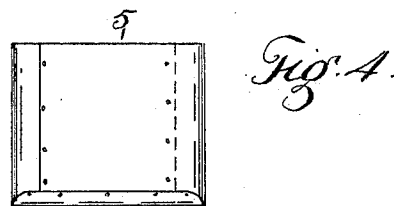
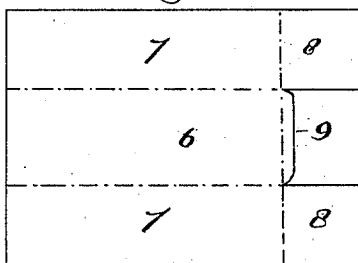
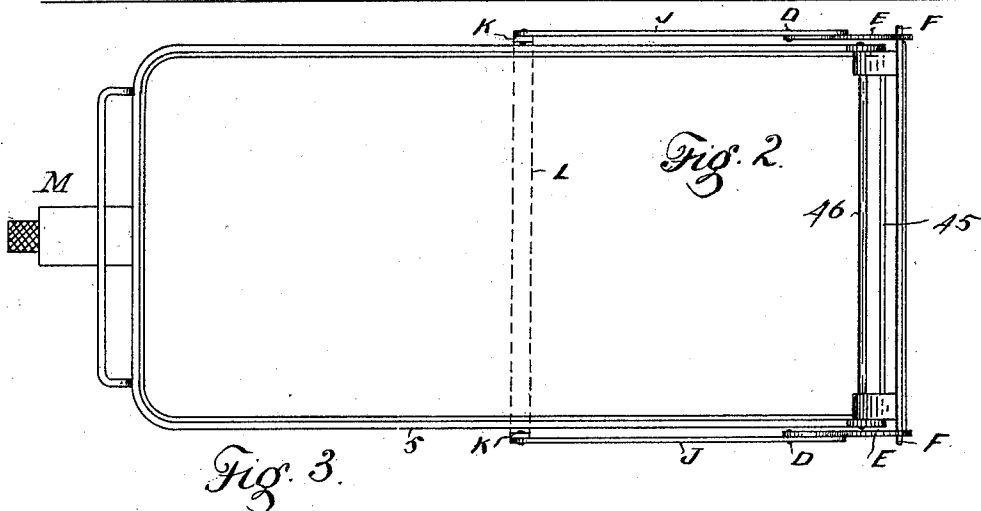
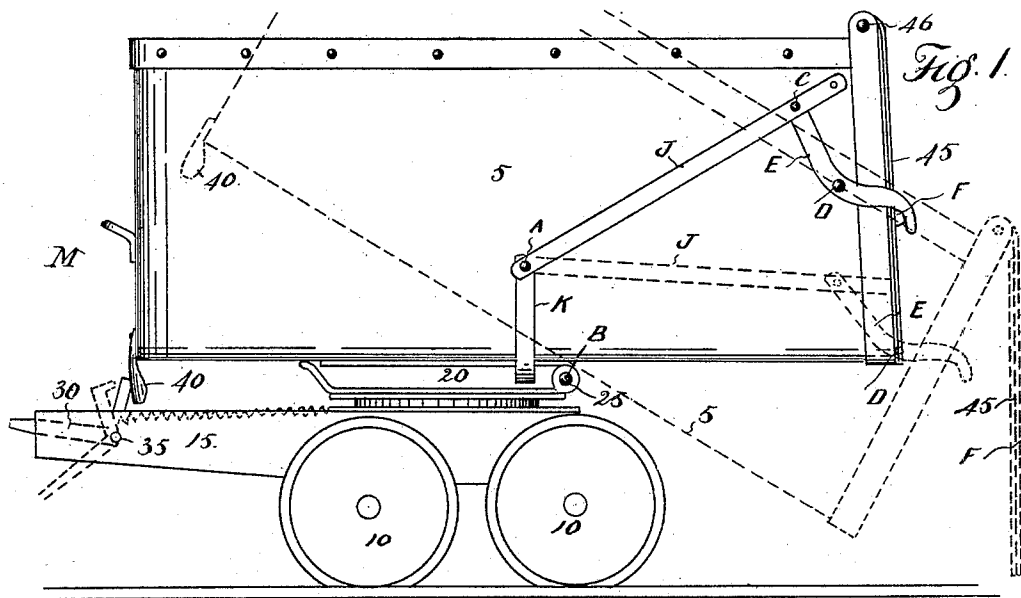


(No Model.)

G. E. TRUAX.
ORE CAR.

No. 466,717.

Patented Jan. 5, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE E. TRUAX, OF DENVER, COLORADO.

ORE-CAR.

SPECIFICATION forming part of Letters Patent No. 466,717, dated January 5, 1892.

Application filed June 18, 1891. Serial No. 396,769. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. TRUAX, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Ore-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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

My invention relates to improvements in ore-cars; and its objects are to provide a car of simple and economical construction, reliable and durable in operation, and thoroughly practicable in use.

My improvements relate, first, to the dumping attachments, and, second, to the form and construction of the body of the car.

Heretofore much difficulty has been experienced in the dumping of ore-cars by reason of the failure of the door to open promptly and simultaneously with the tipping of the body of the car, whereby it has resulted that the car has often been carried over and down the dump by the gravity of the load which should have escaped as soon as the body was tipped to the proper inclination. My dumping attachment is automatic and allows the door of the car to open as soon as the body of the car assumes the proper inclination, while the door is automatically locked in place when the body of the car is again placed in the horizontal position. These features will be fully understood by reference to the accompanying drawings, wherein is illustrated an embodiment of my invention.

In the drawings, Figure 1 is a side elevation of a car provided with my improved attachments, the dumping position being indicated by dotted lines. Fig. 2 is a plan view of the car. Fig. 3 shows the sheet-metal blank from which the body of the car is formed, and Fig. 4 is a rear end view of the car-body formed from the blank.

In the views, similar reference-characters indicating corresponding parts of the mechanism, let the numeral 5 designate the body of the car, which is formed of a single piece of

sheet metal of the form shown in Fig. 3. In this view, when the sheet is bent to the proper shape, part 6 forms the bottom of the car, parts 7 7 the sides, parts 8 8 the rear end, these parts overlapping, as shown in Fig. 4, and part 9 the strip connecting the bottom with the rear end.

In Fig. 3 the dotted lines indicate the divisions between the different parts of the blank, which is bent on these lines in forming the car-body. In shaping the blank the corners of the car are formed rounded both interiorly and exteriorly. The exterior contour of these corners is shown by the shading in Figs. 1 and 4. The overlapping parts 8 8 and 9, forming the rear end of the car-body, are united by rivets, as shown in Fig. 4.

The body of the car is mounted upon trucks 10, the axles of which are journaled in the stationary frames 15. Upon frame 15 is mounted the rotating platform 20, secured directly to the body of the car, which, when unlocked, turns freely upon an axis 25, and is secured in the upright position by the spring-actuated bell-crank locking-lever fulcrumed at 35 in frame 15, and normally engaging a depending arm 40, centrally secured to the rear end of the car-body.

The door 45 of the car is pivoted at its upper extremity and is adapted to swing upon a rod 46, secured to the upper extremities of the bars 47, one on each side of the car. The bars 47 project upward sufficiently to permit the location of the door's axis above the plane of the top. The door of the car when closed stands preferably at an inclination to a line perpendicular to the plane of the car's bottom, as shown in Fig. 1. When the car is in the upright or horizontal position and the door is closed, a vertical plane passed longitudinally through the axis would cut the bottom of the car in the rear of the forward extremity, which extremity engages the lower side of the door or that opposite the axis.

Secured to the rotating platform 20 and independent of the body of the car is a cross-bar L, which terminates at its extremities in upright arms K, one on each side of the car-body, but not in contact therewith. To the upper extremity of each arm K is pivoted an extremity of an arm J, to which last-named arm is pivoted a curved lever E, centrally ful-

crumed at D and terminating in a hook adapted to project over the transverse bar F of the door 45 and lock the door in place when it is closed and the body of the car is in the

upright position.

Let A designate the pivot connecting arms J and K and C that connecting arm J with lever E. If, when the body of the car is in the upright position, as shown in full lines in Fig. 1, the outer arm of lever 30 is sufficiently depressed, the body of the car will pitch forward to the position shown in dotted lines. Assuming that arm J and lever E occupy the relative positions shown in Fig. 1 at the time the forward extremity of the car-body begins to move downward, pivot C will move in a curve having for its radius the distance in a direct line from A to C, while D will move in a curve having for its radius the distance from the axis B of the car-body to the fulcrum D of lever E. The distance from A to D is greater than the distance from A to C, while the distance from B to D is greater than that from A to D. From this it follows that when the body of the car begins to move D lies outside of the curve having the radius A C and that as the car-body moves to the position shown in dotted lines the path of D continually diverges from the curve having radius A C, angles A C D increases, and pivots A and D move farther apart. This movement of the parts stated lowers the inner arm of lever E, raises the outer arm, and releases bar F, when the door swings to the position shown in dotted lines in Fig. 1.

It will be readily observed that when the car-body is in the position shown in dotted lines its contents will slide quickly out. The car may then be easily returned to the upright position by pulling downward upon handle M, when parts J, E, and 45 assume the relative positions which they originally occupied, and the car is ready for refilling.

Having thus described my invention, what I claim is—

1. In an ore-car, the combination, with a pivoted body, of a hinged door, an arm J, pivoted to a suitable support, said support being stationary with reference to the car-body while dumping, and a lever E, fulcrumed on the body of the car, its inner extremity being pivoted to arm J and its outer extremity terminating in a hook adapted to engage a suitable projection on the door, substantially as described.

2. In an ore-car, the combination, with the

pivoted body, of the door hinged at the top, the front end of the car being so fashioned that when the door is closed it occupies a position inclined outward from a vertical line passed longitudinally through the axis, a bar J, hinged to a suitable stationary support outside of the pivoted body, and a lever E, fulcrumed on the body of the car and having its inner extremity pivoted to arm J and its outer extremity formed into a hook adapted to engage a projection on the door and lock the same when closed, whereby as the forward extremity of the car-body descends the inner arm of the lever E lowers and disengages the outer arm from the door and releases the same, substantially as described.

3. The combination, in an ore-car, of the pivoted body provided with the hinged door, the locking-lever fulcrumed on the body of the car and normally holding the door in the closed position, and an arm connected at one extremity with the locking-lever and at the other extremity with a suitable stationary support outside of and detached from the pivoted body, whereby the door is released as the car-body assumes the dumping inclination, substantially as described.

4. The combination, with the pivoted car-body constructed from a single piece of sheet metal and provided with a hinged door, of the hooked locking-levers fulcrumed on either side of the car-body and normally holding the door in the closed position, and arms pivoted at one extremity to the locking-lever and at the other extremity to a suitable stationary support outside of the car-body, substantially as described.

5. The combination, with the supporting-frame, of a car-body pivoted thereon, a stirrup-shaped bar secured to said frame, extending beneath the car and projecting upward on either side thereof, a hinged door, locking-levers fulcrumed on the body of the car and normally holding the door in the closed position, and arms pivoted at one extremity to the locking-levers and at the opposite extremity to the vertical arms of the stirrup-shaped stationary bar, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE E. TRUAX.

Witnesses:

WM. MCCONNELL,
G. J. ROELANDET.