

May 11, 1954

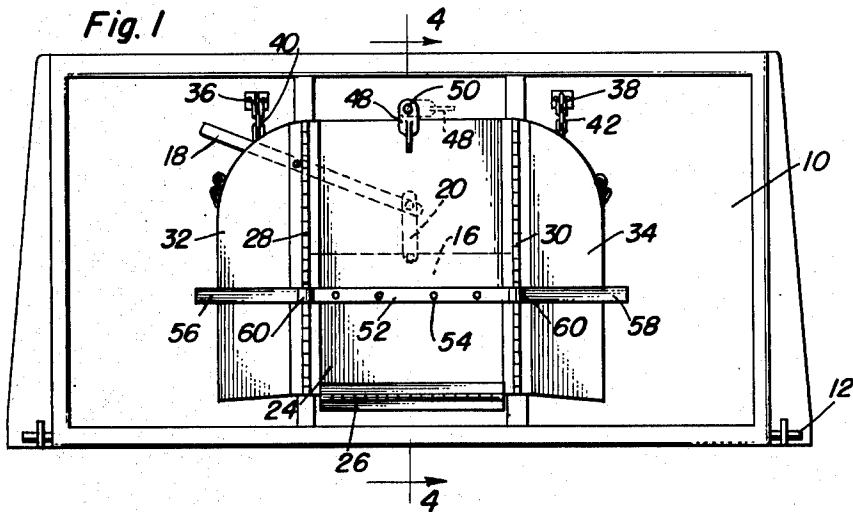
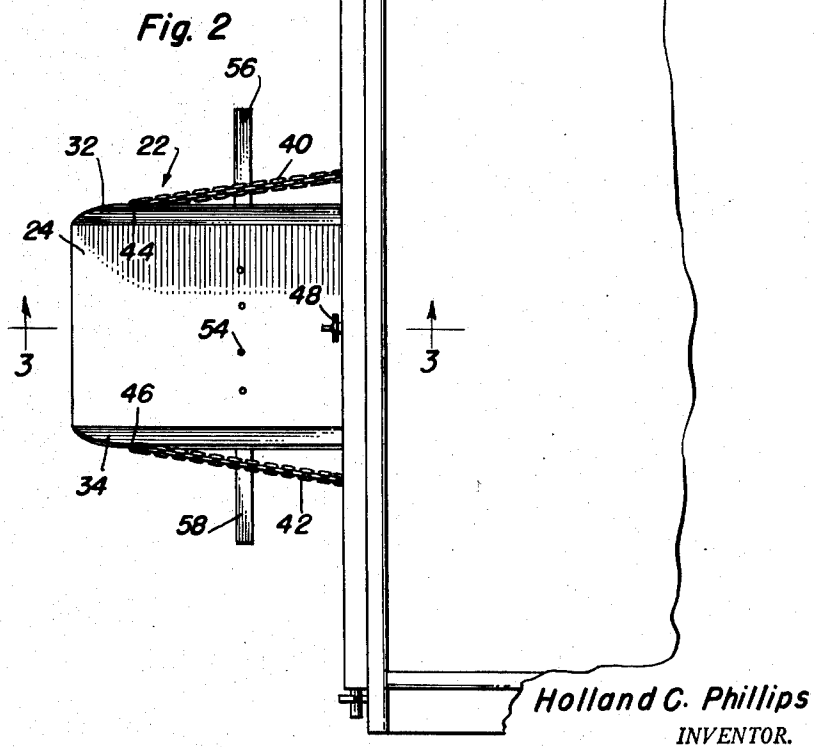
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2,678,121

FOLDING CHUTE

Filed Feb. 7, 1951

2 Sheets-Sheet 1



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Fig. 4

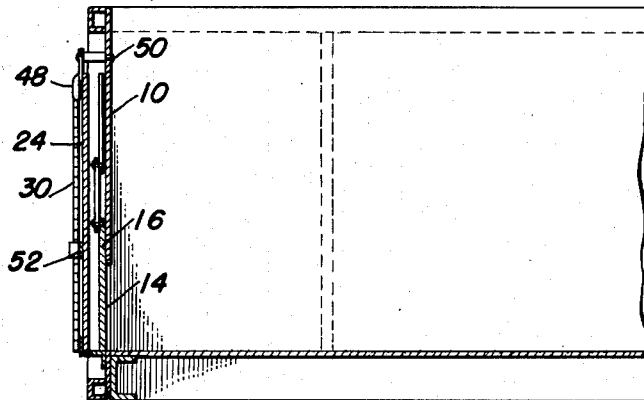


Fig. 3

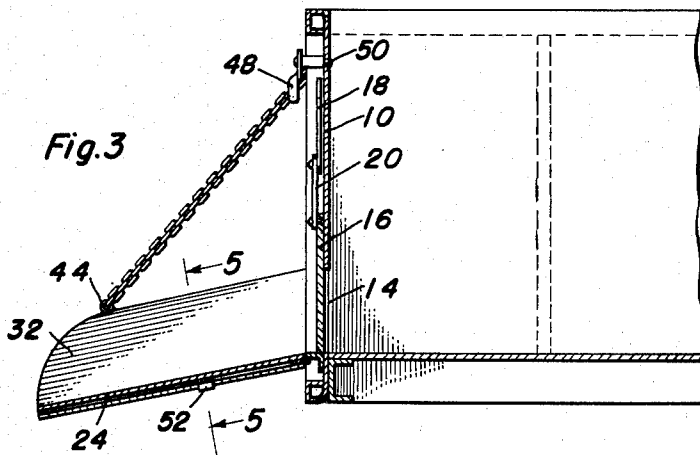
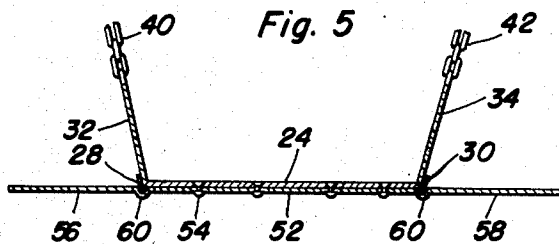


Fig. 5



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UNITED STATES PATENT OFFICE

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FOLDING CHUTE

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1 Claim. (Cl. 193—4)

1

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This invention relates to a folding chute of novel construction especially adapted for use with the tail gate conventionally employed with a dump truck.

The primary object of this invention is to provide a folding chute which is so assembled upon the tail gate of a dump truck that it will not interfere with the conventional manner of opening the tail gate, will simplify delivery of the contents of the truck on a conveyor or in a narrow place, will prevent unnecessary loss by spilling, and will effect a material saving in the operator's time.

Another object of this invention is to provide a folding chute of the character described which can be held substantially flat against the tail gate when in the inoperative position and which is provided with a means for preventing the rattling of the panels of the chute or the unfolding of the same when maintained in the unfolded inoperative position. The chute is further provided with a means for suspending the same from the tail gate in such a manner that release of the chute and the lowering of the same to the delivery or operative position will automatically pivot side panels upwardly relative to the central panel to form the completed chute.

These, together with various ancillary features and objects of the invention, which will later become apparent as the following description proceeds, are attained by the present invention, a preferred embodiment of which is illustrated, by way of example only, in the accompanying drawings, wherein:

Figure 1 is a front elevational view of the chute shown assembled in the inoperative position upon a tail gate;

Figure 2 is a top plan view of the chute shown in the operative position;

Figure 3 is a sectional view taken substantially on the plane of section line 3—3 of Figure 2;

Figure 4 is a sectional view taken substantially on the section line 4—4 of Figure 1; and

Figure 5 is a sectional view taken substantially on the plane of section line 5—5 of Figure 3.

Specific reference is now made to the drawings. In the several views in the accompanying drawings and in the following specification reference characters indicate corresponding elements throughout.

Indicated at 10 is a conventional tail gate pivoted for vertical movement at 12 to the rear of a dump truck body (not shown). The conventional tail gate is provided centrally adjacent its pivoted end with a substantially square delivery

hole 14 that is normally covered by a slide closure 16 which may be operated by a conventional lever bar or handle 18 pivoted intermediate its ends to the tail gate and connected to the slide enclosure 16 by appropriate linkage 20.

The present invention is generally indicated at 22 and is a folding chute comprising an elongated bottom or central panel 24 which is hinged at its lower end, as at 26, for vertical movement on the tail gate 10 immediately beneath the square opening 14. Hinged as at 28 and 30 to the longitudinal side edges of the central panel for movement in a horizontal plane relative to the central panel is a pair of side walls or panels 32 and 34, respectively.

Suitable brackets 36 and 38 are secured to the tail gate 10 on opposite sides of the square hole 14 and adjacent the upper edge of the tail gate, the brackets anchoring one end of the flexible members or link chains 42 and 44, respectively, the other ends of the link chains being secured to appropriate eyes 46 and 48 carried at the free edges of the side panels 32 and 34. The chain links are such that when the central panel is lowered into the operative position as shown particularly in Figures 2, 3 and 5, the side panels 32 and 34 will be retained at obtuse angles relative to the central panel. In other words, when the central panel is lowered to its operative delivering position, the chains will function to automatically retain the side panels in the elevated and slightly divergent position shown clearly in the figures.

To retain the chute including the central and side panels substantially flat against the tail gate in the non-delivery or inoperative position, a dog 48 is pivoted for horizontal movement as at 50 to the tail gate centrally thereof above the square hole 14 and adjacent the upper end of the tail gate so that when the dog is lowered to the position shown in solid lines in Figure 1, it will overlap and engage the outer face of the central panel adjacent its upper edge and hold the chute substantially flat against the tail gate.

To restrain the relative pivotal movement of the side panels 32 and 34 on the central panel 24 when the chute is maintained in the inoperative position shown in Figure 1 and thereby to prevent undue rattling of the side panels, a means is provided in the form of a transverse bar 52 riveted or otherwise secured as at 54 to the outer face of the central panel 24. The opposite ends 56 and 58 of the bar extend across the longitudinal hinges 28 and 30 and underlie the outer faces of the pivoted side panels 32 and 34. The exten-

sions 56 and 58 are provided with offset arcuate portions 60 receiving a portion of each of the hinges 28 and 30 where the bar extends transversely across the central panel and the side panels.

In operation, the chute is maintained in the non-delivery inoperative position flat against the tail gate 10 by means of the pivoted dog 48, bar 52 and its extensions 56 and 58 serving to restrain the side panels 32 and 34 from pivoting outwardly relative to the tail gate and thereby reducing the rattling of the side panels of the dump truck. When the dog 48 is pivoted upwardly into the dotted line position shown in Figure 1, the chute is allowed to drop and when the central panel reaches its lower operative delivery position, the chains 40 and 42 will retain the side panels in an elevated divergent position forming an effective chute. When the slide enclosure 16 is lifted by a downward pull on the lever bar 18, material from the dump truck will pour out of the square hole 14 and flow through the chute onto a conveyor or into a narrow place with virtually no loss of material from spilling.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is

susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claim.

Having described the invention, what is claimed as new is:

A folding chute comprising a bottom hingedly mounted at one end to a support for vertical swinging movement, side walls mounted on longitudinal edges of the bottom, a stop projecting outwardly from the bottom for limiting swinging movement of the side walls toward a position parallel to the bottom, and flexible members connected to the support and to the side walls for simultaneously swinging said side walls to an operative position and supporting the free end of the bottom when the chute is swung downwardly to operative position on the support, said stop including a transverse bar secured centrally to the under surface of said bottom, said bar having opposite end portions extending outwardly from the edges of said bottom for engaging the side walls when the side walls are parallel to said bottom.

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