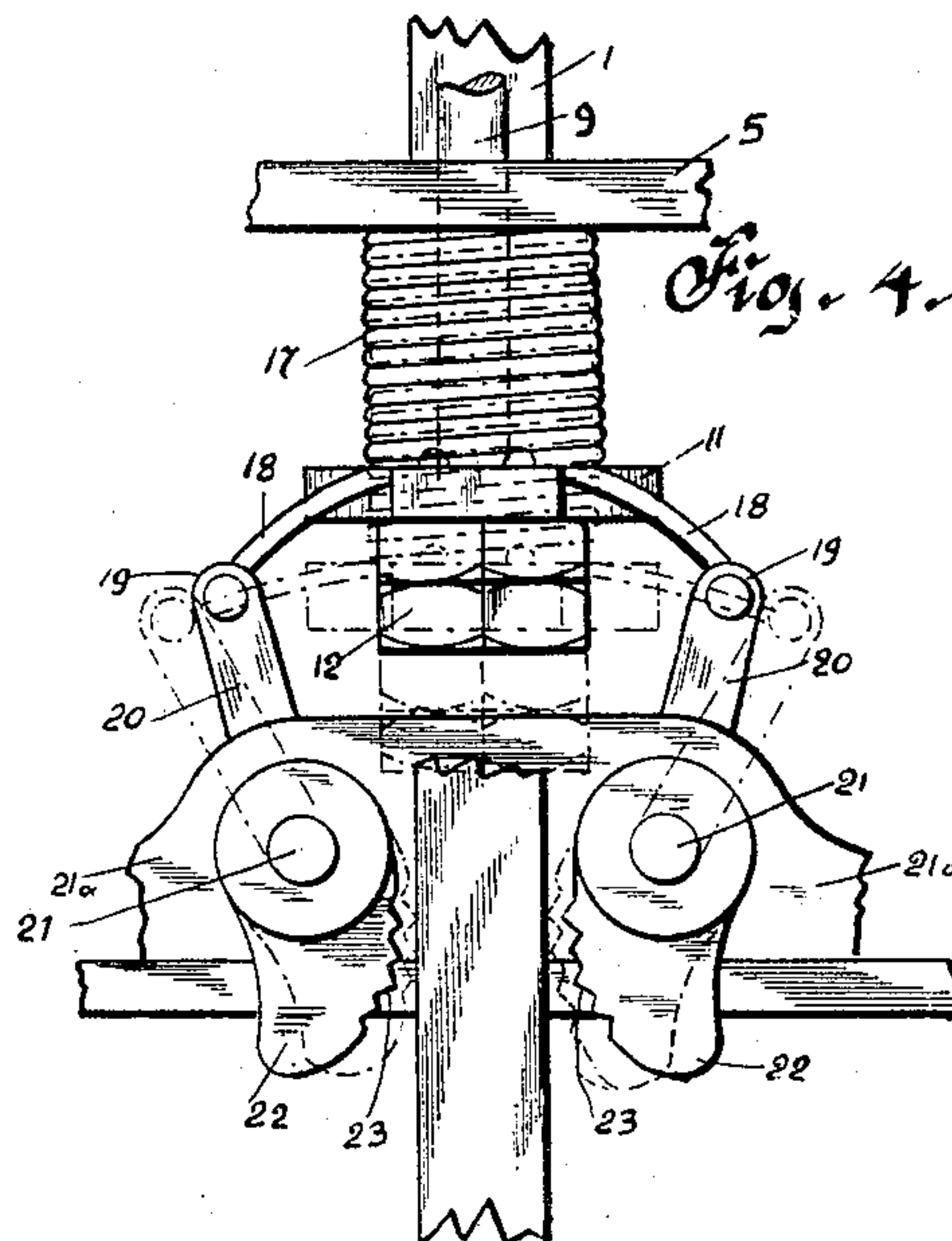
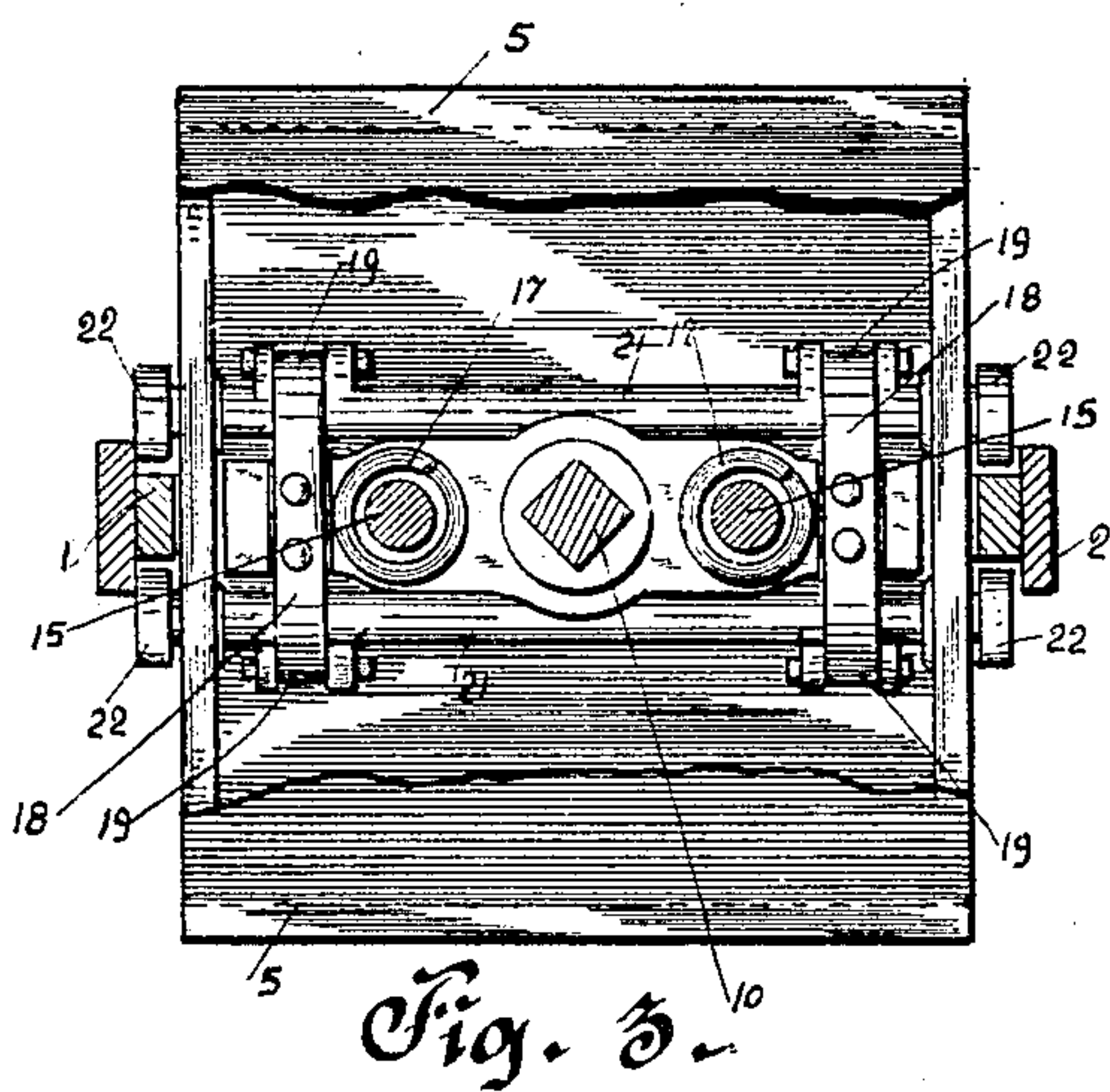
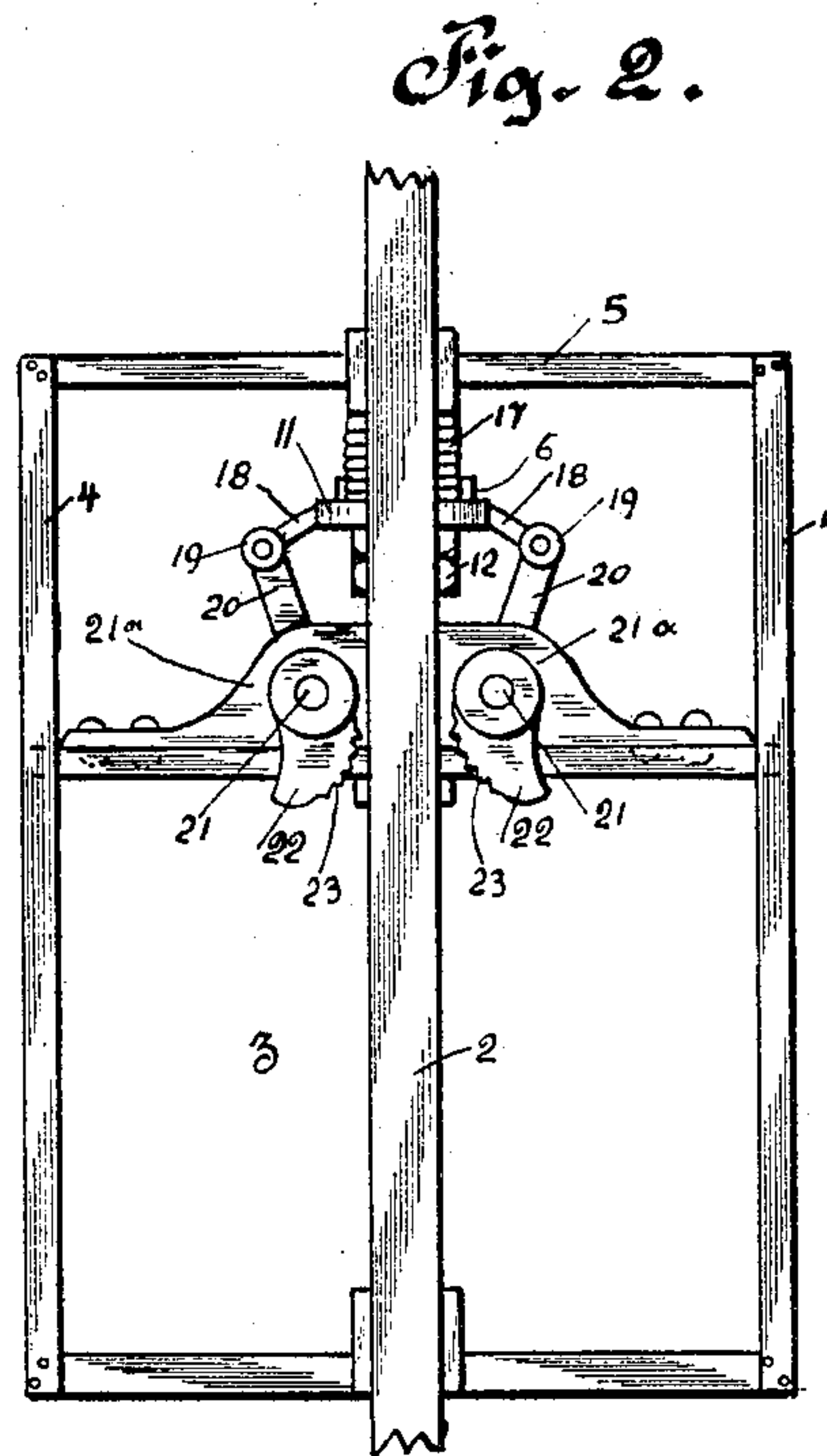
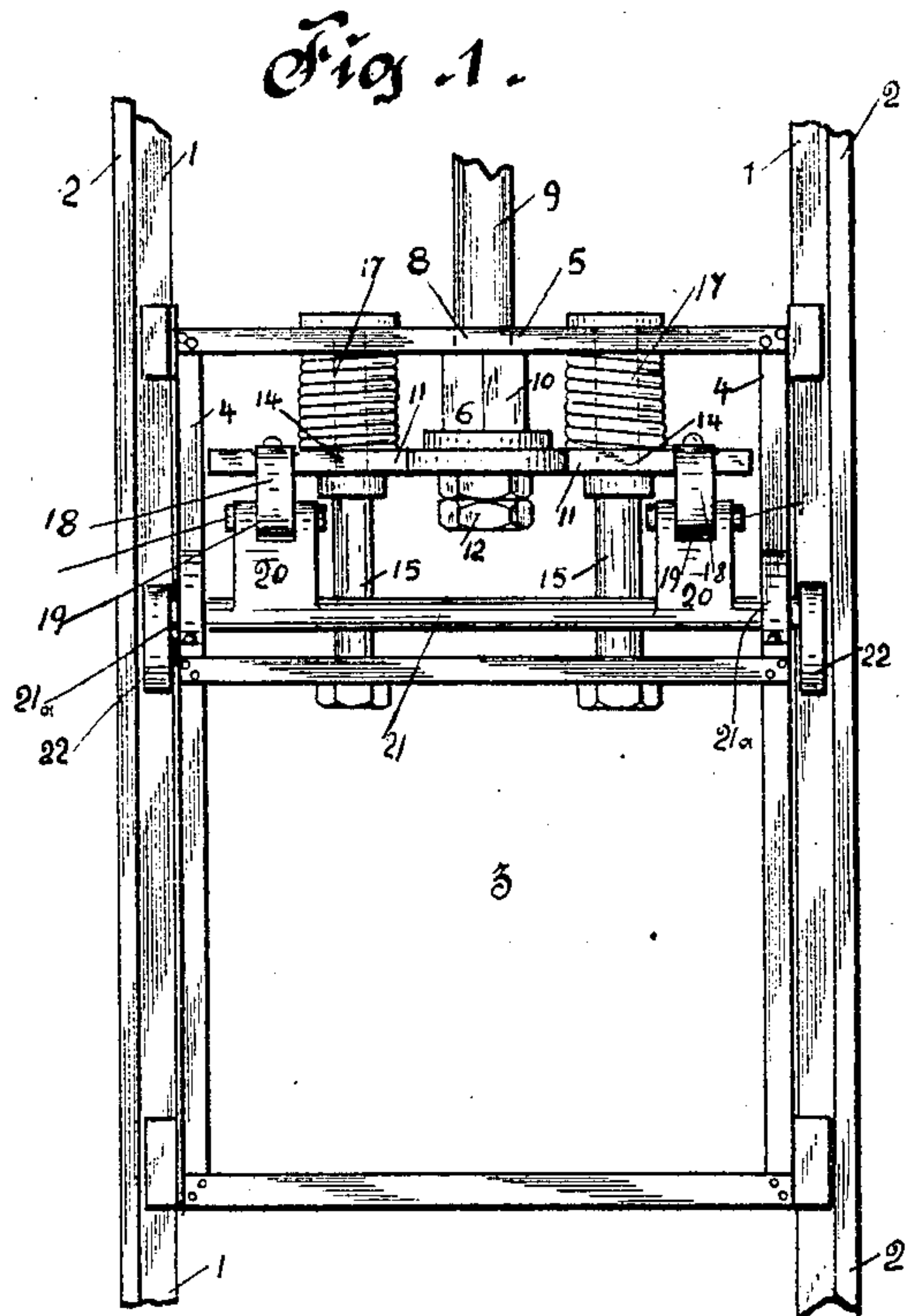


No. 763,144.

PATENTED JUNE 21, 1904.

P. BREMER.
ELEVATOR SAFETY DEVICE.
APPLICATION FILED MAR. 16, 1904.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

PETER BREMER, OF COULTER, PENNSYLVANIA.

ELEVATOR SAFETY DEVICE.

SPECIFICATION forming part of Letters Patent No. 763,144, dated June 21, 1904.

Application filed March 16, 1904. Serial No. 198,451. (No model.)

To all whom it may concern:

Be it known that I, PETER BREMER, a subject of the Emperor of Germany, residing at Coulter, in the county of Allegheny 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 drawings.

This invention has relation to elevator safety devices; and the object of this invention is to provide a device of this character wherein should the chain, cable, or rope which supports the cage of the elevator break the elevator will be automatically stopped and prevented from further descension in the shaft of a building.

Another object of my invention is to provide means which will be automatically operated in such a manner as when the cable which supports the elevator breaks clamping-jaws will engage the side frames of the elevator-shaft and prevent the elevator from further descension, the above means being independent of other elevator mechanism to operate the same and located in such a position as to not interfere with the general construction of the ordinary elevator-cage.

With the above and other objects in view reference will be had to the accompanying drawings, wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a front elevation of an elevator-cage, showing my improved safety device applied thereto. Fig. 2 is a side elevation of the same. Fig. 3 is a top plan view of the elevator-cage with my improved safety device applied thereto, the side frames of the shaft being shown in section. Fig. 4 is an enlarged detail view showing the gripping-jaws and means for operating the same in side elevation.

In the accompanying drawings I have illustrated my improved safety device as applied to the ordinary elevator-cage which is adapted to operate and move between two vertically oppositely disposed side frames which are mounted in the elevator-shaft of a building, and the reference-numerals 1 and 2 indicate

the side frames of this shaft, between which is adapted to move the ordinary elevator-cage 3, and upon the top of said cage I construct the rectangular framework which comprises the vertical frames 4, which support a plate 5. This plate 5 is provided with a central aperture 8, through which passes a vertical rod 9, and the lower end of this rod 9 carries an enlarged portion 10, and mounted adjacent to said enlarged portion is a collar 6, and secured upon the end of the rod 9 and abutting against the collar 6 is a cross-bar 11, this bar being secured thereon by nuts 12. The cross-bar is provided with two apertures 14 14, arranged upon each side of the vertical rod 9, and adapted to pass through these apertures 14 14 are the vertical guide-rods 15 15, these guide-rods being mounted between the plate 5 of the rectangular framework and the top of the elevator-cage 3. Interposed between the plate 5 and the cross-bar 11 are the spiral springs 17 17, which surround the vertical guide-rods 15 15, these springs being interposed between the plate 5 and the bar 11, whereby the bar will be normally forced downwardly. Upon the outer ends of the cross-bar 11 are mounted the band-springs 18 18, the outer end of these springs being pivotally mounted in the bifurcated end 19 of the arms 20 20, these arms being carried by cross-shafts 21 21, which are journaled in the bearings 21^a 21^a, mounted upon the top of the elevator-cage, the shafts having their outer ends protruding through the bearings, and mounted upon these outer ends are the gripping-jaws 22 22, which have their inner faces serrated, as designated by the reference-numeral 23.

Upon the upper end of the vertical rod 9 is secured the chain, cable, or rope (not shown) which supports the elevator-cage within the shaft of a building.

When the cage of the elevator is suspended within the shaft of the building, the springs 17 are under tension and the cross-bar 11 is in a position shown in Figs. 1 and 2 of the drawings. When this cross-bar is in this position, the gripping-jaws 22 are disengaged from the side frames 1 and 2 of the shaft of a building, and in case the cable or rope which supports the cage therein would break

the springs 17 will expand and force the cross-bar 11 downwardly upon the guide-rods 15, carrying with it the band-springs 18 18, and as these springs travel downwardly the arms 20 are forced outwardly, rotating the shafts 21, which carry on their outer ends the gripping-jaws 22, and when the shafts are rotated the gripping-jaws will be forced into engagement with the side frames 1 of the elevator-shaft and further descent of the elevator prevented. Upon the elevator-cage being again connected to the cable and the cage slightly raised the gripping-jaws 22 will be drawn out of engagement with the side frames, and the operation of the elevator-cage within the shaft may be continued as before.

It will be noted that my improved safety device is applicable to any construction of elevator-cage and is particularly adapted for freight-elevators wherein heavy loads are carried, and while I have herein shown the preferred form of construction of my device it will be observed that various changes may be made in the general arrangement of the mechanism without departing from the general spirit and scope of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a safety device for elevators, the combination with the shaft side framings, a cage arranged between said side framings, a framework mounted on said cage and guide-rods extending between the top of the cage and the top of the framework, of a cross-bar sliding on said guide-rods and adapted to be connected to a cable, spiral springs arranged between said cross-bar and the top of said framework, a band-spring attached to said cross-bar, rocking shafts journaled on said

cage, gripping-jaws carried on said shafts, and adapted to grip said side framings, and arms carried by said shafts and pivotally attached to said band-spring substantially as described.

2. In a safety device for elevators, the combination of a cage, a framework at the top of the cage a stationary plate carried by said framework a rod adapted to be attached to a cable, said rod passing loosely through said plate and having an enlarged portion below said plate, guide-rods extending from said plate to the top of the cage, a sliding plate guided on said guide-rods and secured to the first-named rod below the enlarged portion thereof, springs interposed between the sliding plate and the stationary plate, rocking shafts journaled on the cage, rocking arms carried by said shafts, and connections between said rocking arms and said sliding plate, substantially as described.

3. In a safety device for elevators, the combination with a cage, a framework mounted thereon, a plate slidingly mounted in the said framework, a rod slidingly mounted in the framework, attached to said plate and adapted to be attached to a cable, springs arranged to force said plate downwardly in the framework, rocking shafts journaled on the cage, gripping-jaws carried by said shafts, arms carried by said shafts and spring connections between said arms and said sliding plate.

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

PETER BREMER.

Witnesses:

H. C. EVERT,
E. E. POTTER.