No. 867,726. PATENTED OCT. 8, 1907.

M. P. HENVIS & D. S. CLARK.

DUMPING CAR.

APPLICATION FILED JULY 6, 1907.

3 SHEETS—SHEET 1.

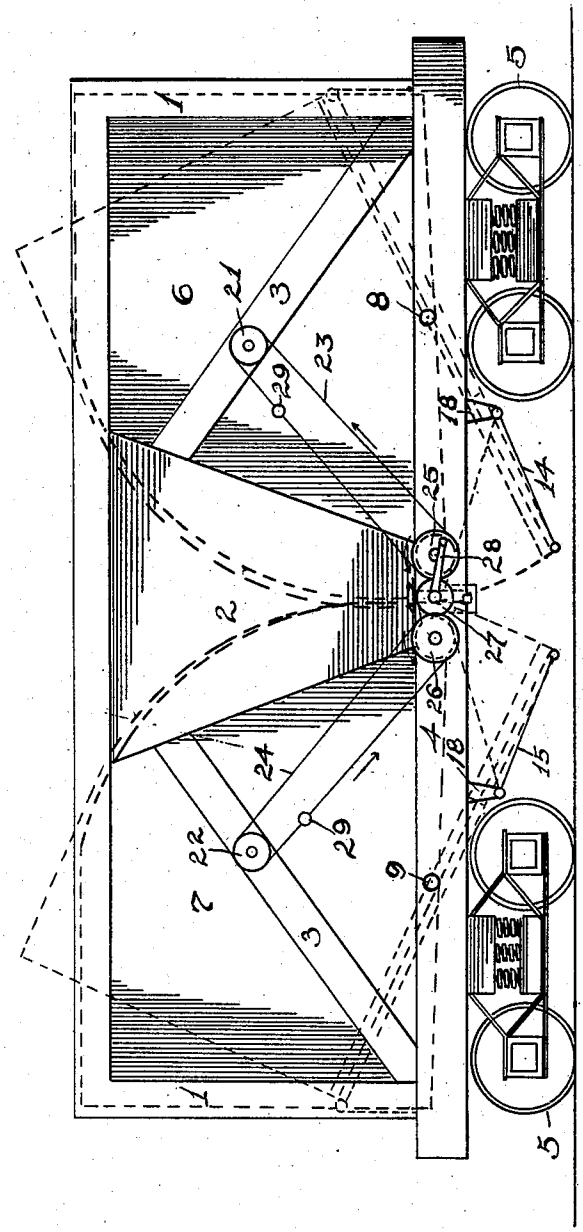

Fig 1

Witnesses
Milton Heyman.
Monroe Heyman

Maurice P. Henvis
Daniel S. Clark. Inventors
By Walter B. Burrow.
Attorney

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3 SHEETS—SHEET 2.

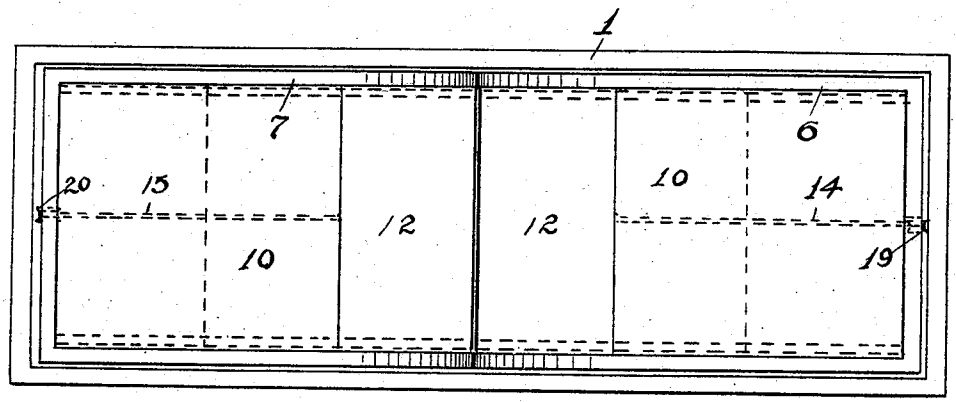

Fig 2

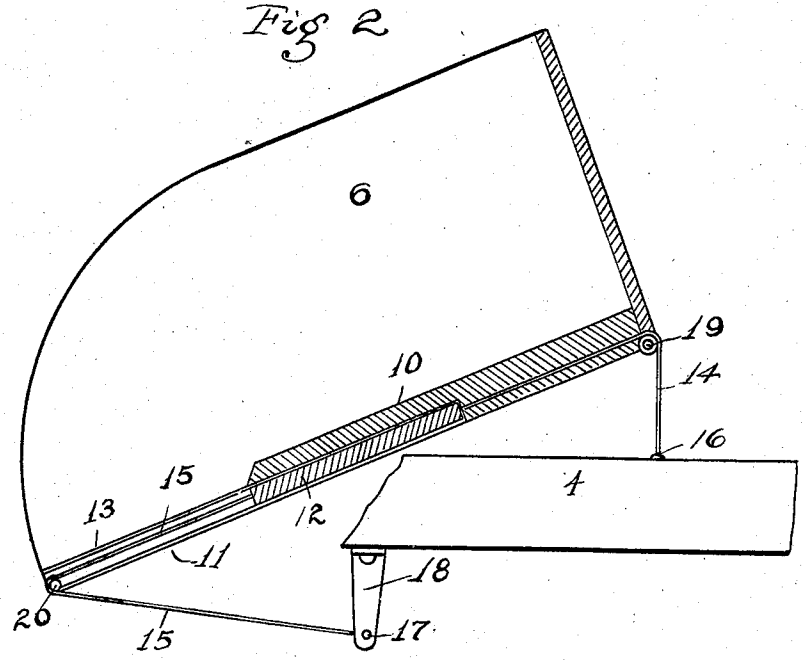

Fig 3

Witnesses
Milton Hyman.
Morris Hyman

Maurice P. Henvis, Inventors
Daniel S. Clark
By Walter B. Durrow
Attorney

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3 SHEETS—SHEET 3.

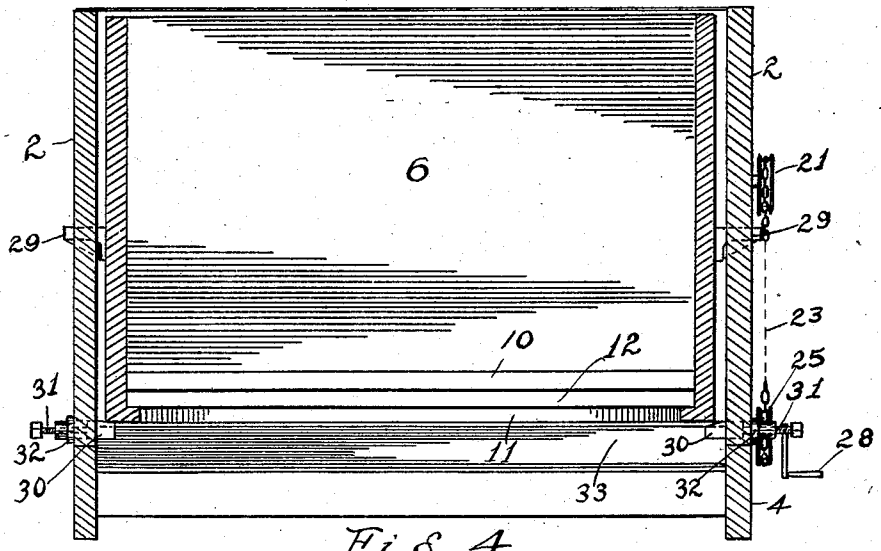

Fig 4

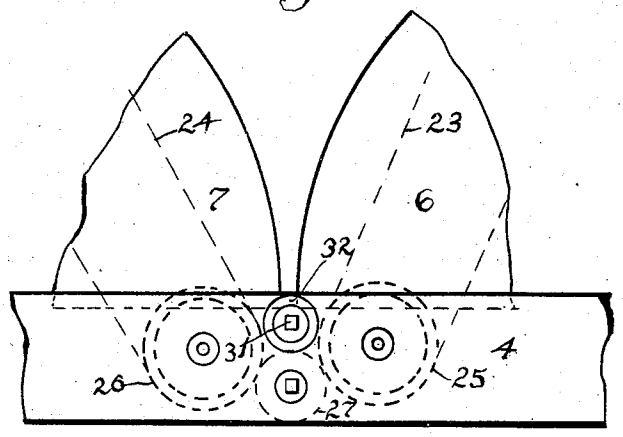

Fig 5

Witnesses
Milton Hymans
Monie Hymans

Maurice P. Henvis
Daniel S. Clark
Inventors
By Walter B. Burrow
Attorney

UNITED STATES PATENT OFFICE.

MAURICE P. HENVIS AND DANIEL S. CLARK, OF NORFOLK, VIRGINIA.

DUMPING-CAR.

No. 867,726. Specification of Letters Patent. Patented Oct. 8, 1907.

Application filed July 6, 1907. Serial No. 382,436.

To all whom it may concern:

Be it known that we, MAURICE P. HENVIS and DANIEL S. CLARK, citizens of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Dumping-Cars, of which the following is a specification.

Our invention relates to dumping cars.

The object of the invention is to quicken the operation of discharging the load in coal cars or for any other purpose.

Further objects and advantages will be more fully described herein and specifically pointed out in the claims recourse being had to the accompanying drawings forming a part of this specification in which—

Figure 1 is a side elevation. Fig. 2 is a plan. Fig. 3 is a sectional elevation of one of the dumping hoppers in position for discharging the load. Fig. 4 is a cross section taken near the center of the car, and Fig. 5 is a fragmentary side elevation of the car showing the position of the operating gear wheels.

In the drawings like reference numerals indicate similar parts in all the views:—

1 is the rectangular framing of the car provided with a center piece or brace 2 shown in the drawing in Fig. 1 as a V shaped plate.

3 are the diagonal braces and may be of any number and arranged so as to give strength to the frame.

4 is one of the longitudinal sills, 5 being the trucks upon which the whole structure is mounted.

6 and 7 are the right and left hand hoppers, respectively, having curved sides on one of their ends for the purpose of permitting them to roll together when dumping as shown by dotted lines in Fig. 1.

8 and 9 are the pivots or axis of the hoppers and upon which they are mounted for tilting. The parts 8 and 9 are usually steel shafts or pipes of sufficient strength to bear the load and are placed at a suitable point along the length of the hoppers to balance them. The hoppers are provided with a fixed bottom 10 (Figs. 2 and 3) which does not extend to their full length thus leaving a space 11 adapted to be closed by sliding bottom section or extension 12 (Fig. 3). The bottom 10 is provided with a recess for receiving the section 12 when the car is being dumped.

13 are guide ways for the section 12 consisting of square rails but it may be supported on a flanged portion of the hopper as shown in Fig. 4.

14 is a rope or chain attached to one end of the bottom section 12 and 15 is a rope fastened to the other end.

16 is the fastening point of one end of the rope 14, and 17 is the point of attachment of one end of the rope 15, said point being upon the depending arm 18 secured to the car sill 4 or other fixed point. The ropes 14 and 15 pass over a pulley 19 and 20, respectively, located at or near the end of the hoppers. When the hoppers are tilted the ropes 14 and 15 alternately pull and slacken thus automatically opening the bottom or extension when the hopper begins to go down and closing it when it assumes its normal or horizontal position as in Fig. 1. The fixed bottom 10, towards the opening 11 (Fig. 3), is made beveled as shown.

Referring to Figs. 1, 4 and 5 which show the mechanism for dumping the cars, 21 and 22 (Fig. 1) are pulleys or chain sheaves upon the braces 3. 23 is a rope or chain connecting the pulley or sheave 25 with the pulley 21 while 24 is a similar rope or chain connecting the sheave 26 to the pulley 22. The pulleys or sheaves 25 and 26 are located upon the sill 4 or other stationary point and have a connecting or intermediate gear wheel 27 between them upon which is placed the crank 28 for operating the sheaves. 29 are lugs fastened to the movable hoppers 6 and 7 and upon which the ropes or chains 23 and 24 are fastened. In this manner the hoppers will be tilted and again raised to their normal position by the chains 23 and 24 as indicated by the arrows in Fig. 1 as the pulleys 21, 22, 25 and 26 are fixed to a rigid part of the frame and the lugs 29 upon a movable point, the lugs extending outward sufficiently to be in line with the chain sheaves and pulleys.

The pulleys above referred to are provided with gear wheels and may be equipped with ratchets and pawls but we do not show them such being a matter of common construction.

In order to hold the hoppers 6 and 7 in a normal position we provide wedges 30 upon the ends of screws or bolts 31 passing through the collars 32 and by a wrench or crank applied to the square head of the bolt 31 the wedges may be withdrawn from the hoppers. The wedges are adapted to cover the joint between the hoppers or a wedge may be used for each hopper.

Having described the invention and what I claim and desire to secure by Letters Patent is:—

1. A dump car comprising a braced frame, hoppers supported by said frame, said hoppers having curved ends, and sliding bottom extensions to said hoppers.

2. A dump car comprising a frame, of hoppers pivoted to said frame, a bottom for said hoppers having a sliding extension thereto, and means for sliding said extension when the hopper is operated.

3. A dump car comprising hoppers, of bottoms shorter than the sides thereof and sliding extensions adapted to lengthen said bottoms.

4. A dumping car comprising tilting hoppers, said hoppers having curved sides on one end, of fixed bottoms shorter than the sides, a recess under the bottom, an extension slidably mounted on the sides of the hoppers, and automatic means for actuating said extensions.

5. A dumping car comprising tilting hoppers, said hoppers having bottoms adapted to slide and partly open the bottoms and means for affecting said opening when the hoppers are tilted.

6. A dumping car comprising a frame, tilting hoppers therein having rounded sides, bottoms to said hoppers having slidable extensions, and means for operating said extensions from a fixed point on the car frame.

7. A dumping car comprising a frame, hoppers supported in said frame, sliding bottoms to said hoppers, gear and chain wheels attached to said frame, chains on said wheels, and lugs on said hoppers for raising and lowering the hoppers.

8. A dumping car comprising a frame, oppositely tilting hoppers having automatic sliding bottom portions, fixed wheels and chains, and a movable point on said hopper for fastening the chain.

9. A dumping car comprising a frame, movable hoppers having a sliding portion thereto, and wedge means for holding said hoppers in their normal position.

10. A dumping car comprising a frame, tilting hoppers, chain means for operating the hoppers to tilt the same, and screw means for operating a wedge for holding said hoppers in a horizontal position.

In testimony whereof we have hereunto affixed our signature in the presence of two witnesses.

MAURICE P. HENVIS.
DANIEL S. CLARK.

Witnesses:
WALTER B. BURROW,
MONIE HYMAN.