

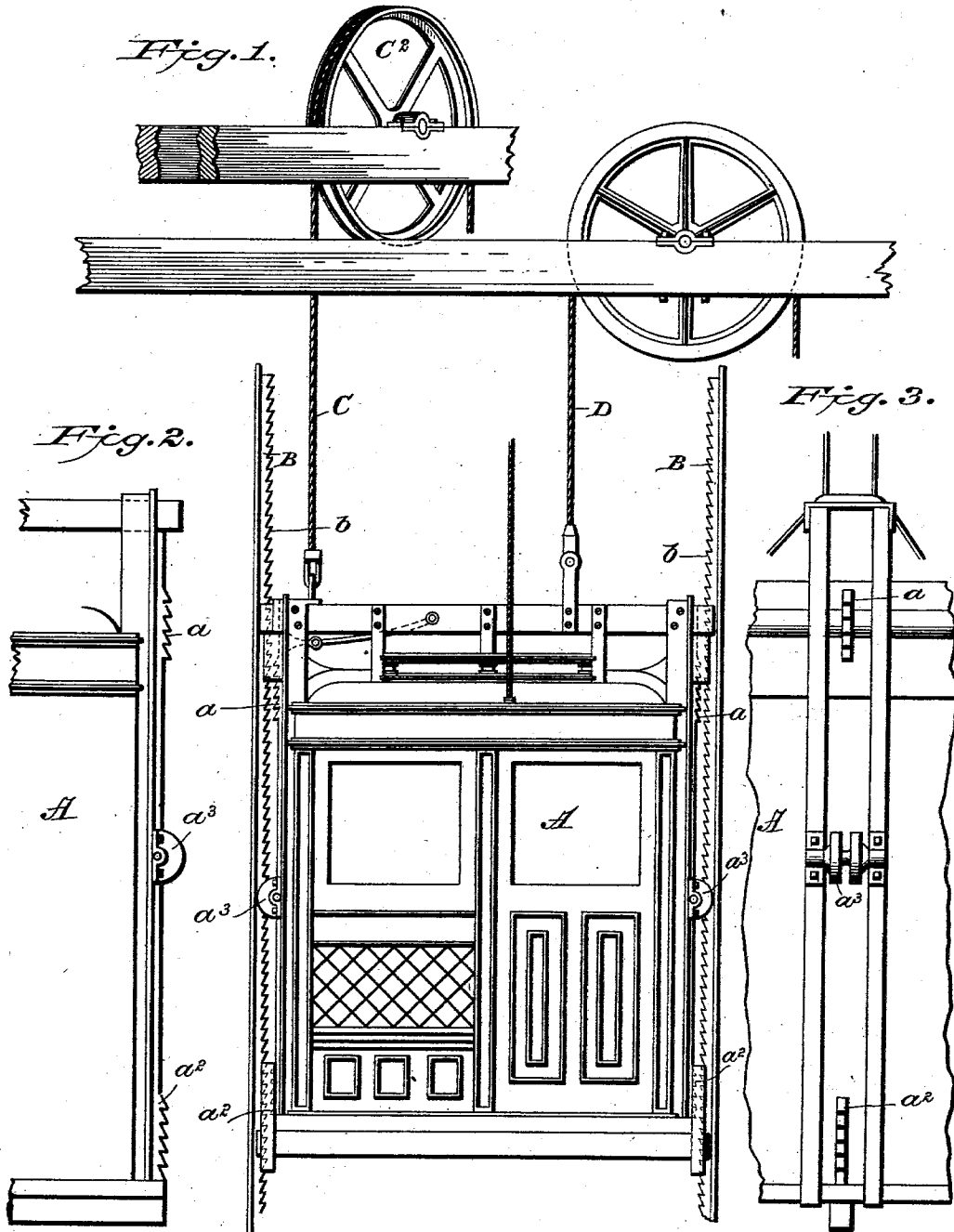
No. 634,513.

Patented Oct. 10, 1899.

H. R. TRACY.  
ELEVATOR.

(Application filed Feb. 16, 1899.)

(No Model.)



WITNESSES:

*G. S. Elliott.*  
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# UNITED STATES PATENT OFFICE.

HARRIET RUTH TRACY, OF PARIS, FRANCE.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 634,513, dated October 10, 1899.

Application filed February 18, 1899. Serial No. 706,017. (No model.)

*To all whom it may concern:*

Be it known that I, HARRIET RUTH TRACY, a citizen of the United States, residing at Paris, in the Republic of France, have invented certain new and useful Improvements in Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The objects are to provide an elevator the car whereof shall run smoothly up and down when all the parts are in good order and work properly and wherein the sudden descent of a car arising from any cause, such as the breaking or displacement of a hoisting-rope or the counterweight-rope, will automatically be checked without allowing the car to attain any considerable headway, thereby preventing damage either to the car or to the guides of the elevator.

With these objects in view the invention consists in the combination, with an elevator-car, of supporting-ropes attached thereto at points removed from its center, racks arranged on opposite sides of the car, guide-wheels also arranged on opposite sides of the car and at points approximately midway of the height of the same, and guideways against which the guide-wheels bear, the ways being provided with racks to be engaged by the racks on the car should derangement occur to either of the supporting-ropes.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of a car and hatchway constructed in accordance with my invention, the walls of the hatchway being removed in order more clearly to illustrate the invention. Fig. 2 is a view in detail of a part of the framework of a car, showing the racks therein and a guide-wheel by which the car is retained in proper position as it moves up and down in the hatchway; and Fig. 3 is a view in front elevation of a small section of a car, showing the arrangement of racks and guide-wheels.

In the drawings, A designates a car, which may be of any suitable size and shape and is designed to run up and down between uprights B B, by which the car is guided in its movements. The car is provided on each of

the sides adjacent to the uprights with two racks, those marked *a* being placed near the upper portion of the car and the others *a*<sup>2</sup> being placed near the lower portion thereof. Each side of the car is provided with a guide wheel or roller *a*<sup>3</sup>, placed at about the center of the car and designed to bear on one of the uprights, thereby to retain the car in proper position as it moves up and down in use. The uprights B B are provided with racks *b b*, the teeth on which are oppositely arranged to those on the car, so that in the event of the car being tilted the teeth of the racks at diagonally opposite corners of the car will engage those on the uprights, thereby instantly checking the downward movement of the car.

The hoisting-rope C is attached to the car at a point considerably removed from the center thereof, and from its point of attachment passes up over the pulley C<sup>2</sup> and thence to the hoisting apparatus. The counterweight-rope D is also attached to the car at a point removed from the center thereof and also preferably on the side of the car directly opposite that at which the hoisting-rope is attached, and the points of attachment of the ropes are preferably in an imaginary straight line drawn between the uprights B B. By the arrangement shown and described any falling of the car arising from the breaking or sudden loosening of either the hoisting or the counterweight ropes will by reason of the lowering of one side of the elevator-car below that of the other cause an immediate engagement of the racks on the car with those on the uprights B B, the racks diagonally oppositely arranged on the car being brought into contact with the respective vertical racks, and thus downward movement of the car will be instantly checked.

From the arrangement shown it will be clear that so long as the parts remain in proper operative position the elevator-car may be run smoothly up and down; but instantly upon any derangement of either of the supporting-ropes the car will cant and lock itself against further descent. At the same time injury to the car or to the elevator-shaft will be obviated, and the car may be returned to its usual position by replacing either of the ropes or by substituting another for either of them.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

5 The combination with an elevator-car, of supporting-ropes attached thereto at points removed from its center, racks arranged on opposite sides of the car, guide-wheels also arranged on opposite sides of the car and at points approximately midway of the height  
10 of the same, and guideways, against which the guide-wheels bear, the ways being pro-

vided with racks to be engaged by the racks on the car, should derangement occur to either of the supporting-ropes, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HARRIET RUTH TRACY.

In presence of—

HAROLD WADE,

HARRY B. BRIDGE.