

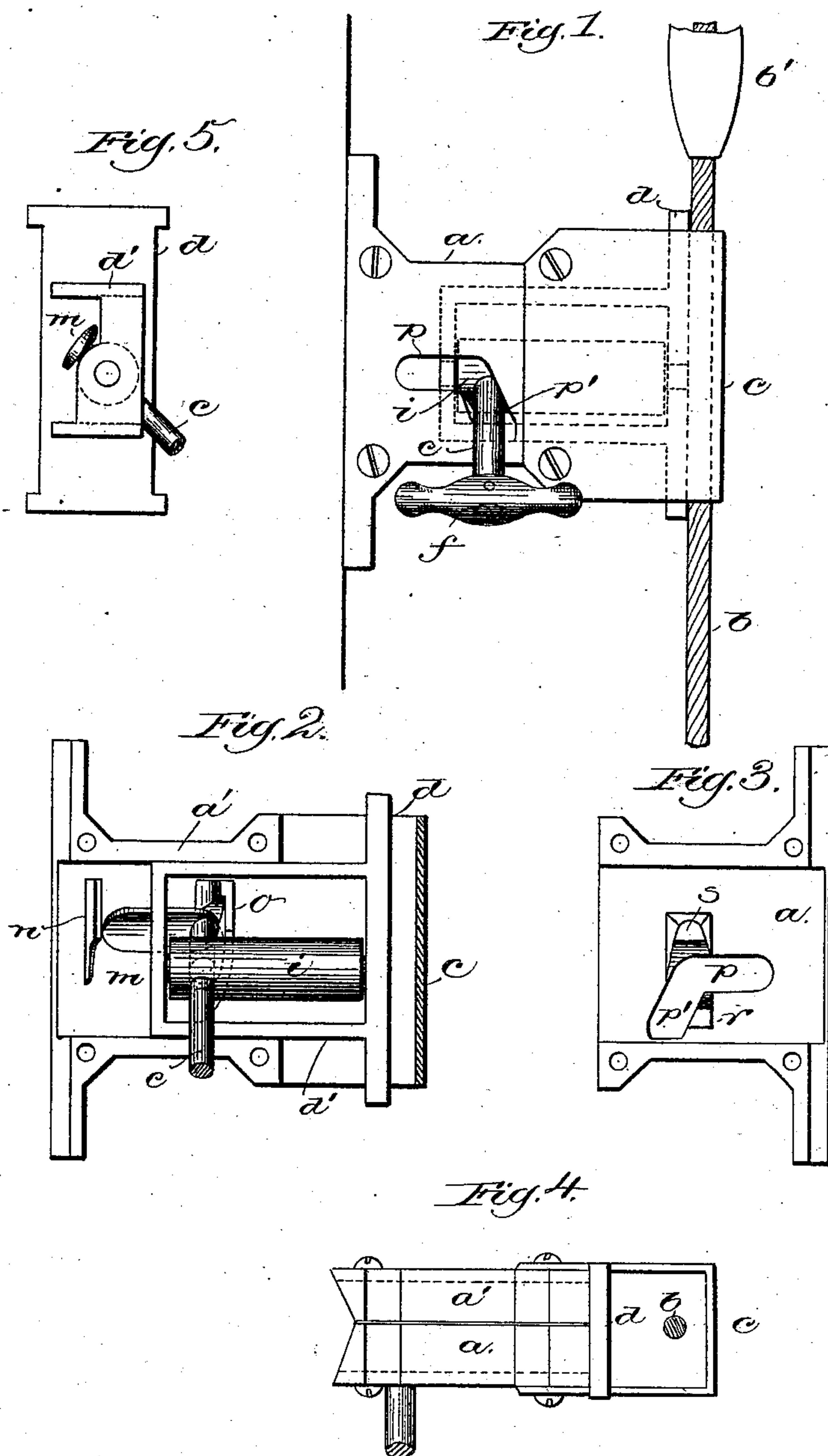
(No Model.)

G. A. GROVER & E. E. WORDEN.

ELEVATOR LOCK.

No. 287,668.

Patented Oct. 30, 1883.



Witnesses,
John F. C. Prinkert
B. J. Noyes.

Inventors,
George A. Grover,
Edwin E. Worden,
by Crosby & Gregory Attys.

UNITED STATES PATENT OFFICE.

GEORGE A. GROVER, OF BOSTON, AND EDWIN E. WORDEN, OF SOMERVILLE,
MASSACHUSETTS.

ELEVATOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 287,668, dated October 30, 1883.

Application filed September 17, 1883. (No model.)

To all whom it may concern:

Be it known that we, GEORGE A. GROVER, of Boston, county of Suffolk, and EDWIN E. WORDEN, of Somerville, county of Middlesex, both of the State of Massachusetts, have invented an Improvement in Elevator-Locks, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Our invention relates to a locking device for the shipper rope or chain of elevators, and has for its object to prevent accidents arising from the moving of the elevator at improper times.

In elevators as usually constructed for the conveyance of merchandise the shipper is generally accessible from all the landings, as well as from the car itself, and it frequently happens that a person at one landing sets the car in movement while it is in use at another landing, sometimes causing serious accidents.

The invention consists in a locking device attached to and traveling with the car, by means of which the attendant can securely fasten the shipper-rope, and consequently prevent the movement of the car by persons at other landings. The locking device consists, essentially, of a pair of jaws and mechanism to operate them, the said jaws, when open or separated, forming a guide for the shipper-rope, which then passes freely between them, the opening being sufficiently large to permit the usual bulbs or handle enlargements to pass through.

The invention also consists in details of construction of the locking device.

Figure 1 is a front elevation of a locking device embodying this invention; Fig. 2, an elevation with one of the plates forming the casing or frame-work of the locking device removed; Fig. 3, an elevation of the part removed in Fig. 2; Fig. 4, a plan view of the locking device, and Fig. 5 a rear end view of the movable jaw.

The operating mechanism of the locking device is contained in a stout frame or case, *a a'*, adapted to be securely fastened to some part of the frame-work of the elevator-car, in proper position with relation to the shipper-rope, a portion of which is shown at *b*, Fig. 1. The

said casing has connected with it, at its forward end, an open frame, *c*, constituting the fixed jaw of the rope-gripping jaws, and also forming a guide for the said rope in the movement of the car relative thereto. The movable jaw *d* is provided with a rectangular frame, *d'*, which slides longitudinally in a suitable guide or mortise in the plates *a a'*. The movable jaw *d* is operated by a spindle, *e*, provided with suitable cross-piece or handle, *f*, for rotating it, the said spindle being loosely fitted in a transverse passage of a shaft, *i*, that is free to rotate in the portion *d'* of the movable jaw. The spindle *e* has fixed upon it a tongue, *m*, which, by its engagement with abutments *n o* on the plate *a'* as the said spindle is rotated by the handle *f*, causes the said jaw *d* to move toward and from the jaws *c*. The spindle *e* travels with the said jaw through a slot, *p*, in the plate *a*, and the said slot is inclined, as shown at *p'*, in the part through which the spindle *e* passes when the jaw *d* has arrived near the jaw *c* and begins to press on the rope *b*.

By means of the tongue *m* the jaw *d* can, by the rotation of the spindle *e* on its axis, produce considerable movement of the jaw *d*, separating it from the jaw *c*, as shown in Fig. 4, a sufficient distance to permit the usual bulbs or enlargements, *b'*, (see Fig. 1,) on the shipper-rope *b* to pass through, and by the angular movement of the spindle *e* in the portion *p'* of the slot the jaw *d* is moved forward by a powerful wedge-like action, it firmly gripping the rope *b*.

The plate *a* is provided with internal projections, *r s*, which serve partly as a stop to limit the forward movement of the jaw *d* and partly as guides for the rock-shaft *i* in the said movement. When the shipper-rope has no enlargements upon it, the jaw *d* will only require a slight movement, which can be obtained by the angular movement of the spindle *e* in the inclined slot *p'*, and in this case the tongue *m* and co-operating projections *n o* may be omitted.

The locking device traveling with the car may be employed to grip the shipper-rope *b* by merely manipulating the handle *f* to thus stop the car, after which the shipper-rope may remain locked as long as it is desired to have the car remain stationary.

When it is no longer desired to retain the car at a given landing, the shipper-rope may be released, so that it can be operated from any other landing in the usual manner.

5 We claim—

1. The combination of the fixed jaw with the movable jaw and its actuating mechanism, constituting a locking device for the shipper-rope of an elevator, substantially as described.
- 10 2. The casing, and jaw fixed thereon, adapted to inclose and form a guide for the shipper-rope, combined with the movable jaw and its actuating-spindle, passing through an inclined slot in the said casing, substantially as and
- 15 for the purpose described.
3. The casing having an internal guide or mortise and internal projections or abutments, combined with the fixed and movable jaws, and the actuating-spindle and tongue adapted

to engage the said abutments to operate the 20 said jaw, substantially as described.

4. The casing and fixed and movable jaws, combined with the shaft pivoted on the said movable jaw, and the spindle and tongue, substantially as described. 25

5. The casing, and jaw fixed thereon, made as a frame to inclose and guide the shipper-rope, combined with the movable jaw and its actuating mechanism, substantially as described. 30

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE A. GROVER.
EDWIN E. WORDEN.

Witnesses:

JOS. P. LIVERMORE,
W. H. SIGSTON.