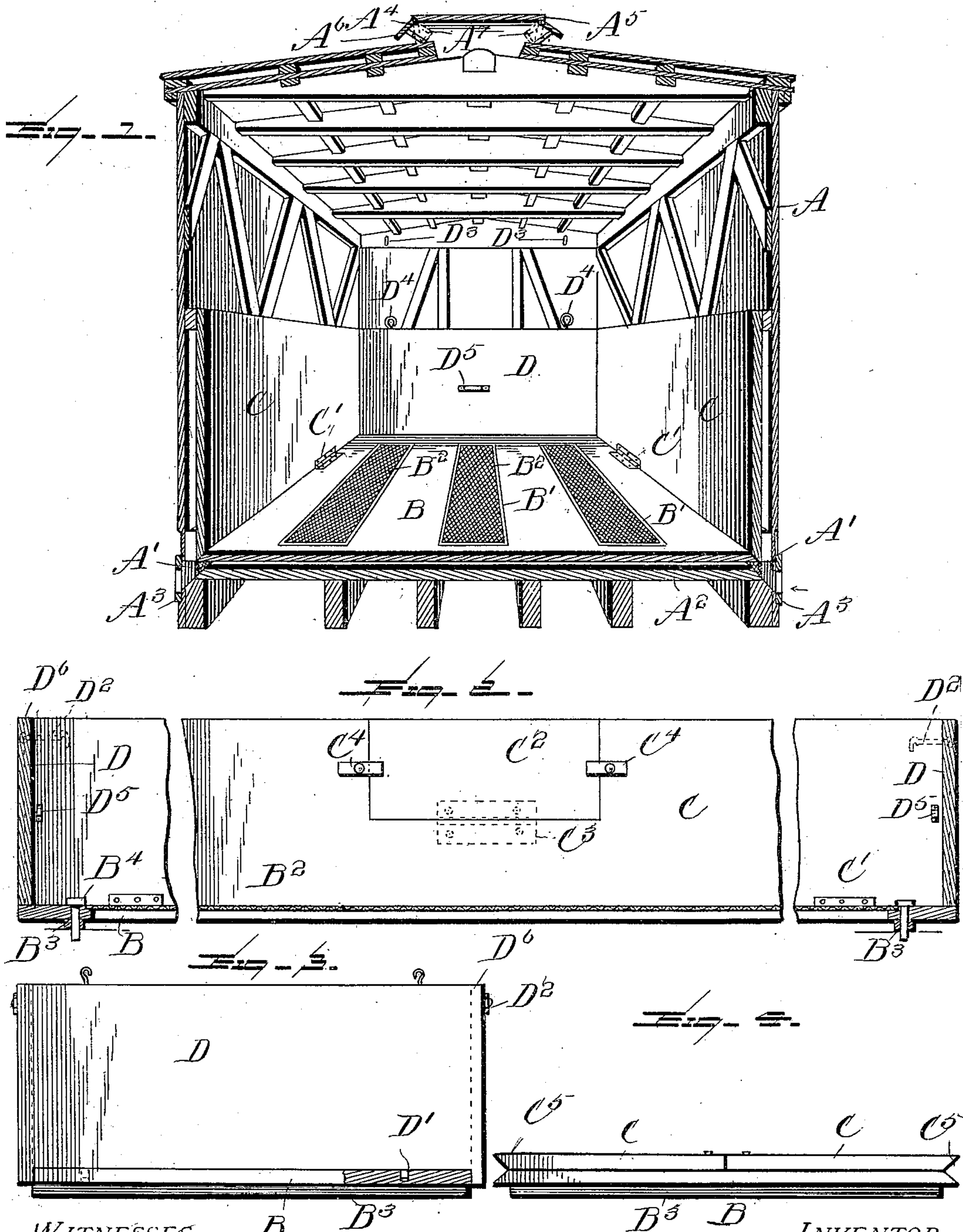


No. 712,736.

Patented Nov. 4, 1902.

W. R. SMITH.  
GRAIN BIN FOR CARS.  
(Application filed Apr. 14, 1902.)

(No Model.)



WITNESSES:

Wm F Doyle.  
Alfred T. Gage.

INVENTOR

William R. Smith.  
BY E. B. Stocking  
Attorney



# UNITED STATES PATENT OFFICE.

WILLIAM R. SMITH, OF TOPEKA, KANSAS, ASSIGNOR OF ONE-FIFTH TO  
J. RALPH SCHNEBLY, OF TOPEKA, KANSAS.

## GRAIN-BIN FOR CARS.

SPECIFICATION forming part of Letters Patent No. 712,736, dated November 4, 1902.

Application filed April 14, 1902. Serial No. 102,887. (No model)

*To all whom it may concern:*

Be it known that I, WILLIAM R. SMITH, a citizen of the United States, residing at Topeka, in the county of Shawnee, State of Kansas, have invented certain new and useful Improvements in Grain-Bins for Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a grain-bin for cars, and is particularly adapted for application to ventilated freight-cars, so as to convert the same into a grain-car when desirable or permit the use of the car for ordinary freight under other conditions.

The invention has for an object to provide a construction of folding bin having means to permit the passage of air therethrough and adapted to be located in an ordinary box-car so as to be folded out of the way when the car is to be used for other freight.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings, Figure 1 is a vertical sectional perspective of the car having the bin applied thereto. Fig. 2 is a longitudinal section through the bin. Fig. 3 is an end view of the bin with part in section, and Fig. 4 is a similar view of the bin with the sides folded downward.

Like letters of reference refer to like parts in the several figures of the drawings.

The letter A designates a freight-car of the usual box-car construction, which may be provided with any form of ventilating means—for instance, inlet-openings A' at the opposite sides of the car and extending downward below the floor A<sup>2</sup> thereof. These openings may be screened and protected by any desired device—for instance, the shutters A<sup>3</sup>, as shown, which permit the entrance of air, but protect the contents of the car against the weather or dirt. The upper portion of the car is shown as provided with an outlet-opening A<sup>4</sup>, disposed beneath the running-board A<sup>5</sup> and provided with a pivoted door A<sup>6</sup>, adapted to be controlled by a toggle A<sup>7</sup>. All of these parts are simply shown for the purpose of illustration and may be changed at will.

The car-bin is composed of a bottom section B, having longitudinal openings B' disposed therein, within which the reticulated material B<sup>2</sup> is located, preferably by mounting the same upon a frame which can be removed and replaced in the openings when necessary and which permits the free passage of air through the bottom of the bin. This bottom is raised above the level of the car-floor by means of strips B<sup>3</sup>, so as to permit the free circulation of air in the space between the bottom and the car-floor. At opposite sides of the bottom the side boards C are located and preferably pivoted to the bottom by means of hinges C'. Each of these boards is provided with a door C<sup>2</sup> opposite the car-door and secured in any desired manner—for instance, by means of a hinge C<sup>3</sup> and turn-buttons C<sup>4</sup>—so as to permit the opening of the door outward for the removal of the grain when the car-door has been opened. The bottom of the bin is of substantially the same dimensions as the car-floor and may be connected thereto by any desired means—for instance, pins B<sup>4</sup> extending through the bin-bottom into the car-floor, by which means the bin may be removed from the floor for cleansing the space beneath the same.

At opposite ends of the bin the end boards D are disposed and are secured to the bottom by means of pins D' entering sockets therein, while the upper ends are connected to the side boards by any preferred fastening—for instance, a hook-and-pin connection, as shown in dotted lines at D<sup>2</sup>, Fig. 2. When the parts are folded into the position shown in Fig. 4, the end boards are removed and may be suspended upon hooks or supports D<sup>3</sup> at the ends of the car, if desirable. For this purpose rings or eyes D<sup>4</sup> are attached to the upper portion of the end boards and a handle D<sup>5</sup> applied to the inner surface thereof. For the purpose of effecting a tight joint between the side and the bottom of the bin each of these parts is provided with a beveled edge C<sup>5</sup>, which when in contact make a close joint, while the end boards D overlap the ends of the side boards C, as indicated by dotted lines at D<sup>6</sup> in Figs. 2 and 3.

In the use of the invention it will be seen



that the bin can be applied to any ordinary form of box-car which has been supplied with ventilating-openings and permits a passage of air through the bottom of the bin to thoroughly prevent any sweat or decay of the grain during transportation, and this current of fresh air cools the grain to prevent overheating thereof. The bin is of such a simple construction that it can be readily applied to any car when needed, and when it is desired to use the car for other purposes the side boards of the bin may be folded downward, as shown in Fig. 4, thus entirely protecting the screens against injury and leaving the interior of the car perfectly free for the use with freight of other characters. When in this folded position, the circulation of air through the bottom of the bin is cut off, and the ventilating-openings may be closed, if found desirable, in very cold weather. It will also be seen that the bottom of the bin may be lifted or removed when uncoupled from the floor, and when raised on one edge the floor beneath the bin may be thoroughly cleansed from any dust or grain which may have sifted downward through the screens. It will also be apparent that the bin may be made in any desired number of sections to facilitate its insertion in an ordinary car. It will be obvious that changes may be made in the details of construction and configuration of the several parts without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. A grain-bin for cars comprising a bottom section, side sections movably attached thereto, and end sections movably secured to said bottom and sides; substantially as specified.

2. A grain-bin for cars comprising a bottom section, side sections movably attached thereto, end sections movably secured to said bottom and sides, supporting-strips beneath the bottom of said bin, and reticulated sections disposed in openings formed in said bottom; substantially as specified.

3. In a grain-bin for cars, a bottom section having screened openings therein, side sections pivotally connected thereto, and end

boards removably connected to said side sections; substantially as specified.

4. In a grain-bin for cars, a bottom section having screened openings therein, side sections pivotally connected thereto, end boards removably connected to said side sections, supporting-strips beneath said bottom section, and doors located in said side sections; substantially as specified.

5. In a grain-bin for cars, a bottom section having screened openings therein, side sections pivotally connected thereto, end boards removably connected to said side sections, supporting-strips beneath said bottom section, doors located in said side sections, a pivot for the lower ends of said doors to permit the outward opening of the same, and means for preventing an inward opening of the doors; substantially as specified.

6. The combination with a car having ventilating means adjacent to the floor thereof, of a bin located in said car and supported above said floor, and a reticulated portion in the bottom of said bin; substantially as specified.

7. The combination with a car having ventilating means adjacent to the floor thereof, of a bin located in said car and supported above said floor, a reticulated portion in the bottom of said bin, and side sections to said bin pivoted at their lower portions to fold downward and to protect said reticulated portion; substantially as specified.

8. The combination with a car having ventilating means adjacent to the floor thereof, of a bin located in said car and supported above said floor, a reticulated portion in the bottom of said bin, side sections to said bin pivoted at their lower portions to fold downward and protect said reticulated portion, and removable end sections provided with means for supporting the same from the opposite ends of the car when the bin is folded; substantially as specified.

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

WILLIAM R. SMITH.

Witnesses:

S. T. WOLFE,

WM. W. BOLLARD.