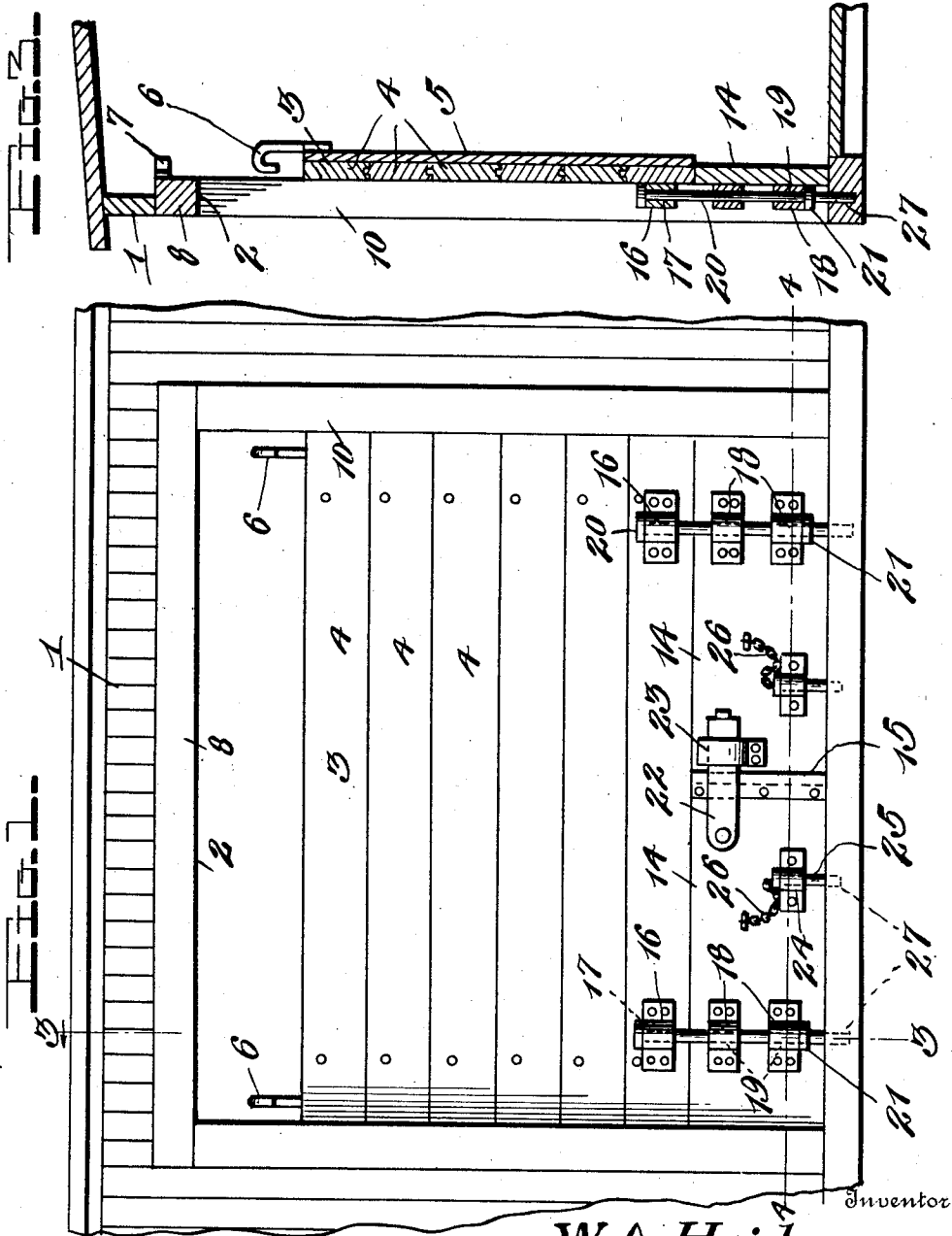


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GRAIN DOOR FOR CARS.
APPLICATION FILED SEPT. 11, 1911.

1,037,761.

Patented Sept. 3, 1912.

2 SHEETS—SHEET 1.



Witnesses

Chas. L. Griesbauer.
G. B. Norton.

W. A. Heiden,

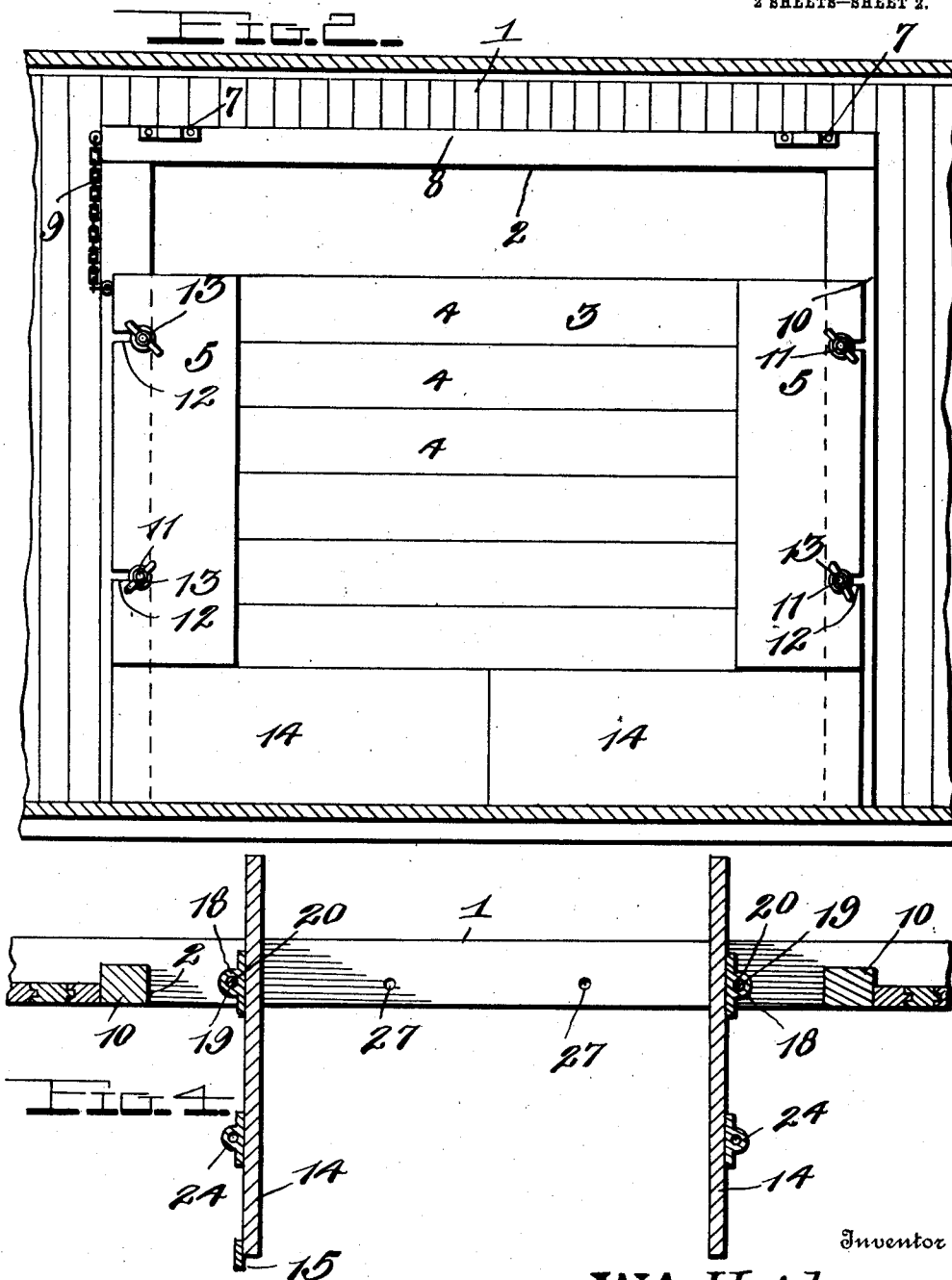
By Watson E. Coleman.
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UNITED STATES PATENT OFFICE.

WILL A. HEIDEN, OF GUTHRIE, OKLAHOMA.

GRAIN-DOOR FOR CARS.

1,037,761.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed September 11, 1911. Serial No. 648,603.

To all whom it may concern:

Be it known that I, WILL A. HEIDEN, a citizen of the United States, residing at Guthrie, in the county of Logan and State of Oklahoma, have invented certain new and useful Improvements in Grain-Doors for Cars, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to grain car doors, and has for its object to provide a device of this character which is simple in construction and one which may be readily applied to the usual grain car.

A further object of the invention is to provide a door of this character provided with gates, which when operated permits the unloading of the grain from the car, without the necessity of removing the grain door.

In the accompanying drawings Figure 1 is a side elevation of a portion of a grain car, the door being in its proper position; Fig. 2 is a view of the door taken from the interior of the car; Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 1; Fig. 4 is a longitudinal sectional view on the line 4—4 of Fig. 1, the gates being shown in their open position.

Referring to the drawings the numeral 1 designates a portion of the grain car, the same being provided with the usual door opening 2. The door 3 is adapted to be supported within the car, said door consisting of a plurality of sections 4, said sections being connected at their edges by tongue and grooves, and secured together by cleats 5.

To the upper edge of the door 3 are secured hooks 6, said hooks being placed near the side edges of said door and are adapted to engage with the loops 7, said loops being secured to the side sill 8 of the car, so that the door 3 may be swung upwardly and out of the way when not in use. A chain 9 is provided and has one of its ends secured to the sill 8 of the car and its other end to the door 3, whereby removal of the door 3 from the car is prevented.

The door 3 is so proportioned as to have its side edges overlapping the door posts 10, whereby outward movement of the door is prevented, but at the same time allowing the same to swing freely within the car.

Pivotally connected at their inner ends to the door posts 10, are bolts 11, said bolts being adapted to engage in the slots 12

formed in both of the side edges of the door 3, and are adapted to receive wing nuts 13 which when manipulated will firmly clamp the door 3 in place to prevent the loss of grain. When it is desired to swing the door within the car the wing nuts 13 may be manipulated so that the bolts 11 may be disconnected to accomplish this purpose, said bolts being adapted to swing flush against the sides of the door post 10 and out of the way. If desired the pivot ends of the bolts 11 may be secured in mortises formed in said door posts.

To the lower edge of the door 3 are pivotally connected a pair of gates 14. The inner ends of said gates being adapted to contact when in their closed position. One of the gates is provided with a shoulder 15 and upon which the end of the other gate rests to form a tight joint at their point of contact.

Secured in spaced relation upon the outer face of the door 3 near the lower edge thereof are bearings 16, each of which is provided with a vertical opening 17, said bearings are bolted or otherwise suitably secured to the door 3. Bolted or otherwise secured to the gates 14 are a pair of vertically spaced bearings 18, each of which is provided with a vertical opening 19, said openings being arranged in direct alinement and adapted to register with the openings 17 formed in the bearings 16. Adapted to pass through the openings 17 and 19 in the respective bearings are pivot bolts 20, to the lower ends of which are detachably mounted collars 21 said collars preventing the accidental displacement of the bolts.

Pivotally connected to one of the gates 14 is a latch 22, said latch being adapted to engage with a catch 23 secured to the other gate, whereby the gates are prevented from opening accidentally. Additional securing means are provided for holding the gates in their closed position, and consists of bearings 24, said bearings being similar in construction to the before mentioned bearings, and are adapted to support pins 25, said pins being secured against loss by chains 26.

The bottom of the car is formed with a plurality of sockets 27 in which the lower ends of the pivot bolts 20 rest when the door is in its closed position. The pins 25 are also adapted to seat in certain of the sockets 27 to rigidly support the gates 14 in their closed position.

Whenever it is desired to unload the grain from the car it is only necessary that the latch 22 and pins 25 be operated, whereby the gates 14 may be swung outwardly upon the pivot bolts 20, and access be had to the grain near the bottom of the car.

Having thus described the invention, I claim:—

1. The combination, with a door frame having an opening and with a series of vertical sockets formed in the floor and in a plane parallel to the opening, of a vertically movable door, a gate forming a continuation of the lower edge thereof, a pivot bolt mounting the gate on the door to swing horizontally, the bolt projecting beyond the lower edge of the gate and adapted to engage a certain one of the sockets in the lowered position of the door, and a vertically sliding locking pin mounted on the gate to engage a certain other one of the sockets.

2. The combination, with a door frame having an opening and with a series of vertical sockets formed in the floor, in a plane parallel to the opening, of a vertically movable door, a pair of gates forming a continuation of the lower edge of the door, a pivot bolt mounting each of the gates on the door to swing horizontally, the bolt projecting on the lower edge of the gate and adapted to engage certain one of the sockets in the lowered position of the door, and a vertically sliding locking pin mounted in each gate between its pivotal mounting and the adjacent edge of the other gate and arranged to engage a certain other one of the sockets when the two gates are in alinement, and a latch and keeper mounted on the adjacent edges of the two gates.

3. The combination, with a door frame having an opening and with a series of vertical sockets formed in the floor in substan-

tially the vertical plane of the opening, of a vertically movable door comprising an upper integral portion and a lower sectional portion divided along a central vertical line, a pair of vertical pivot bolts extending downwardly from the integral door portion across each of the sectional door members and into engagement with certain of the sockets and journaled intermediate their length in the sectional door members near the outer ends of the latter, vertical reciprocatory locking pins mounted in the sectional door members and arranged to engage certain other of the sockets, and a latch and keeper mounted upon the adjacent edges of the sectional door member.

4. The combination with the door opening of a car, of a door for partially closing the opening, a plurality of sockets formed in the bottom of the car in a common vertical plane, a pair of gates having a pair of vertically spaced bearings secured near their outer ends, a pair of bearings secured to the lower edge of the door, pivot bolts passing through said bearings and having their lower ends supported in certain of the sockets, whereby said gates are pivotally connected to said bolts, pins slidably mounted upon each gate and adapted to seat in certain other of said sockets, a latch pivotally connected to one of the gates, a catch secured to the other gate, said latch being adapted to engage the catch to hold the gates in their closed position.

In testimony whereof I have signed this specification in the presence of two witnesses.

WILL A. HEIDEN.

Witnesses:

L. D. BRONSON,
E. H. WINSLOW.