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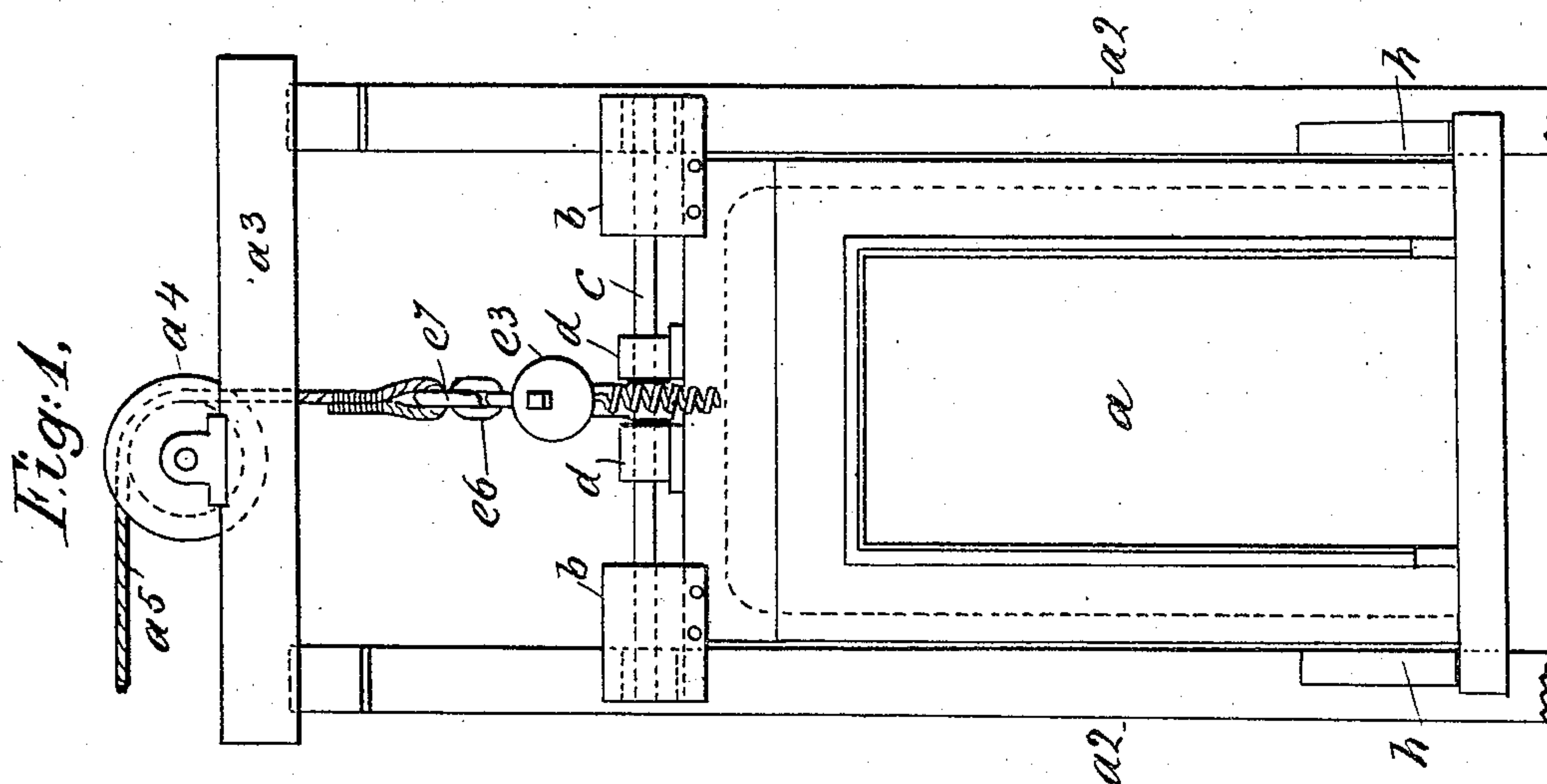
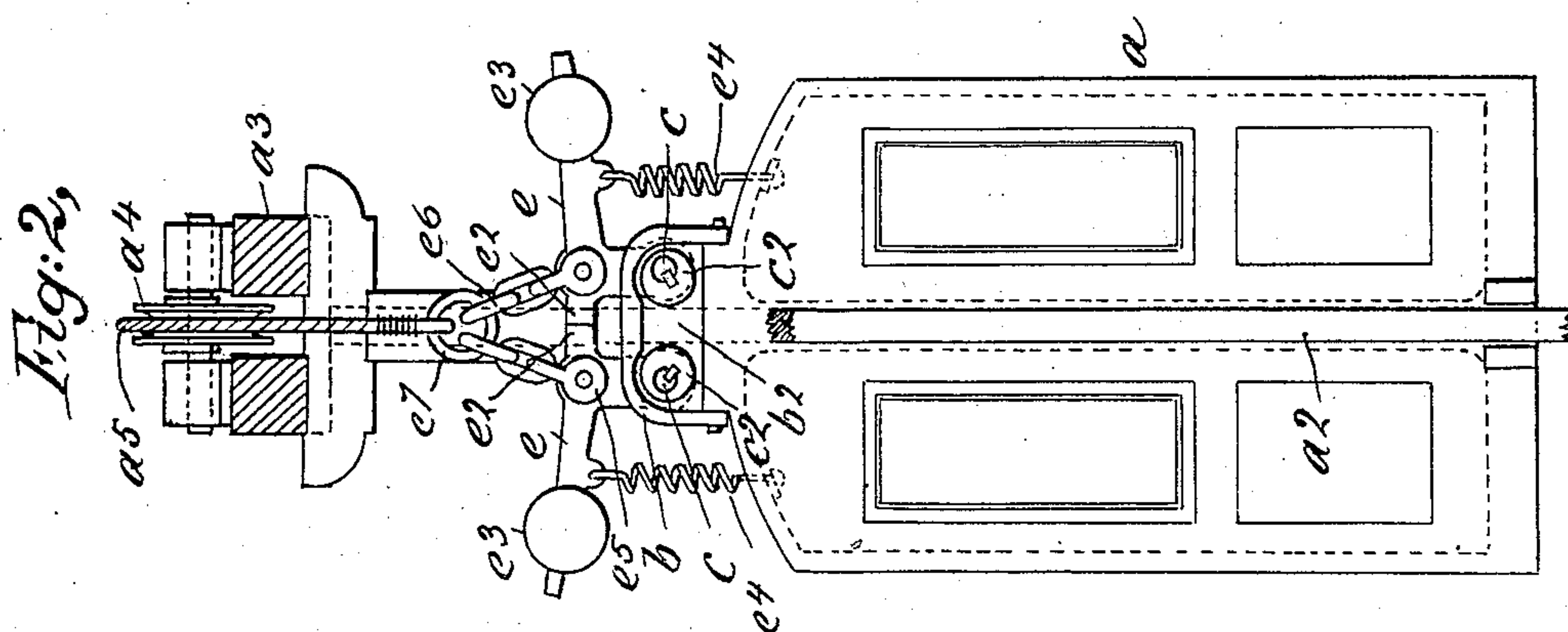
PATENTED JUNE 26, 1906.

J. G. BABIO.

# SAFETY APPARATUS FOR ELEVATORS.

APPLICATION FILED FEB. 26, 1906.

2 SHEETS—SHEET 1.



**WITNESSES**

WITNESSES  
Ernest Wagner  
J. A. Stewart

***INVENTOR***

BY *José Gonzalez Bahio*  
*Edgar Tate & Co.*

**ATTORNEYS.**

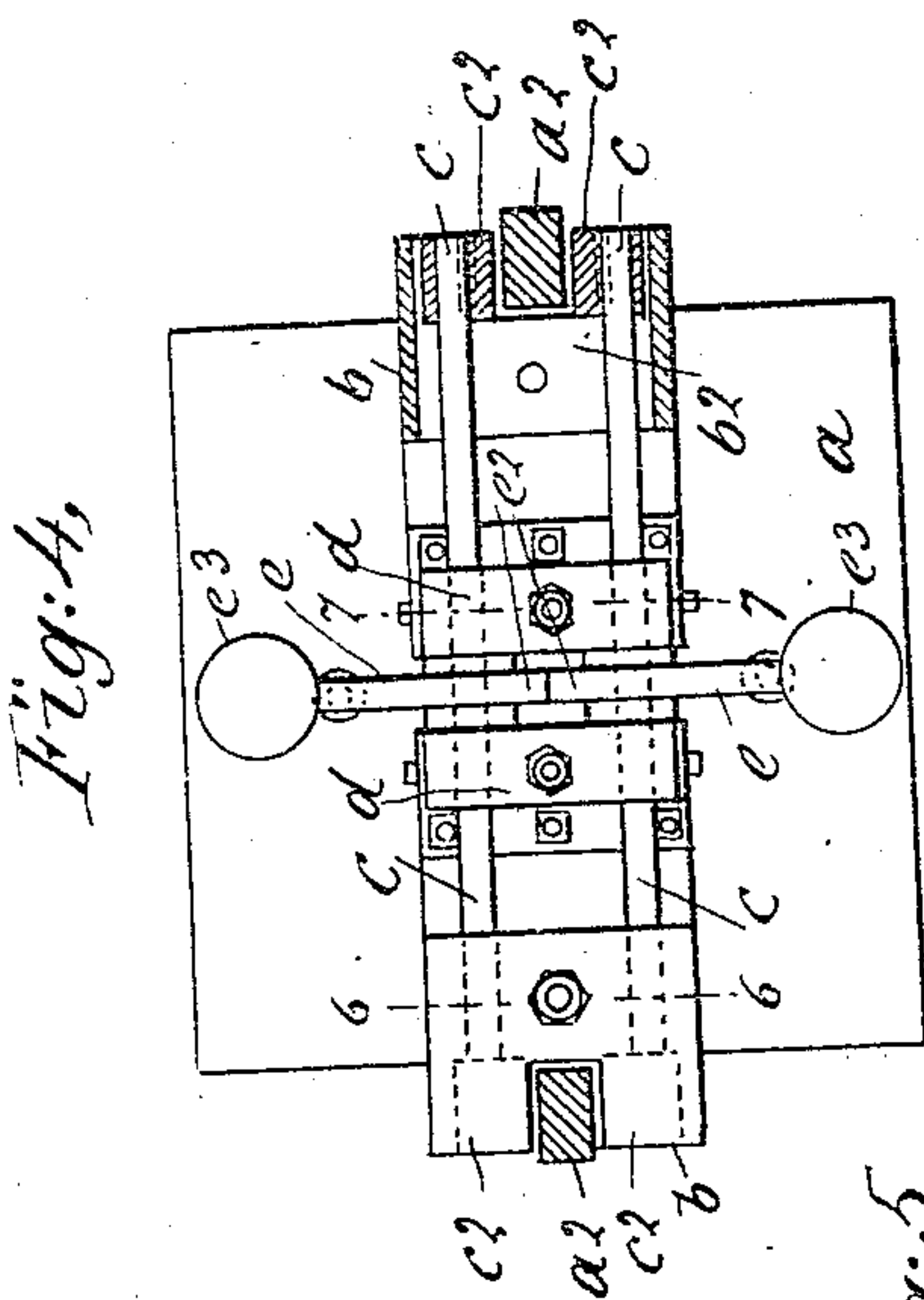
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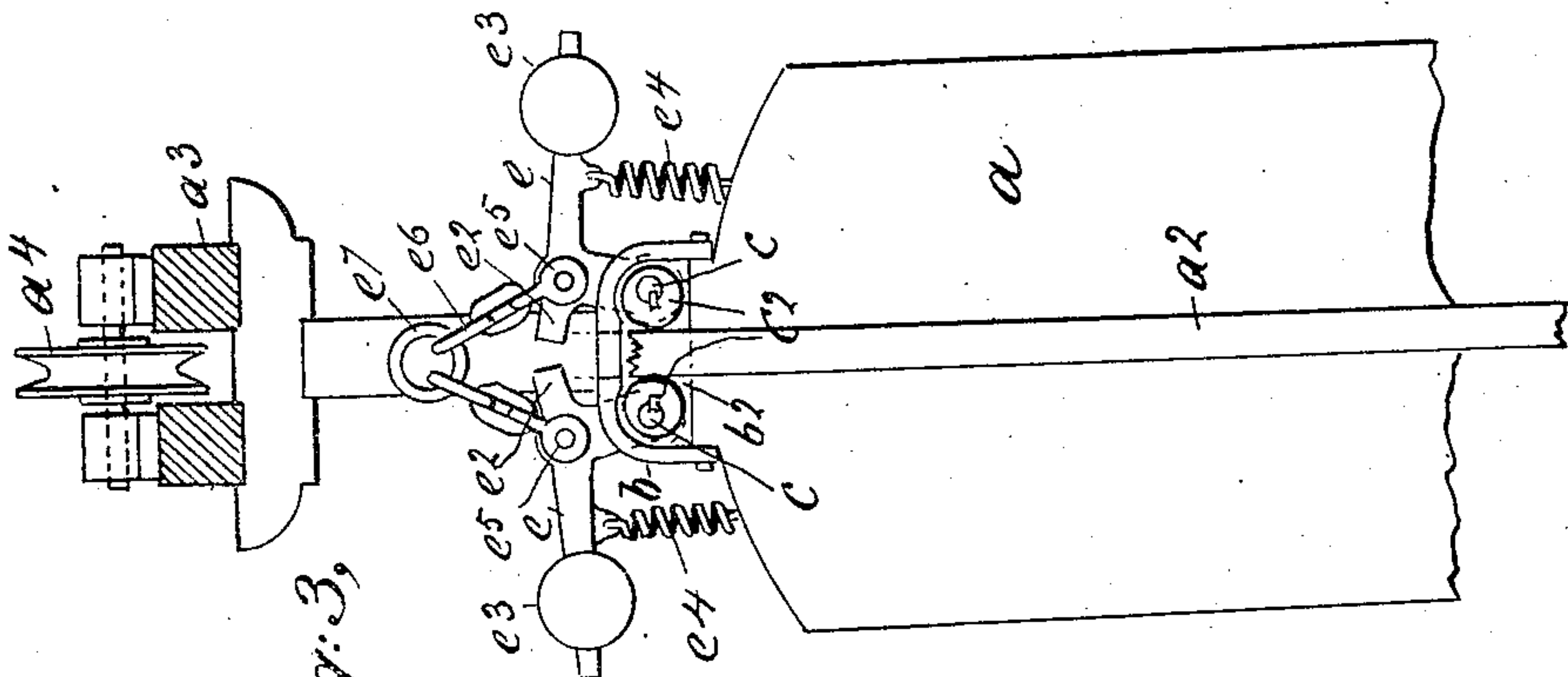
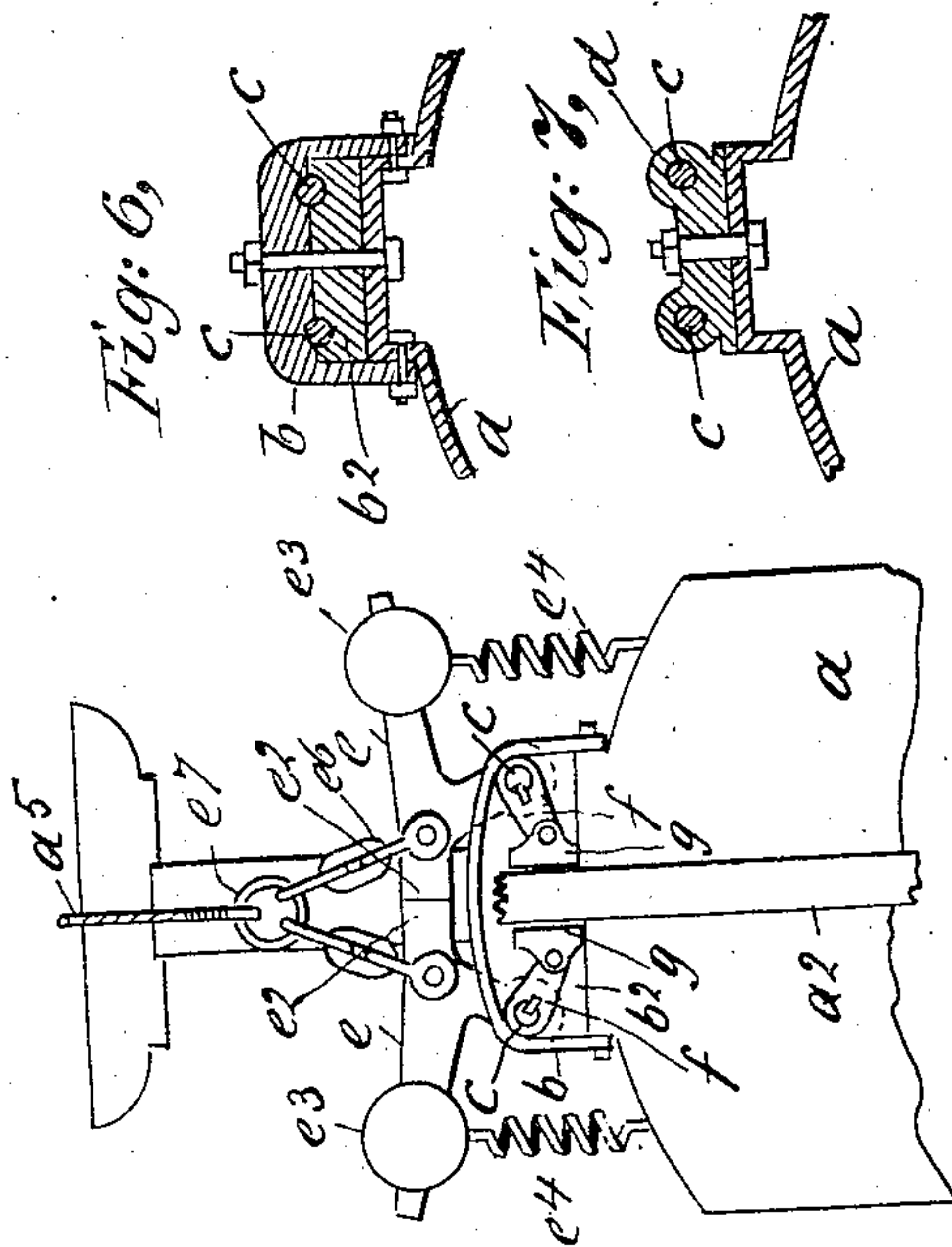
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SAFETY APPARATUS FOR ELEVATORS.

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2 SHEETS—SHEET 2.



*Fig. 5,*



WITNESSES

*Ernest H. Hays*  
*F. A. Stewart*

INVENTOR

BY

*José Gonzalez Babio*  
*Edgar Tate & Co.*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

JOSÉ GONZALEZ BABIO, OF NEW YORK, N. Y.

## SAFETY APPARATUS FOR ELEVATORS.

No. 824,523.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed February 26, 1906. Serial No. 302,371.

*To all whom it may concern:*

Be it known that I, JOSÉ GONZALEZ BABIO, a subject of the King of Spain, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Safety Apparatus for Elevators, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to elevators; and the object thereof is to provide an improved safety apparatus or appliance for use in connection with elevators, and particularly passenger-elevators, whereby devices of this class may be safely operated and the serious and sometimes fatal accidents which frequently result from the breakage of the cable or hoisting device may be avoided; and with this and other objects in view the invention consists in an apparatus of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a side view of an ordinary elevator apparatus provided with my improvement; Fig. 2, a view at right angles to Fig. 1 with part of the construction broken away; Fig. 3, a view similar to Fig. 2, but showing the parts in a different position; Fig. 4, a plan view, partly in section; Fig. 5, a view similar to Fig. 2, but showing a modification; Fig. 6, a section on the line 6 6 of Fig. 4, and Fig. 7 a section on the line 7 7 of Fig. 4.

In the drawings forming part of this specification I have shown at *a* an ordinary elevator-car which in practice is mounted on an ordinary elevator-shaft provided with side guides *a*<sup>2</sup> and at the top of which are placed cross-beams *a*<sup>3</sup>, which support the pulley *a*<sup>4</sup>, over which the hoisting-cable *a*<sup>5</sup> is passed, and in practice I secure to the top of the elevator-car and at the opposite sides thereof keepers or caps *b*, in which are placed pillow-blocks *b*<sup>2</sup>, which form supports for two shafts *c*, which are placed parallel and extend across the top of the elevator-car and are provided at their opposite ends with eccentrics *c*<sup>2</sup>, which are keyed thereto, as clearly shown in Fig. 2, and in the operation of the apparatus as hereinafter described the eccentrics *c*<sup>2</sup> op-

erate in connection with the guides *a*<sup>2</sup> of the elevator-car. The shafts *c* also pass through centrally-arranged keepers *d*, which are secured to the top of the car and form additional supports and bearings for said shafts, and I also provide two crank-levers *e*, through the shorter arms of which the shafts *c* pass, and the longer arms of said crank-levers are directed outwardly, and said crank-levers are also provided each with an inwardly-directed head *e*<sup>2</sup>, and in the operation of the apparatus when the parts are in their normal position the heads *e*<sup>2</sup> of the crank-levers *e* abut against each other, as shown in Fig. 2. Each of the crank-levers *e* is also preferably provided with a weight *e*<sup>3</sup>, and each is also preferably provided with a tension-spring *e*<sup>4</sup>, and the springs *e*<sup>4</sup> are connected with the top of the car *a*; but in practice both the weights and the springs *e*<sup>4</sup> need not necessarily be employed, as either said weights or springs will do the work required.

The hoisting-cable *a*<sup>5</sup> in practice is connected with the crank-levers *e* at *e*<sup>5</sup> by chains or similar devices *e*<sup>6</sup>, and said chains or similar devices are connected by a link or ring *e*<sup>7</sup>, which forms a connection for the cable *a*<sup>5</sup>.

Under ordinary circumstances or as long as the parts are operating normally the position of the crank-levers *e* and of the shafts *c* will be that shown in Fig. 2; but if at any time the cable *a*<sup>5</sup> is broken the levers *e* will assume the position shown in Fig. 3 and the eccentrics *c*<sup>2</sup> will be turned so as to operate in connection with the guides *a*<sup>2</sup> and prevent the descent of the car.

The construction shown in Fig. 5 is the same in all respects as that shown in Figs. 1, 2, and 3 except that the shafts *c* are placed at a slightly greater distance from the guides *a*<sup>2</sup> and are provided at their ends with cranks *f*, with which are connected brake-shoes *g*, which are normally held in the position shown in Fig. 5, but which if the cable *a*<sup>5</sup> be broken will be forced into contact with the guides *a*<sup>2</sup> and will operate to stop the descent of the car the same as with the construction shown in Figs. 1, 2, and 3 of the drawings.

In the form of construction shown in Figs. 1, 2, 3, and 4 the caps or keepers *b* extend outwardly far enough to inclose the eccentrics *c*<sup>2</sup> and in the form of construction shown in Fig. 5 to inclose the cranks *f* and brake-shoes *g*, and the guides *a*<sup>2</sup> pass vertically through the outer ends of said caps or keepers, and it will be understood that the said caps or keep-



ers may be secured to the car or car-frame in any desired manner, as may also the keepers *d*, through which the shafts *c* are also passed, and my invention is not limited to any particular means for securing the shafts *c* to the top of the car or car-frame, and any suitable means or devices may be employed for this purpose.

It will be understood that the eccentrics and the shoes *g* in the form of construction shown in Fig. 5 are normally separated from the guides *a*<sup>2</sup> but a slight distance and only a slight movement of the shafts *c* is necessary to throw said eccentrics or said shoes into contact with said guides, and this is effected by the weights *e*<sup>3</sup> and springs *e*<sup>4</sup>, or either of them, and the moment that said eccentrics or said shoes strike the guides *a*<sup>2</sup> the weight of the car will operate to cause said eccentrics or said shoes to securely grasp said guides and to support the car. It will also be understood that when the car reaches the bottom of the shaft if it is provided with a support independent of the cable the shafts *c* will operate as hereinbefore described and the eccentrics *c*<sup>2</sup> or shoes *g* will be thrown into contact with the guides *a*<sup>2</sup>, and I also preferably in practice provide the guides *a*<sup>2</sup> at the bottom of the shaft and at the point where the eccentrics *c*<sup>2</sup> or shoes *g* come in contact therewith when the car is at rest at the bottom of the shaft with cushions of rubber or similar material, as shown at *h* in Fig. 1.

It will be observed that in the normal position of the parts, as shown in Fig. 2, the chains or other flexible devices *e*<sup>6</sup> are connected with the crank-levers *e* directly over the shafts *c*, this arrangement being adapted in order to secure the proper operation of said levers, as herein described, and while I have shown said shafts as provided at their ends in one form of construction with ordinary eccentrics and in the other form of construction with brake-shoes it will be apparent that both forms of these devices operate as clamps or brakes to engage the guides *a*<sup>2</sup>, so as to arrest or stop the downward movement of the car if the cable *a*<sup>5</sup> is broken.

I am aware that elevator-cars have hereinbefore been provided with safety apparatus for a purpose similar to that for which my apparatus is designed; but the advantages of my apparatus are in its simplicity in construction and operation, in the positive stop which is provided for the car, and in the comparative expense, which is much less with my improvement than with other apparatus of this class as usually constructed.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a safety apparatus for elevator-cars, parallel shafts mounted transversely of the

top of the car and provided at their ends with brakes adapted to operate in connection with vertical guides at the opposite sides of the car, crank-levers arranged transversely of said shafts and one arm of each of which is secured to one of said shafts and the other arms of which project in opposite directions, said crank-levers being provided with inwardly-directed members which are adapted to abut when the car is in operation, means whereby the hoisting-cable may be connected with both of said crank-levers over their connection with said shafts, and means for depressing the arms of said levers which are not connected with said shafts, substantially as shown and described.

2. In a safety apparatus for elevator-cars, parallel shafts mounted transversely of the top of the car and provided at their ends with brakes adapted to operate in connection with vertical guides at the opposite sides of the car, crank-levers arranged transversely of said shafts and one arm of each of which is secured to one of said shafts and the other arms of which project in opposite directions, said crank-levers being provided with inwardly-directed members which are adapted to abut when the car is in operation, means whereby the hoisting-cable may be connected with both of said crank-levers over their connection with said shafts, and means for depressing the arms of said levers which are not connected with said shafts, comprising tensional springs which connect said arms with the top of the car, substantially as shown and described.

3. A safety-brake for elevator-cars, comprising vertical guides between which the car moves, parallel shafts mounted transversely of the top of the car and provided at their ends with brakes normally held out of contact with said guides, crank-levers arranged over said shafts and transversely thereof, and one arm of each of which is secured to one of said shafts and the other arms of which project in opposite directions, said crank-levers being provided with members which abut when the car is in operation, a hoisting apparatus connected with said crank-levers over their connection with said shafts, and means for depressing the arms of said levers which are not connected with said shafts and turning said shafts so as to operate the brakes when the hoisting apparatus breaks, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 24th day of February, 1906.

JOSE GONZALEZ BABIO.

Witnesses:

F. A. STEWART,  
C. E. MULREANY.