No. 849,610. PATENTED APR. 9, 1907.

A. J. HALLSTEIN.

SAFETY ATTACHMENT FOR ELEVATORS.

APPLICATION FILED AUG. 17, 1906.

FIG. 1

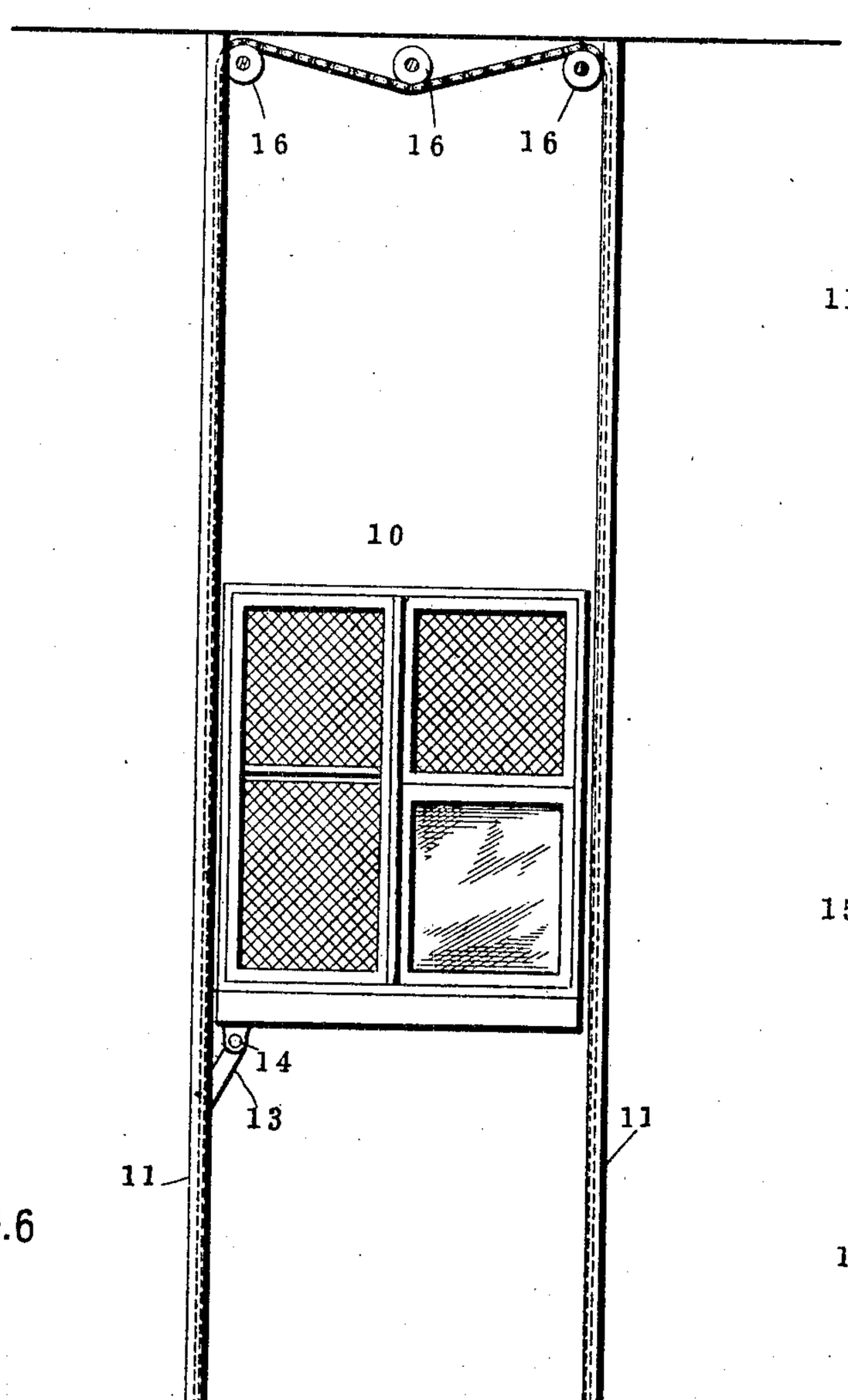


FIG. 2

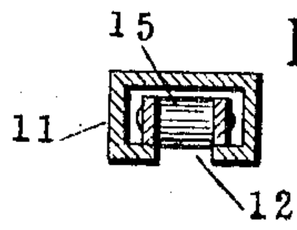


FIG. 3

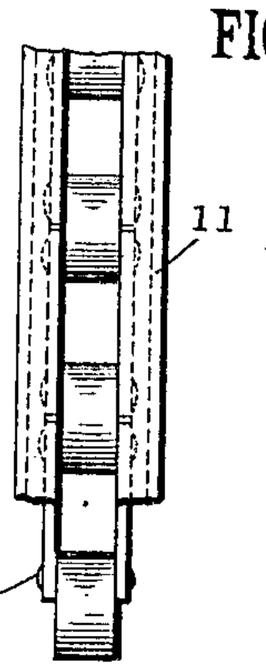


FIG. 4

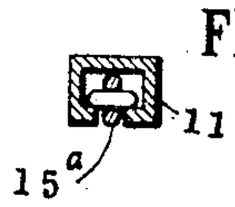


FIG. 5

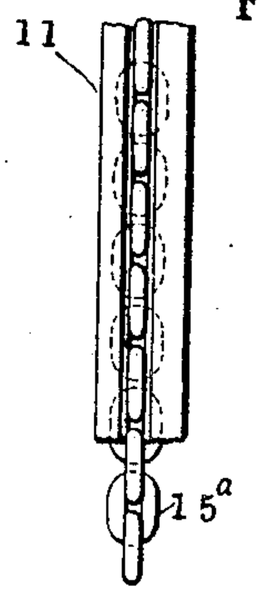
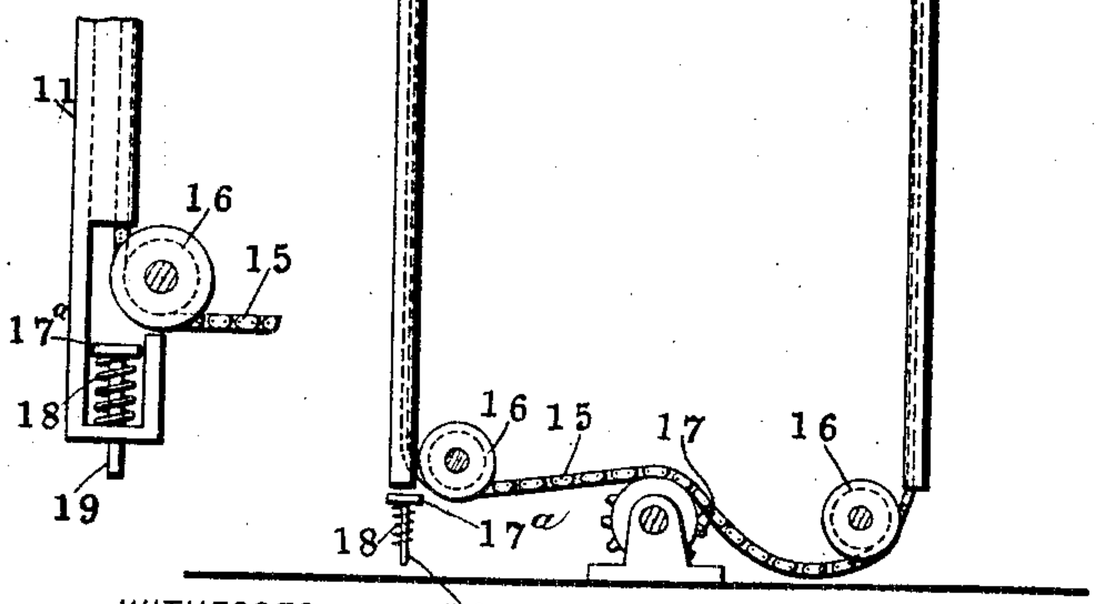


FIG. 6



WITNESSES

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SAFETY ATTACHMENT FOR ELEVATORS.

No. 849,610. Specification of Letters Patent. Patented April 9, 1907.

Application filed August 17, 1906. Serial No. 330,999.

To all whom it may concern:

Be it known that I, AUGUST J. HALLSTEIN, of the city, county, and State of New York, have invented a new and Improved Safety Attachment for Elevators, of which the following is a full, clear, and exact description.

My invention relates to improvements in safety attachments for elevators; and the object of my invention is to produce a device which is very simple and positive in operation and which instead of being operated by any ball or governing attachment on the elevator-car is in the form of a moving device in the side of the well, which at ordinary speeds is flexible and moves with the elevator-car, but which when the latter begins to speed too high becomes rigid and stops the car.

My invention is intended to produce this arrangement preferably in the form of a chain which will run freely at normal speed, but will become rigid at a high speed, and also to use, in connection with the device, means for shutting off the whole power of the elevator in case of accident.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of an elevator-car provided with my improvements. Fig. 2 is a cross-section through the chain-guide. Fig. 3 is a broken detail face view of the chain-guide and chain. Fig. 4 is a cross-section of a modified form of the guide and chain. Fig. 5 is a detail face view of a portion of the structure shown in Fig. 4, and Fig. 6 is a detail of the cushion and shut-off attachment of the guide.

The elevator-car 10 can be of any approved kind and can be operated by any of the well-known systems. It moves between guides 11, which are preferably each of generally rectangular cross-section, as shown at Fig. 2, and each is open on the side next the car, as shown at 12, though one can be closed, if desired. The opening is to receive the arm 13, which is pivoted to the car-bottom, as shown at 14, and extends through the slot 12 and connects with the chain 15, which moves through the two guides 11 over guide-pulleys 16 and is driven by a sprocket-wheel 17. This sprocket-wheel is speeded so as to travel at practically the same speed as the elevator-car, and it can be driven in any suitable manner. Consequently if the car moves at a normal speed the chain runs smoothly; but if the car begins to descend too rapidly the chain 15 cannot pass out fast enough from the bottom of a guide 11, and consequently chokes and becomes like a rigid rod, thus stopping the car.

It is obvious, of course, that the connection between the car and the chain can be made on both sides of the elevator-well, if preferred, and that, if desired, the guides can be arranged at any convenient point in the well which will provide for the proper descent and ascent of the chain, and it will also be seen that the particular form of chain shown is not necessary; but this style, (shown in Figs. 2 and 3,) which is generally like a bicycle-chain, is a preferable form, as it will immediately choke up if it cannot run freely. If a cable-chain 15^a is used, as shown in Figs. 4 and 5, the opening in the guide 11 can be narrowed so that one set of links only will run lengthwise in the said opening.

As a further safeguard I can provide at the foot of a guide 11 a piston 17^a, which is normally held up by a spring 18 and which has a rod 19 attached thereto, so that in case the car runs too fast the choking of the chain will depress the piston and the spring 18 will cushion the chain and prevent too much shock, while the rod 19 can be connected by any of the usual devices to shut off the power, if desired.

It will be understood that any suitable connection can be made between the car and the chain either at the top, bottom, or sides; but it is well to extend the arm 13 down, as shown, as it will stand a considerable thrust in this way without breaking or bending.

I wish it distinctly understood that while I use the term "chain" in the claims as defining my invention still I intend to cover thereby any equivalent device running in a restricted guide and adapted to choke up the guide when the speed of the car which connects with the device exceeds the normal running speed of the said chain or equivalent.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with an elevator-car, of a flexible device running normally at the

speed of the car and connected therewith, and a restricted guide for the said flexible device, constructed to cause the said device to choke the guide and stop the car if the speed of the latter is materially increased.

2. The combination with an elevator-car, of a chain connected to the car and running freely at the side thereof, and a restricted guide for the chain, constructed to choke if the speed of the car and chain is materially increased.

3. The combination with an elevator-car and guides at the side thereof, of an endless chain connected to the car and running in the guides, the guides being restricted so that if the speed of the car is materially increased, the chain will choke in the guides and stop the car.

4. The combination of the elevator-car, the guide near it, the chain running in the guide and connected to the car, and a cushioned piston below the chain.

5. The combination of the car, the guide, the chain connected with the car, the piston below, and a connecting-rod extending from the piston.

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