

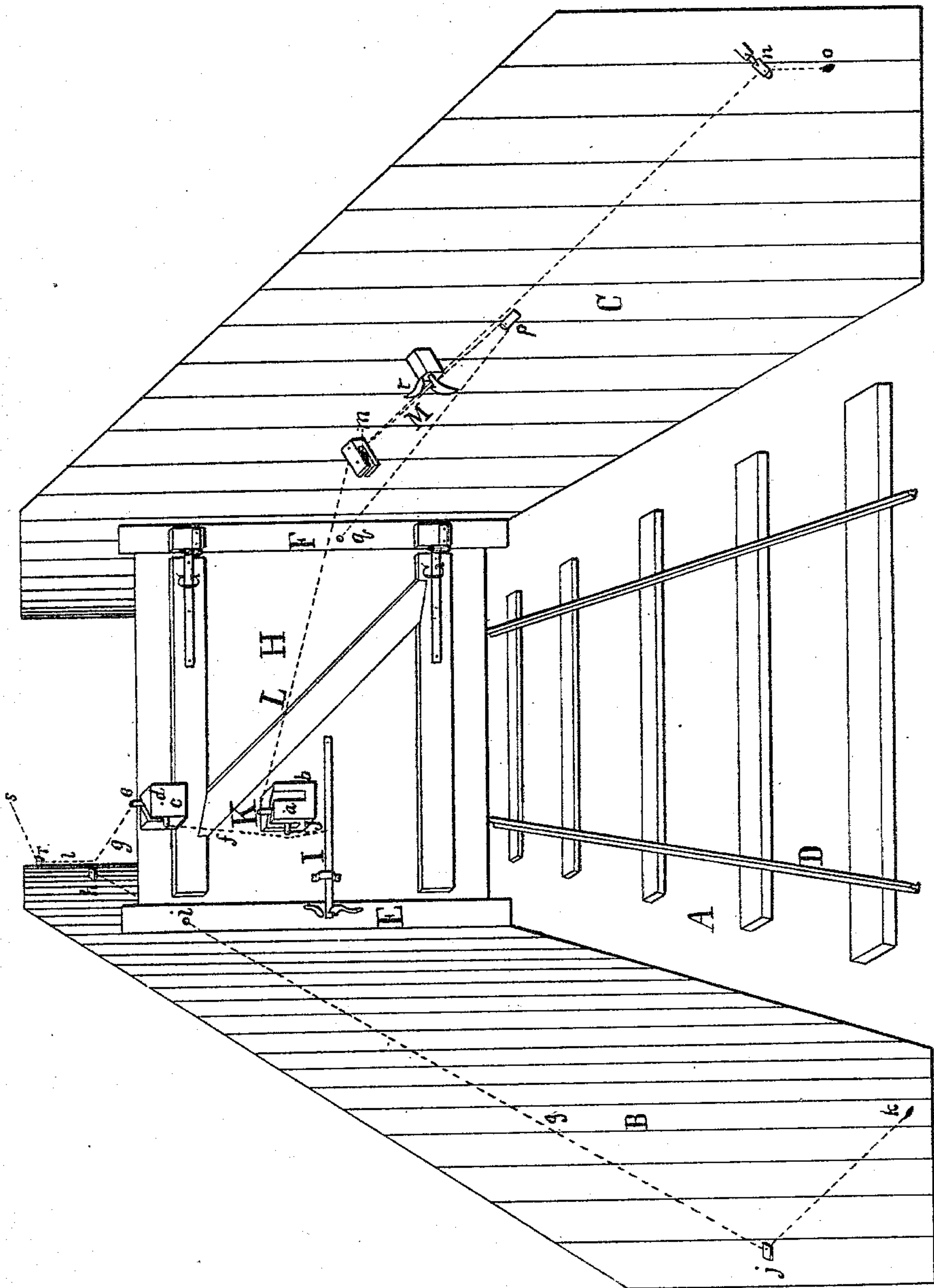
(No Model.)

C. P. MOYER.

VENTILATING DOOR FOR MINES.

No. 286,549.

Patented Oct. 9, 1883.



WITNESSES:

C. S. Johnston  
J. H. Knott

INVENTOR

Casper P. Moyer  
By A. C. Johnston

ATTORNEY



# UNITED STATES PATENT OFFICE.

CASPER P. MOYER, OF WOODVILLE, PENNSYLVANIA.

## VENTILATING-DOOR FOR MINES.

SPECIFICATION forming part of Letters Patent No. 286,549, dated October 9, 1883.

Application filed May 28, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CASPER P. MOYER, of Woodville, in the county of Allegheny, State of Pennsylvania, have invented a new and useful Improvement in Ventilating-Doors for Mines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In mining coal and other minerals, in order to secure a proper division of air through the several entries of the mine, it has been found necessary to place in the different entries a door or gate, which is usually opened and closed by a boy, and in large mines it requires a number of said doors or gates, and a corresponding number of boys, who are often negligent in the performance of their duty, and in descending grades in the mines the train of tram-cars, with their mule or mules, are often forced up against the door or gate, or brought up in such close proximity that it is impossible to open the door until the entire train of cars is forced or drawn back. This causes a loss of time, much trouble and annoyance, and not unfrequently results in dangerous accidents to driver and mules. Now, the object of my invention is the controlling of the opening and closing of said doors or gates by means of cords, pulleys, and levers, combined with said doors or gates, and their latches constructed, arranged, and operating, as will hereinafter appear.

To enable others skilled in the art with which my invention is most nearly connected to make and use it, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, A represents an entry in a coal-mine; B and C, the side walls thereof, and D the tramway. In the entry A are arranged side posts, E F. To the post F, at G, is hinged a door, H, having latch, I, to which is attached a cord, J, connected to the lower horizontal limb of an L-shaped lever, K, pivoted at a, in a block, b, on the door H. To the vertical limb of said lever is attached a cord, L, which passes over pulleys m n, attached to the side wall C of the entry A. On the end of said cord is a handle, o. To the cord L is attached a cord, M, which passes over a pulley, P, and through an opening, q, in the post F, and over pulleys arranged on the side wall C, on the opposite side of the door H, similar to

the pulleys m and n, and furnished with a handle similar to the handle o. At the top of the gate H is secured a block, c, in which, at d, is pivoted an L-shaped lever, e, to the horizontal limb of which is attached a cord, f, connected to the latch I, and to the vertical limb of said lever is attached a cord, g, which passes over a pulley, h, and through an opening, i, in the side post E, and from thence along the side wall B over a pulley, j, the end of said cord being furnished with a handle, k. To the cord g is also attached a cord, l, which passes over a pulley, r, on the side wall B. On the end of said cord is a handle, s, the said pulleys r and h being on the opposite side of the door H, and at suitable distance therefrom.

The skillful mechanic, miner, or mining engineer, will readily understand the construction of my improvement from the foregoing description, and by reference to the accompanying drawing. I will therefore proceed to describe its operation, which is as follows: The driver passing through the entry, when he comes within reach of the handle o of the cord l, or the handle of the cord M, pulls on said cord, which will draw on the lever K, which will cause the cord J to raise the latch I and draw the door H back against the side wall C, until the latch I catches in the hook t, secured in the side wall C, for the purpose of holding the door open, having passed in through the door, or out through it, as the case may be. If he has passed out through the door H he pulls on the handle s, which will draw the cord l, attached to the cord g, which is attached to the lever e, and drawing on said cord the lever draws up the cord f, and thereby lifts the latch I out of the hook t, and continuing to draw on the cord will close the door H. If the driver has passed in he pulls upon the handle k, which draws the cord g, which will in like manner close the door H.

Having thus described my improvement, what I claim is—

In combination with the door H, levers K e, cords L, M, J, f, g, and l, connected to said door and its latch, and operating substantially in the manner and for the purpose specified.

C. P. MOYER.

Witnesses:

A. C. JOHNSTON,  
L. M. SCHROYER.