

F. C. REYNOLDS.

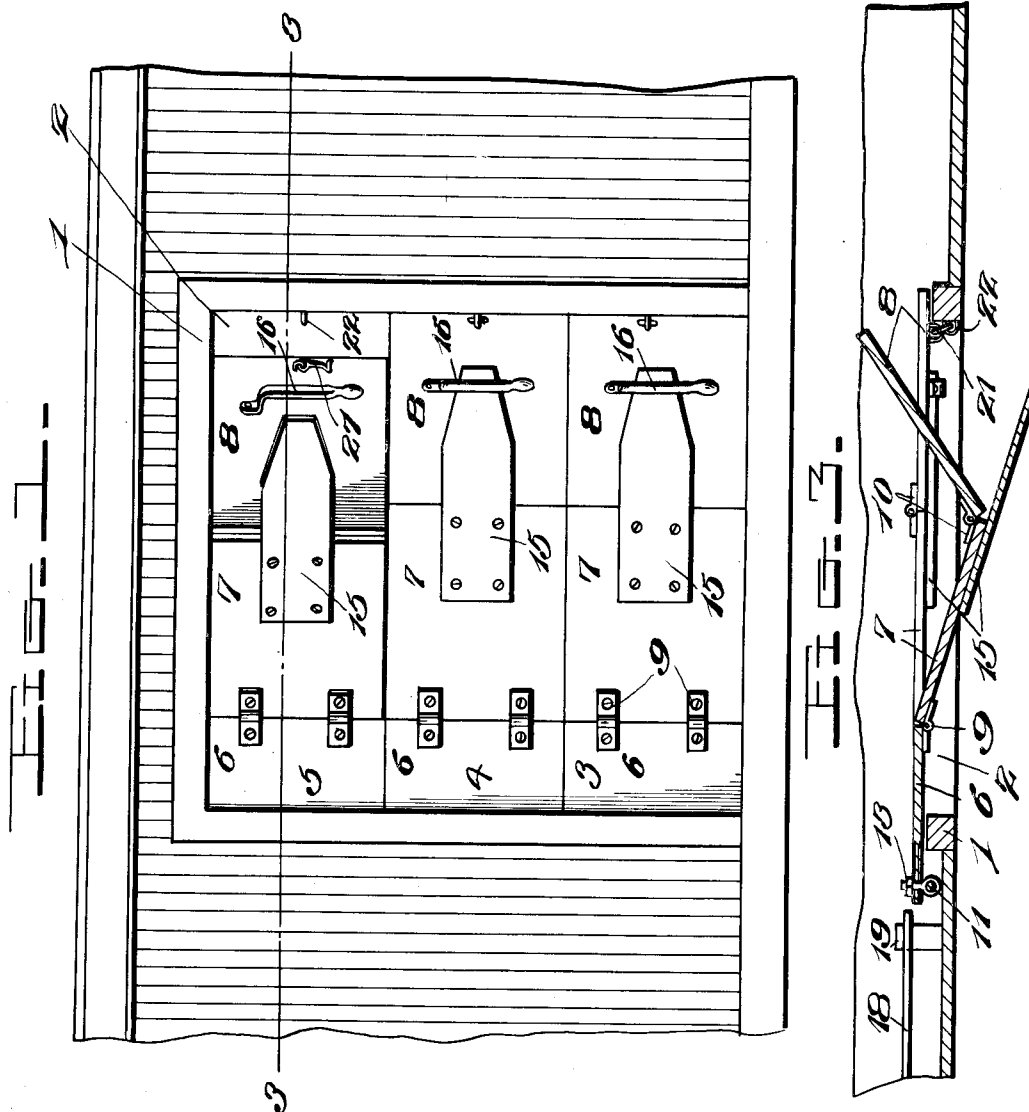
GRAIN CAR DOOR.

APPLICATION FILED JAN. 22, 1912.

1,051,762.

Patented Jan. 28, 1913.

2 SHEETS—SHEET 1.



Inventor

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Witnesses

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A. B. Norton.

By

Watson E. Coleman

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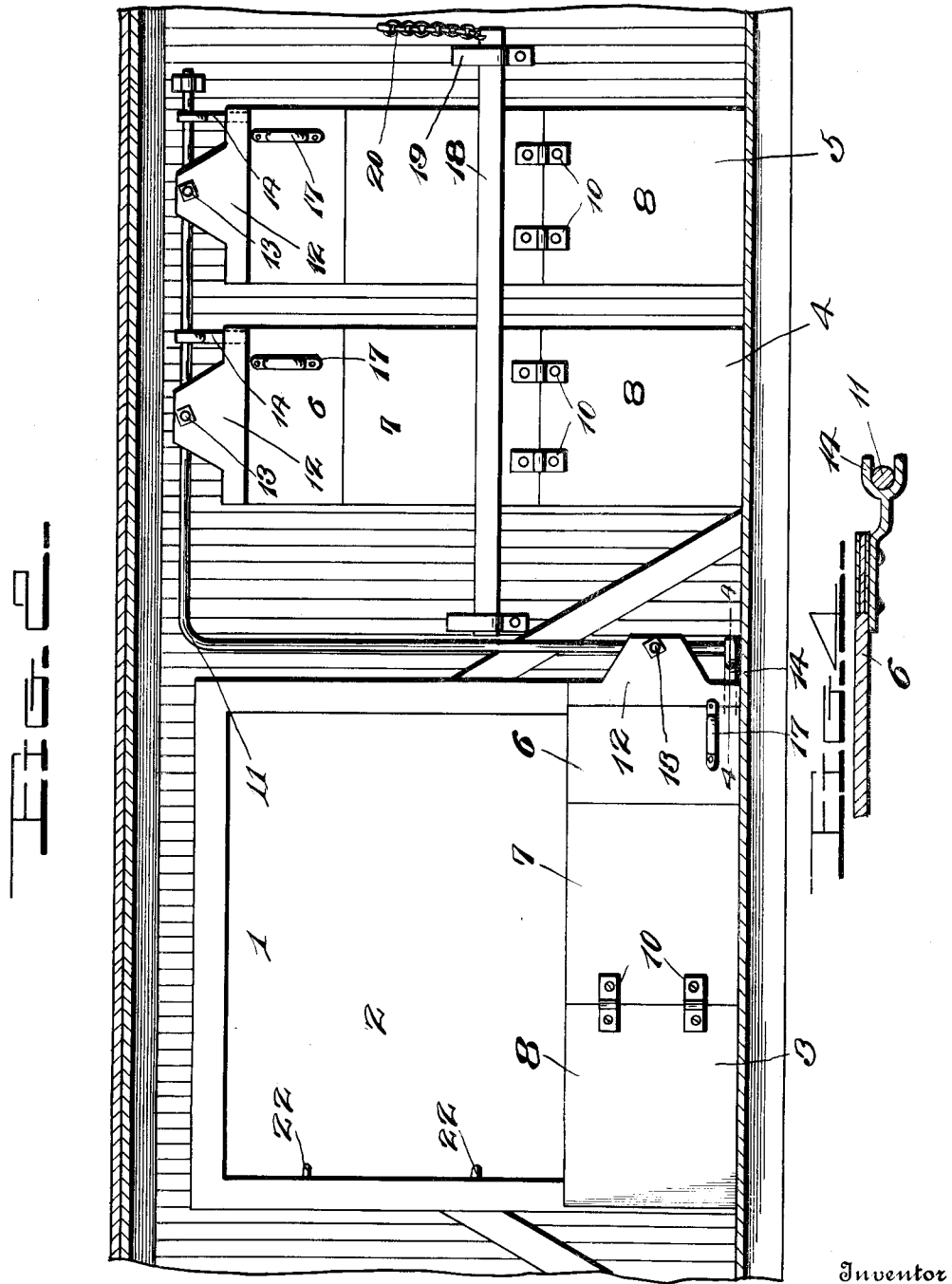
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UNITED STATES PATENT OFFICE.

FRANK C. REYNOLDS, OF STERLING, COLORADO.

GRAIN-CAR DOOR.

1,051,762.

Specification of Letters Patent.

Patented Jan. 28, 1913.

Application filed January 22, 1912. Serial No. 672,561.

To all whom it may concern:

Be it known that I, FRANK C. REYNOLDS, a citizen of the United States, residing at Sterling, in the county of Logan and State of Colorado, have invented certain new and useful Improvements in Grain-Car Doors, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in doors for grain cars, and my object is to provide a device of this character formed in sections which may be readily moved from their effective positions to permit the grain to be taken from the car in various quantities.

A further object of the invention resides in providing a door formed in sections, each section of which is in turn formed of sections hinged one to the other, and a still further object resides in providing means for retaining the sections of the device in their effective positions.

A further object of the invention resides in providing improved means pivotally and hingedly mounting the door, and another object is to provide means for the retaining of the sections of the door in their inoperative positions within the car.

A still further object resides in providing a device which is extremely simple and durable in construction, inexpensive to manufacture, and one which is very efficient and useful in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a fragmentary side elevation of a grain car having my improved door applied thereto and disclosing a section of the door in semi-effective position. Fig. 2 is a fragmentary side elevation of the inner wall of the grain car showing certain sections of my improved door disposed in their inoperative positions. Fig. 3 is a horizontal section through one section of the door as seen on line 3—3, Fig. 1, and, Fig. 4 is a section as seen on line 4—4, Fig. 2.

In carrying out my invention, I shall refer

to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which—

1 indicates a side of a grain car door having the door-way 2 therein, said door-way being adapted to be covered by a door formed of the sections 3, 4 and 5, it being understood that as many sections may be provided as is desired. Each of these sections 3, 4 and 5, which is a small door in itself, is formed of a trio of sections 6, 7 and 8 hinged one to the other by means of the hinges 9 and 10, said hinges being disposed on opposite faces of the intermediate sections 7, whereby the two end sections 6 and 8, respectively, may be swung in opposite directions, and in order to properly support these door sections 3, 4 and 5 on the side of the car, a guide rod 11 is provided, said rod being of substantially inverted L-shape and mounted on the inner face of the wall 1 adjacent the door-way 2. As stated, the guide rod 11 is secured on the inner face of the one wall of the car, the lower end of one arm thereof being secured in the floor of said car adjacent one side of the door-way, so that that arm will extend vertically of said door-way immediately adjacent the one side thereof, and the opposite arm of the guide rod will extend horizontally of the door-way and away from the same adjacent the upper wall of the car. Each of the sections 6 of the door sections is provided with a metallic extension plate 12 which has swivelly mounted therein, an eye bolt 13, said eye bolt receiving therethrough, the guide rod 11, whereby it will be seen that the sections 3, 4 and 5 will be held to the guide rod and at the same time swivelly connected thereto, and in order to allow these sections to be properly guided on the vertical portion of said guide rod and at the same time prevent the sagging and swinging of said sections, each of the portions 6 of the sections is provided with a guide strap 14 which projects beyond the inner edge of the portions 6 and has the outer free end thereof bifurcated to receive therein, the vertical portion of the guide rod 11.

When the sections 3, 4 and 5 are in proper effective position over the door-way 2, the same are disposed so as to rest one above the other, the sections 6, 7 and 8 of each

being disposed in perfect alinement and abutting the door posts of the door-way 2, and in order to retain said sections 6, 7 and 8 of the door sections in alinement, the intermediate section 7 has secured to the front face thereof, a strip or plate 15 which projects beyond one side edge thereof over the front face of the section 8. This section 8 is provided with a pivoted strap 16 which is adapted to form a keeper to receive thereunder, the free end of the plate or strip 15 when the section 8 is brought into alinement with the section 7, and it will be seen that when said keeper is moved to its effective position over this strip or plate 15, said sections 6, 7 and 8 will be held in alinement with one another. As stated, when in proper position, the sections 3, 4 and 5 are disposed one above the other and the sections 6, 7 and 8 of the respective sections 3, 4 and 5 are held in perfect alinement, and when it is desired to remove any grain from the car, the keeper 16 of the upper section is first disposed to its ineffective position, whereupon the plate or strip 15 is drawn outwardly, which will break the door at the joint formed by the hinges 10. As much grain may then be removed from the car, as desired, and the section of the door again returned to its initial position, or if it is desired to entirely empty the car, the intermediate door 4 may be also opened in a like manner. After a certain amount of the grain has been removed from the car, or at any other time, it may be more convenient to dispose the upper doors in their inoperative positions, as shown in Fig. 2, and to this extent, each of the doors 3, 4 and 5 is provided with handle members 17, whereby the same may be readily raised vertically on the guide rod 11. In disposing the sections of the door in their inoperative positions, the same are first raised to the extent of the vertical portion of the rod 11 and the bolt 13 then turned onto the horizontal portion thereof, at the same time allowing the section to swing downwardly, in view of the swivel connection of the bolt 13 with said section, which action will dispose said sections in the position shown in Fig. 2. The sections may then be disposed along the horizontal portion of the rod 11 to any point desired, and in order to retain the same against the inner face of the wall of said car, I provide a retaining arm or bar 18 which is adapted to be disposed against said sections of the door and held in keepers 19. This bar or arm is retained to the inner face of the wall of the car by means of a chain 20 and may be readily removed from the keepers or placed therein, as desired.

In operation, it will be seen that after the car has been properly filled with grain and the sections 3, 4 and 5 of the door brought to their effective positions over the

door-way said sections are locked by means of the engagement of the hooks 21 carried on said sections, with the staples or keepers 22 carried on the one side of the door-way 2. When it is desired to remove any amount of grain from the car, the keeper 16 of the upper section of the door is turned to its ineffective position and the strip or plate 15 grasped and drawn outwardly, which, as stated above, will break the section at the joint formed by the hinges 10. This drawing outwardly of the plate 15 will, of course, draw the sections 7 and 8 outwardly and allow the grain in the car to be removed through this opening, and when all the grain possible through this small opening has been removed, the next section of the door may be removed in a similar manner. At any time, should the operator desire to dispose any of the sections 3, 4 and 5 to their ineffective positions, it will be only necessary to enter the car and raise said sections by means of the handle members 17. After raising said sections, the same are disposed on the horizontal portion of the rod 11 and allowed to hang therefrom, whereupon the bar or arm 18 is placed in this position in the keepers 19, which will retain said sections against the inner face of the wall of the car and in their inoperative positions.

From the foregoing, it will be seen that I have provided a simple, inexpensive and efficient means for carrying out the objects of the invention, and while I have particularly described the elements best adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the principles of the invention.

Having thus described my invention, what I claim is:—

1. The combination with a car body having a door-way therein, and an angular guide rod having one arm thereof mounted vertically on the car body immediately adjacent one side wall of the door-way, the other arm of said guide rod being disposed adjacent the roof of said car body and extended from the door-way therein; of a door for said door-way, means to pivotally and slidably mount the same on said guide rod, and a guide strip carried on the door adapted for engagement with said guide rod to prevent the sagging of the door on said rod.

2. In a grain car door, the combination with a car-body having a door-way therein and an angular guide rod having one arm thereof disposed vertically of the body immediately adjacent one side of the door-way, the opposite arm of the door-way being disposed adjacent the roof of the body and extended from the door-way; of a door, means

to pivotally and slidably mount the same
on said guide rod and a guide strip car-
ried on said door and extended beyond the
inner edge thereof, the extended end of said
5 strip being bifurcated and adapted to en-
gage said guide rod to prevent a sagging
movement of the door thereon.

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

FRANK C. REYNOLDS.

Witnesses:

JAMES E. MURPHY,
W. J. MURPHY.
