No. 622,909. Patented Apr. 11, 1899.

N. BARNEY.

DUMPING CAR.

(Application filed Dec. 14, 1898.)

(No Model.)

Fig. 1.

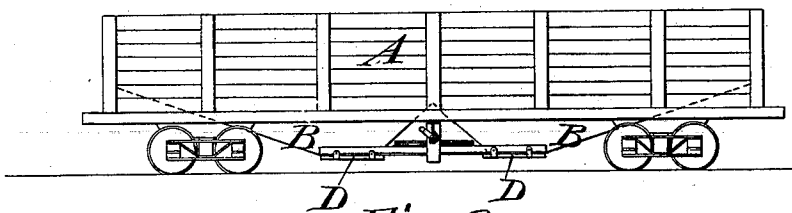


Fig. 2.

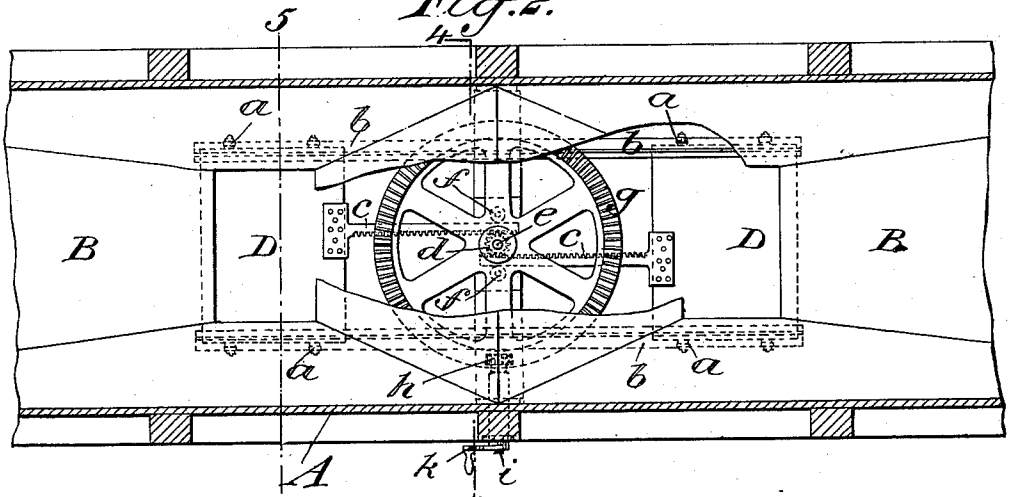


Fig. 3.

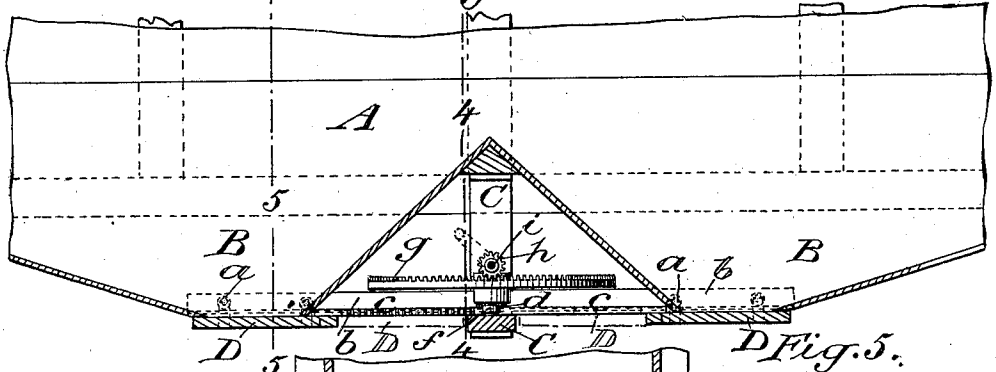


Fig. 4.

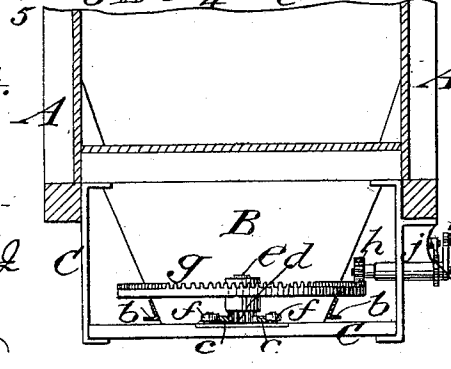
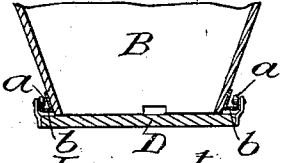


Fig. 5.



Witnesses:-
George Barney Jr
Fred' Haynes

Inventor:-
Nathan Barney
by attorneys
Brown & Seward

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

NATHAN BARNEY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO T. MONROE DAVIS, OF SAME PLACE.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 622,909, dated April 11, 1899.

Application filed December 14, 1898. Serial No. 699,193. (No model.)

To all whom it may concern:

Be it known that I, NATHAN BARNEY, a citizen of the United States, and a resident of the borough of Brooklyn, in the city of New York and State of New York, have invented a new and useful Improvement in Dumping-Cars, of which the following is a specification.

The objects of this invention are to provide for the easy manipulation of the doors or traps provided in the bottom of the car for the discharge of its contents and to provide for the free and rapid discharge when the doors or traps are open.

For these purposes the invention consists in the novel construction and combinations hereinafter described and claimed.

The improvement is illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a railway dumping-car; Fig. 2, a horizontal sectional view of a sufficient portion of the car-body to illustrate the improvement in detail; Fig. 3, a longitudinal vertical section of a portion of the lower part of the car-body corresponding with Fig. 2; Fig. 4, a transverse vertical section in the line 4 4 of Figs. 2 and 3; Fig. 5, a transverse vertical section in the line 5 5 of Figs. 2 and 3.

Similar letters of reference designate corresponding parts in all the figures.

A A designate the sides, and B B the bottom, of the car-body, the bottom being composed of or including two hoppers, which are arranged one before the other lengthwise of the car. Each hopper is provided at its open bottom or mouth with a door or trap D, which is arranged to run in a direction lengthwise of the car. The said doors are represented as furnished at their sides, which project laterally beyond the mouths of the hoppers, with rollers *a a*, which run on tracks *b b*, of angle-iron, attached to the exteriors of the sides of the hoppers, above the mouths thereof, where they are protected from the contents of the car and from the material which is undergoing discharge therefrom. Each door has attached to its inner end a toothed rack *c*, and the two racks *c c* are geared with a pinion *d*, which turns freely on a fixed upright pivot *e*, which is carried by a rigid yoke-frame C, dependent from the floor-frame of the car-body midway between the two hoppers B B, the said racks being at opposite sides of the pinion, so that by turning the pinion they will be moved simultaneously and correspondingly in opposite directions. The backs of the said racks run against guide-rollers *f*, provided on the yoke-frame C, for the purpose of keeping them in gear with the pinion *d*. The said pinion has firmly secured to and above it a large bevel or contrate gear *g*, which may be of a diameter nearly the full width of the car-body. This gear *g* has geared with it a small pinion *h*, the horizontal shaft *i* of which works in a bearing *j* in one side of the yoke-frame C and which is provided outside of the car-body with a crank or handle *k* for turning it.

By turning the shaft *i* in one direction the gear *g* and pinion *d* are turned in a direction to move the racks *c c* and the doors D D outward or toward the ends of the car and so to close the mouths of both hoppers B B, and by turning the said shaft *i* in the opposite direction the racks will move the doors in the direction to open the mouths of both hoppers for the discharge of the contents of the car. For the last-mentioned movement the small pinion *d*, large gear *g*, and small pinion *h* give such powerful purchase or leverage as will be sufficient to overcome easily any friction on the doors due to the weight of the material or any sticking due to frost or other causes.

The shaft *i* is represented as having applied to it a ratchet-wheel and pawl *l*, by which the locking of the doors when closed is effected.

By the arrangement of the two hoppers and their doors as described for the discharge of the car at two points along the middle of the bottom and by the arrangement of all the operating mechanism for the doors under the car in the space afforded for it between the hoppers not only does the operating mechanism offer no obstruction to the discharge, but the whole of the said mechanism is protected from injury from the discharging material and from other causes. The door-tracks and their rollers being arranged outside of the

hoppers, above the mouths thereof, the clogging of the tracks by small particles or dust from the discharging material is obviated.

What I claim as my invention is—

1. In a dumping-car, the combination of a car-body the bottom of which is composed of or includes two hoppers arranged one before the other, running doors one for each hopper, toothed racks one for each door, a pinion arranged between the hoppers and common to the two racks and means for turning said pinion for simultaneously operating the two doors, substantially as herein described.

2. In a dumping-car, the combination of a car-body the bottom of which is composed of or includes two hoppers, running doors one for each hopper, toothed racks one for each of said doors, a pinion common to the two racks and an upright supporting-pivot for said pinion arranged under the body between the hoppers, a larger gear affixed to said pinion, and a horizontal shaft and a pinion thereon gearing with said larger gear, all substantially as herein described.

3. The combination with the hoppers, of running doors arranged under the mouths of the hoppers and projecting laterally beyond the sides thereof, rollers attached to the so-projecting parts of said doors, and tracks for said rollers affixed to the exteriors of the sides of the hoppers above the mouths thereof, substantially as and for the purpose herein described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 9th day of December, 1898.

NATHAN BARNEY.

Witnesses:
FREDK. HAYNES,
C. S. SUNDGREN.