

W. W. JACKSON.
CHUTE.
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1,244,501.

Patented Oct. 30, 1917.

Fig. 1.

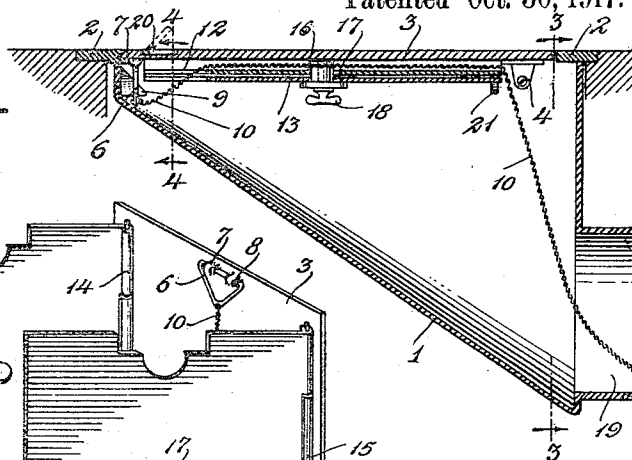


Fig. 2.

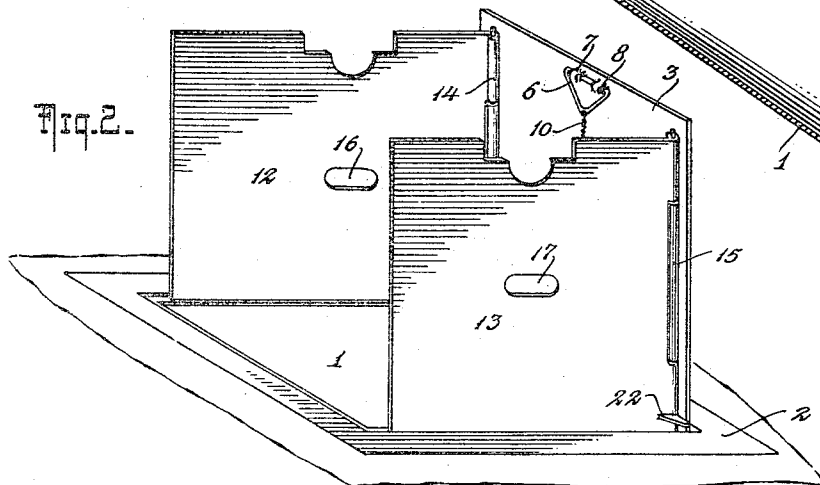


Fig. 3.

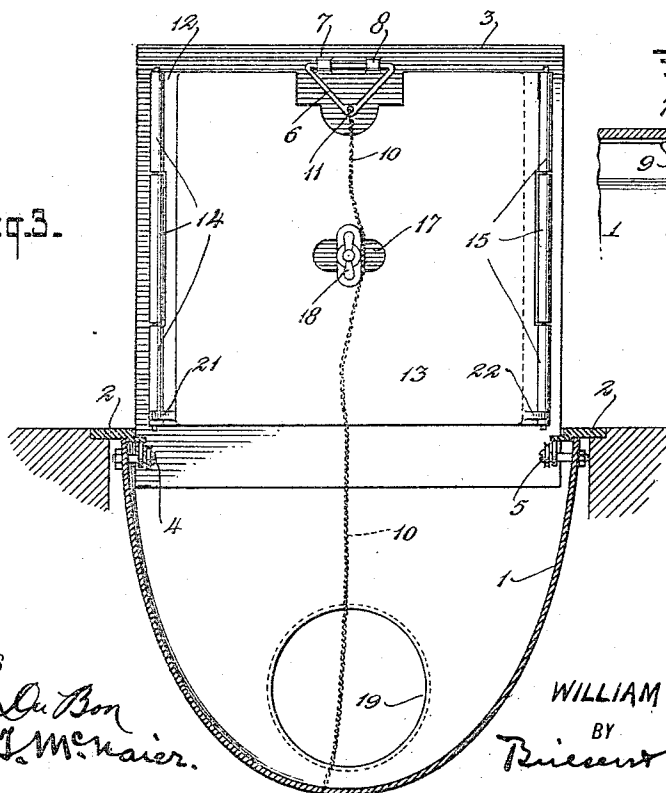
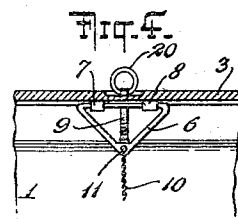


Fig. 4.



WITNESSES

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CHUTE.

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To all whom it may concern:

Be it known that I, WILLIAM W. JACKSON, a citizen of the United States, resident of the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Chutes, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to chutes more particularly of the type which have their closure flush with a substantially horizontal surface such as a floor, sidewalk and the like, and has for its object to provide a closure for said chute; to provide a means for maintaining said closure in an open position; to provide a means for guiding and directing material into the chute; to provide a means for shielding and safeguarding the chute when it is in use; to provide a means for protecting the public from injury when the chute is in use; to provide a means for automatically locking said chute closure when the chute is closed and not in use; and finally to provide a means for releasing said locking means from a determined point.

Other objects and features of novelty will appear in the following description of my invention, an example embodying the same and designed with particular reference to the conveyance of coal, grains and the like, being shown in the accompanying drawings in which,

Figure 1 shows a transverse sectional view of my device, with the hinged cover or closure in a closed position; the hinged foldable extension side pieces folded inwardly upon and secured to the under side of the cover, and the automatic gravity latch or locking device in operative engagement with its cooperating lug or catch.

Fig. 2 shows a perspective top view of the same device in an operative position with the automatic gravity latch released from its cooperating lug; the hinged cover open, and the hinged foldable extension side pieces released from their fastening on the under side of the cover and opened away from the cover so as to support the cover in a vertical position and at the same time shield the opening laterally of the cover.

Fig. 3 shows a cross sectional view of the same device along the line 3—3 of Fig. 1, but with the automatic gravity latch released from its cooperating lug and the hinged cover swung open to a vertical position, showing the hinged foldable extension side pieces folded inwardly upon and secured to the under side of the cover; the pull chain attached to and provided for manually releasing the latch has been stowed immediately back of the said side pieces, and between the first of said side pieces, which have been folded inwardly toward the under side of the cover, and the said under side of the cover, said chain then extending downward to and through the chute to a determined point.

Fig. 4 shows a cross sectional detail view of the same device along the line 4—4 of Fig. 1 with particular reference to the automatic gravity latch; the method of securing said latch to the under side of the cover; the position of said latch when it is in operative engagement with its cooperating lug, and the method of attaching the pull chain to said latch.

As illustrated in the drawings, 1 represents the receiving hopper portion of the chute, 2 its supporting frame to which the cover 3 is hinged by means of the bolts or hinges 4 and 5. The automatic gravity ring latch 6 is movably secured and suspended at its upper part by means of the straps 7 and 8 which are secured, preferably by rivets, to the under side of the cover 3 in such a manner that the said latch 6 will normally hang in a vertical position when the cover 3 is closed. The catch or lug 9 is rigidly secured preferably to the hopper 1 but may be otherwise secured, and is designed and provided to cooperate with the ring latch 6.

When the cover 3 is moved from the substantially vertical position, shown in Figs. 2 and 3, to the substantially horizontal position, shown in Figs. 1 and 4, the lower portion of the ring latch 6 will slide over and around the projecting point of the lug 9 and then, by force of gravity, swing back and occupy a vertical position beneath the lug 9. The closing-down of the cover 3 thus results in the automatic locking of the said

cover since the projecting point of the lug 9 has now entered the ring latch 6, where it will remain until manually released from engagement with the said latch 6, as is clearly shown in Figs. 1 and 4.

As a means for releasing the said latch 6 from its engagement with the lug 9, the pull chain 10 has been provided. This chain 10 is secured to the latch 6 preferably by means of the eye 11 located at the lower end of latch 6. When the chain 10 is pulled, the latch 6 is drawn or swung backward toward the cover 3, which operation releases the lug 9 from engagement with the latch 6 thereby unlocking the said cover 3 and permit of its being opened.

The foldable extension side pieces 12 and 13 secured to the cover 3 preferably by means of the hinges 14 and 15 respectively, are provided for the purposes of forming, in combination with the cover 3, a means for directing and guiding material into the chute; a means for safeguarding the chute; a means for protecting the public against entering the chute; and finally as a means of support to the cover 3 when it is opened to occupy a vertical position.

When the chute is to be placed in an inoperative condition as by closing the cover 3, the foldable extension side pieces 12 and 13 may be swung inwardly against the cover 3. The openings 16 and 17 in the side pieces 12 and 13 respectively, are so located as to register one above the other, and both to pass over the fastening 18. This fastening 18 may be any well known form of swivel fastening device secured to the cover 3.

When the foldable extension side pieces 12 and 13 are folded against the cover 3, the chain 10 may first be placed so as to occupy a position between the said folded extension side pieces and the under side of the cover 3, as shown in Figs. 1 and 3. Should the chain 12 be disposed of in this manner it must be done so that the said chain may be moved or pulled backward, in which position the chain 10 tends to be maintained by friction and the force of gravity, or either of them. The chain 10 may then be continued down into the hopper 1 and thence into and wholly through the chute passage 19 leading from the chute hopper 1 to the discharging point of the chute, from which point the chain may continue to any convenient location, thereby permitting the operation of the latch 6 from the terminus of the chute, or at some other distant location. When the latch 6 has been released the cover 3 may be opened by means of the ring 20, to a vertical position, in which position the cover 3 may be held by means of the unfolded extension side pieces 12 and 13 as shown in Fig. 2. Stops 21 and 22 have been provided on the side pieces 12 and 13 re-

spectively to regulate the extent to which said side pieces may be unfolded.

In the foregoing description I have shown the preferred form of my invention as applied to chutes for coal and grain, but I do not limit myself thereto, as various modifications, adaptations and changes may be made within the scope of the claims without departing from the spirit of my invention.

I claim:

1. In a chute having an opening, a hinged cover for said opening, foldable side pieces hinged at opposite edges of said cover adapted to bear when open on said chute and thereby support said hinged cover in position, and means for retaining said side pieces in position when folded against the cover.

2. In a chute having an opening, a hinged cover for said opening, foldable side pieces hinged at opposite edges of said cover adapted to bear when open on said chute and thereby support said hinged cover in position, means for retaining said side pieces in position when folded against the cover, and interlocking members attached to said cover and chute respectively.

3. In a chute having an opening, a hinged cover for said opening, foldable side pieces hinged at opposite edges of said cover adapted to bear when open on said chute and thereby support said hinged cover in position, means for retaining said side pieces in position when folded against the cover, interlocking members attached to said cover and chute respectively, said members being inaccessible from the upper side of said cover, and means for disengaging said members from any determined point below said cover.

4. In a chute having an opening, a hinged cover for said opening, foldable side pieces hinged at opposite edges of said cover adapted to bear when open on said chute and thereby support said hinged cover in position and a pivoted locking button on the underside of said cover, the said side pieces having openings adapted to be engaged by said button so as to retain said side pieces in position when folded against said cover.

5. In a chute having an opening, a hinged cover for said opening, foldable side pieces hinged at opposite edges of said cover adapted to bear when open on said chute and thereby support said hinged cover in position, means for retaining said side pieces in position when folded against the cover and gravity operated interlocking means inaccessible from the outer side of said cover adapted to automatically lock said cover in a predetermined position.

6. In a chute having an opening, a hinged cover for said opening, foldable side pieces hinged at opposite edges of said cover

adapted to bear when open on said chute and thereby support said hinged cover in position, means for retaining said side pieces in position when folded against the cover, 5 gravity operated interlocking means inaccessible from the outer side of said cover adapted to automatically lock said cover in a predetermined position and manually operated means for disengaging said interlocking means at a point remote from said cover. 10

In testimony whereof I have hereunto set my hand.

WILLIAM WALTER JACKSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."