

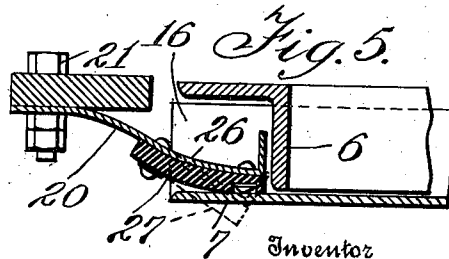
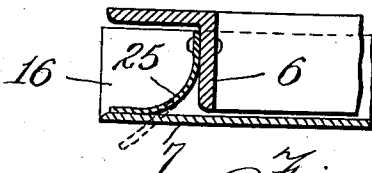
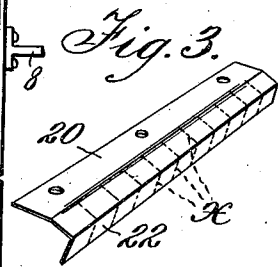
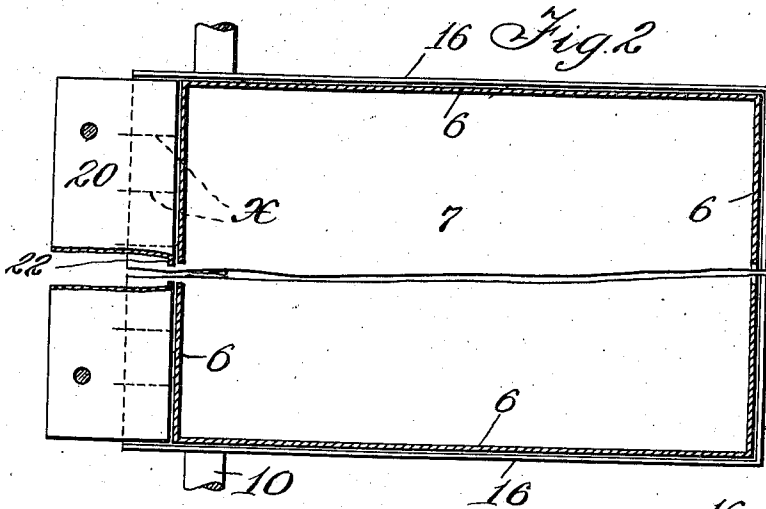
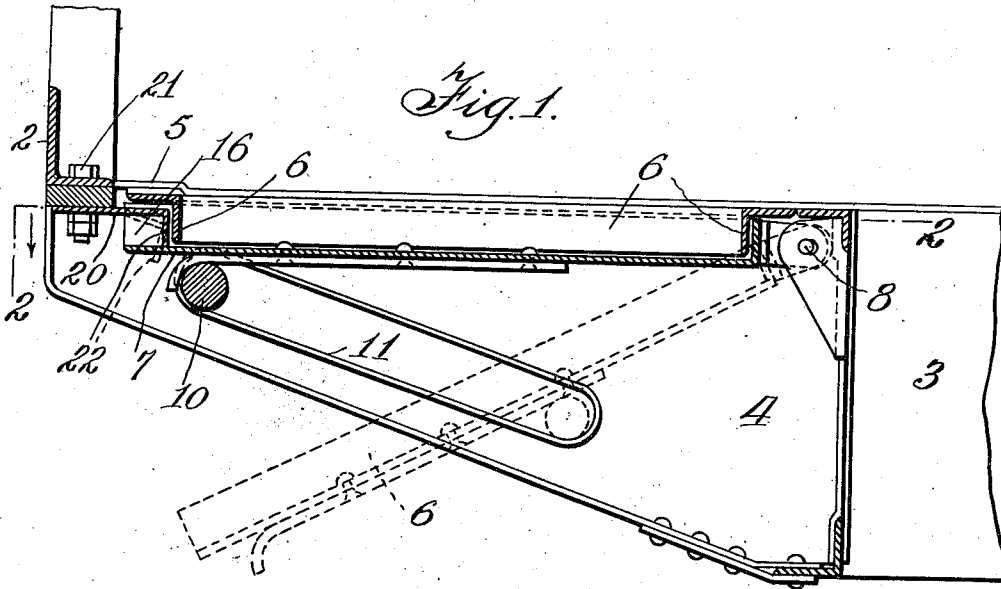
O. W. MEISSNER.

DOOR.

APPLICATION FILED MAY 15, 1911.

1,014,768.

Patented Jan. 16, 1912.



Witnesses
[Signature]
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UNITED STATES PATENT OFFICE.

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DOOR.

1,014,768.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed May 15, 1911. Serial No. 627,300.

To all whom it may concern:

Be it known that I, OTTO WILLIAM MEISSNER, a citizen of the United States, residing in Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Doors; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates more particularly to doors for closing gravity discharge openings, such as the discharge openings of hopper or other receptacles or the like being especially adapted for application to cars used for transporting grain or other comminuted material.

The invention has for its object the provision of an improved and simplified means for rendering the door proof against leakage. For full comprehension, however, of the invention and of the object and advantages thereof, reference will be had to the following description and appended claims, and to the annexed drawings forming a part of this specification in which similar reference characters indicate the same parts and wherein:

Figure 1 is a vertical sectional view of the door showing it in connection with a portion of the understructure of a car; Fig. 2 is a horizontal section taken on line 2—2 Fig. 1, looking down. Fig. 3 is a perspective view of the resilient sealing strip, and, Figs. 4 and 5 are detail sectional views illustrating modified forms of the resilient sealing devices.

In the drawing the door is shown as closing a discharge opening in the bottom of a car, a small portion of the understructure consisting of a side sill 2 and center sill 3 and connecting cross bearer 4 being shown; the particular construction of such understructure however having no reference to this invention.

The frame proper of the door which may be suitably supported by the understructure of the car, is shown at 5 and is formed preferably on all four sides with downwardly projecting flanges 6.

The door is shown at 7 and may be hinged as at 8 to any suitable part as the center sill 3 and may be operated to close it by a shaft 10 suitably supported as indicated by the rail 11 in the cross bearer 4, and operated by any well known or suitable means, the operation of the laterally movable shaft

to close a dump door being so well known to the art as to require no further illustration or description.

The door is preferably formed on the hinged side and the two adjacent sides with upwardly extending flanges 16 extending continuously around such sides, the remaining side of the door being unobstructed. The door thus constitutes a trough with one end open particularly adapted for rapid unloading.

The flanges 16, inclosing the flanges 6 on the adjacent sides of the door frame, act to prevent leakage of material along these sides.

In order to properly seal the joint between the fourth side of the door (constituting the open end of the trough) and the adjacent portion of the door frame, I have provided a resilient device adapted to contact with the said open end and be kept by its resiliency in close contact with the door and so effectually seal the joint at the side, this device being so arranged that the said open end of the trough will be left unobstructed when the door is open. In the modification shown in Figs. 1 and 2 this device acts as a flange for the nonflanged side of the door when closed, and forms the fourth flange inclosing the fourth side of the flanged door frame. As shown in these figures this device comprises an angular strip of resilient metal having a horizontal flange 20 (by which it is attached as by the bolts 21 to the side sill 2) and a vertical flange 22 projecting downwardly within the extended open end of the trough in close relation with the flange of the door frame and bearing yieldingly against the bottom of the said end, the strip extending completely across the space between the side flanges 16. This strip is constructed to normally project below the level of the door frame as shown in dotted lines in Fig. 1, but upon the door being closed in the end of the latter engages the bottom of the strip and springs it upwardly to the position shown in full lines.

In Fig. 4 I have shown a modification in which the resilient strip (shown at 25) is attached to the outer face of the door frame flange 6 and is curved downwardly and outwardly to bear yieldingly against the free end of the door; while in Fig. 5 I have shown a still further modification in which the resilient strip (shown at 26) is secured

to the side sill in the manner shown in Fig. 1 but is provided on its under face with a rubber strip or gasket 27 which bears against the end of the door.

5 As indicated by the dotted lines *x* in Figs. 2 and 3 the free edge of the strip may be formed with slots or cuts extending transversely thereto for the purpose of
10 allowing the strip to accommodate itself to any transverse curvature or unevenness of the end of the door. This construction is particularly advantageous when a series of doors are closed by a common device as any
15 inaccuracy in fitting of the different doors will be compensated for by the resiliency of the strip.

Claims:—

1. The combination with a door frame inclosing a gravity discharge opening and
20 having downwardly projecting flanges, of a hinged door having fixed upwardly projecting flanges on the two sides adjacent the hinged side of the door, and a resilient strip adapted to extend across one side of
25 the door between the ends of the flanges and seal the joint between the said side of the door and the door frame.

2. The combination with a door frame inclosing a gravity discharge opening, of a
30 door upwardly flanged on three sides to form a trough with one end open, and resilient means for sealing the joint between the said open end and the adjacent portion of the door frame.

35 3. The combination with a door frame inclosing a gravity discharge opening, of a door upwardly flanged on three sides to form a trough having one end open, a member adapted to act as a flange for the fourth
40 side of the door when in closed position, and means for causing such member to be pressed into yielding contact with the door.

4. The combination with a door frame inclosing a gravity discharge opening, of a
45 hinged door upwardly flanged on the hinged and two adjacent sides, the free side of the door being without an upwardly projecting flange, and resilient means for sealing the

joint between the said free side and the adjacent side of the door frame. 50

5. The combination with a door frame inclosing a gravity discharge opening, of a door upwardly flanged on three sides to form a trough with one end open, and an angular strip of resilient metal and having
55 one flange adapted to close the said open end.

6. The combination with a downwardly flanged door frame inclosing a gravity discharge opening, of a door having upwardly
60 projecting flanges on three sides inclosing the corresponding flanges of the door frame, a metallic member for sealing the joint between the remaining side of the door frame, and means for causing such member to be
65 pressed into yielding contact with the door.

7. The combination with a door frame inclosing a gravity discharge opening and having downwardly projecting flanges, of
70 a door upwardly flanged on three sides only to form a trough with one end open, the said unflanged side of the door extending beyond the corresponding side of the door frame, and a resilient sealing strip adapted
75 to bear against the said unflanged side of the door and seal the joint therebetween and the adjacent portion of the door frame.

8. The combination with a door frame inclosing a gravity discharge opening and having downwardly projecting flanges, of a
80 door upwardly flanged on three sides only to form a trough with one end open, the said unflanged side of the door extending beyond the corresponding side of the door frame, and a resilient metallic strip adapted
85 to bear against the said unflanged side of the door, and seal the joint therebetween and the adjacent portion of the door frame.

In testimony whereof, I have signed my name to this specification, in the presence
90 of two subscribing witnesses.

OTTO WILLIAM MEISSNER.

Witnesses:

ALEX CURRIE,
GEORGE L. ROCKWELL.