S. WALLWORK.

DUMPING CAR.

APPLICATION FILED JULY 20, 1911.

1,013,341.

Patented Jan. 2, 1912.

2 SHEETS—SHEET 1.

FIG. 1.

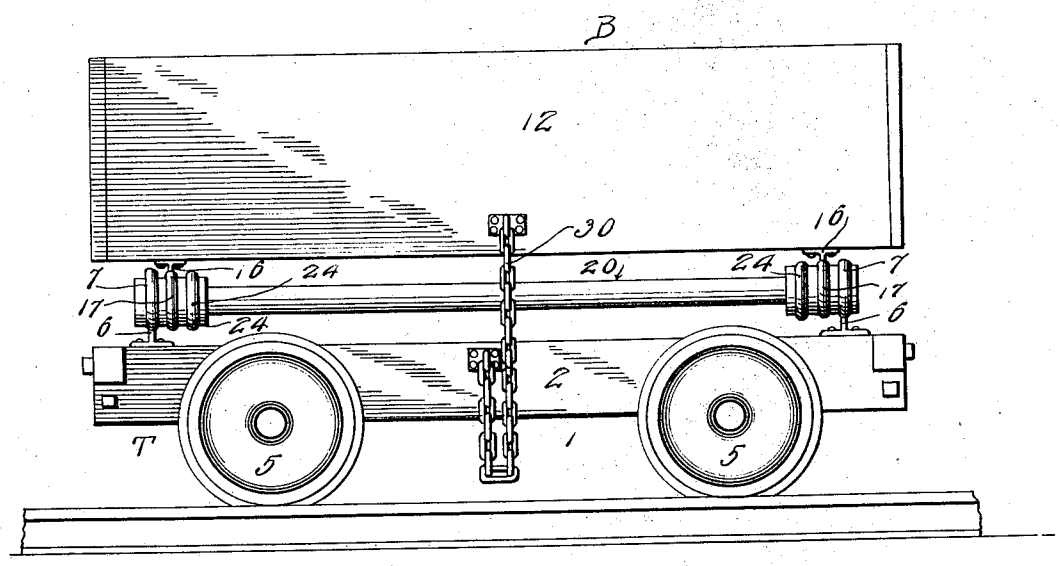
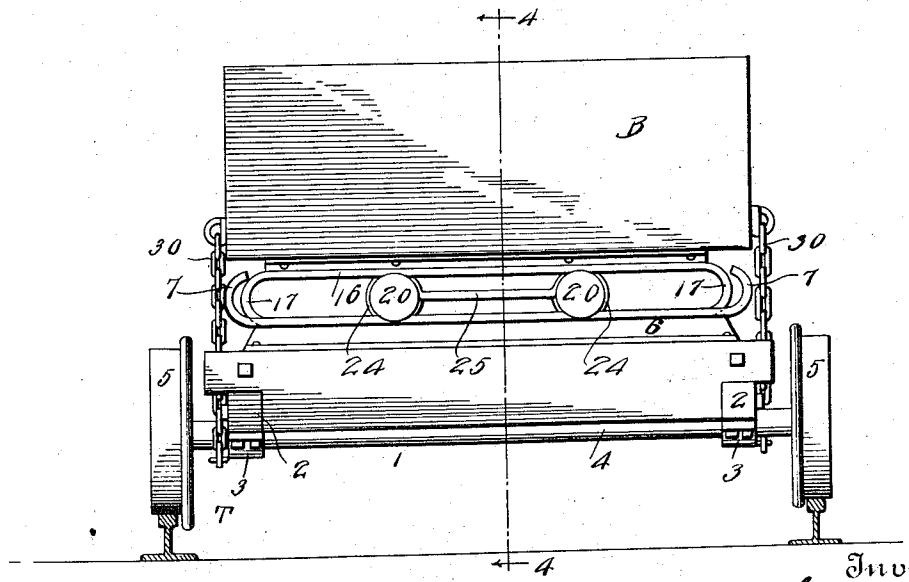


FIG. 2.



Witnesses
J. R. Pierce
N. L. Collamer

Inventor
S. Wallwork.

by H. B. Williamson & Co.
Attorneys

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2 SHEETS—SHEET 2

FIG. 3.

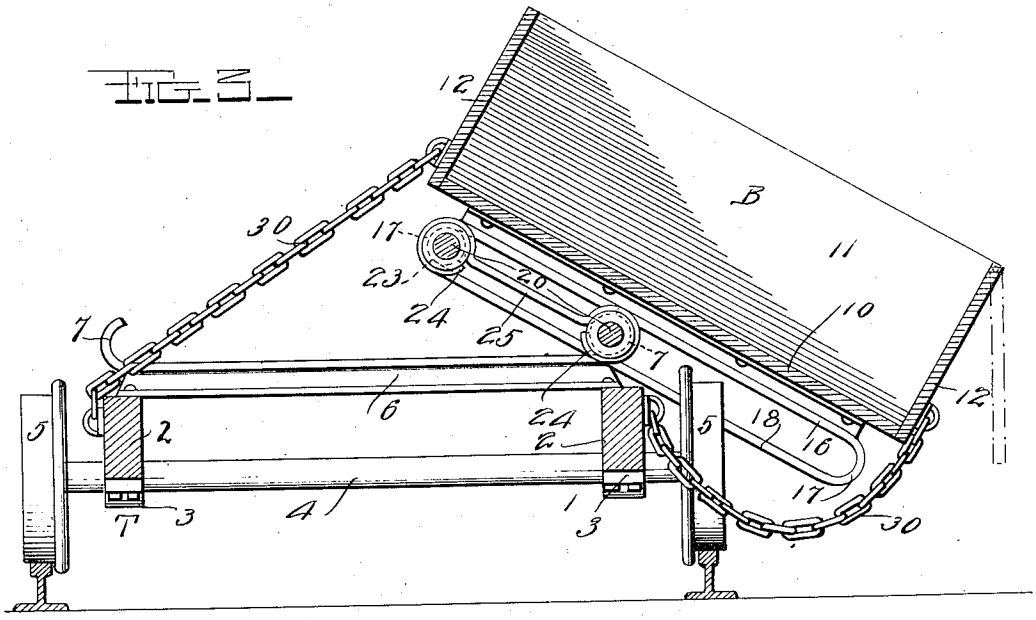
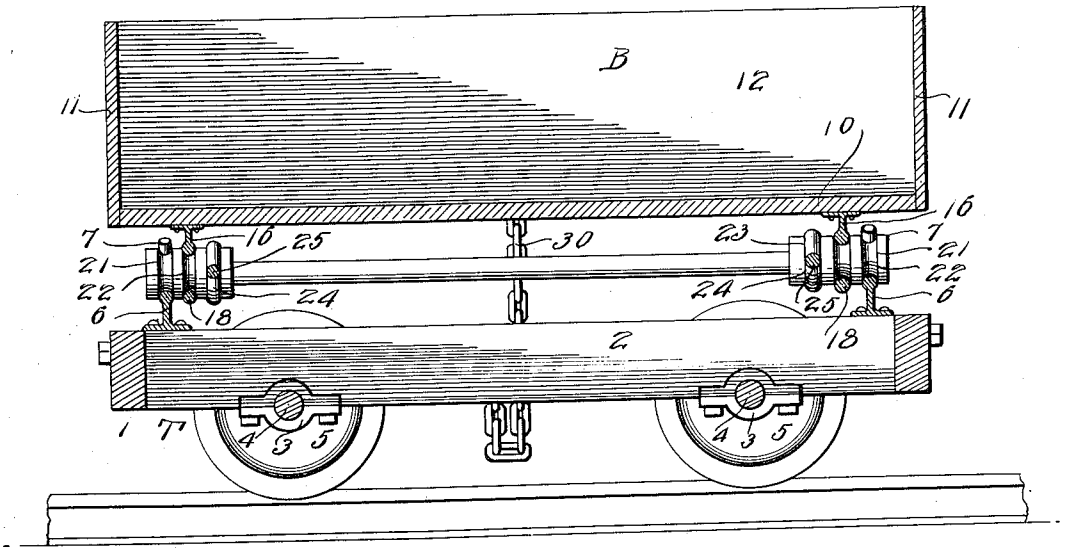


FIG. 4.



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Attorneys

UNITED STATES PATENT OFFICE.

SAMUEL WALLWORK, OF SUMMERVILLE, PENNSYLVANIA.

DUMPING-CAR.

1,013,341. Specification of Letters Patent. Patented Jan. 2, 1912.

Application filed July 20, 1911. Serial No. 639,692.

To all whom it may concern:

Be it known that I, SAMUEL WALLWORK, a citizen of the United States, residing at Summerville, in the county of Jefferson and State of Pennsylvania, have invented certain new and useful Improvements in Dumping-Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to railway rolling stock, and more especially to dumping cars; and the object of the same is to produce an extremely low hung side dumping car for use in mines where the heading is low, and in all kinds of construction work where of course labor is saved if the material transported does not have to be lifted so high in order to put it onto or into the car.

To this end the invention consists in the details of construction hereinafter more fully described and claimed and shown in the drawings wherein—

Figure 1 is a side and Fig. 2 a front elevation of this car in its normal position; Fig. 3 is a cross section through the car showing it dumped; Fig. 4 is a section on the line 4—4 of Fig. 2.

In the drawings the letter T designates the truck or running gear which comprises a frame 1 whose side bars 2 have bearings 3 in which are journaled the axles 4 carrying the wheels 5. The detailed construction of this truck may be such as is preferred, excepting that when the car is to be used in mines or for other purposes where the platform or body should be quite low the truck must be low hung which is effected by making its side bars 2 as small as possible consistent with safety, cutting off its end bars 1 flush with the side bars on their upper edges, and perhaps permitting the tops of the wheels 5 to rise above the frame of the truck as shown. On the latter are mounted two cross rails 6 constituting a track for supporting the bed or body B, and rising from each end of each rail is a hook 7.

The body B may be either a platform or a box, and I have shown the latter in the drawings. Specifically it comprises a bottom 10, ends 11, and a hinged door 12 at one or both sides as preferred. Beneath the bottom and across it are secured downwardly facing rails 16 constituting a track, and at each end of each rail is a hook 17, the extremities of the hooks being connected in pairs by rods 18 standing beneath the rails 16 so as to form loops carried by the body.

The connection between the truck and the body is by means of a rolling support which specifically comprises two rollers 20 each having at each end an enlargement with three grooves around it. One of these numbered 21 engages the rail 6 on the truck, the next groove numbered 22 engages the rail 16 beneath the body, and the third groove numbered 23 (and preferably the innermost of the set) is engaged by an eye 24 at one extremity of a link 25 whose other eye engages a similar groove on the adjacent roller. There are two of these links 25 and hence four eyes 24 engaging grooves at the four ends of the two rollers and causing the latter to travel in strict parallelism while permitting them to rotate independently. As will be seen, one set of grooves is for the eyes of the links, and the other two sets are respectively for the tracks beneath the body and the tracks upon the truck so that the weight of the load is well distributed. The links are of such length that the rollers are spaced apart a distance equal to about half the length of the tracks beneath the body, and when the latter stands upright as seen in Fig. 2 it will be superimposed directly over the truck and all rollers will stand sufficiently near the ends of the tracks to prevent the accidental dumping of the load when the truck tips a little as in rounding curves or passing over rough places in the roadway. Any suitable form of latch may be used to lock the body in this position over the truck, but as it forms no part of the present invention I have omitted it from the drawings, and I have also omitted the couplers by means of which dumping cars of this character are connected with each other. I have, however, shown a chain 30 connecting the truck T with the body B at each side whereby the latter may be dumped as shown in Fig. 3 but cannot be accidentally thrown off the truck although it can be removed therefrom when desired by first disconnecting the chains.

In the use of this improved dumping car, when the parts stand as seen in Fig. 2 the load is placed upon the platform or into the box of the body B while the latches (not shown) hold it correctly centered over the truck T. When the car is to be used in mines where the heading is low, the box of

the body will be shaped accordingly and must not of course be loaded too full. The rails 6 and 16 of the two tracks will be as small as possible, and the rollers also of as small diameter as possible consistent with sufficient ease in dumping.

As explained above, the truck-frame is as low hung as possible, and the upper sides of the wheels 5 may rise some little distance past the upper face of its frame. Having loaded the body, the car is drawn to the place where it is to be dumped, the latch disconnected, and the body forcibly pushed to one side when the weight of its contents will dump it as seen in Fig. 3. During the lateral movement of the body from a point where it is directly superimposed over the truck to a point where its center of gravity passes off of the same, the rolling support, which is composed of the rollers and the links connecting them, moves at half the speed of the body as the rollers travel upon the rails 6 and the rails 16 travel upon the moving rollers and when the dumping point is reached one roller stands within the hooks 7 of the truck at the dumping side and the other within the hooks 17 of the body at the high side of the latter as clearly shown in Fig. 3, one roller being then about beneath the transverse center of the body and the other of course beneath its high side. After dumping, but little effort will be required to right the body to a horizontal position, and throw the high roller down onto the track 6, after which the parts are restored to the position shown in Fig. 2, and the car is ready for further use. The chain 30 obviously prevents the body from being dumped over too far, while it must be of sufficient length to permit it to be dumped far enough so that the contents will be delivered at the side of the track. The presence of the rolling support between the truck and body permits the main wheels 5 to rise above the frame of the truck for a considerable distance, as the body and truck are spaced apart the height of two sets of rails and the diameter of the rolling support itself. The obvious use of the hooks 7 is to prevent the rollers from passing off the rails 6 on the truck, and the obvious use of the hooks 17 is to perform the same function for the body; but these latter hooks must be connected by cross rods 18 because one side or the other of the body will always rise when the car is dumped and the side which rises must carry its roller with it. Furthermore, when the body is removed from the truck and placed on another truck, it is advisable that the rollers go with the body because the truck thus stripped of its body may be put into use with another kind of body that does not have the rollers. The obvious purpose of the grooves around the rollers is to prevent the longitudinal displacement of the body from the truck, but instead of making grooves I might make the rollers truly cylindrical and form them with projecting flanges between which would in effect be grooves and which would accomplish the same result. Also I might do away with one groove and provide each end of each roller with but two, using one for the eye of the link and the other for both rails. Thus the details of construction will be seen to be susceptible of considerable modification without departing from the spirit of my invention, and the sizes, proportions, and materials of parts are not essential to this invention.

What is claimed as new is:

In a side dumping car, the combination with a low-hung truck whose wheels rise above the top of its frame, a pair of rails across the latter, and hooks rising from the opposite extremities of each rail; of the body, a pair of rails across its bottom, hooks at the opposite extremities of each rail, rods connecting the tips of the hooks in pairs so as to produce loops, and a rolling support comprising parallel rollers spaced apart a distance less than the length of said loops and each roller having grooves around its ends certain of which engage said rails, and links having eyes at their extremities engaging other grooves and connecting the rollers, all for the purpose described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SAMUEL WALLWORK.

Witnesses:

SARA C. WALLWORK,

I. B. MCLAUGHLIN.