(No Model.) 2 Sheets—Sheet 1.

L. R. FIX.

Grain Conveyer.

No. 241,341. Patented May 10, 1881.

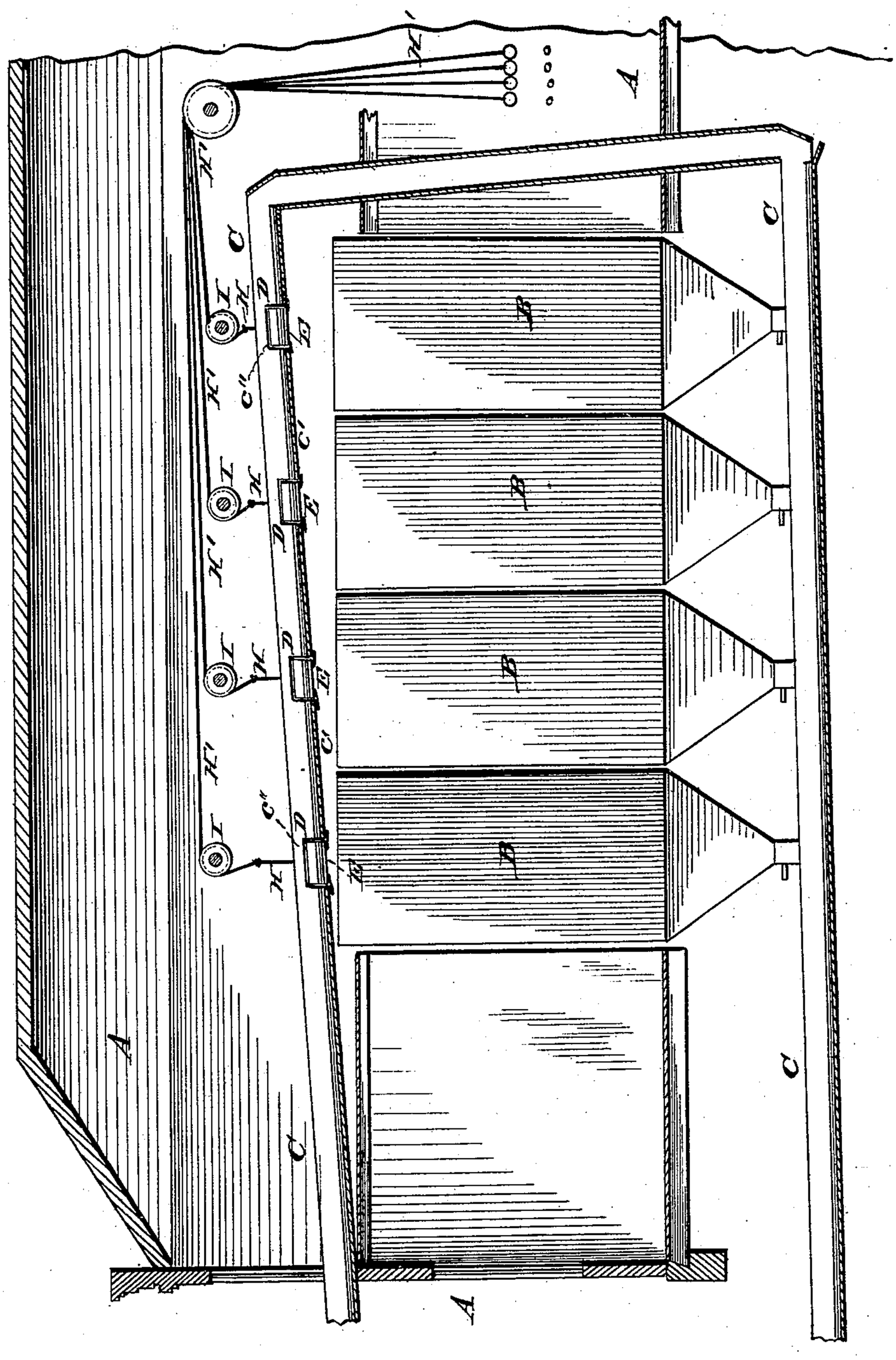

Fig. 1.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

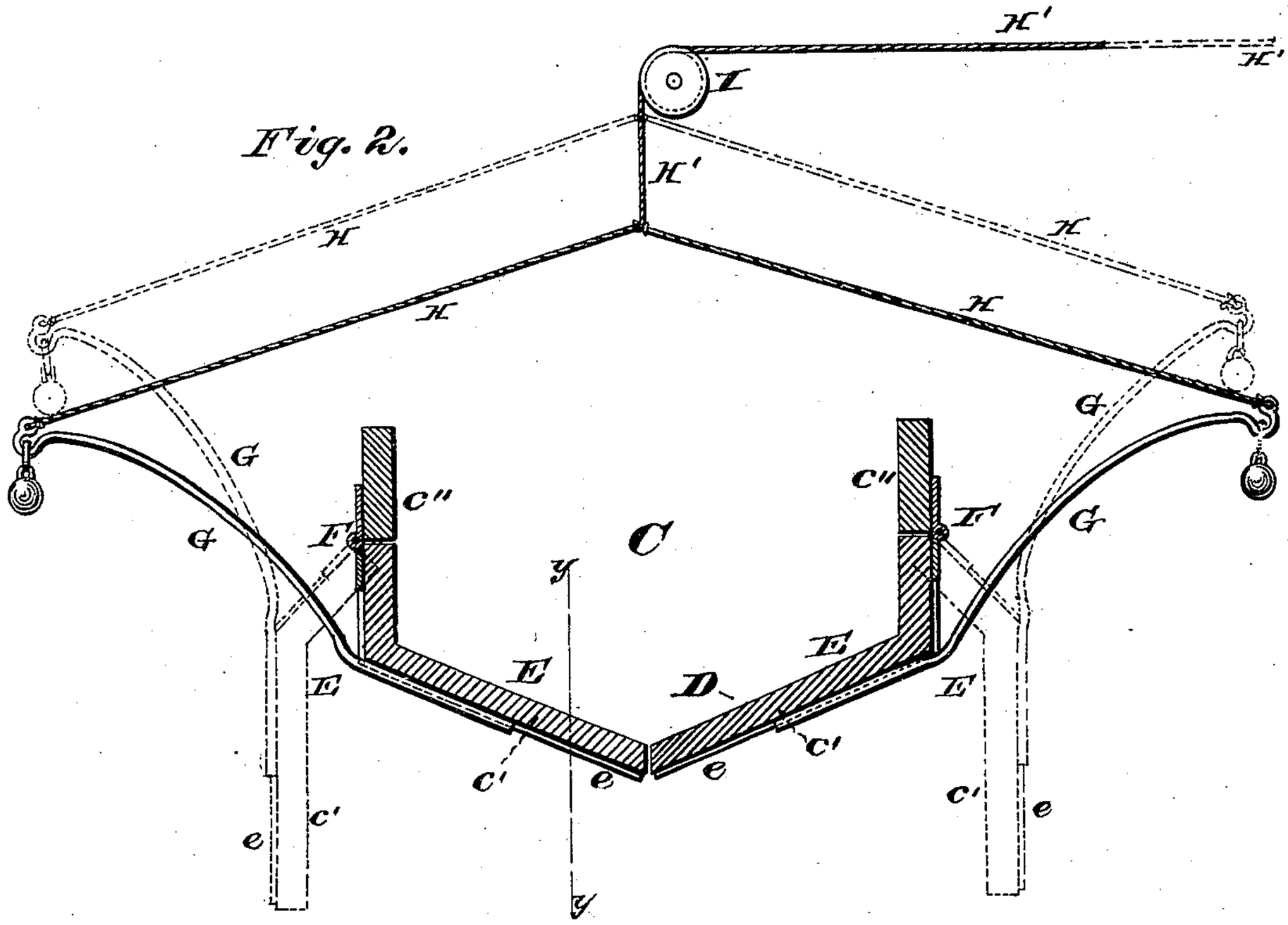
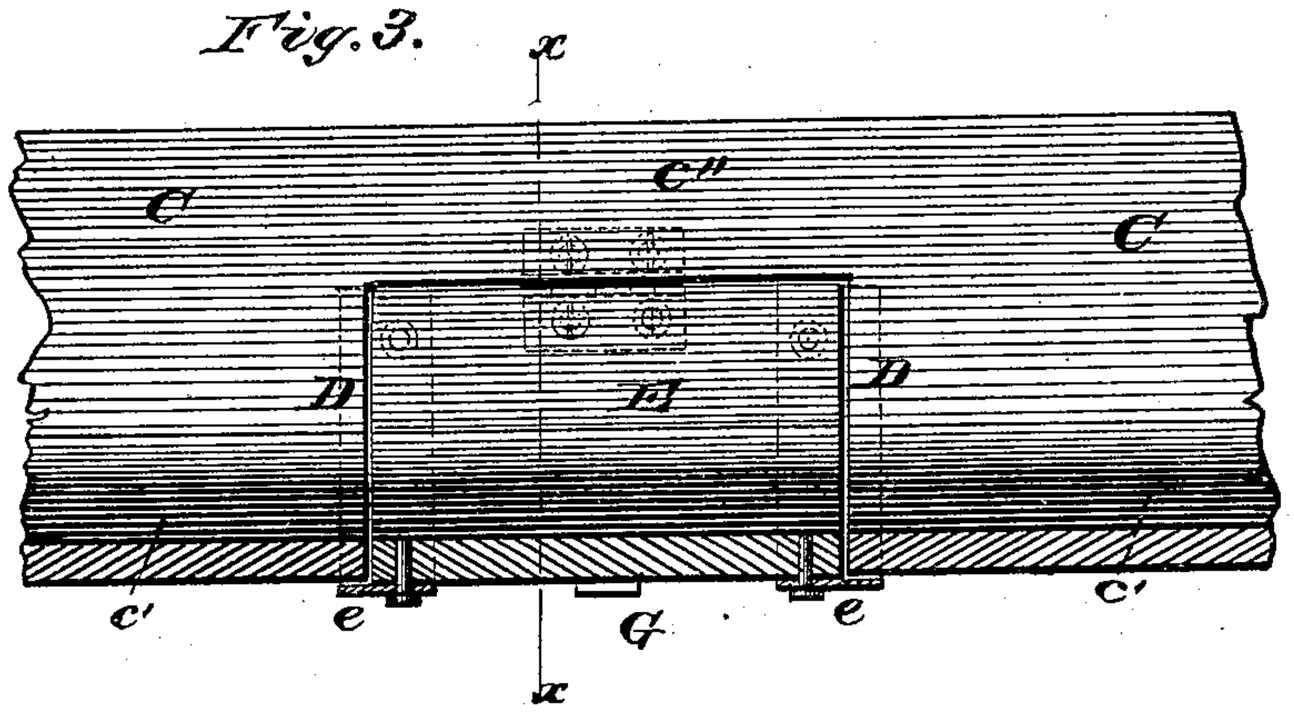


Fig. 3.



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UNITED STATES PATENT OFFICE.

LEWIS R. FIX, OF BURLINGTON, IOWA, ASSIGNOR OF ONE-HALF TO HENRY HARRISON, OF SAME PLACE.

GRAIN-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 241,341, dated May 10, 1881.

Application filed April 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, LEWIS R. FIX, a citizen of the United States, residing at Burlington, in the county of Des Moines and State of Iowa, have invented certain new and useful Improvements in Grain-Conveyers for Elevator-Buildings; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to spouts or troughs for conveying grain to elevator-bins; and it consists in valves for opening and closing the openings in the troughs or spouts which register with the respective bins, which valves close with their own gravity, and may be opened by a cord.

The invention further consists in cords connected with the valves of each bin and extending to a common and convenient part of the elevator-building, where they may be designated by numbers, or otherwise, to correspond with similar numbers or marks on the bins, so that a person at their common union may open the valve or valves to discharge grain into either bin, as desired, in a distant part of the building.

The invention further consists in constructions and combinations hereinafter described, and set forth in the claims hereto annexed.

In the accompanying drawings, which illustrate my invention, and in which similar letters, used as marks of reference, apply to the like parts in all the figures, Figure 1 is a sectional elevation of a grain-elevator building embodying my invention. Fig. 2 is an enlarged transverse sectional elevation of the grain-trough in the line *x x* in Fig. 3. Fig. 3 is an enlarged sectional elevation in the line *y y* in Fig. 2.

Referring to the drawings by letters, letter A represents part of the frame-work of an ordinary grain-elevator building, and B grain-bins located therein. The building A may be of any ordinary construction, and the bins B may be located in any desired or ordinary manner which permits of a trough or spout, C, leading over a series of the bins. Grain may be supplied to the trough or troughs C in any manner, and may be forced through the trough by a screw-conveyer, by a chain with push-plates thereon, or in any other manner, or the troughs C may be inclined, so that the grain will run through the trough by its own gravity. Over each bin B there is an opening, D, in the bottom of the trough C, which may be closed by a single valve or door when the bottom of the trough C is flat, and with two valves or doors, E E, when the bottom is V-shaped, or formed of two parts, *c' c'*, sloping downward and uniting at their adjacent edges, as shown at Fig. 2, or when the bottom is formed of the arc of a circle, ellipse, or any other curve in its cross-section. A hinge, F, connects the upper end of each valve E with the side *c''* of the trough C, so that the valve may be opened, as is shown by dotted lines at Fig. 2. Each valve E fits the opening in the trough in which it is seated, and each is provided with side flanges, *e*, which project over the adjacent walls of the openings in the trough and hold the valve in proper position when closed. An arm, G, extends from each valve outward and is weighted at its outer end, so that it will tend to keep the valve tightly closed when in its normal position. The bifurcated ends H of a cord, H', are connected one to each arm G of a pair of said arms. The cord H' passes over a pulley, I, supported by any suitable part of the frame or other support, and thence downward over pulleys, or in any manner, as may be required, to a lower room or other suitable place in the elevator-building. The cords H' from any number of valves which open to different bins may be brought to the same room, where they may be secured in any desired manner, and each cord be marked to designate the particular grain-bin to the delivery-valves E of which said cord is connected.

In operation the grain is supposed to be flowing or forced through the trough C, and may be delivered to any bin B required by opening the valves E over said bin. A person located where the cords H' come together at their

lower ends may, by drawing on the cord leading to the valves E of any bin desired, thereby open said valves and allow the grain to be delivered thereto. To hold the valves open the cords may be secured in any desired manner, and to close the valves it is only necessary to release the cord and allow the valve to close by gravity, as hereinbefore described. Similar valves, operated similarly, may be used to open the communication from the bins to a trough or spout for delivering the grain from the bins to a receiver.

What I claim as new is—

1. In combination with a grain trough or spout, C, a valve, E, hinged to the side of said spout or trough, and adapted to swing by its gravity and close an opening in the bottom thereof, substantially as and for the purpose specified.

2. In combination with a grain trough or spout having a bottom V-shaped in its cross-section, valves E, hinged one to each side of said spout and provided with arms G, which by their gravity close said valves, substantially as and for the purpose specified.

3. The valves E, having flanges *e*, in combination with the trough C, having a hole in which the valve seats by its gravity, substantially as and for the purpose specified.

4. In combination with the grain trough or spout having openings registering with different grain-bins, valves adapted to close said openings, and cords extending to a common or convenient place where either cord may be drawn to open the valves to deliver grain to any particular bin desired, substantially as and for the purpose specified.

5. In combination with the grain trough or spout and the valves E, having weighted arms G, adapted to close the valves by gravity, the cords H′, extending from the valves to a common location where either may be drawn to open the valves to any desired bin, substantially as and for the purpose specified.

6. In combination with a grain trough or spout having a V-shaped bottom, valves E, hinged one to each side of said trough or spout and provided with arms G, which close said valves by their gravity, and cords H′, connected one with each pair of said valves and extending to a convenient place where they may be drawn to open the valves, substantially as and for the purpose specified.

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

LEWIS R. FIX.

Witnesses:
J. C. OSGOOD,
C. M. SCHENCK.