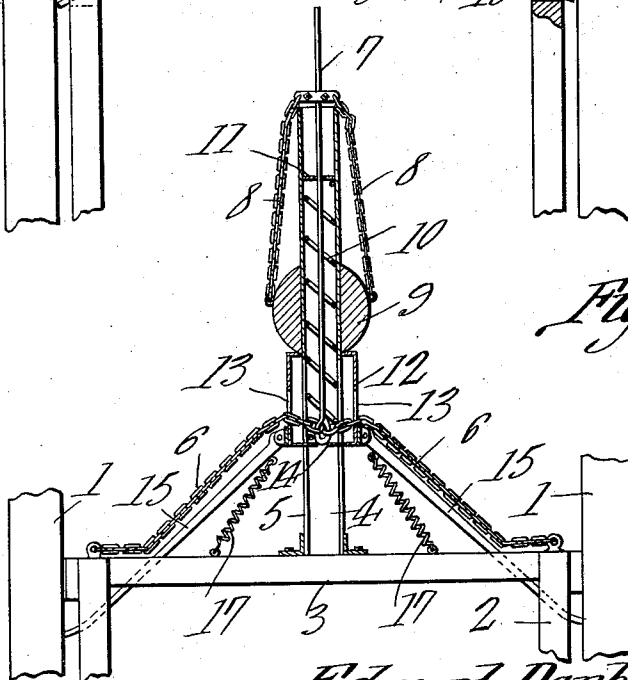
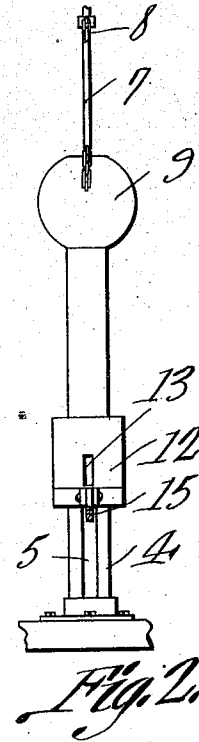
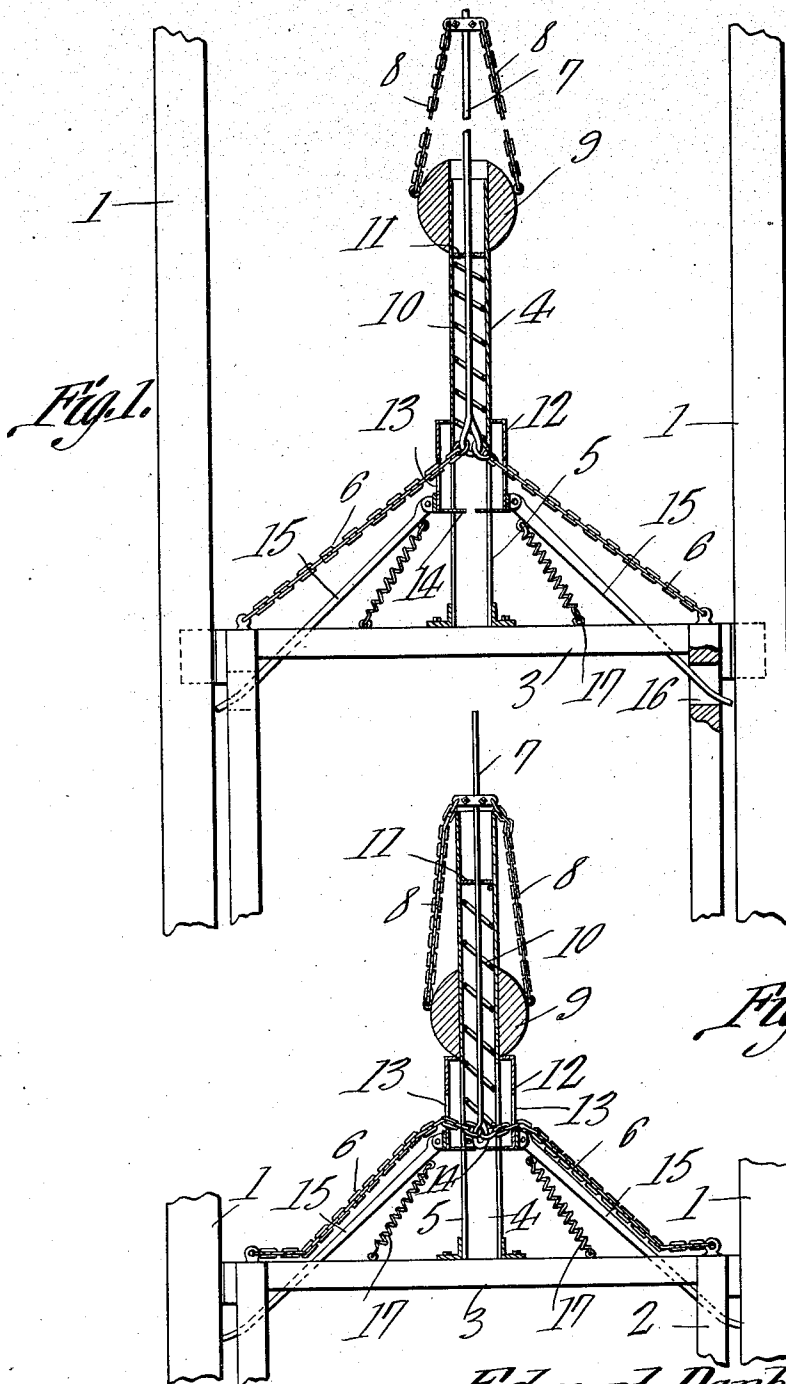


E. DANBERRY.
SAFETY ATTACHMENT FOR ELEVATORS.
APPLICATION FILED JUNE 7, 1911.

1,015,726.

Patented Jan. 23, 1912.



Witnesses

J. P. Tomlin
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UNITED STATES PATENT OFFICE.

EDWARD DANBERRY, OF WHEATLAND, INDIANA, ASSIGNOR OF ONE-THIRD TO HARRY BLACKWELL, OF WHEATLAND, INDIANA.

SAFETY ATTACHMENT FOR ELEVATORS.

1,015,726.

Specification of Letters Patent.

Patented Jan. 23, 1912.

Application filed June 7, 1911. Serial No. 631,848.

To all whom it may concern:

Be it known that I, EDWARD DANBERRY, a citizen of the United States, residing at Wheatland, in the county of Knox and State of Indiana, have invented a new and useful Safety Attachment for Elevators, of which the following is a specification.

This invention relates to safety attachments for use in connection with elevator cars and more particularly for use with cages such as employed in mines and wherever wooden guide rails are utilized.

One of the objects of the invention is to provide safety dogs upon the upper portion of the car and a weight adapted to be released when the lifting cable is broken so as to drop with sufficient force to drive the dogs into the guide rails and thus insure the suspension of the car.

A further object is to provide auxiliary means for actuating the dogs if, for any reason, the weight should fail to operate them in the manner desired.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a view partly in section and partly in elevation showing the safety appliance upon the upper portion of a cage. Fig. 2 is a side elevation of that portion of the structure constituting the present invention. Fig. 3 is a view similar to Fig. 1 and showing the relative positions of the parts when actuated by the released weight.

Referring to the figures by characters of reference 1 designates guide rails, preferably of wood and 2 designates an elevator cage to the top 3 of which is fastened an upwardly extending tubular member 4 having diametrically opposed longitudinal slots 5 in the lower portion thereof. Chains 6 or the like extend through these slots and diverge downwardly, the lower ends of the chains being attached to the top of the cage. The upper ends of the chains, and which are

located within the tubular member 4, are attached to a lifting cable 7 extending upwardly and connected, as by means of chains 8, to a weight 9 slidably mounted on the tubular member 4. A spring 10 is housed within this tubular member and bears upwardly at one end against an interior stop flange 11 while its other end bears downwardly upon the lower end portion of the cable 7. Chains 8 are of sufficient length to permit the weight 9 to slide downwardly upon the guide member 4 should the cable 7 become broken above the chains 8. A sleeve 12 is slidably mounted on the tubular guide member 4 and has openings 13 therein through which the chains 6 extend, there being inwardly extending lugs 14 or the like upon the lower end of the sleeve and which project into the slots 5 so as to hold the sleeve against rotation without, however, interfering with its sliding movement. Elongated dogs 15 are pivotally connected to the sleeve at diametrically opposed points and extend through openings 16 in the sides of the cage, springs 17 being connected to the upper portions of the dogs and also to the top of the cage.

It will be apparent that under ordinary conditions the cable 7, when drawn upwardly, will pull upwardly on the chains 8 and thus support the weight 9 and also pull upwardly on the chains 6 and thus support the cage 2. Dogs 15 are therefore held out of engagement with the guide rails 1, they being retracted into the openings 16 by the sleeve 12 which is supported by the chains 6. Should the cable 7 break at a point above the chains 8, the chains 6 upon becoming slack, will permit the sleeve 12 to move downwardly and the springs 17 will promptly pull on the sleeve so as to cause the lower ends of the dogs 15 to project laterally into engagement with the guide rails 1. The spring 10 operates to promptly slacken the chains 6 as soon as the cable 7 breaks. As soon as the dogs 15 engage the guide rails so as to slightly retard the downward movement of the cage, the weight 9 will slide downwardly along the guide tube 4 and strike the upper end of the sleeve 12, forcing it downwardly. The sleeve will thus exert a wedging action between the dogs and cause their lower free ends to further spread apart and engage and enter the guide rails 1. This final ac-

tuation of the dogs by the weight will be sufficient to bring the cage to a complete stop.

What is claimed is:—

5 1. The combination with a car and supporting means, of a guide rail, a rail engaging element movably connected to the car and normally held out of engagement with a rail, a weight normally held by the
10 car supporting means, a spring for automatically projecting the rail engaging element into engagement with a rail upon the parting of the supporting means, to retard the downward movement of the car, and
15 means adapted to be struck by the weight upon the parting of the supporting means for driving said element into engagement with a rail.

2. The combination with an elevator car,
20 and a supporting cable, of guide rails, a guide carried by the car, rail engaging elements pivotally and slidably connected to the guide, means for normally supporting said elements out of engagement with the
25 guide rails on which the car is mounted, means for automatically projecting said engaging elements into engagement with the guide rails to retard the downward movement of the car upon the parting of the
30 cable, and a weight supported by the cable, said weight constituting means for driving said elements into engagement with the rails when the cable is parted.

3. The combination with an elevator car

and a guide member mounted thereon, of a 35 supporting cable, flexible connections between said cable and the car, said cable being extended into the guide member, a slidable element mounted on the guide member and normally supported by said connections, devices connected to and shiftable 40 with said slidable element and normally held thereby retracted into the sides of the car, and means for automatically shifting said slidable element and projecting said 45 devices beyond the car when the cable is parted.

4. The combination with guide rails and a car mounted to slide thereon, of a tubular guide member upstanding from the car, a 50 sleeve slidably mounted upon said guide member, engaging devices pivotally connected to the sleeve and extending beyond opposite portions of the car, a supporting cable, flexible connections between the cable 55 and the car, said connections constituting supports for the sleeve, and means for automatically shifting the sleeve to project said devices into engagement with the rails when the supporting cable is parted. 60

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWARD DANBERRY.

Witnesses:

C. M. MEARS,

JAMES BLACKWELL.