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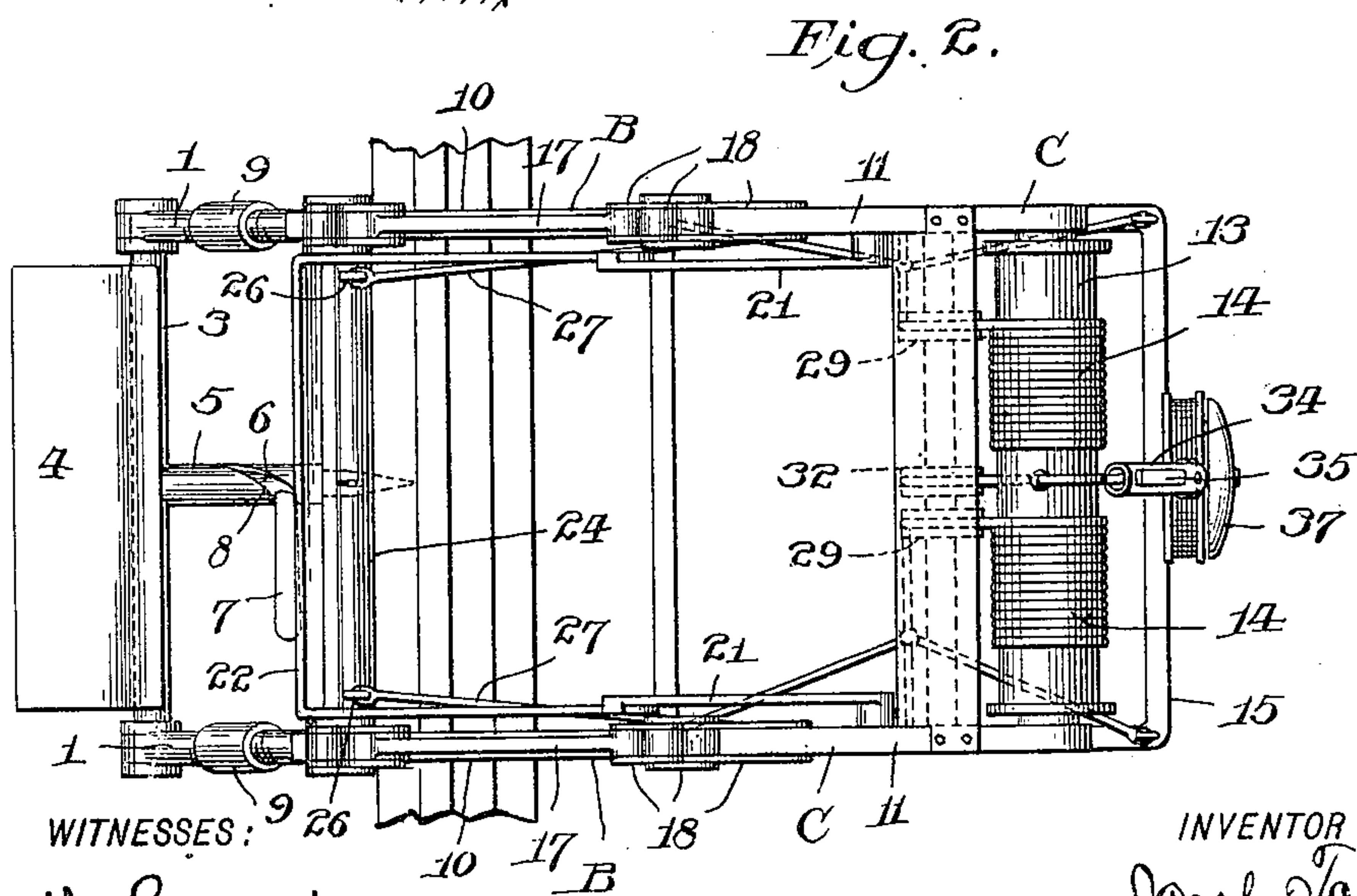
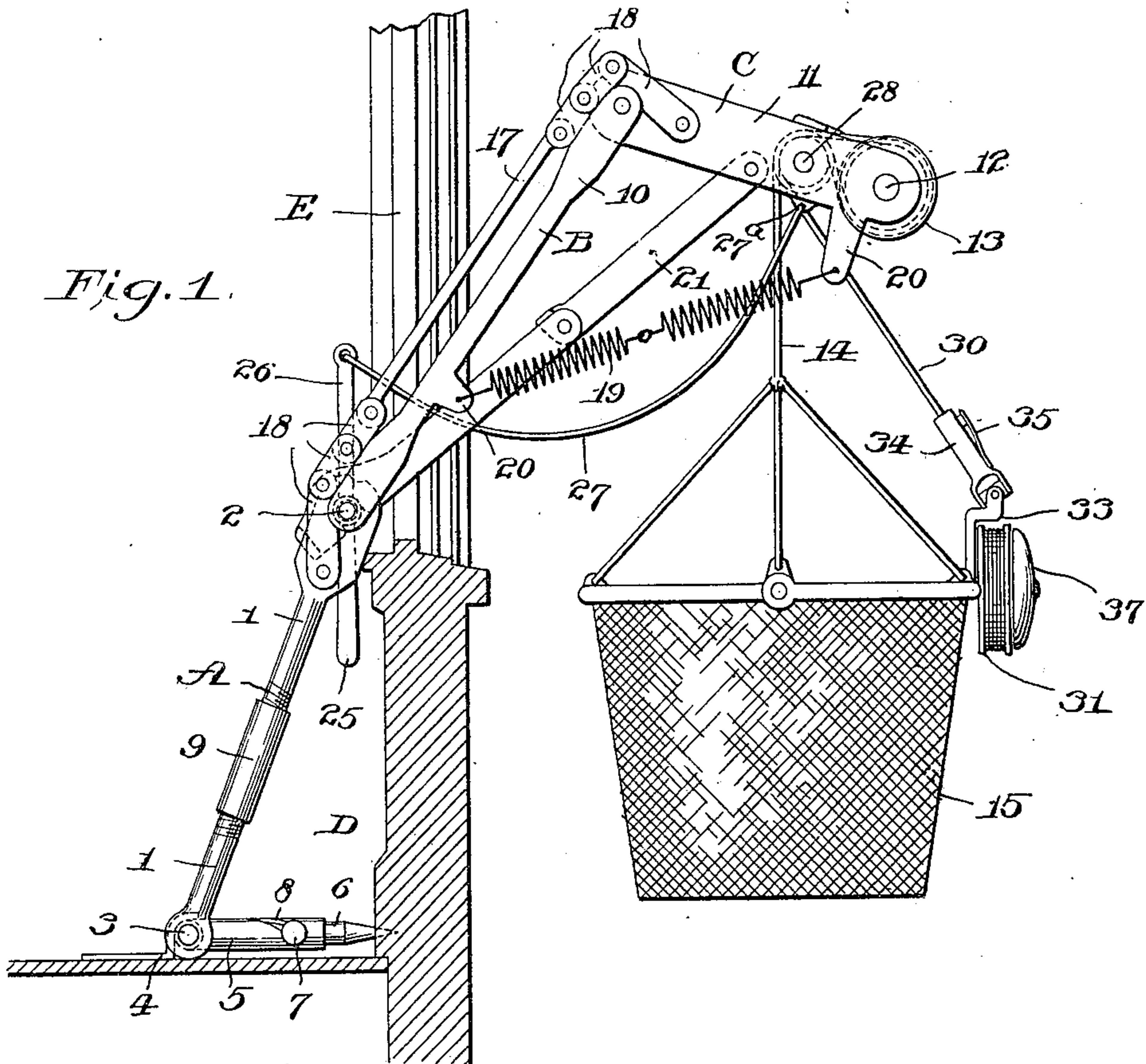
Patented Mar. 19, 1901.

J. TAIZ.  
FIRE ESCAPE.

(Application filed Aug. 16, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:  
A. V. Group  
H. D. Blackwood

INVENTOR  
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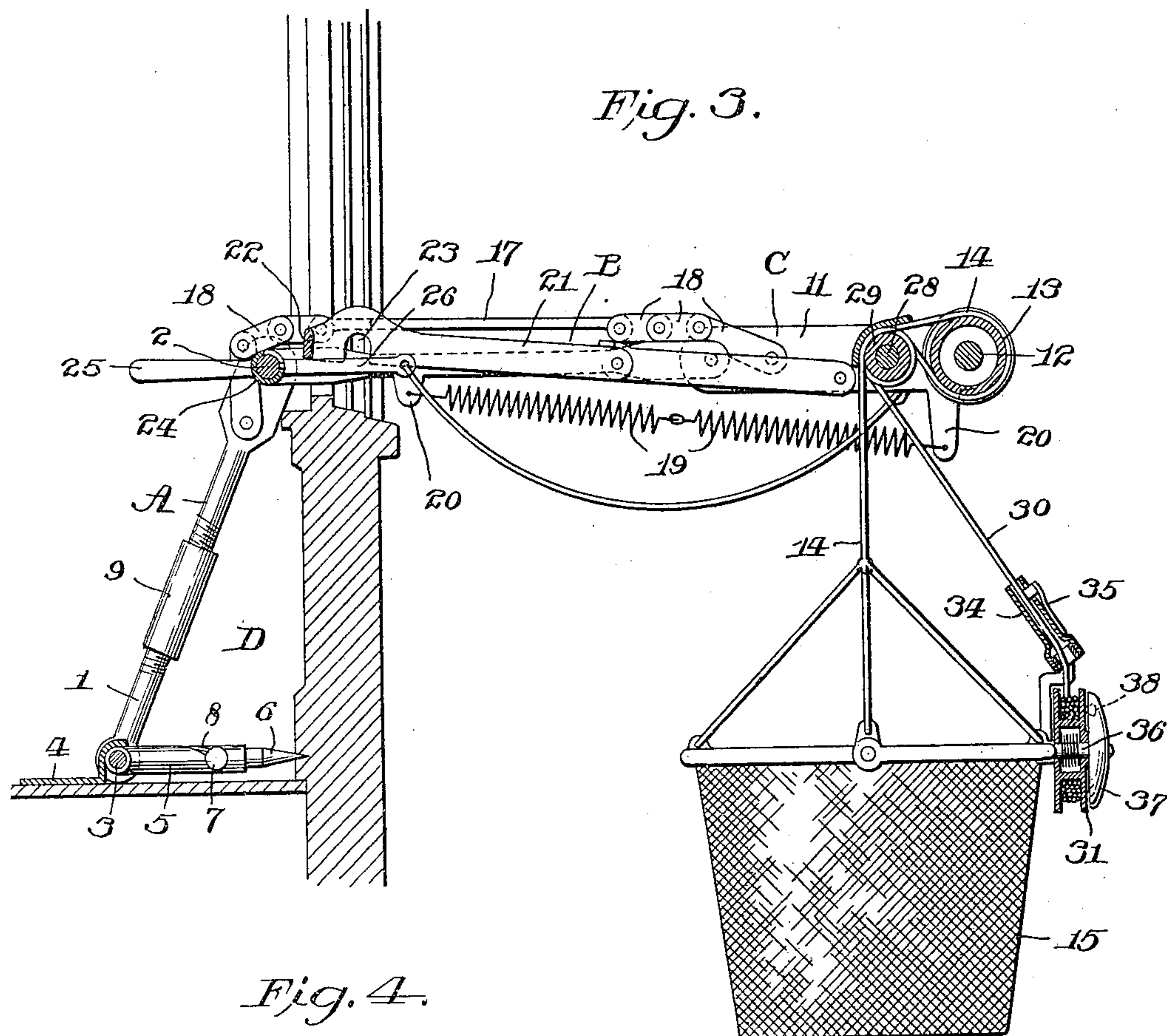
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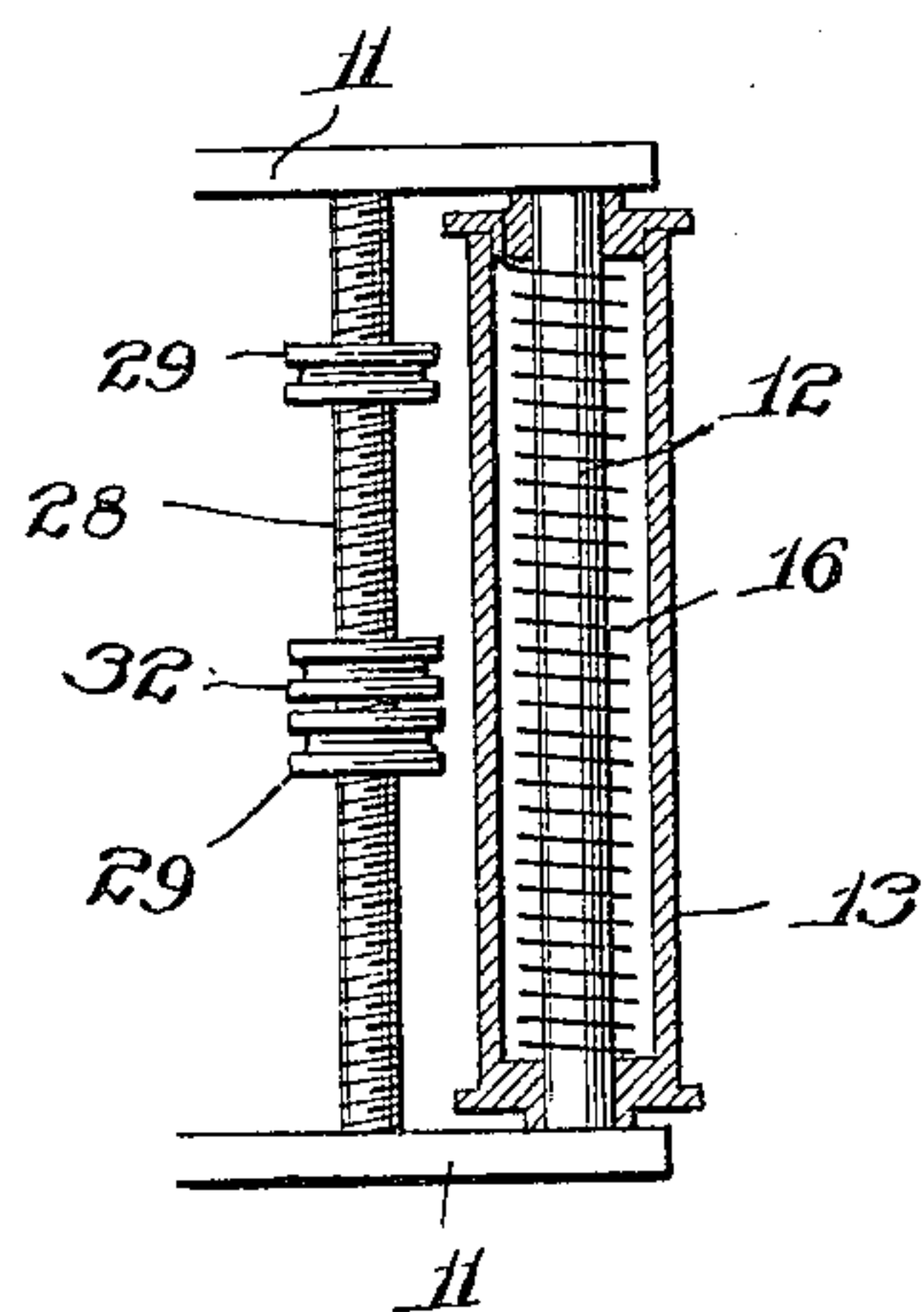
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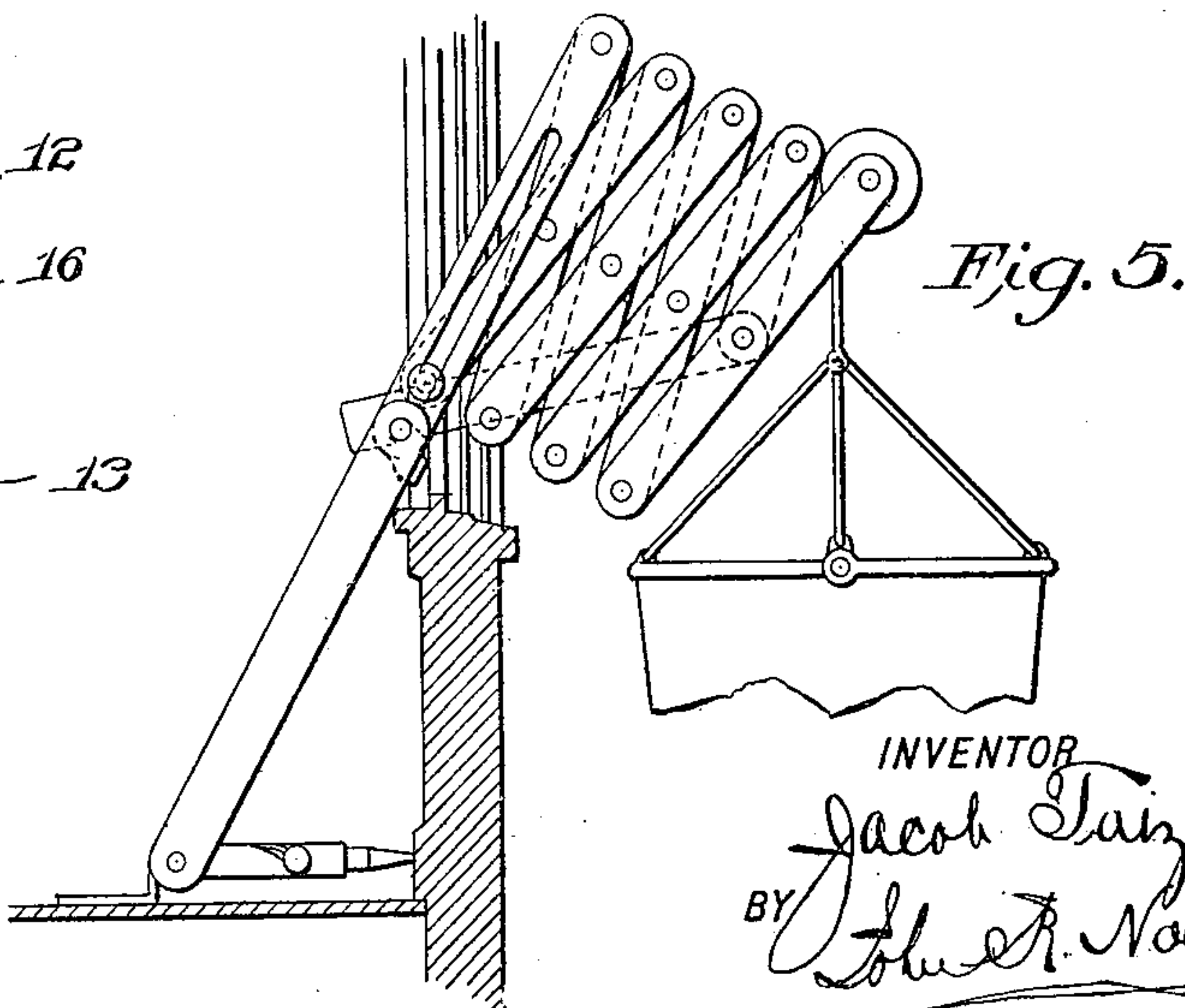


*Fig. 4.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JACOB TAIZ, OF PHILADELPHIA, PENNSYLVANIA.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 670,255, dated March 19, 1901.

Application filed August 16, 1900. Serial No. 27,004. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB TAIZ, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain  
5 new and useful Improvements in Fire-Escapes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

10 This invention relates to that class of fire-escapes wherein a basket or cage is suspended from an extensible frame structure which may be projected outwardly through and beyond a window, such structure carrying a  
15 roller upon which is wound a rope or cable by means of which the basket or cage is suspended, whereby when the structure is projected the occupant of the basket or cage may be lowered to the ground by the unwinding of the rope or cable. The structure when  
20 folded or contracted is adapted to be supported within the apartment in proximity to the window, so as to be readily projectable through and beyond the latter as need may require.

25 The invention as generally stated comprises a novel construction of extensible frame and of locking and releasing mechanism therefor, a novel construction and arrangement of devices for supporting and guiding the rope  
30 or cable for the basket or cage, and of means for controlling the speed of descent of such basket or cage, together with novel means for detachably securing the structure within the apartment.

35 The invention also comprises features of construction and combinations of parts, which will be hereinafter particularly described and claimed.

40 In the drawings, Figure 1 is an elevation of the apparatus in the position it occupies when first projected through the window. Fig. 2 is a plan thereof. Fig. 3 is a sectional elevation of the apparatus as fully extended. Fig. 4 is a sectional elevation of the spring-  
45 roller, the traveling sheaves, and the screw-rod for the latter. Fig. 5 is an elevation of a modified construction of extensible frame.

50 A, B, and C represent three jointed sections of a frame structure adapted to be secured to the floor of an apartment, as D, adjacent to the window E, in such manner that the sec-

tions may be folded together within the apartment to occupy comparatively small compass, or they may be unfolded and the free portion of the structure projected through and be-  
55 yond the window, as desired.

The section A comprises two parallel arms or posts 1 1, connected at their upper and lower ends and maintained a suitable distance apart by transverse pivot-rods 2 3, respec-  
60 tively. The lower ends of the arms are secured to the floor of the apartment adjacent to the window, so that the upper ends of the arms may be swung toward and from the latter. In the present instance the rod 3 is sup-  
65 ported in the overhanging ledge of a bracket 4, which is secured to the floor, and the rod is provided with a tube or sleeve 5, extending toward the wall of the apartment. With-  
70 in this sleeve is slidingly fitted a bolt 6, provided with a handle 7, which extends through a spiral slot 8 in the wall of the sleeve, where-  
75 by when the handle is properly turned the bolt will be slid back and forth in the sleeve. The outer end of the bolt is preferably point-  
80 ed, so that when the rod is applied to the bracket and the bolt 6 projected by the proper turning of its handle the point of the bolt will engage the base-board, and thus clamp the  
rod in place. A reverse turn of the handle  
80 will effect the unclamping of the parts.

I preferably arrange a base-bracket 4 ad-  
85 jacent to each of the windows in the apartment, so that the structure may be applied to any of them, as desired.

Each of the arms 1 is preferably made in two parts connected by a turnbuckle 9, where-  
90 by the length of the arm may be adjusted relatively to the height of the window-sill from the floor. Other means for adjusting  
the length of the arms may be employed.

The part B of the frame comprises two parallel arms 10 10, bifurcated at their respec-  
95 tive ends. The inner ends of these arms embrace the extremities of the respective arms 1 1 and are pivotally connected thereto by the rod 2.

The part C of the frame comprises two arms 11 11, the inner ends of which are embraced  
100 by the outer bifurcated ends of the arms 10 10, respectively, and are pivoted thereto. The outer ends of the arms 11 are rigidly con-



nected by a transverse shaft 12, upon which is mounted a spring-actuated roller 13, upon which are wound two ropes 14, by means of which the basket 15 is suspended. The tendency of the roller is to maintain the rope normally wound thereon through the instrumentality of a spiral spring 16, contained within the roller and secured at its respective ends to the roller and shaft.

The arms 11 of the section A are connected with the corresponding arms 11 of the section C by means of rods 17 and links 18, respectively, the links being pivotally connected to the arms at points adjacent to the pivotal connections of the latter with the arms 10 of the section B, to the end that the links will adapt themselves to the movements of such connections in the various positions of the frame, as illustrated in Figs. 1 and 3.

In Fig. 1 the frame is shown in the position it occupies at the outset when projected from the window, the section B extending diagonally outward and upward and the section C extending diagonally outward and downward, while in Fig. 3 the sections are illustrated as extending horizontally outward.

The position of the parts illustrated in Fig. 1 is the normal position which they assume when they are first projected through the window. They are caused to assume this position by the action of retracting-springs 19, which are secured to depending lugs 20 on the adjacent arms 10 11, respectively. When the parts are in this position, the basket depends adjacent to the window-sill to enable a person to readily enter the basket. As a load in the basket tends to extend the arms into the horizontal position, (illustrated in Fig. 3,) I provide a means whereby the arms are temporarily locked in the inner or normal position until released at the will of the occupant of the basket. To this end a jointed locking-frame is pivoted to the arms of the sectional frame. The locking-frame comprises two toggle-levers 21 21, pivoted at their outer ends to the arms 11 11 and united at their inner or free ends by a cross-bar 22. These free ends are provided on their under sides with notches 23, which hook or engage the rod 2 when the frame-sections are in their inner position, and thus lock them in place. Encircling the rod 22 is a sleeve 24, provided about the middle thereof with a downwardly-extending arm 25 and at or near its ends with upwardly-extending arms 26, the latter arms having secured thereto cords 27 or other flexible connections, that extend to or near to the basket, so as to be within reach of the occupant thereof. In the present instance the free ends of the cords are secured to eyes 27<sup>a</sup> in the arms 11. It will be seen that if either or both of these cords be pulled by the occupant of the basket the sleeve 24 will be partially turned, and the depending arm 25 thereon will impinge against and raise the cross-bar 22 of the locking-frame, thus lifting the

notched end of said frame from engagement with the rod 3, and consequently unlocking the sections and permitting them to assume their extreme outwardly-projected position, the jointed locking-frame being correspondingly extended horizontally.

In and between the arms of the section C, inwardly of and parallel with the roller 13, is affixed a screw-threaded rod 28, to which are fitted nut-like sheaves 29, around which are passed the respective ropes 14, by means of which the basket is suspended, whereby during the descent and ascent of the basket the friction of the ropes on the sheaves will rotate the latter and cause them to travel along the screw-rod correspondingly with the unwinding and winding of the ropes off and on the spring-roller. In this way a uniform unwinding and winding of the ropes along the roller will be secured.

A separate rope 30 depends into a position to be readily grasped by the occupant of the basket to enable him to control the speed of his descent. This rope is normally wound on a spring-controlled drum 31, mounted on the side of the basket, the upper end of the rope being secured to the roller 13, so as to be wound thereon reversely of the other ropes. The rope passes around a nut-like sheave 32 on the screw-rod 28, similarly to the suspensory ropes above mentioned.

During the descent of the basket the rope 30 is unwound from the drum against the action of its spring and at the same time is wound upon the roller 13, the sheave 32 in its rotation and axial movement on the screw-rod insuring a uniform traverse of the rope on said roller.

I preferably affix to the basket a bracket 33, to which is pivoted a clamp which acts upon the rope 30. The clamp comprises a tubular body 34, through which the rope extends, and a spring-actuated clamping-arm 35, that bears normally against the rope. By grasping the clamp and exerting more or less pressure upon the arm thereof the occupant of the carriage may regulate his descent.

I preferably affix to the stud 36 of the drum 31 a gong 37 and secure to the opposing face of the drum a hammer 38, which during the rotation of the drum strikes and sounds the gong.

I wish it to be understood that I do not limit my invention to the particular details of construction shown and described, as the same may be variously modified without departing from the invention. For example, in lieu of the specific construction and arrangement of extensible frame above described a frame of the lazy-tongs pattern shown in Fig. 5 may be employed, the latter frame being provided with suitable locking and releasing devices.

I claim—

1. In a fire-escape, the combination with an extensible frame including a transverse rod, a longitudinally-movable bolt, and means for



actuating said bolt, of a base-bracket adapted to receive said rod, substantially as described.

2. In a fire-escape, the combination with an extensible frame, of locking devices for maintaining it in contracted position, means for operating said devices to release the frame, a receptacle, and means whereby the same is suspended from the outer or free end of the frame, substantially as described.

3. In a fire-escape, the combination with an extensible frame comprising a series of pivotally-connected sections, means whereby one of the end sections may be secured to a suitable support, locking devices whereby the remaining sections may be temporarily locked in contracted position, means for operating said devices, a receptacle, and means whereby the same is suspended from the outer end section of the frame, substantially as described.

4. In a fire-escape, the combination with an extensible frame, comprising a series of pivoted sections, of a locking-frame comprising toggle-levers pivoted to one of said sections and provided with locking portions adapted to engage one of the other sections, together with means for operating said levers, substantially as described.

5. In a fire-escape, the combination of the pivoted frame-sections, a spring to maintain them yieldingly contracted, and a receptacle suspended from the outermost section, substantially as described.

6. In a fire-escape, the combination of the pivoted frame-sections, a spring to maintain them yieldingly contracted, and a receptacle suspended from the outermost section, together with locking devices for said sections, and means for operating said devices, substantially as described.

7. In a fire-escape, the combination with a supporting-frame, of a roller thereon, a screw-shaft, sheaves thereon, a receptacle, suspen-

sory ropes therefor connected with said roller and guided by the sheaves, substantially as described.

8. In a fire-escape, the combination with a supporting-frame, of a spring-controlled roller thereon, a receptacle, a rope connected therewith and with the roller, a spring-controlled drum on said receptacle, and an auxiliary rope connected with said drum and roller, substantially as described.

9. In a fire-escape, the combination with a supporting-frame, of a spring-controlled roller thereon, a receptacle, a rope connected therewith and with the roller, a spring-controlled drum on said receptacle, and an auxiliary rope connected with said drum and roller, together with a screw-shaft on said frame and a sheave on said shaft over which passes said latter rope.

10. In a fire-escape, the combination with a supporting-frame, of a spring-controlled roller thereon, a receptacle, a rope connected therewith and with the roller, a spring-controlled drum on said receptacle, and an auxiliary rope connected with said drum and roller, together with a screw-shaft on said frame, and sheaves on said shaft over which pass the respective ropes, substantially as described.

11. In a fire-escape, the combination with a supporting-frame, of a spring-controlled roller thereon, a receptacle, a rope connected therewith and with the roller, a spring-controlled drum on said receptacle, and an auxiliary rope connected with said drum and roller, together with a clamp device for said latter rope.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JACOB TAIZ.

Witnesses:

ANDREW V. GROUPE,  
JOHN R. NOLAN.