

C. M. HENRETTA.

MINE CAR STOP.

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907,350.

Patented Dec. 22, 1908.

2 SHEETS—SHEET 1.

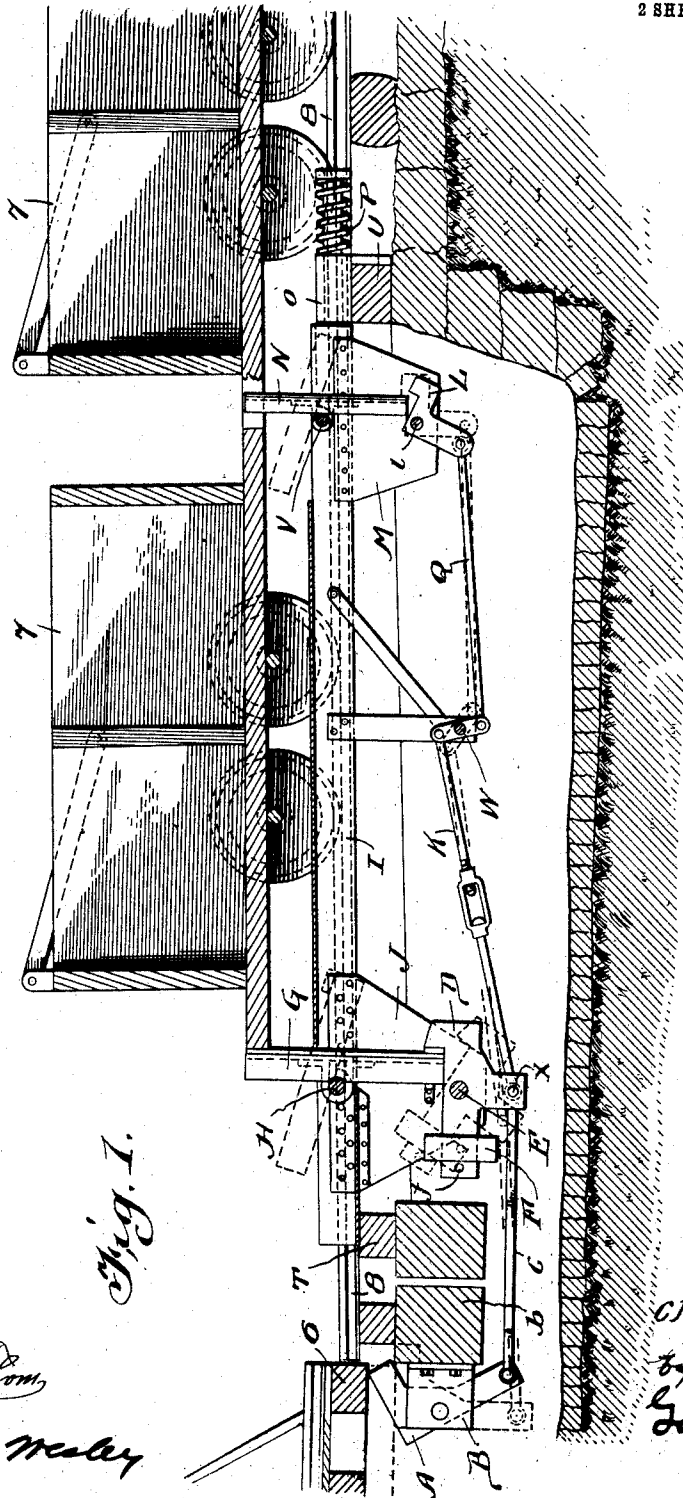


Fig. 1.

Witnesses

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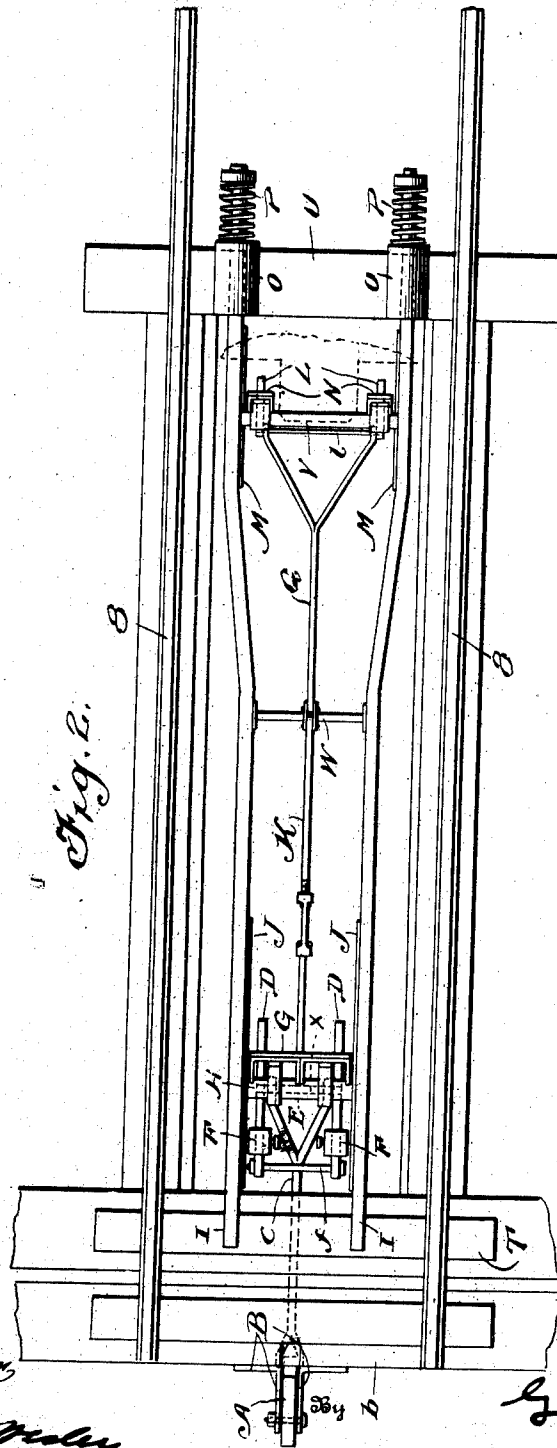


Fig. 2.

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UNITED STATES PATENT OFFICE

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MINE-CAR STOP.

No. 907,350.

Specification of Letters Patent.

Patented Dec. 22, 1908.

Application filed July 7, 1908. Serial No. 442,344.

To all whom it may concern:

Be it known that I, CHARLES M. HENRETTA, citizen of the United States, residing at Byesville, in the county of Guernsey and State of Ohio, have invented certain new and useful Improvements in Mine-Car Stops, of which the following is a specification.

This invention is a mine car stop and caging apparatus, and has for its object to provide automatic means for loading cars one by one onto the cage by which they are carried to the mouth of the shaft.

The object of the invention is to provide an improved form of trip for releasing the stop, so as to allow the car to run onto the cage, and for allowing the stop to become reset when the cage is lifted, so as to stop a subsequent car. The device also comprises means to stop a second car and to hold the same until the first car is elevated, after which the second car will follow down to the first stop; and so on indefinitely.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the apparatus; and Fig. 2 is a plan view.

Referring specifically to the drawings, 6 indicates the elevator or cage and 7 the cars which travel down the rails 8, the track being inclined slightly toward the shaft so that the cars will follow down by gravity. Located in position to be struck by the cage when it reaches the level is a bell crank lever or tripper A which is pivoted to brackets B secured to a sill b.

D are triggers, set back from the shaft, under the track, and connected to the lever A by a forked rod C. The triggers D swing on a heavy shaft E which is mounted in supporting bearings in a pair of depending heavy plates or hangers J which are bolted to bars I. The triggers are normally raised by counter-weights F, and the triggers are connected together by a long bolt f. The hooks of the triggers are adapted to engage the lower end of the bumping block G which is quite heavy and is preferably faced with metal, and swings on a heavy shaft H which is mounted in bearings in two side bars I. These side bars rest upon a cross beam T at the front end, and at the rear end they work through heavy boxings O set on a tie U, and they are provided with springs P which serve to cushion the stop by allowing the bars to yield to a certain extent when a car strikes the stop. This avoids a sudden stop and prevents

wrecking. The upper end of the block G projects above the track in position to be struck by the bumper of the first car.

A single stop will in most cases be sufficient, but in order to stop second and subsequent cars, I provide a rear stop consisting of two bumping blocks N which swing upon a heavy cross shaft V mounted in the bearings I. Two bumping blocks are used here, located a sufficient distance apart to come up on each side of the bumpers or couplers of the cars, and between the ends of the car. These bumping blocks are adapted to be engaged by triggers L mounted upon a shaft 7 carried in bearings in plates M depending from the bearings I. The triggers are connected by a forked rod Q to an intermediate lever W which is connected by a rod K to a cross rod X connecting the depending arms of the triggers D, the intermediate lever W being used to change the direction of motion.

Both the triggers N and G are pivoted above their centers of gravity, so that they normally swing to vertical position.

In operation, when a cage drops onto the lever A, said lever turns and by means of the rod C releases the triggers D, as shown in dotted lines in Fig. 1, and this permits the bumping block G to swing down when the weight of the loaded car comes against it, permitting the car to run onto the cage. After the car passes the bumping block G, said block swings to vertical position, and when the cage lifts, the triggers turn back and catch the lower edge of the block, ready to hold the next car. This movement of the triggers is produced by the counter-weights F.

When the triggers D are in the released position, as shown in dotted lines, the triggers L, by means of the intermediate rods and lever, are raised to engage the lower edge of the bumping blocks N, thereby holding said blocks in position to stop the second car. When the cage rises the triggers L are dropped or released, allowing the bumping blocks N to swing and permitting the car to pass down to the fore or main stop G.

The apparatus is simple in construction and certain in operation and will effectively do the work indicated. As intimated above, the stop for the second car may be omitted if desired.

Various modifications may be made within the scope of the invention.

I claim:

1. A car stop comprising a support located

- between the rails of the track and yieldable lengthwise, a stop block hinged to the support and arranged to swing up or down to stop or pass a car, a trigger supported under the track and normally engaging the block to stop a car, and means to release the trigger.
2. A car stop comprising a pair of bars extending and yieldable lengthwise between the rails of the track, a stop block pivoted between said bars and normally hanging in upright position to stop a car and adapted to swing down to pass a car, a trigger engaging the block and holding the same in position to stop a car, and means to release the trigger.
3. A car stop comprising a pair of bars slidably mounted between the rails of the track and extending lengthwise with respect thereto and having depending hangers, a swinging stop block pivotally mounted on said bars, a trigger mounted in said hangers and engaging said stop block, means to release said trigger to allow the stop block to swing and pass a car, and springs connected to the bars and acting to cushion the movement thereof incident to contact of a car with the stop.
4. The combination with a cage in a shaft and a track leading thereto, a swinging stop block supported between the rails of the track, and arranged to swing up or down to stop or pass a car, a trigger pivotally mounted under the track and arranged to catch and hold the stop block in upright position, and a tripper in the shaft and arranged to be struck by the cage and connected to the trigger to release the same when so struck.
5. A car stop comprising fore and rear stop blocks pivotally mounted to swing up and down between the rails of the track, to stop or pass the cars, triggers arranged to engage the respective blocks and hold the same in upright position, connections between the triggers, whereby one will be engaged when the other is released, and vice versa, and means to operate the triggers.
6. A car stop comprising a pair of bars extending lengthwise between the rails of the track and yieldingly supported, fore and rear stop blocks pivotally mounted upon said bars, to swing to upright or inclined position, triggers pivotally mounted on the bars and engaging said blocks to hold the same in upright position, connections between the triggers, whereby one is released when the other is engaged, and means to operate the triggers.
- In testimony whereof I affix my signature in presence of two witnesses.
- CHARLES M. HENRETTA.
- Witnesses:
A. T. JONES,
T. T. JONES.