

W. H. SLEEP.
GRAIN CAR DOOR.
APPLICATION FILED FEB. 8, 1911.

1,001,468.

Patented Aug. 22, 1911.

2 SHEETS—SHEET 1.

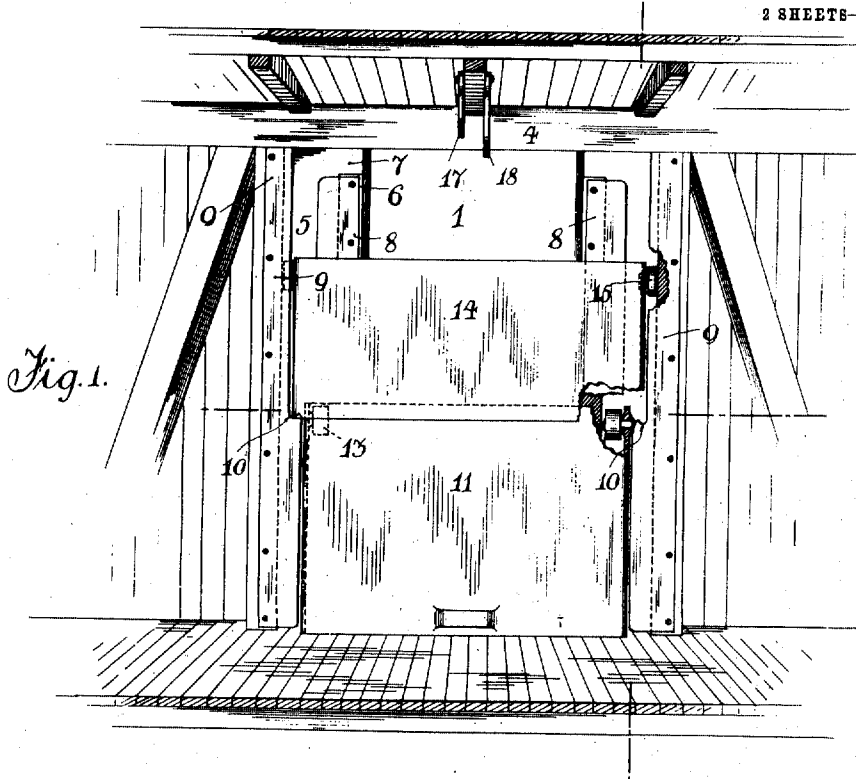


Fig. 1.

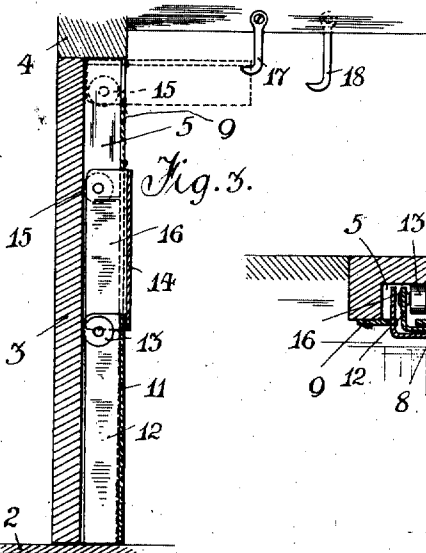


Fig. 3.

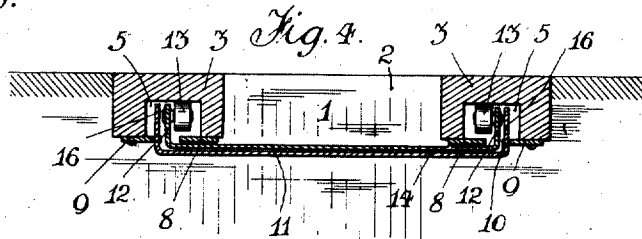


Fig. 4.

Witnesses
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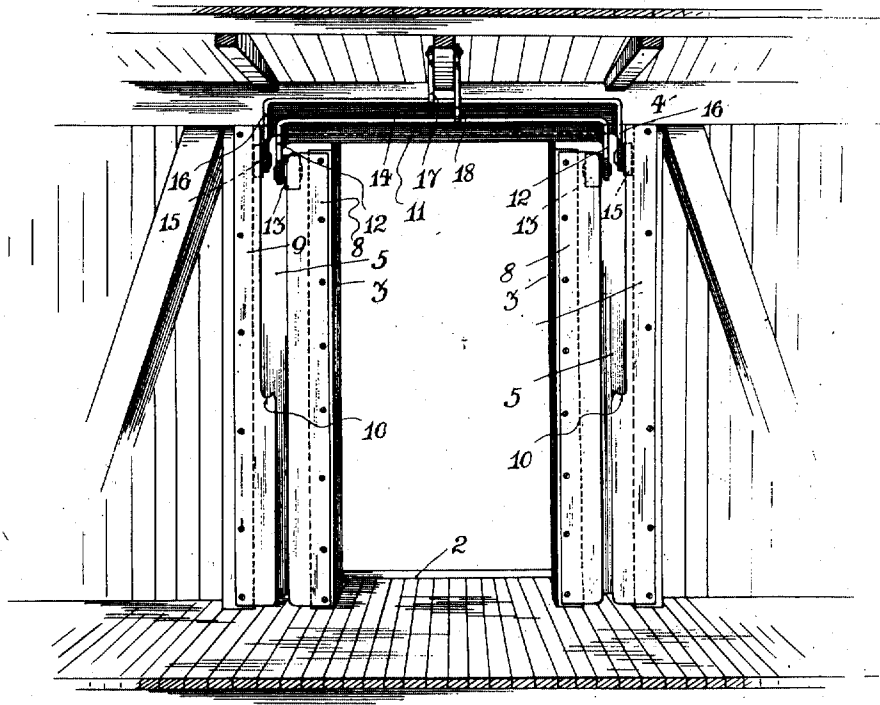
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY SLEEP, OF MONTREAL, QUEBEC, CANADA.

GRAIN-CAR DOOR.

001,468.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed February 8, 1911. Serial No. 607,306.

to all whom it may concern:

Be it known that I, WILLIAM HENRY SLEEP, a subject of the King of Great Britain, and resident of 204 Ash avenue, in the city and district of Montreal, Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Grain-Car Doors; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention relates to improvements in grain car doors, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in the novel construction and arrangement of parts, whereby good tight joints are formed and the doors readily operated by means of the angled door sections, and slides in which they run.

The object of the invention is to devise a form of door which shall have its parts permanently locked to the car body and thereby save the doors from destruction and from being stolen, to prevent loss of grain in passage, and generally to provide a cheap, simple and durable form of grain car door.

In the drawings, Figure 1 is a perspective view of a portion of a car wall from the inside, showing the door closed. Fig. 2 is a perspective view of a portion of a car wall from the inside, showing the door open. Fig. 3 is a vertical sectional view centrally through one of the slide ways. Fig. 4 is a cross sectional view through the slide-ways and doors at their point of meeting.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 is the door opening formed by the sill 2, the sides or posts 3 and the top 4.

5 are vertical slide-ways formed in the inner side of the posts 3 and extending from the sill 2 to the top 4, the outer walls 6 of said slide-ways being cut away at the top forming recesses as indicated by the numeral 7.

8 are strips of metal plating or other suitable material, rigidly secured to the outer walls 6 and partly closing in said slide-ways 5.

9 are strips of metal plate or other suitable material rigidly secured to the inner side of the posts 3 and extending over the slide-ways 5 and terminating adjacent to the

strips 8, said strips 9 having intermediate of the height thereof the notches 10.

11 is a lower door section formed of any suitable material and having the right angular flanges 12 at the sides thereof and the rollers 13 suitably journaled from said sides at the top thereof and projecting inwardly under the strip 8, thus effectually locking said lower door section 11 to the posts 3, as the roller or whatever projection it may be from the flanges 12 cannot be removed from the slide-ways 5, yet the lower door section 11 is free to move up and down in said slide-ways and while the lower part of the door cannot be pulled inwardly to any appreciable extent at any place intermediate of the height of the outer walls 6, yet when the said door reaches the top of said outer walls 6, it may be turned over said top into the recesses 7, just as if it were turned on a pivot. 14 is an upper door section forming the upper one of the two doors and having similar rollers 15, secured from the side flanges 16 adjacent to the top thereof and extending under the strip 9, thus effectually locking said upper door section 14 in said slide-ways 5. The upper door section 14 is slightly wider than the lower door section, consequently the flanges 16 embrace the flanges 12, therefore, when the said upper section 14 slides downwardly in the said slide-ways 5, the bottom of the flanges 16 will rest in the notches 10, whereas the lower door section 11 slides right down to the sill 2. The upper door section 14 operates precisely the same as the lower door section 11, that is to say, when it is slid up the slide-ways 5, the body portion of the said door may be turned over into the recesses 7, the lower part of the door being slid up into said upper part and also turning over, as explained in said slot 7. The two door sections may be held up by the hooks 17 and 18 from the ceiling of the car, though it is not important as to this part of it for they can be held up in any suitable manner, furthermore, the door sections can be constructed of any suitable material and any suitable flanges secured thereto or form part therewith, and the rollers 13 and 15 may be replaced by other means of locking the door sections in place in the said slide-ways 5.

The operation of the door sections is readily seen after reading the description of the details of construction for both are simply slid up in the slide-ways and turned

over at the top and suitably supported from the ceiling.

It must be noted that the grain joint made by the door sections sliding in the slide-ways 5 is particularly tight for grain and will remain so, for the mere widening of the vertical slot between the plates 8 and 9 by constant wear will not to any extent disturb the security of the joint.

10 The slide-ways 5 have been described as cut into the inner side of the posts 3, but it is obvious that these slide-ways with the vertical plates partially closing them in, may be built up or made in any suitable manner.

15 What I claim as my invention is:

1. In a grain car door, a door-way frame having vertical slide-ways arranged in the inner sides of said frame and openings through the outer walls of said slide-ways 20 at the upper end, said slide ways having vertical openings therinto from the lower to the upper end thereof, a door section having flanges extending from the sides thereof into said vertical openings, means projecting from said flanges for holding said door 25 in said slide-ways, and an upper door section having flanges extending from the sides thereof into said vertical openings, and means projecting therefrom at the upper 30 side thereof for holding said door in said slide ways.

2. In a grain car door, a door-way frame having slide-ways formed on the inner side of the vertical posts and recesses extending 35 toward the door opening from said slide-ways at the upper ends thereof, plates of suitable material rigidly secured to said posts on the inner sides thereof and partially covering in said slide-ways, door sections having at the upper ends thereof laterally projecting rolls extending under said 40 plate, and means intermediate of the height of said plate for supporting the upper of said door sections in a position slightly 45 overlapping the lower of said door sections.

3. In a grain car door, a door-way frame having slide-ways formed on the inner sides

of its vertical posts and recesses extending from the upper end of said slide-ways through to the doorway opening, plates rigidly secured to the inner sides of said posts and partially covering in said slide-ways, said plates from one side of said slide-ways forming supports intermediate of their height, door sections having flanges at the sides thereof extending into said slide-ways and roller members secured to the upper ends of said door sections and extending under said plates.

4. In a grain car door, a door-way frame having slide-ways formed on the inner side of its vertical posts and recesses extending from the upper ends of said slide-ways to said door-way opening, plates secured to said posts between said door-way opening and said slide-ways and partially covering in the latter and terminating at the upper end at the lower edge of the aforesaid recesses, plates secured to the door posts at the other side of said slide-ways and partially covering in the latter and having supporting notches formed therein intermediate of their height, a lower door section having flanges extending into said slide-ways and sliding downwardly between said plates, clear of said notch to the bottom of the door-way, an upper door section having flanges extending into said slide-ways adapted to embrace the aforesaid door and flange and sliding in said slide-ways downwardly into said notches, roller members extending inwardly from the flanges of said lower door section under said plates and roller members extending outwardly from the flanges of the upper door section at the upper ends thereof under said plates.

Signed at the city and district of Montreal, Quebec, Canada, this first day of February, 1911.

WILLIAM HENRY SLEEP.

Witnesses:

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P. SHEE.