D. J. SULLIVAN.

ELEVATOR SAFETY DEVICE.

APPLICATION FILED APR. 21, 1911.

1,003,215.

Patented Sept. 12, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

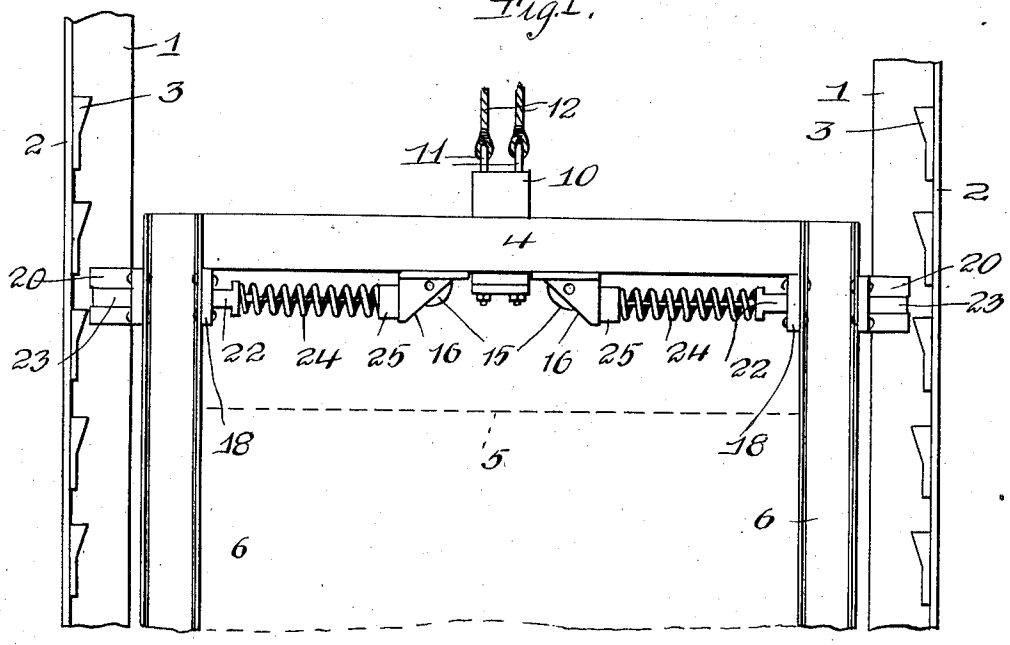
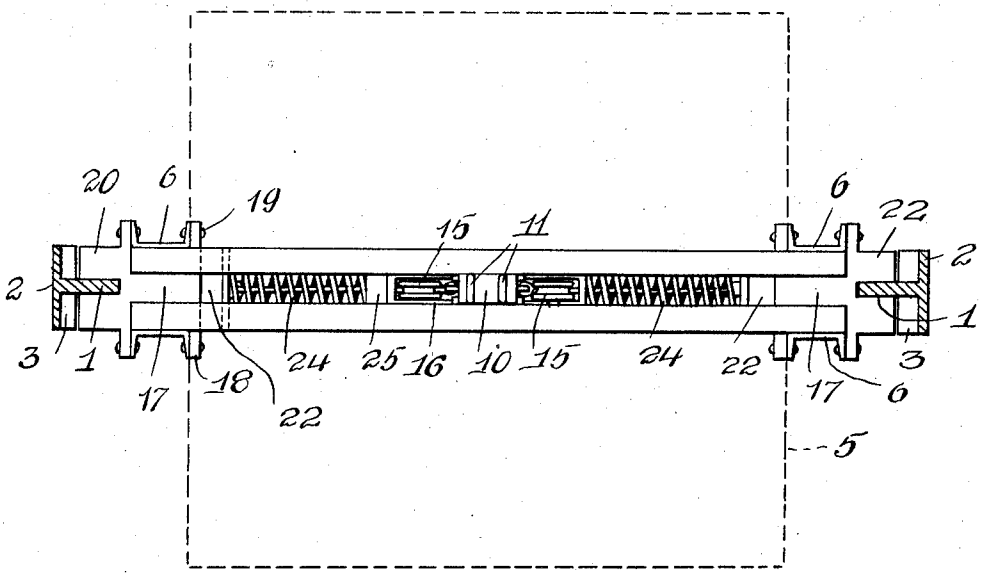


Fig. 2.



WITNESSES:

Samuel Payne

R. A. Butler

INVENTOR.

D. J. Sullivan.

BY

H. C. Evert & Co.

ATTORNEYS.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

D. J. SULLIVAN.

ELEVATOR SAFETY DEVICE.

APPLICATION FILED APR. 21, 1911.

1,003,215.

Patented Sept. 12, 1911.

2 SHEETS—SHEET 2.

Fig. 3.

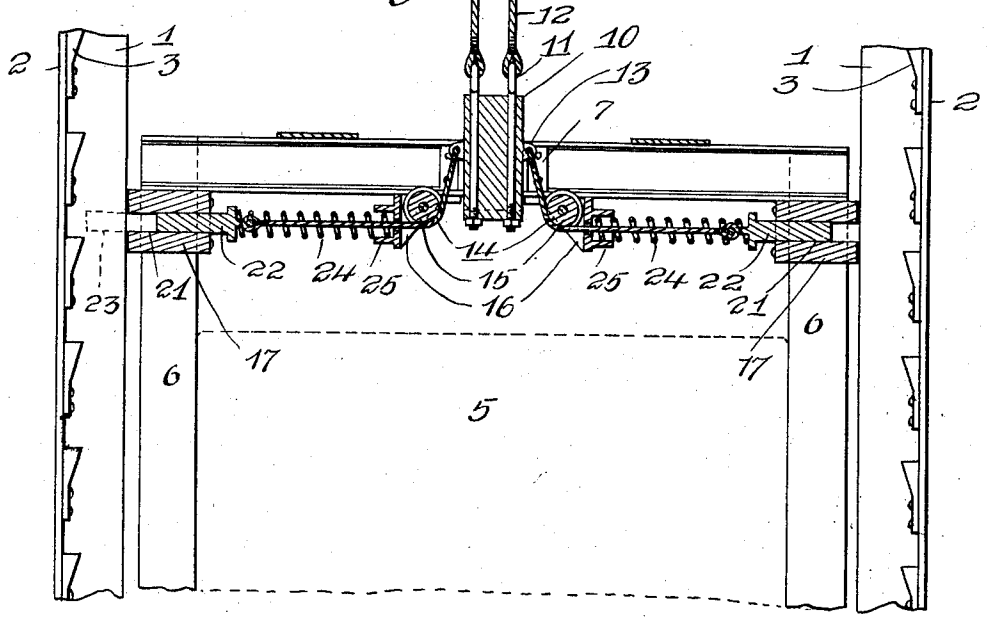
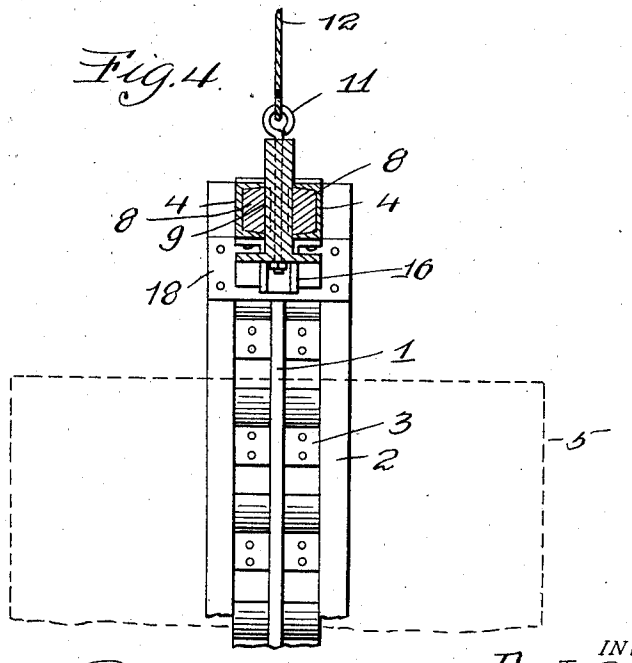


Fig. 4.



WITNESSES:

Samuel Payne

R. K. Butler

INVENTOR.

D. J. Sullivan.

BY

A. C. Ewert & Co.

ATTORNEYS.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DENNIS J. SULLIVAN, OF ALIQUIPPA, PENNSYLVANIA.

ELEVATOR SAFETY DEVICE.

1,003,215. Specification of Letters Patent. Patented Sept. 12, 1911.

Application filed April 21, 1911. Serial No. 622,559.

To all whom it may concern:

Be it known that I, DENNIS J. SULLIVAN, a citizen of the United States of America, residing at Aliquippa, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Elevator Safety Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to elevator safety devices, and the primary object of my invention is to furnish an elevator cage with a safety device that will be automatically operated to prevent a sudden descent of the cage should the hoisting cables thereof break, thereby preventing property and lives from being injured.

Another object of this invention is to provide a safety elevator device that is applicable to various types of elevators and free from injury by ordinary use.

A further object of this invention is to provide a device of the above type simple in construction, inexpensive to install and highly efficient for the purposes for which it is intended.

With the above and other objects in view the invention resides in a novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings wherein like numerals of reference designate corresponding parts throughout the several views, in which:—

Figure 1 is a side elevation of a portion of an elevator cage provided with the safety device. Fig. 2 is a plan of the same. Fig. 3 is a longitudinal sectional view of the device, and Fig. 4 is a vertical cross sectional view of the same.

The reference numerals 1 denote the guide rails of an elevator shaft, said rails being T-shape in cross section and secured to the lateral flanges 2 of said rails are a plurality of equally spaced stops or projections 3 arranged against the webs of said rails.

4 denotes transverse channel bars constituting the beam of an elevator cage 5 and suitably connected to the ends of the bars 4 are vertical channel bars 6 constituting the side frames of the cage, which support the floor or body of the cage (not shown).

7 denotes angles secured to the confronting faces of the bars 4 intermediate the ends thereof and these angles support guide blocks 8 within the bars 4, said guide blocks having the confronting faces thereof cut away, as at 9 for an inverted T-shaped head 10. This head supports eye bolts 11 to which are attached the hoisting cables 12. These eye bolts can be dispensed with and the cables suitably fastened according to the type of elevator.

13 denotes apertured lugs carried by opposite sides of the head 10 and connected to said lugs are the inner ends of cables 14, said cables passing under revoluble sheaves mounted in depending brackets 16, carried by the beam of the elevator cage.

17 denotes bearings arranged between the upper ends of the bars 6 adjacent to the bars 4, said bearings having lateral flanges 18 secured to the bars 6, as at 19. Bearings 17 are provided with outwardly projecting guide arms 20 adapted to engage the sides of the web of each of the rails 1. The bearings 17 are provided with longitudinal openings 21 for bifurcated members 22, said members having the outer ends thereof bifurcated to provide locking pins 23 adapted to engage the stops 3. The inner ends of members 22 are connected to the outer ends of the cables 14, and encircling said cables, between the members 22 and the brackets 16 are coiled compression springs 24. The inner ends of the springs 24 are housed in cups 25, carried by the brackets 16.

When the hoisting cables 12 break the head 10 is immediately released and the tension of the compression springs 24 forces the members 22 outwardly, whereby the pins 23 of said members engage the stops 3.

I reserve the right to use the device at the lower end of the elevator by continuing the hoisting cables along the sides of the cage.

While in the drawings there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements are susceptible to such changes as fall within the scope of the appended claim.

What I claim is:—

In an elevator safety device, the combination with guide rails T-shaped in cross section and having the lateral flanges thereof provided with equally spaced stops, of a cage movable between said rails, said cage comprising transverse channel bars, vertical channel bars, hoisting cables for the cage, a head movably mounted between said transverse channel bars intermediate the ends

thereof and adapted to be attached to the hoisting cables of said cage, depending brackets carried by said transverse channel bars, revoluble sheaves supported by said brackets, bearings arranged between the upper ends of said vertical channel bars and having guide arms engaging said rails, said bearings having openings formed therein, bifurcated members movably arranged in the openings of said bearings and providing pins adapted to engage said stops, cables having the inner ends thereof connected to said head and the outer ends to said members, and coiled compression springs encircling said cables between said members and said brackets, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

DENNIS J. SULLIVAN.

Witnesses:
MAX H. SROLOVITZ,
CHRISTINA T. HOOD.