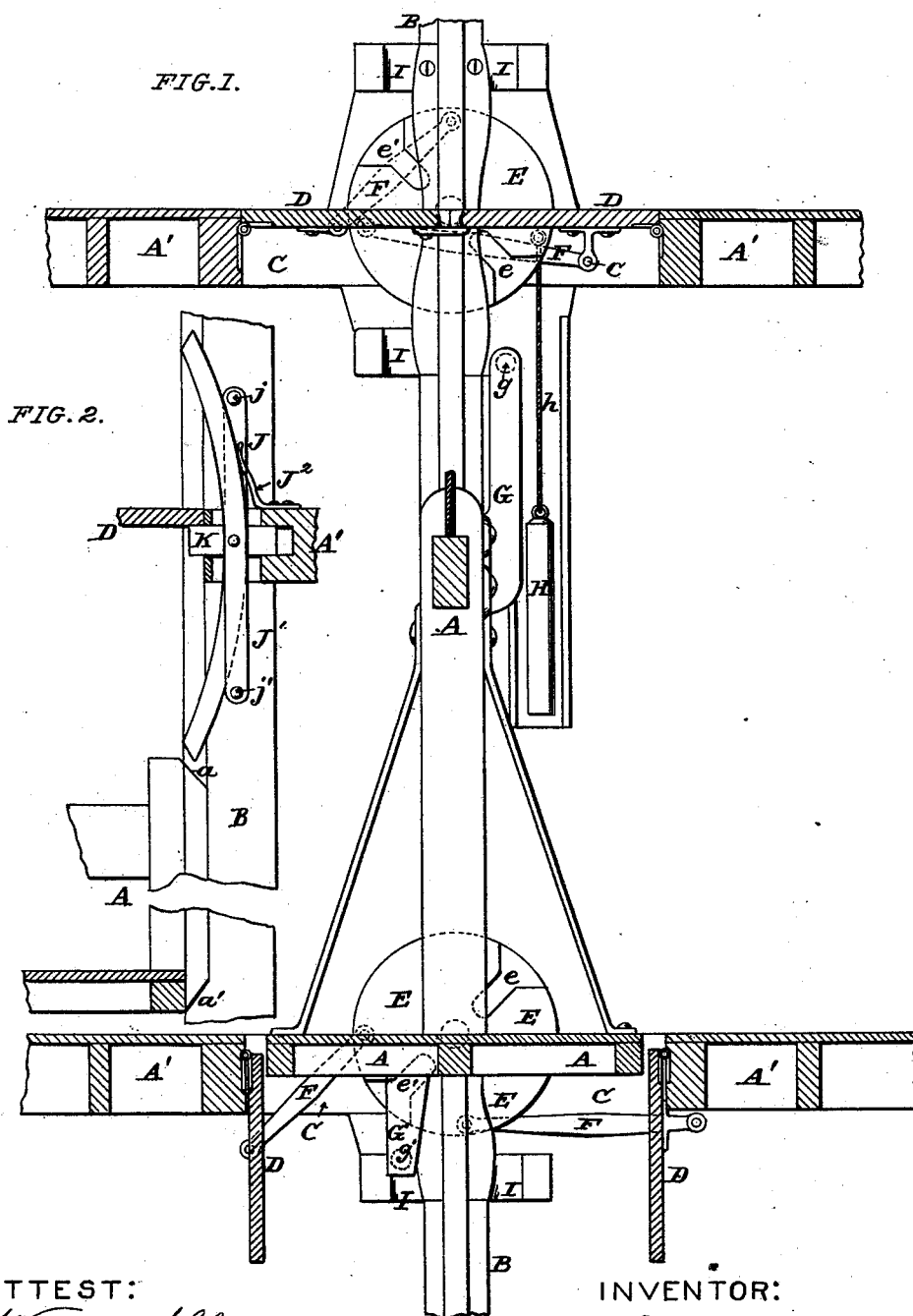


J. J. HARTMAN.
Automatic Hatch-Covers.

No. 219,720.

Patented Sept. 16, 1879.



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UNITED STATES PATENT OFFICE.

JOHN J. HARTMAN, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN AUTOMATIC HATCH-COVERS.

Specification forming part of Letters Patent No. **219,720**, dated September 16, 1879; application filed August 7, 1879.

To all whom it may concern:

Be it known that I, JOHN J. HARTMAN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Automatic Hatch-Covers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to the construction of an automatic device for operating hatch-covers, which will open them on the approach of the elevator-platform and close them after the platform has passed, and thus prevent the possibility of accident by falling through the hatch, as well as preventing the burning of buildings by draft through the elevator-shaft; and this invention consists, first, in the provision at one side of the hatch of a turning disk, which is connected to the hinged hatch-covers by links, and is provided with radial slots, in which engage pins projecting upward and downward from the platform, to turn said disk and open or close the hatch-covers, according as the platform is moving toward or from the hatch-openings, as will hereinafter more fully appear; secondly, in the device for locking the hatch-covers in their closed position. This device consists of a sliding bolt operated by a set of duplicate levers, which pass in opposite directions through the floor a sufficient distance to enable an inclined projection on the side of the platform to operate them to retract the bolt and allow the covers to be opened or swung out of the way of the platform before it reaches the hatch-opening. The levers are moved in one direction by a spring.

In the drawings, Figure 1 is a vertical section illustrating my invention. Fig. 2 is a detail section of the hatch-cover locking device.

The elevator-platform A and guide-posts B may be of any ordinary shape and construction.

C are the hatch-openings, at the sides of which are hinged the hatch covers or leaves D, which are connected to the turning disk E by links F. These disks are pivoted to the guide-posts B, and are provided with radial

grooves *e e'*, in which pin-projections *g g'* on the platform engage to turn the same and open or close the hatch-covers D through the links F F.

The pin-projections *g g'* are at the end of arms G G, which project a sufficient distance above and below the elevator-platform A, as shown, to operate the disk to open and close the hatch-covers before the platform has reached and after it has passed the hatch-openings.

The grooves *e e'* are made bell-mouthed for the more ready entrance of the operating-pins *g g'*.

H is a counterbalance-weight, attached by a cord, *h*, to the disk E, to ease and regulate the movement of the disk and hatch-covers.

I are guide slots or grooves in portions of the frame, to guide the pins *g g'* into engagement with the slots or grooves *e e'*.

J J' are levers, hinged at *j j* to the guide-posts B, and having their ends projecting in opposite directions through the floor A'. These levers are connected by a pivot-pin or other suitable device to a sliding bolt, K, so as to move the same in and out of engagement under the hatch-covers D; and these levers are operated to retract the bolt at the proper time by the inclined faces *a a'* on the side of the elevator-platform.

J² is a spring acting against one of the levers to force the bolt K outward into engagement with the hatch covers or leaves.

The operation of my improved device is as follows: The platform A, as it ascends, first retracts the bolt K by means of its inclined face *a* acting against the lever J, after which the pin *g* enters the slot or groove *e* and turns the disk E, which, through the links F F, opens the hatch-covers D. On the further ascent of the platform past the floor the pin *g'* enters the slot *e'* and turns the disk to close the hatch-covers; after which the lever J is released and the bolt K allowed to engage under and lock the hatch-covers.

In the descent of the platform the inclined face *a* acts against the lever J' to retract the bolt K, and the pin *g'* engages the slot *e'* to open the hatch-covers, while the pin *g* engages the slot *e* to close the covers.

In Fig. 1 I have shown the hatch-covers in their opened and closed position, with the relative position of their operating mechanism in each case.

I claim as my invention—

1. The combination, with the hinged hatch-covers D of the turning disk E, having slots *e e'*, and links F, of the platform A, having pin-projections *g g'*, substantially as set forth.

2. The duplicate levers J J', bolt K, hatch-covers D, in combination with the platform A, having inclined faces *a a'*, substantially as set forth.

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Witnesses:

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WILLIAM H. HARTMAN.