

(No Model.)

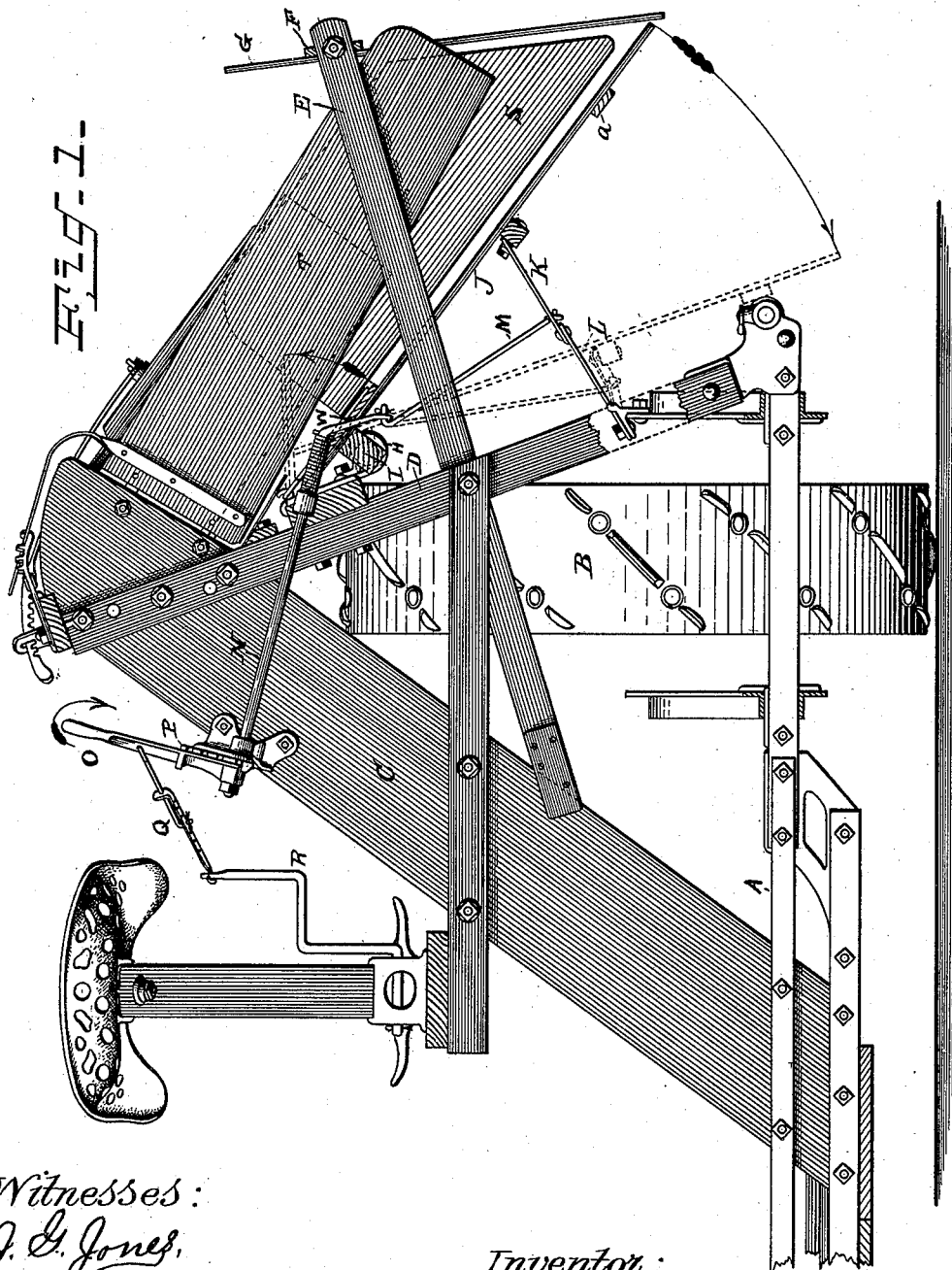
2 Sheets—Sheet 1.

H. J. CASE.

DROPPER.

No. 384,123.

Patented June 5, 1888.



Witnesses:
J. E. Jones,
H. T. Chapman.

Inventor:
H. J. Case.
By Attorney,
Phil. T. Dodge.

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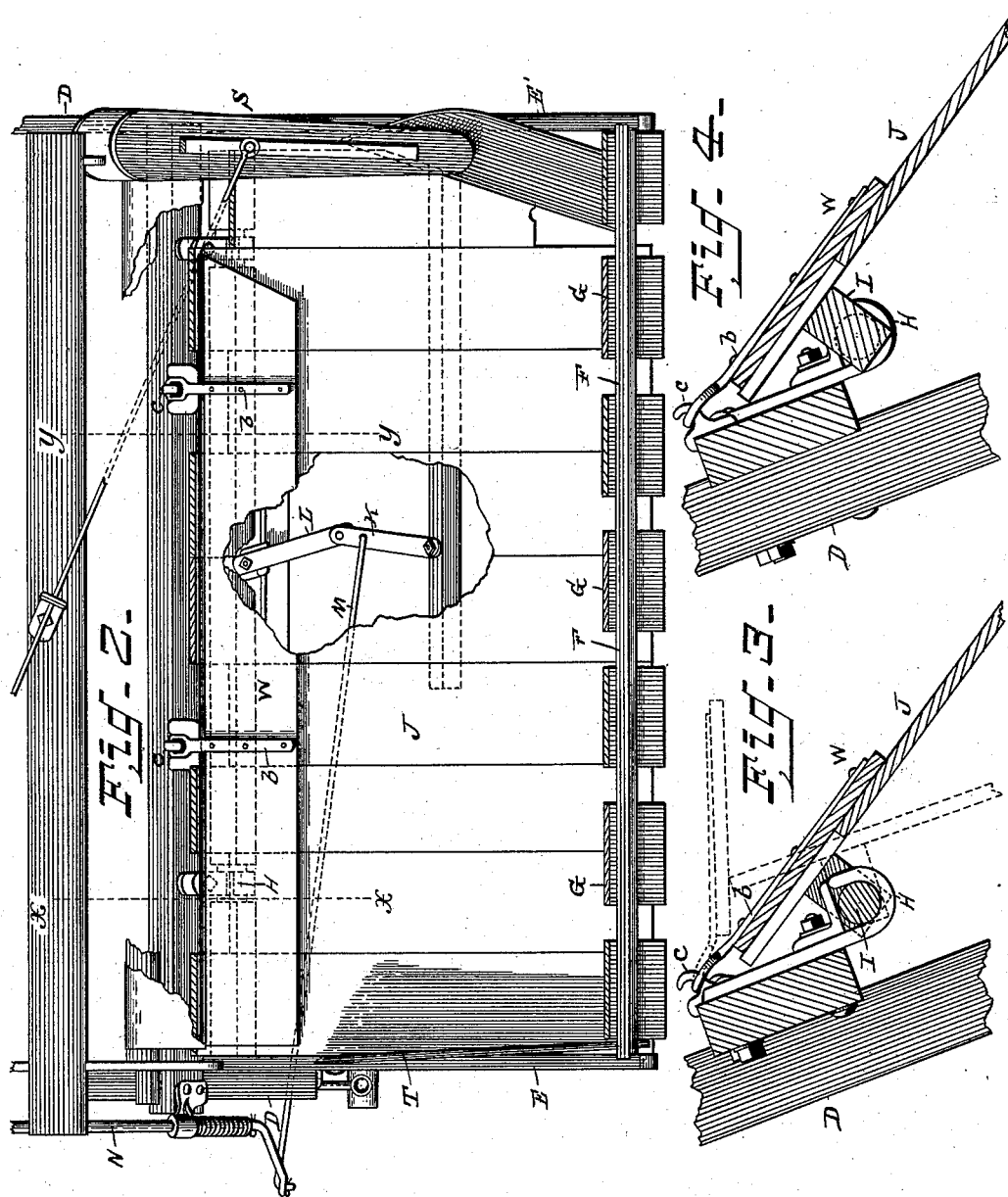
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UNITED STATES PATENT OFFICE.

HENRY J. CASE, OF AUBURN, ASSIGNOR OF ONE-HALF TO D. M. OSBORNE & COMPANY, OF NEW YORK, N. Y.

DROPPER.

SPECIFICATION forming part of Letters Patent No. 384,123, dated June 5, 1888.

Application filed June 11, 1887. Serial No. 241,049. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. CASE, of Auburn, in the county of Cayuga and State of New York, have invented certain Improvements in Harvester-Droppers, of which the following is a specification.

The aim of this invention is to provide a receptacle in which the flax or other grain to be harvested may be permitted to accumulate in quantity and discharged at suitable intervals at the will of the driver.

The carrier is more particularly adapted for application to that class of machines in which the grain is delivered by an elevator over the main wheel to a binding mechanism at its outer side, and is designed to be applied to the machine in the place of the binder.

My invention consists, essentially, in a receptacle having a stationary outer side and a falling bottom, combined with devices under the control of the attendant by which its movement is controlled.

It further consists in various details of construction, which will be hereinafter more fully described.

In the accompanying drawings, Figure 1 represents a rear elevation of a portion of a harvesting-machine provided with my carrier. Fig. 2 is a top plan view of the same. Figs. 3 and 4 are vertical sections on the lines $x x$ and $y y$, respectively.

In the drawings, A represents the frame of the harvester; B, the grain-wheel; C, the inclined frame, commonly known as the "A-frame," containing endless aprons or other means for delivering the grain from the platform over the main wheel to its outer side, and D standards extending from the outer side of the main frame to the upper part of the elevator-frame to give it support.

In applying my improvement I bolt to the front and rear standards D two bars, E and E', the inner ends of which rest beneath and receive support from the elevator-frame, while the opposite ends are extended outward from the stubble side of the machine a considerable distance beyond the frame. To these bars I bolt or otherwise secure firmly a bearing, F, extending in a fore-and-aft direction, and giving support to a series of upright bars

or slats, G, which are nailed or otherwise attached firmly thereto, and which form the outer side of the receptacle.

The harvester-frame is provided, as usual, with two brackets or boxes, H, designed to sustain the inner side of the automatic binder when it is used thereon. In these brackets I mount, so as to turn freely, a bar, I, extending in a fore-and-aft direction and nailed or otherwise secured to a series of boards, J, which form the bottom of the receptacle. This bottom J, which is further strengthened by one or more cross bars or cleats, a , is free to rise and fall at its lower edge. When turned upward, it meets or stands in close proximity to the lower ends of the slats G, and in connection therewith forms a receptacle into which the grain is delivered from the elevator. In order to sustain this bottom and to admit of its being dropped at the will of the driver, I joint to its under side a link, K, which is jointed to a second link, L, pivoted to a bearing on the main frame. To either of these links, near the point of their union, I attach a rod, M, extending upward to a crank on one end of a rock-shaft, N, which is mounted in bearings on the main frame and provided with a hand-lever, O, in convenient reach of the driver. By moving this lever forward the links are brought to the position shown in Figs. 1 and 2, thereby lifting the bottom to its elevated position, and by moving it in the opposite direction the links are thrown out of line and the bottom permitted to fall, as shown in dotted lines in Figs. 1 and 3, to effect the delivery of this accumulated grain. The hand-lever is arranged to engage a notched locking-plate, P, or combined with other means by which it may be conveniently locked to hold the bottom in its elevated position. The hand-lever and crank-shaft represented in the drawings are those commonly applied to harvesting and binding machines for the purpose of adjusting the binder in a fore-and-aft direction; but a special crank-shaft arranged in any appropriate manner may be used, if preferred.

In order that the operator may the more conveniently lift the bottom to its active position, I extend a link, Q, from the hand-lever to a second lever, R, pivoted on the seat-plank

adjacent to the driver's seat and made of angular form, as shown in Fig. 1, so that when braced forward by the foot of the driver it will lift or assist in lifting the bottom of the receptacle. In order to hold the inflowing grain in check during the falling motion of the bottom, I hang to the frame, directly above the bottom J, an overlying board, W, as shown in Figs. 2, 3, and 4, in such manner that when the bottom is dropped its upper edge, rising beneath this board or cut-off, will lift the same, as shown by dotted lines in Fig. 3, to a position in which it will receive and sustain the grain flowing from the elevator. As the bottom is lifted to its operative position, this flap is permitted to fall thereon, as shown in Fig. 4, so that the grain thereon is discharged into the receptacle. The board W may be hinged in any appropriate manner; but I prefer to rivet eye-plates *b* thereon, and engage these plates upon hooked plates *c*, bolted to the elevator-frame, as shown.

The ends of the receptacle may be formed in any suitable manner. As shown in the drawings, they are formed by the usual butt-adjusting apron, S, and the deflector or wind-board T, which are commonly present on combined harvesting and binding machines.

The essence of my invention resides in a receptacle the outer wall of which is stationary, while the bottom is arranged to fall at its lower edge toward the harvester in order to discharge the grain laterally from the machine.

While it is preferred to support the outer side of the receptacle by the arms E and E', arranged in the particular manner shown, it is manifest that any equivalent supports connected with the harvester frame may be employed.

It is sometimes desirable to place the bottom entirely under the control of the driver's foot. To do this it is only necessary to remove the hand-lever and reverse its position on the shaft, so that the rib formed on its inner side to engage the rack-plate will stand on its outer side, and thus leave the lever free to move under the influence of the foot-lever. When the parts are thus arranged, the driver will maintain the bottom in its elevated position by a constant pressure of his foot against the foot-lever.

I am aware that droppers and grain-carriers have been made in a variety of forms, with bottoms hinged at their outer edge to swing away from the harvester and with stationary bottoms and outer walls hinged at the outer edge to swing from the harvester. I believe myself to be the first, however, to combine with a harvester a grain-receptacle having a stationary outer wall and a falling bottom, the latter hinged at or near its inner upper edge to the harvester-frame, so as to swing inward in the act of discharging the grain, and in practice I find this construction advantageous by reason of its extreme simplicity, owing to the fact that it permits the grain to

fall directly and in a compact body to the ground, and because the movable bottom is brought near the machine and in position where it may be easily controlled.

Having thus described my invention, what I claim is—

1. In combination with a harvester having elevated grain-delivering mechanism, a grain carrying and dropping mechanism consisting of the inclined bottom J, hinged at its upper edge to the harvester, that it may swing inward and downward, the stationary upright wall G, sustained by and at a distance from the harvester to retain the grain on the inclined bottom, and means, substantially as shown, for raising, lowering, and maintaining the lower end of said bottom in contact with said wall at the will of the driver, whereby the grain may be accumulated between said bottom and wall and be delivered at will adjacent to the machine by the swinging of the bottom inward from the wall.

2. In combination with the harvester having the elevator and its sustaining-standards, the outwardly-extending arms E, secured rigidly thereto, the cross-bar F, and upright wall G, connected rigidly to said arms, the inclined bottom J, hinged at its upper edge to the harvester and extending downward and outward to meet the wall G, the links to sustain the inclined bottom in contact with the wall, the said links being jointed and connected one to the harvester and the other to said bottom, and link-controlling means extending to a point adjacent to the driver's seat.

3. In combination with a harvester having an elevated grain-delivery, a grain-receptacle consisting of the inclined bottom J and upright wall G, the bottom being hinged near its upper edge to the harvester, and the cut-off W, hinged to the harvester above and arranged to rest upon the top side of the bottom across its upper end, and means, substantially as described, to operate the hinged bottom, whereby the bottom, in swinging downward and inward, is caused to act at its upper edge beneath the cut-off and lift the same to an active position.

4. In combination with a grain-harvester having the usual elevated grain-delivery, the binder-sustaining brackets H and the binder-shifting shaft N, the grain-receptacle consisting of the stationary outer wall, G, and its sustaining-arms attached to the harvester, the inclined bottom J, having journals mounted in brackets H, and the links connecting the lower edge of the bottom with the harvester-frame and connected with the shaft N.

In testimony whereof I hereunto set my hand, this 22d day of March, 1887, in the presence of two attesting witnesses.

HENRY J. CASE.

Witnesses:

GEORGE VICKERS,
J. FRANK DAVIS.