

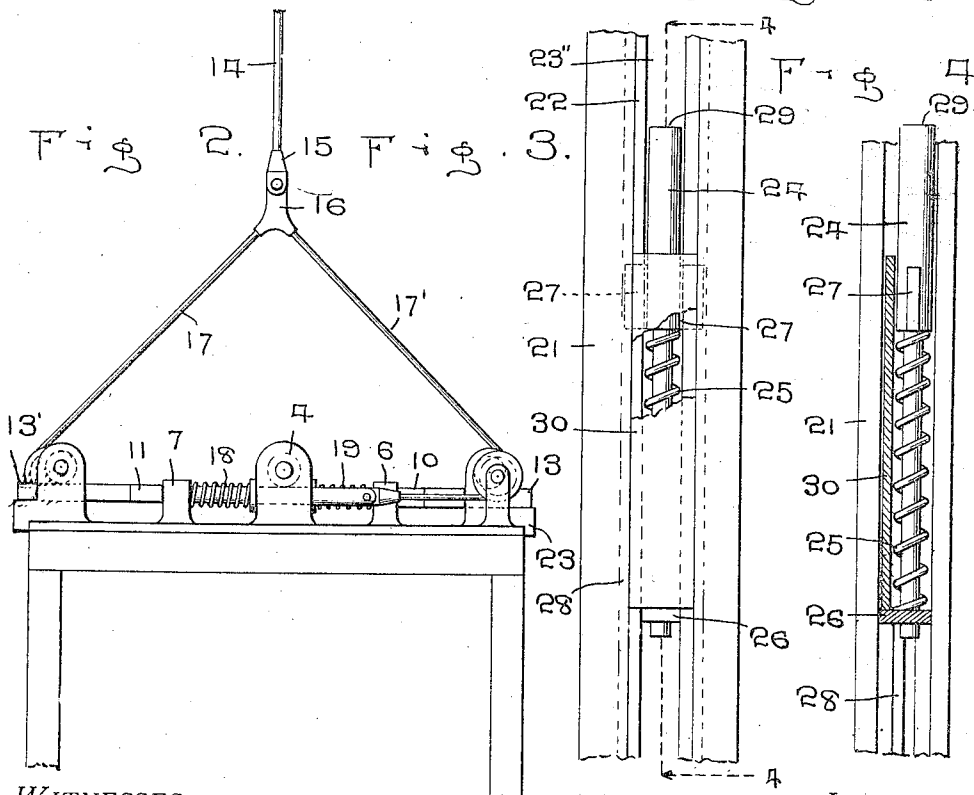
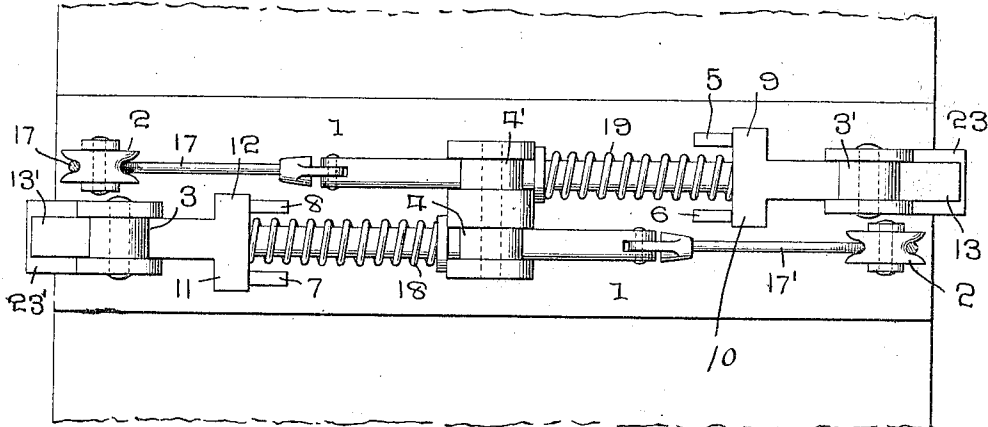
L. GIVULINOVICH.
 AUTOMATIC SAFETY BRAKE FOR ELEVATORS.
 APPLICATION FILED APR. 24, 1906.

935,200.

Patented Sept. 28, 1909

2 SHEETS—SHEET 1

Fig. 1.



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2 SHEETS—SHEET 2

Fig. 5.

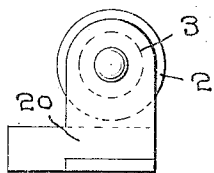


Fig. 6.

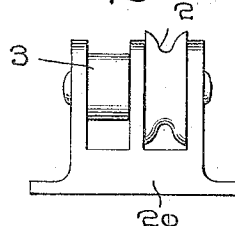


Fig. 7.

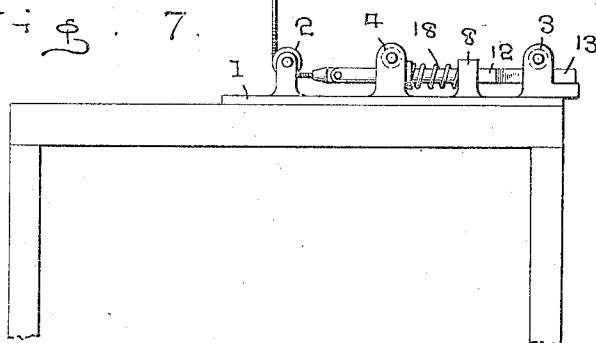
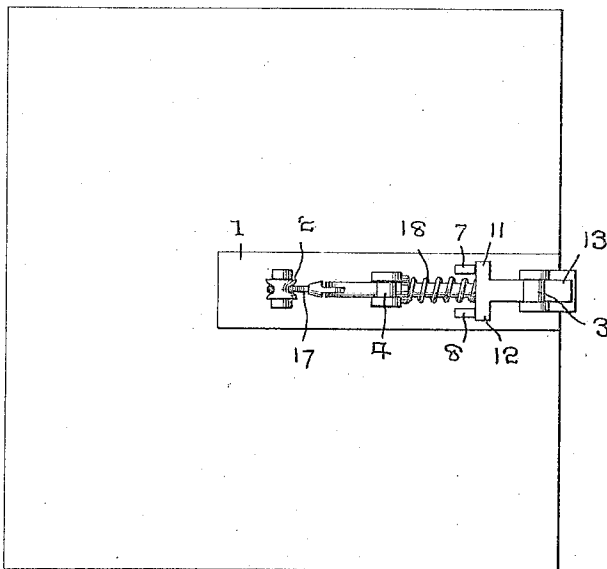


Fig. 8.



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UNITED STATES PATENT OFFICE.

LAWRENCE GIVULINOVICH, OF SEATTLE, WASHINGTON

AUTOMATIC SAFETY-BRAKE FOR ELEVATORS.

935,200.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed April 24, 1906. Serial No. 313,483.

To all whom it may concern:

Be it known that I, LAWRENCE GIVULINOVICH, a subject of the Emperor of Austria-Hungary, residing at Seattle, in the county of King and State of Washington, have invented new and useful Improvements in Automatic Safety-Brakes for Elevators, of which the following is a specification.

My invention relates to improvements in automatic safety brakes for elevators in which the elevator cable is attached directly to spring operated pins normally retracting said pins and permitting said pins to extend beyond the elevator cage when the cable is broken, stops being provided in the elevator shaft to engage said pins thus supporting the elevator cage.

The object of my invention is to prevent accidents occurring from the breaking of the elevator cables or machinery attached thereto by the improved device hereinafter set forth. I attain this object by the construction shown in the accompanying drawings in which—

Figure 1 is a plan view of my device when two stop pins are used. Fig. 2 is a side elevation of my device showing the cable attachment and a portion of the framework of an elevator car. Fig. 3 is a front elevation of one of the stops and guide slots. Fig. 4 is a vertical section of the said guide slot taken at line 4—4, Fig. 3, showing the disposition of a spring and stop. Fig. 5 is a side elevation showing the cable pulley and stop pin roller journaled in a supplementary casting. Fig. 6 is a front elevation of the device shown in Fig. 5. Fig. 7 is a side elevation of an elevator cage showing the construction of the single stopping mechanism. Fig. 8 is a plan view of Fig. 7.

Similar reference numerals refer to similar parts throughout the several views in the accompanying drawings.

I have shown in Fig. 1 a framework 1 as made of cast iron and shown as adapted to journal cable pulleys 2, stop-pin rollers 3, 3', 4 and 4' the journal bearings being cast integral with said framework 1. The supporting lugs 5, 6, 7 and 8 are also rigidly

secured to or cast integral with the said framework 1 and are adapted to rest against projections as 9, 10, 11 and 12 being rigidly secured to or cast integral with the stop-pins 13 and 13' which are attached to a cable 14 by means of cable attachments 15 and 16 and connecting cables 17 and 17'. The stop-pins 13 and 13' are held against the said lugs 5, 6, 7 and 8 by the weight of the car which is supported by the said cable 14 and which will overcome springs as 18 and 19. The springs 18 and 19 are adapted to throw the said stop-pins 13 and 13' toward the walls of the elevator shaft when the aforesaid cable 14 or the connecting cables 17 or 17' become broken or slackened.

In Figs. 5 and 6 I have shown the cable pulley 2 and stop-pin roller 3 as being journaled in an independent piece 20 which is adapted to be secured to the aforesaid framework 1.

In Figs. 3 and 4 I have shown a section of the elevator guides 21 having guide slots 22 adapted to permit guide lugs 23 and 23' to travel in said guide slots and the said guides 21 are also provided with stop slots 23'', and the said stop slots 23'' are provided at intervals with stops 24 each of the said stops 24 being yieldingly supported by a spring 25, the said springs 25 being adapted to rest against steps 26 which are provided with apertures adapted to permit the smaller ends of the said stops to travel therein; said stops are also provided with guide lugs 27 and 27' which are adapted to travel in grooves 28. It is thus obvious that in the event of the stop-pins 13 and 13' being thrust toward and into said stop slots 23'' that the said stop-pins will engage the ends 29 of said stops 24, thus preventing a further downward course of the car. The said stops and springs are preferably protected by cover plates 30.

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

In an automatic safety device for elevators, an elevator cage having guide lugs, an elevator shaft having slots engaging said guide lugs whereby said elevator cage is guided in its path of travel, spring oper-

ated pins disposed to extend beyond said
guide lugs and normally held in a retracted
position by the weight of the elevator cage,
and pins yieldingly supported in said slots
5 and adapted to be engaged by said spring
operated pins having lugs thereon whereby
said pins are guided when depressed by the
weight of the elevator cage.

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

LAWRENCE GIVULINOVICH.

Witnesses:

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