No. 842,670. PATENTED JAN. 29, 1907.

C. A. KELLER.

MINE CAR.

APPLICATION FILED APR. 11, 1906.

Fig. 1.

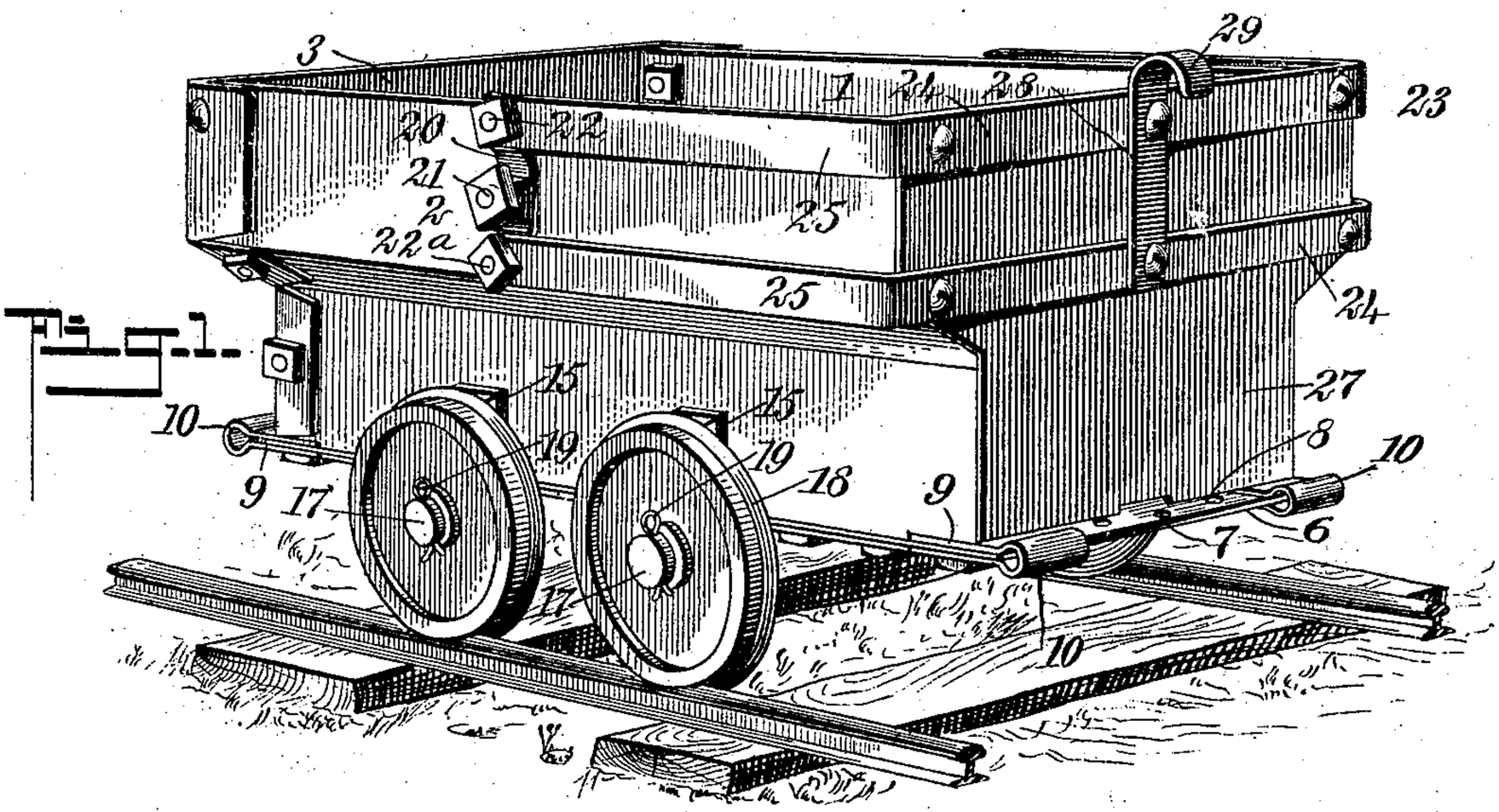


Fig. 2.

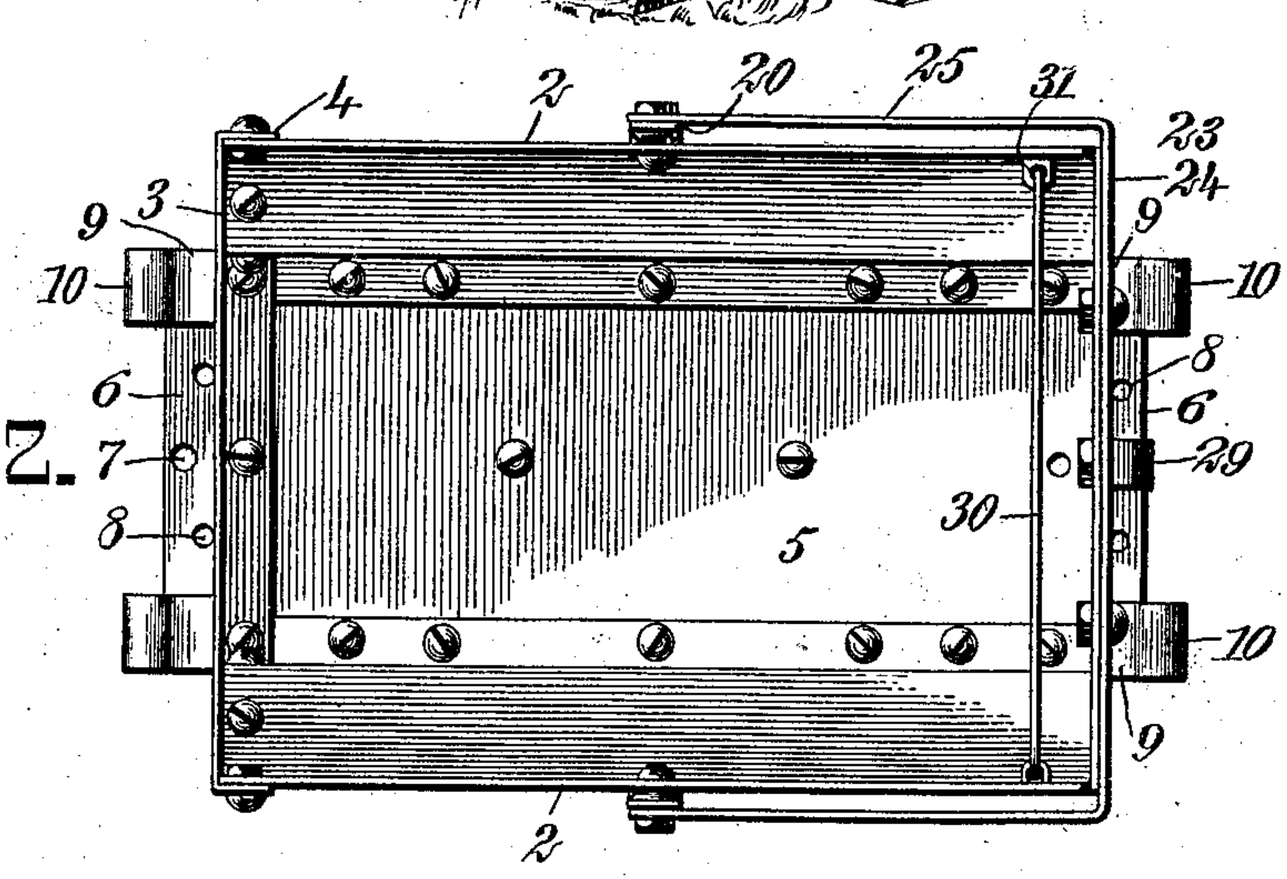
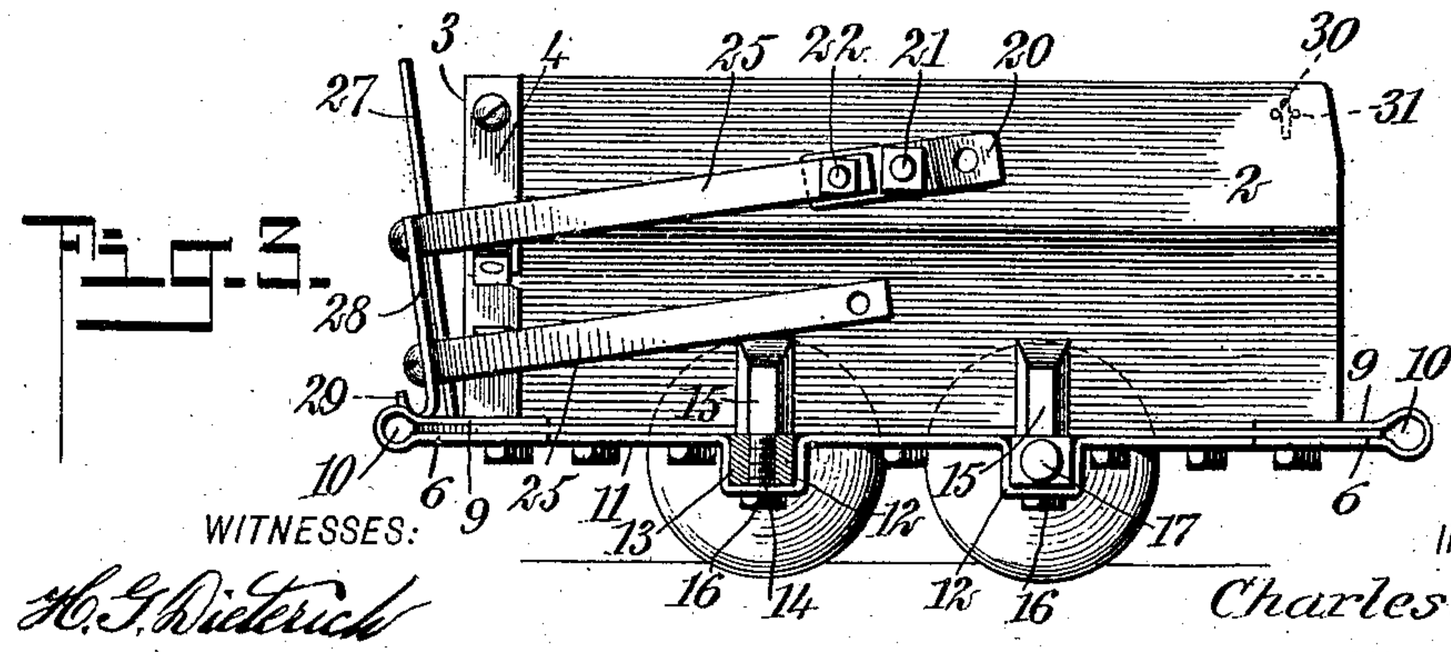


Fig. 3.



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MINE-CAR.

No. 842,670. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed April 11, 1906. Serial No. 311,091.

To all whom it may concern:

Be it known that I, CHARLES A. KELLER, a citizen of the United States, and a resident of Rosedale, in the county of Park and State of Indiana, have invented a new and Improved Mine-Car, of which the following is a full, clear, and exact description.

This invention relates to mine-cars such as used at mines for moving materials mined or used in constructive operations.

The object of the invention is to produce a car of this type of simple construction which is adapted to be used for transporting the material mined and constructed so as to facilitate the automatic dumping of the material carried; at the same time the car is constructed so as to enable the same to be readily adapted for carrying dirt or similar material which is to be shoveled from the car.

A further object of the invention is to improve the details of construction of such a car and to provide an improved arrangement for attaching the draw-bars which may connect the cars into a train.

The invention consists in the construction and combination of parts to be more fully described hereinafter, and particularly set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective of a car, showing the parts in the relation which they have when the car is being used for transporting mined material, such as coal. Fig. 2 is a plan of the car, showing the parts in the same relation in which they are shown in Fig. 1; and Fig. 3 is a side elevation of the car, representing the near wheels as removed and one of the axles in cross-section. This view represents the car when it is adapted for transporting dirt or similar material adapted to be shoveled from the car.

Referring more particularly to the parts, 1 represents the body of the car, which is of substantially rectangular or box form, as shown, having expanded hopper sides or side plates 2 and a fixed end plate 3, having flanges 4 at the vertical edges thereof attached by bolts to the sides, as shown. The bottom 5 of the car is formed of a plate, the forward and rear sides whereof project beyond the ends of the car, so as to form flanges or tongues 6, as indicated, and these tongues are provided with centrally-disposed openings 7 and laterally-disposed openings 8 for a purpose which will appear more fully hereinafter. At the forward and rear ends of the car straps 9 of bar iron or steel are attached, as shown, so as to project forwardly from the car to form bumpers 10.

On the under side of the bottom 5 I provide longitudinally-disposed stringers 11, formed of bar iron or steel, and these stringers are offset downwardly, so as to form rudimentary sockets 12, which receive transverse axles 13, as indicated in Fig. 3. These axles are rigidly attached to the side plates 2 by means of threaded studs 14, which project downwardly from elongated bosses 15, which are supported on the outer faces of the side plates, as indicated. These studs 14 pass through the stringers at the pockets and are secured thereto by nuts 16, as shown.

The axles 13 have reduced extremities 17, which project beyond the car and upon which the car-wheels 18 are mounted, as shown, the said wheels being retained in position by means of split pins 19. The bosses 15 operate with the studs 14 to prevent the axles from slipping back and forth under the car. On the side plates 2 of the car, preferably near the upper edges thereof, I mount cross-heads 20, which are attached by means of a central through-bolt 21. The arms of these cross-heads 20 are offset outwardly from the sides of the car, as shown, and are attached, by means of bolts 22 and 22^a, to a bail 23, which bail is formed of two similar bars 24, which have arms 25 extending longitudinally of the car at the upper portion of the side plates. The bars 24 are rigidly secured to a door 27, which conforms in outline to the cross-section of the car and closes the end of the car which lies opposite the end plate 3. The lower edge of this door 27 rests against the tongue 6 at this end of the car, as shown most clearly in Fig. 1. The bars 24 of the bail 23 are connected by a plate 28, the upper extremity whereof is formed into a hook 29, projecting outwardly from the end of the car, as shown.

With the construction described it should be understood that the door 27 of the car may be readily pulled upwardly by means of the hook 29, a rotation taking place upon the axes of the bolts 21. In this way the bail 23 affords means for raising and supporting the

door. The car when being used as a mine-car is run upon a lift or cage in the usual manner, and automatic mechanism (not illustrated) operates, when the cage has reached the upper level, through the medium of the hook 29 to raise the door, as described, for the purpose of dumping the contents of the car automatically.

When the car is to be used for removing dirt, the door is raised in the manner described above and the rotation of the bail is continued until the door comes down upon the opposite end of the car on the outer side of the end wall 3. In order to enable the door to seat itself on the tongue 6 at this end of the car, I remove the bolt 22ª, which attaches the lowermost of the arms 25 to the cross-head 20, as viewed in Fig. 1. When loosened in this manner, the parts will assume substantially the position shown in Fig. 3, permitting the door to descend upon the tongue 6, as described.

The openings 7 and 8, formed in the tongue 6, afford means for coupling the parts together to form a train, by means of a movable coupler or rod 30, which is normally mounted in the rear of the car, as shown in Fig. 2, the extremities being turned laterally and mounted in brackets 31, attached to the inner faces of the side plates 2, as indicated. When the cars are running on a straight piece of track, the centrally-disposed openings 7 are used; but when the cars are to pass a curve the laterally-disposed openings 8 are used for attaching the coupling. With this arrangement the position of the pulling force upon the cars may be thrown off of the central line thereof, so that it will operate to hold the cars against the inner rail of the curve, in this way exerting a tendency to prevent the derailment of the cars.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a car of the class described, in combination, a body having a movable door, a bail attached to said door, and means for pivotally connecting the bail to the car, whereby the door may be swung to the outer side of the opposite wall of the car.

2. In a car of the class described, in combination, a body having its bottom at the ends projecting beyond the sides, a bail pivotally attached to said body near the middle portion thereof, and a door attached to said bail and constituting an end wall of said body, said door being adapted to be reversed in position so as to become superposed over the opposite end wall of the car and to rest upon the projection of the bottom.

3. In a car of the class described, in combination, a car-body having a projecting tongue at each end thereof, a door normally resting on one of the said tongues, and a bail attached to said door and pivotally attached to the body of said car near the middle portion thereof, said bail affording means for reversing the position of said door to bring the same to the opposite end of said body so as to rest upon the tongue at the said end of the body.

4. In a car of the class described, in combination a body having hopper-shaped sides and one fixed end wall, the bottom of the body projecting at one end beyond the sides, a door shaped to close the other end of the body, and a bail comprising U-shaped parallel members secured to the door, said members having their ends pivotally connected with the sides of the body.

5. In a car of the class described, in combination, a body, and transversely-disposed tongues at the extremities of said body, said tongues having central draft-openings and laterally-disposed draft-openings adapted to receive a coupling.

6. In a car of the class described, in combination, a body having cross-heads pivotally attached to the outer sides of the side walls thereof, a bail attached to said cross-heads, and a door attached to said bail and constituting an end wall of said body, said bail affording means for reversing said door to superpose the same over the opposite end wall of said body.

7. In a car of the class described, in combination, a body having outwardly-projecting tongues at the extremities thereof, and at substantially the level of the bottom of said car, a bail pivotally attached to said body near the middle portion thereof, and a door attached to said bail, the lower edge whereof normally rests on one of said tongues, to form an end wall for said car, said bail affording means for reversing said door whereby the same may be supported on the tongue at the opposite end of the car, and to superpose over the opposite end wall.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES A. KELLER.

Witnesses:
J. E. AYDELOTTE,
JOHN W. DYSON.