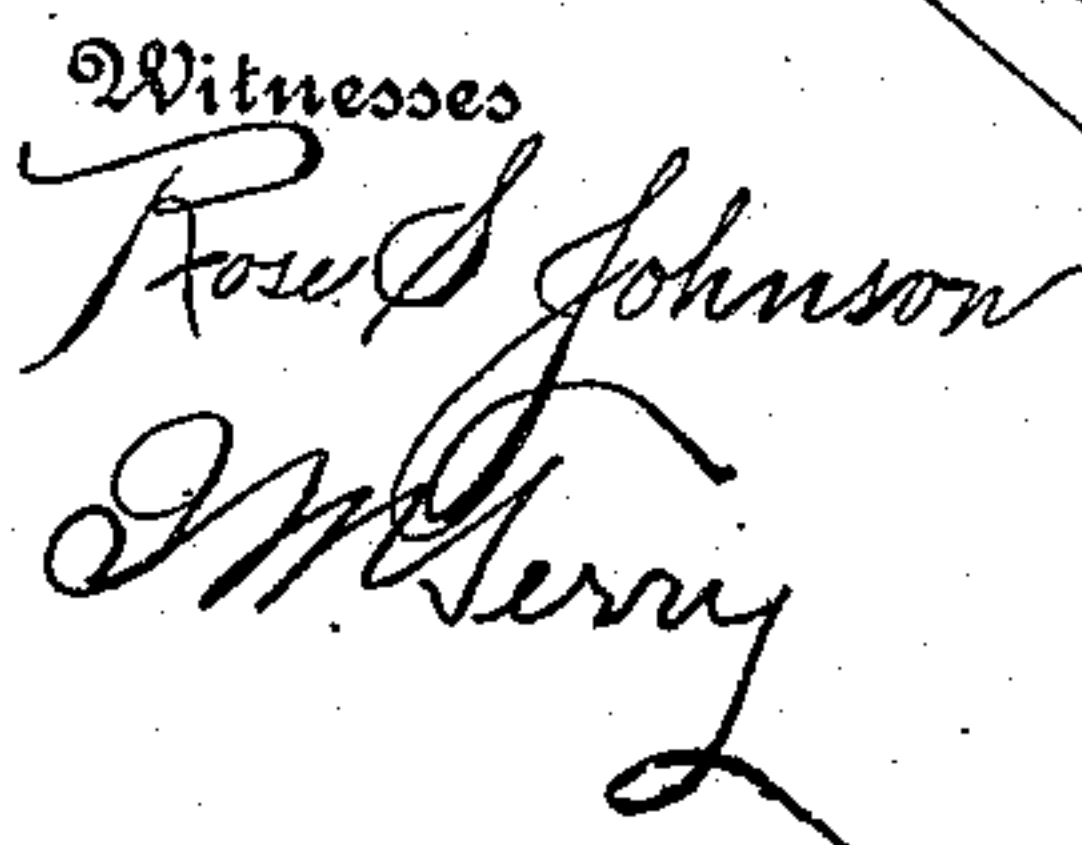


E. J. COOKE.
FIRE ESCAPE.
APPLICATION FILED AUG. 10, 1908.

3 SHEETS--SHEET 1.



By *Watson & Coleman*
 Attorney

E. J. COOKE.

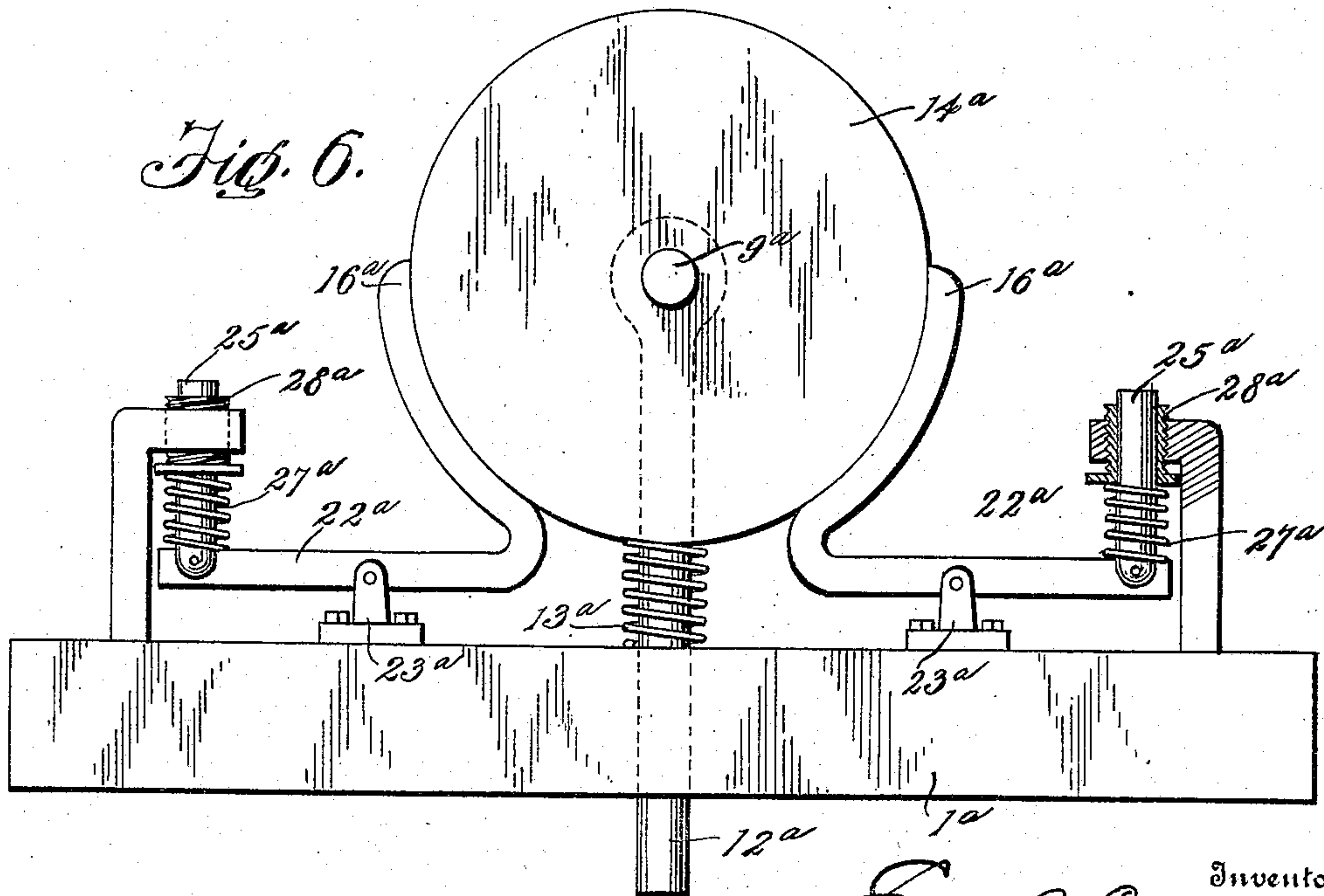
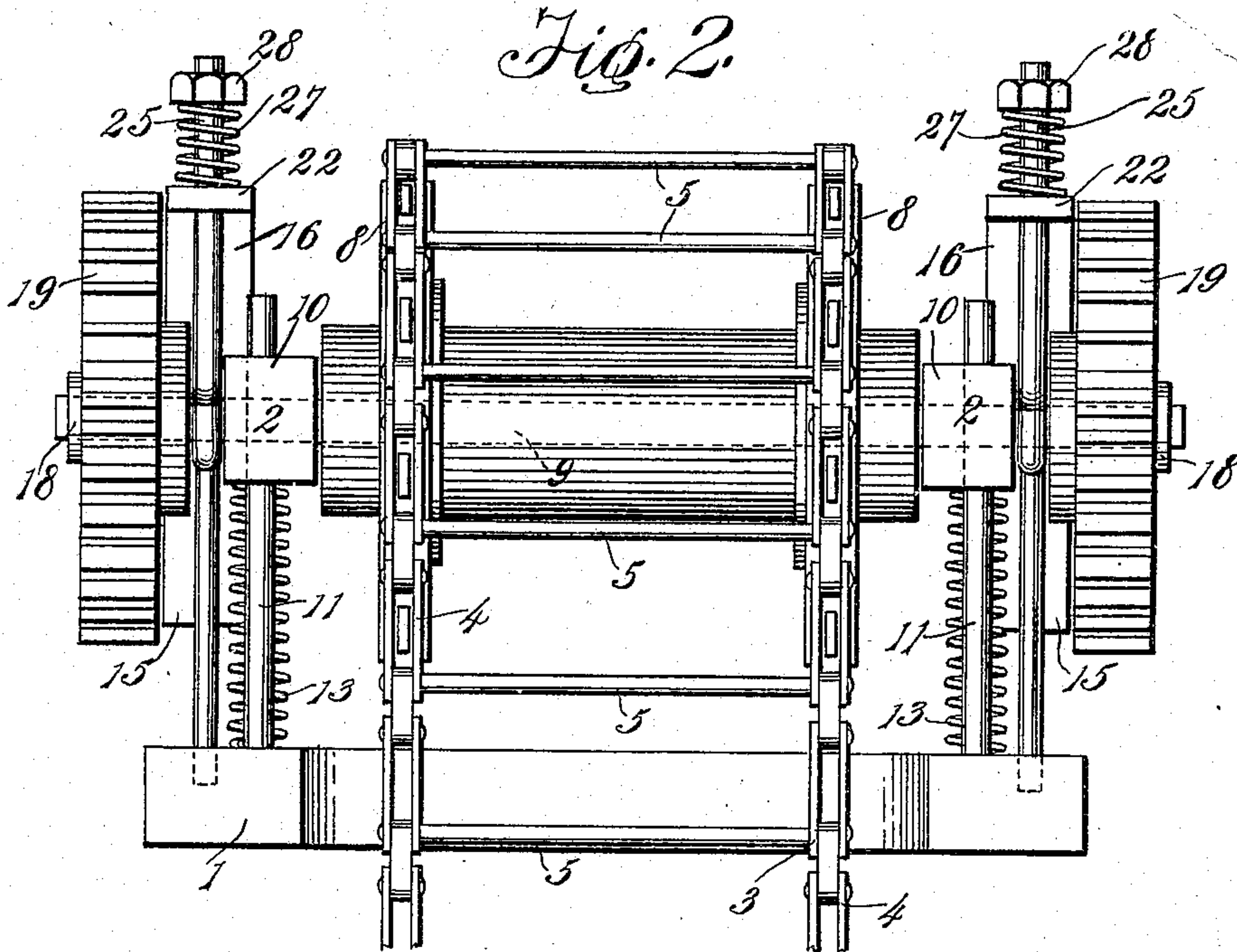
FIRE ESCAPE.

APPLICATION FILED AUG. 10, 1908.

931,040.

Patented Aug. 17, 1909.

3 SHEETS—SHEET 2.



Witnesses
R. S. Johnson
W. Perry

Inventor
E. J. Cooke
By Watson C. Coleman
Attorney

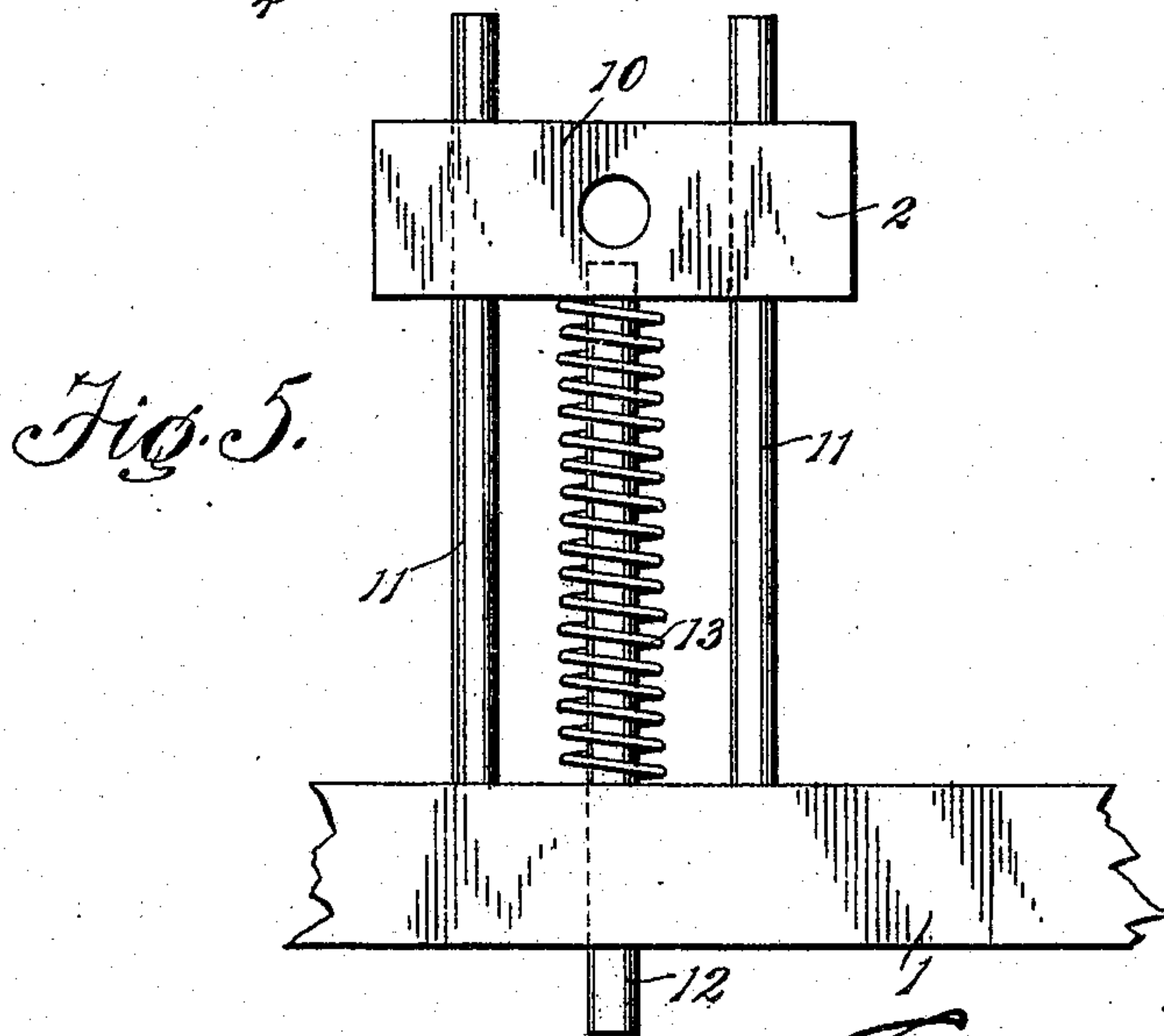
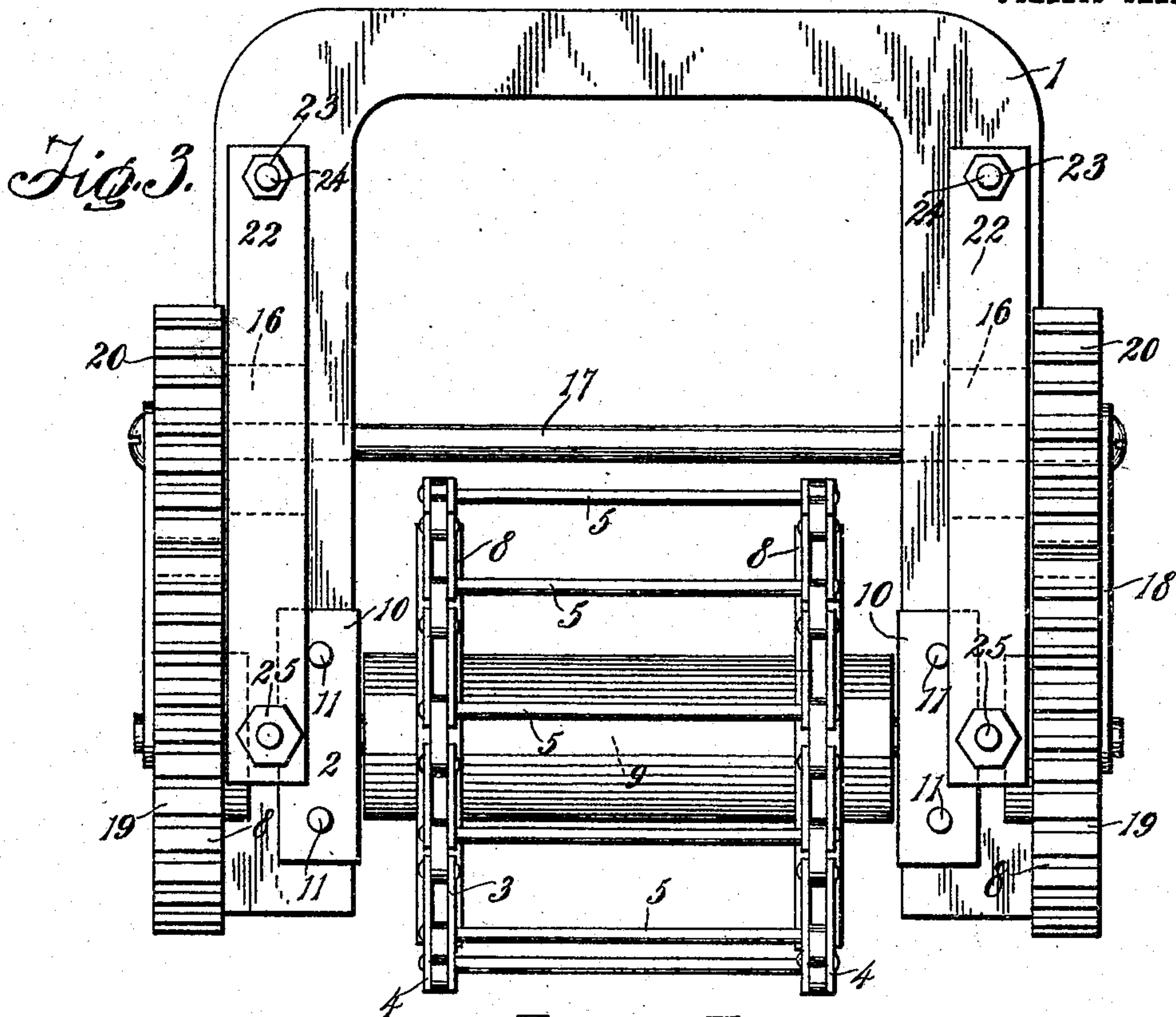
E. J. COOKE.
FIRE ESCAPE.

APPLICATION FILED AUG. 10, 1908.

931,040.

Patented Aug. 17, 1909.

3 SHEETS—SHEET 3.



Witnesses
Row S. Johnson
M. Perry

Inventor
E. J. Cooke
By Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE.

EARL J. COOKE, OF TRAVERSE CITY, MICHIGAN.

FIRE-ESCAPE.

No. 931,040.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed August 10, 1908. Serial No. 447,806.

To all whom it may concern:

Be it known that I, EARL J. COOKE, a citizen of the United States, residing at Traverse City, in the county of Grand Traverse and State of Michigan, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in fire escapes for use on buildings and more particularly to one having an endless carrier and a braking device controlled by the weight of the load upon the carrier.

15 The object of the invention is to provide a simple and practical apparatus of this character which will be reliable and automatic in operation, and which will operate the same without regard to the number of persons upon it.

20 With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

25 Figure 1 is a side elevation of the improved fire escape; Fig. 2 is a front elevation; Fig. 3 is a top plan view; Figs. 4 and 5 are detail views; and Fig. 6 is a detail view showing a slightly modified form of brake.

30 The invention comprises a stationary support 1 adapted to be secured to the top or side of a building and carrying a vertically movable support 2 which is yieldably mounted and adapted to support an endless carrier or flexible ladder 3. The carrier 3 is here shown in the form of a broad belt or chain and consists of two sprocket chains 4
35 united and spaced apart by rods 5 and, if desired, wire baskets 6 or analogous load supporting receptacles or platforms may be provided at intervals upon the carrier or ladder. The chains 4 pass around guide sprocket
40 wheels 7 suitably mounted adjacent to the ground or lower portion of the building and they also pass over supporting sprocket wheels 8 fixed to a horizontal shaft 9 journaled in the support 2. The latter, as here
45 shown, consists of two blocks 10 formed adjacent to their ends with vertical openings to receive upright guide posts 11 which guide said support in its sliding movement. The posts 11 rise from the forward portion
50 of the support 1, which latter is here shown as in the form of an open frame of substan-

tially U-shape but which may be of any suitable form and construction. Fixed to and depending from the center of the blocks 10 are guide rods 12, the lower ends of which pass through and slide in vertical
60 openings formed in the support 1. The rods 12 guide coil springs 13 which surround them and are confined between the stationary support 1 and the blocks 10 of the vertically
65 movable support 2, thereby yieldably mounting the latter.

The vertical movement of the support 2 caused by the weight of a load placed upon the carrier or ladder 3 is adapted to actuate
70 a brake device which, as shown in Figs. 1 to 5 inclusive of the drawings, comprises one or more brake disks or wheels 14 arranged between opposing brake shoes 15, 16. The disk 14 is fixed to a pivot or shaft 17 journaled in the inner ends of links 18, the opposite ends of which are swung from the shaft
75 9 of the sprocket wheels. Meshing gears 19, 20 are provided respectively on the shafts 9, 17 so that the movement of the carrier will
80 be imparted to the brake disk 14. The lower brake shoe or block 15 is pivoted at 21 upon the support 1 and the upper brake shoe or block 16 is carried by a horizontal lever 22, the rear or inner end of which is loosely
85 mounted, as at 23, at the upper end of a standard or upright 24 of the frame 1. The forward end of the brake lever or beam 22 is apertured to receive a vertical connecting rod 25 which has its lower end loosely en-
90 gaged with the shaft 9, as shown at 26, and its upper end surrounded by a coil spring 27 and screw threaded to receive an adjusting nut 28. The spring 27 is confined between
95 said nut and the brake lever 22 and tends to force the latter downwardly so as to bind the brake disk or wheel 14 between the two shoes 15, 16. By adjusting the nut 28 the tension of the spring may be controlled to
100 vary the action of the braking device.

In operation, when one or more persons step into the baskets 6 or upon the rods or rungs 5 of the endless carrier or ladder, their weight will actuate the support 2 downwardly against the tension of the springs 13
105 and at the same time the carrier or ladder will rotate carrying downwardly the basket or the portion of the carrier or ladder upon which they are located. The downward movement of the shaft 9 will be imparted
110 to the brake levers or beams 22 and thereby cause the brake shoes to more firmly bind the

brake disks 14, and the rotation of said shaft will be imparted to said brake disks, so that the movement of the carrier or ladder will be effectively controlled. It will be noted that the movement of the carrier or ladder will be uniform without regard to the number of persons upon the same and that this movement may be effectively regulated by adjusting the nuts 28.

In Fig. 6 of the drawings is shown a modified form of the brake device in which 9^a denotes the shaft of the supporting sprockets of the endless carrier or ladder and 14^a denotes the brake disk fixed directly to said shaft. The latter is journaled in bearings upon the upper ends of guide posts 12^a having their lower ends arranged for sliding movement in a stationary support 1^a and their intermediate portions surrounded by supporting springs 13^a. 22^a denotes brake levers pivoted intermediate their ends in bearings 23^a upon the support 1^a and having their inner ends formed with curved brake shoes 16^a to engage the brake disk 14^a. The outer ends of said levers carry upwardly projecting rods 25^a which slide through adjusting nuts 28^a and which are surrounded by coil springs 27^a. The tubular adjusting nuts 28^a are arranged in suitable brackets upon the support 1^a and are adapted to regulate the tension of the springs 27^a upon the brake levers. In operation, it will be seen that when a load is applied to the carrier or ladder the shaft 9^a will be rotated and also moved downwardly so that its rotating brake disk or disks 14^a will be caused to frictionally engage the shoes 16^a of the brake levers 22^a.

While the preferred embodiments of the invention have been shown and described in detail, it will be understood that the invention is not limited to the specific construction set forth and that various changes in the form, proportion and minor details may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention what is claimed is:

1. A fire escape comprising a stationary support, guides thereon, a vertically movable support on said guides, a spring for yieldably supporting the movable support, an endless carrier suspended from said movable support, a brake disk actuated by the rotary movement of the carrier, a brake lever fixed at one end, a brake shoe carried by the intermediate portion of the lever and adapted to engage said disk and means connecting the other end of the lever to said movable support.

2. A fire escape comprising a stationary support, guides thereon, a vertically movable support on said guides, a spring for yieldably supporting the movable support, an

endless carrier suspended from said movable support, a brake disk actuated by the rotary movement of the carrier, a brake lever fixed at one end, a brake shoe carried by the intermediate portion of the lever and adapted to engage said disk and an adjustable spring connection between the other end of the lever and the movable support.

3. A fire escape comprising a stationary support, guides thereon, a vertically movable support on said guides, a spring for yieldably supporting the movable support, an endless carrier suspended from said movable support, a brake disk rotated by the rotary movement of the carrier, a pivotally mounted brake shoe to engage one point of the brake disk, a brake lever having a brake shoe intermediate its ends to engage the brake disk at a point opposite the first mentioned brake shoe, a connection between one end of the lever and said stationary support and a connection between the other end of the lever and said movable support.

4. A fire escape comprising a stationary support, guides thereon, a vertically movable support on said guides, a spring for yieldably supporting the movable support, a horizontal shaft journaled in the movable support, an endless carrier mounted on said shaft, gear wheels fixed to said shaft, a second shaft, links rotatable upon the first mentioned shaft and having bearings for the second mentioned shaft, gears upon the second mentioned shaft in mesh with the first mentioned gears, brake disks upon the second mentioned shaft, oppositely disposed brake shoes engaged with said disks, a loose connection between one brake shoe of each disk and said stationary support, a brake lever fixed intermediate its ends to the other brake shoe of each disk, a connection between one end of each of the levers and the stationary support and a connection between the other ends of each of said levers and said movable support.

5. A fire escape comprising a stationary support, guides thereon, a vertically movable support on said guides, a spring for yieldably supporting the movable support, a horizontal shaft journaled in the movable support, an endless carrier mounted on said shaft, gear wheels fixed to said shaft, a second shaft, links rotatable upon the first mentioned shaft and having bearings for the second mentioned shaft, gears upon the second mentioned shaft in mesh with the first mentioned gears, brake disks upon the second mentioned shaft, oppositely disposed brake shoes engaged with said disks, a loose connection between one brake shoe of each disk and said stationary support, a brake lever fixed intermediate its ends to the other brake shoe of each disk, a connection between one end of each of the levers and the stationary

support, the other ends of said levers being apertured, threaded rods connected to the movable support and passed through the apertures in said levers, adjusting nuts upon
5 said rods and coil springs surrounding said rods and confined between said nuts and said levers.

6. A fire escape comprising a U-shaped support having the outer portions of its arms
10 formed with vertical guide openings, pairs of guide rods rising from said arms, a vertically movable support comprising a shaft and bearing blocks, the latter having guide openings to receive said pairs of rods, guide
15 rods depending from said blocks and slid-

able in the vertical guide openings in the arms of the U-shaped support, coil springs surrounding the last mentioned rods for yieldably supporting the movable support, an endless carrier hung from said shaft, a
20 brake disk actuated by the rotary movement of the carrier, a lever having a brake shoe to co-act with said disk and a connection between said lever and said movable support.

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

EARL J. COOKE.

Witnesses:

CHAS. A. BUGBEE,
FRANK SHUMSKY.