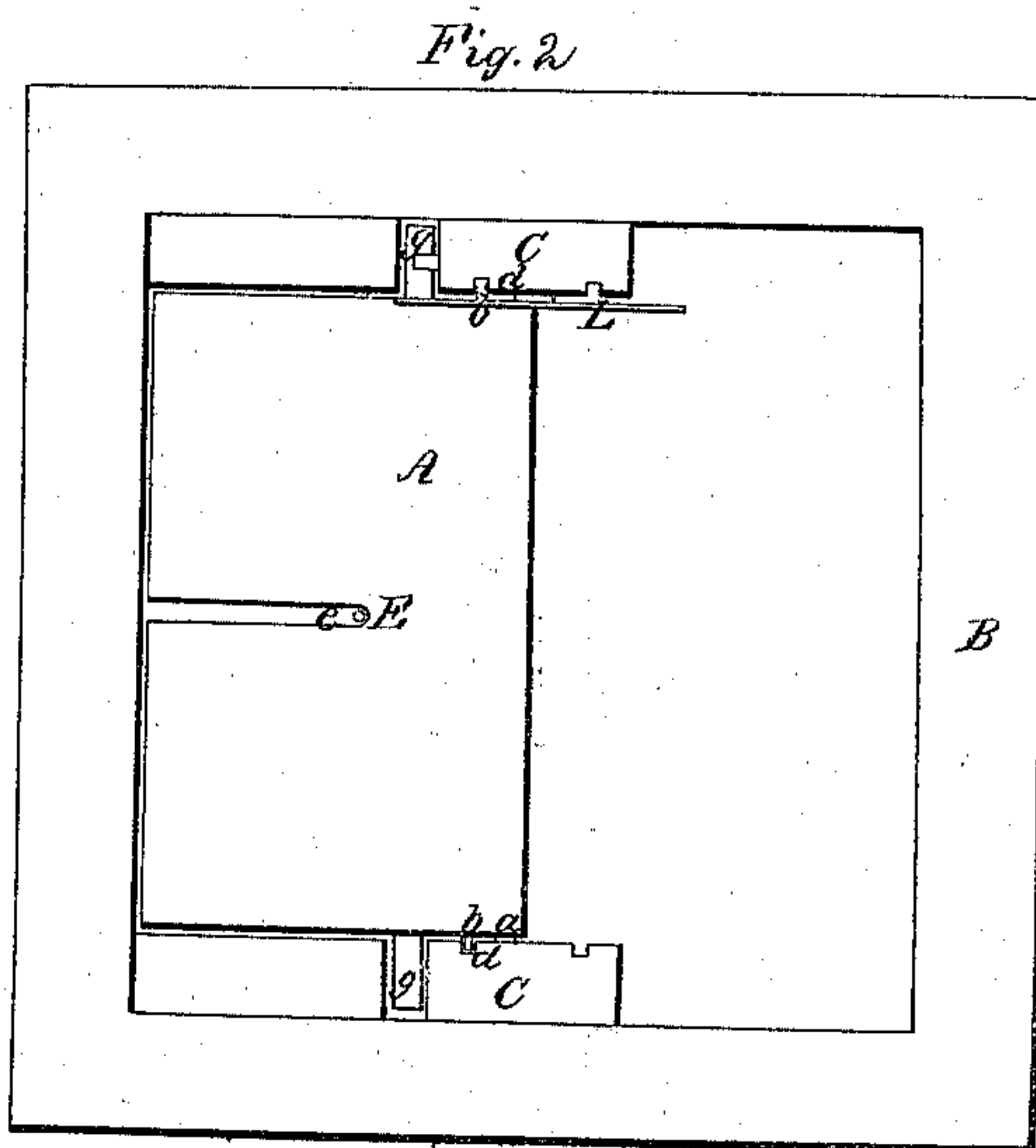
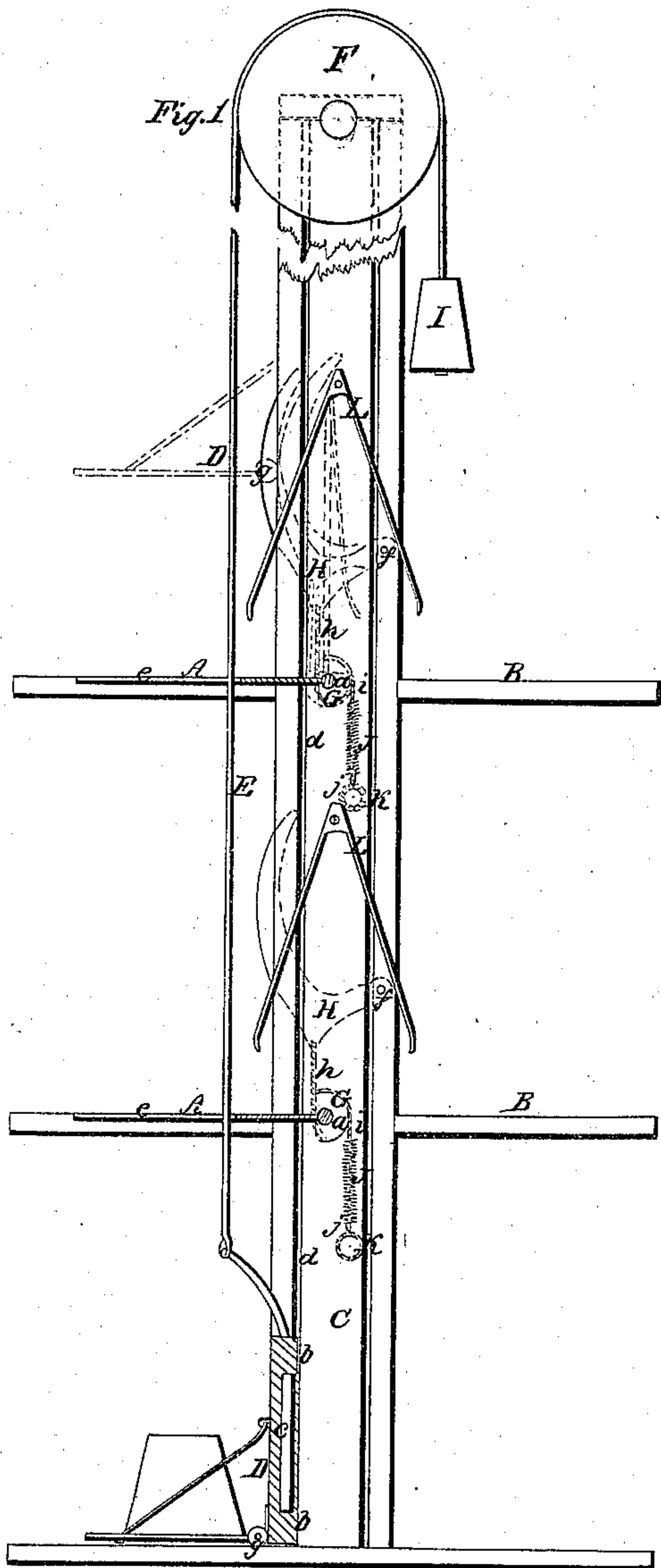


*D. Tallcot.*  
*Self-acting Safety Hatch,*  
*Nº 10,899, Patented May 9, 1854.*





# UNITED STATES PATENT OFFICE.

DANIEL TALLCOT, OF NEW YORK, N. Y.

## CONSTRUCTION OF HATCHES.

Specification of Letters Patent No. 10,899, dated May 9, 1854.

*To all whom it may concern:*

Be it known that I, DANIEL TALLCOT, of the city, county, and State of New York, have invented a new and useful Improvement in Hatches, Whereby the Hatch is Rendered Safe and Self-Acting; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of the hatch. Fig. 2, is a plan or top view of one of the doors of the same.

Similar letters of reference indicate corresponding parts, in each of the two figures.

The nature of my invention consists in attaching to the axis or pivots of each door of the hatch, a half pulley, to which a lever is connected by a chain or rope; said lever being so constructed and arranged that the carriage, in its descent, will operate upon said levers and open the doors, allowing the carriage to pass through them; the doors, after the carriage has passed through them, closing by their own gravity; the falling or closing of the doors being graduated by means of springs.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, A, represent two doors of a hatch.

B, B, are the floors of the building.

The hatch doors are suspended or hung upon pivots, (a), (a), at their back ends; said pivots working in uprights, C, C, which extend upward the height of the building, or above the highest floor.

D, is a carriage, having cleats, (b), (b), at each end of its back, (c), which cleats work in grooves, (d), (d), in the inner sides of the uprights, C, C.

E, is a rope which is attached to the carriage, and passes up through slots, (e), in the doors, and over a pulley, F, hung on a crosspiece at the top of the uprights.

To one end of the axis of each door, A, or to one of the pivots, (a), there is attached a half pulley, G,—see Fig. 1,—having a rope or chain, (h), connected to it, which chain is secured to a lever, H, placed a short distance above it. The fulcrum of these levers are represented by (f). The arms of the levers are rounded or curved, and the curved surface extends beyond the edge of the upright. At the lower end of the back, (i),

of the carriage, D, there are rollers, (g), one at each end; and, as the carriage is raised and lowered, these rollers bear against the edges of the uprights.

The half pulleys, G, and levers, H, may be placed on the outer side of one of the uprights, or they may be placed in a groove made in the upright.

I, is a counterpoise, placed at the end of the rope, E, opposite to the end to which the carriage, D, is attached.

The carriage, D, is elevated by turning the pulley, F; and, as the carriage ascends, it of course raises the doors, A. When the carriage descends, one of the rollers, (g),—the one that bears against the upright having the levers, H, attached to it,—presses inward the curved arms of said levers, and the ropes or chains, (h), are of course raised, and the half pulleys, G, turned a quarter of a revolution, and the doors, A, A, are elevated or brought to a vertical position; see dotted red lines in Fig. 1. The carriage passes through each door in this manner; the doors, after the carriage has passed through them, closing by their own gravity.

The doors are prevented from falling too heavily, by means of spiral springs, J, which are attached to the half pulleys, G, by cords or chains, (i). The lower ends of these springs have small cords, (j), attached to them, which cords are affixed to thumb screws, K. By turning these thumb screws, the strain or pull of the springs, J, upon the half pulleys may be graduated so that the doors may not fall too heavily.

L, L, are springs, secured to the inner side of one of the uprights, C. These springs are for the purpose of giving the doors an impetus downward, or to throw them out of a vertical position, after the carriage has passed through, so that they may fall by their own gravity.

Thus it will be seen that the hatch is self-acting; and that there is no danger of the doors being left open. Hatches, as at present arranged, are extremely dangerous. They are almost invariably placed at the entrance of the stairways of buildings, and the upper doors are adjacent to the upper stairways. Hence, when the doors are left open, through carelessness, accidents occur. This objection it will be seen I have entirely obviated.

Having thus described my invention, what



I claim as new, and desire to secure by Letters Patent, is,

Causing the doors, A, of the hatch, to be elevated or raised as the carriage descends, 5 by attaching to one of the pivots, (a), of each door, a half pulley, G, which is connected by a cord, (h), to a lever, H; said levers having curved arms which project a short distance beyond the edge of one of

the uprights, C, so that they may be operated upon by one of the rollers, (g); the doors being counterpoised by the spiral springs, J, or their equivalents, as set forth.

DANIEL TALLCOT.

Witnesses:

S. H. WALES,  
O. D. MUNN.