C. PETERSON.

LOADING AND UNLOADING CHUTE.

APPLICATION FILED APR. 17, 1917.

1,241,436.

Patented Sept. 25, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

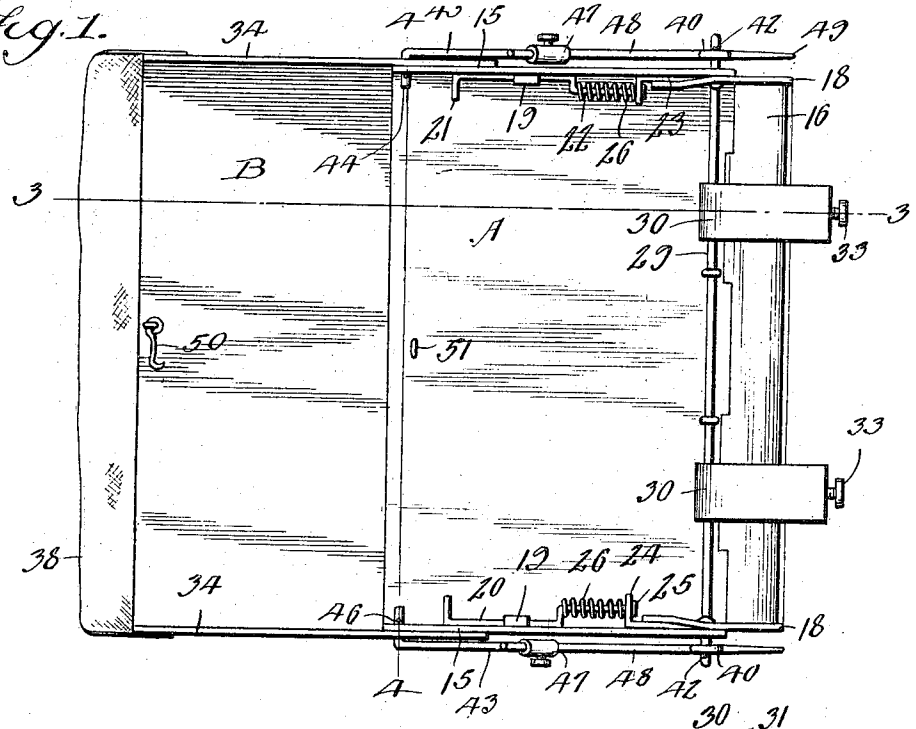
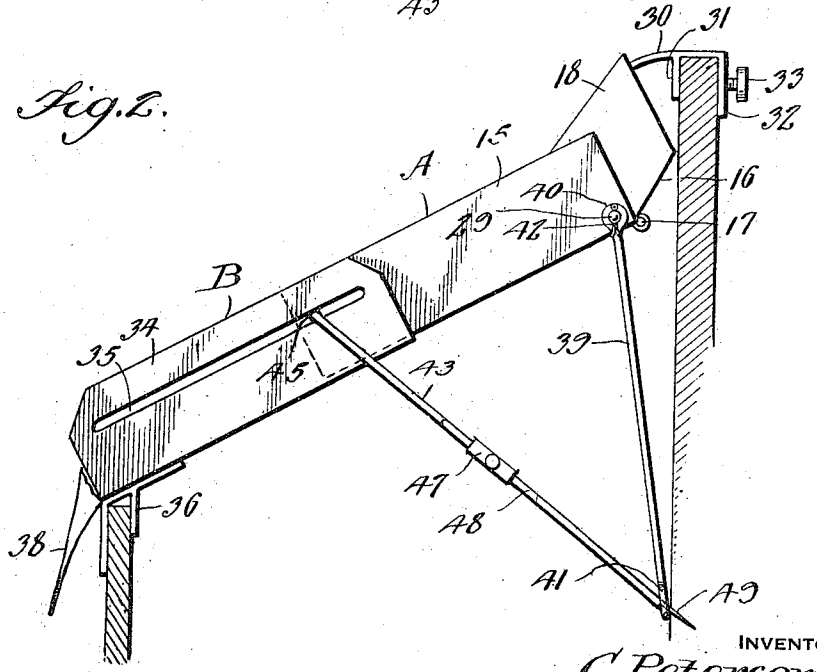


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

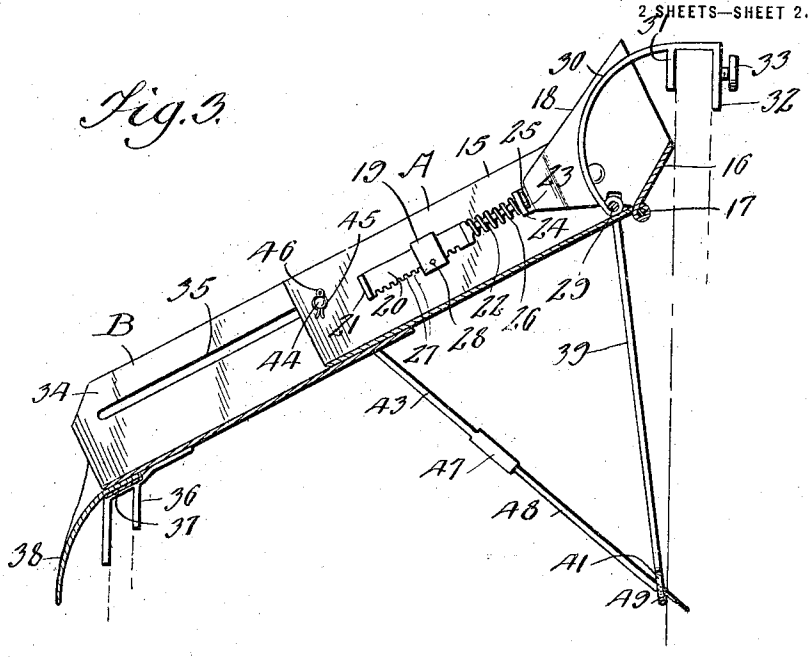


Fig. 4.

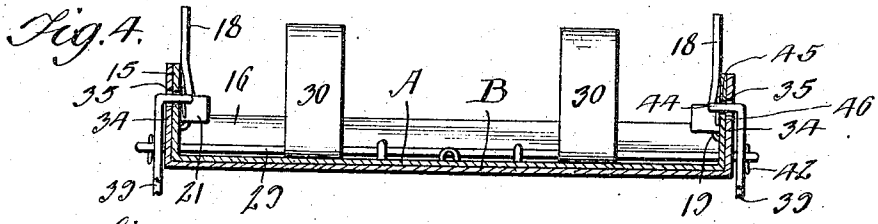
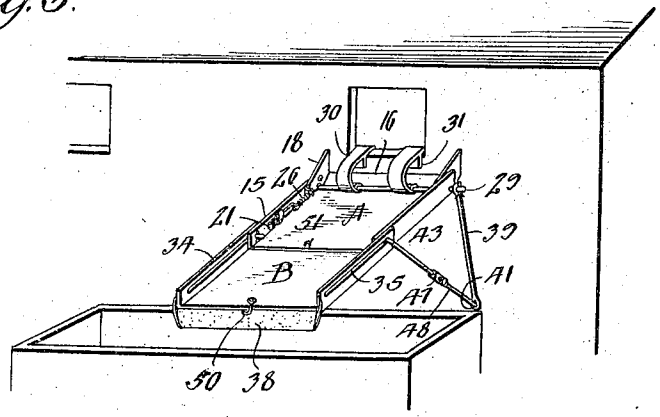


Fig. 5.



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LOADING AND UNLOADING CHUTE.

1,241,436. Specification of Letters Patent. Patented Sept. 25, 1917.

Application filed April 17, 1917. Serial No. 162,741.

To all whom it may concern:

Be it known that I, CLARENCE PETERSON, a citizen of the United States, residing at Elm Springs, in the county of Meade and State of South Dakota, have invented new and useful Improvements in Loading and Unloading Chutes, of which the following is a specification.

This invention relates to loading and unloading chutes and it has for its object to provide a simple and efficient device of this character for facilitating the transfer of material such as grain in bulk and the like from a wagon to a storehouse, railway car or the like, and in such a manner that wastage will be avoided.

A further object of the invention is to produce a device of the character described which will be readily adjustable as to the length thereof so as to be capable of being used in varying conditions.

A further object of the invention is to produce a device of the character described which in a very simple and effective manner may be mounted and supported in position for operation.

Further objects of the invention are to simplify and improve the general construction and arrangement of the parts constituting the invention.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawings:

Figure 1 is a top plan view of a device constructed in accordance with the invention.

Fig. 2 is a side elevation of the same.

Fig. 3 is a longitudinal sectional view taken on the line 3—3 in Fig. 1.

Fig. 4 is a transverse sectional view taken on the line 4—4 in Fig. 1.

Fig. 5 is a perspective view showing the device arranged in position for use.

Corresponding parts in the several figures of the drawings are denoted by like characters of reference.

The improved chute is composed of parts or members A and B which will be referred to respectively as the top member and the bottom member.

The top member A is composed of a plate of sheet metal or other material provided at the sides thereof with upstanding flanges 15. At the upper edge of the plate a wing or shield 16 is hingedly supported on a hinge rod 17, said wing being provided at the ends thereof with guard plates 18, said plates being positioned adjacent to the inner faces of the flanges 15. Each of said flanges is provided on its inner face with a keeper 19 in which is guided a slide 20 having at one end a handle 21, the other end of said slide having a reduced portion 22. Connected with each plate 18 is one end of a link 23 the other of which has an apertured lug 24 slidably engaging the reduced portion of the slide 20, said reduced portion being provided with a stop member 25 whereby it is assembled with the link 23. A spring 26 coiled on the reduced portion of the slide serves to press the link in the direction of the hinged wing 16 which will thereby be rocked for a purpose which will be presently described. Each slide 20 has a plurality of notches 27 capable of engaging a pin or stop member 28 at the lower edge of the keeper, thereby enabling the slide to be held against longitudinal movement, and thereby also effecting adjustment of the hinged wing.

The side flanges 15 of the top member A support a transverse rod 29 on which are pivotally mounted several hook-shaped clamps 30 that overhang the wing 16 and extend beyond the free edge thereof, each of said clamps being provided with lugs 31, 32 which are spaced apart to receive between them a part of a building, wagon or other structure in connection with which the device is to be used, the outermost lug 32 having a set screw 33 which may be tightened for the purpose of holding the top member securely in position. The lugs 31, 32 are to be spaced apart sufficiently to receive between them the door sill or window

sill of a granary or similar structure, the side part of a wagon box, the top portion of the grain door of a railway car or any other part or member on which the improved chute is to be mounted for use.

The bottom member B is composed of a sheet of metal having upstanding flanges 34 to receive between them the top member A, said flanges being provided with longitudinal slots 35. On the under side of the member B, near the lower edge thereof, are secured U-shaped clamps 36 adapted to rest on the edge of a wagon box or the like to or from which material is to be transferred. Secured at the lower edge of the member B by means of a reinforcing strip 37 is a flexible apron 38 of textile or other material which will overhang the receptacle that is to be loaded or unloaded.

Mounted on the rod 29 near each end thereof and externally of the flanges 15 is a brace rod 39 having an eye 40 engaging the rod 29 and having also at its lower end an eye 41. Cotter pins 42 or other well known similar means may be used to retain the brace rods 39 on the rod 29. Extension braces are provided each consisting of a rod 43 having near its upper end a laterally extending finger 44 that extends through an aperture 45 in the flange 15 of the member A and through the slot 35 of one of the flanges 34 of the member B, said finger being secured by means of a cotter pin 46 or equivalent fastening device. At the lower end of the rod 43 there is fixed a sleeve 47 through which passes a second rod 48 having at its lower end a prong 49 adapted to extend through the eye 41 at the lower end of the rod 39 and to engage the wall of a building, the outer face of a grain door or any wall structure in connection with which the device is used, thereby holding the parts securely assembled in position for operation, it being evident that adjustment may be effected not only by adjustment of the parts of the extension rods with respect to each other, but also by adjustment of the upper end portions of the extension rods with respect to the slotted flanges 34.

The bottom member B is provided near its lower edge with a hook 50 adapted to engage an eye 51 on the top member A for the purpose of securing the said top and bottom members in collapsed relation for convenience in handling and storing the same.

The improved loading and unloading chute herein described is capable of a great many uses when material in bulk is to be transferred from a wagon to a car or store house. Assuming, for instance, that grain is to be loaded or unloaded from a grain car to a wagon, the lugs 31, 32 of the hook-shaped clamps 30 are made to receive between them the top portion of the grain door where the device is then made fast by tightening the set screws 33. The slides 20 will next be adjusted so that the wing 16 will be pressed against the outer face of the grain door with a suitable degree of pressure by the springs 26. The U-shaped clamps 36 of the bottom member are now adjusted on the top edge of the wagon box and the braces 39 as well as the extension braces are next placed in position to securely support the device. The loading and unloading may then be conveniently performed without the least danger of wastage, there being no open spaces between the car and the wagon through which grain may be dropped to the ground, any material that is dropped being received by the chute and conveyed by gravity into the wagon. The use of the device under other circumstances and conditions will readily suggest itself.

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

1. In a device of the class described, a member consisting of a plate having upstanding flanges at the sides thereof, a wing hinged at one end of said plate, and pivotal hooks overhanging the wing and having terminal clamps provided with set screws.

2. In a device of the class described, a member having upstanding flanges at the sides thereof, a wing hinged at one end of said member, pivotally supported hooks overhanging the wing and having terminal clamps provided with tightening screws, a transverse rod on which the pivoted hooks are supported, said rod extending through and beyond the upstanding flanges, brace members having eyes at one end engaging said rod, and other eyes at their opposite ends, a second member having upstanding slotted flanges between which the first member is guided, said second member being provided at its lower edge with a flexible apron and with U-shaped clamps, and extension braces comprising upper members provided at their upper ends with fingers extending through the flanges of the two members engaging the slots in the flanges of the second member and provided at their lower ends with slots having set screws, and extension members adjustable in said slots and provided at their lower ends with prongs engaging the eyes at the lower ends of the first mentioned brace members.

In testimony whereof I affix my signature.

CLARENCE PETERSON.

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