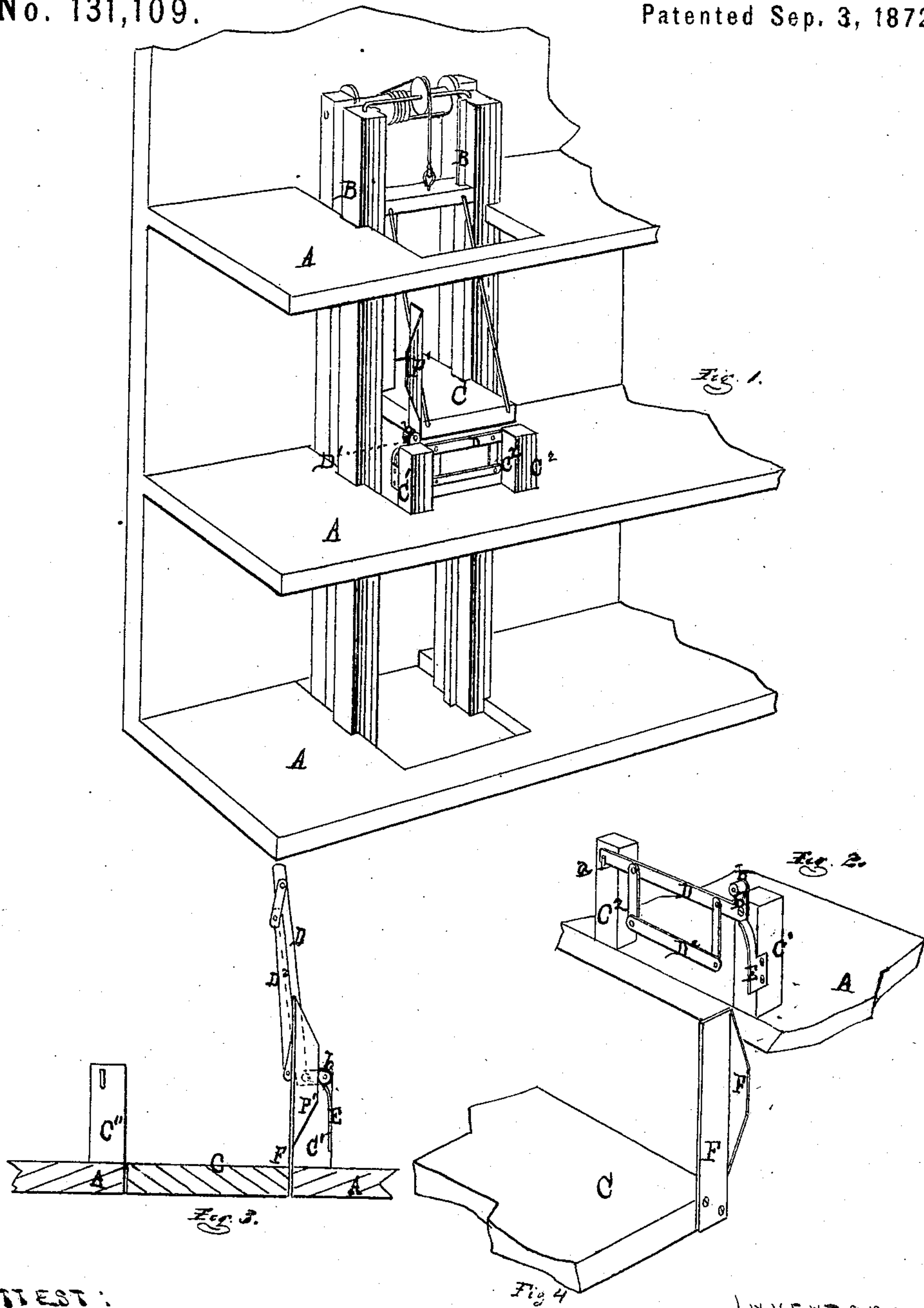


J. W. MEAKER.
Improvement in Safety-Gates for Hatchways.
No. 131,109. Patented Sep. 3, 1872.



ATTEST:
H. S. Sprague
H. F. Elbert

INVENTOR:
John W. Meaker
Per Atty—
H. S. Sprague

UNITED STATES PATENT OFFICE.

JOHN W. MEAKER, OF DETROIT, MICHIGAN.

IMPROVEMENT IN SAFETY-GATES FOR HATCHWAYS.

Specification forming part of Letters Patent No. 131,109, dated September 3, 1872.

To whom it may concern:

Be it known that I, JOHN W. MEAKER, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in an Automatic Gate for Elevator-Hatchways; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a sectional perspective view of a building with my improved gate applied to the middle-floor hatchway. Fig. 2 is a perspective view of the gate closed, looking from the hatch side. Fig. 3 is a sectional elevation from the same side, showing the gate raised; and Fig. 4 is a perspective view of one corner of the elevator-platform, showing the cam-standard which operates the gate.

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

This invention has for its object to provide the elevator-hatchways of stores, warehouses, and factories with a safety or guard gate, which will always remain closed, except when the elevator-platform is at or near the plane of the floor, when the gate will be opened by the platform through a cam-standard attached to one corner thereof, and closed again as the platform passes up or down, thereby preventing the frequent accidents arising from unguarded hatchways. The invention consists in a gate or bar pivoted to a post at one side of the hatchway, with an arm bent upward at right angles with the body of the gate, and provided with a friction-wheel at the upper extremity, with which comes in contact a cam-plate affixed to one corner of the platform, which raises the gate and lowers it again in passing the floor.

In the drawing, A represents the several floors of a building in which are cut hatchways, in the sides of which are erected the guides B B, which control the platform C in its vertical movement. The latter may be operated either by hand or power. At the front corners of the hatchway I erect the short standard-posts C' C''. To the inner top part of the former I pivot the end of a bar, D, whose other end, when lowered to a horizontal plane, is supported by a becket,

a, on the post C''. The pivoted end of the bar, if of metal, is bent upward at a right angle to form a short arm, D', at the upper end of which is pivoted a friction-roller, b. A spring, E, consisting of a single leaf of steel, is secured at its lower end to the back corner of the post C', and its upper end is curved slightly toward the hatchway, so that when the bar is thrown up to nearly a vertical position the roller at the end of the arm will press the free end of the spring, which will give the bar a forward and downward movement to close it when the pressure which raised it is taken away. The object of the spring is to prevent the bar from falling over the wrong way when lifted up; but any other equivalent means may be employed for the purpose. At the corner of the platform nearest the post C' there is erected a plate, F, preferably of metal, fastened to the side edge of the platform. A flange, F', projects at a right angle from the front edge of the plate F. The middle portion of its outer edge is vertical, while the ends are inclined or tapered toward the main plate, as shown.

It is evident that when the platform is lowered from the position shown in Fig. 1 the cam-like flange F' will compel the arm of the bar to describe a quarter circle and elevate the bar to the position shown in Fig. 3, which position it will maintain while the vertical part of the flange is passing down. As soon as the platform descends as far as the upper oblique edge of the flange its continued descent will allow the bar to lower to the horizontal position, as shown in Fig. 2. When the elevator-platform is ascending, as it approaches each floor the cam-flange raises the gate-bar and keeps it up until the platform has passed up a given distance above the floor-level, when the bar will close down again, as hereinbefore described. If desired, a lower bar, D², may be suspended from the bar D to preclude the possibility of a child's walking into the open hatchway under the bar D. Where the gate is made of wood and is heavy it may be counter-weighted to a certain extent, but not enough to prevent it from closing down by its own gravity when released from the platform.

As will be seen these safe-guards are simple and cheap of application, entirely auto-

matic in operation, and not liable to get out of order or damaged in any way, as they do not interfere with the free passage to or from the platform when it is at the hatchway.

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

The bar D, pivoted to the post C' at the corner of a hatchway, and provided with the arm D', in combination with the cam-flange F', or

its equivalent, erected on the adjacent corner of the elevator platform, substantially as described and shown, and for the purpose specified.

JOHN W. MEAKER.

Witnesses:

H. F. EBERTS,
N. S. SPRAGUE.