

C. A. ANDERSON.
CABLE HITCH FOR ELEVATORS.
APPLICATION FILED DEC. 10, 1908.

969,322.

Patented Sept. 6, 1910.

Fig. 1.

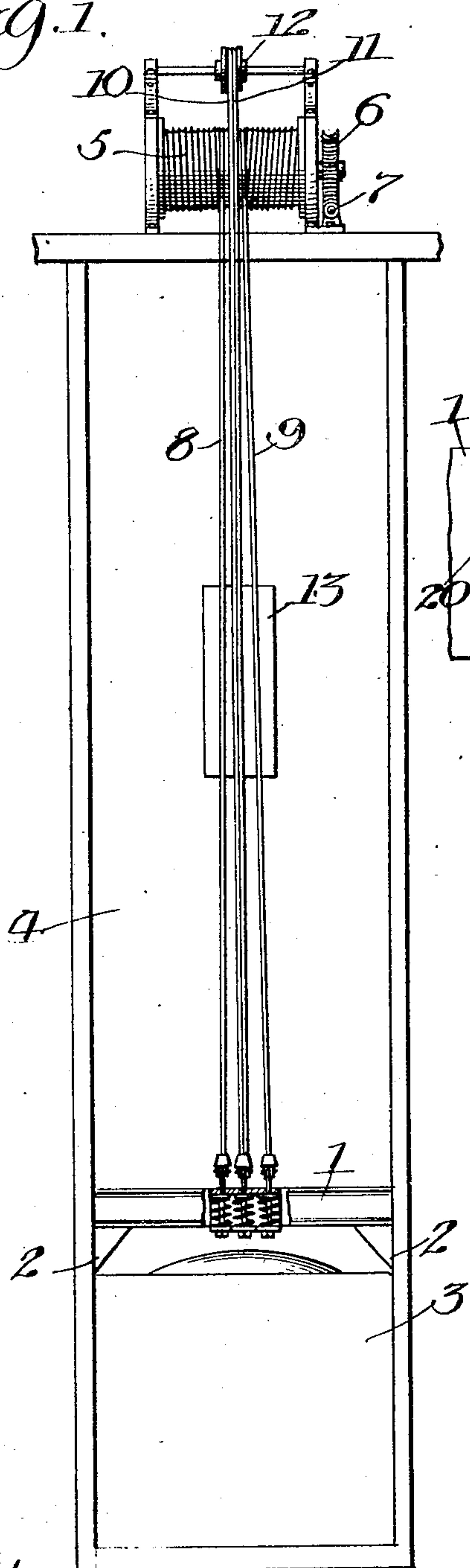


Fig. 2.

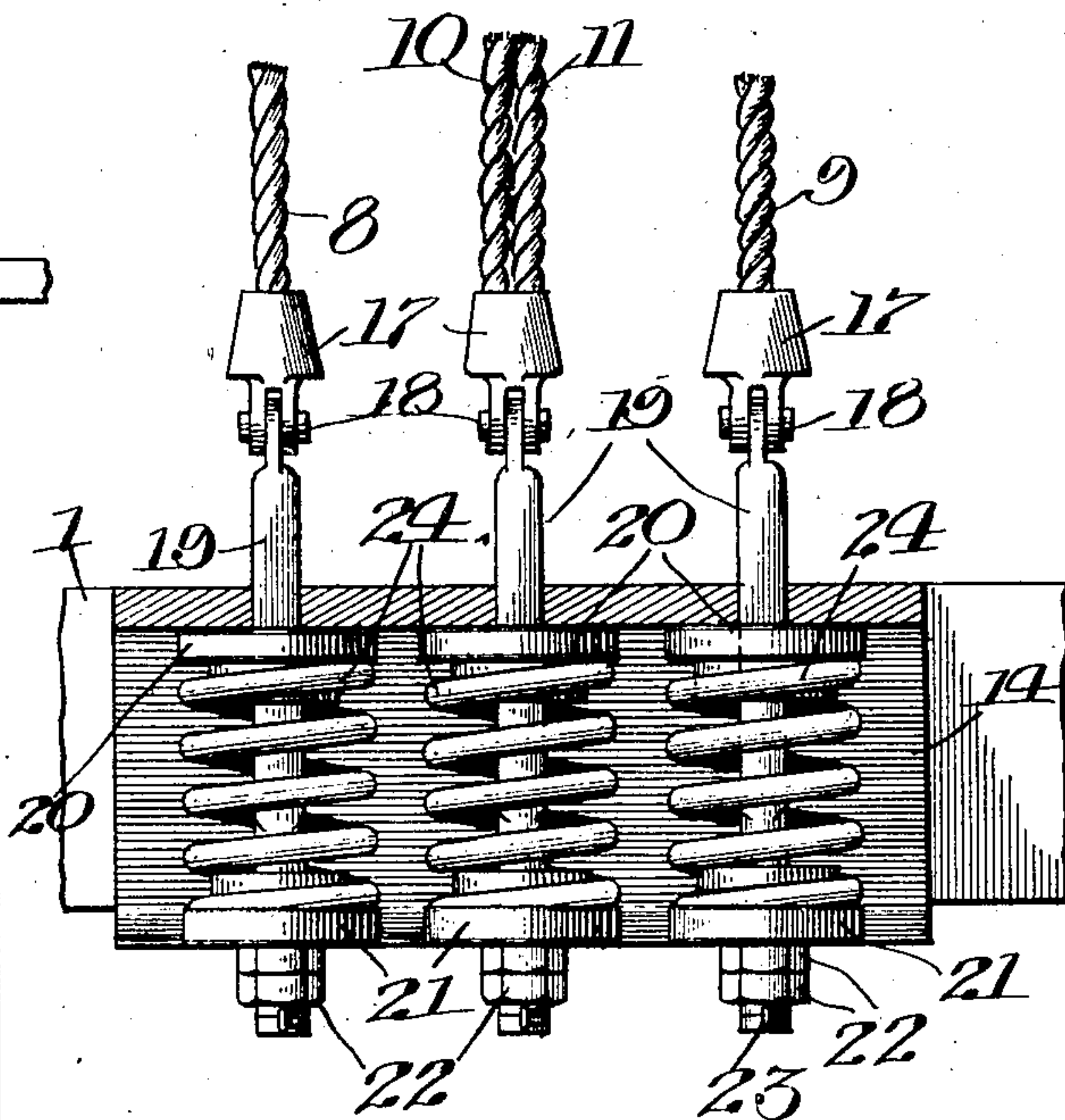
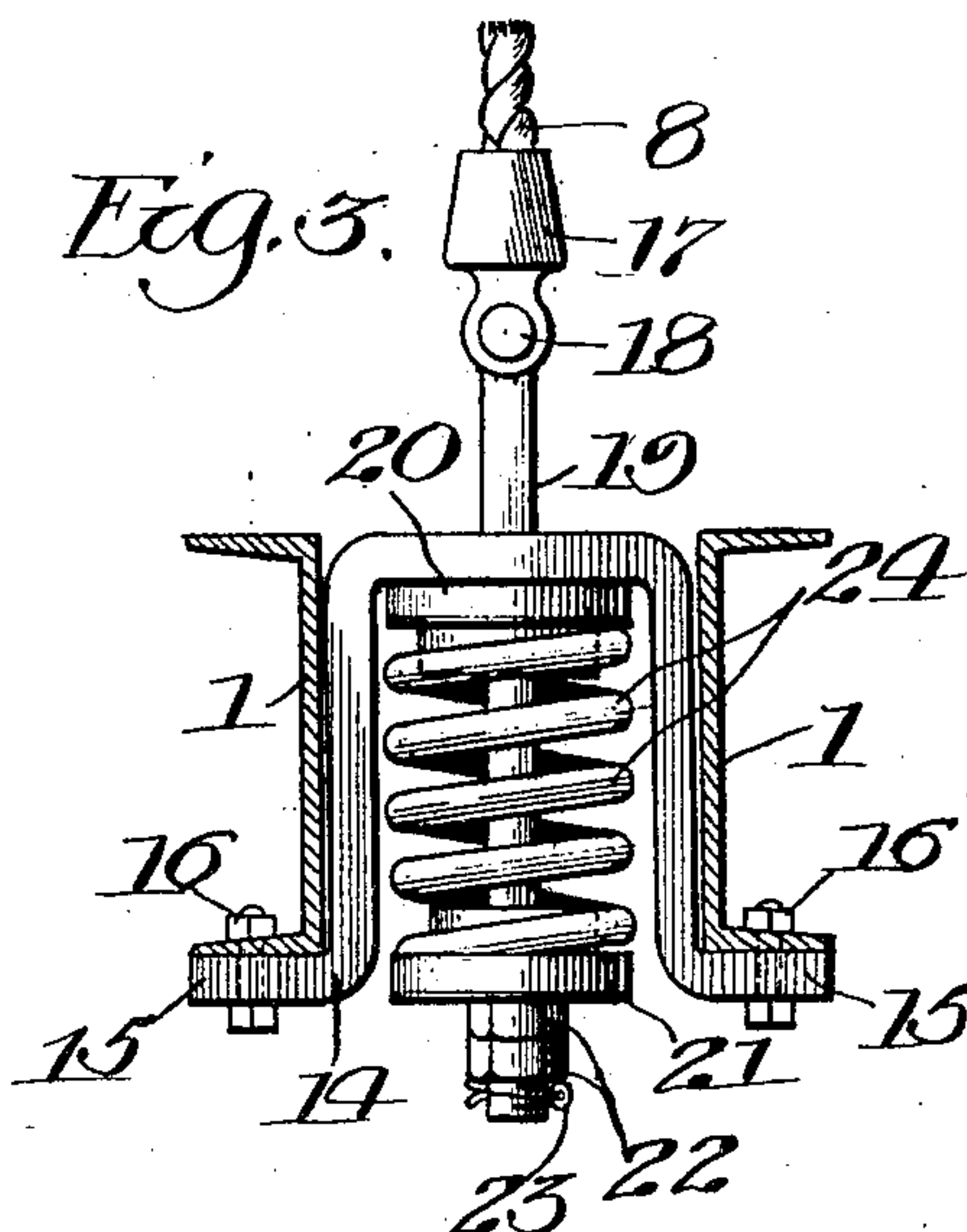


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

CARL ANTONIUS ANDERSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO RELIANCE ELEVATOR COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CABLE-HITCH FOR ELEVATORS.

969,322.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed December 10, 1908. Serial No. 466,830.

To all whom it may concern:

Be it known that I, CARL A. ANDERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Cable-Hitches for Elevators, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to suspension devices for elevators, and is more particularly applicable, and finds its greatest advantages, for use in connection with electric elevators, although of course not so limited in its application.

It is the object of my present invention to provide a resilient equalizing suspension for the car of an elevator system.

The device employed in accordance with my improvement makes it possible to operate an elevator in such a manner as to decrease to a minimum the sudden jars which are occasioned when it is attempted to stop an elevator at any particular point in its shaft. Furthermore, through the agency of my improved means, I do away with the great amount of cable breakage which is now an incidental to the operation of elevators.

I will describe one means of carrying out my invention by reference to the accompanying drawings, in which—

Figure 1 illustrates in general the application of my improved device; Fig. 2 is a detailed front view thereof, and Fig. 3 is a detailed view thereof.

I here illustrate the frame-work of an elevator car, consisting of the I-beams 1—1, fastened to suitable side members 2—2, within which a cage, 3, is suitably mounted, thus completing the car. This car is adapted to travel in the shaft 4, and is operated by means of a drum 5, to which is firmly attached a worm-wheel 6, in association with a worm 7, which can be driven in any suitable manner, as by an electric-motor, for instance.

I have not shown the rope for controlling the operation of the car, as same forms no part of my invention.

The drum 5 is arranged to wind the cables 8 and 9, which cables raise and lower

the car as the drum 5 is rotated. Cables 10 and 11 are also attached to the car, as will hereinafter be described, but they operate over a pulley 12, and are connected to a counter-weight 13. The cables 8, 9, 10 and 11 are all associated with the car support 1, in the manner illustrated more in detail in Figs. 2 and 3.

Referring to these figures, I have shown a saddle 14, whose flaring ends 15 are fastened underneath the members 1—1 by the bolts 16—16. Each of the cables 8 and 9 is fastened in a socket 17, which sockets, by means of bolts 18, are pivotally secured to plungers 19—19 through the agency of eyes provided on the upper extremities of said plungers 19. The plungers 19, in this instance being shown as square, project through the saddle 14, through a head-block 20, a tail-block 21, and are then secured in place by means of the nuts 22. A cotter-pin 23 holds these nuts in place. Between the head-block 20 and the tail-block 21 I interpose a strong spiral spring 24, which maintains these two blocks apart, and which provides the resilient mounting between the cables 8 and 9 and the car-frame 1.

It will be noted from the description given so far that I am enabled, by virtue of this improved arrangement, to attach the mounting, technically called "cable hitch," on the lower side of the transverse members 1—1, thus providing additional security in the support of the car. The central cables 10 and 11, which support the counter-weight, are also attached to a plunger 19, held in blocks 20 and 21 through the interposition of the spring 24.

From the construction thus described, it will be seen that the inequalities, for instance in the circumferential length of the various grooves of the drum 5, are compensated for by the expansion or retraction of the spring 24, so that as either cable 8 or 9 changes its operative length due to the size of the drum, a compensative influence of the said spring 24 has a tendency to maintain equal the tension to which the two said cables are subject in the operation of the car. It will further be noted that on account of the resilient mounting of the sockets 17, due to the facility with which the plungers 19 may tilt away from the vertical when said

cables 8 or 9 tend to swing out of their normal path, due to vibrations or sudden stoppings of the car, said resilient mounting tending to follow the movement of the cable, it stops the cable vibrations through the absence of a solid connection between the end of the cable, and the car frame-work.

To recapitulate, the flexible mounting of the end of the cable eliminates to a large extent the swaying of said cable. The combination of a single mounting plate, such as the saddle 14 with the several cable holding devices, whereby the car operating cables and the counter-weight cables are flexibly attached to the car, serves to prevent sudden jars to the car, and at the same time serves to prevent breakage of the cable at the socket 17, which is also likely to be caused by the swaying of the cables.

Having thus described the preferred embodiment of my invention, what I claim as

new and desire to secure by Letters Patent is:

An apparatus of the character described, comprising a car framework having two transverse members at the top portion thereof, a saddle for said framework mounted upon the under side of said transverse members, cables for hoisting and lowering said car framework, a counterweight, a cable for uniting said car framework with said counterweight, metallic springs interposed between said framework and said cables, and a prime mover.

In witness whereof, I hereunto subscribe my name this 25th day of November A. D., 1908.

CARL ANTONIUS ANDERSON.

Witnesses:

MAX W. ZABEL,
E. B. CAMPBELL.