W. F. DILLABY.

MECHANISM FOR OPERATING SLIDING DOORS.

No. 180,706. Patented Aug. 8, 1876.

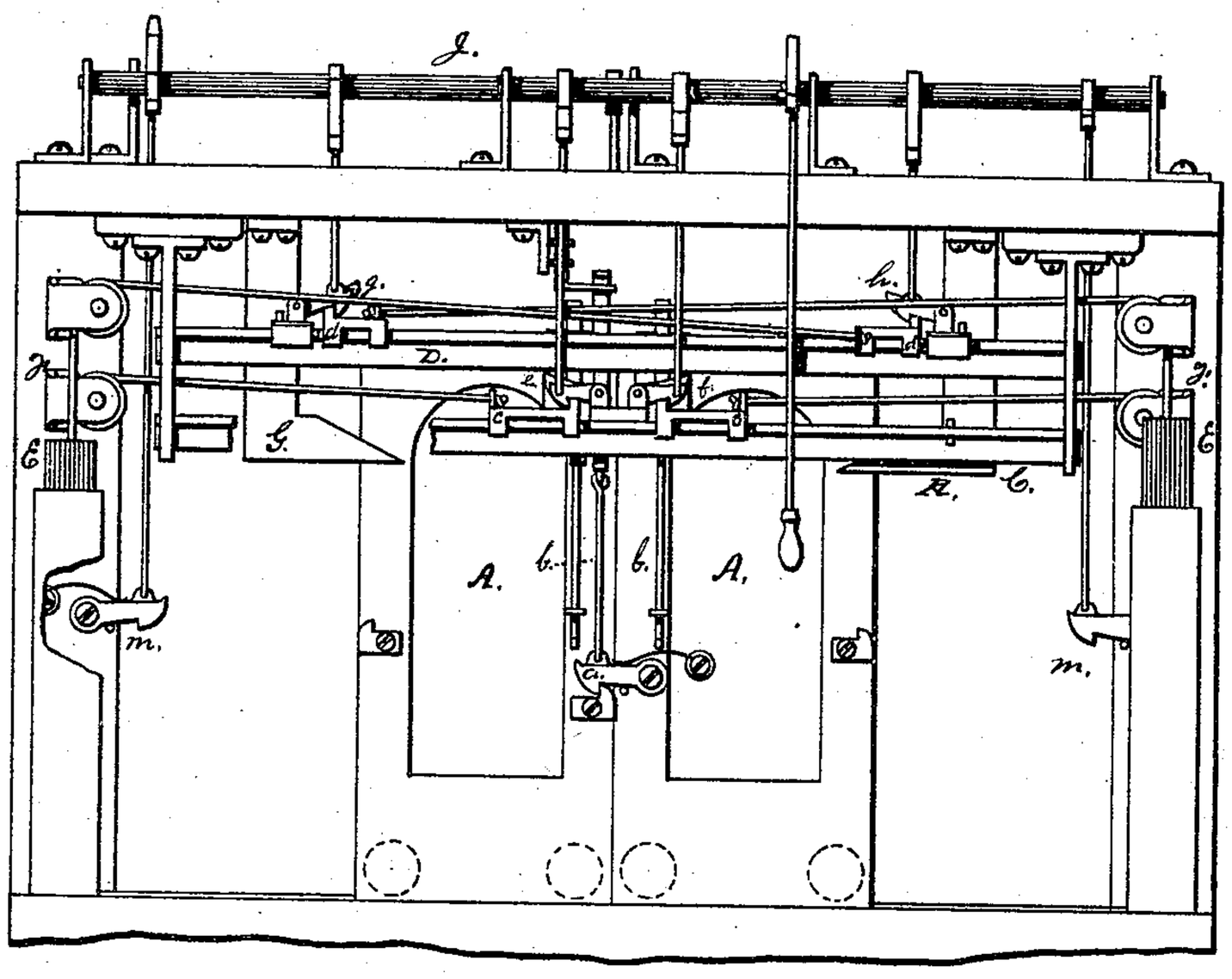

FIG. 1.

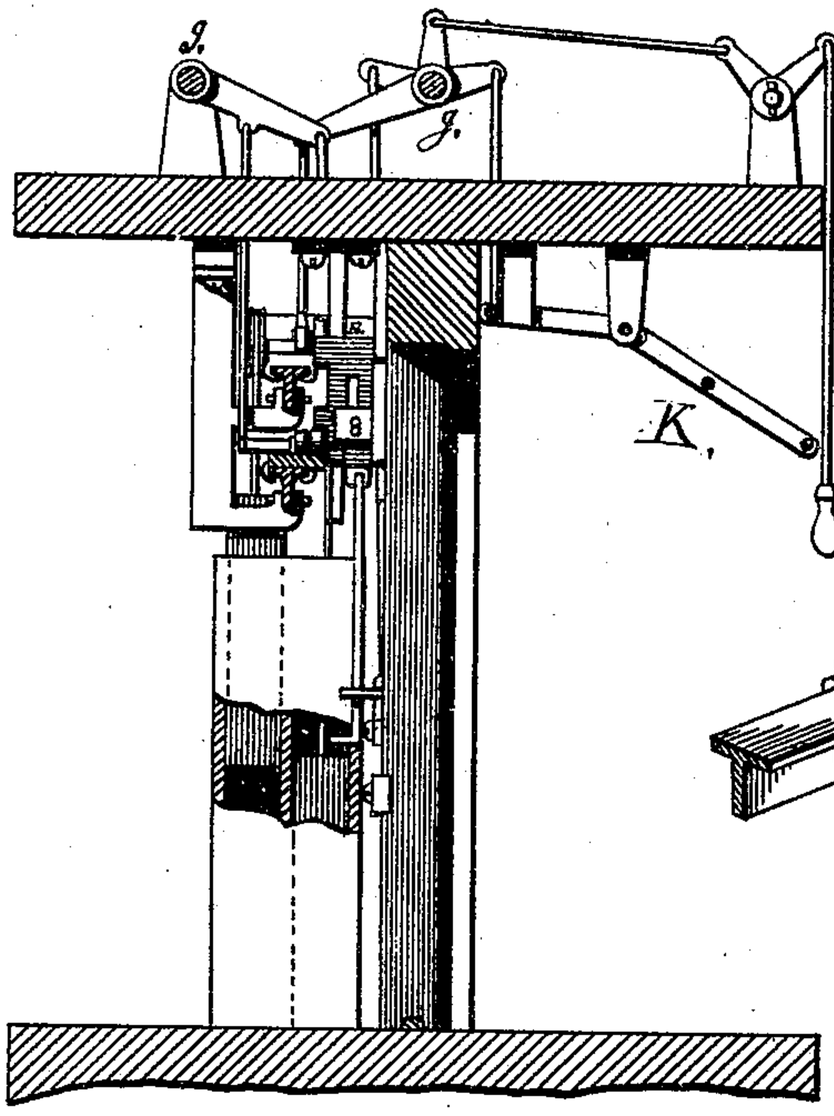

FIG. 2.

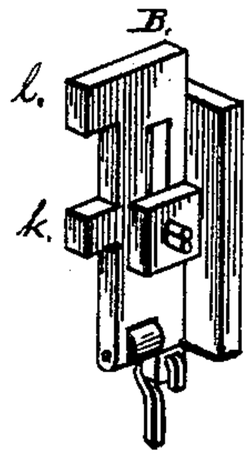

FIG. 3.

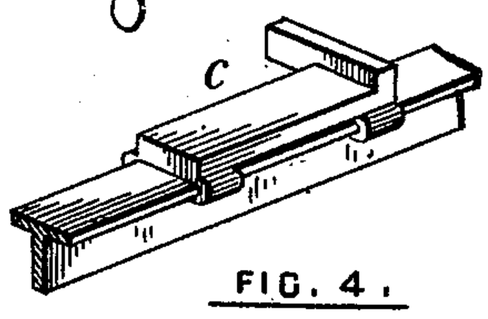

FIG. 4.

WITNESSES.

S. H. Carpenter Jr.

Walter B. Vincent

INVENTOR.

William F. Dillaby.

UNITED STATES PATENT OFFICE.

WILLIAM F. DILLABY, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN MECHANISMS FOR OPERATING SLIDING DOORS.

Specification forming part of Letters Patent No. **180,706**, dated August 8, 1876; application filed June 5, 1876.

To all whom it may concern:

Be it known that I, WILLIAM F. DILLABY, of Providence, in the State of Rhode Island, have made certain new and useful Improvements in Doors for Engine-Houses and other buildings; and I do hereby declare that the following specification, taken in connection with the drawing making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a perspective view of my invention. Fig. 2 is a cross-section of same. Figs. 3 and 4 are details of the same.

The object of my invention, which is more especially designed for engine-houses and stables, is to provide a means for opening and closing the doors without descending from the engine or getting out of the carriage, as the case may be; and consists in the mechanism for that purpose hereinafter described.

It is well understood that the readiness with which the engine can be dispatched to the scene of the fire depends largely upon the facility with which the doors can be opened and closed. As the entire force employed in an engine-house is usually required in the management of the engine and its appurtenances, the opening and closing of the doors necessarily detains the engine at a time when a moment's delay may be of serious consequence.

With my invention the doors may be quickly opened by the driver after he has taken his seat upon the engine, and will be closed by the engine itself when it passes out.

In the drawing, A A, Fig. 1, are the doors, which run upon rollers, and are held together by the latch *a* when closed. B B are vertical slides attached to the doors near their inner edges at the top, and provided with rods *b b*, for operating the same for the purpose of raising a series of latches, as hereinafter described.

C and D are horizontal rails, upon which run the slides *c c* and *d d*, and to which are attached pairs of latches *e f g h*, which engage and disengage the said slides, as will hereafter appear. The slides *c c* and *d d* are connected by cords to, and are propelled by, the falling weights E E and F F, respectively. G and H are inclined surfaces, which throw up the slides B B. I and J are shafts, to which are attached a series of levers, which are connected by chains or cords to the several latches, for the purpose of raising the same.

Having now described the principal parts of my invention, I will proceed to describe its operation. Commencing with the parts in the position shown in Fig. 1, with the engine upon the inside and the men upon the machine, the driver takes hold of the cord *i*, which is within easy reach, and gives it a quick pull downward, by which, through a suitable arrangement of levers and chains, before referred to, and not necessary to be particularly described, the latches *e*, *f*, and *a* are raised at one and the same time, which unfastens the door and disengages the slides *c c*. The slides *c c*, as they are carried backward by their respective weights to which they are attached, engage the projecting points *k* of the vertical slides B B, and quickly slide back the doors, one of each of the pairs of latches *e f* being held in a disengaged position from the outset by the projecting point *k* of the slide B, before referred to.

As the doors move backward the slides B B are thrown up by the inclined surfaces G H, so that the projecting points *l l* will disengage one of each of the pairs of the latches *g h*. As the doors complete their backward movement they are caught and secured by the latches *m m*.

The engine has now a free passage, and as it reaches the outside of the building the smoke-stack or some other part of the engine, or even the hand of the driver, as may be desired, brought in contact with the lever K, will throw up such lever, which will operate through subitable levers, and to raise the laches *m m* and the remaining latch of each of the pairs *g h*, at the same time releasing the doors and disengaging the slides *d d*.

The slides *d d*, as they are carried toward the center by their respective weights, engage the projections *l l* upon the vertical slides B B, and bring the doors together with sufficient force to throw the latch *a* into place, and secure the doors in the position shown in Fig. 1.

Upon the return of the engine the latch *a* may be lifted by means of a key, and the doors thrown open in the usual way, after which the

mechanism may be easily adjusted for the next occasion.

What I claim as my invention, and desire to secure by Letters Patent, is—

The vertical slides B B, the rails C D, the slides *c c* and *d d*, the weights E E and F F, and the series of latches *e f g h* and inclined surfaces G H, the whole arranged and operating together, substantially as and by a suitable arrangement of shafts, lever, and chains, for the purposes specified.

WILLIAM F. DILLABY.

Witnesses:

G. M. CARPENTER, Jr.,

WALTER B. VINCENT.