No. 745,017. PATENTED NOV. 24, 1903.

J. A. JAMIESON.

ELEVATOR BIN.

APPLICATION FILED AUG. 28, 1900.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.

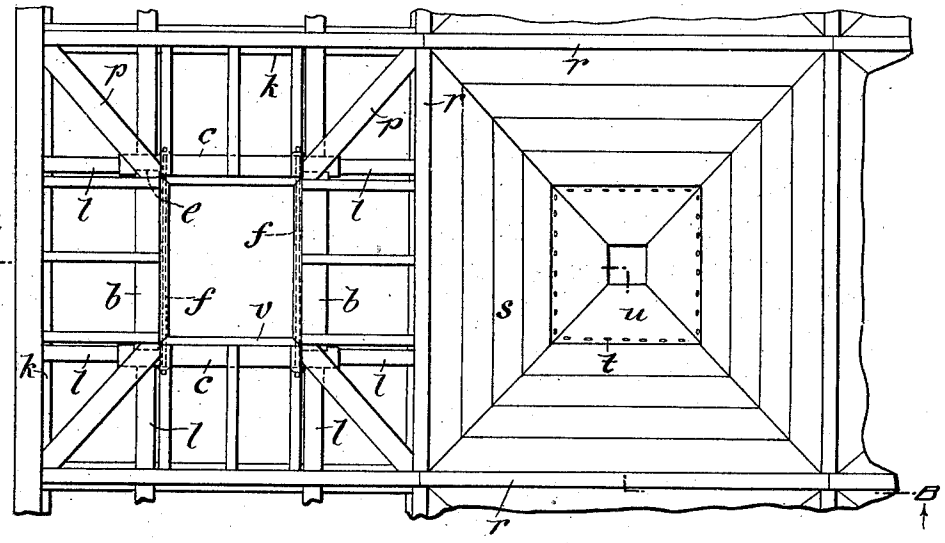


FIG. 2.

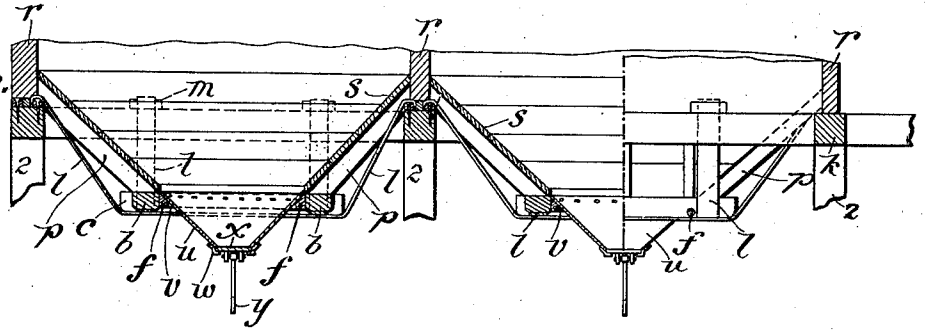
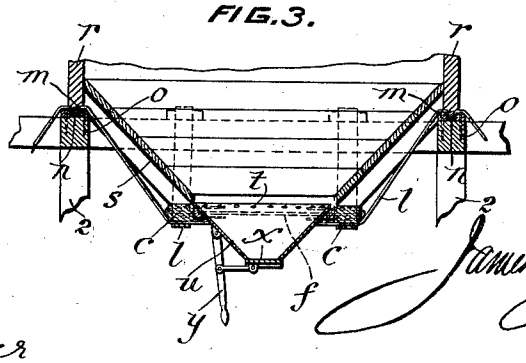


FIG. 3.



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ELEVATOR BIN.

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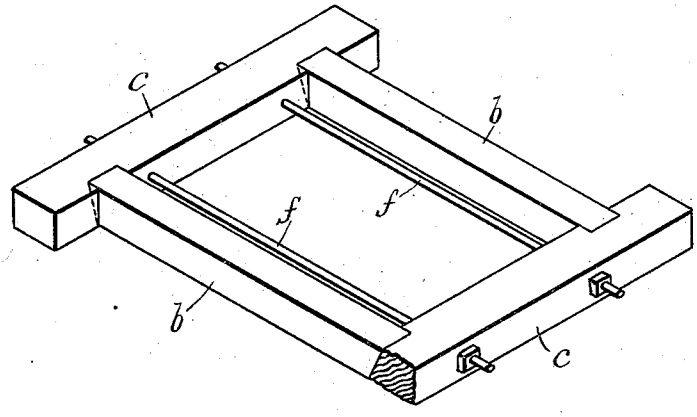
NO MODEL. 2 SHEETS—SHEET 2.

FIG. 4.



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No. 745,017. Patented November 24, 1903.

UNITED STATES PATENT OFFICE.

JAMES ALEXANDER JAMIESON, OF MONTREAL, CANADA.

ELEVATOR-BIN.

SPECIFICATION forming part of Letters Patent No. 745,017, dated November 24, 1903.

Application filed August 28, 1900. Serial No. 28,365. (No model.)

To all whom it may concern:

Be it known that I, JAMES ALEXANDER JAMIESON, mechanical engineer, of the city of Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Elevator-Bins; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention relates particularly to elevator-bins of the type illustrated and described in my pending application filed on the 27th of August, 1900, under Serial No. 28,254, and may be said briefly to consist of a hopper-like bin-bottom comprising an open rectangular main frame suspended from and below the level of a series of inclosing stringers by a series of metallic strips connected at their ends to the stringers and taking beneath the said main frame. The walls of said hopper-like bottom are formed by a series of diagonal rails secured at their ends to said stringers and frame and a lining extending over said diagonal rafters, while an inverted truncated conical section is hung from the inner edges of said main frame and is provided with a sliding valve.

For full comprehension, however, of my invention reference must be had to the accompanying drawings, forming a part of this specification, in which like symbols indicate the same parts, and wherein—

Figure 1 is a plan view of two of a series of bins constructed according to my invention and partly in horizontal sectional view. Fig. 2 is a vertical sectional view thereof, taken on line A B, Fig. 1; and Fig. 3, a similar view to Fig. 2, taken at right angles thereto. Fig. 4 is a perspective view illustrating the frame for supporting the lower end of the bin-bottom.

The main frame consists of four beams *b* and *c*, secured together in the form of a square by cutting two, *b*, thereof shorter than the other two, *c*, and arranged with the beams *b* at right angles to and between the beams *c*, while the ends *e* thereof are cut on an incline to rest in inclined notches in the inner sides of the beams *c*, and a pair of bolts *f* secure all four beams together. This rectangular frame is suspended from a series of stringers *k* by means of four metallic strips *l*, extending along the under sides of the beams *b* and secured at their ends to the top of said stringers by preferably bending the ends thereof to take over the adjacent ends of a pair of spaced hard-wood strips *m*, where they are fastened and held in place by a wedge *n* and the weight of the superstructure, while the strips are held against lateral displacement by nails or screws *o* taking therethrough into the stringers.

A series of diagonal rafters *p* are secured at their lower ends to the tops of the beams *b* and at their upper ends to the cribbing *r* of the bin, the base only whereof is shown, as it may be of ordinary construction. A lining *s*, of wood, metal, or other material, extends across these diagonal rafters and completely covers the spaces therebetween.

A metallic inverted truncated conical end piece *u* is secured at its base by nails *t* or otherwise to rails *v* upon the inside faces of the beams *b* and has a pair of guideways *w* for a slide-valve *x* under the control of a lever *y*.

The hopper-like bottoms are preferably supported upon columns, (indicated at 2.)

Hopper bottoms constructed according to my invention are light in weight, and, besides being more durable, take up less space and material in being hung than have been necessary heretofore to secure the hopper bottoms formerly used in place.

What I claim is as follows:

1. In combination with a bin, of a suspended bottom therefor consisting of an open frame of less area than the lower end of said bin; means for supporting said open frame; a series of diagonal rafters extending from said open frame to the lower end of said bin, a lining for said hopper-like bottom, and means for opening and closing the lower end of said bottom substantially as described and for the purpose set forth.

2. In combination with the lower end of an elevator-bin, of a suspended bin-bottom consisting of an open rectangular frame of less area than the lower end of said bin; a series of metallic strips each connected at its ends to opposite sides of the lower end of said bin and extending under one side of said rectangular frame; a lining extending from said frame to said bin-bottom, means for support-

ing said lining; means for opening and closing the lower end of said bottom, substantially as described.

3. In combination with the lower end of an elevator-bin, of a suspended bin-bottom consisting of an open rectangular frame of less area than the lower end of said bin; a series of metallic strips each connected at its ends to opposite sides of the lower end of said bin and extending under one side of said rectangular frame; a series of rafters extending diagonally from said frame to the lower end of said bin; a lining extending over said rafters from said frame to said bin-bottom, means for opening and closing the lower end of said bottom, substantially as described.

4. The combination of a series of stringers arranged in the form of a square; means for supporting said stringers; a rectangular frame of less area than and located beneath the space inclosed by said stringers and with its sides parallel to, said stringers; a series of metallic strips each extending beneath and supporting one side of said rectangular frame and having its ends connected to the stringers parallel thereto; a series of rafters extending diagonally from said frame to said stringers; a lining extending over said rafters and from said frame to said stringers; and means for opening and closing the open end of said hopper-like bottom substantially as described and for the purpose set forth.

5. The combination of a series of stringers arranged in the form of a square; means for supporting said stringers; a rectangular frame of less area than and located beneath and with its sides parallel to said stringers; a series of metallic strips each extending beneath and supporting one side of said rectangular frame and having its ends extending to the top of the stringers parallel thereto; means for connecting said ends of said strips to said stringers consisting of a series of pairs of hard-wood strips, the strips of each pair being arranged adjacent to each other, the ends of the metallic strips extending over said hard-wood strips and into the space therebetween; a wedge-block taking into said space; a series of rafters extending diagonally from said frame to said stringers; a lining extending over said rafters and from said frame to said stringers; and means for opening and closing the open end of said hopper-like bottom, substantially as described and for the purpose set forth.

6. The combination of a series of stringers arranged in the form of a square; means for supporting said stringers; a rectangular frame of less area than and located beneath the space inclosed by said stringers and with its sides parallel to said stringers; a series of metallic strips each extending beneath and supporting one side of said rectangular frame and having its ends connected to stringers parallel thereto; a series of rafters extending diagonally from said frame to said stringers; a series of metallic plates extending over said rafters and covering the spaces therebetween; a lining extending over said plates and from said frame to said stringers; and means for opening and closing the open end of said hopper-like bottom, substantially as described and for the purpose set forth.

7. The combination of a series of stringers arranged in the form of a square; a rectangular frame of less area than and located beneath and with its sides parallel to said stringers; a series of metallic strips each extending beneath and supporting one side of said rectangular frame and having its ends connected to the stringers parallel thereto; a series of rafters extending diagonally from said frame to said stringers; a concrete lining extending over said rafters and from said frame to said stringers; a metallic inverted truncated conical end piece connected at its base to the inside edges of said rectangular frame; and a valve for opening and closing the open end of said inverted truncated conical end piece, substantially as described and for the purpose set forth.

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

JAMES ALEXANDER JAMIESON.

Witnesses:
WILLIAM P. MCFEAT,
FRED. J. SEARS.