R. H. MARTIN & C. R. OTIS.

Improvement in Hatches for Hoisting-Machines.

No. 131,888. Patented Oct. 1, 1872.

Fig: 1

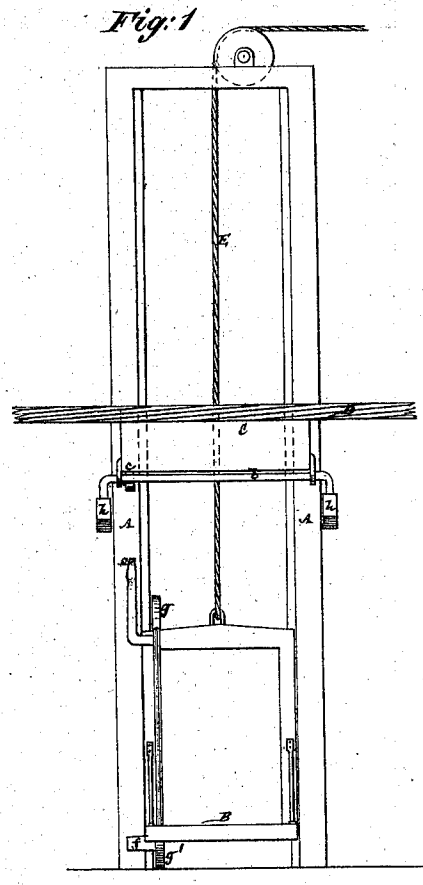


Fig: 2

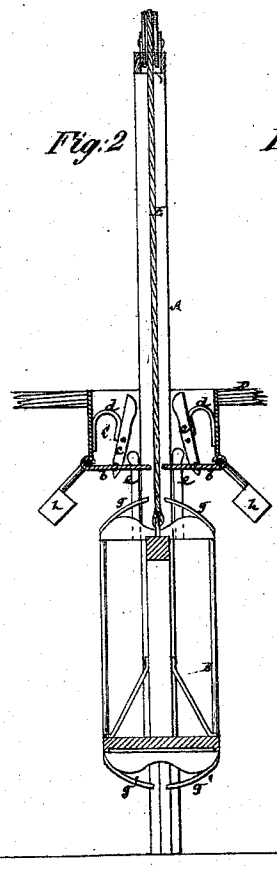


Fig: 3

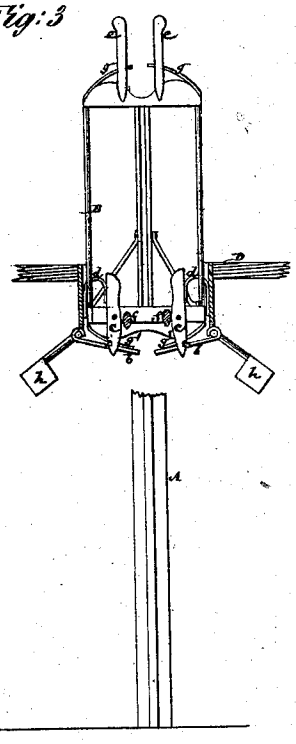
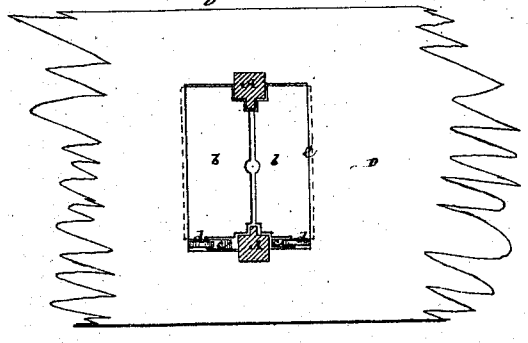


Fig: 4



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AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

ROBERT H. MARTIN, OF BROOKLYN, AND CHARLES R. OTIS, OF YONKERS, NEW YORK.

IMPROVEMENT IN HATCHES FOR HOISTING-MACHINES.

Specification forming part of Letters Patent No. **131,888**, dated October 1, 1872.

To all whom it may concern:

Be it known that we, ROBERT H. MARTIN, of Brooklyn, in the county of Kings and State of New York, and CHARLES R. OTIS, of Yonkers, in the county of Westchester and State of New York, have invented a new and useful Improvement in Hatches for Hoisting-Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a front elevation of a hoistway, with cab, and our improvement in hatches as applied thereto; Fig. 2 is a sectional side view of the same, showing the cab in position for passage in an upward direction through a hatch; Fig. 3, a similar view, showing the cab as commencing its descent therethrough; and Fig. 4 is a sectional plan.

Similar letters of reference indicate corresponding parts.

This invention relates to safety-hatches for hoisting-machines, in which the hatches are automatically opened and closed as the cab passes up and down through or past them; and the improvement consists in a novel arrangement of hinged hatches or lids—relatively to the floor they belong to—whereby, both when opened and closed, they form no obstruction above the upper surface of said floor to interfere with the loading and unloading of the cab. The improvement also consists in various novel means or combinations of means for automatically opening and closing the hatches as the cab passes through them, whereby a direct action and great simplicity are attained.

In the accompanying drawing, A A represent the guide-posts of a hoistway, and B a cab, arranged to travel up and down therein. C is a hatch, in or of a floor, D, through which the cab B is free to pass accordingly as lifting force is applied to or removed from the hoisting-rope E. The hatch C is composed of a well fitted with lower-hinged doors or lids *b b*, having their hinges or fulcrums on opposite sides of the well. Said lids are free to open both up and down, accordingly as the cab makes its ascent or descent through the hatch; and the well of the latter is of such a depth that when the lids *b b* are raised, they present no obstruction above the surface of the floor to interfere with the loading and unloading of the cab, and so that when the lids *b b* are closed they prevent any through draft up the hoistway in case of a fire, and form a safeguard against persons or bodies falling theredown. To this end they may be locked, when closed, by lever-catches *c c*, suspended from intermediate fulcrums on one or both sides of the well, and acted upon by springs *d d*, to keep said levers in lock with the lids, and in proper position for upper and lower releasing-knobs or projections *e e* and *f f*, attached to the cab, to rub against or over the inside edges of the levers *c c*, as the cab commences its ascent or descent through the hatch, and, by moving said levers, operating to release the lids *b b*, so that openers *g g'*, formed of inclines, projections, or springs, on the top and bottom of the cab, are free to act upon the lids *b b*, to open them as required. Springs or weights *h h*, are arranged or applied in such manner to the lids *b b* as to effect the closing of them when the cab is clear of the hatch.

By this system or combination of direct means for automatically opening and closing the hatches of a hoistway, all complicated arrangements of cords and pulleys for the purpose are avoided, and great simplicity generally is attained.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The hatch C, formed of a well provided with hinged lids or doors, arranged to open both upwardly and downwardly within or below the well in the floor, and made self-closing by springs or weights, substantially as specified.

2. The combination of the lever-catches *c c*

with the hatch-lids or doors *b b*, arranged for operation within the well of the hatch, essentially as described.

3. The combination of the releasing-knobs or projections *e e* and *f f*, with the lever-catches *c c* and hatch-lids or doors *b b*, substantially as specified.

4. The combination of the lid-openers *g g'*, attached to the top and bottom of the cab, the catch-levers *c c*, the lids or doors *b b*, and the releasing-knobs or projections *e e* and *f f*, essentially as described.

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CHAS. R. OTIS.

Witnesses:
JAS. HENDERSON,
GEORGE E. FILLIS.