No. 854,249. PATENTED MAY 21, 1907.

C. L. SPURLIN.

CAR CHUTE.

APPLICATION FILED OCT. 9, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

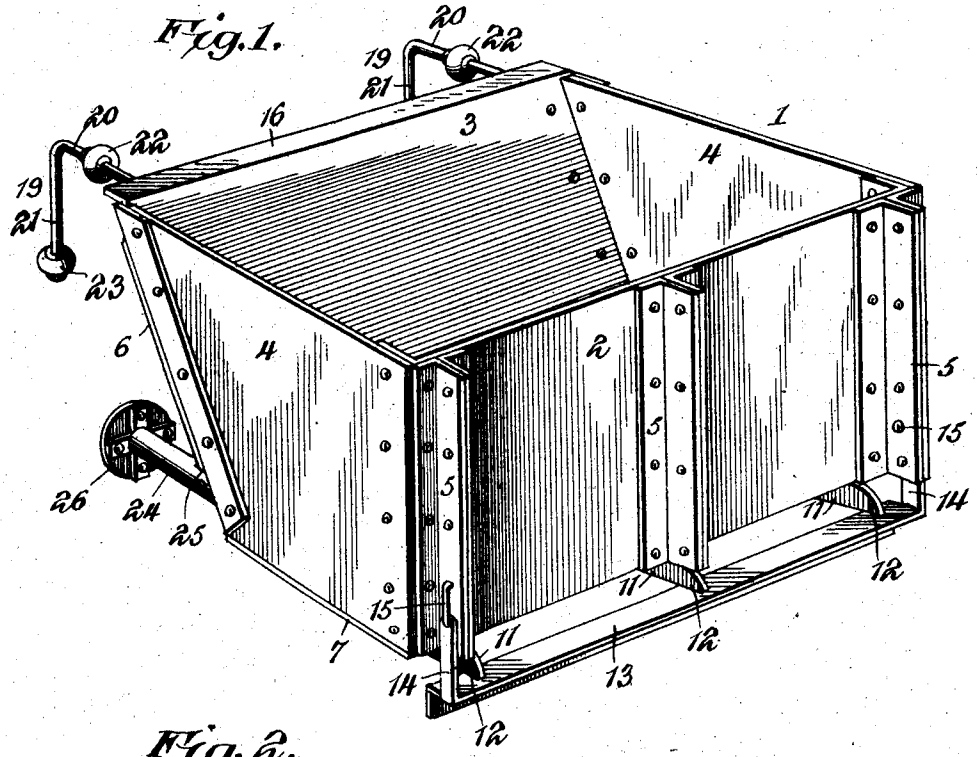
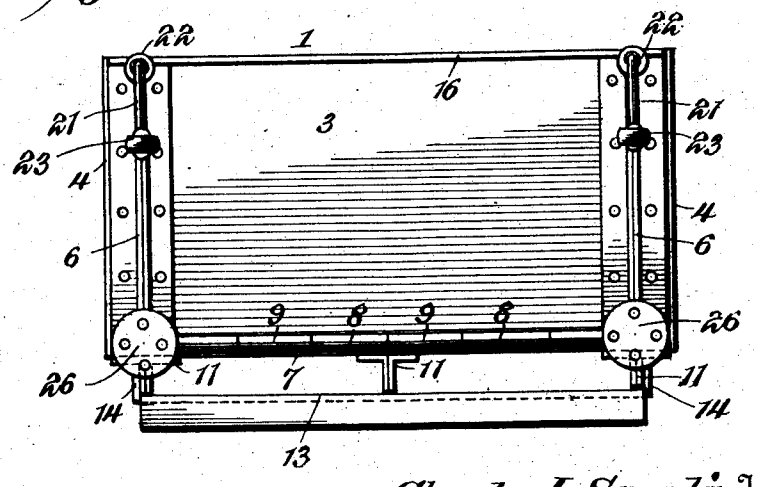


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

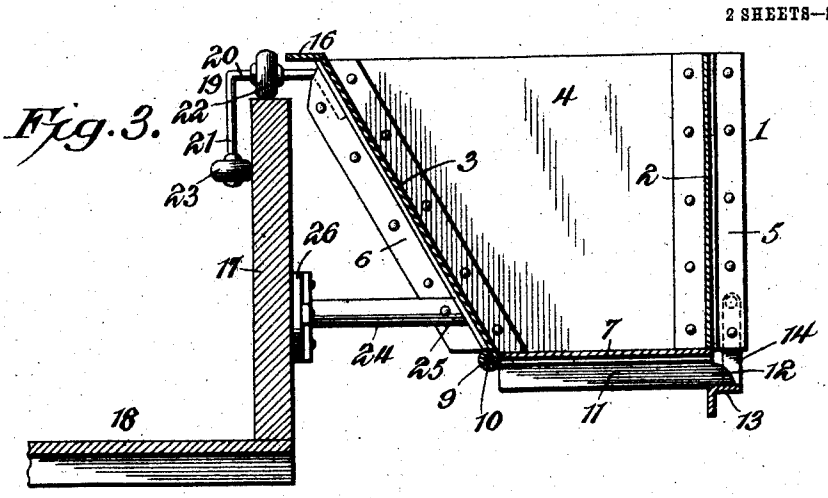


Fig. 4.

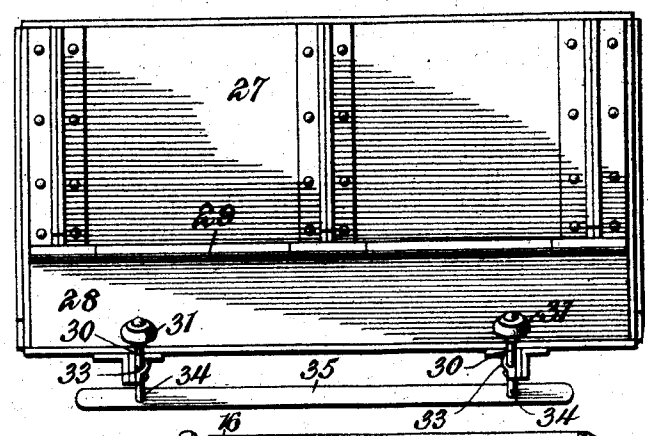
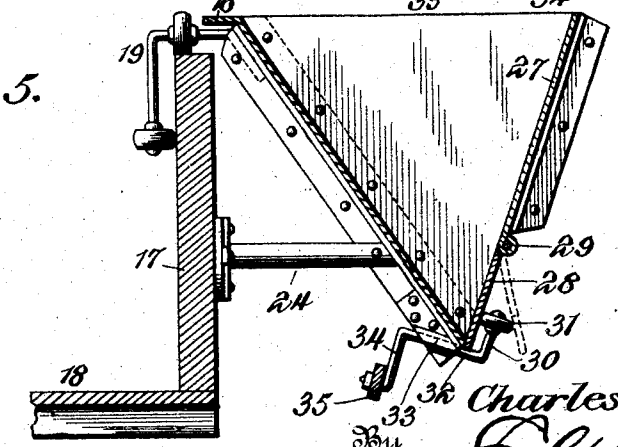


Fig. 5.



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CAR-CHUTE.

No. 854,249. Specification of Letters Patent. Patented May 21, 1907.

Application filed October 9, 1906. Serial No. 338,151.

To all whom it may concern:

Be it known that I, CHARLES LEOPOLD SPURLIN, a citizen of the United States, residing at Ensley, in the county of Jefferson and State of Alabama, have invented a new and useful Car-Chute, of which the following is a specification.

The invention relates to improvements in car chutes.

The object of the present invention is to improve the construction of car chutes, and to provide a simple, inexpensive and efficient one of great strength and durability, adapted to be readily applied to the sides of a gondola, or similar railway car, and capable of enabling material in bulk to be rapidly unloaded from the car into teams at the side of the car.

A further object of the invention is to provide a car chute of this character, which may be easily and quickly moved from one portion of a car to another by one person.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a perspective view of a car chute, constructed in accordance with this invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a vertical sectional view, showing the chute applied to a car. Fig. 4 is a front elevation of a car chute, showing another form of the locking device for securing the door in its closed position. Fig. 5 is a vertical sectional view of the same.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a car chute, adapted to be applied to a side of a gondola car, or similar railway car, as illustrated in Fig. 3 of the drawings, and designed to be constructed of stout sheet metal, or other suitable material and composed of front and rear walls 2 and 3 and side walls 4, which are secured to the front and rear walls by rivets, or other suitable fastening devices. The side edges of the front wall are bent at right angles, and are arranged on the inner faces of the side walls, and the rear wall has its side edges bent at right angles and arranged on the outer faces of the side walls, but the attachment flanges, formed by bending the edges of the front and rear walls, may be arranged at either face of the side walls, and the side and end walls may be secured together in any desired manner. The front wall, which is vertical, is preferably stiffened and reinforced by vertically disposed flanged bars 5, which may be either T-shaped or L-shaped angle bars, arranged in pairs. The rear wall, which is inclined to form a tapering chute, is stiffened and reinforced at its side edges by flanged bars 6, constructed similar to those of the front wall.

The chute is provided at the bottom with a hinged door 7, forming a bottom for the chute and provided at its rear edge with eyes 8, registering with corresponding eyes 9 of the chute and receiving a suitable pintle rod 10. The hinged door is reinforced by flanged bars 11, which have vertical flanges extending outward beyond the front wall of the chute, when the door is closed, and the front or outer ends of the said vertical flanges form projections 12, which are engaged by a swinging locking bar 13. The locking bar 13, which is preferably constructed of flanged metal, as shown, consists of an angle bar, and is provided at its ends with arms 14, which are pivotally connected with the chute. The arms 14, which extend upwardly from the ends of the locking bar 13, are suspended from keepers 15, consisting of staples, which form pivots for the said arms. When the locking bar is in engagement with the projections 12 of the door, one of its wings or flanges is arranged horizontally, and receives the lower edges of the said projections 12 and supports the door in its closed position. The other wing or flange of the locking bar is arranged in a vertical plane, and the said bar is adapted to be swung outward beyond the projections to permit the door to open. The locking bar forms a gravity latch, and is adapted to automatically swing into engagement with the projections 12, when the door is closed and when the locking bar is permitted to swing downward.

The rear wall 3 is provided at its upper edge with a rearwardly projecting horizontal flange 16, which is adapted, when shoveling material into the chute, to prevent any of the material from falling between the car and the

chute. The flange 16, which is spaced from the hangers, bridges the space between the chute and the side of the car.

The chute is suspended from the side 17 of the car 18 by means of hooks or hangers 19, consisting of upper horizontal arms or portions 20 and depending vertical arms or portions 21. The horizontal arms or portions 20 are suitably secured to the chute at the rear wall thereof, and are provided with anti-friction devices consisting of vertical rollers 22. arranged to run upon the upper edge of the side 17 of the car. The depending arms 21 are also provided with anti-friction devices 23, consisting of horizontal rollers and adapted to bear against and run on the inner face of the side 17 of the car. The arms of the hook shaped hangers form journals or spindles for the anti-friction rollers, which enable the chute to be readily moved along the car from one point to another by one person.

The chute is supported in its off-set position from the side of the car by means of fixed stays or braces 24, consisting of rearwardly extending arms arranged horizontally and having their front ends 25 bifurcated to straddle the flanges of the bars 6, and suitably secured to the same. The rear ends of the stays or braces are provided with circular heads 26, which bear against the side 17 of the car. When it is desired to move the chute from one point to another, the bottom portion of the chute is drawn out sufficiently to carry the heads 26 clear of the side of the car and the stakes or standards thereof, and the chute may then be readily rolled along the side of the car. This may be effected by one person, and the change in position may be quickly made.

In Figs. 4 and 5 of the drawings is illustrated the preferred form of the invention. The front wall 27 of the chute is inclined, and the door 28 is hinged at its upper edge at 29 to the lower edge of the inclined front wall 27. The side walls of the chute are substantially triangular, and the door is locked in its closed position by means of a plurality of locking arms 30, provided with anti-friction devices 31, consisting of rollers and arranged to engage the outer face of the door. The anti-friction rollers 31, which have an arcuate movement on the door enable the locking devices to move freely out of engagement with the door to prevent the arms from binding, when it is desired to release the door. The arms extend upwardly from the shafts 32, which are set at a slight inclination, and which are journaled in suitable bearings 33 of the rear wall of the chute. The inclined shafts 33 extends upwardly and rearwardly, and are provided at their upper ends with depending arms 34, arranged at a slight inclination and connected by an operating bar 35, whereby the locking arms are simultaneously operated. The operating bar is pivotally connected with the downwardly extending arms 34, which have their terminals bent at right angles to form pivots. The terminal pivots of the arms 34 pierce the operating bar and are provided with nuts, or other suitable fastening devices. When the operating bar 35 is shifted in either direction from the position illustrated in Fig. 4 of the drawings, the upwardly extending locking arms of the shafts will be swung downward out of engagement with the door 28, which will open automatically.

The car chute is adapted to be readily applied to a car, and it will enable the same to be easily and rapidly unloaded, and will effect a saving in both time and money, as the chute may be readily moved from one point to another, and the bottom door may be closed after a team has received its load, so that the unloading of the material from the car to the chute may continue, while the teams for hauling the material are being changed.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A car chute provided with means for suspending it on the outside of the car above the ground, said means having vertically and horizontally disposed anti-friction rollers arranged to run, respectively, on the upper edge and inner face of the side of the car to move the chute from one point to another.

2. A car chute provided at the back with hangers arranged to engage the side of a car to support the chute on the outside of the latter at a point above the ground, and anti-friction rollers through which the hangers pass, said anti-friction rollers being arranged to run on the car.

3. A car chute provided with supporting hooks forming hangers and adapted to engage the upper edge of the side of a car, and anti-friction rollers mounted on the hooks and engaging the side of the car, said hooks being passed through the rollers and forming spindles for the same.

4. A car chute provided with supporting hooks consisting of horizontal and vertical arms, vertical rollers arranged on the horizontal arms to run on the upper edge of the side of the car, and horizontal rollers arranged on the vertical arms at the lower ends thereof and engaging the inner face of the side of the car.

5. A car chute having an inclined inner or rear wall and provided at the bottom with a door, means arranged at the top of the chute for mounting the same on a car, and horizontal braces or stays rigidly fixed at their front or outer ends to the chute and having their inner ends bearing against but having no connection with the side of the car, said

chute when swung outwardly disengaging the braces from the car to permit the chute to slide along the latter.

6. A chute having its inner or rear wall inclined downwardly and forwardly, hangers arranged at the top of the chute for suspending the same from the side of a car, and a flange extending rearwardly from the upper edge of the rear wall of the chute and spaced from the hangers and bridging the space between the chute and the car.

7. A car chute having an inclined inner or rear wall and provided thereat with exterior flanges, means arranged at the top of the chute for hanging the same on the side of a car, and horizontal braces rigidly fixed at the front or outer ends of the said flanges and provided at their inner or rear ends with heads bearing against but not connected with the side of the car, said chute when swung outward disengaging the braces from the car to permit the chute to slide along the latter.

8. A car chute having an inclined inner or rear wall and provided thereat with exterior flanges, means arranged at the top of the chute for hanging the same on a car, and stays or braces having bifurcated ends straddling the flanges and secured to the same.

9. A chute provided at the bottom with a door, and a locking device having an arcuate movement on the door and provided with an anti-friction device engaging the door and adapted to permit the locking device to be easily moved out of engagement with the same.

10. A chute provided at the bottom with a door, and an oscillatory locking arm provided with an anti-friction device engaging the door and having an arcuate movement on the same.

11. A chute provided at the bottom with a door, and a locking device consisting of a shaft arranged at an angle to the door and provided at its ends with arms, one of the arms being arranged to engage the door and having an arcuate movement on the same.

12. A chute provided with a bottom door and a locking device consisting of a shaft having an arm provided with an anti-friction device engaging the door and having an arcuate movement on the same, and means for operating the shaft.

13. A chute provided at the bottom with a door, a plurality of shafts arranged at an angle to the door and having terminal arms, the arms at one end of the shafts being arranged to engage the door, and an operating device connected with the arms at the other end of the shafts.

14. A chute provided at the bottom with a door, shafts mounted on the chute and provided at their ends with arms, the arms at one end being arranged to engage the door, and an operating bar connecting the arms at the other end of the shafts.

15. A chute provided with an inclined wall and having a door at the lower portion thereof, said door being hinged at the top, and a locking device consisting of a shaft arranged at an angle to the door at the lower edge thereof and provided with a locking arm engaging the said door and having an arcuate movement on the same.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES LEOPOLD SPURLIN.

Witnesses:

BEN DAVIS,

MARTHA BEHRENS.