

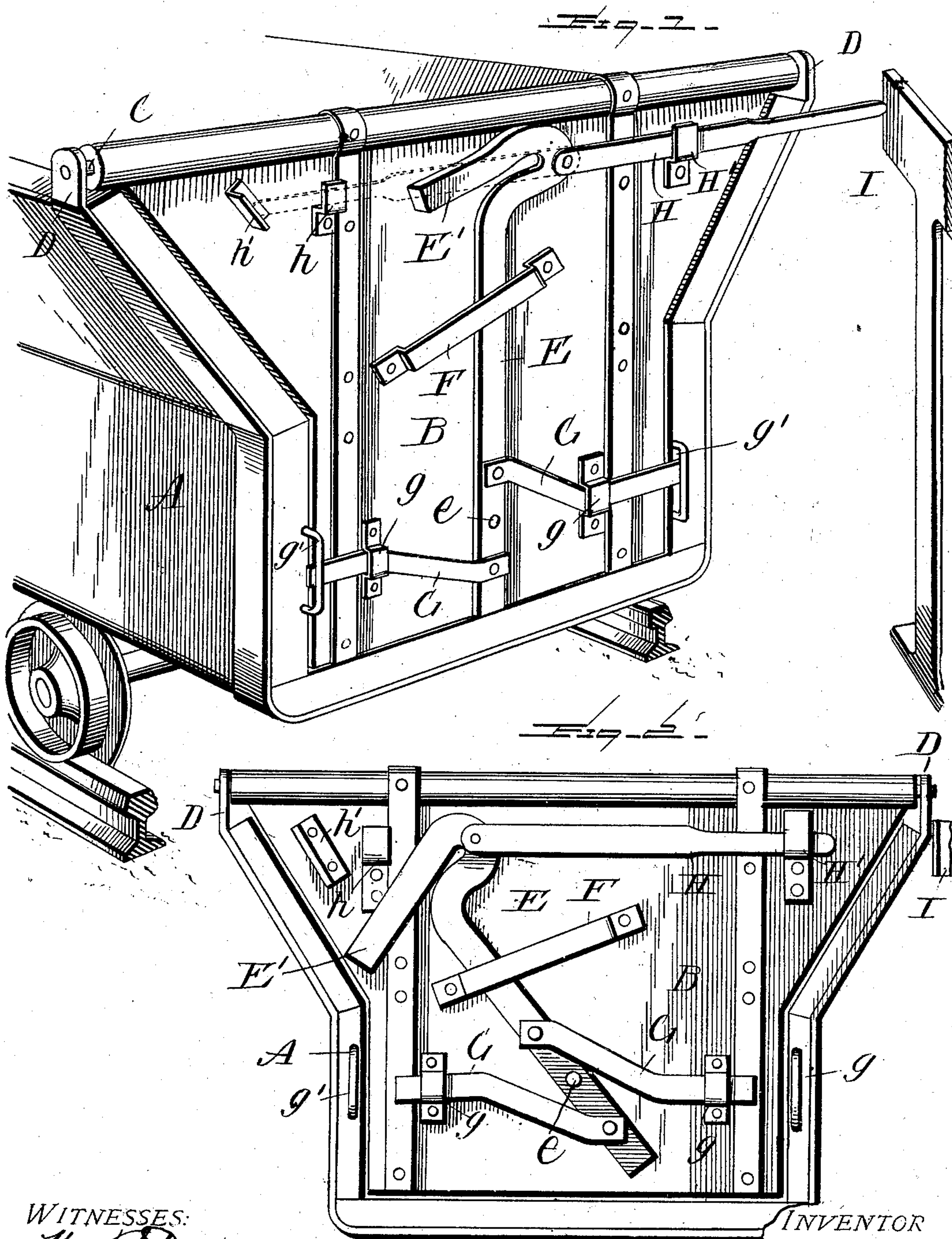
No. 702,265.

Patented June 10, 1902.

J. H. WATT.
MINING CAR DOOR FASTENING.

(Application filed Feb. 20, 1902.)

(No Model.)



WITNESSES:

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JAMES H. WATT, OF BARNESVILLE, OHIO.

MINING-CAR-DOOR FASTENING.

SPECIFICATION forming part of Letters Patent No. 702,285, dated June 10, 1902.

Application filed February 20, 1902. Serial No. 94,974. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. WATT, of Barnesville, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Mining-Car-Door Fastenings; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to latching devices of mine-car doors and is an improvement upon the fastenings shown in my Patents No. 558,447, of April 14, 1896, and No. 601,538, of March 29, 1898, the object of this invention being to improve such devices so that when the latch-lever is tripped it and the operative parts thereof will be retracted within the boundaries of the car-door, so that the latter can swing freely without injury to any portions of the fastening devices. In the first of my said patents I show a weighted latch-lever, and in the second of said patents I show a bar pivoted to the latch-lever and adapted in one position to lock said latch-lever and in another position to project beyond the edge of car, so as to contact with a cam-plate fixed beside the track as the car moves therepast and be pushed inward thereby, opening or releasing the latches. In this construction the door when released could swing out; but the latches were liable to drop back and project beyond the edges of the door, so that as the latter swung inward the latches and bar would strike adjacent fixed parts of the car and be bent and injured and ultimately rendered useless until repaired. My present invention avoids these objectionable features; and it consists in the improved construction and combination of parts hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a detail perspective view showing my improved devices applied to a mine-car door, the bar being shown in locking position by dotted lines. Fig. 2 is an end view showing the position of the parts when unlatched.

A designates an ordinary car having an end gate or door B hung on an end shaft C, journaled in irons D, rising from the car, as usual. To this door is attached a vertical latching-

lever E, pivoted at *e* near its lower end and having its upper end provided with an overbalancing-weight *E'*, preferably made by bending the upper end of lever, as shown in the drawings, this weight acting to throw the lever farther from the perpendicular if it be pushed slightly to one side. A guard-plate F is attached to the door above the pivot *e* to limit the lateral oscillations of lever E. To said lever E at equidistant points above and below its pivot *e* are pivoted the inner ends of latch-bolts G G, which extend outwardly in opposite directions and are supported and guided by loops *g*, attached to the door, as shown, the outer ends of said bolts engaging keepers *g'* on the sides of the car-body, as shown in Fig. 1, when the latch-lever E is in a central or vertical position, but will be retracted from the keepers when the lever E drops to the left, as shown in Fig. 2. To the lever E above guard F is pivoted a locking and tripping bar H, which when turned to the left (into the position shown in dotted lines in Fig. 1) is upheld by a bracket *h*, and its end impinges against a stop *h'* on the door, and in this position the bar H positively locks the lever E with the latches in engagement with keepers *g'*, securely fastening the door B.

After the car leaves the mine or before running onto the "dump" the bar H is thrown over to the right in the position shown in full lines in Fig. 1, its free end projecting beyond the side of car, but being upheld by a bracket H', attached to the door, as shown. In this position the extremity of bar H is in position to contact with an incline or cam-plate I, fixedly supported beside the track adjacent to the dumping-point, so that as the car moves past said cam-plate bar H will be forced inward thereby and rock latch-lever E on its pivots, forcing it to withdraw bolts G G from keepers *g'*, thereby releasing the door and permitting the latter to swing open and the contents of car to escape. The movement of lever E to disengage bolts G from their keepers throws the lever out of perpendicular, and the weighted end *E'* thereof, aided by the momentum imparted to the lever by the bar, continues to move the upper end of lever E to the left until it is stopped by the end of guard F; but this movement is sufficient to entirely retract the bolts and the bar H within the

confines of the door B, so that the latter can swing freely back and forth without the bolts or bar catching upon or against the sides or body of car, the weighted end holding the parts in this retracted position until the latch-lever is thrown back to normal position manually.

From the foregoing it will be seen that I have a locking device which can be used to positively secure the car-door, and can also be automatically released when run upon the dump, and all operative parts of which when released will be automatically retracted within the confines or area of the door, so that no parts will project beyond the edges thereof liable to cause breakage or damage.

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

1. In a mine-car-door fastening and unfastening device, the combination of a latch-operating lever pivoted to the door, and a bar connected to said latch-lever and adapted to project beyond the side of the car; with a cam fixed beside the track and adapted to engage said bar and cause it to move the latch-lever and release the catches, and an overbalancing-weight on the latch-operating lever adapted to move the lever still farther so as to retract the bolts and said bar within the confines or area of the car-door, substantially as described.

2. The combination of a mine-car, its swinging door, the latch-lever pivoted thereto, the bolts connected to said lever, and a latch-bar connected to the said latch-lever, and adapted

to project beyond the side of car; with a cam-plate fixed beside the track adapted to engage said bar and cause it to move the latch-lever and release the bolts, and an overbalancing-weight on said latch-lever adapted to move it still farther after the bolts are released so as to retract the bolts and said bar within the area or edges of the car-door so that they will not interfere with the free swinging movements of the door, substantially as described.

3. The herein-described mine-car-door fastening, comprising a latch-lever pivoted to the door, opposite bolts pivoted to the latch-lever above and below its pivot, and adapted to engage keepers on the sides of the car, and a locking and tripping bar pivoted to the upper end of the latch-lever and adapted in one position to lock the latch-lever, and in another position to project beyond the side of car; with a cam-plate fixed beside the track adapted to engage the projecting end of said bar and force the same inward causing it to rock the latch-lever and release the bolts from the keepers, and a weight on the upper end of said latch-lever adapted to move it farther upon the release of the bolts so as to retract the latter and the bar within the edges or area of the door, for the purpose and substantially as described.

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

JAMES H. WATT.

In presence of—

CHAS. E. FOGLE,
C. J. HOWARD.