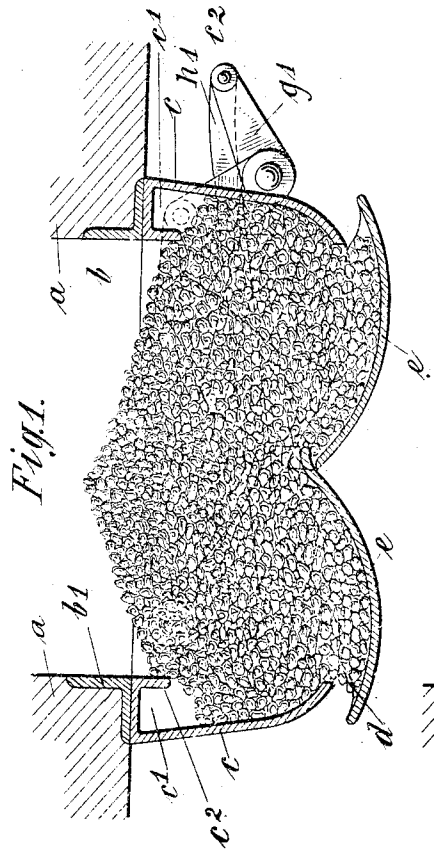
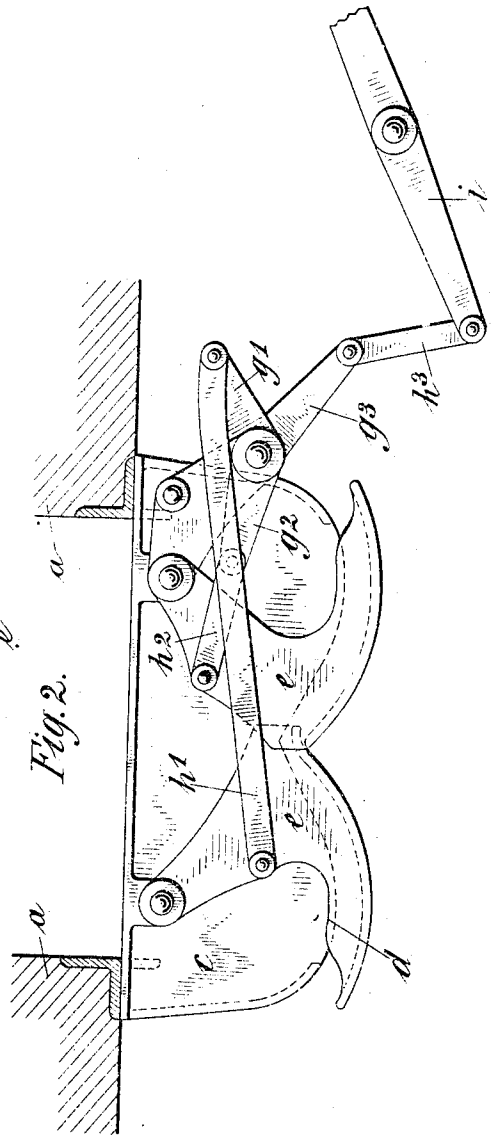
C. W. HUNT.

HOPPER VALVE.

APPLICATION FILED MAR. 17, 1908.

946,547. Patented Jan. 18, 1910.





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UNITED STATES PATENT OFFICE.

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HOPPER-VALVE.

946,547. Specification of Letters Patent. Patented Jan. 18, 1910.

Application filed March 17, 1908. Serial No. 421,655.

To all whom it may concern:

Be it known that I, CHARLES WALLACE HUNT, a citizen of the United States, residing in West New Brighton, in the borough of Richmond of the city of New York, in the State of New York, have invented certain new and useful Improvements in Hopper-Valves, &c., of which the following is a specification, reference being had to the accompanying drawing, forming a part hereof.

This invention relates to devices for controlling the flow of coal, ore, grain, etc., from bins or other containers, to cars, trucks, etc., and particularly to devices of this character which comprise a valve body or shell having in its bottom an opening through which the material may be delivered, and jaws or cut off devices for controlling such opening. In the operation of devices of this character, in which, for example, two swinging jaws are moved from opposite directions toward a median line to stop the flow of material, considerable resistance is offered to the movement of the jaws, especially as they approach the median line, by reason of the fact that the column of material above the edges of the approaching jaws must be lifted somewhat, as such devices are ordinarily constructed, and it is the object of the present invention to so modify the construction as to provide within the valve body space which is not filled by the material in its normal flow, but into which the material may be displaced by the closing means without requiring the column of material above the same to be lifted and therefore making easier the movement of the closing means.

In accordance with the invention the valve body is extended at one or at each side beyond the margin of the opening through which the material flows into the body, whereby a space is left at one or at each side for the purpose above described.

The invention will be more fully explained hereinafter with reference to the accompanying drawing in which it is illustrated as embodied in a valve of suitable construction, and in which—

Figure 1 is a view in vertical section of a valve which embodies the invention, and Fig. 2 is a view thereof in side elevation, a portion of the container being shown in section.

In the drawing so much of the container for the coal or other material as is necessary to enable the application of the invention to be understood is represented by walls a, a, which are shown as adapted to direct the material handled toward the mout or outlet b through which the material escapes. Below such mouth or opening is secured the valve body c which is provided in its bottom with an opening d controlled, in the construction shown, by swinging jaws e. The latter are mounted to swing toward and from each other and are adapted to meet, or to meet substantially, in a median line. Any suitable means may be provided for operating the jaws e. In the construction shown in the drawing they are operated by links h' and h^2 from arms g' and g^2 of a three-armed lever, the third arm g^3 of which is in turn connected by a link h^3 to the hand lever i.

As shown clearly in Fig. 1 the body c is extended outwardly, preferably at each side, as at c', beyond the corresponding margin b' of the mouth b and is preferably provided, as at c^2, with a flange extended downwardly from the margin of the mouth b. There is thus provided, at each side, a space c', which is not filled by the material in its normal movement, but into which the material may be pushed laterally and upwardly when it is displaced near the median line by the approaching lips or edges of the swinging jaws e or otherwise by the action of the closing or controlling means.

In valves as ordinarily constructed the final closing movement of the jaws or other controlling means is resisted by the weight of the column of material above the same, but by the lateral extension of the valve body, as described, there is provided at each side a space into which the material displaced by the controlling means may be crowded laterally with much less resistance than that offered when the material must be lifted.

It will be obvious that the form of the valve body and the arrangement and construction of the jaws and their operating means may be varied to suit different requirements of use without departing from the spirit of the invention.

The relation of the edges of the two jaws and the means for operating the jaws are not claimed herein, the same having been made respectively the subject of application

Ser. No. 421,656, filed March 17, 1908, and application Ser. No. 421,651, filed March 17, 1908.

I claim as my invention:

1. In a device of the class described, a container provided with a passage through which the material in the container may flow; a valve body located below said container and having an inlet opening at its upper end communicating with said passage and an outlet opening at its lower end; a valve located at the lower end of said valve body and adapted to move across said outlet opening transverse to the direction of flow of material therethrough to thereby control the flow of material through said outlet opening; and means for operating said valve, said valve body being enlarged intermediate its ends to thereby provide a closed internal recess into which the material flowing through said valve body may enter as said valve is closed.

2. In a device of the class described, a container provided with a passage through which the material in the container may flow; a valve body located below said container and having an inlet opening at its upper end communicating with said passage and an outlet opening at its lower end; a valve located at the lower end of said valve body and adapted to move across said outlet opening transverse to the direction of flow of material therethrough to thereby control the flow of material through said outlet opening; and means for operating said valve, said valve body being enlarged adjacent its upper end and provided with an internal flange depending from its top wall and forming a portion of the periphery of said inlet opening whereby a closed internal recess is provided into which the material flowing through said valve body may enter as said valve is closed.

This specification signed and witnessed this 10th day of March A. D., 1908.

CHARLES W. HUNT.

Signed in the presence of—
CHAS. E. SIMONSON,
B. KELLY.