L. S. GRAVES.

Ratcheted Guide for Elevators.

No. 206,434. Patented July 30, 1878.

Fig. 1.

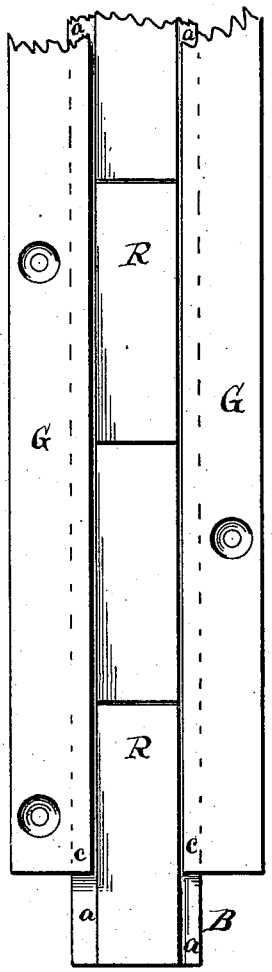


Fig. 3.

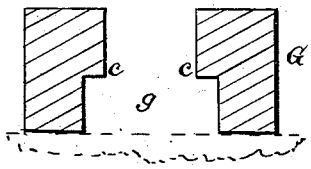
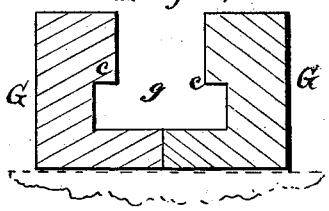


Fig. 4.



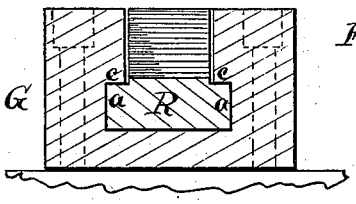


Fig. 2.

Witnesses.

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LORENZO S. GRAVES, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN RATCHETED GUIDES FOR ELEVATORS.

Specification forming part of Letters Patent No. **206,434**, dated July 30, 1878; application filed March 1, 1878.

To all whom it may concern:

Be it known that I, LORENZO S. GRAVES, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Ratcheted Guides for Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of a section of the ratchet-bar and of the grooved guide. Fig. 2 is a transverse section of the same. Figs. 3 and 4 are similar sections, showing modifications of the guides G.

The object of this invention is to provide a smooth, even, noiseless guide or track for the platform or car of elevators while moving up and down, and also to provide it with safety-ratchets, similar to those in common use, to serve as catches for the levers or pawls in the car or platform, which may be operated by springs or weights, to stop and hold such car or platform in case the lifting-rope should break.

It consists in the employment of a wooden casing for the metallic ratchet-bars, which shall also serve as a noiseless guide for the shoes of the car or platform to move upon.

The cast-iron ratchets, when used as guides, do not make a smooth or even surface or track for the platform or car to run upon, being more or less warped or bent, and varying in thickness. To obviate this difficulty, they have sometimes been planed to a smooth surface and uniform thickness. This was expensive, and could only be adopted for the higher-priced passenger-elevators.

Hard woods have also been used for the guides or tracks, which, though noiseless and smooth, were nevertheless objectionable, because they lacked the essential element of safety found in the ratcheted guides.

By incasing the iron ratchets in or between the wood by the flanges on the iron, as shown, and the wood screwed to the guide-posts or to the walls of the hatchway, the wood will so hold, strengthen, and retain the iron that, if the latter should be broken, it could not separate from the wood or become displaced.

It will be seen that by this peculiar construction and arrangement of the parts all the advantages of the safety-ratchet and the noiseless wooden guides, together with cheapness, are fully secured.

I preferably form in the wooden guides G a T-shaped groove opening into the face side, as shown. These may be made in sections of any desired length, and firmly bolted to the guide-posts or to the walls of the hatchway. The metallic ratchets R are also made in sections with a projecting lip or flange, *a*, on each side, to be clasped by the projections *c* of the wooden guides.

It will be seen that by this method of incasing the ratchet-sections they will always be firmly retained in place, as before stated, even if broken.

It will be desirable in putting up the work to cut the wooden track or casings G, so as to have the sections of the ratchet break joints therewith, as indicated in Fig. 1 at B. The metallic sections will thereby act as dowels to insure a perfect registry of the ends of the guides or casings G.

It might be found desirable to form the casing of two or more strips, and united or placed with relation to the ratchet-sections, as indicated in Figs. 3 and 4, or in any other convenient or suitable manner.

The ordinary adjustable shoes or guide-irons are attached to the top and bottom of the platform or car, and nicely fitted to the wooden guides G.

I do not claim an elevator-ratchet having its teeth project into a groove formed in the side of the car to constitute the guide thereof, as shown in the patent of Bevins & Weis, January 4, 1876, nor a metallic ratchet having beveled shoulders formed at the base of the ratchet-teeth, as set forth in the patent of Otis, January 7, 1873; but

What I claim as my invention is—

1. As an improvement in safety-guide tracks for elevators, the metallic ratchets R, having projecting flanges *a*, in combination with the wooden guide-track, whereby the projecting shoulders *c* of which retain the ratchet-sections in position without other fastenings, substantially in the manner and for the purposes set forth.

2. In combination with the wooden grooved

guide-track G for elevators, the metallic ratchet-sections R, resting one upon another, and being retained within the groove *g* by means of the overlapping lips or shoulders *c*, substantially as and for the purposes set forth.

3. The metallic ratchet-sections R, provided with projecting flanges *a*, in combination with the overlapping lips or flanges *c* of the wooden guide-tracks G, substantially in the manner and for the purposes set forth.

LORENZO S. GRAVES.

Witnesses:
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