J. F. ECCARD.

DUMP WAGON.

APPLICATION FILED MAY 29, 1908.

923,253.

Patented June 1, 1909.

2 SHEETS—SHEET 1.

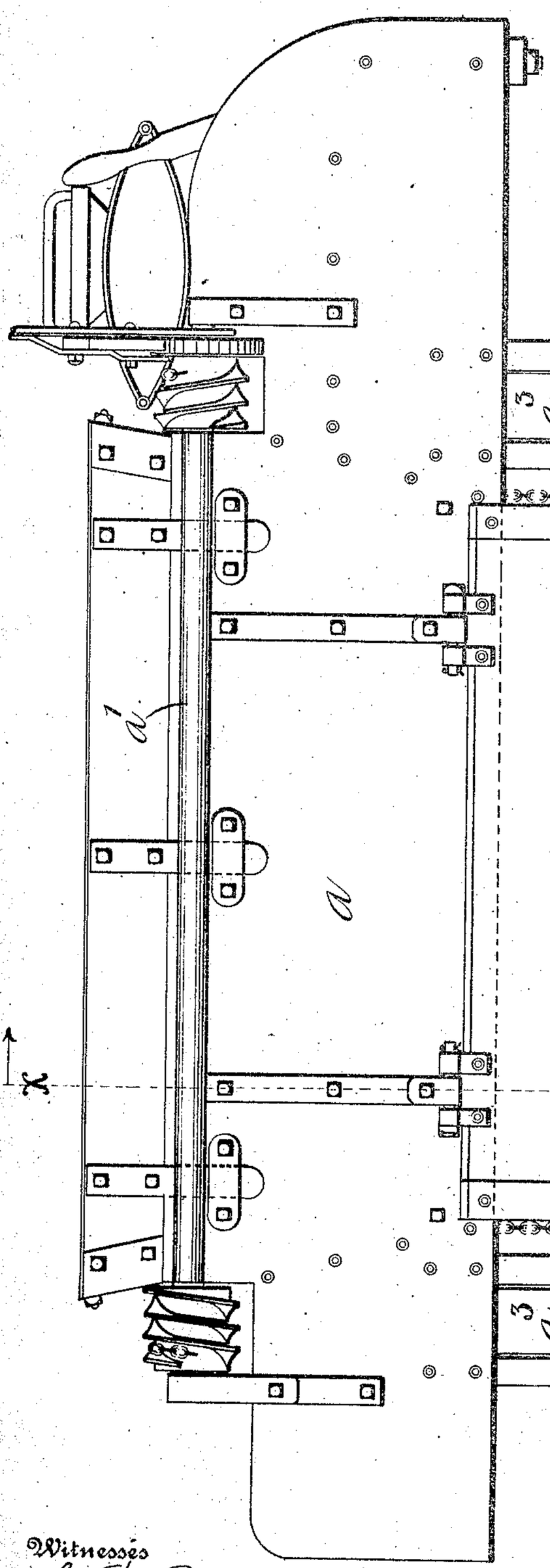


Fig. 1

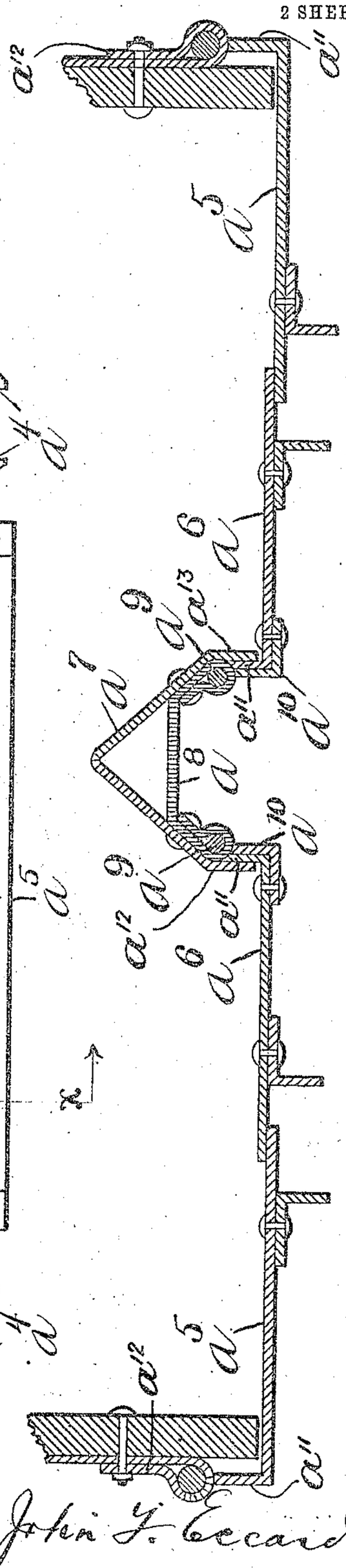


Fig. 2

Witnesses

G. A. Endter.

Chas. F. Wiehl

Inventor

John F. Eccard

By Staley Brosnan

Attorneys.

J. F. ECCARD.

DUMP WAGON.

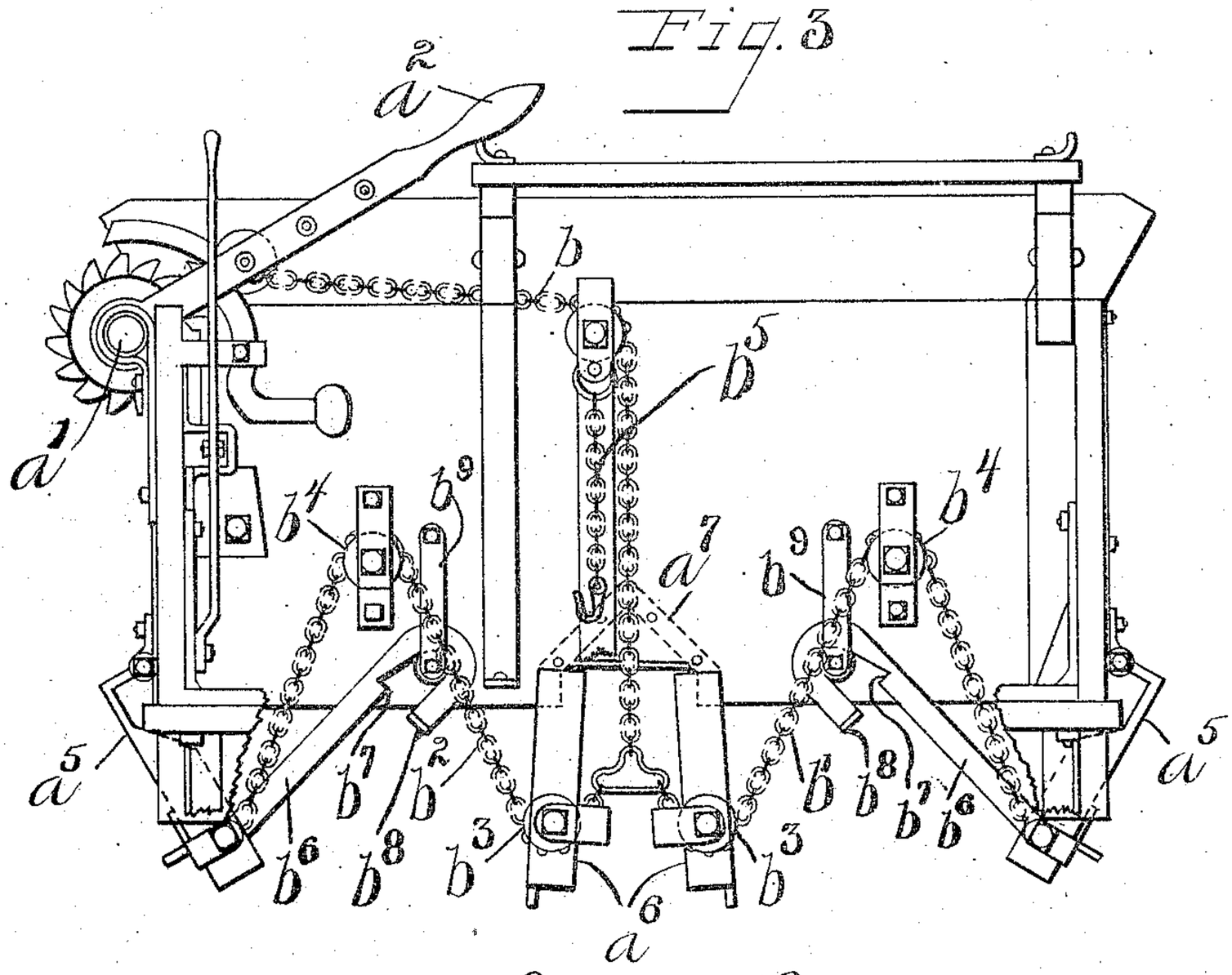
APPLICATION FILED MAY 29, 1908.

923,253.

Patented June 1, 1909.

2 SHEETS—SHEET 2.

Fig. 3



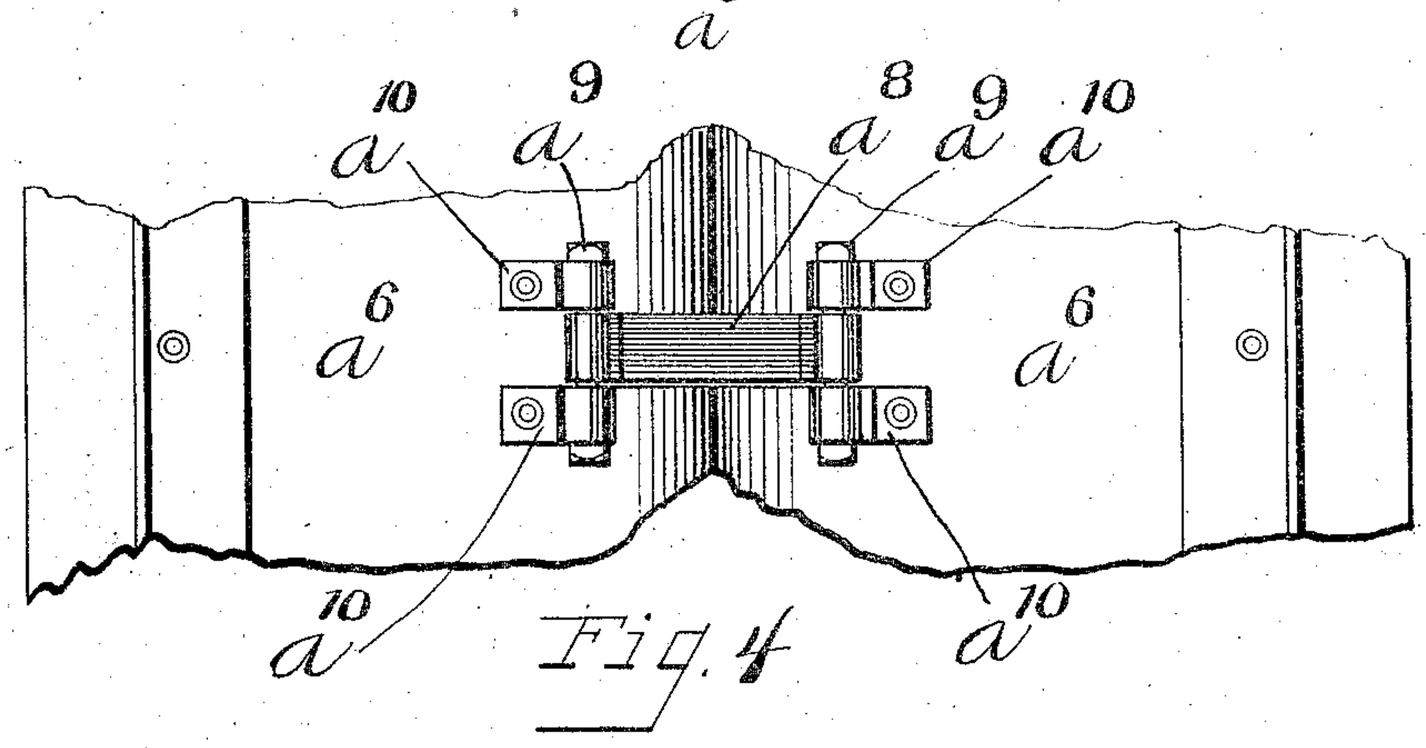


Fig. 4

Witnesses

L. A. Endter.

Chas. F. Wheeler

Inventor

John F. Eccard

By Staley & Berryman

Attorney

UNITED STATES PATENT OFFICE.

JOHN F. ECCARD, OF TROY, OHIO, ASSIGNOR TO THE TROY WAGON WORKS COMPANY, OF TROY, OHIO, A CORPORATION OF OHIO.

DUMP-WAGON.

No. 923,253. Specification of Letters Patent. Patented June 1, 1909.

Application filed May 29, 1908. Serial No. 435,644.

To all whom it may concern:

Be it known that I, JOHN F. ECCARD, a citizen of the United States, residing at Troy, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Dump-Wagons, of which the following is a specification.

This improvement relates to dump wagons and particularly to an attachable bed for the running gear of an ordinary farm wagon, and preferably bottom dump wagons.

The object is to construct the box so that it can be readily applied to the running gear of an ordinary farm wagon, supporting same sufficiently high from the ground to permit the bottom doors to open readily, and I have so arranged the bottom doors of the wagon-box that they are readily manipulated and the hinge connections of the inner doors are protected by the formation of the wagon-bed.

In the drawing Figure 1 is a side elevation of the wagon-bed with the outer doors open. Fig. 2 is a sectional view taken on the line x x of Fig. 1, showing however, the doors in closed position. Fig. 3 is an end view showing the doors in open position. Fig. 4 is a detail view of the bottom of the box showing the inner doors and the hinge connections, looking at the bottom from underneath.

Like letters of reference indicate like parts throughout the different views.

The box of the wagon is indicated by the reference letter a (see Fig. 1) and is formed with open bottom and the doors are hinged to said box near the bottom. The ordinary longitudinal shaft, a^1, with worm gear at each end thereof is shown pivotally supported on said box. The usual hand-lever a^2, (see Fig. 3) with the ratchet-pawl connection for operating the longitudinal shaft is employed.

I have shown the wagon box a, formed with false bolsters, a^3, and the guides a^4 projecting from the box (see Fig. 1) are adapted to fit over the bolsters on the running gear of the ordinary wagon, and by means of the false bolsters the wagon box is supported sufficiently high from the ground to insure the doors, a^5, (see Fig. 3) opening and shutting free from interference from the ground or other obstacles. In order to improve the dumping operation and at the same time strengthen the construction of the wagon-box, there are employed two sets of doors and the inner pair of doors, a^6, are hinged within the arch-shaped central brace, a^7, running longitudinally through the center of the wagon. It will be apparent that the weight of the load within the wagon will be upon the inclined sides of the brace, a^7, and the hinge connections for the inner doors being within the arch-shaped brace or support, will be protected by said support from the strains that would otherwise bear upon them.

Referring to Fig. 4, the brace or support is reinforced by hinge plates, a^8, extending across and inside the brace, as shown clearly in Fig. 4, where one of the hinge plates is shown. The hinge pivots are indicated by the reference letter, a^9, and the hinges, a^{10}, are of angular shape, so that when the flaps, a^6, are opened, the hinges, as well as the hinge pivots, are located well within the protection of the brace or support, a^7.

From an examination of Fig. 2 it is apparent that the inner ends of the inner doors, a^6, are turned up at the inside edges and the hinges, a^{10}, are then bolted to the body portion of the doors, a^6, so that in the position shown in that figure, which is closed position, there is a perfect seal for the doors, thereby avoiding the danger of leakage of the contents and interference with the operation of the doors.

Chain connections at each end of the bed extend between the worm gear on the longitudinal shaft, a^1, and the doors comprising a pair of chains, indicated by the reference letter, b, and two separate chains, b^1 and b^2, the chain b^1, at its free end being connected to one outer door, and its opposing chain, b^2, at its free end being fastened to the other outer door. These chains, b^1 and b^2, pass over ordinary rollers, b^3, secured to the inner doors and also over rollers, b^4, secured to the bed of the wagon. By operating the hand lever, a^2, the chain, b, is raised or lowered, and the inner and outer doors are opened or closed. It is apparent by this arrangement of chain connections there is a desirable application of power for operating these doors. There is shown one chain, b^5, suspended from the bed of the machine with a hook thereon for the purpose of regulating the opening of the bottom doors or throwing out of commission one pair of doors as may be desired. If the hook of the chain, b^5, is fastened within the links of the chains, b^1 or b^2, the doors on one

side or the other of the bed may be held closed, while the operator is free to manipulate the other doors, and if it is desired to open only partially the doors, the hook of the chain, b^5, will be inserted within a link of the chain, b, thereby the chain, b, can only partially operate, and the doors will be operated only a corresponding amount.

My locking devices, b^6, pivoted to each of the outer flaps or doors and extending through fixed loops, b^9, on the end of the bed are especially important in this kind of machine; for it is obvious that the machine may be standing on an incline, such that the outer doors or either of them may tend to close by gravity, whereas in closing it is desirable to close the inner doors first. For this reason I have so formed the lock that it will prevent the outer doors closing until the inner ones are closed.

The shoulder, b^7, contacting the lower part of the loop, b^9 will prevent the closing of the outer doors until the inner ones reach closing position, whereupon they will strike the hooked ends, b^8, of the lock, thereby raising the shoulder, b^7, out of normal position to clear the lower part of the loop so that the outer doors can then close.

Having thus described my invention, I claim:

1. In a dump wagon, a bed, outwardly-opening doors secured to the sides of said bed, inwardly-opening doors hinged to the center of said bed, a pulley located on said bed vertically above each pair of outer and inner doors, a pulley on each inner door, cables connected to each outer door and extended about said bed pulley and also about said inner door pulleys, and means connected with the inner free ends of said cables for operating same to raise and lower said doors, substantially as specified.

2. In a dump wagon, the combination of a bed, outwardly opening doors secured to the sides of said bed, inwardly-opening doors hinged to the center of said bed, separate cables for each pair of doors comprising an inner and outer door, and a main cable connected to said door cables, supporting means for each door cable comprising a pulley, and a pivoted latch on one door of each pair, and means for supporting the free end of said latch, and means for operating said latch during the final movement of said cables, substantially as specified.

3. In a dump wagon, a bed, an arch-shaped central brace portion, vertical extensions near the lower part of said brace portion, a plurality of inner doors, the inner edges of the doors turned upwardly to conform to the extensions on the brace portion, hinges connected to the body portions of the doors; hinge pivots connected to said hinges and located within the central brace portion, substantially as specified.

4. In a dump wagon, the combination of a bed, an arch-shaped central brace portion, a plurality of inner doors, hinges connected to the body portion of each door, a reinforcing extension connecting said hinges and bracing said arch-shaped portion, hinge pivots located within said arch portion, substantially as specified.

In testimony whereof I have hereunto set my hand this 26th day of May, 1908.

JOHN F. ECCARD.

Witnesses:
DANL. MORRIS,
J. C. FULLERTON, JR.