(No Model.) 2 Sheets—Sheet 1.

W. A. SMITH.

DUMPING CAR.

No. 589,313. Patented Aug. 31, 1897.

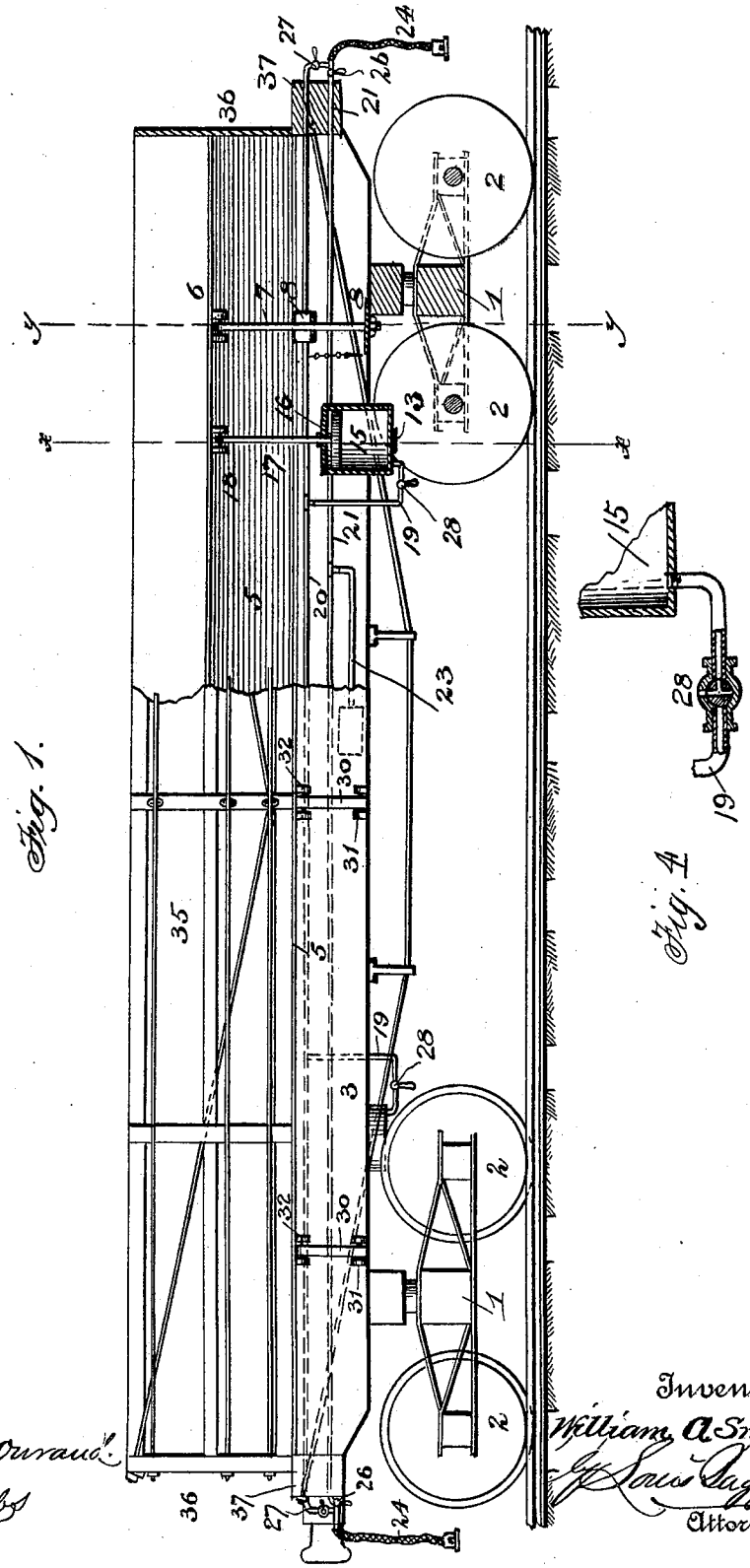


Fig. 1.

Fig. 4

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

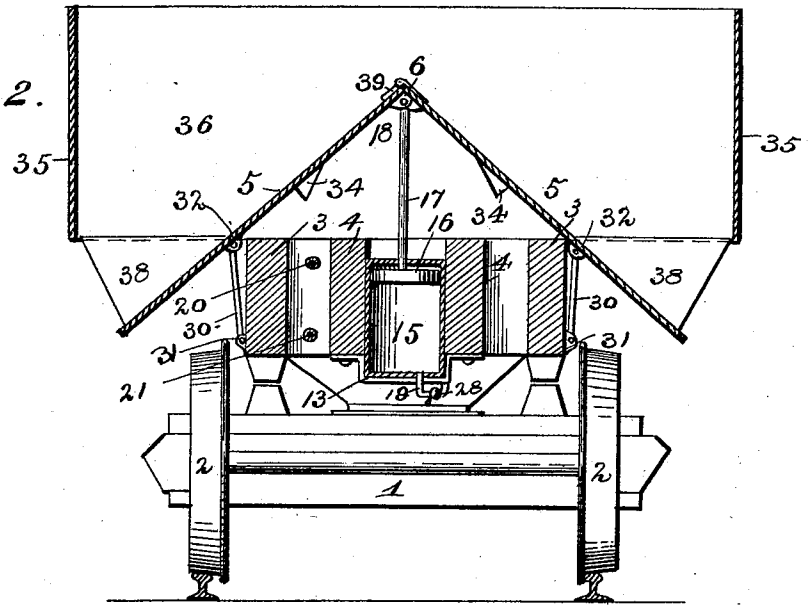
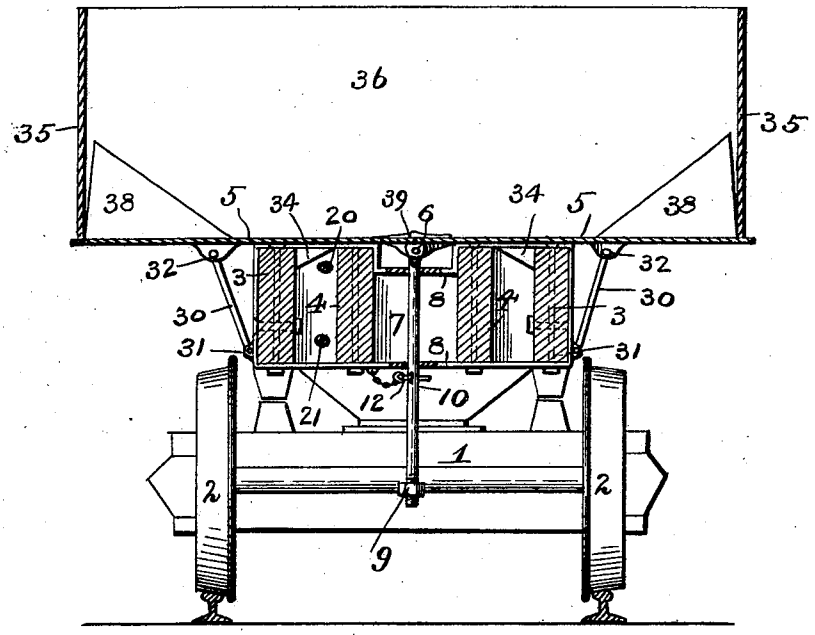


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM AUGUST SMITH, OF TRINIDAD, COLORADO.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 589,313, dated August 31, 1897.

Application filed March 27, 1897. Serial No. 629,533. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM AUGUST SMITH, a citizen of the United States, and a resident of Trinidad, in the county of Las Animas and State of Colorado, have invented certain new and useful Improvements in Dumping-Cars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to dumping-cars principally designed for carrying coal, ashes, dirt, ballast, and other similar material, and its object is to provide an improved construction of the same, whereby the car may be automatically dumped or unloaded by compressed air from the reservoir carried by the locomotive and containing air by which the brakes are operated.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a view, partly in elevation and partly in longitudinal section, of a dumping-car constructed in accordance with my invention. Fig. 2 is a cross-section of the same on the line *x x*, Fig. 1, showing the hinged bottoms opened to dump the load, also showing the wheels and trucks. Fig. 3 is a similar section on the line *y y*, Fig. 1, showing the bottoms closed, also illustrating the guide-rod for holding the floors or bottoms straight. Fig. 4 is a detail sectional view of one of the stop-cocks.

In the said drawings the reference-numeral 1 designates the trucks, and 2 the wheels, of an ordinary platform or freight car.

The numerals 3 and 4 designate four parallel longitudinal beams or bars supported on the trucks and which in turn support the body of the car.

The numeral 5 designates the floors or bottoms of the car, each consisting of a rectangular platform hinged together at their inner or adjoining edges by hinges 6, with which are connected vertical guide-rods 7, which pass through straps 8, secured to the upper and lower sides, respectively, of the beams or timbers 3 and 4. These rods at their lower ends are provided with stop-nuts 9 for limiting their upward movement, and intermediate their ends are formed with holes 10, with which engage pins 12 for holding the rods and the platforms with which they are connected and preventing the latter from turning when being loaded by a preponderance of material near their outer edges.

Secured to the beams or timbers 4, near each end of the same, are brackets 13, which support vertical air-cylinders 15, provided with pistons 16 and piston-rods 17. The upper ends of these piston-rods are pivotally connected with lugs 18, secured to the adjoining sides or edges of the said platforms. Connected with the lower ends of these cylinders are branch compressed-air pipes 19, which communicate with a longitudinal pipe 20, connected at each end of the car with the compressed-air train-pipe 21, with which is connected a branch pipe 23, leading to the brake-cylinder.

The numeral 24 designates the ordinary hose-coupling for the train-pipes, and 26 a stop-cock at each end of pipe 21 for admitting air to the brake-cylinder. The pipe 20 is also provided with stop-cocks 27, and the branch pipes 19 with similar cocks 28. These cocks may be connected with the locomotive by suitable rods, (not shown,) if desired, whereby they may be operated by the engineer or locomotive-driver.

The numeral 30 designates links pivotally connected at their lower ends with lugs 31, secured to the beams 3, and at their upper ends pivoted to lugs 32 on the lower sides of the hinged and tilting platforms. These links serve to support the platforms when the latter are tilted to dump the load. Also secured to the under side of said platforms are triangular lugs 34, which engage with the beams 3 when the platforms are closed to hold the latter steady.

The body of the car consists of the sides 35 and ends 36, suitably bolted together and supported by the end transverse beams 37, secured to the beams 3 and 4. The said body may be dispensed with, however, if desired.

The numeral 38 designates triangular

flanges at the ends of the platforms to prevent the material on the same from falling off the ends thereof when the load is being dumped.

The numeral 39 designates an apron covering the crack between the floors or platforms.

The operation is as follows: In normal position the platforms are closed or occupy a horizontal position, as seen in Fig. 3, ready to receive a load, the pins 12 being inserted in the holes 10 of the guide-rods 7 to prevent the platforms from turning or tilting. In this position the cocks 27 and 28 are closed to cut off communication between the train-pipe and cylinders 15 and the pistons 16 are depressed. When the car is loaded and has been carried to destination, the cocks 26 are closed and cocks 27 and 28 opened, and air from the train-pipe will enter said cylinders, raising the pistons and tilting the platforms so as to dump the load.

The cock 28 is so constructed that as it is closed to cut off the air-supply to the cylinder it will open to the atmosphere, so as to allow the air in the cylinder to escape and the piston to descend.

The car-body is to be strengthened by suitable brace-rods, if necessary, to prevent the ends and sides from sagging.

Having thus fully described my invention, what I claim is—

1. In a dumping-car the combination with the hinged platforms forming the bottom thereof, of the air-cylinders, the pistons, the piston-rods pivotally connected with said platforms, the longitudinal and branch compressed-air pipes and the stop-cocks, substantially as described.

2. In a dumping-car, the combination with the longitudinal beams or timbers, the hinged platforms, and the links pivotally connected with said beams and platforms, of the air-cylinders, the pistons, the piston-rods pivotally connected with said platforms, and the air-pipes provided with stop-cocks, connected with said cylinders, substantially as described.

3. In a dumping-car, the combination with the longitudinal beams or timbers, the hinged platforms, the guide-rods connected therewith provided with stop-nuts at their lower ends and formed with holes or apertures and the pins passing through said holes, of the air-cylinders, the pistons, the piston-rods, pivotally connected with said platforms, the air-pipes and the stop-cocks, substantially as described.

4. In a dumping-car the combination with the longitudinal beams, the hinged platforms, the flanges at the ends thereof, the triangular lugs on the under sides of said platforms, the guide-rods, having stop-nuts, and formed with holes, the pins engaging with said holes, and the links pivotally connected with said beams and with the platforms, of the air-cylinders, the pistons, the piston-rods pivotally connected with the platforms and the compressed-air pipes and stop-cocks, substantially as described.

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

WILLIAM AUGUST SMITH.

Witnesses:
E. C. ABBOTT,
D. C. DESMOND.