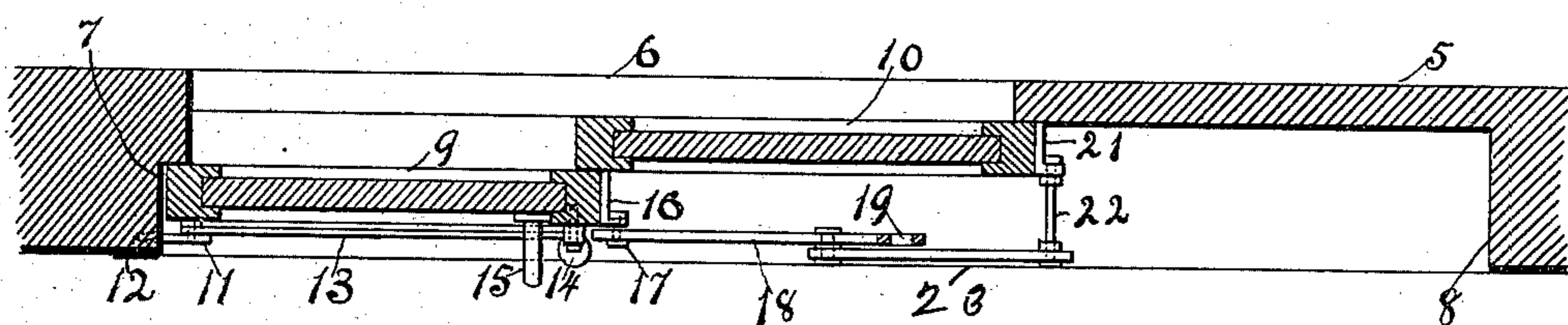
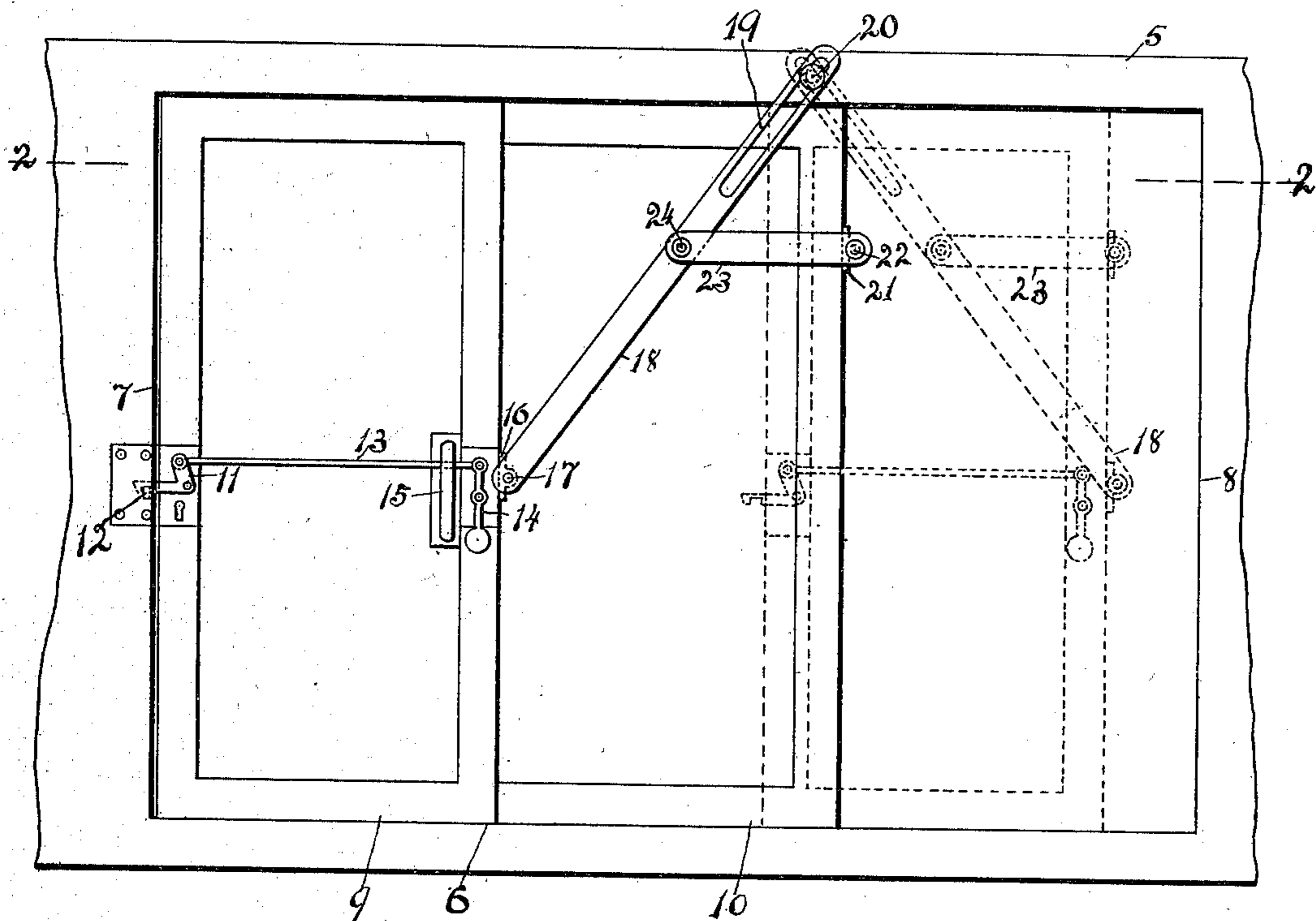


No. 735,393.

PATENTED AUG. 4, 1903.

A. KRAUSE.
SLIDING DOOR CLOSER.
APPLICATION FILED MAY 18, 1903.

NO MODEL.



WITNESSES:-

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UNITED STATES PATENT OFFICE.

AUGUST KRAUSE, OF BOSTON, MASSACHUSETTS.

SLIDING-DOOR CLOSER.

SPECIFICATION forming part of Letters Patent No. 735,393, dated August 4, 1903.

Application filed May 18, 1903. Serial No. 157,522. (No model.)

To all whom it may concern:

Be it known that I, AUGUST KRAUSE, of Boston, in the county of Suffolk and the State of Massachusetts, have invented certain new and useful Improvements in Sliding-Door Closers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has reference to improvements in devices for closing sliding doors.

The object of the invention is to provide a novel and simple means for closing sliding doors, and particularly such doors as applied to openings in elevator-shafts.

Another object of the invention is to so construct a closing device for double sliding doors or double section-doors that the outer section will move a greater distance than the inner section.

Another object of the invention is to so construct a door-closing device that the dead-center of its movement may be readily overcome and that beyond this point it will operate in both directions by gravity.

The invention also consists in the combination, with a pair of sliding doors or door-sections mounted to move in parallel tracks, of a lever pivotally secured to one section and having an upwardly-extended slotted portion working on a guide and pivot and a shorter lever pivotally connected with the first-mentioned lever and with the second door-section.

The invention also consists in such other novel features of construction and combination of parts as shall hereinafter be more fully described, and pointed out in the claims.

Figure 1 represents an elevation of a pair of doors mounted to slide in a frame and furnished with the improved door-closing mechanism. Fig. 2 represents a cross-sectional view of the same, taken on line 2 2, Fig. 1.

Similar numbers of reference designate corresponding parts throughout.

In carrying this invention into practice my object has been to so construct a device for exerting a closing and opening pressure on a sliding door or doors which shall be free to operate by gravity and leverage without the inclusion of propelling mechanism.

As represented in the drawings in its preferred form, 5 represents a partition having

an opening 6, having the jambs or ends 7 and 8. This may represent an opening in the wall of an elevator-shaft or any other opening designed to be closed at times. In suitable ways of any usual construction and association with the opening 6 are mounted the doors 9 and 10, the door 9 being hereinafter termed the "first" door and that marked 10 being designated as the "second" door. The door 9 is generally furnished with a latch 11, pivoted on a plate mounted on the door and adapted to automatically engage a catch, as 12, secured to the jamb 7, the latch 11 being operated in one direction by the rod 13, pivoted to the latch and to one arm of the lever 14, pivotally mounted on the door 9 at some convenient point, and preferably adjacent to the handle 15, which is adapted to be grasped by the operator in order to exert the initial opening or closing impulse on this door.

On the door or door-section 9 is secured the bracket 16, carrying the pivot 17, and on this pivot is mounted the lever 18, having the slot 19 and formed of some substantial and preferably heavy material, such as iron or steel, the slotted portion of this lever being mounted to slide and swing on the stud 20, fixed on a stationary part, as on the partition 5, so that the weight and leverage of this lever exerts a lateral pressure on the pivot 17 when such pivot is brought to a position at either side of the vertical line of the stud 20. Preferably to the rear edge of the door or section 10 is secured the bracket 21, carrying the pivot 22, which is pivotally connected, by the link or connecting-lever 23, with the pivot 24 on the lever 18 somewhat above the longitudinal center of said lever 18, so that the swinging motion of the lever 18 is communicated, by means of the connecting-lever 23, to the door-section 10 in a degree proportioned to the length of the connecting-lever 23 and to the point at which it is pivoted to the lever 18. The weight of the lever 23 also exerts a downward pressure on the lever 18. When the latch 11 is released and an opening impulse is given to the door 9, the lever 18 readily rides upward on the stud 20, gradually assuming a vertical position as the pivot 17 approaches the vertical line of the stud 20. In seeking to assume this vertical position

pressure is exerted by the lever 18 on the pivot 22 by means of the connecting-lever 23 to move the door 10 proportionately in the same direction. After the lever 18 has swung
5 past the vertical line of the stud 20 the weight of the lever 18 and the leverage of the same between the pivot 17 and the stud 22 cause the continued opening movement of the door 9 and also of the door 10 by reason
10 of the connection therewith.

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

1. The combination with a pair of doors
15 mounted to slide, of a lever pivoted at its lower end to one of said doors, means for supporting the upper end of the lever for longitudinal and swinging movement, and a rigid

connection pivoted to said lever and to the second of said doors. 20

2. The combination with the doors 9 and 10 mounted to slide, of the lever 18 having the slot 19, said lever being pivotally mounted on the door 9, the stud 20, fixed in a stationary part adjacent to said doors, on which the
25 slotted portion of the lever may slide and swing, and the lever 23 pivoted to the lever 18 and to the door 10, substantially as and for the purpose described.

In testimony whereof I affix my signature 30 in the presence of two witnesses.

AUGUST KRAUSE.

Witnesses:

RICHARD J. CLASH,
THOMAS M. BLAIR.