

(No Model.)

2 Sheets—Sheet 1.

J. J. SOUDER.
DUMPING CAR.

No. 466,468.

Patented Jan. 5, 1892.

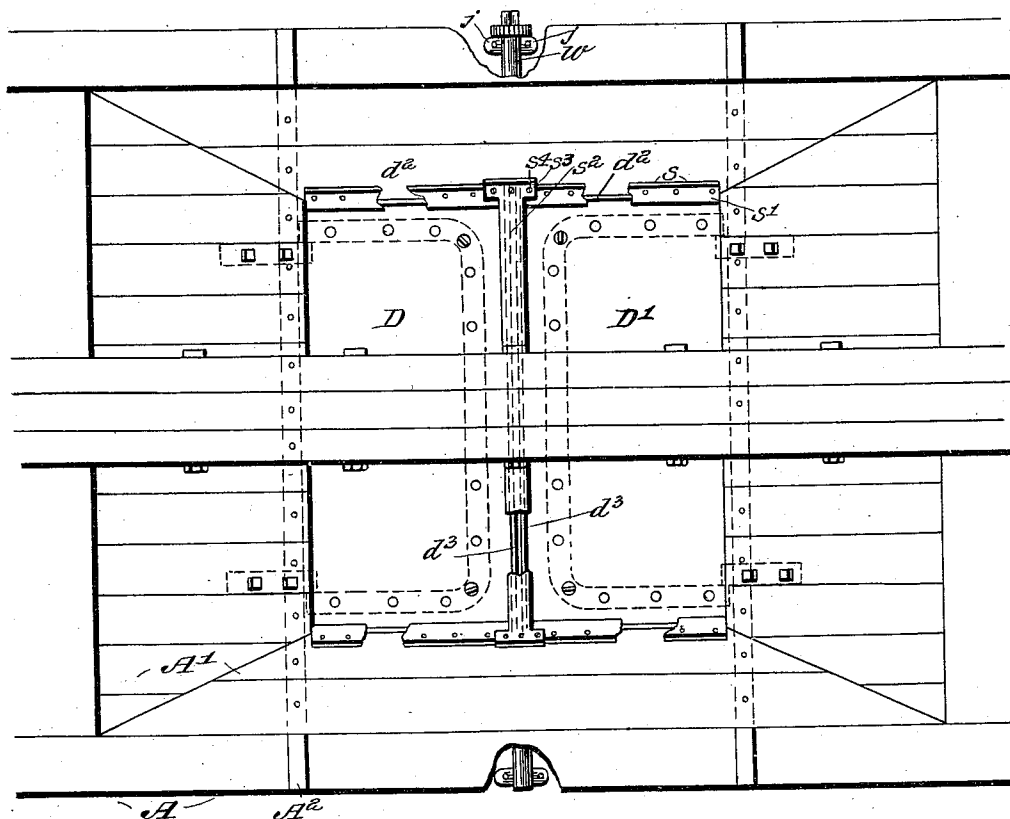


Fig. 1.

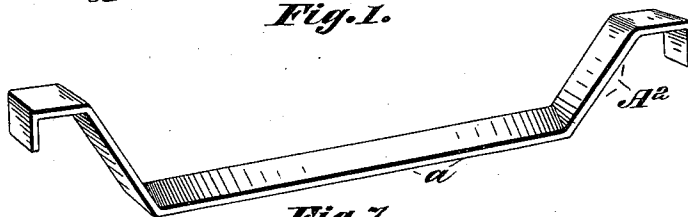


Fig. 7.

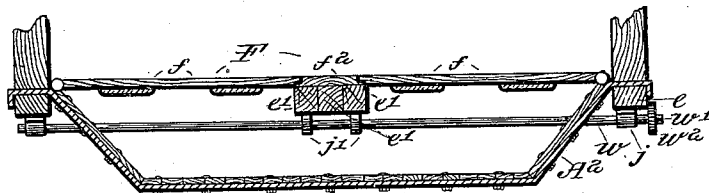


Fig. 2.

Witnesses:

Arthur Ashley.
Horace A. Dodge.

Inventor:

Jacob J. Souder

by *W. H. Kelley* atty.

(No Model.)

2 Sheets—Sheet 2.

J. J. SOUDER.
DUMPING CAR.

No. 466,468.

Patented Jan. 5, 1892.

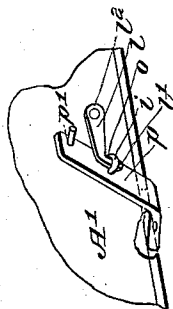
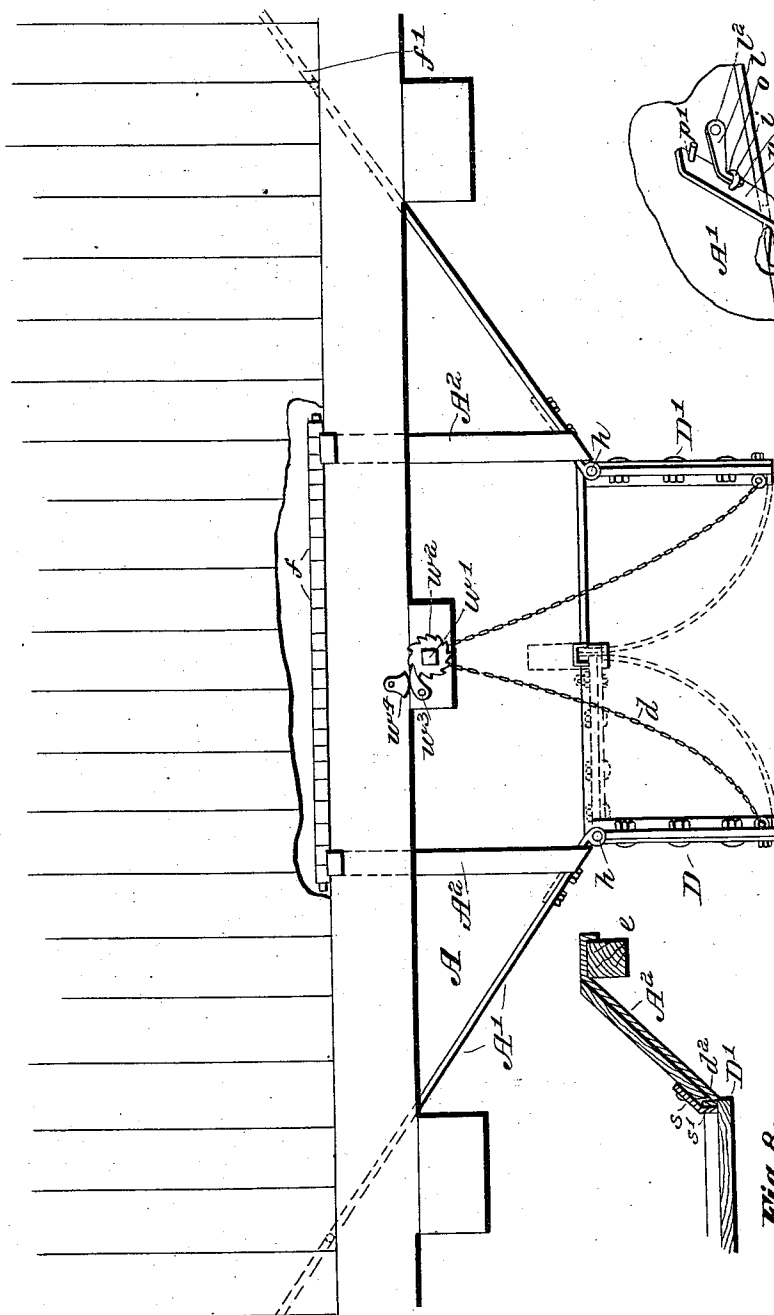


Fig. 6.

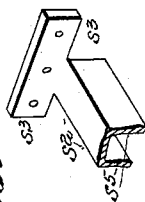


Fig. 5.

Fig. 3.

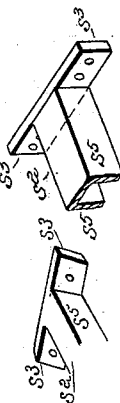
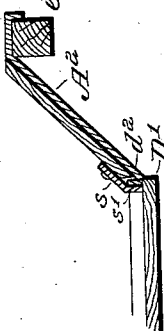


Fig. 4.

Fig. 8.



Witnesses.
Arthur Ashley
Horace S. Dodge.

Inventor
Jacob J. Souder
by *J. H. Ashley*

UNITED STATES PATENT OFFICE.

JACOB J. SOUDER, OF WASHINGTON, DISTRICT OF COLUMBIA.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 466,468, dated January 5, 1892.

Application filed October 11, 1889. Serial No. 326,709. (No model.)

To all whom it may concern:

Be it known that I, JACOB J. SOUDER, a citizen of the United States, residing in Washington, in the District of Columbia, have invented a new and useful Dumping-Car, of which the following is a correct description, reference being had to the accompanying drawings, which constitute a part of this specification.

10 The invention relates to the class of dumping-cars which are provided with hoppers, one or more, which have discharging-openings, which are closed by hinged or pivoted doors or dumping-sections.

15 The invention consists in certain novel parts and combinations of parts in or in connection with the hopper or hoppers of a dumping-car, whereby the joints or meeting surfaces of the hopper and its dumping-sections are effectually protected, whereby the mechanism by which the doors are closed is rendered more strong and secure, and whereby the discharging appliances are generally improved in the facility and effectiveness with which they are operated.

In the drawings, Figure 1 represents a top plan view of a portion of a car, the parts above the bed-frame having been removed, showing a single hopper therein. Fig. 2 is a transverse vertical section on the line *w w* in Fig. 1, looking in the direction of the center of the car. Fig. 3 represents a side elevation of the car, portions being broken out of the body thereof. Fig. 4 is a perspective view showing the construction of the transverse covering and protecting-shield or channel-bar. Fig. 5 is a perspective view showing a modification in the construction of the transverse covering and protecting-shield or channel-bar. Fig. 6 is a detail perspective view representing a portion of one side of a hopper and a pivoted securing-plate or locking-bar and latch applied thereto. Fig. 7 is a detail of the central portion of one of the transverse supporting-bars. Fig. 8 is a detail of the inner longitudinal face of the hopper and of one of the longitudinal shields or guards applied thereto.

50 The transverse supporting-bar A^2 for the hopper A' of the car A is similar in its general form and in its downturned engaging ends to the corresponding transverse bar in

my application, Serial No. 300,531, filed by me in the United States Patent Office on the 20th day of February, 1889; but it differs therefrom in the provision of a transversely-inclined central portion a , (best seen in Fig. 7,) which conforms to the inclination of the contiguous portion of the hopper. The transversely-hinged doors $D D'$ of the hopper are hinged to the body thereof, as in my recent application above referred to, the hinge-rod h being inserted endwise in a precisely similar manner, although in a direction at a right angle to that shown in such recent application.

To prevent escape of fine granular material at the ends or at the coincident meeting edges of the drop-doors or dumping-sections $D D'$, covering and protecting shields are provided as follows: Upon the inner longitudinal face of the hopper A' is secured a longitudinal shield s , formed in transverse section, as seen in Fig. 8, attached at its upper edge to the hopper by rivets or other suitable means and having downwardly-extending flange s' , as shown. Across the hopper in a plane with the shield s is extended the shield or channel-bar s^2 , preferably of the form of an inverted parallelogrammic box in its main portion and provided at its ends with flanges or ears $s^3 s^3$ to receive securing bolts or rivets s^4 , by which it is made fast to the body of the hopper.

The drop-doors or dumping-sections $D D'$ are each provided upon their inner face with outwardly-extending edge flanges $d^2 d^2$ and d^3 , an eye or staple d' , and a chain d , the lower end of which is made fast to the staple or eye and the opposite end of which is connected to the winding or chain shaft w , which has journal-bearings $j j$ upon the lower face of the exterior longitudinal sills ee and journal-bearings $j' j'$ upon the lower face of one or more of the intermediate longitudinal sills $e' e'$. The winding-shaft w being operated by any suitable winch applied upon its squared end w' , the sections D and D' will be lifted and firmly closed against the lower extremity of the longitudinal and transverse shields s and s^2 , the upwardly-extending flanges $d^2 d^2$ and d^3 upon the dumping-sections engaging, respectively, behind the downwardly-extending flanges $s' s'$ of the longi-

tudinal protecting-shields s , and the depending walls or vertical flanges s^5 of the transverse shield or channel-bars s^2 , thus effectually preventing escape of fine or lodgment of coarse granular material at the edges of these sections. The winding-shaft w being provided with a ratchet-wheel w^2 and the contiguous portion of the car being provided with a pawl w^3 and with a pivoted locking lug or stop w^4 , the shaft will thereby be held in its wound-up adjustment; but to relieve the pressure upon the shaft, the chains, and the staples a holding-plate or securing-bar p is attached by pivot-bolt p' to the body of the hopper, as seen in Fig. 6, so that when the dumping-sections are closed the securing-bar or auxiliary holding-plate will engage the bottom face of both. When in this position, an eye i , which is secured in the body of the hopper, will project through the opening o in the body of the holding-plate or securing-bar and be engaged by the hooked end l' of the latch l , which by pivot-bolt l^2 is firmly secured to the body of the hopper.

Above the drop-doors or dumping-sections $D D'$ of the hopper and adapted to rest upon the bed-frame of the car are coincident longitudinally-hinged floor-sections $f f$ and transversely-hinged end floor-sections $f' f'$. The longitudinally-hinged intermediate sections $f f$ constitute, in connection with the central fixed longitudinal floor-section f^2 , a continuous main floor F , the hinged portions of which may be adjusted in a vertical or nearly vertical position against the body of the car to constitute an upward continuation of the hopper or hoppers, while the end floor-sections $f' f'$ will constitute inclined end continuations of the hopper, as seen in Fig. 3. Preferably these end sections will each be made extensible or contractible by the provision of an adjustable slide in the manner shown and described in an application serially numbered 277,580, filed by me in the United States Patent Office on the 19th day

of June, 1888. As thus constructed, both the hopper portion and the upper portion of the car may be filled with granular material, or, the lower or hopper portion having first been filled with such material, the floor-sections may be placed horizontally, the end sections extended, and the entire upper portion of the car employed as an ordinary box-car for the transportation of miscellaneous merchandise.

Having described my invention, I claim—

1. In a dumping-car, the combination, with the body of the hopper, of the drop-doors or dumping-sections and the interior overhanging longitudinal shields or covering-plates $s s$, substantially as and for the purposes specified.

2. In a dumping-car, the combination, with the hopper, of the longitudinal shields or covering-plates $s s$, the transverse covering-shield or channel-bar s^2 , and the dumping-sections D and D' , adapted when closed to be engaged by the shields or covering-plates $s s$ and s^2 , substantially as described and shown.

3. In a dumping-car, the combination, with the hopper and with the drop-doors or dumping-sections thereof, of the holding-plate or securing-bar p , adapted, as described, to engage the dumping-sections when in their closed position and provided with appliances, substantially as set forth, whereby when thus engaged it is itself firmly locked to the body of the hopper.

4. The combination, with the bed-frame and the hopper of the car, of the transverse supporting-bars A^2 , each having downturned ends which engage the exterior vertical face of the outer longitudinal sills and each having transversely-inclined central portion a , which corresponds to the downward inclination of the end portion of the hopper.

JACOB J. SOUDER.

Witnesses:

WM. F. BOOGHER,
J. D. FREE, Jr.