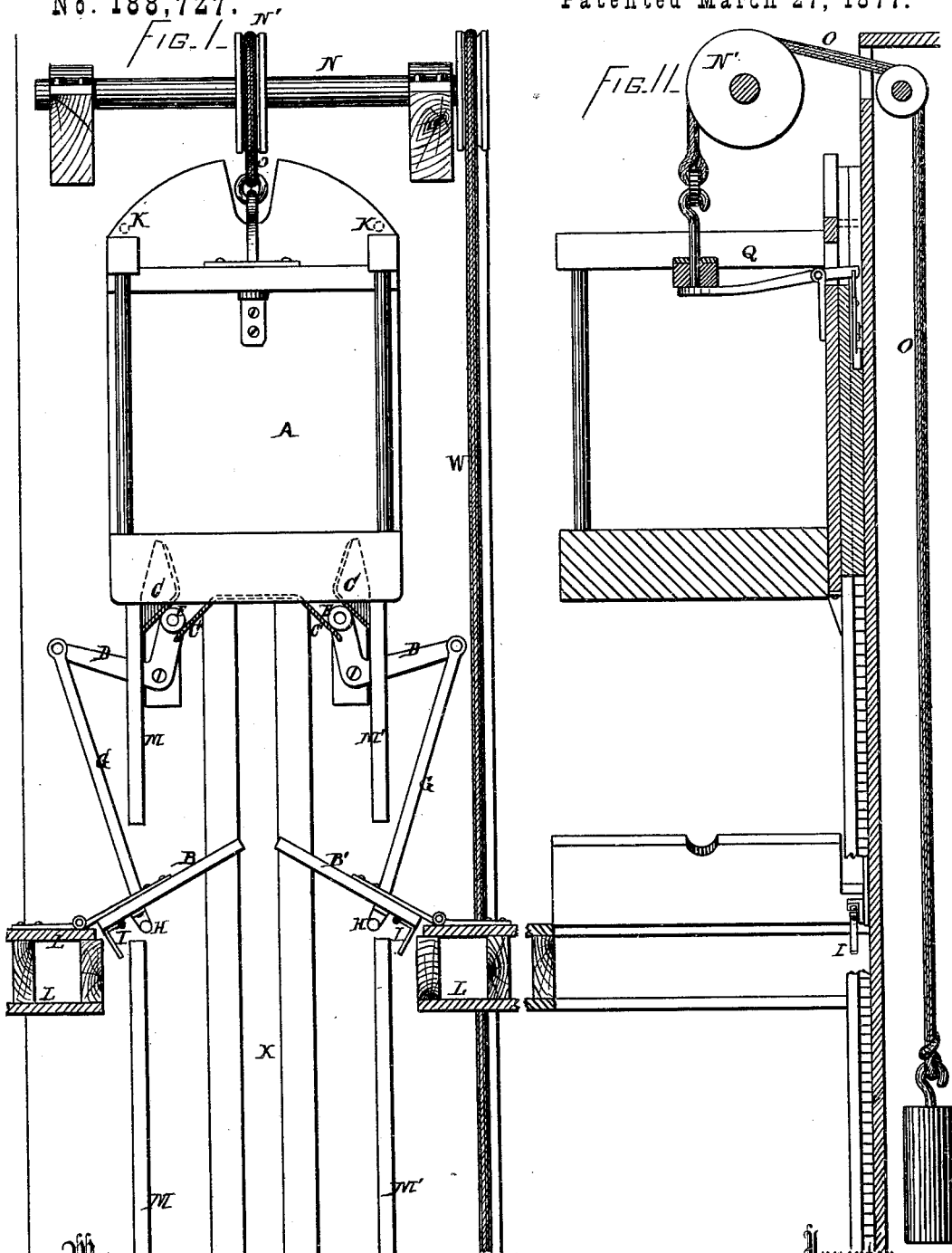


G. N. CREAMER.

HATCHWAYS.

No. 188,727.

Patented March 27, 1877.



Witnesses

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# UNITED STATES PATENT OFFICE.

GEORGE N. CREAMER, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN HATCHWAYS.

Specification forming part of Letters Patent No. **188,727**, dated March 27, 1877; application filed October 24, 1876.

*To all whom it may concern:*

Be it known that I, GEORGE N. CREAMER, of the city of Philadelphia and State of Pennsylvania, have made certain new and useful Improvements in Mechanism for Opening and Closing Hatches Automatically by the Car or Elevator in its Ascent and Descent; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, making part thereof, in which—

Figure 1 is a vertical cross-section, showing the hatches partly open. Fig. 2 is a vertical cross-section lengthwise of the hatches.

The object of my invention is to provide for the certain and positive opening and closing of the hatches on the various floors of buildings, and that without any possibility of their slamming; and it consists in certain double cams attached to the car, in which the ends of the levers which operate the doors traverse, and hinged projections on the doors, with which pins or projections on the car engage, thus insuring a positive closing of the door by the descent of the car.

Referring to the drawings, A is the car or elevator; B B, the hatches or trap-doors. C C' C' are double cams on the back of the car. D D' are bell-crank or elbowed levers, which are pivoted to upright posts, or to the wall at their elbows, one end of which is provided with pins or friction-rollers E E', which travel in the double cams C C' C'. G G' are rods, jointed at their upper ends to the bell-crank levers D D', and at their lower ends to the short arms H H', which are secured to the hatches. To the outer and under sides of the hatches are secured hinged catches I I, which fold upward, and permits the car in its ascent

to have a free passage. Pins or projections K K' are attached to the upper rear edge or side of the car, which engage with the catches I I when the car is descending, and drag or pull the free ends of the hatches onto the top of the car, and by which they are gradually closed.

The operation of my device is as follows: The top of the car in its upward movement lifts or opens the doors, leaving the inner ends of the bell-crank levers in such position that the friction-rollers on the ends thereof will come in contact or enter the double cams, which act as a brake, to ease the closing of the hatches. The cams on the car in its downward movement act on the bell-crank levers and force their inner ends down into nearly a horizontal position, thus opening the hatches, and, as the car descends, the edges of said hatches are drawn down by the catches and pins, so as to rest on the top of the car, and are thereby gently closed.

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

1. The combination of the car A, provided with the double cams C C' C', with the bell-crank levers D D', friction-rollers E E', rods G G', and doors B B', the whole arranged to operate in the manner set forth, and for the purpose specified.

2. The combination of the hinged catch or levers I I with the pins or projections K K', when arranged to operate in the manner described and for the purpose set forth.

GEORGE N. CREAMER.

Witnesses:

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