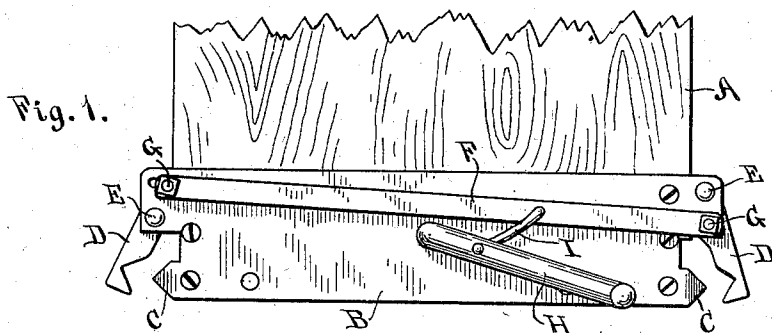
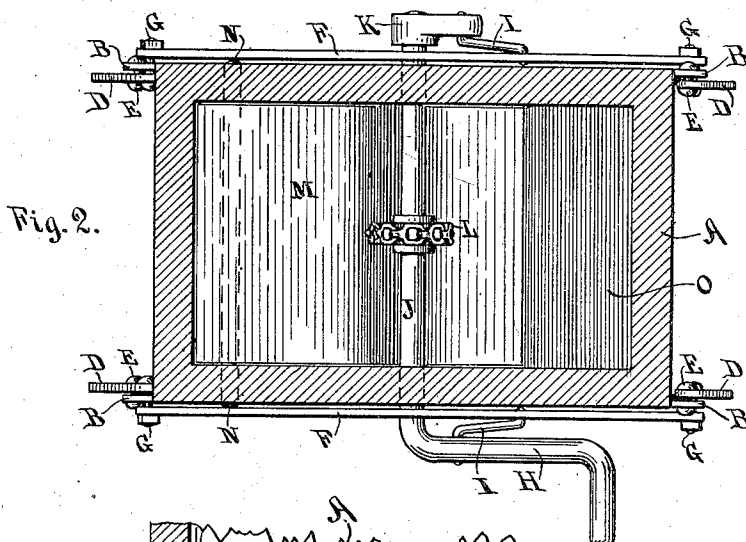
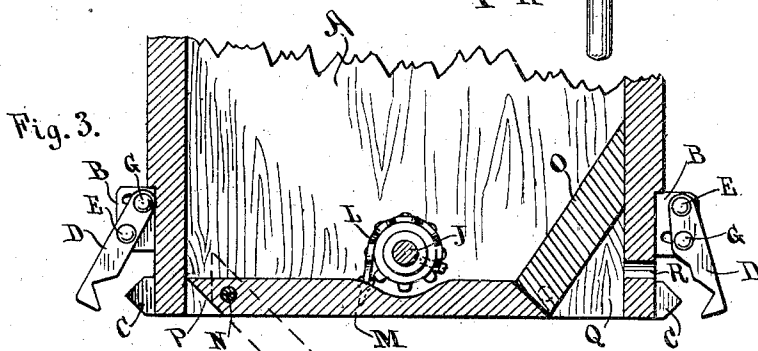


C. L. SQUIRE.
BAG HOLDER FOR GRAIN CHUTES, &c.

APPLICATION FILED OCT. 9, 1902.

NO MODEL.



WITNESSES:

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CHARLES L. SQUIRE, OF ELMIRA, NEW YORK.

BAG-HOLDER FOR GRAIN-CHUTES, &c.

SPECIFICATION forming part of Letters Patent No. 726,584, dated April 28, 1903.

Application filed October 9, 1902. Serial No. 126,481. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. SQUIRE, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Bag-Holders for Grain-Chutes, &c., of which the following is a specification.

This invention relates to improvements in the devices for supporting bags at the mouth of a grain chute or hopper while being filled; and the object of my improvements is to provide means whereby the end of the bag, where it is slipped over the mouth of the chute, will be clamped thereto simultaneously with the opening of the valve or cut-off, the clamping device being so coupled to the valve-operating means that the bag will be fastened to the mouth of the chute and released therefrom by the one act of opening or closing the valve or cut-off.

I attain the above object by means of the construction, arrangement, and connection of the several parts, as illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of the lower end of a grain chute or hopper with my device attached thereto; Fig. 2, a horizontal section of the same, and Fig. 3 a vertical transverse section.

Like letters of reference designate like parts in the several views.

A represents the rectangular end or spout of a grain-chute leading from a bin or hopper or other source of supply. At the opposite sides of the bottom of this spout I attach two metal plates B B, cut in the form illustrated. From the lower ends of these plates project pointed lugs or teeth C, and pivoted to the plates B at points E are clamps D, provided with V-shaped notches adapted to be brought into engagement with the lugs or teeth C, so as to grip the sides of a bag when slipped around said teeth. As the clamps D are pivoted at the inside of the plates B, the teeth C must be bent in slightly in order to bring them into alignment with said clamps. The clamps D are connected together by bars F, the ends of which are coupled to the clamps by bolts, as indicated at G, the left-hand clamp being coupled to the bar above its pivot E, and the right-hand clamp being coupled to said bar

below its pivot E, and the plates B being provided with slots to allow for and limit the movements of the bolts G as the bar F is moved from right to left to throw the lower ends of the clamps D toward one another and into engagement with teeth C. Running across the mouth of the spout is a shaft J, operated by a crank H, said shaft being coupled to the cut-off or valve M by a chain and sprocket at L. The valve M is pivoted at N and is provided with a beveled edge at P, between said pivot and the side of the spout, in order to prevent the wedging of particles of grain, &c., between the edge of the valve and spout when the valve is being closed. At the side of the spout opposite the pivot N is an inclined partition O, against the bottom of which the valve M closes. This partition O provides a space Q at this side of the spout, from which a number of openings R lead out in order to provide an air-vent from the top of the bag to permit the free escape of air from the bag as the grain flows down and fills it.

A link I couples the crank H to the bar F, and at the other end of the shaft J is attached a stub-crank K, connected to the bar F on that side by a similar link I. These links I are formed of rather heavy spring-wire and are slightly bowed, as indicated in Fig. 1, and since the bars F in this position of the parts are at the limit of their movement to the right by reason of the bolts G coming against the ends of the slots in plates B it will be evident that the links I will have to be sprung to some extent in order to turn the crank H upward to open the valve. The valve is therefore held locked in its closed position and will be held closed against the weight of the grain above it. It requires the leverage of the crank and some little force to open the valve. When the valve is open, the weight of the descending grain holds the crank-arms in their elevated position, thereby exercising a pull on the links I, which draws the bars F over to the left, thereby forcing the clamps against the tooth C and holding a bag thereon as long as the valve is open. Instead of the crank H at the front of the spout I may use a stub-crank similar to that at the rear and use in connection therewith a key to operate shaft J. By this latter arrangement it will be impossible to turn the shaft to open

the valve except when the key is applied thereto, whereby tampering with the spout so as to open it when a bag is not in place thereon will be effectually prevented.

- 5 In operation when a bag is to be filled the mouth of the bag will be slipped around the spout over the teeth C, after which crank H will be thrown upward, thereby allowing the valve or cut-off M to drop into the position
10 indicated in broken lines in Fig. 3 by reason of the weight of the grain above it. At the same time with the opening of the valve bars F will be thrown from right to left, causing the clamps D to firmly grip the sides of the
15 bag where they pass around the teeth C. When the bag is filled, crank H will be thrown down, thereby closing the cut-off M and releasing the clamps D, the one movement of the crank in either direction actuating the
20 clamping device simultaneously to grip or release the bag.

Having thus described my improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

- 25 1. A bag-holder for grain-chutes and the like comprising a spout, a valve to close the end of the spout, teeth or lugs projecting from the sides of the spout, clamps pivoted
30 above said teeth, a bar passing across from a clamp on one side to a clamp on the other, said bar being coupled to said clamps with relation to their pivot-points whereby the
35 clamps will be thrown into or out of engagement with the sides of a bag slipped around the spout when the bar is moved from one side to the other across the spout, a crank
and shaft for operating the valve, and a link
40 coupling the crank to said bar, whereby the clamps will be closed or opened simultaneously with the opening or closing of the valve.

2. A bag-holder for grain-chutes and the like comprising plates to be fastened at opposite sides of the end or spout of the chute,
45 teeth projecting from each end of said plates, clamps pivoted to the plates above the teeth, a bar passing across from one clamp to the other on each plate and coupled thereto by bolts passing through slots in said plates at

points above the pivot of one of said clamps and below that of the other, whereby the
50 clamps will be thrown into or out of engagement with said teeth when the bars are thrown from one side to the other across the spout, a valve to close the end of the spout, a crank
55 and shaft for operating said valve, a spring-link coupling the crank to one of said bars, whereby the valve will be locked shut when the clamps are thrown open, and a link coupling the other of said bars to a crank-arm also
60 carried by said shaft.

3. A bag-holder for grain-chutes and the like comprising a pair of clamps pivoted upon opposite sides of the end or spout of the chute, a bar passing across from one clamp
65 to the other and coupled thereto at points above the pivot of one and below that of the other, means for limiting the throw of said bar, a valve to close the spout, a crank and shaft for operating said valve, and a spring-
70 link coupling the crank to said bar whereby the valve is locked when in closed position.

4. The combination with a spout, of a valve or cut-off pivoted therein at one side, a shaft
75 above the valve, a connection between the valve and said shaft whereby the valve is dropped to open the mouth of the chute or drawn up to close the mouth when the shaft
80 is turned in one direction or the other, clamps pivoted at the sides of the spout to secure a bag thereon, an operating-bar passing across between said clamps above the shaft, a crank
85 to operate the shaft, and a spring-link coupling the crank to said bar.

5. The combination with a grain-chute, of an inclined partition running from one side
85 to the bottom of the chute, vent-openings through said side below the partition, a valve or cut-off in the main channel of the chute, and means for securing the mouth of a bag
90 around the end of the chute.

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

CHARLES L. SQUIRE.

Witnesses:

M. E. VERBECK,

DWIGHT S. WISEMAN.