

No. 775,608.

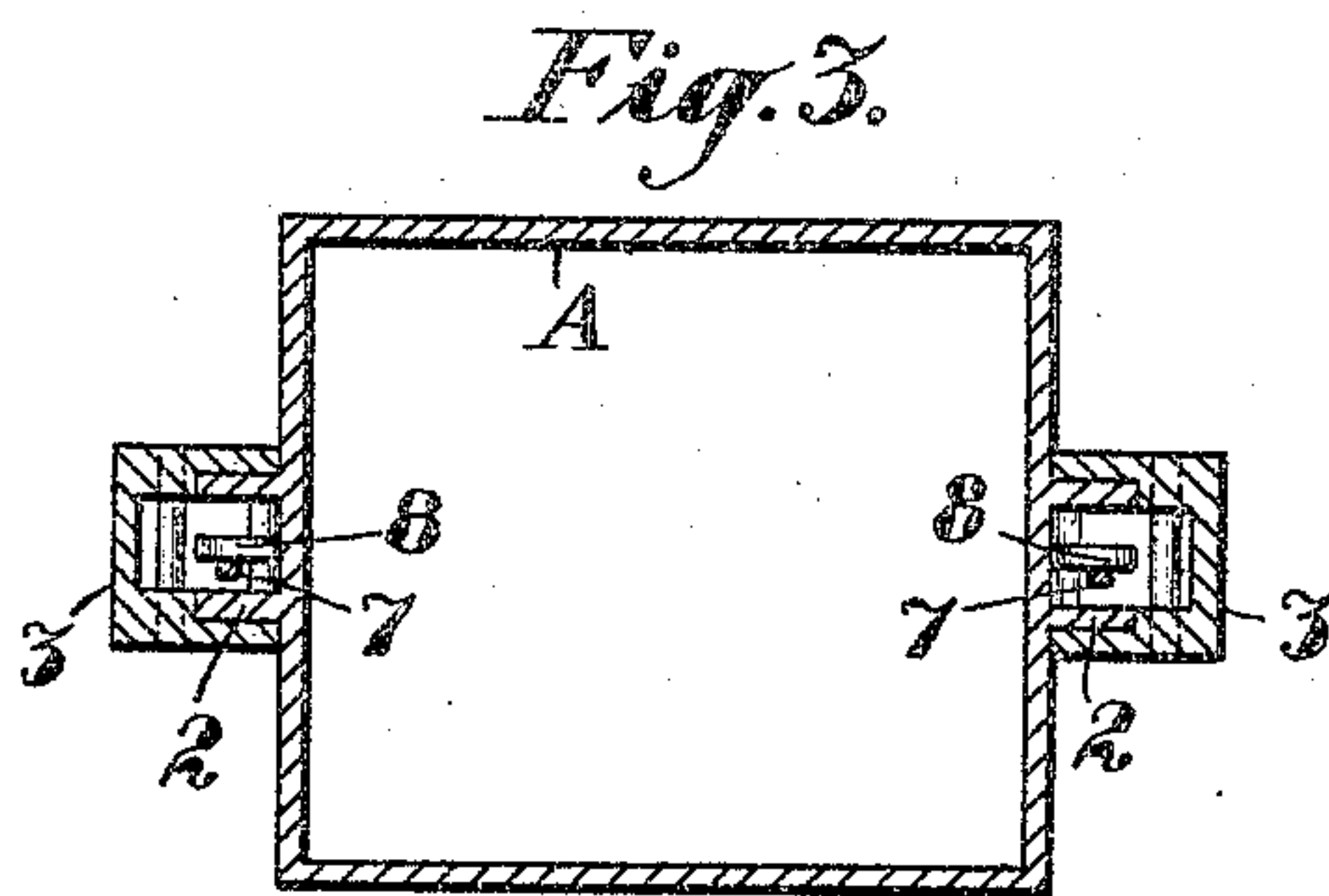
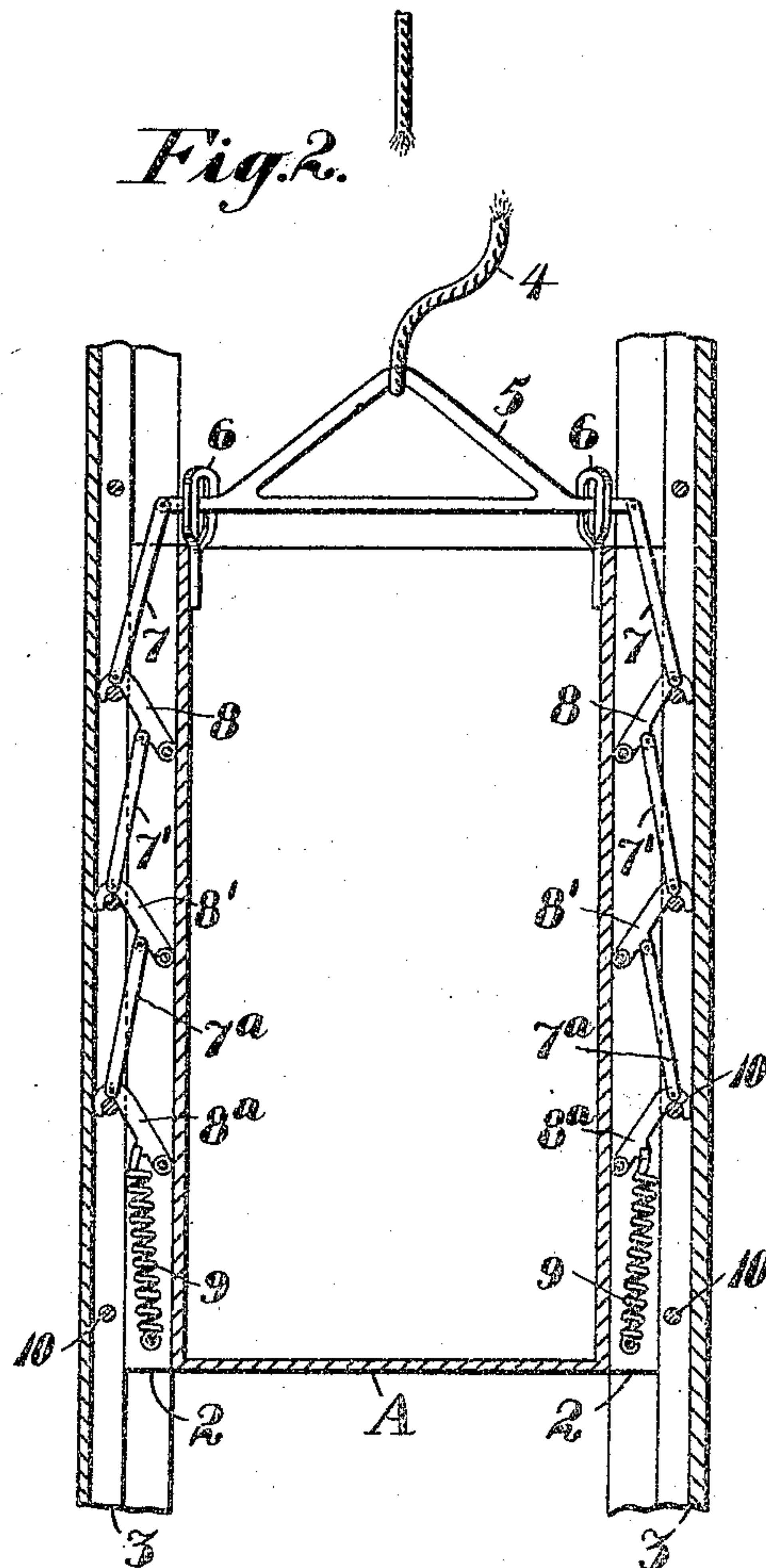
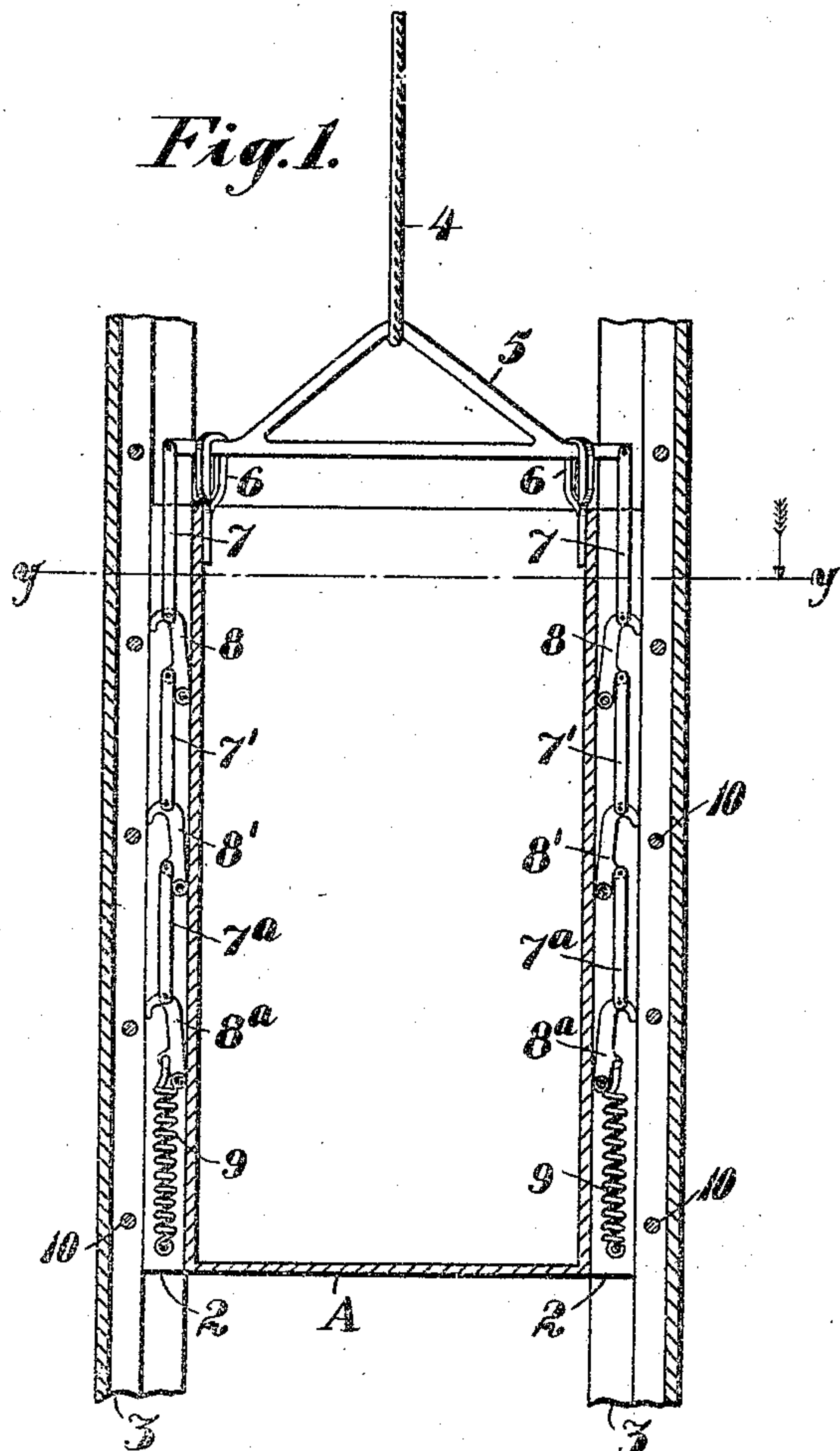
PATENTED NOV. 22. 1904.

W. T. ROBINSON & J. CASEY.

ELEVATOR SAFETY STOP.

APPLICATION FILED JUNE 27, 1904.

NO MODEL.



Witnesses:-

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UNITED STATES PATENT OFFICE.

WILLIAM THOMAS ROBINSON AND JOHN CASEY, OF MOKELUMNE HILL,
CALIFORNIA.

ELEVATOR SAFETY-STOP.

SPECIFICATION forming part of Letters Patent No. 775,608, dated November 22, 1904.

Application filed June 27, 1904. Serial No. 214,321. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM THOMAS ROBINSON and JOHN CASEY, citizens of the United States, residing at Mokelumne Hill, in the
5 county of Calaveras and State of California, have invented new and useful Improvements in Elevator Safety-Stops, of which the following is a specification.

Our invention relates to improvements in
10 safety appliances for elevator-cages. Its object is to provide a simple, practical, and effective means for checking the descent of an elevator cage or bucket in mines, buildings, and the like in the event of the sudden breaking
15 of the rope or cable.

It consists of the parts and the construction and combination of parts, as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

20 Figure 1 is a vertical section through a cage and its guides, showing position of the parts of our invention in relative normal position. Fig. 2 is a similar view showing action of safety appliance in case the rope breaks. Fig.
25 3 is a horizontal section on line *y y*, Fig. 1.

A represents a cage or bucket of any suitable description, having the integral vertical guides or spaced flanges 2 on its opposite
30 sides, which flanges run in the stationary guides 3 of the shaft.

The cage is suspended from the rope or cable 4, and the latter is connected to the cross-bar or yoke 5, which is arranged to have a limited vertical movement in the heavy iron
35 straps 6 on the top of the cage. To the ends of this yoke are attached the links 7, which in turn connect each with an outturned hook 8, pivoted at its lower end to the cage and within the housing formed by the flanges 2.
40 A number of similar hooks 8' 8^a are pivoted in line below hooks 8 in the housings, and successive hooks in each series are pivotally connected intermediate of their ends by links 7' 7^a, so that when yoke 5 is lifted up all the
45 hooks will be retracted within the housing 2.

In case the rope should break springs 9 or equivalent means cause the free ends of the hooks in each series to be projected out beyond the housings into the path of the pins

10, which are firmly secured in the guides 3
50 and are strong enough to sustain the weight of the cage. These pins are placed at short intervals, so that in case of accident the cage would fall only a few inches before being caught by the hooks. Thus it is seen that
55 while normally the cage is suspended from the yoke by means of the straps 6 or by the hooks or by both combined in case of the rope breaking the yoke falls and the entire weight of the cage is caught by the hooks and
60 pins 10.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. An elevator safety appliance comprising
65 an elevator-cage, guiding means therefor, a sustaining means, stop means located in the guiding means, series of alined connected hooks on the cage and adapted to be projected into the path of the stop means, and a movable
70 yoke on the cage and connected to the sustaining means and the series of hooks.

2. The combination with an elevator-cage, of guideways between which said cage is movable, stop means in the guideways, connected
75 alined hooks on the cage arranged to be projected into the path of said stop means, a suspending-rope connected with said hooks and means whereby the hooks are normally retracted out of the path of said stop means.
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3. The combination with an elevator-cage, series of connected hooks pivoted on opposite sides of the cage, stop means relative to the path of movement of the cage, means by which the hooks may be projected into the path of
85 said stop means, a suspending-rope and connections therebetween and the hooks whereby the latter are normally retracted out of the path of said stop means.

4. The combination with an elevator-cage,
90 of series of connected, spring-actuated outwardly-movable hooks on opposite sides of the cage, a suspending-rope, a yoke extending across the top of the cage to which said rope is connected, said yoke having a limited
95 movement toward and from the cage, connections between the ends of the yoke and the hooks, and stop means relative to the path of

movement of the cage and arranged directly in the outward path of said hooks.

5. The combination with an elevator-cage, of series of pivoted hooks on opposite sides of the cage, means connecting the hooks in series, a yoke extending across the top of the cage, a suspending-rope connected to said yoke, means whereby the latter is permitted a limited vertical reciprocating movement, connections between the yoke and hooks and stop means interposable in the path of said hooks whereby in case the rope breaks the hooks fly out automatically and engage said stop means to sustain the cage.

6. The combination with an elevator-cage, of guideways between which the cage is movable, stops carried by said guideways, series of hooks pivoted at one end to the cage and means including links uniting the hooks in series and by which they may be projected out to engage said stop means, a suspending-rope, a cross-bar or yoke having a limited vertical movement independent of the cage, and pivoted connections between said yoke and hooks.

7. The combination with an elevator-cage, of a cross-bar or yoke extending across the cage, straps or guides in which said yoke is movable, and whereby it is permitted a limited vertical movement independent of the cage, a suspending-rope connected with the yoke, hooks pivoted at one end to the cage and pivotally connected intermediate of their ends

with the yoke, means for projecting the hooks outward, and stop means in the path of outward movement of said hooks.

8. The combination with an elevator-cage, of a cross-bar or yoke extending across the cage and having a limited vertical movement independent of the cage, series of aligned hooks on opposite sides of the cage and pivoted thereto at one end, pivoted connections between the hooks of the several series and with the yoke, and stop means proximate to the path of travel of the cage engageable by the hooks.

9. The combination with an elevator-cage, guideways between which the cage is movable, vertical flanges on the cage engaging said guideways, series of hooks pivoted at one end to the cage and housed by said flanges, the hooks of each series pivotally interconnected intermediate of their ends, a suspending-rope and connections between the latter and hooks whereby the latter are normally retracted within their housings, and stop means engageable by said hooks on the release of tension on the rope.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WILLIAM THOMAS ROBINSON.
JOHN CASEY.

Witnesses:

D. W. M. BROWN,
A. E. PARADY.