

(No Model.)

A. DITTMAR.
DOOR OPERATING MECHANISM.

No. 583,877.

Patented June 1, 1897.

Fig. 1.

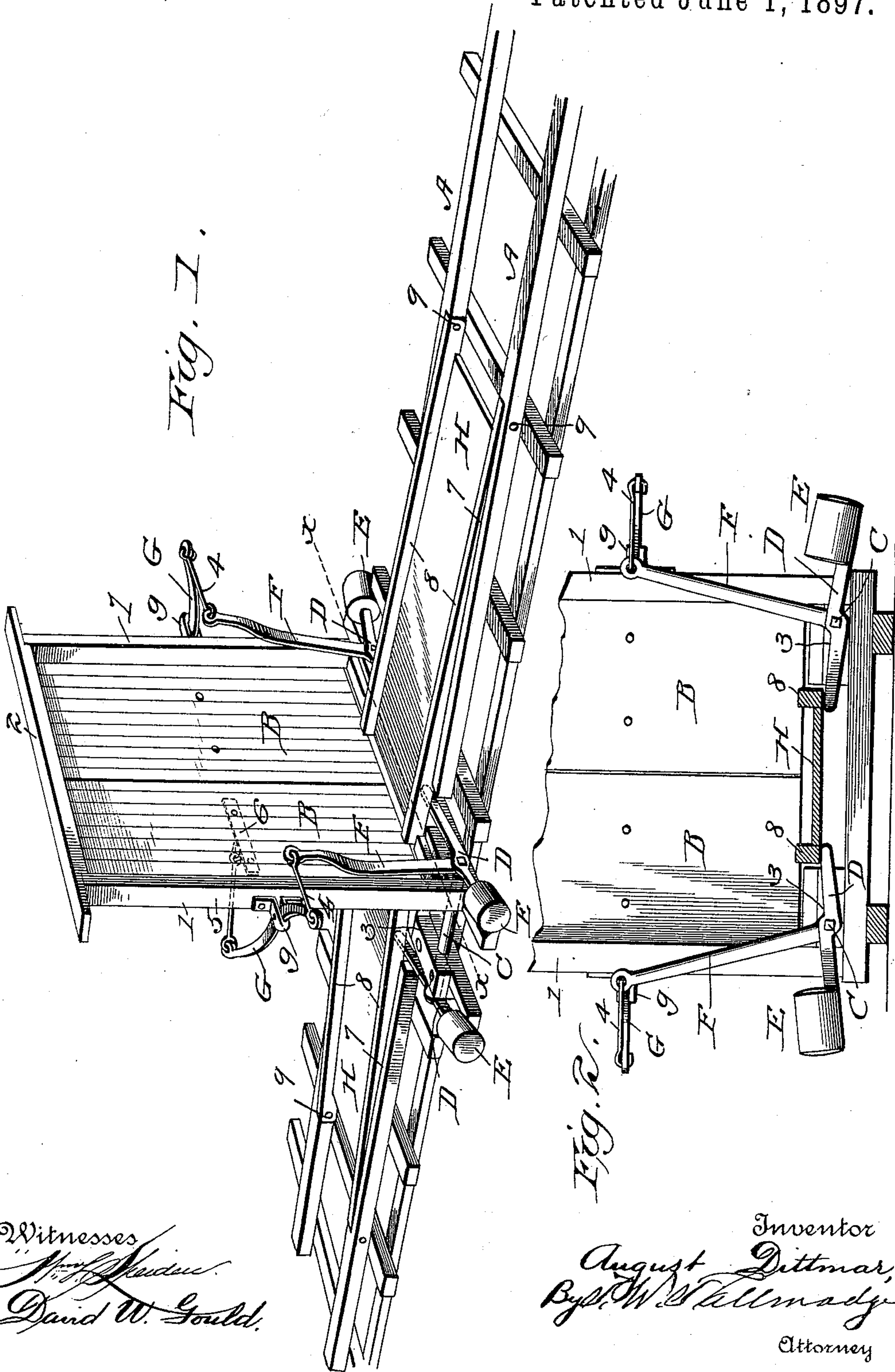


Fig. 2.

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AUGUST DITTMAR, OF LAURENCE, OHIO.

DOOR-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 583,877, dated June 1, 1897.

Application filed October 16, 1896. Serial No. 609,114. (No model.)

To all whom it may concern:

Be it known that I, AUGUST DITTMAR, a citizen of the United States, residing at North Laurence, in the county of Stark and State of Ohio, have invented a new and useful Door-Operating Mechanism, of which the following is a specification.

My invention relates to improved mechanism for operating mine-doors.

As is well known the mouth or entrance to a mine is provided with double doors which require the constant presence of an attendant to open and close as the loaded or unloaded cars pass out and in.

The object of my invention is to provide simple and effective mechanism for opening and closing the doors and to automatically operate said mechanism by the weight of the cars on a movable platform.

The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 of the drawings is a perspective view illustrating the application of my invention. Fig. 2 is a broken sectional view of the same on the line $x x$, Fig. 1.

Referring to the drawings, A A represent the rails on which the cars travel, and B B the doors hinged to the usual frame, comprising uprights 1 and cross-piece 2.

The mechanism for the operation of the doors being in duplicate the description of one side will suffice for both.

Crepresents a rock-shaft suitably journaled in blocks 3 below the door-frame. On each end of this shaft is rigidly secured a lever D, the outer end of which is provided with a weight E. On one end of shaft C is also rigidly secured an upwardly-extending bar F, for a purpose hereinafter described.

G represents an arm horizontally pivoted in a bracket g on the side of upright 1, as shown. One end of this arm is connected to the upper end of bar F by means of a short link 4, its other end being connected by a similar link 5 to a metal strip 6, secured to the door B.

The rails A terminate a short distance from the doors and are recessed at 7 to permit the platform-rails 8 to lie flush on the inner side. These platform-rails are secured on the edges of platforms H, one platform being on each

side of the doors and pivoted at 9 to the main rails A, as shown. The inner ends of the levers D project beneath and into contact with the under sides of the platforms.

The operation of my improved mechanism is as follows: The advancing car moves upon the platform H on one side of the doors and forces the same downward, thereby rocking the shaft D, moving the upper end of bar F inward, pulling the inner end of arm G inward, and forcing its outer end outward, and thus opening the doors. The platforms are so positioned that before the car has entirely left the one on which it first moved it will have passed onto the other platform, which has fallen to the lowered position by gravity when the first one moved downward. By this construction the doors are kept open until the car has passed entirely off the second platform, thus preventing the interference of the car and doors. When the car has passed off the second platform, the weights E cause the inner ends of the levers D to move upward, raising the platforms to their normal positions, as shown in the drawings, thus reversing the above-described operation and closing the doors.

While I have shown and described my invention as applied to mine-doors, it is evident that it is equally applicable to other hinged doors, and also that a single door may be as effectively operated as double doors.

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

1. The combination, with the door and the movable platform on each side thereof, of a rock-shaft suitably journaled below the door, a lever secured on each end of the rock-shaft, the inner ends of said levers projecting beneath the platforms, and mechanism intermediate the rock-shaft and door, whereby on the downward movement of the platform the door is opened.

2. The combination, with the door and the movable platform on each side thereof, of a rock-shaft suitably journaled below the door, a lever secured on each end of the rock-shaft, the inner ends of said levers projecting beneath the platforms, their outer ends being provided with weights, and mechanism intermediate the rock-shaft and door, whereby

downward pressure on the platform causes the door to open, the weights on the levers acting to close the doors when the pressure on the platforms is released.

5 3. The combination, with the door, of a platform pivotally secured on each side of the door, a rock-shaft suitably journaled below the door, a lever secured on each end of the rock-shaft, the inner ends of said levers projecting beneath the platforms, their outer
10 ends being provided with weights, a horizontal arm pivotally secured to the door-frame, one end of said arm being connected with the door and its other end connected with the
15 rock-shaft, whereby on movement of the rock-shaft the door is operated.

4. The combination, with the door, of a platform pivotally secured on each side of the door, a rock-shaft suitably journaled below

the door, a lever secured on each end of the 20 rock-shaft, the inner ends of said levers projecting beneath the platforms, their outer ends being provided with weights, an upwardly-extending bar rigidly secured on one end of the rock-shaft, and a horizontal arm 25 pivotally secured to the door-frame, one end of said arm being connected with the door and its other end connected with the free end of the bar, substantially as and for the purposes stated. 30

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

AUGUST DITTMAR.

Witnesses:

CLYDE MYERS,
MARY A. RUCH.