(No Model.) 2 Sheets—Sheet 1.

A. M. ACKLIN.

OVERHEAD CAR OR LIKE RECEPTACLE.

No. 605,620. Patented June 14, 1898.

Fig. 2.

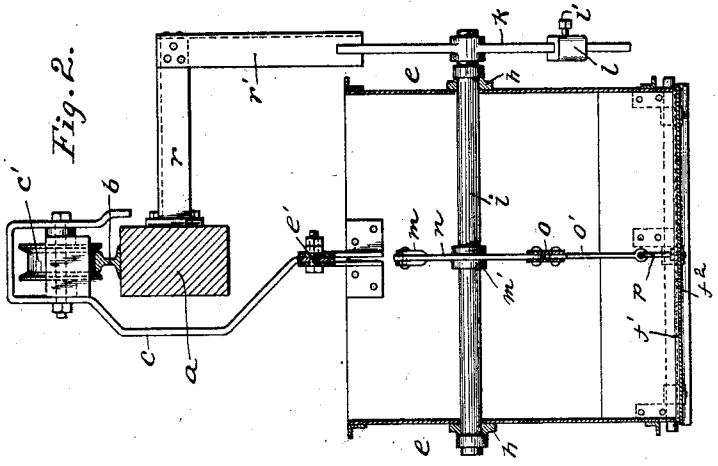


Fig. 3.

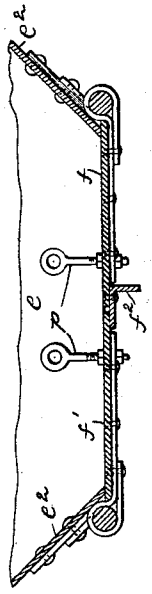
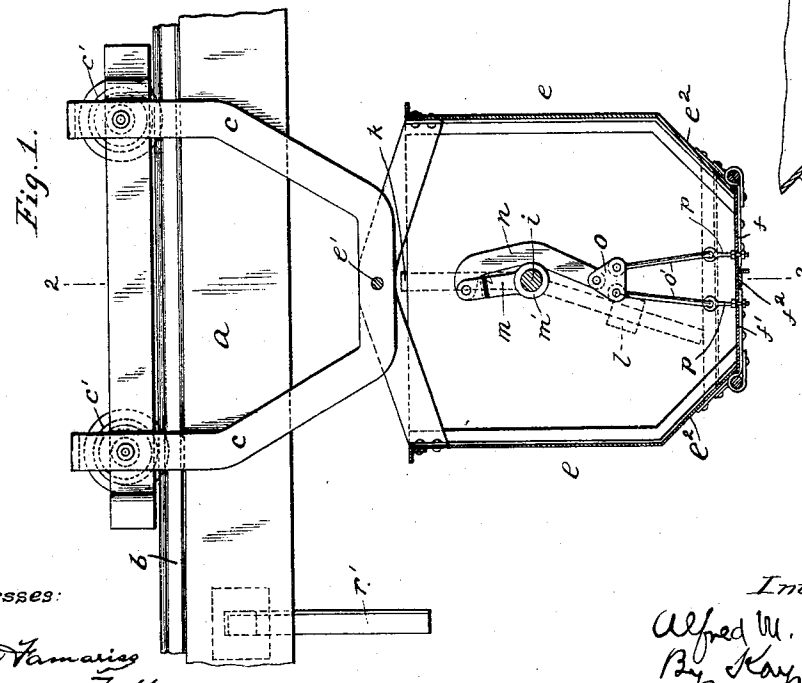


Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

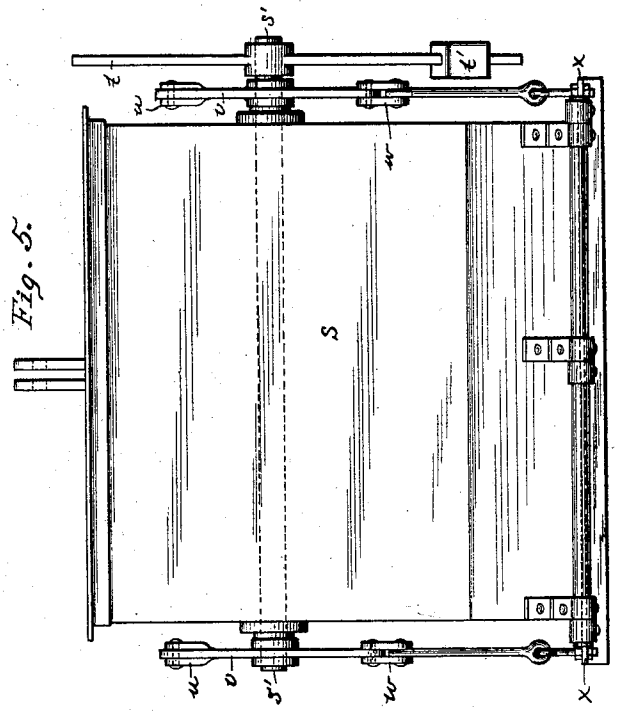
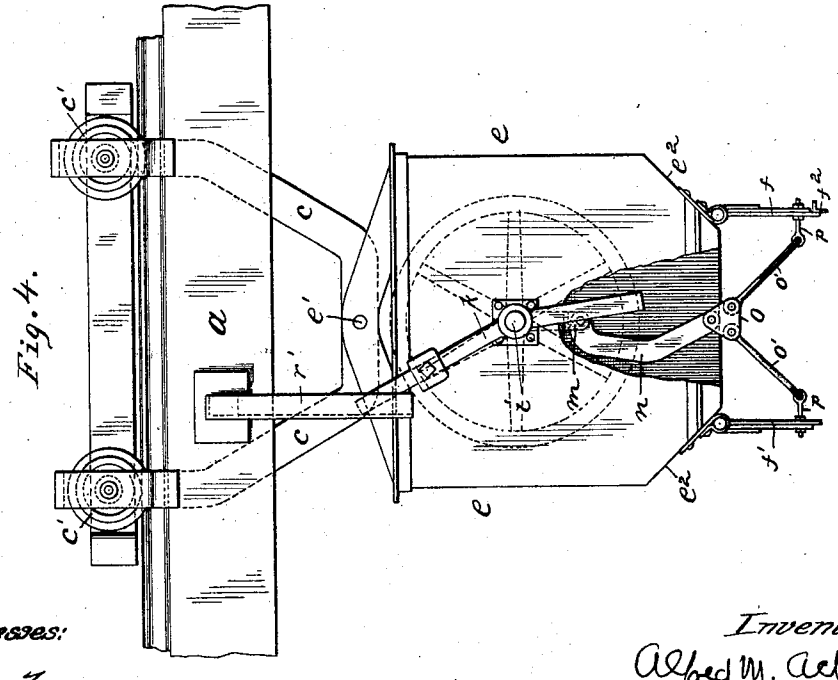


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALFRED M. ACKLIN, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO HEYL & PATTERSON, OF SAME PLACE.

OVERHEAD CAR OR LIKE RECEPTACLE.

SPECIFICATION forming part of Letters Patent No. 605,620, dated June 14, 1898.

Application filed January 15, 1897. Serial No. 619,326. (No model.)

To all whom it may concern:

Be it known that I, ALFRED M. ACKLIN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Overhead Cars or Like Receptacles; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to door-operating devices such as may be applied to receptacles for carrying sand, coal, or other materials, its object being to provide a simple form of apparatus whereby the doors in the bottom of such receptacles may be quickly opened and closed, and automatically, if desired.

My invention comprises, generally stated, a suitable receptacle having doors hinged at the bottom thereof closing said receptacle and adapted to swing down therefrom to discharge the contents of said receptacle, a rocking shaft journaled within said receptacle, connections between said rocking shaft and a toggle-joint connected to said doors, mechanism for turning said shaft whereby the doors will drop down of their own accord to discharge the contents of the receptacle.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a receptacle with my invention applied thereto. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is an enlarged detail sectional view of the lower part of the receptacle, showing the manner in which the doors are hinged thereto more clearly. Fig. 4 is a view of the receptacle from the opposite side to that shown in Fig. 1, partly broken away and showing the doors open. Fig. 5 shows a modified form of my invention.

Like letters indicate like parts in each of the figures.

I have illustrated my invention as applied to a receptacle adapted to ride upon an overhead rail; but I do not wish to limit myself in any way to the particular form of receptacle illustrated or the manner in which said receptacle is transferred from one place to another. The invention applies as well to cases where the receptacle remains stationary.

In the drawings the letter *a* designates an overhead beam having the rail *b* supported thereon. A trolley *c* has the trolley-wheels *c'* mounted therein, which run upon the rail *b*. A receptacle *e* is secured to the trolley *c* by means of the bolt *e'*. This receptacle is preferably constructed of metal, the parts being riveted together in such a manner as to form a strong and rigid receptacle for the reception of sand, coal, ashes, or other materials. This receptacle *e* has the inclined sides e^2 and is closed at the bottom by the doors *f f'*, said doors being hinged in any suitable manner, so that when released they will swing down to the position shown in Fig. 4. One of the doors *f* has the strip f^2 on its outer end, which is adapted to overlap the door *f'* and so form a tight joint to prevent the escape of any of the contents of the receptacle *e*.

Journaled within suitable bearings *h* in the sides of the receptacle *e* is the rocking shaft *i*, one end of said rocking shaft having the trip-lever *k* secured thereto. The lever *k* has the weight *l* secured thereto, said weight being preferably made adjustable by means of the set-screw *l'*.

Within the receptacle *e* and secured to the rocking shaft *i* is the arm *m*, the lower end of said arm having the collar *m'* formed thereon surrounding said shaft. Pivoted to the outer end of the arm *m* is the bent lever *n*, the lower end of said bent lever *n* being pivoted to the toggle *o*, the arms *o'* of said toggle being connected to the eyebolts *p* on the doors *f f'*.

Secured to the beam *a* is the arm *r*, with the depending arm *r'* secured thereto, said depending arm *r'* being in the path of the trip-lever *k* as the trolley *c* moves along the overhead rail.

The operation of my invention when in the form described is as follows: The receptacle *e*, with the doors closed and the parts in the position shown in Fig. 1, is filled with sand or other material and is conveyed along to the dumping-place by means of the trolley *c*. The arm *m*, when in the position shown in Fig. 1,

will act to hold the doors in their closed position. This is due to the fact that the arm m is beyond the center of the shaft i. The bent lever n, resting at or about its mid-point against the collar m' of the arm m, prevents said arm from being drawn beyond a certain fixed point, which is just beyond the center of the shaft i. When the receptacle arrives at the dumping-point, the upper end of the trip-lever k will come in contact with the depending arm r', whereupon the rocking shaft i will be turned, throwing the arm m on the opposite side of the center of the shaft i, so that the weight of the contents of the receptacle will be permitted to act on the doors $f f'$ and cause them to swing down. When the doors have opened to their full extent, the parts will be in the position shown in Fig. 4. When the contents of the receptacle have been discharged, the lever k, through the coöperation of the stop r', will be carried back to its normal position, and by the same movement the doors will be raised and the parts brought back to the position shown in Fig. 1, with the arm m beyond the center of the shaft i. The receptacle is then ready to be conveyed back to the point where it is refilled, when it is again conveyed to the dumping-point and the parts are again operated in the manner described. If it is not desired to operate the doors automatically, the trip-lever k may be dispensed with and a hand-wheel may be mounted on the shaft i, such as shown in dotted lines, Fig. 4, whereby said shaft may be turned to open and close the doors.

In cases where it might be inconvenient to have any of the operating mechanism contained within the receptacle, as shown in Fig. 1, or where the material to be conveyed is of such character as to create severe wear upon the parts contained within the receptacle, all the operating parts, except the rocking shaft, may be on the exterior of the receptacle, as shown in Fig. 5. In that case the receptacle s has the shaft s' journaled therein, said shaft having the trip-lever t, secured thereto, carrying the weight t'. The shaft s has also the arms u at each end thereof, said arms having the bent levers v pivoted thereto and the lower ends of said levers v attached to the toggles w. The doors x are hinged in the same manner as before. The operation of this form of my invention is the same as that hereinbefore described, and a fuller description of the same is not deemed necessary.

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

1. In overhead cars and like receptacles, the combination with a suitable receptacle, of a downwardly-opening door, a rocking shaft mounted on said receptacle, a toggle connected to said door, and connections between said shaft and said toggle, substantially as set forth.

2. In overhead cars and like receptacles, the combination with a suitable receptacle, of a downwardly-swinging door, a rocking shaft mounted on said receptacle, a trip-lever mounted on said shaft, a weight on the lower end of said trip-lever, a toggle-joint connected to said door, and connections between said shaft and said toggle-joint, substantially as set forth.

3. In overhead cars and like receptacles, the combination with a suitable receptacle, of a downwardly-opening door, a rocking shaft mounted on said receptacle, an arm on said shaft, and connections between said arm and said door, the upper end of said arm being normally beyond the center of said shaft, substantially as set forth.

4. In overhead cars and like receptacles, the combination with a suitable receptacle, of a downwardly-opening door, a rocking shaft mounted on said receptacle, a trip-lever mounted on said shaft, an arm on said shaft, a toggle connected to said door, connections between said arm and said toggle, the upper end of said arm being normally beyond the center of said shaft, substantially as set forth.

5. In overhead cars and like receptacles, the combination with a suitable receptacle, of a downwardly-swinging door, a rocking shaft mounted on said receptacle, a trip-lever mounted on said shaft, an arm on said shaft, a bent lever pivoted to the upper end of said arm, a toggle connected to the lower end of said bent lever and to said door, the upper end of said arm being normally beyond the center of said shaft, substantially as set forth.

6. In overhead cars and like receptacles, the combination with an overhead beam, of a trolley moving thereon, a receptacle suspended from said trolley, a downwardly-swinging door, a rocking shaft mounted on said receptacle, a trip-lever on said shaft, connections between said shaft and said door and a trip on said overhead beam in the path of said trip-lever, substantially as set forth.

In testimony whereof I, the said ALFRED M. ACKLIN, have hereunto set my hand.

ALFRED M. ACKLIN.

Witnesses:
ROBT. D. TOTTEN,
ROBERT C. TOTTEN.