Dec. 1, 1925. 1,563,830

W. M. BROWN

DUMP CAR

Filed Feb. 26, 1925 4 Sheets-Sheet 1

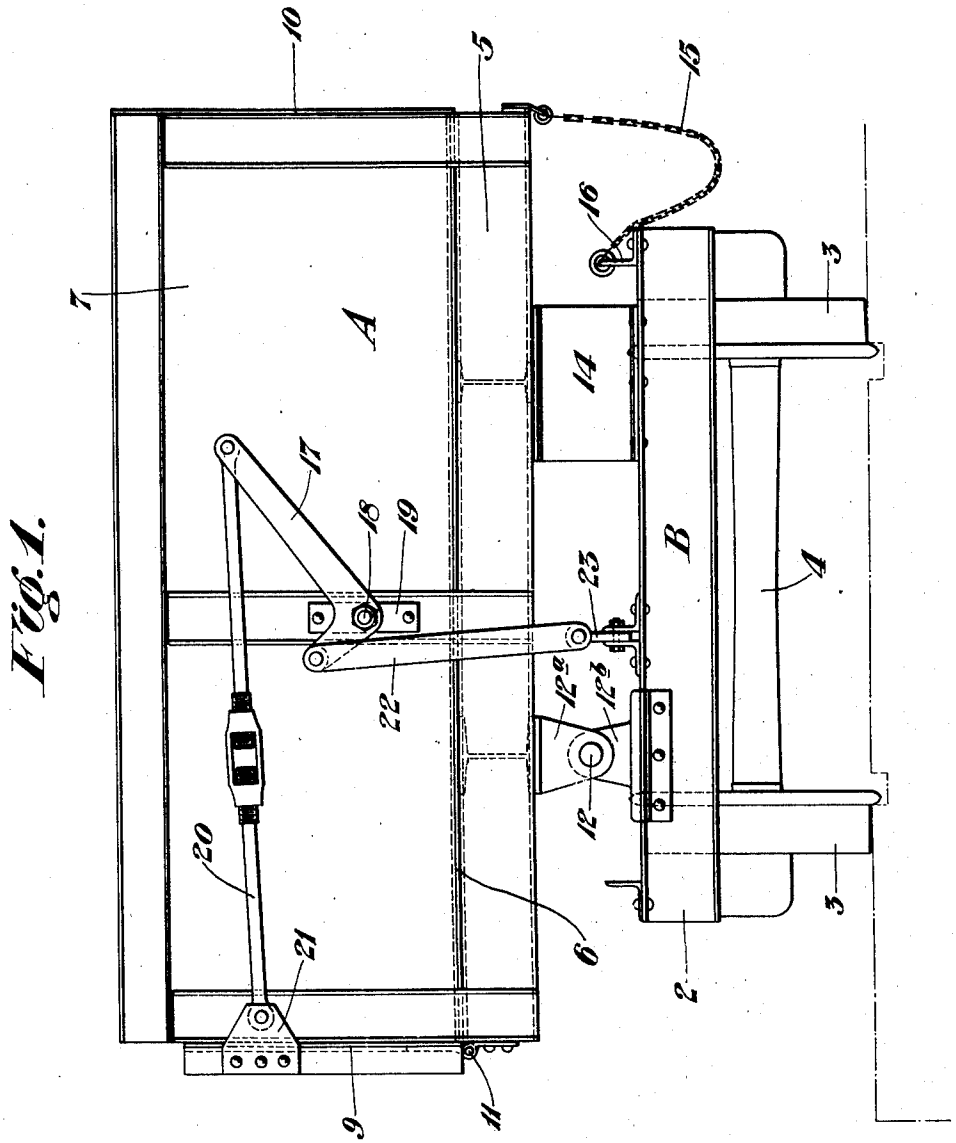


Fig. 1.

Witnesses:
Edwin Trieb

Inventor:
WILLIAM MILTON BROWN,
by: Anthony Usina
his Attorney.

Dec. 1, 1925 1,563,830

W. M. BROWN

DUMP CAR

Filed Feb. 26, 1925 4 Sheets-Sheet 2

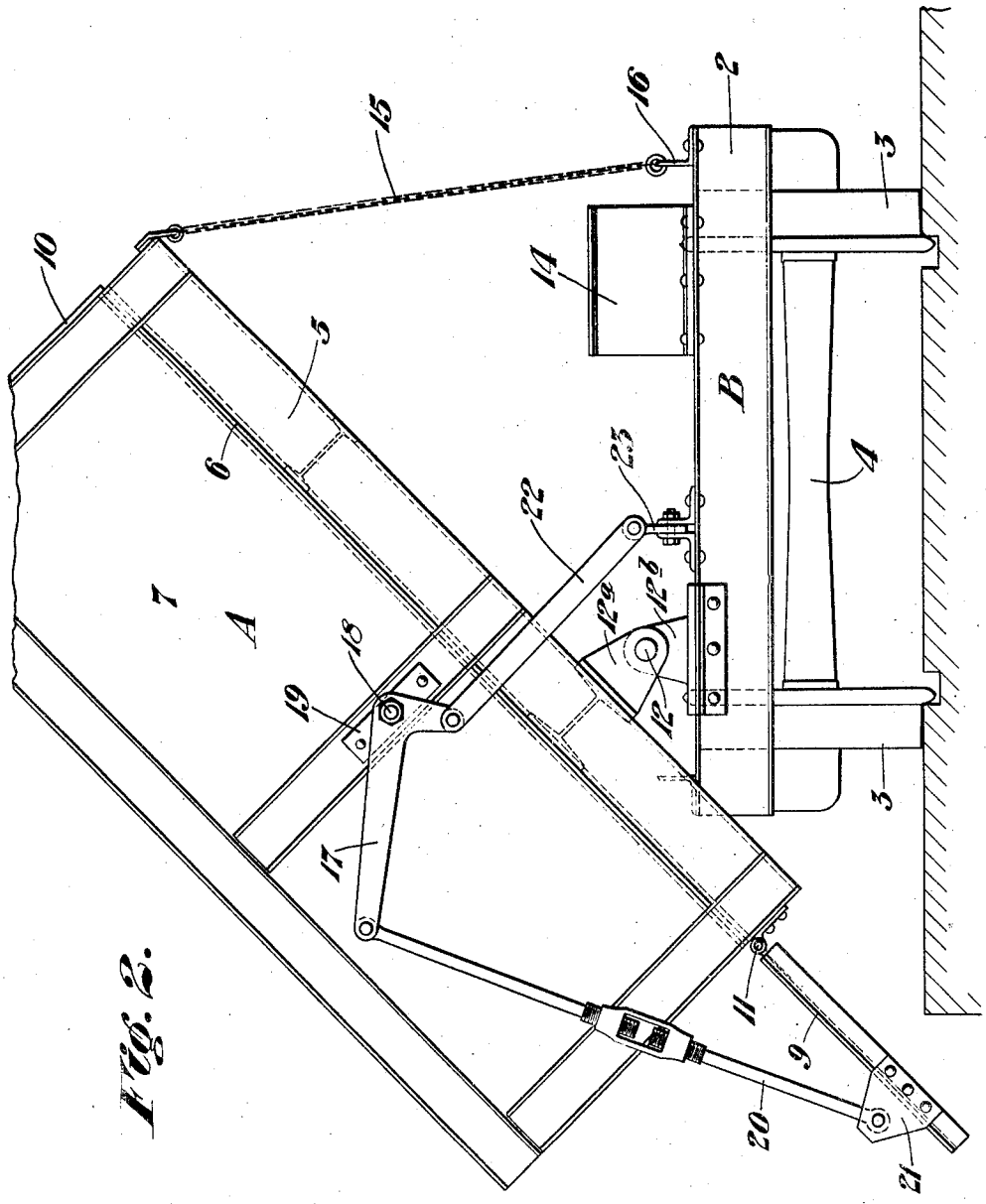


Fig. 2.

Witnesses:
Edson Trueb

Inventor:
WILLIAM MILTON BROWN,
by
Anthony Usina
his Attorney.

Dec. 1, 1925. 1,563,830

W. M. BROWN

DUMP CAR

Filed Feb. 26, 1925 4 Sheets-Sheet 3

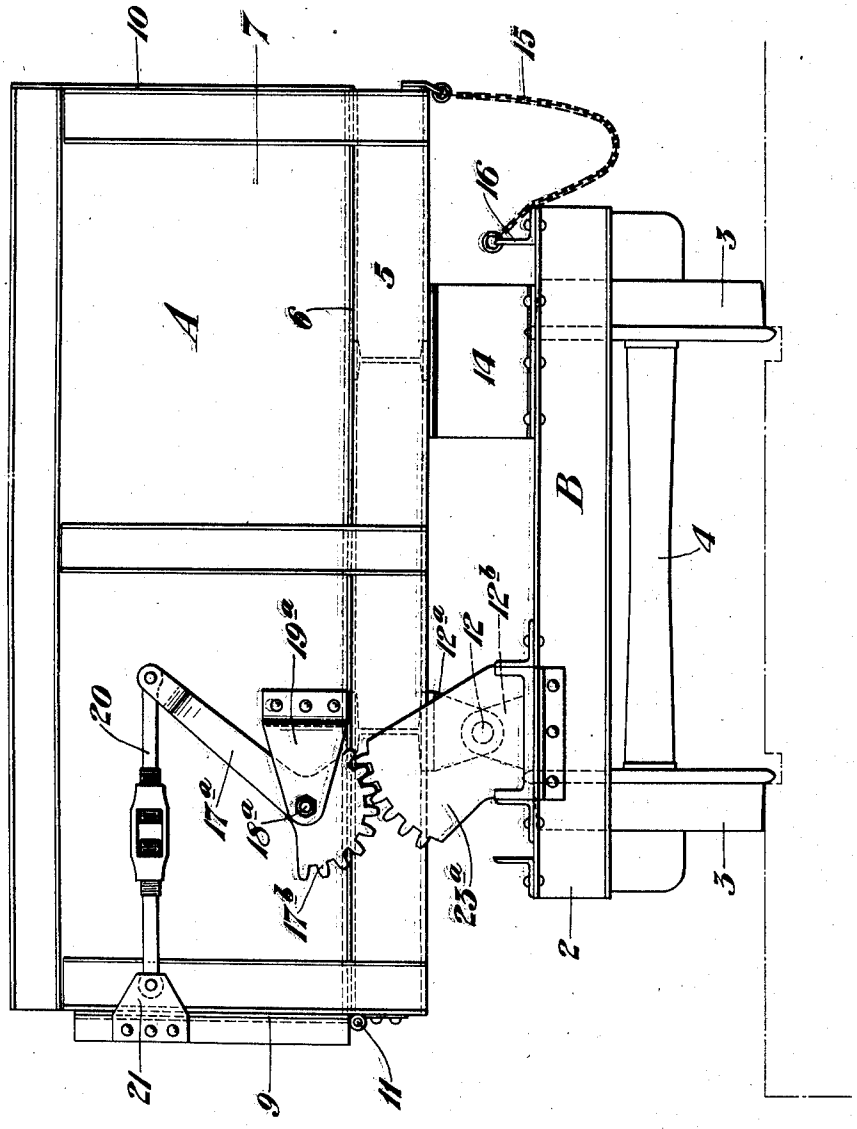


Fig. 3.

Witnesses:
Edwin Trueb

Inventor:
WILLIAM MILTON BROWN,
by: D. Anthony Usina
his Attorney.

Dec. 1, 1925 1,563,830

W. M. BROWN

DUMP CAR

Filed Feb. 26, 1925 4 Sheets-Sheet 4

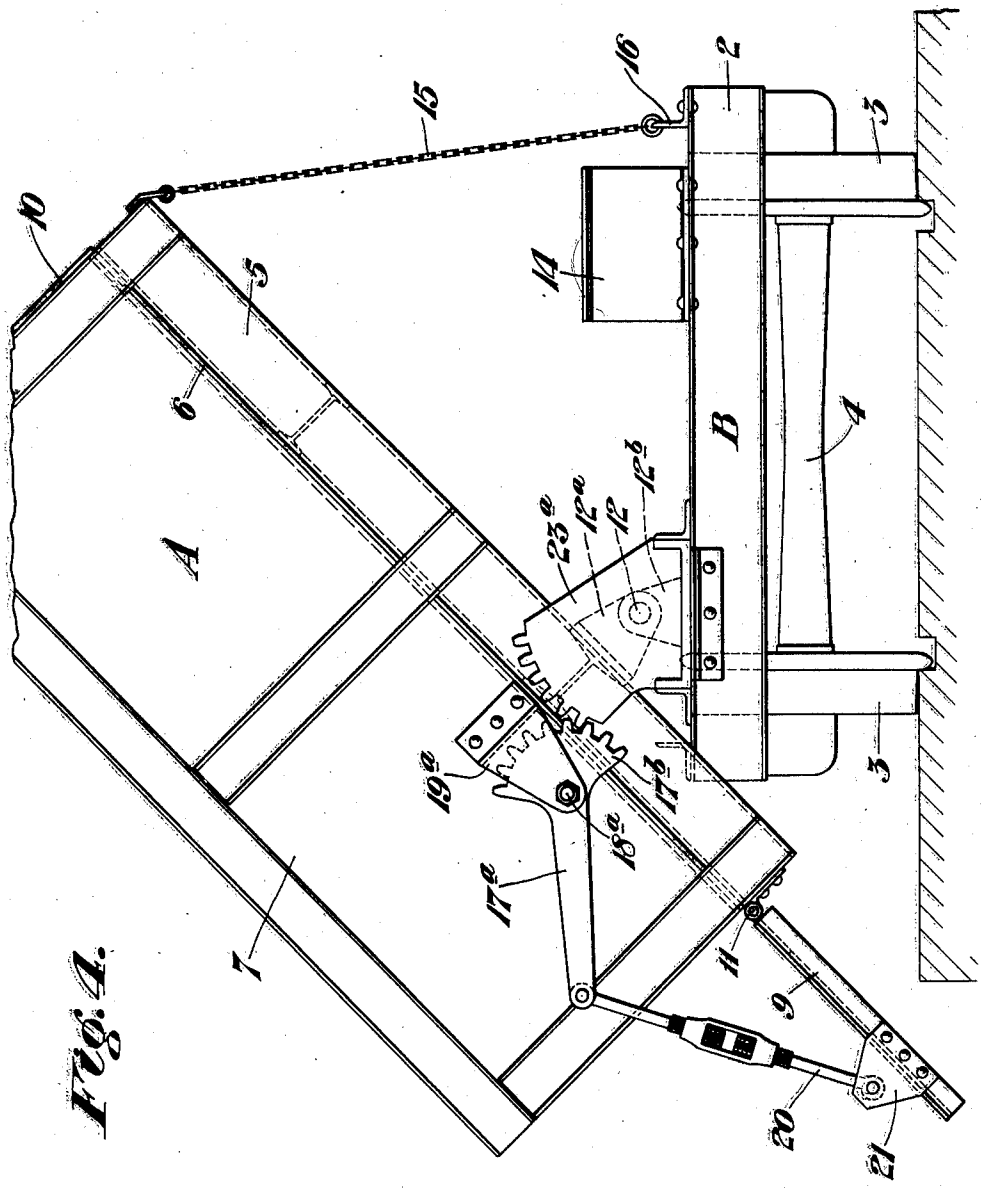


Fig. 4.

Witnesses:
Edwin Israel

Inventor
WILLIAM MILTON BROWN,
by: Anthony Ittina
his Attorney.

Patented Dec. 1, 1925. 1,563,830

UNITED STATES PATENT OFFICE.

WILLIAM MILTON BROWN, OF JOHNSTOWN, PENNSYLVANIA.

DUMP CAR.

Application filed February 26, 1925. Serial No. 11,678.

To all whom it may concern:

Be it known that I, WILLIAM MILTON BROWN, a citizen of the United States, and resident of Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Dump Cars, of which the following is a specification.

This invention relates to dump cars and, while not limited thereto, relates more particularly to dump cars such as are commonly used in mines, quarries, and the like for conveying the mined or quarried material.

The principal object of the present invention is to provide cars of the class described with a hinged side wall adapted to be automatically and positively opened when the car is moved into dumping position and to be automatically and positively closed when the car is returned to normal position.

Another object is to provide a novel form of operating means for opening and closing the hinged side wall of such cars, and for holding said hinged side wall closed until the car is in readiness for dumping.

A further object is to provide a dump car having the novel construction, design and combination of parts hereinafter described and illustrated in the accompanying drawings.

In the drawings:

Figure 1 is an end elevation of a car embodying my invention.

Figure 2 is a similar view showing the car in dumping position.

Figure 3 is an end elevation of a car showing a slightly modified form of mechanism for opening and closing the hinged side of the car.

Figure 4 is a similar view showing the car of Figure 3 in dumping position.

Referring more particularly to the drawings, the letter A designates a car body as a whole which is supported on a suitable wheeled supporting frame or truck B.

The frame or truck B may be of any usual and approved form, but as shown comprises a metal frame 2 having axles 4 mounted thereon and carrying flanged wheels 3.

The bed or body A may also be of any usual and approved construction, but as shown is rectangular in shape and consists of a base portion 5 composed of standard structural shapes, a bottom wall 6, end walls 7, and side walls 9 and 10. The one side wall 9 is hingedly secured to the base portion 5 by hinges 11.

The body A is hingedly secured at one side to the supporting frame or truck frame 2 by hinges 12 which may be of any suitable construction. The hinges 12 shown in the drawings are each composed of a substantially T-shaped forging 12^a secured to the base 5 of the body and having its shank or stem pivotally connected to an upstanding lug 12^b on the frame 2.

A pair of suitable supporting and spacing blocks 14 are secured to the frame 2 to support the unhinged side of the car body A at the same elevation as the hinges 12 support the hinged side.

A chain 15 has one end connected to the base 5 of the car body A and its other end secured to a bracket 16 on the frame 2 so as to limit the upward or dumping movement of the body.

In Figures 1 and 2, I have shown one form of operating mechanism for the hinged side wall 9, which consists of a pair of crank shaped rocking levers 17, each of which is pivotally connected at 18 to a suitable bracket 19 on the respective end walls of the car, and each of which has one end pivotally connected to one end of a link 20. The other ends of the links 20 are pivotally connected to brackets 21 on the respective ends of the hinged side wall 9 adjacent the upper edge thereof. The crank shaped rocking levers 17 have their ends opposite the ends connected to the links 20 pivotally connected to one end of operating links 22 which have their other ends pivotally secured to brackets 23 which are fixedly mounted on the frame 2 of the truck B.

When the body A is rotated about its hinges 12, it will assume an inclined position, and as the body raises the links 22 will pull the lower arms of the crank levers 17 downwardly so as to rock said levers about their pivotal mounting, thus causing the link connection 20 to lower the hinged side wall downwardly into open position. As the body A is again returned to normal or horizontal position the levers 17 will be rocked in the reverse direction so as to develop a pull on the links 20 and return the side 9 to a closed position.

It will also be noted that when the side 9 is in closed position it will be locked in such position, since the levers 17 cannot be rocked about their pivotal connection until the car body A is lifted.

In Figures 3 and 4 I have shown a slightly modified form of operating mechanism for opening and closing the hinged side wall 9. In this modified construction I have substituted a geared rocking lever 17^a for the crank lever 17 of the preferred form. The lever 17^a is provided with a segmental gear portion 17^b at its lower end which is in mesh with a segmental rack bracket 23^a fixedly mounted on the frame 2. The teeth of the gear portion 17^b and the teeth of the rack 23^a being in mesh will cause the lever 17^a to be rocked as the body A is raised and lowered thereby opening and closing the hinged side 9 of the car.

While I have shown and described certain specific embodiments of my invention, it will be understood that I do not wish to be limited thereto since various modifications in details of construction may be made without departing from the scope of my invention as defined in the appended claims.

I claim—

1. A dump car comprising a wheeled supporting frame, a body member pivotally mounted along one side of said frame and adapted to be raised into an inclined dumping position, one side wall of said body being hingedly mounted along the bottom of said body, at least one rocking lever mounted on said car body, a link connecting said lever and said hinged side wall of said body, and means supported on said wheeled supporting frame and cooperating with said rocking lever to rock said lever when said car body is raised and lowered, and thereby positively open and close said hinged side of said body.

2. A dump car comprising a wheeled supporting frame, a body member pivotally mounted along one side of said frame and adapted to be raised into an inclined dumping position, one side wall of said body being hingedly mounted along the bottom of said body, a pair of rocking levers pivotally mounted on said car body, links connecting said levers to the ends of said hinged side wall of said body, and means supported on said wheeled supporting frame and cooperating with said rocking levers adapted to rock said levers when said car body is raised and lowered to positively open and close said hinged side of said body.

3. A dump car comprising a wheeled supporting frame, a body member pivotally mounted along one side of said frame and adapted to be raised into an inclined dumping position, means for limiting the upward movement of said body, one side wall of said body being hingedly mounted along the bottom of said body, a pair of rocking levers pivotally mounted on said car body, links connecting said levers to the ends of said hinged side wall of said body, and means supported on said wheeled supporting frame and cooperating with said rocking levers adapted to rock said levers when said car body is raised and lowered to positively open and close said hinged side of said body.

4. A dump car comprising a wheeled supporting frame, a body member pivotally mounted along one side of said frame and adapted to be raised into an inclined dumping position, one side wall of said body being hingedly mounted along the bottom of said body, a pair of rocking crank levers pivotally mounted on said car body, a link pivotally connected to one end of each of said crank levers and to the respective ends of said hinged side wall of said body, and means supported on said wheeled supporting frame and cooperating with said rocking levers adapted to rock said levers when said car body is raised and lowered to positively open and close said hinged side wall.

5. A dump car comprising a wheeled supporting frame, a body member pivotally mounted along one side of said frame and adapted to be raised into an inclined dumping position, one side wall of said body being hingedly mounted along the bottom of said body, a pair of rocking crank levers pivotally mounted on said car body, a link pivotally connected to one end of each of said crank levers and to the respective ends of said hinged side wall of said body, and link members pivotally connected to the other ends of said crank levers and pivotally connected to suitable anchor brackets on said wheeled supporting frame, adapted to rock said crank levers when said car body is raised and lowered thereby positively opening and closing said hinged side wall.

In testimony whereof, I have hereunto set my hand.

WILLIAM MILTON BROWN.