

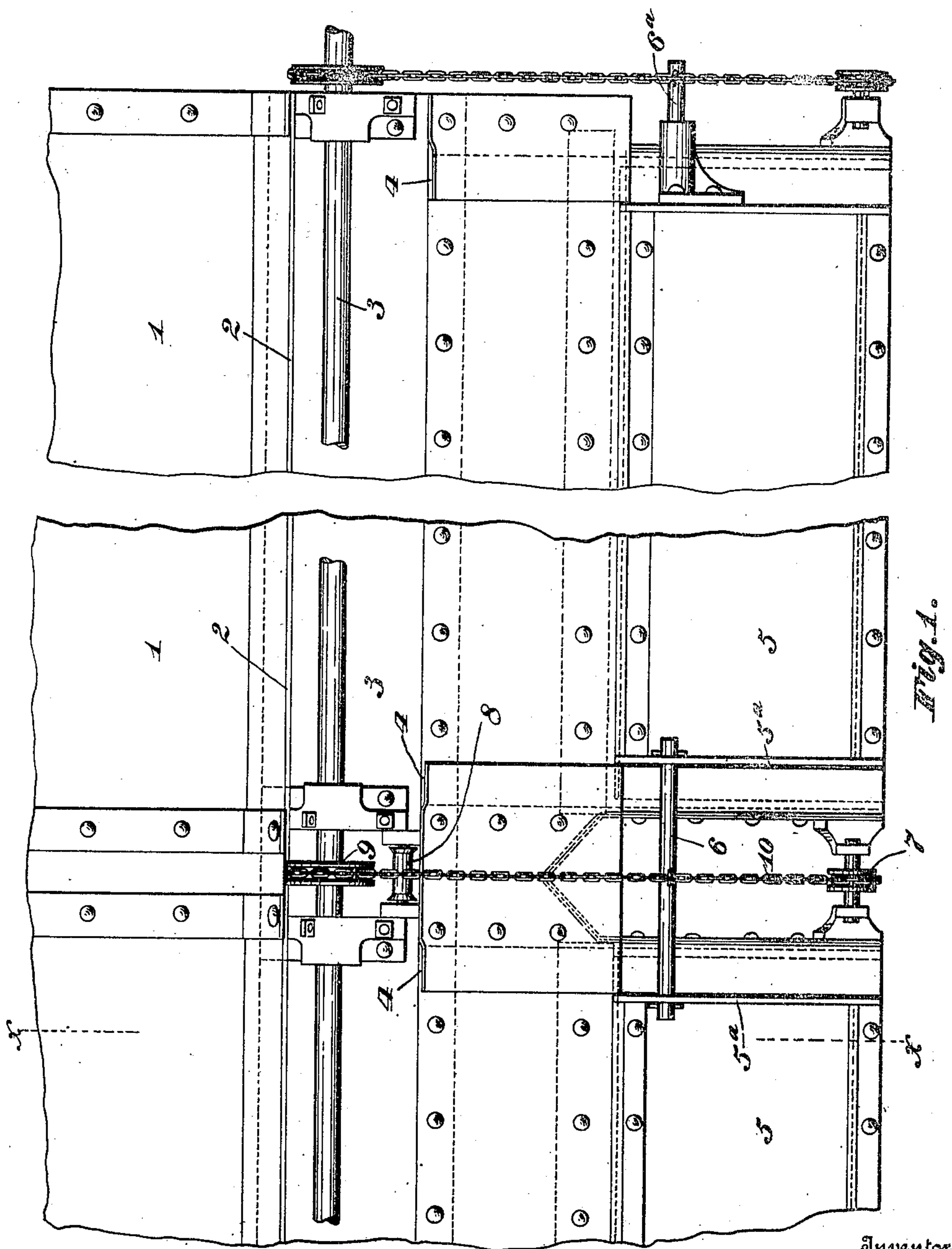
No. 837,417.

PATENTED DEC. 4, 1906.

S. W. MILLER.
SIDE DUMP CAR.

APPLICATION FILED JULY 9, 1966.

2. SHEETS—SHEET 1.



Inventor

Witnesses

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Alice B. Cook.

Samuel W. Miller

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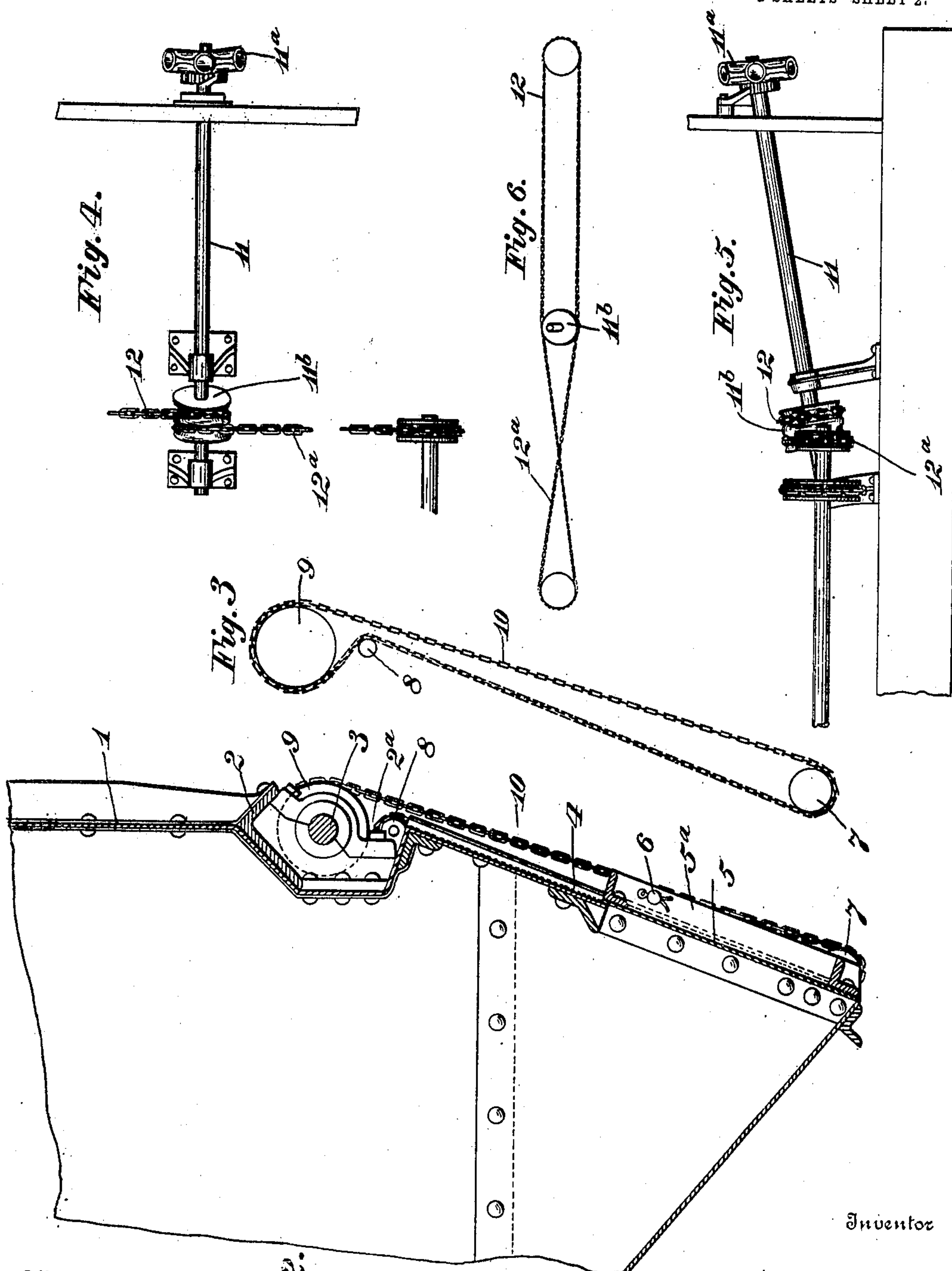
to Attorneys.

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Fig. 2.

By

Samuel W. Miller
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UNITED STATES PATENT OFFICE.

SAMUEL W. MILLER, OF PHILADELPHIA, PENNSYLVANIA.

SIDE-DUMP CAR.

No. 837,417.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed July 9, 1906. Serial No. 325,242.

To all whom it may concern:

Be it known that I, SAMUEL W. MILLER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Side-Dump Cars, of which the following is a specification.

The invention relates more particularly to what are known as "steel side-discharge" cars, an illustration of which is found in the United States patent issued to William O. Olden September 20, 1904, No. 770,306, the special objects of my invention being to provide an improved construction that is simple and economical and in which swinging doors are dispensed with and the door-operating mechanism compacted close against the sides of the car. Incidentally by this construction I avoid the danger of injury to the car and to other cars, as well as to persons, by reason of parts unduly projecting beyond the sides of the car.

A further object of my invention is to provide a construction whereby the bearings of the main door-operating shafts and gearing are somewhat protected from falling things adapted to clog them and interfere with their proper working.

The invention consists in the construction hereinafter described and claimed, the invention not being confined to the precise forms of the parts illustrated in the accompanying drawings.

In said drawings, Figure 1 is a fractional view in elevation of the side of the car near its end, a portion being broken out. Fig. 2 is a vertical sectional view taken on a line xx , Fig. 1. Fig. 3 is a detail illustrating conventionally the chain-gearing for operating the door. Fig. 4 illustrates fractionally in plan view the mechanism at the end of the car for operating the doors. Fig. 5 illustrates a side view of what is shown in Fig. 4. Fig. 6 illustrates conventionally, on a smaller scale, how the chains at the end of the car are crossed to effect the simultaneous operation of the doors at both sides of the car in the same direction.

In the views, 1 designates the vertical side proper of the car-body. Along the lower edge of each side of the said vertical portion is secured an angle-bar 2, arranged with its corner upward, so as to form, in conjunction with metal of the car, a longitudinal pocket or recess 2^a in the side of the car. The metal

of the side of the car where the pocket is formed is shown to be bent from the point of conjunction with the corner of said angle-bar inclinedly inward and downward, then vertically downward, and then outward to form the cavity, the metal being suitably strengthened by added bars, as shown, if desired or necessary. It will be noted that when the angle-bar is secured in place it forms a downwardly-inclined shedding-surface at the outer side of the car and within the car affords the base for a similar surface by receiving the metal of the side of the car upon it. Within each of the pockets 2^a there is journaled in suitable bearings a door-operating shaft 3.

Below the pocket the car-body generally is inclined inward and is made at intervals with openings or doorways flanked by parallel grooves 4.

The character 5 designates the doors. The ends of the doors engage the grooves 4, so that they can be slid up and down in them. Adjacent the grooves the doors are provided with ribs or projections 5^a, and connecting adjacent doors are bars 6, secured to the ribs 5^a. All the doors on the side of the car can be similarly connected. The end of the door at each end of the car where it does not adjoin another door is provided with a pin 6^a for the purpose of equalizing the pull of the operating-chains, as hereinafter explained.

In the lower ends of the spaces between the doorways is mounted a small grooved idler 7, and between suitable bearings in the pocket 2^a below the shaft 3 is mounted a guiding-idler 8. On the shaft is secured a chain-driving wheel 9. Around the wheel 9 and idler 7 and over the guiding-idler 8 is passed an endless chain 10. These chains 10 are connected to the several pins 6 and also to pins 6^a, so that upon rotating the shaft 3 in the proper direction the doors at the side of the car can all be raised or lowered simultaneously. The provision of the pin 6^a is designed to insure an equal draft on both ends of the end door and prevents it from tilting in the grooves and sticking therein.

11 designates an operating-shaft at the end of the car. This shaft can be provided at its outer end with a radially-socketed hub 11^a, into which a hand-operated bar can be inserted for turning the shaft. The inner end of the shaft 11 is provided with a twin chain-driving wheel 11^b, over which endless chains 12 and 12^a are run to appropriate

wheels on shafts 3. To effect the simultaneous raising or lowering of the doors at opposite sides of the car, one of the chains (as at 12^a, Fig. 6) from the twin wheel can be
 5 crossed in accordance with well-known practice. As shown, an ordinary pawl-and-ratchet device for latching the shaft 11, and therefore the doors as they are raised to discharge the load, can be provided.

10 The car can of course be constructed mainly of wood; but in practice it is best constructed of steel.

What I claim, and desire to secure by Letters Patent, is—

15 1. A side-discharge car having its side constructed to form a longitudinal pocket, combined with sliding doors below said pocket, a shaft in said pocket and means connecting the doors and shaft whereby the doors can be
 20 operated by said shaft.

2. A side-discharge car having its side constructed to form a longitudinal pocket, combined with separate sliding doors below said pocket, a bar connecting said doors, a shaft
 25 in said pocket, and a chain connected with the bar that connects the doors, said chain being driven by said shaft to raise the doors.

3. A side-discharge car having its side constructed to form a longitudinal pocket, combined with separate sliding doors below said pocket and having outward projections, a
 30 bar connecting said doors by engagement with said projections, a shaft in said pocket, and a chain connected with the bar that connects the doors, said chain being driven by
 35 said shaft to raise the doors.

4. A side-discharge car having its side constructed to form a longitudinal pocket, the side of the car below said pocket being inclined inward, combined with a shaft in said
 40 pocket, sliding doors in said inwardly-inclined portion, and means connecting the shaft and doors whereby the latter can be operated by the former.

45 5. A side-discharge car having its side constructed to form a pocket, combined with separate sliding doors below said pocket, a

bar connecting said doors, a shaft in said pocket, a chain connected with the bar that connects the doors, said chain being driven by
 50 said shaft, and an idler for directing the chain into said pocket.

6. A side-discharge car having the lower portion of its side provided with inclined doorways, combined with a series of doors
 55 sliding in said doorways, means connecting said doors together, an operating-shaft journaled along the side of the car above the doors, endless chains operatively connected with the doors, wheels on the said shaft and
 60 wheels on the frame of the car below the door-connecting devices, said chains passing over said wheels.

7. A side-discharge car having the lower portion of its side provided with inclined
 65 doorways, combined with a series of doors sliding in said doorways, means connecting said doors together, an operating-shaft along the side of the car above the doors, endless chains operatively connected with the doors,
 70 wheels on the shaft and wheels on the frame of the car below the connections of the chains with the doors, said chains passing over said wheels, and guiding devices for said chains where they pass above the inclined portion
 75 of the side of the car.

8. A side-discharge car having its side provided with a longitudinal pocket, and inclined doorways below said pocket, combined with a series of doors sliding in said
 80 doorways, means to connect said doors together, an operating-shaft in the longitudinal pocket, endless chains operatively connected with the doors, wheels on the shaft and wheels on the frame of the car below the con-
 85 nections of the chains with the doors, said chains passing over said wheels, and guiding devices for said chains where they pass into the longitudinal pocket.

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Witnesses:

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