

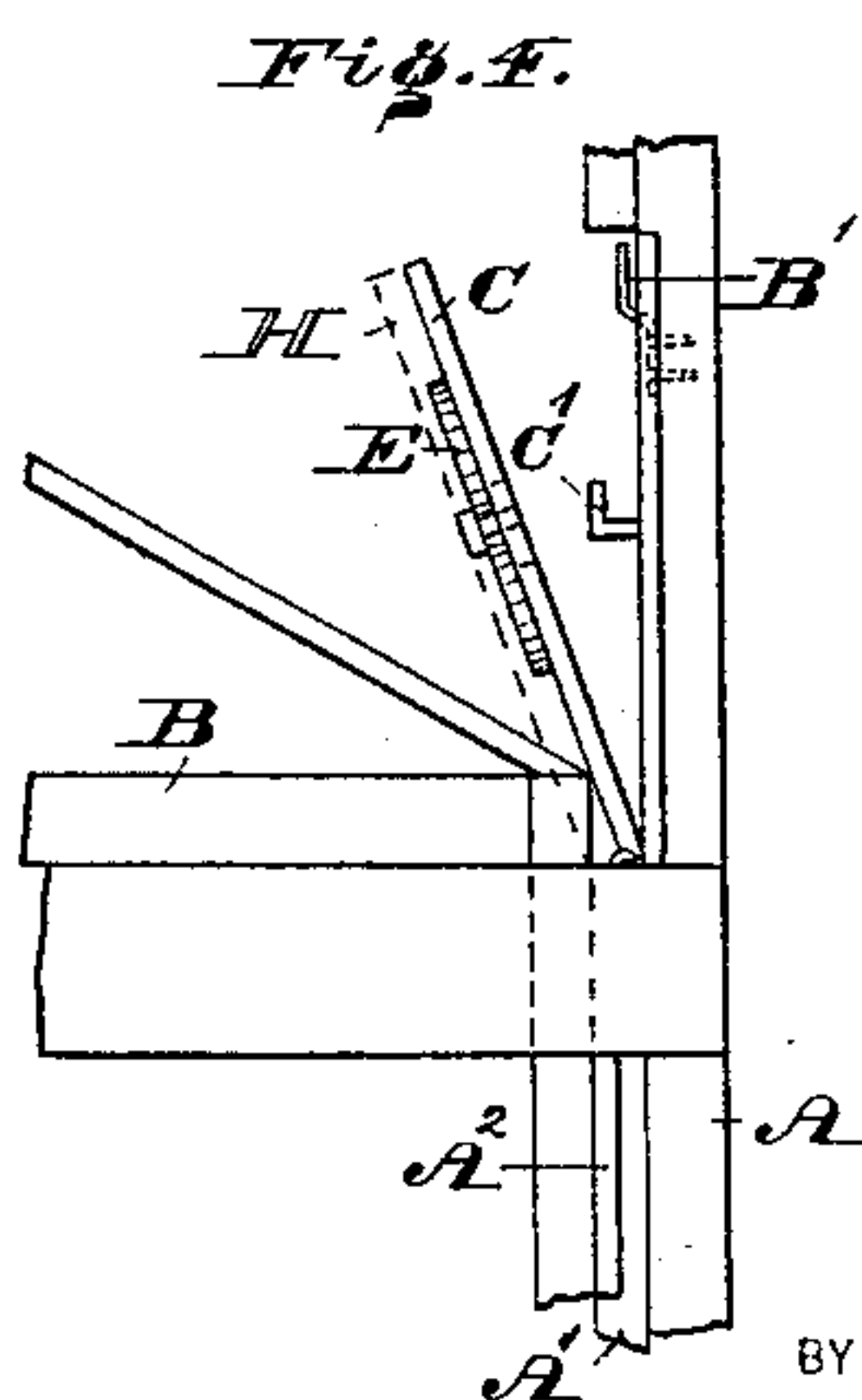
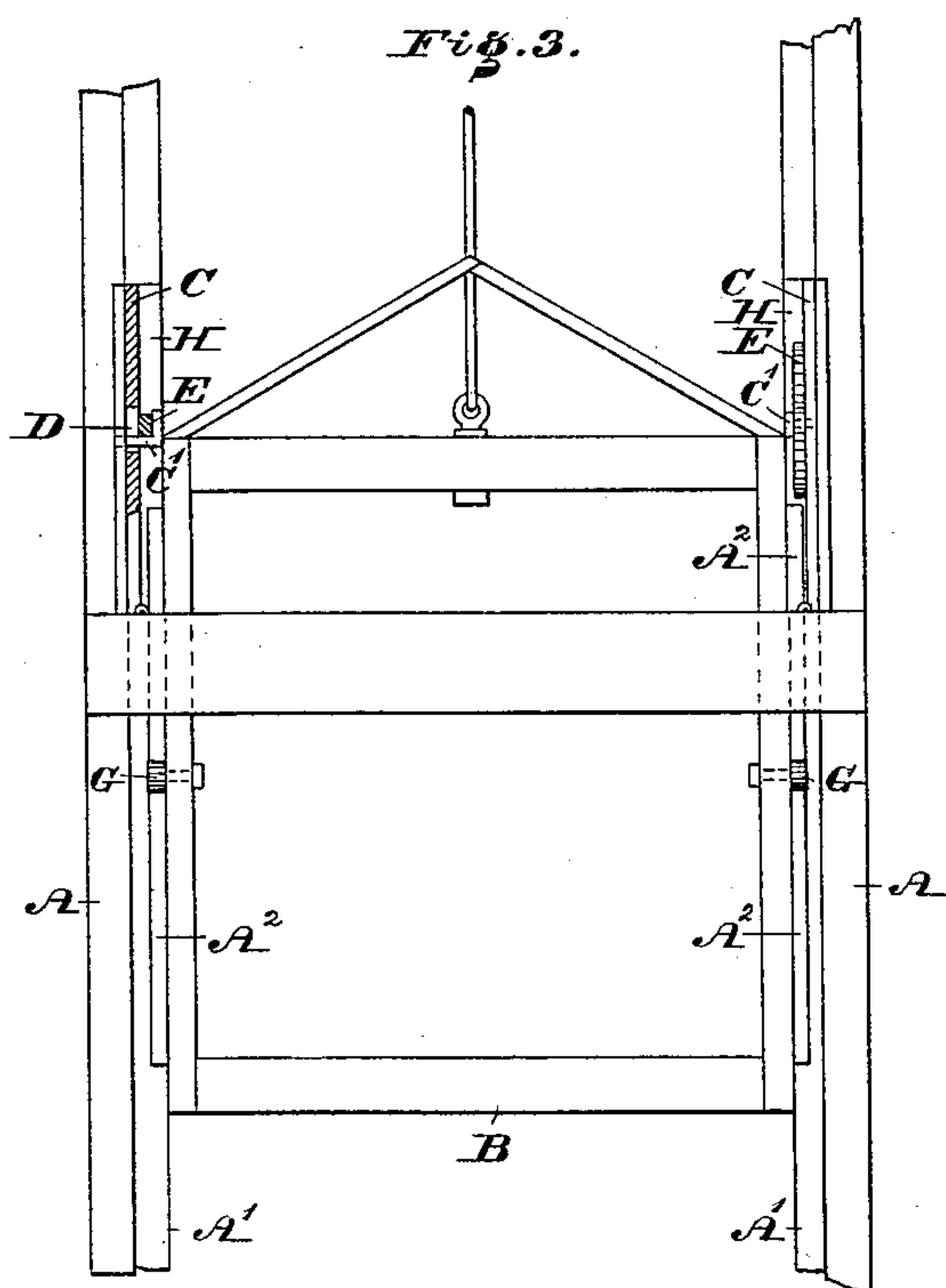
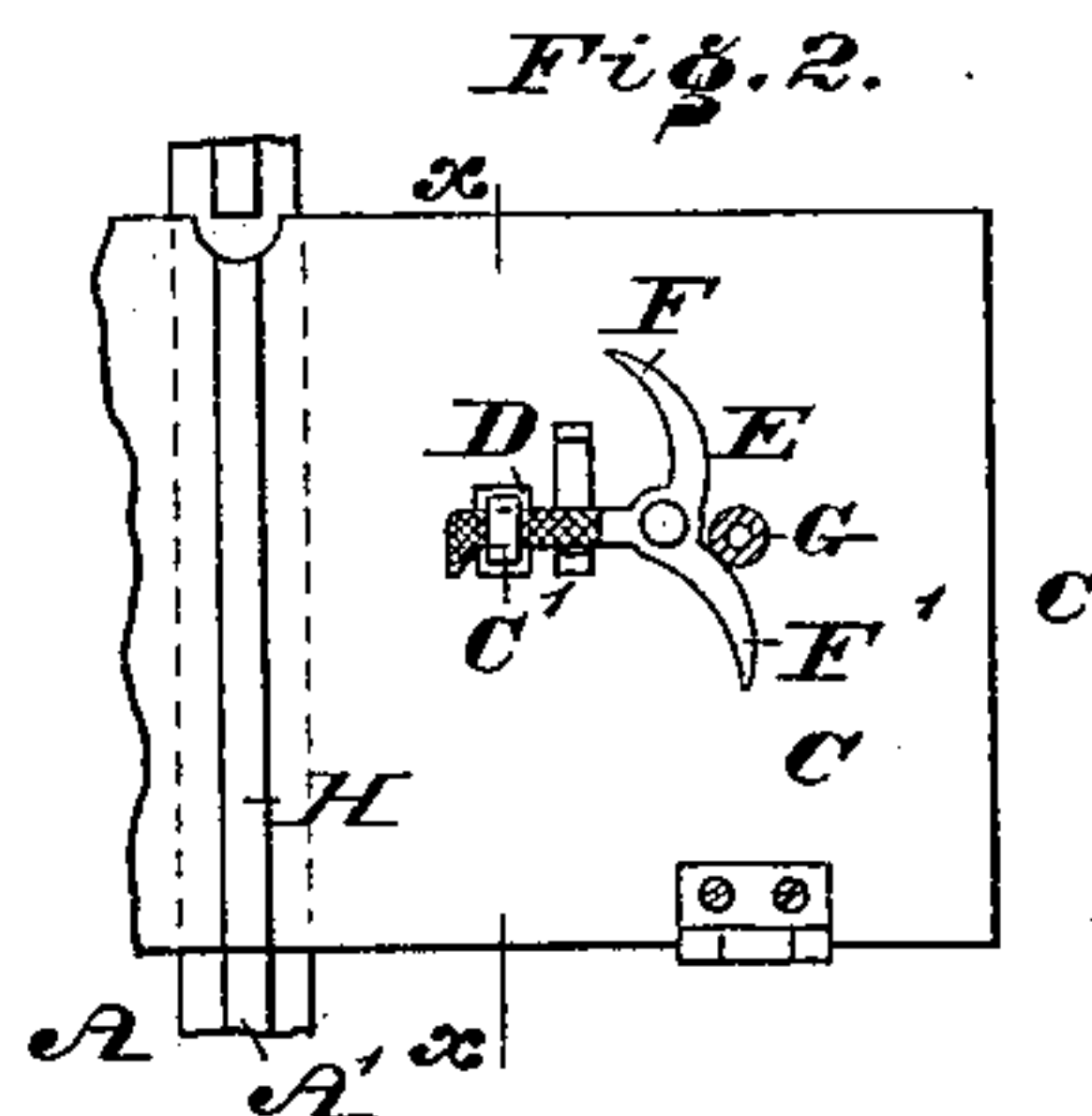
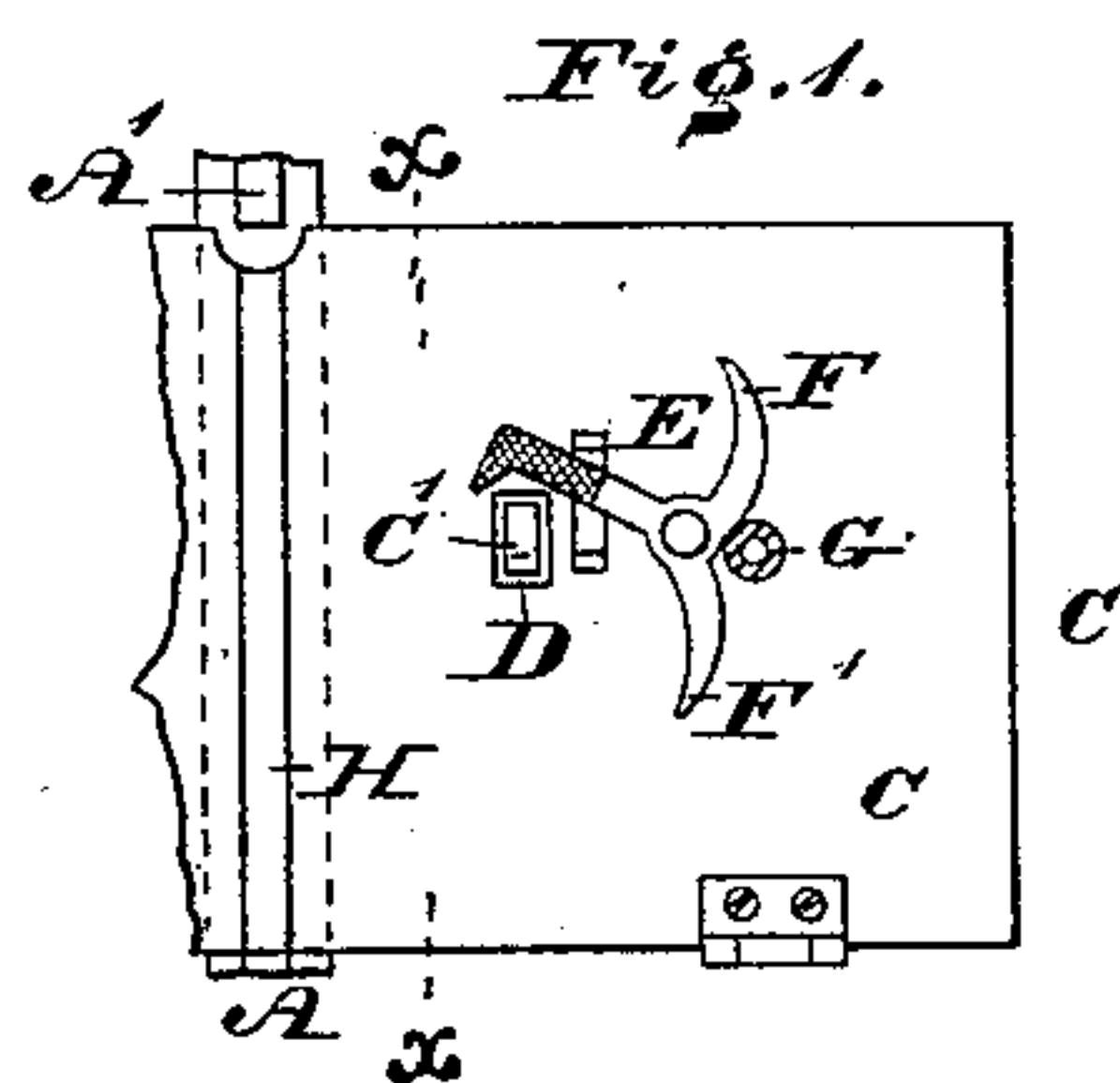
(No Model.)

F. L. DARRACH.

HATCHWAY FOR ELEVATORS.

No. 373,554.

Patented Nov. 22, 1887.



WITNESSES:
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FRANCIS L. DARRACH, OF PHILADELPHIA, PENNSYLVANIA.

HATCHWAY FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 373,554, dated November 22, 1887.

Application filed December 4, 1886. Serial No. 220,652. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS L. DARRACH, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, temporarily residing at Baltimore, in the State of Maryland, have invented a new and useful Improvement in Hatchways for Elevators, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figures 1 and 2 represent side elevations and partial vertical sections of portions of an elevator embodying my invention. Figs. 3 and 4 represent partial vertical sections in lines $x\ x$, Figs. 1 and 2, respectively, and partial side elevations at a right angle to said Figs. 1 and 2.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of means for automatically locking and unlocking the doors of the hatchway of an elevator, as hereinafter set forth.

It also consists of means, substantially as described, for automatically causing the closing of the doors in the event of fire.

Referring to the drawings, A represents the guides, columns, or frames for the car or carriage B of an elevator.

C represents the doors of the hatchway, the same being hinged to the floors of the building, as usual.

C' represents metal hooks or hooked catches, which are secured to the columns A or adjacent portion of the wall above the hinges of the doors and projecting inwardly, and being so located that when the doors are raised to full extent said hooks C' enter openings D in said doors and have their noses outside of the doors.

Pivoted to the under side of the doors, adjacent to the openings D, are metal latches E, which are so disposed that when the doors are raised the latches may engage with the hooks C', and thus hold the doors in open position. The heel ends of the latches are formed with cams or wings F F', which, as will be seen, extend in opposite directions from said heel ends in the direction of the width of the doors.

Attached to the sides of the carriage B are rollers or studs G, which project outwardly, and are so disposed that they are in the path of the outer faces of the cams F F', as will be

hereinafter fully described, said faces being preferably rounded for preventing abrupt action of the rollers G on said cams, and consequently on the connected latches.

The nose portions of the latches are formed of fusible metal; but all parts of the latches and the hooks C' may be made of such material, for purposes to be explained.

It will be seen that when the carriage ascends it raises the doors to upright positions and the hooks C' enter the openings D. The rollers G now reach the cams F and press against the same, whereby the latches E are lowered and engage with the hooks, thus locking the doors and preventing the same from closing. The carriage may continue its ascent, if so desired. It will now be seen that, owing to the motions of the latches on their axes, the cams F F' have been shifted, whereby the cams F' are in the path of the rollers G. Consequently, when the carriage descends, said rollers ride over the faces of said cams F' and press against the same, whereby the latches are raised and cleared of the hooks C' and the doors are permitted to fall toward the carriage, and thus close as the carriage continues its descent, it being seen that the top of the carriage has inclined beams or deflectors which prevent the doors from forcibly dropping when released.

Should the lowering of the carriage be neglected, whereby the doors remain open, in the event of fire the heat melts the latches or hooks, or both, so that the doors are no longer held, whereby they drop, thus closing the hatchway.

In order to prevent lateral motions of the carriage as it passes the doors, tracks H are secured to the latter in line with the tracks proper, A', of the elevator, whereby when said doors are raised the guides A² of the carriage engage with the tracks of the doors, and thus steady the carriage as said guides leave the tracks proper, said tracks A' being secured to the frames A of the elevator.

Should the doors C fail to close when the descending carriage B passes the same, they may be started in closing by the action of springs B', which are attached to the frames A, or otherwise suitably applied.

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

1. A hatchway having a hinged door with

an opening therein, a frame with a hook secured thereto, the hook being adapted to project through said opening, and a latch pivoted to the door and engaging the hooks when the
5 door is raised to full extent, all substantially as described.

2. A hatchway provided with a hinged door adapted to cover the opening in said hatchway, and having an opening therein, a hook
10 secured to the frame, so as to project through said opening when the said door is raised, a latch pivoted to the under side of the door, and having cams, as shown, and a carriage with studs, all of said parts combined and operating
15 substantially as and for the purpose set forth.

3. The frame A, with hook C', in combination with hinged door C, having opening D, the latch E, with cams F and F', and the carriage B, with rollers G on the sides thereof, all
substantially as described.

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4. The frame A, with hooks C', in combination with hinged door C, having opening D, the fusible latch E, and the spring B', all substantially as and for the purpose set forth.

FRANCIS L. DARRACH.

Witnesses:

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