

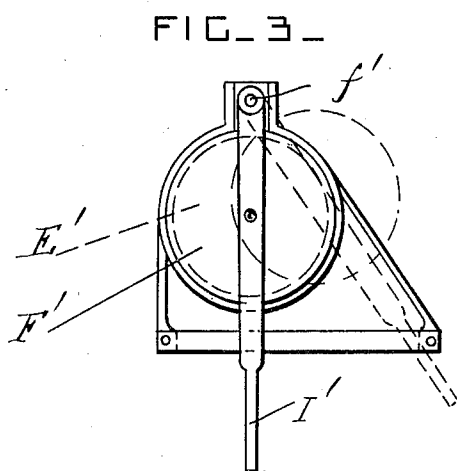
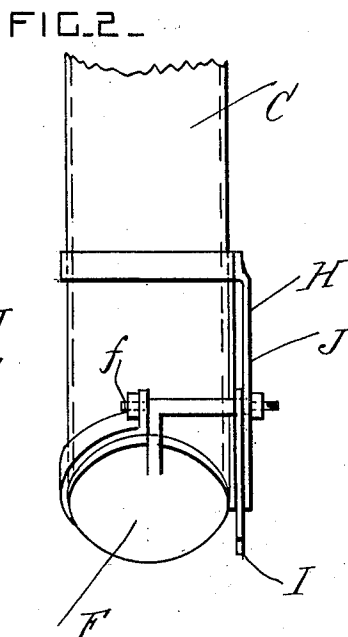
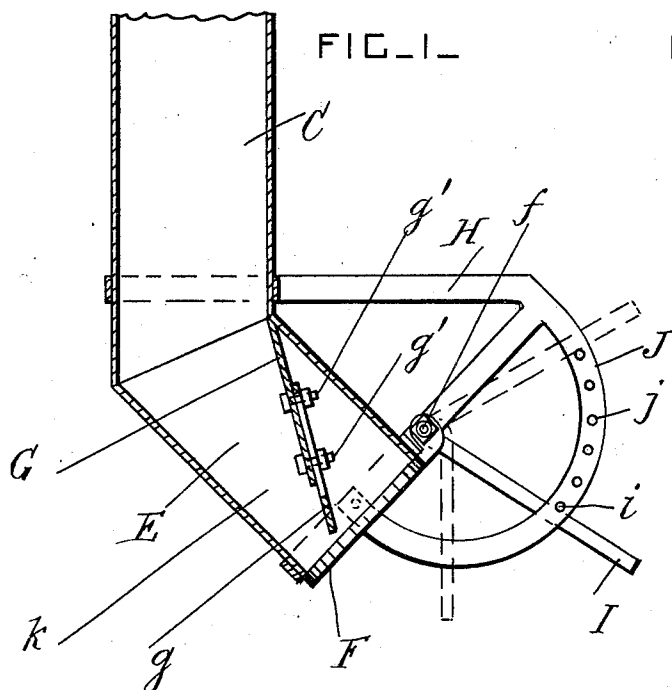
H. S. GARDNER.

CHUTE CLOSURE.

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1,026,641.

Patented May 14, 1912.



Inventor

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By

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Witnesses

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UNITED STATES PATENT OFFICE.

HOWARD S. GARDNER, OF EAST ORANGE, NEW JERSEY.

CHUTE-CLOSURE.

1,026,641.

Specification of Letters Patent.

Patented May 14, 1912.

Original application filed February 24, 1910, Serial No. 545,630. Divided and this application filed June 27, 1911. Serial No. 635,674.

To all whom it may concern:

Be it known that I, HOWARD S. GARDNER, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Chute-Closures; and I do hereby 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.

This application is a division of the application for a patent for a delivery chute, filed by me on February 24, 1910, Serial Number 545,630.

This invention relates to the closures of chutes specially adapted for the delivery of concrete or other similar material from the upper part of a building in course of construction to the lower floors thereof.

This invention consists in the novel construction and combination of the parts hereinafter fully described and claimed whereby the discharge of the material from the chute is regulated.

In the drawings, Figure 1 is a vertical section through the lower part of a chute provided with a closure according to this invention. Fig. 2 is a front view of the discharge-door. Fig. 3 is a front view of a modified form of the discharge-door.

The main portion of the chute consists of a vertical tube C which passes through openings in the floors of the building in course of construction, and which is supported from the said floors in any approved manner. The lower part of this tubular chute is provided with an inclined delivery-pipe E arranged at an angle to the vertical, and this pipe E has a suitable discharge-door F which controls the discharge of the concrete. The pipe E has a retarding-plate G secured inside of it, and preferably provided with a slidable plate or portion g.

The plates G and g are arranged diagonally of the pipe E, and a converging passage for the material is formed between these plates and the lower part of the periphery of the pipe. The function of this retarding-plate, or plates, is to sustain the major portion of the weight of the concrete in the delivery-chute, which forms a reservoir for the concrete, and to furnish an aperture of desirable size for the concrete to pass out of when the door F is opened.

When the slidable plate g is used its position is varied to suit the nature and condition of the material being used, and also to suit the weight of the material in the main chute, the length of which varies with the height of the building and the number of the floor which is being supplied with concrete for the time being.

The two plates G and g are secured together by bolts g' when the slidable plate has been suitably adjusted. One of the said plates is provided with a slot to permit the slidable plate to be slid crosswise of the bolts.

The discharge-door F is pivoted by a hinge pin f to the upper part of a frame H which is secured to the tube E, and a handle I is provided for opening the door. The door is held in any desired position by means of a pin i which is inserted through holes in a quadrant-plate J and which engages with the handle. The retarding-plate G insures the discharge of the material at the lower part of the door and clear of its hinge or pivot. Any other approved form of discharge-door may be used in carrying out this invention, and in Fig. 3 the discharge-door F' is pivoted to the delivery-pipe E' by a pin f' so that it slides crosswise of the mouth of the delivery-pipe. This door F' is provided with an operating-handle I' and it can be opened to any desired extent.

I do not confine myself to the use of this closure at the bottom end of a delivery-chute, as the same closure can be applied to the chute at intermediate points of its length, and between the various floors of the building. The main portion of the chute is shown in a vertical position, but it may be arranged in an inclined position to suit different locations, and it may be used for different materials either wet or dry.

What I claim is:

1. The combination, with a chute provided with a tubular delivery-pipe arranged at an angle to the vertical, of a discharge-door pivoted to the upper side of the discharge end of the said delivery-pipe, and a retarding-plate for the material secured diagonally in the delivery-pipe, a converging outlet passage for the material being formed between the said plate and the lower side of the delivery-pipe, through which passage the material is discharged clear of the door pivot.

2. The combination, with a chute provided with a tubular delivery-pipe which is arranged at an angle to the vertical, of a discharge-door at the lower part of the delivery-pipe, a retarding-plate secured diagonally in the delivery-pipe and forming with it a converging passage, the upper portion of the said plate being arranged in contact with the said pipe and a discharge opening being formed between the bottom edge of the said plate and the side of the discharge-pipe at the smaller end of the converging passage, and a slidable plate provided with a fastening device and arranged on one side of the aforesaid plate and adapted to adjust the width of the said discharge-opening.

3. The combination, with an inclined tubular delivery chute, of a discharge door hinged to the chute above its lower side and normally closing its bottom end, and a retarding plate for the material secured diagonally in the tubular chute and forming a delivery passage against its lower side, said passage being provided with an outlet opening at the bottom of the chute below the level of the door hinge.

In testimony whereof I have affixed my signature in the presence of two witnesses.

HOWARD S. GARDNER.

Witnesses:

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