

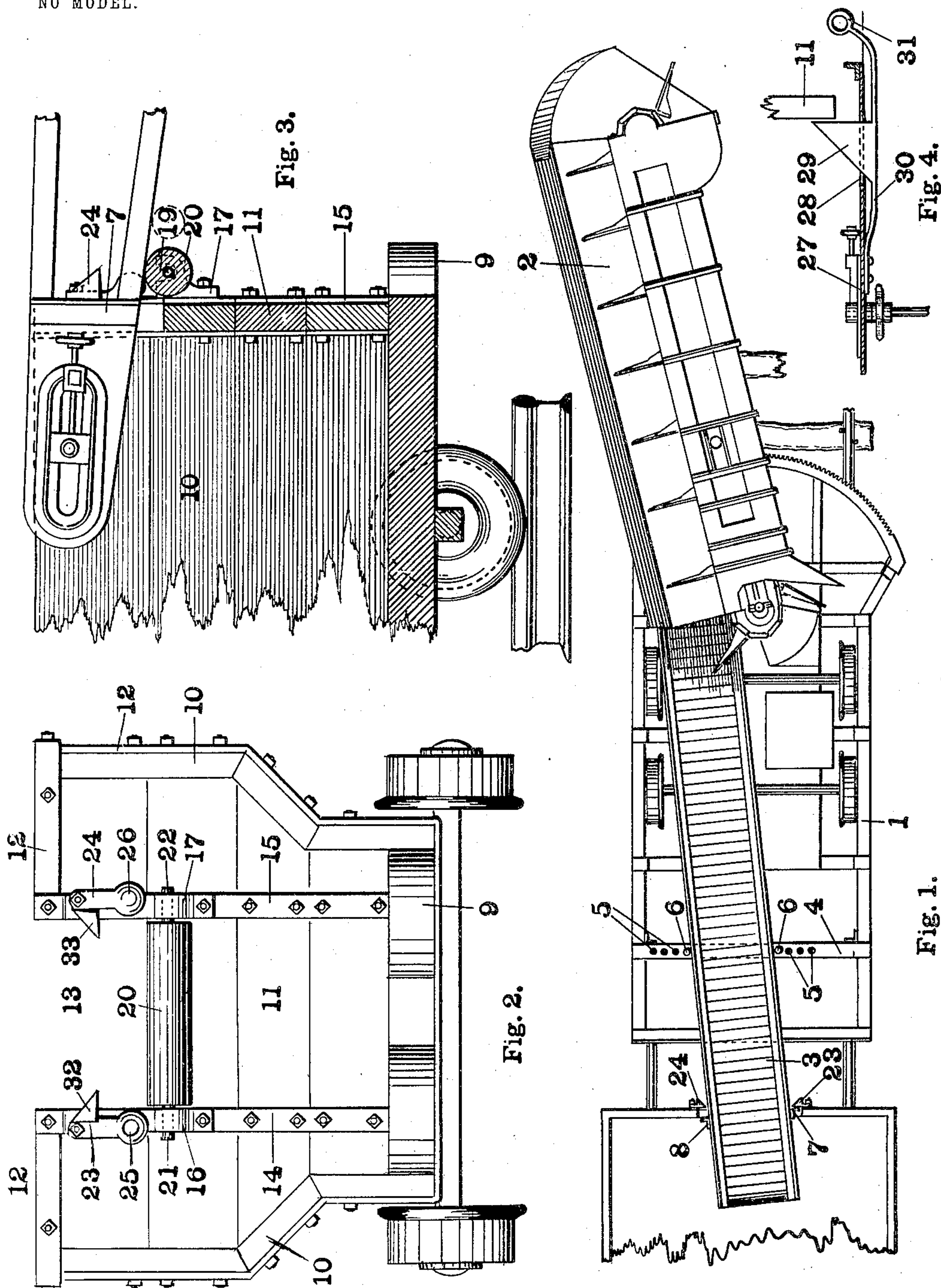
No. 770,498.

PATENTED SEPT. 20, 1904.

W. E. HAMILTON.
MINE CAR.

APPLICATION FILED DEC. 18, 1903.

NO MODEL.



WITNESSES:

Fred F. Reiser.
J. B. Megown.

INVENTOR.

W. E. Hamilton,
BY *Carroll & Co.,*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM E. HAMILTON, OF ZANESVILLE, OHIO, ASSIGNOR TO HAMILTON MANUFACTURING COMPANY, OF COLUMBUS, OHIO, A CORPORATION OF OHIO.

MINE-CAR.

SPECIFICATION forming part of Letters Patent No. 770,498, dated September 20, 1904.

Application filed December 18, 1903. Serial No. 185,613. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. HAMILTON, a citizen of the United States, residing in the city of Zanesville, county of Muskingum, and State of Ohio, have invented a new and useful Improvement in Mine-Cars, of which the following is a specification.

My invention relates to mining machinery, and has for its principal objects to provide a mine-car having a large capacity without being walled up by hand, to provide a mine-car especially adapted for use with a loading-machine, to provide a mine-car with high sides and that yet may be filled within low mine-chambers, to provide a mine-car to cooperate with a loading-machine with which it is used for the purpose of preventing the tendency of the machine to "slue" around, to provide a mine-car that will keep its proper position relative to the loading-machine while being filled, to provide novel means for coupling a mine-car and loading-machine together, and other objects hereinafter more fully appearing.

My invention consists in the parts and in the combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawings, forming part of this specification, and wherein like symbols refer to like parts wherever they occur, Figure 1 is a plan view of my improved mine-car and a loading-machine in position to fill the car. Fig. 2 is an end view of my improved mine-car. Fig. 3 is a sectional view of the mine-car, showing the rear end of the final conveyer of the loading-machine projecting therein. Fig. 4 is a detail of a modification of the means on the loading-machine for coupling with the car.

On account of the low roofs prevailing in mine-chambers mine-cars are ordinarily made very low and shallow, so as to leave room to permit shoveling the material to be loaded into the car, and the rear end wall is especially low and lower than the side walls. The car being filled, it is then walled up on the sides with lumps and filled in behind by hand. This method of loading is a slow and expen-

sive one and not well adapted to loading by machine.

By my invention I provide a car having side and end walls as high as the roof of the mine-chamber will permit. The rear end wall of the car is notched out to admit the final conveyer of the loading-machine. Thus a car of large capacity can be filled by the loading-machine and without the necessity of walling up with lumps by hand.

The loading-machine shown in the accompanying drawings is of the type shown in my copending application filed October 20, 1903, Serial No. 177,750, to which reference is made for a detailed description. Briefly described, the loading-machine comprises a wheeled truck 1, having pivotally mounted thereon a gathering mechanism or initial conveyer 2 and a picking-table or final conveyer 3. The rear end of the final conveyer rests upon a supporting-bar 4, which is provided with a series of holes 5. Pins 6 may be removably inserted in the holes, one upon each side of the final conveyer 3, to hold it in place. The rear end of the final conveyer is provided with laterally-extending ears 7 8, made of angle-iron, which cooperate with parts upon the mine-car to be hereinafter described.

The mine-car comprises a floor 9 and walls 10 11, which are secured together by iron straps 12, bolted thereto. An opening 13 is provided in the rear end wall of the car. Iron straps 14 15 extend along the sides of the opening and down the rear end wall, serving to hold the parts together and to strengthen the wall. The lower side of the opening is substantially at the height of the top of the rear end wall of the ordinary mine-car. In the construction shown projections above this point are arranged upon either side, and thus form the opening. For the purpose of anchoring the loading-machine standards occupying the position of the straps 14 15 will serve. It is preferable to build up the end wall on either side, however, as the capacity of the car is increased. Ears 16 17, having open bearings 18 19, are mounted upon each side of the opening, at the lower edge thereof.

A bearing-roller 20, provided with journals 21 22, engaging said bearings, rests in said cars. When projecting through the opening in the car, the rear end of the conveyer may
 5 rest upon the said roller, which will permit relative longitudinal movement of the loading-machine and the car without excessive friction. Upon each side of the opening are pivoted bell-crank gravity-catches 23 24, hav-
 10 ing arms 32 33 projecting into the opening. The arms 32 33 are pyramidal in shape, having the base of the pyramid toward their pivot-point and the apex extending into the opening. By this construction the catches may be
 15 automatically swung aside upon the introduction of the end of the final conveyer into the opening, the conveyer engaging the inclined surfaces presented by the pyramidal arms. The downwardly-extending arms are made
 20 heavy by enlargements 25 26, so as to hold the bell-cranks in position. These catches are engaged by the ears 7 8 on the rear end of the final conveyer, and thus serve to releas-
 25 ably connect the car and loading-machine together. When it is desired to disconnect a car, the catches may be swung on their pivots until the arms no longer project into the opening.

In Fig. 4 a modified connection is illustrated.
 30 Instead of mounting catches on the car the ears upon the rear end of the final conveyer are made movable. A fragment of one side 27 of the final conveyer is shown. It is provided with a hole 28, through which an ear
 35 29 extends. The ear is mounted upon a spring 30, secured to the side of the final conveyer and provided with a handle 31, by which it may be manipulated. The opposite side is, of course, provided with a similar ear. These
 40 ears, engage directly with the sides of the opening in the rear wall of the car. Their front surface is inclined, so that in connecting a car to the loading-machine they operate automatically, the sides of the opening in the
 45 car pressing them in as the car and loading-machine are brought together, and the spring 30 throwing them out when the car has moved up far enough to carry the rear wall beyond them. When it is desired to disconnect, the
 50 ears are manually pressed in by means of the handles.

What I claim is—

1. A mine-car comprising side and end walls, one of said walls having an opening therein
 55 adapted to receive a part of a loading-machine, and means on said wall normally projecting into said opening to engage said part to couple said car and loading-machine together.

2. A mine-car comprising side and end walls,
 60 one of said walls having an opening therein adapted to receive a part of a loading-machine, and catches to connect said car and loading-machine adapted to be operated by the introduction of said part into said opening.

65 3. A mine-car comprising side and end walls,

one of said walls having an opening therein adapted to receive a part of a loading-machine, and gravity-catches upon opposite sides of said opening having arms extending therein.

4. A mine-car comprising side and end walls, 70 one of said walls having an opening therein adapted to receive a part of a loading-machine, and gravity-catches upon opposite sides of said opening having arms extending therein and adapted to be swung aside by the intro- 75 duction of said part of a loading-machine.

5. A mine-car comprising side and end walls, one of said walls having an opening therein adapted to receive a part of a loading-machine, and gravity-catches upon opposite sides of 80 said opening having arms extending therein, said arms being pyramidal in shape.

6. A mine-car comprising side and end walls, one of said walls having an opening therein, gravity-catches upon opposite sides of said 85 opening having arms extending therein, and a bearing-roller rotatably mounted adjacent to the lower side of said opening.

7. A mine-car comprising side and end walls, one of said walls having an opening therein, 90 gravity-catches upon opposite sides of said opening having arms extending therein, brackets mounted adjacent to the lower side of said opening and a bearing-roller journaled in said brackets. 95

8. A mine-car comprising side and end walls, one of said walls having an opening therein, gravity-catches upon opposite sides of said opening each having a weighted arm and a pyramidal arm extending into said opening, 100 brackets mounted adjacent to the lower side of said opening having open bearings therein, and a bearing-roller removably journaled in said brackets.

9. The combination of a loading-machine 105 having a projecting conveyer and a mine-car comprising side, front and rear walls, said rear wall having an opening therein, and a roller adjacent said opening, said projecting conveyer extending through said opening and 110 resting upon said roller.

10. The combination of a loading-machine having a projecting conveyer and a mine-car comprising side, front and rear walls, said rear wall having an opening therein, bearings 115 adjacent said opening, and a roller removably mounted in said bearings, said projecting conveyer extending through said opening and resting upon said roller.

11. The combination of a loading-machine 120 having a projecting conveyer and a mine-car comprising side, front and rear walls having a height substantially equal to the height to which the ordinary mine-car is walled up by hand, said rear wall being cut down near its 125 medial portion to substantially the height of the rear wall of the ordinary mine-car to form a three-sided opening, said projecting conveyer extending into said opening to load said car. 130

12. The combination of a loading-machine
having a projecting conveyer and a mine-car
comprising side, front and rear walls, said
rear wall having upwardly-extending projec-
5 tions upon each side of its medial portion, said
projecting conveyer extending between said
upwardly-extending projections.

Signed in the presence of two subscribing
witnesses this 16th day of December, 1903.

WILLIAM E. HAMILTON.

Witnesses:

J. F. LINTON,
B. G. CUTLER.