No. 625,596. Patented May 23, 1899.

W. PAYNE.

SEED DRILL VALVE.

(Application filed Jan. 27, 1899.)

(No Model.)

Fig. 1.

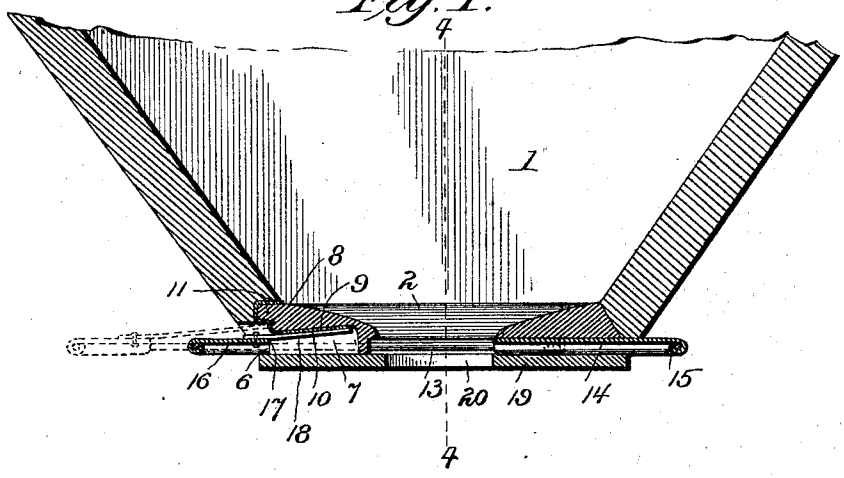


Fig. 3.

Fig. 2.

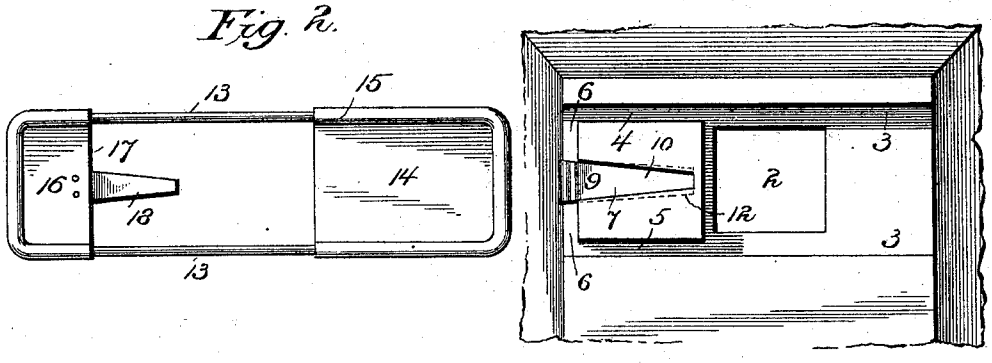
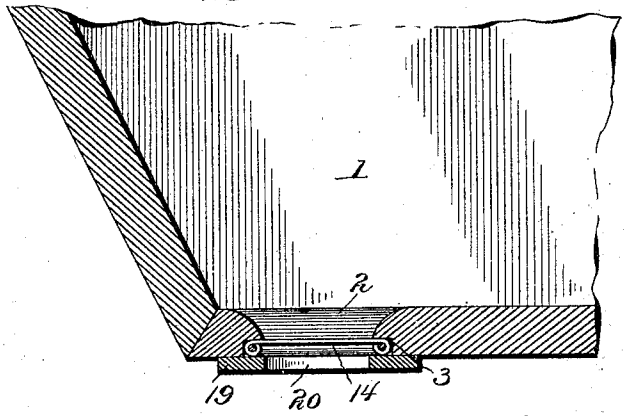


Fig. 4.



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SEED-DRILL VALVE.

SPECIFICATION forming part of Letters Patent No. 625,596, dated May 23, 1899.

Application filed January 27, 1899. Serial No. 703,585. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PAYNE, a citizen of the United States, residing at Lawrence, in the county of Van Buren and State of Michigan, have invented certain new and useful Improvements in Seed-Drill Valves; 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 invention relates to regulating-valves or cut-offs for the spouts of grain or seed drills.

The object sought to be accomplished is to provide an improved valve or cut-off of simple and inexpensive construction which will be self-locking, so as to remain in the position where adjusted, and which can be easily manipulated.

Having the foregoing and other objects in view, the invention consists of certain improved features and novel combinations of parts set forth in detail hereinafter and recited in the appended claims.

In the accompanying drawings, Figure 1 is a transverse section of lower portion of the hopper of a grain or seed drill, illustrating my invention. Fig. 2 is a bottom view of sliding valve or cut-off. Fig. 3 is a bottom view of portion of hopper; and Fig. 4 is a longitudinal section on line 4 4, Fig. 1.

A section of the bottom of the grain or seed hopper (shown at 1) is provided with the usual feed-opening 2, through which the grain or seed passes into the spout. The under side of the bottom is cut out or recessed at 3 to a width somewhat greater than that of opening 2, and on the other side of the opening there are two grooves or channels 4 and 5, which run into a cross-channel 6. Between and parallel with channels 4 and 5 is a groove or recess 7, whose outer end runs into cross-channel 6, while its inner end is blind. This groove narrows gradually and regularly in width from its outer open end, where it is broadest, to its inner blind end, where it is narrowest. The top wall of the groove slants or inclines upwardly from its broad outer end to its blind end. The open end of the groove is countersunk, as at 8. A metal wear-strip 9 lies against and covers the top walls of the groove and countersink, and in the latter the inclined part 10 is provided. This end of the strip is bent over the edge of the hopper-bottom and secured by a fastening device 11. The remaining end of the strip is fitted into undercuts 12 in the side walls of the grooves.

The numeral 13 designates a rectangular frame of stout wire which is of such width that portions of its side pieces are adapted to slide freely and easily in the grooves 4 and 5. The valve proper is a piece of sheet metal 14 of sufficient size to be adapted to cover the opening 2, which has its edges bent over the side pieces and one end of the frame 13, as shown at 15. At the other end of the frame is a similar metallic piece 16, which, however, is of such length that its edge 17, when received in cross-groove 6 as far as possible, positions the valve just beyond the opening 2, so that it is completely uncovered, and so that said piece 16 acts as a gage when the valve is opened.

The numeral 18 represents a tapering leaf-spring which has its broad end secured to the gage 16 intermediate the side rods of the frame and its remaining portion free to bear against and slide on the wear-strip 9, which it is adapted to do as it is bent at such an angle that it will constantly press against said strip, and when the valve is pulled completely over the opening 2 the tip of the spring will snap into the countersunk portion of the groove.

A cover-plate 19 is secured to the hopper-bottom and holds the different parts of the valve mechanism in proper position. The opening 20 in the plate registers with the opening 2.

The valve mechanism I have described is of course duplicated for each spout in the machine, so that the feed through any given spout can be regulated as desired independently of any other spout.

Operation: Assuming that the valve is closed, it can be opened by pressing the tip of the spring out of the countersink and into the main groove and pushing in the frame. The pressure of the spring will lock the valve wherever it is allowed to remain and the vibration or jarring of the machine will not disturb the adjustment. The feed of the seed or grain can therefore be regulated as found desirable. When the valve is completely closed, the reception of the tip of the spring

in the countersink renders opening impossible until the spring is pressed back by hand.

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

1. In a device of the class described, the combination with a bottom having a feed-opening, of a valve adapted to close said opening, and a spring connected to the valve and bearing against the bottom, said spring being adapted to automatically lock the valve where positioned.

2. In a device of the class described, the combination with a bottom having a feed-opening, of a valve adapted to close the opening, and a leaf-spring connected to the valve and having a free portion adapted to bear against the bottom and lock the valve where positioned.

3. In a device of the class described, the combination with a bottom having a feed-opening and provided with a locking-recess, of a valve adapted to close said opening, and a leaf-spring secured to the valve and having a free portion adapted to bear against the bottom and lock the valve in an open or partially open position and to enter the locking-recess when the valve is closed.

4. In a device of the class described, the combination with a bottom having a feed-opening, of a slidable frame, a valve secured to the frame and adapted to close the opening, and a gage on the frame adapted to coact with the bottom and limit the opening of the valve.

5. In a device of the class described, the combination with a bottom having a feed-opening, of a slidable frame a valve secured to the frame and adapted to close the opening, a gage on the frame, and stop devices on the bottom, one of which is designed to engage the valve when closed and the other to engage the gage when the valve is open.

6. In a device of the class described, the combination with a bottom having a feed-opening, and recessed or cut away around said opening and one side thereof and provided with parallel grooves on the other side and a cross-groove connecting them, of a frame having portions adapted to slide in the parallel grooves, a valve secured to one part of the frame and a gage secured to the other end of said frame, said valve being adapted to slide in the recessed portion and the gage to be received in the cross-groove, whereby the movement of the valve and frame is limited in both directions.

7. In a device of the class described, the combination with a bottom having a feed-opening, and a groove having an inclined wall, of a slide-valve for said opening, and a leaf-spring, secured to the valve, which has its free portion slidable in the groove and bearing against the inclined wall whereby automatic locking of the valve is had.

8. In a device of the class described, the combination with a bottom having a feed-opening and a groove having an inclined wall provided with a countersink at one portion, of a slide-valve for the opening and a leaf-spring secured to the valve and having a free portion adapted to press against the inclined wall and to fit into the countersink where alined therewith, whereby automatic locking of the valve is had.

9. In a device of the class described, the combination with a bottom having a feed-opening and provided with a groove having an inclined top wall and undercut side walls, and also provided with a countersink at one end, of a slide-valve for the opening, a wear-strip fitted against the top wall of the groove and into the undercuts and also fitted into the countersink and secured to the bottom, and a bent leaf-spring secured to the valve and having a free portion bearing against and slidable on the wear-strip and adapted for reception in the countersink, whereby automatic locking of the valve is had.

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

WILLIAM PAYNE.

Witnesses:
E. G. KLOCK,
CARRIE BAUGHMAN.