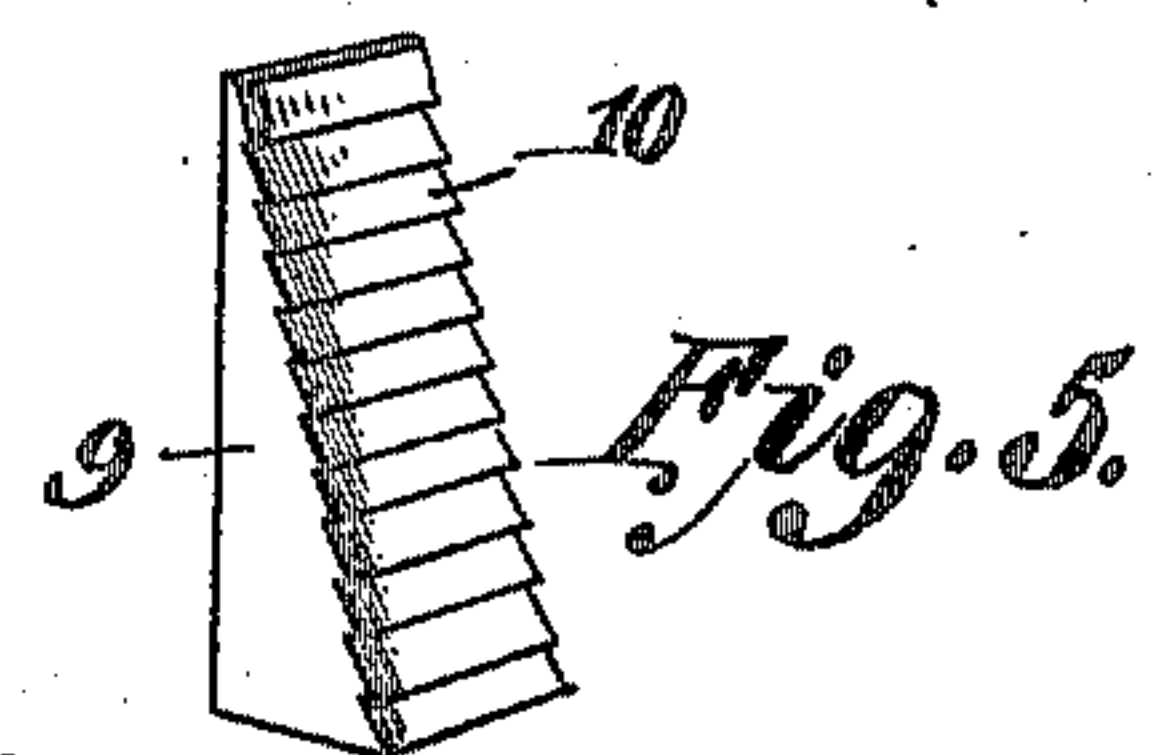
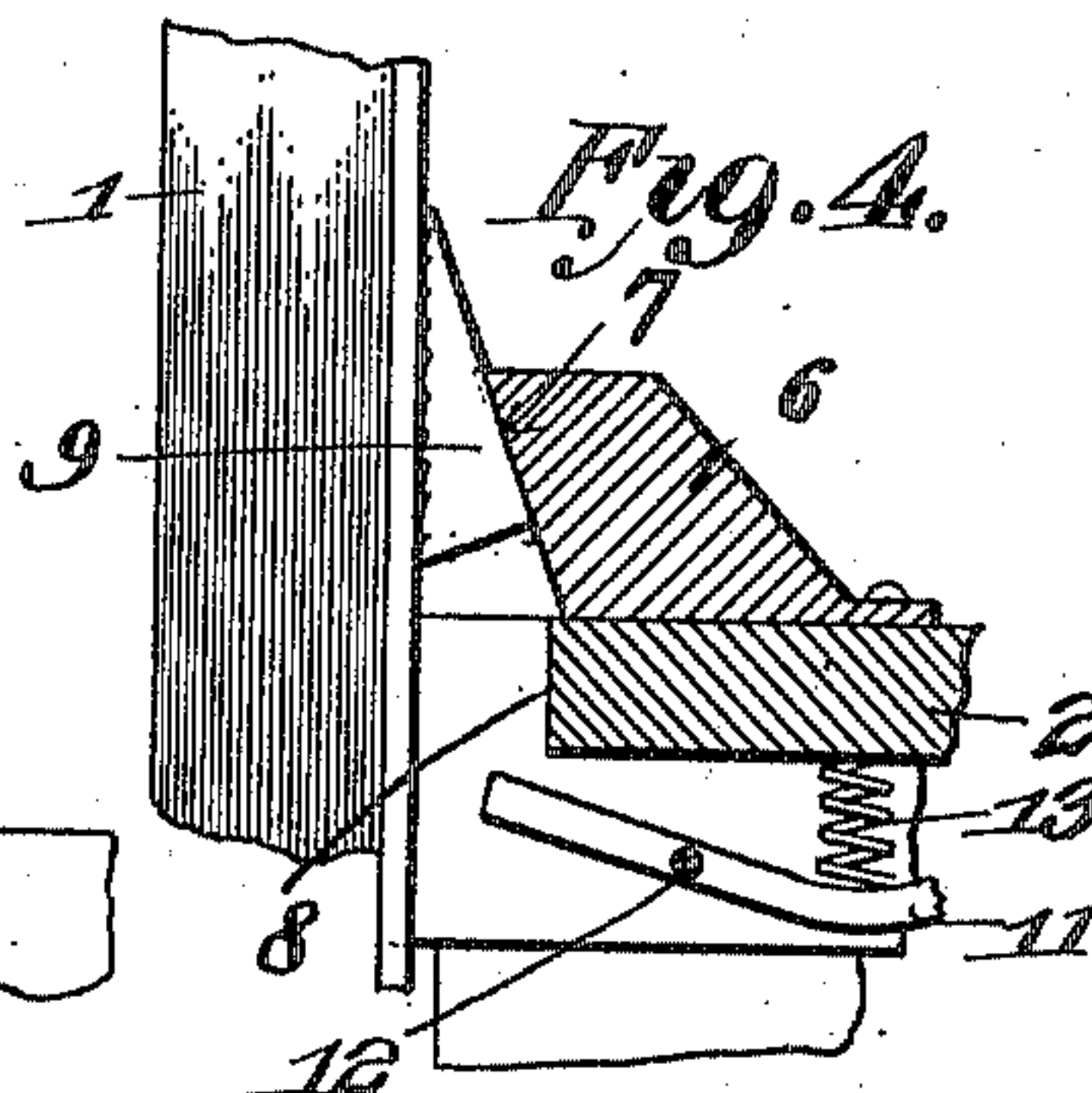
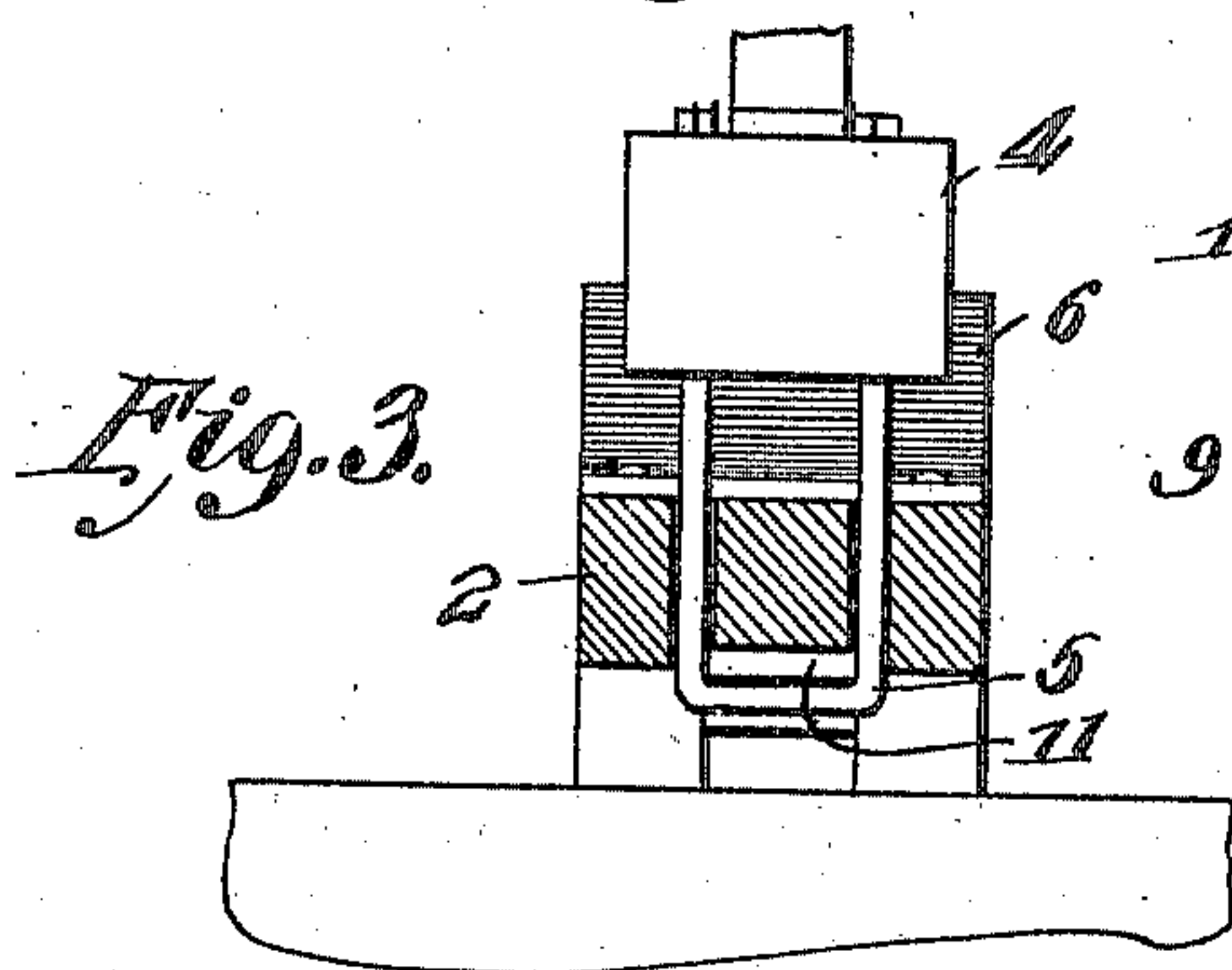
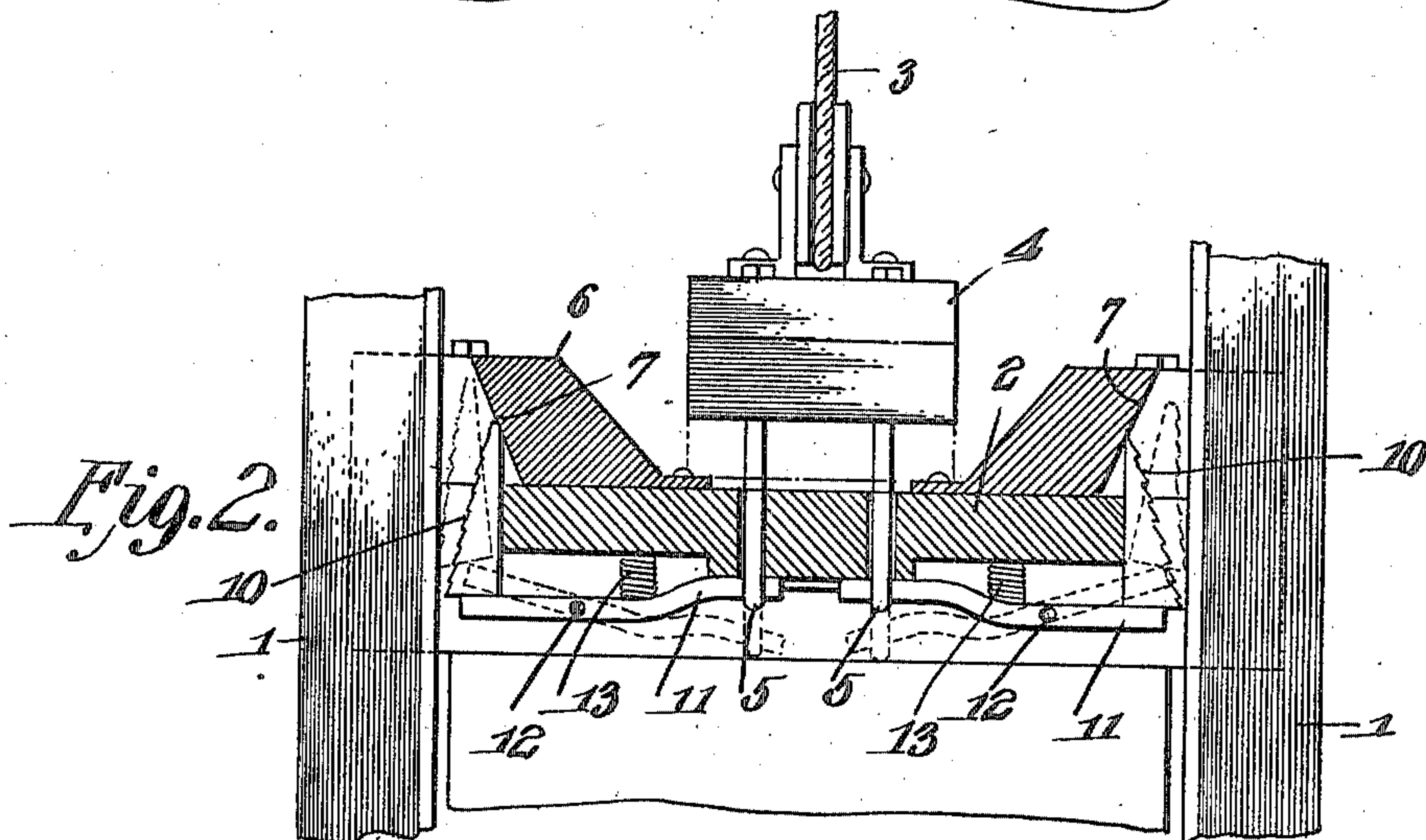
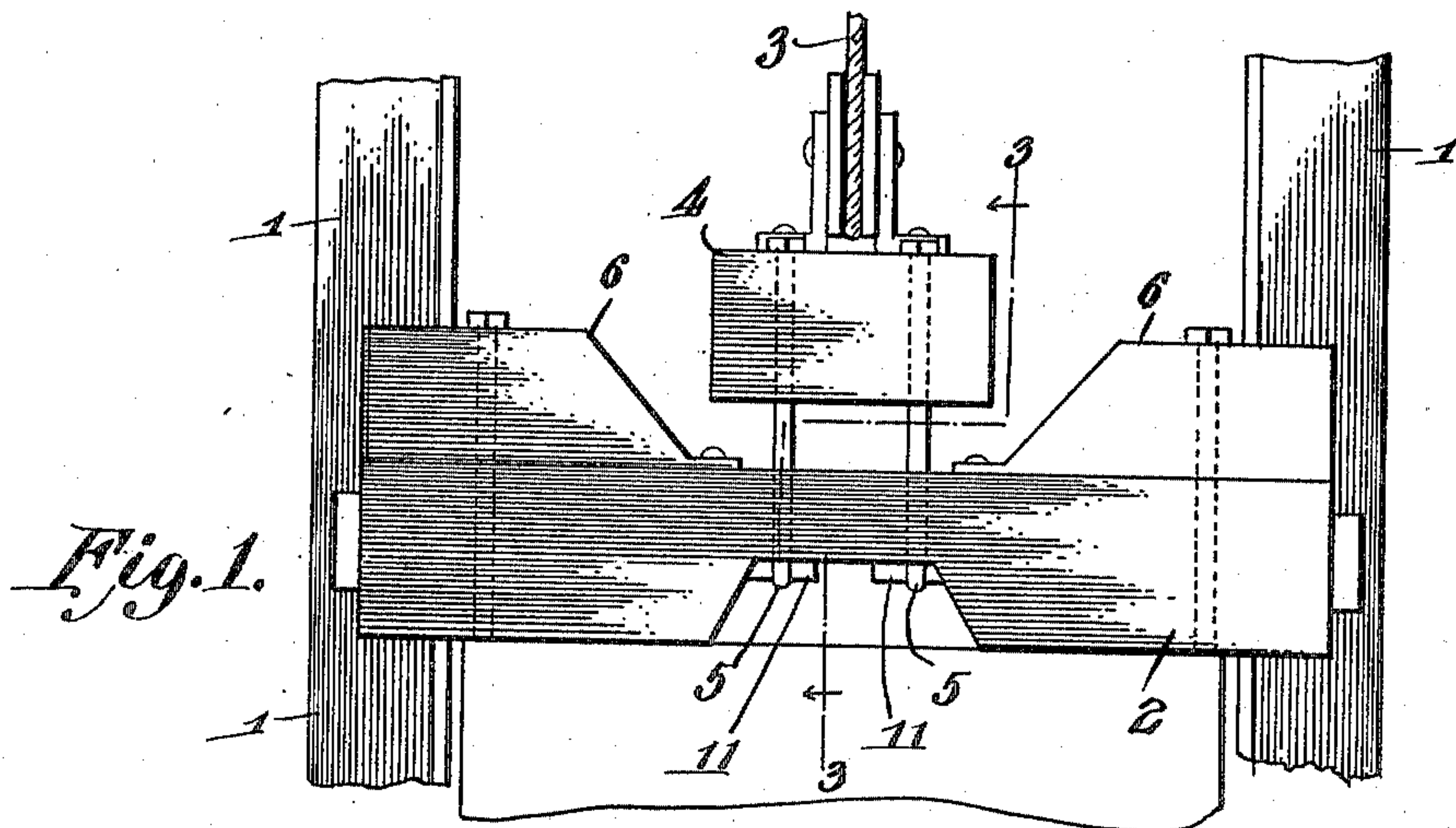


H. W. DUNLAP & J. S. LUMBLEY.
SAFETY ELEVATOR.

APPLICATION FILED JUNE 28, 1909.

951,680.

Patented Mar. 8, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY WILLIAM DUNLAP AND JOSEPH SLATER LUMBLEY, OF AXTELL, TEXAS.

SAFETY-ELEVATOR.

951,680.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed June 28, 1909. Serial No. 504,819.

To all whom it may concern:

Be it known that we, HENRY W. DUNLAP and JOSEPH S. LUMBLEY, citizens of the United States, residing at Axtell, in the county of McLennan and State of Texas, have invented new and useful Improvements in Safety-Elevators, of which the following is a specification.

The present invention appertains to safety appliances for elevators and more particularly to the variety of elevators designed most especially for passengers so as to insure safety in the event of the hoisting rope or cable breaking or the hoisting mechanism becoming disarranged so as under ordinary conditions to admit of the car descending rapidly and endangering the life or limb of the passenger.

The purpose of this invention is to equip the car of an elevator with safety appliances involving a novel construction and arrangement and normally held out of action by the tension upon the hoisting rope or cable but which safety appliances instantly and automatically come into play when from any cause the normal tension on the hoisting rope or cable decreases to a dangerous extent from any cause which would tend to admit of the rapid descent of the car.

The invention consists of the novel features, details of construction and combinations of parts which hereinafter will be more particularly set forth, illustrated in the accompanying drawings and pointed out in the appended claim.

Referring to the drawings forming a part of the specifications: Figure 1 is an elevation of the upper portion of an elevator and guide rails showing the application of the invention. Fig. 2 is a view of the parts in the same relation illustrated in Fig. 1, the draft beam being in section to show more clearly the clutch dogs and levers cooperating therewith, the dotted lines showing the relative position of the parts when in operative position through a decrease in the normal tension of the hoisting rope or cable. Fig. 3 is a sectional view on the line 3—3 of Fig. 1 looking in the direction of the arrows. Fig. 4 is a detail section showing one of the clutch dogs in operative position. Fig. 5 is a detail perspective view of a clutch dog.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The invention is adapted for use in connection with any style or make of elevator embodying guide rails, a car, and a hoisting tackle embodying a rope or cable which is connected with the car and is adapted to wind upon the drum of a hoisting engine.

In the drawings the numeral 1 designates the guide rails at the sides of the elevator shaft, 2, the draft beam at the top of the car or cage, 3 the hoisting rope or cable, and 4 the clevis or draft block to which the hoisting rope or cable 3 is attached and which has a limited vertical movement. The clevis or draft block is connected to the draft beam in any substantial way and as shown a pair of clips 5 are employed, the same having loose connection with the draft beam so as to move vertically with reference thereto. The brackets 6 are mounted upon end portions of the draft beam and are connected thereto in any substantial and secure manner. The ends of the brackets 6 are recessed to receive the guide rails 1 and the inner walls 7 of the recesses are upwardly inclined as indicated most clearly in Figs. 2 and 4. Opposite end portions of the draft beam 2 are likewise recessed, the inner walls of said recesses being vertical as indicated at 8. Clutch dogs 9 are placed in the recesses of the parts 2 and 6 and are wedged or tapered and have their outer faces toothed as indicated at 10 so as to bite into the adjacent sides of the guide rails and prevent possible slipping of the parts when in locked engagement as a result of breakage of the hoisting tackle or disengagement thereof. The clutch dogs 9 consist of case-hardened or tempered steel blocks arranged in the recesses of the parts 2 and 6 to have a limited play therein and normally held out of action. Levers 11 pivoted intermediate their ends at 12 to the draft beam 2 and arranged horizontally, support the clutch dogs 9 upon their outer ends and their inner ends are connected by the clips 5 or other connecting means between the clevis or draft block 4 and the draft beam 2. Expansion springs 13 are interposed between the inner ends of the levers 11 and the draft

beam and normally exert a downward pressure upon the inner ends of said levers whereby their outer ends are moved upward so as to throw the clutch dogs 9 into operative position. Under normal conditions the springs 13 are held compressed as indicated in Fig. 2, and should the clevis or draft block 4 move toward the draft beam 2 from any cause, the inner ends of the levers 11 are released and the springs 13 coming into play force the inner ends of such levers downward and cause their outer ends to rise and throw the clutch dogs upward into operative position so as to wedge between the inclined walls 7 of the brackets 6 and the guide rails 1, and thereby hold the car in suspension and prevent descent thereof.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while we have described the principle of operation of the invention, together with the device which we now consider to be the best embodiment thereof, we desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claim appended hereto.

Having thus described the invention, what is claimed is—

In safety appliances for elevators, the combination of guide rails, a draft beam having its end portions recessed and embracing opposite sides of the guide rails, the inner walls of the recesses being vertical and spaced from the guide rails, brackets mounted upon and secured to end portions of the draft beam and having their end portions recessed and embracing opposite sides of the guide rails and having the inner walls of the recesses inclined to the vertical, a clevis, clips connecting the clevis with the draft beam and admitting of the clevis having a limited vertical play, horizontally disposed levers pivoted to the under side of the draft beam and having their inner ends engaged by said clips, expansible springs arranged between the inner ends of said horizontal levers and the draft beam, and tapered clutch dogs loosely mounted upon the outer ends of said levers and supported thereby within the recesses of the draft beam and brackets.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY WILLIAM DUNLAP.

JOSEPH SLATER LUMBLEY.

Witnesses:

W. T. MOSLEY,

IRA W. MOSLEY.