

C. G. WALLACE.
 COAL CHUTE.
 APPLICATION FILED DEC. 19, 1910.

1,001,713.

Patented Aug. 29, 1911.

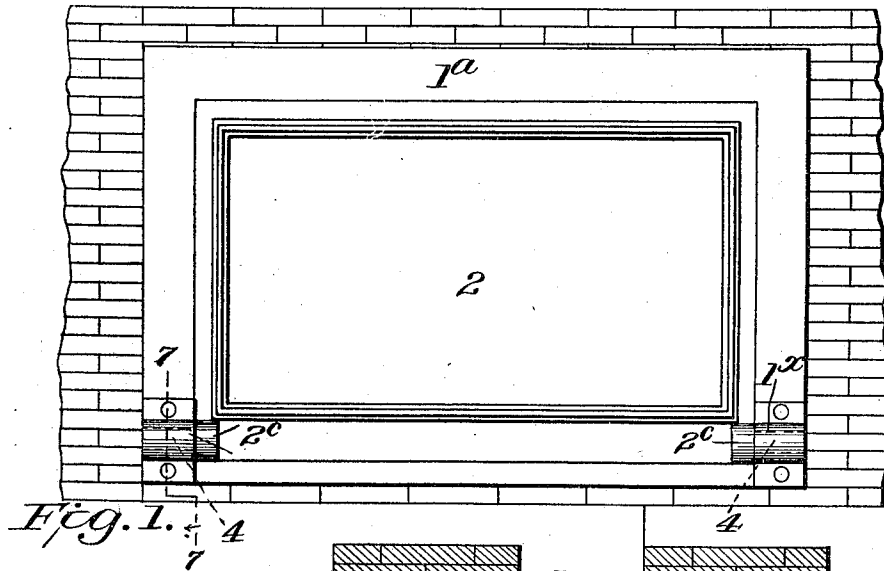


Fig. 1.

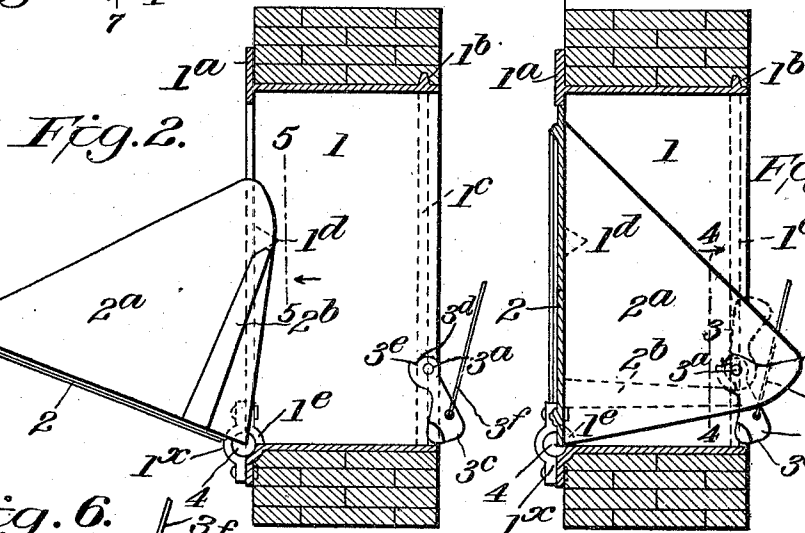


Fig. 2.

Fig. 3.

Fig. 6.



Fig. 4.

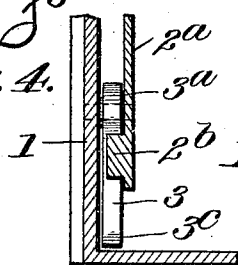


Fig. 5.

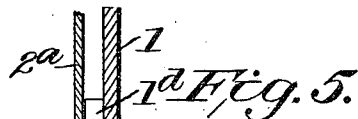


Fig. 6.

WITNESSES

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COAL-CHUTE.

1,001,713.

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To all whom it may concern:

Be it known that I, CHARLES G. WALLACE, of Hastings, in the county of Adams and State of Nebraska, have invented certain new and useful Improvements in Coal-Chutes; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improved chute for coal, and other materials, designed to be set directly in an opening in the wall of the building in which the material is to be stored.

The objects of the invention are to provide a chute which will not require any window-frame or sash in the wall; and can be easily placed in position by a mason; and will be strong enough to serve as a support for the wall above it without buckling; in which the chute proper is mounted upon trunnions, and not upon ordinary hinges; will lock automatically from the outside when closed and can be opened only from the inside; which has no complicated parts; and in which the locking devices are securely protected from injury by the coal or material being entered through the chute.

A chute embodying the invention is illustrated in the accompanying drawings in which—

Figure 1 is a front view of the chute closed. Fig. 2 is a transverse vertical section of the chute, showing the chute opened, in full lines. Fig. 3 is a similar sectional view showing the chute closed, in full lines; and indicating in dotted lines the unlocking position of the catch. Fig. 4 is a detail sectional view on line 4—4, Fig. 3, looking in the direction of the arrows. Fig. 5 is a detail sectional view on line 5—5, Fig. 2. Fig. 6 is an enlarged detail view of the chute locking devices showing the rib 2^b passing the catch 3. Fig. 7 is a detail section on line 7—7, Fig. 1.

The casing or box 1 of the chute is preferably made of cast metal and has a flange 1^a around its outer end and stiffening ribs 1^b, 1^c on its top and sides near its inner end; it is also provided on the inner faces of its sides with a boss, or lugs, 1^d which serve as stops to limit the closing movement of the chute proper, and also as a stop to limit the outward opening movement of the chute proper.

The chute proper comprises a front plate or door 2 which is adapted to close the opening in the front of the casing 1 and is provided at its opposite ends with inwardly extending wings or flanges 2^a which form the sides of the chute, when opened, and prevent coal or other material escaping over the ends of the plate 2 when the chute is opened, as indicated in Fig. 2. The front plate 2 of the chute is provided at its lower corners with integral bosses 2^c cast therewith and around short pieces of chilled iron 4 which can be inserted as cores in the mold and project sufficiently from the cast bosses 2^c to form journals or trunnions which enter half round recesses 1^e at the front lower corners of the casing 1 and are confined in these recesses by removable cap plates 1^f fastened to the frame by bolts, or rivets, as indicated in the drawings.

The wings 2^a are provided on their outer sides and near their lower edges with transverse stiffening ribs 2^b, which ribs will abut against the lugs 1^d when the chute is opened and arrest the opening movement of the chute, which should open about 60°. The inner ends of one rib 2^b when the chute is closed engages a catch 3 pivoted to the side of the casing 1 as shown at 3^a in Figs. 2 and 3. This catch 3 has a cam shaped locking head 3^c which is curved practically concentric to its pivot 3^a, and has a notch 3^d in its upper portion; it has a depending weighted portion, or handle, 3^e by which the catch is normally held in locking position. The catch normally hangs by gravity in the position shown in Fig. 2, but when the chute is closed the inner end of the rib 2^b engages the notch 3^d in the head 3^c of the catch and forces the catch to turn until the end of the rib passes below the pivot 3^a (see Fig. 6), then the catch swings back by gravity into locking position, as shown in Figs. 2 and 3, and holds the chute securely closed so it cannot be opened from the outside. When it is desired to open the chute the catch 3 can be swung up into position shown in dotted lines in Figs. 3 and 6 so that the notch 3^d therein is opposite the end of the rib 2^b and the latter can then move clear of the catch and allow the chute to open. The catch 3 may be operated by hand or by a cord or wire 3^f attached to the lower end thereof which cord may be led over-head and thence to any convenient point, when, by pulling on this cord, the

latch can be raised; so that it will not be necessary to enter the bin in order to open the chute.

The aforesaid locking device acts very efficiently and when the chute is closed it is locked automatically from the inside and cannot be opened from the outside.

What I claim is:

1. In a chute, the combination of a casing, a chute comprising a door pivoted at its lower side to the casing, and wings on the end of the door, one of said wings having a rib adapted to engage a latch lever on the casing, and a weighted latch lever pivoted to the inner side of the casing adjacent said ribbed wing and having a cam-shaped locking head provided with a notch adapted to be engaged by the rib on the adjacent wing of the chute as the latter is closed, whereby the latch is turned as the chute is closed until the rib clears the notch whereupon the latch drops by gravity and its head engages the rib and locks the chute in closed position.

2. A chute comprising a metal casing provided with a lug on its inner face, and a weighted latch lever pivoted to the side of the casing and having a cam-shaped head, and a notch in the upper part of the head; with a chute comprising a plate pivoted at its lower edge to said casing, and inwardly projecting wings at the ends of the plate, one of said wings being provided with a rib adapted to engage the stop lug on the

casing to limit the opening movement of the chute, and also adapted to engage the latch lever to lock the chute in closed position; the chute being locked until the latch lever is turned so that the rib on the wing can enter and pass the notch in the lever.

3. A chute comprising a metal casing provided with a stop lug on its inner face and recesses at its lower corners, and a weighted latch lever pivoted to the side of the chute and having a cam-shaped head with a notch in its upper end, a chute proper comprising a plate having lugs on its lower end provided with trunnions projecting therefrom and engaging the recesses of the casing, and inwardly projecting wings on said plate, one of said wings being provided with a rib adapted to engage the stop lug on the casing and limit the opening movement of the chute, and also to engage the latch lever to lock the chute in closed position; the chute being locked until the latch lever is turned so that the rib on the wing can enter and pass the notch in the lever, and keepers attached to the casing to confine the trunnions in the said recesses.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

CHARLES G. WALLACE.

Witnesses:

W. A. TAYLOR,
F. C. BABCOCK.