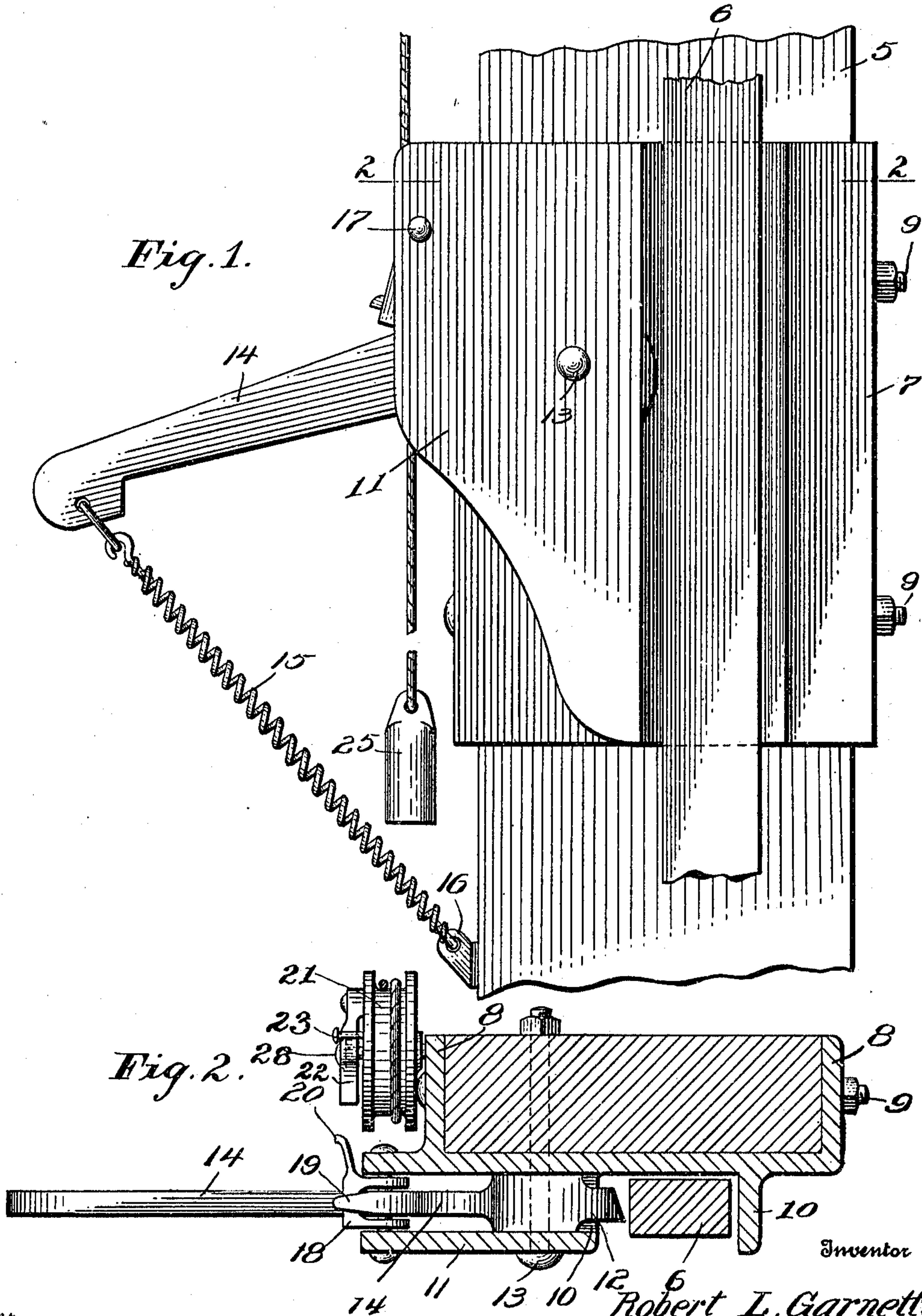


R. L. GARNETT.  
 DEVICE FOR ELEVATORS.  
 APPLICATION FILED MAY 19, 1909.

952,988.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 1.



Witnesses  
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*K. Delabar.*

Inventor  
*Robert L. Garnett.*  
 By *Victor J. Evans*  
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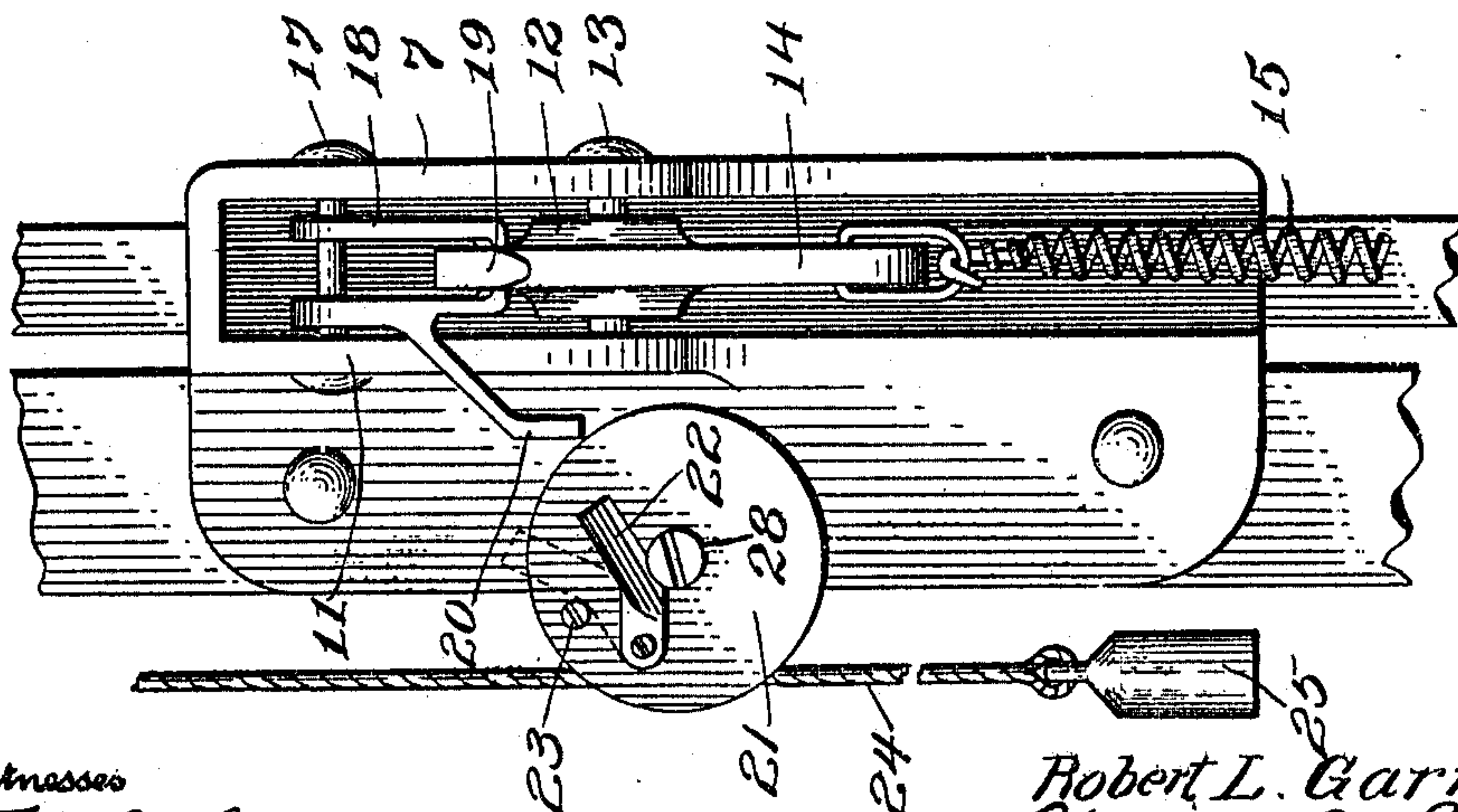
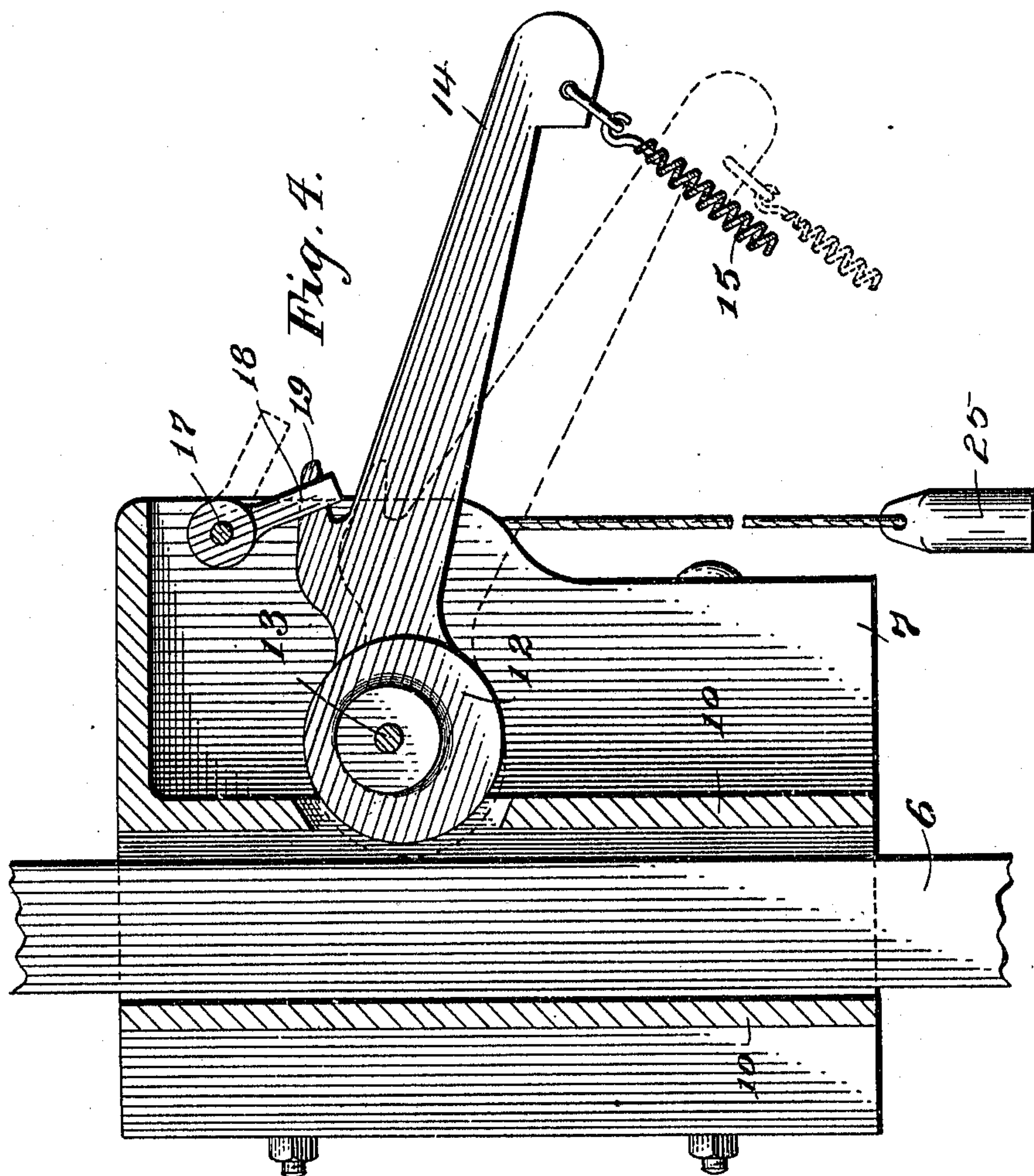


Fig. 3.

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# UNITED STATES PATENT OFFICE.

ROBERT L. GARNETT, OF CEDAR FALLS, IOWA.

DEVICE FOR ELEVATORS.

952,988.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed May 19, 1909. Serial No. 497,017.

*To all whom it may concern:*

Be it known that I, ROBERT L. GARNETT, a citizen of the United States, residing at Cedar Falls, in the county of Blackhawk and State of Iowa, have invented new and useful Improvements in Devices for Elevators, of which the following is a specification.

The invention relates to a safety device for elevators, and more particularly to the class of automatic safety devices for elevators, dumb waiters, or the like.

The primary object of the invention is the provision of a safety device in which an elevator cage or lift is brought to a stop, either in ascending or descending upon the breaking of its lifting cable or other hoisting medium, thus assuring safety to its load, whether the same be persons or freight.

Another object of the invention is the provision of a safety device for elevators or the like, in which its car or cage is assured against sudden dropping in the shaft or well where it travels, while ascending or descending, and may be automatically stopped upon the fracture or breakage of the lifting means of the said car or cage while in motion.

A further object of the invention is the provision of a safety device of this character, which is simple in construction, readily and easily mounted upon a cage or car of an elevator, thoroughly reliable and efficient in its operation when in use, and inexpensive in the manufacture.

In the drawings accompanying and forming part of this specification is illustrated the preferred form of embodiment of the invention, which to enable those skilled in the art to practice the invention, will be set forth at length in the following description while the novelty of the invention will be brought out in the claim succeeding the description. However it is to be understood that changes, variations and modifications may be made, such as come properly within the scope of the appended claim, without departing from the spirit of the invention.

In the drawings:—Figure 1 is a fragmentary side elevation of one standard of an elevator cage and its guide rail, with the invention applied and in an inoperative position. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is one end elevation. Fig. 4 is a longitudinal sectional

view with the parts shown in dotted lines when in operative position.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings the numeral 5 designates a side vertical bar or standard of an elevator car or cage, it being understood of course that the latter is of ordinary well known construction and in ascending and descending is adapted to travel on guide rails or tracks, one of which in this instance is shown and designated by the numeral 6, the same also being of the usual type. At any suitable locality upon the bar or standard 5, is mounted a casting forming a supporting plate 7, provided with spaced engaging flanges 8, projecting at right angles to its inner face to partially surround the said standard or bar and being secured thereto by suitable fasteners 9, passing through the latter and the said flanges. On the opposite outer face of the supporting plate 7 are spaced parallel guide flanges 10, the same receiving therebetween the guide rail or track 6, in the ascending or descending of an elevator cage or car. Formed on one of the flanges 10, and in spaced parallel relation to the supporting plate 7, is a shield or housing plate 11, between which and the said plate 7, is mounted an eccentric gripping member having a wheel or roller 12, rotatably journaled eccentrically upon a bolt 13, forming its axis secured in any suitable manner transversely in the casting, and this eccentric member is adapted for automatic frictional gripping engagement with the guide rail or track 6, for the purpose as will be hereinafter described.

Integral with the eccentric member is an arm or lever 14, to the outer free end of which is connected one end of a retractile spring 15, which has its opposite end connected to a perforated ear 16, fixed to the standard or bar below the casting and by means of this spring 15, the eccentric member is thrown into action or automatically into engagement with the guide rail or track for the stopping of the elevator car or cage.

Connected between the plates 7 and 11 is a trip device by means of a pivot 17, above the path of movement of the arm or lever 14, and this trip device comprises an inverted U-shaped yoke or loop 18, adapted to engage a nose 19 offset from the upper edge



of the lever or arm 14, to hold the eccentric member in normal inoperative position. Extending from one side of the loop or yoke 18, is a trip arm 20, and at a distance removed therefrom upon the casting on a pin or pivot 28 is mounted a rotatable pulley 21, upon which is eccentrically mounted a pivotal striker or dog 22, which latter is limited in its outward swinging movement by a stop pin 23, projecting outwardly from the exposed face of the pulley and this striker member or dog when swung outward is adapted to travel in the path of the trip arm 20, for engagement therewith to release the loop or yoke member 18, from connection with the nose of the lever or arm to permit activity of the eccentric member. The dog 22 will be supported upon the pin 28 by gravity so as to pass the trip arm 20 without engaging the latter when the pulley 21 rotates at normal or slow speed.

Trained over the pulley 21, is a rope or cord 24, the upper end being secured at any desirable point in the elevator shaft or well and its opposite end has connected thereto a weight 25, so as to hold the rope or cord taut about the pulley and to effect the travel of the same over the latter and also to maintain a uniform speed of rotation to said pulley when the elevator cage or car is ascending or descending in a shaft or well under normal conditions and in this manner the striker member or dog will be normally held out of the path of the trip arm of the trip device.

In operation and presuming that the lifting cable or medium of the elevator car or cage suddenly becomes broken during the descent of the latter or when for any reason the descent is at an abnormal or unusual rate of speed, the pulley 21 will be caused to rotate in excess of its normal speed by the rope or cord 24, traveling thereover at its

periphery and by centrifugal action the striker member or dog will be swung outward into the path of the trip arm thus releasing the tripping device to free the lever or arm of the eccentric member and by the retractile spring this latter gripping member will be automatically operated to frictionally engage the track or guide rail to stop the momentum of descent of the elevator car or cage, thereby bringing the latter to a standstill.

From the foregoing, the construction and operation of the invention will be clear, without the necessity of a more extended explanation and therefore the same has been omitted.

What is claimed is:—

The combination with an elevator cage, and its guide of a spring actuated cam lever pivoted on the cage and adapted to engage the guide, said cam lever being provided with a projecting lug on its upper edge, a pivotally supported yoke engaging said lug and holding the lever out of gripping engagement with the guide against the tension of the actuating spring, said yoke being provided with a laterally extending trip arm, a pulley supported for rotation, a pin upon the face of the pulley, a dog supported pivotally upon the face of the pulley, and adapted to vibrate between the pin and the supporting shaft of the pulley, said dog constituting a striker adapted to engage the laterally extending arm of the trip yoke, and a relatively immovable cable frictionally engaging the pulley to rotate the same.

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

ROBERT L. GARNETT.

Witnesses:

FRANK MIHM,

GEORGE H. SCHULZE.