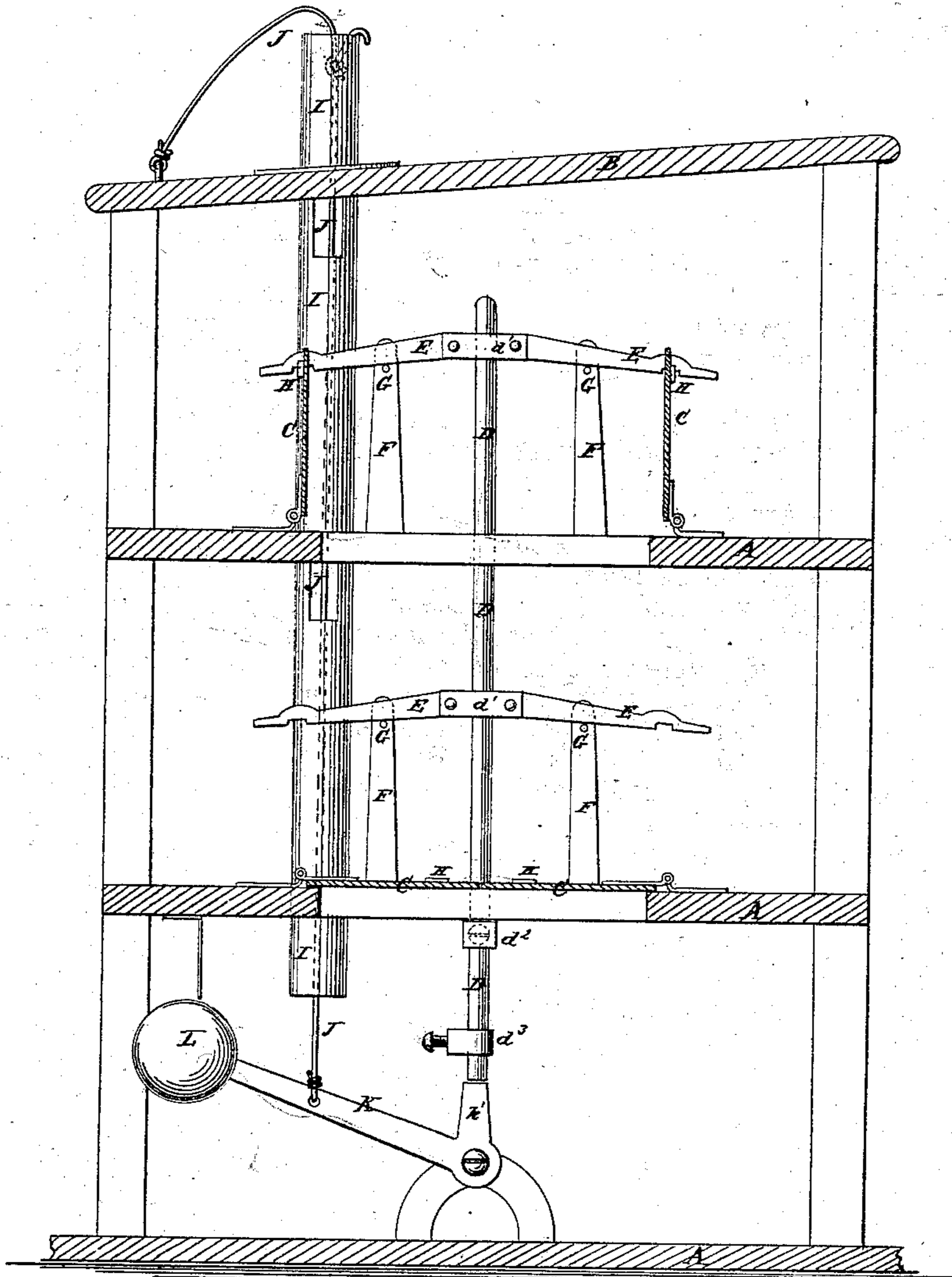


C. H. REYNOLDS.

Self-closing Hatches.

No. 135,728.

Patented Feb. 11, 1873.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES H. REYNOLDS, OF WILLIAMSBURG, NEW YORK, ASSIGNOR TO HIMSELF AND HENRY C. RICHARDSON, OF SAME PLACE.

IMPROVEMENT IN SELF-CLOSING HATCHES.

Specification forming part of Letters Patent No. 135,728, dated February 11, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. REYNOLDS, of Williamsburg, in the county of Kings and State of New York, have invented a new and useful Improvement in Automatic Devices for Closing Hoisting-Hatches, of which the following is a specification:

The figure is a side view of my improved device, the hatches and hatchway being shown in section.

My invention has for its object to furnish an improved device for holding the hatches of a hoistway or elevator well raised or open, and which shall be so constructed that in case of accidental fire the hatches will be closed automatically, and which shall be simple in construction, convenient in use, and reliable in operation. The invention consists in the combination of the sliding rod, pivoted latches, and their stops with each other and with the arms attached to the hatches for holding said hatches open, and in the combination of the tube having openings formed in it, the rope, and the weighted and armed lever with the sliding rod and pivoted latches, as hereinafter fully described.

A represents the various floors, and B the roof of a storehouse or other building. C are the hatches which close the hoistway, and which may be double or single hatches, as may be desired. D is a rod passing up through the various floors A. To the rod D, above each floor A, except the lower floor, are attached yokes d^1 , to which are pivoted the inner ends of the latches E, which work up and down along guide-standards F attached to the floors A. To the standards F are attached stops G to prevent the latches E from dropping down too far. In the lower edge of the outer parts of the latches E are formed notches to receive arms H attached to the ends of the hatches C.

By this construction, as the hatches C are raised or opened the arms H strike the latches E, raise them, and slide along their lower edges till they enter the notches in said latches E, and the hatches are thus held raised or open. The latches E are so arranged with respect to the hatches C that when the said latches E are raised the said hatches C will drop shut by their own weight.

I is a pipe or tube, which passes up through the various floors of the building, except the lowest one, and through the roof. The ends of the tube I are left open, and openings are formed in its side above each floor, as shown in the figure. The upper end of the tube I may be covered with a cap, which, however, should be so arranged as not to interfere with the draft through said tube. J is a rope, which passes down through the tube I, and the upper end of which is secured in the upper end of the tube I by a hook-bolt or other means. The lower end of the rope J is attached to a lever, K. One end of the lever K is pivoted to a support attached to the lowest floor, and to its other or free end is attached a weight, L. Upon the pivoted end of the lever K is formed an upwardly-projecting arm, k' , upon the end of which, when the weighted end of the lever K is raised, rests the lower end of the rod D.

By this construction, when the weighted end of the lever K drops the arm k' is withdrawn from beneath the lower end of the rod D, allowing said rod to drop. The downward movement of the rod D raises the outer ends of the latches E, which recloses the hatches C, and allows them to drop shut. The upward movement of the rod D is limited by a stop, d^1 , attached to the rod D, and which strikes against the floor A. The downward movement of the rod D is limited by a stop, d^2 , attached to the said rod, and which strikes against the arm k' of the weighted lever K.

By this construction, should a fire occur near the hatchway, the tube I will act as a flue to draw the flames into it so that the rope J will be quickly burned off, allowing the weighted lever to drop, and thus closing the hatches C.

If desired, the rope J may be coated with some substance that will ignite readily, so that the rope will burn off quickly and close the hatches.

The openings in the tube I between the various floors should be so made as not to interrupt the draft, and at the same time allow the flame to readily pass through them.

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

1. The combination of the sliding rod D, pivoted latches E, and stops G with each other and with the arms H attached to the hatches C for holding said hatches open, substantially as herein shown and described.

2. The combination of the tube I having openings formed in it, the rope J, and the weighted and armed lever K L k' with the

sliding rod D and pivoted latches E, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:

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