perspective view of the other gate and its guiding means.

Fig. 7 is a perspective of the gate disclosed in Fig. 6.

In the drawings above briefly described, the numeral 1 designates a portion of a furnace such as those commonly used in basements and analogous furnace rooms for heating purposes, and 2 has reference to the floor above the furnace room. A hopper 3 is supported in the furnace room by any preferred means such as the hangers 4 and is adapted to contain coal to be fed to the furnace 1. A pipe inclines downwardly from the hopper 3 to the furnace and is formed of sections 5, 6 and 7, the section 5 being carried by the hopper, the section 7 being suitably secured to the furnace, and the section 6 being supported by means of guides employed for two gate valves 8 and 9. The valves 8 and 9 may be operated from the floor above by means of control rods 10, and as seen in Fig. 1, the valve 9 remains closed while valve 8 is opened. This permits the section 6 of the inclined pipe to fill with coal from the hopper 3 and when it is necessary to feed coal to the fire, the valve 8 is closed and the valve 9 opened, thus allowing the coal from the pipe section 6 to slide by gravity into the furnace.

The valve 8 consists of a rectangular sheet of metal from whose ends vertical bars 11 rise, the upper ends of said bars 11 being connected by a crown bar 12 from which the control rod 10 of said valve 8 rises. Angle irons 13 are secured to the adjacent ends of the pipe sections 5 and 6, with one flange of each angle iron extending outwardly so as to form guides between which the gate slides, said gate being held against lateral movement by contact of the bars 11 with said flanges. To assist in forming a rigid structure for guiding the gate 8 and for connecting the pipe sections 5 and 6, the upper and lower ends of the angle irons 13 are secured to opposite sides of transverse tie bars 14, these bars serving also to limit both the downward and upward movement of the gate.

The gate 9, like the gate 8, is in the form of a metal plate, but its guides are constructed in a somewhat different manner. Angle iron bars 15 are secured to the outer sides of the pipe sections 6 and 7, at the adjacent ends of said sections, and vertical bars 16 instead of horizontal bars such as 14, are secured between the outwardly extending flanges of said bars 15, thus spacing them apart sufficiently to form guides for the gate.

The guiding means for the gates are obviously of simple and inexpensive nature, yet they are efficient and since in each case, a pair of angle iron bars are secured together at opposite sides of the inclined pipe and in turn secured to the pipe sections, said sections will be rigidly joined to each other and will thus be retained in proper relation.

The hopper 3 may be of any size, according to requirements and by employing the invention upon a furnace having a grate which may be shaken down from the floor above, it is unnecessary to enter the furnace room except for removing ashes from the ash-pit and replenish the supply of coal in the hopper 3. In order to feed coal to the fire when required it is simply necessary to pull upwardly on the control rod or the gate 8 and then to correspondingly move

the other rod. This opens the gate 9 and allows the coal to enter the fire box. This having been done the gates are restored to their initial positions, as shown in Fig. 1, and more coal will fall by gravity against the gate 9, for future use.

From the foregoing, taken in connection with the accompanying drawings, it will be seen that although my invention is of simple and inexpensive nature, it will be highly efficient and in every way desirable. Since probably the best results are obtained from the details shown and described, they may well be followed, but within the scope of the invention as claimed, considerable latitude is allowed for making such minor changes as occasion may dictate.

I claim:—

1. In a feeding device, a pipe formed of a pair of sections disposed end to end in slightly spaced relation, a gate operating in the space between said sections and having its edges projecting from said sections, angle iron bars secured to the outer sides of said sections and having outwardly extending flanges receiving said projecting edges slidably therebetween, spacing bars between said outwardly extending flanges of said angle iron bars, and means securing said flanges and spacing bars rigidly together.

2. In a feeding device, a pipe including a pair of sections disposed end to end in slightly spaced relation, a gate operating in the space between said sections and extending beyond opposite sides of the latter, bars secured to the projecting ends of said gate and extending therefrom in the direction of movement of said gate, a connecting bar secured to the free ends of said first named bars, and a control member attached to said connecting bar; together with angle iron bars secured to the aforesaid opposite sides of said pipe sections and having outwardly extending flanges receiving said gate slidably therebetween, transverse tie bars on the exterior of the pipe sections with their ends positioned between said outwardly extending flanges, and means securing said flanges and tie bars rigidly together.

In testimony whereof I have hereunto set my hand.

JAMES A. LAZZELL.