

No. 750,640.

PATENTED JAN. 26, 1904.

C. J. HAGGSTROM.
FIRE ESCAPE.

APPLICATION FILED JUNE 29, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

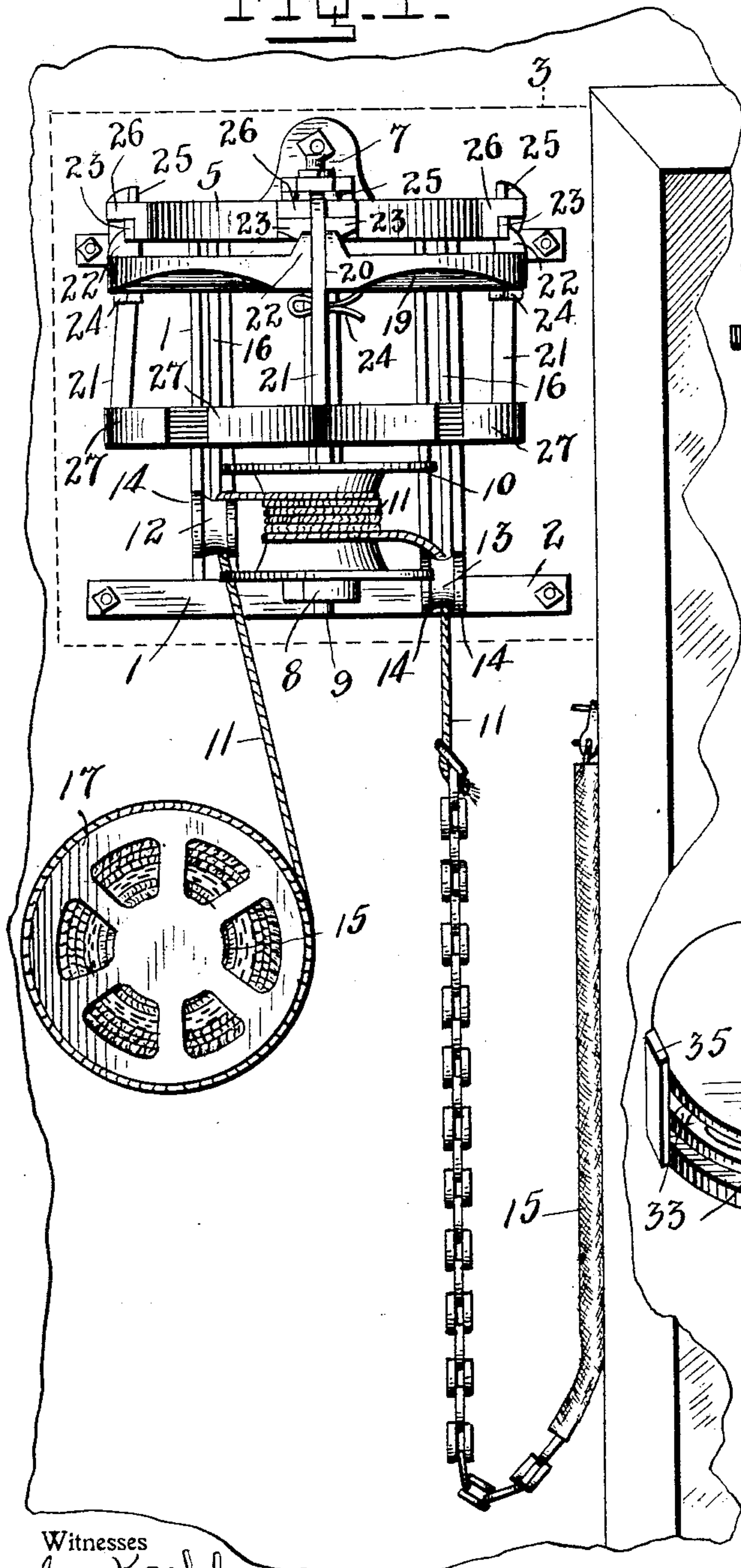


Fig. 5.

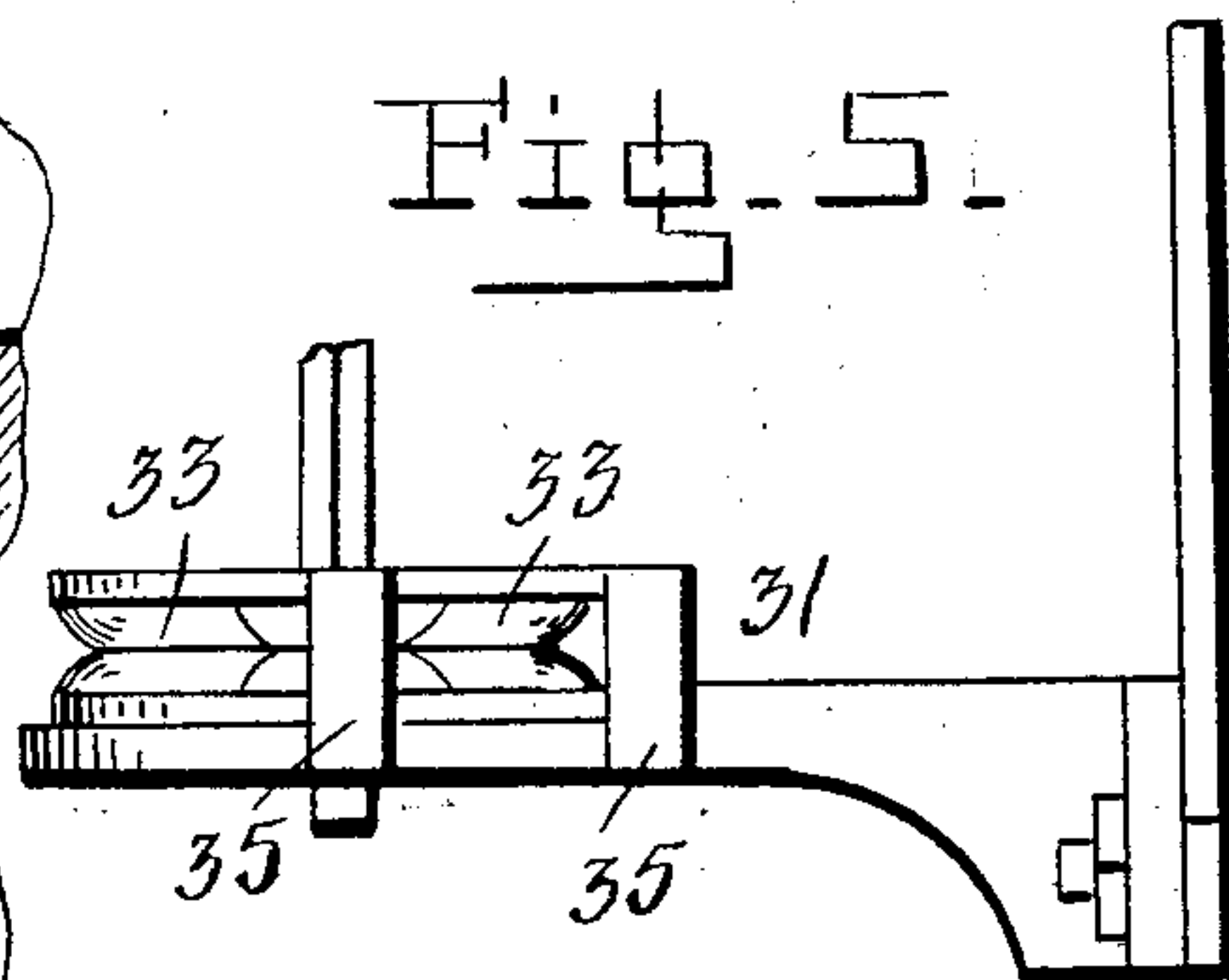
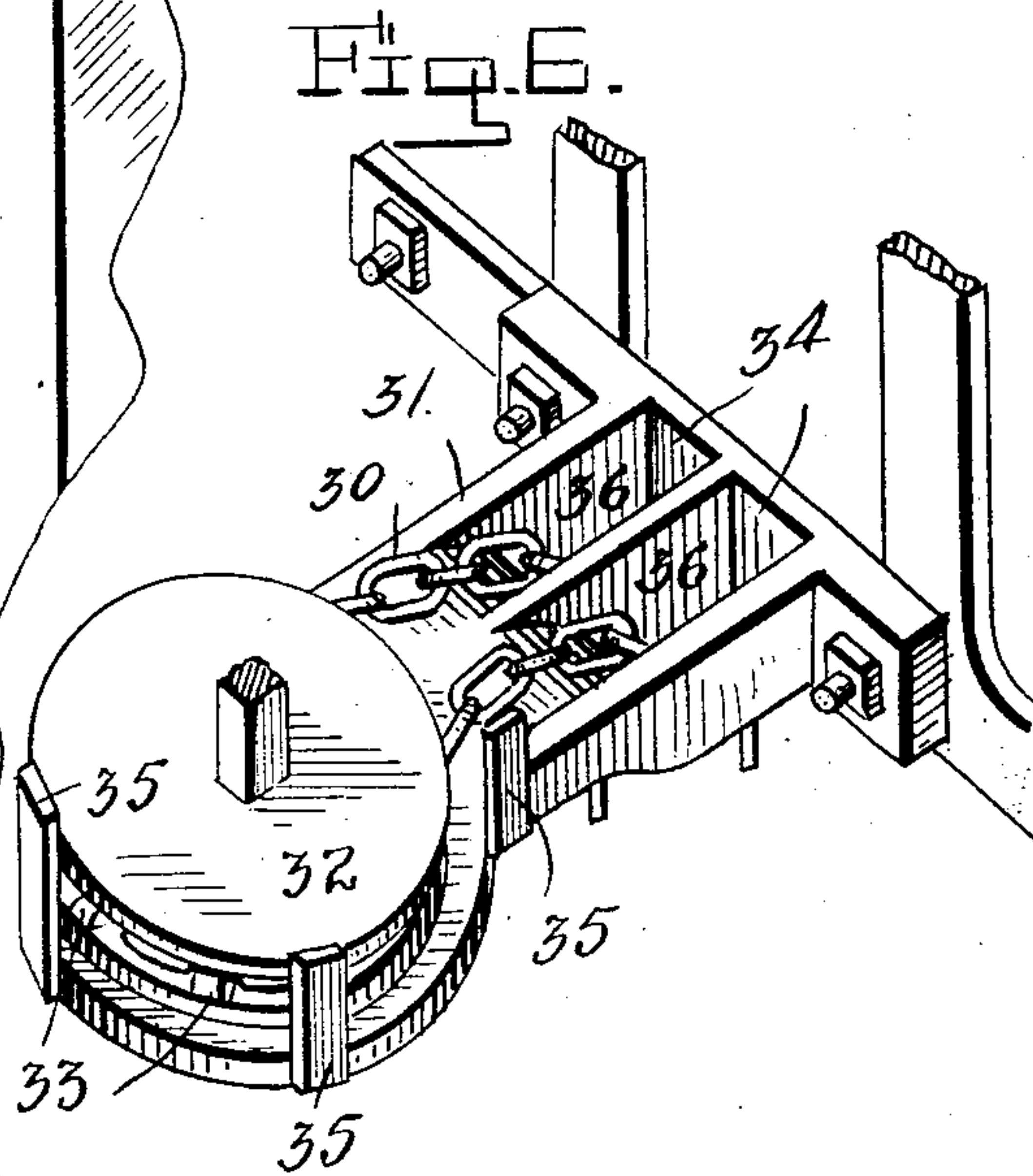


Fig. 6.



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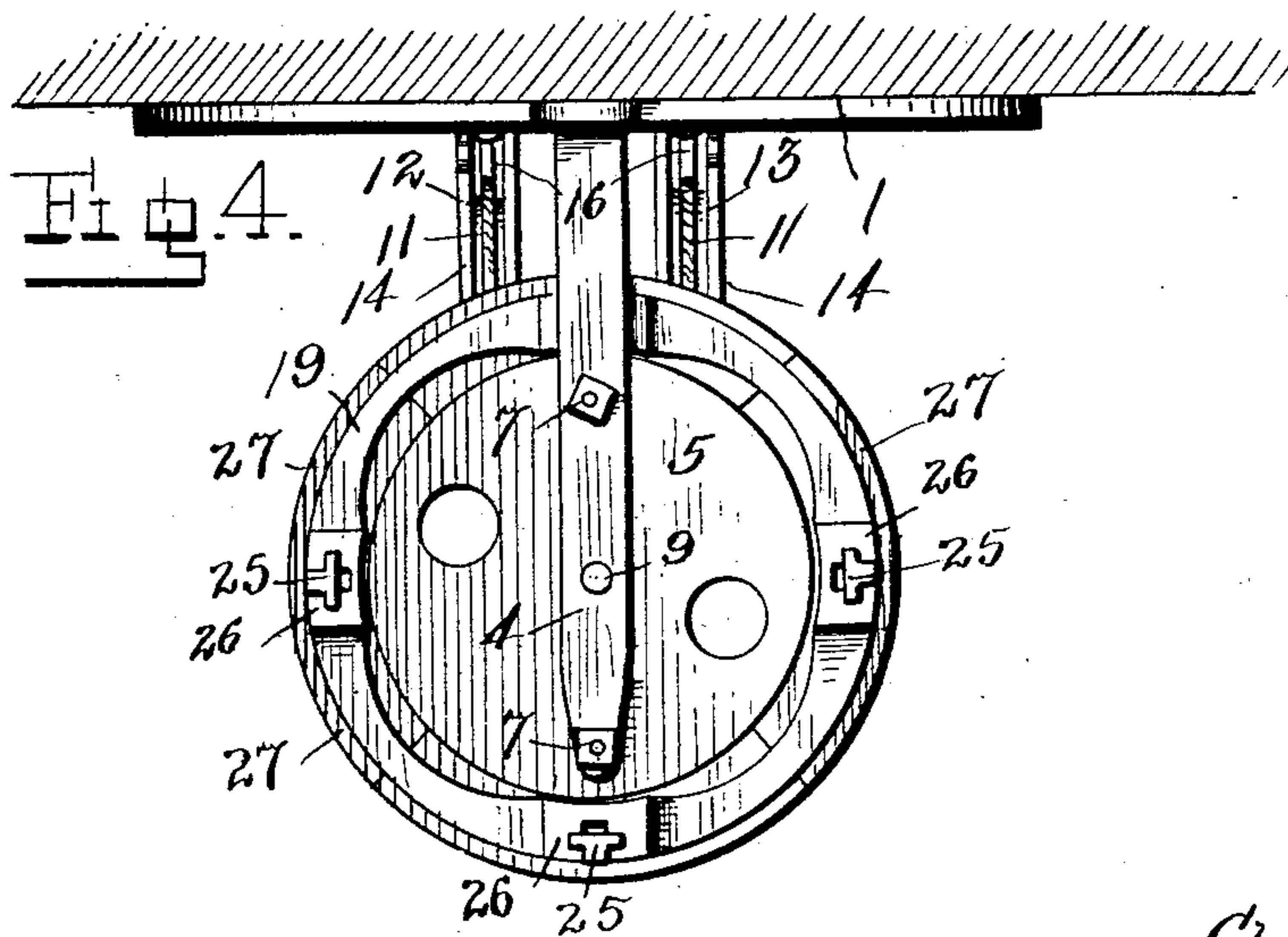
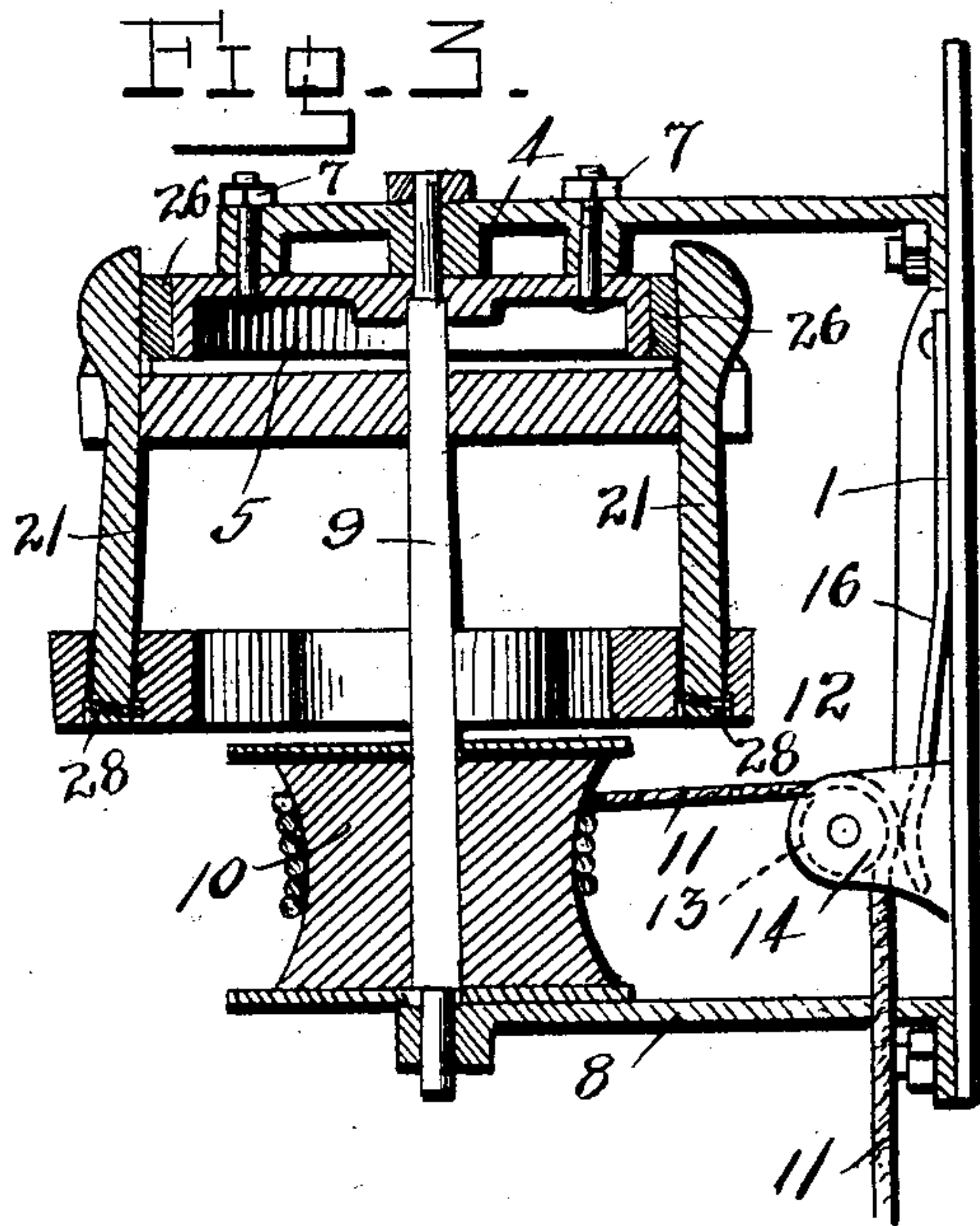
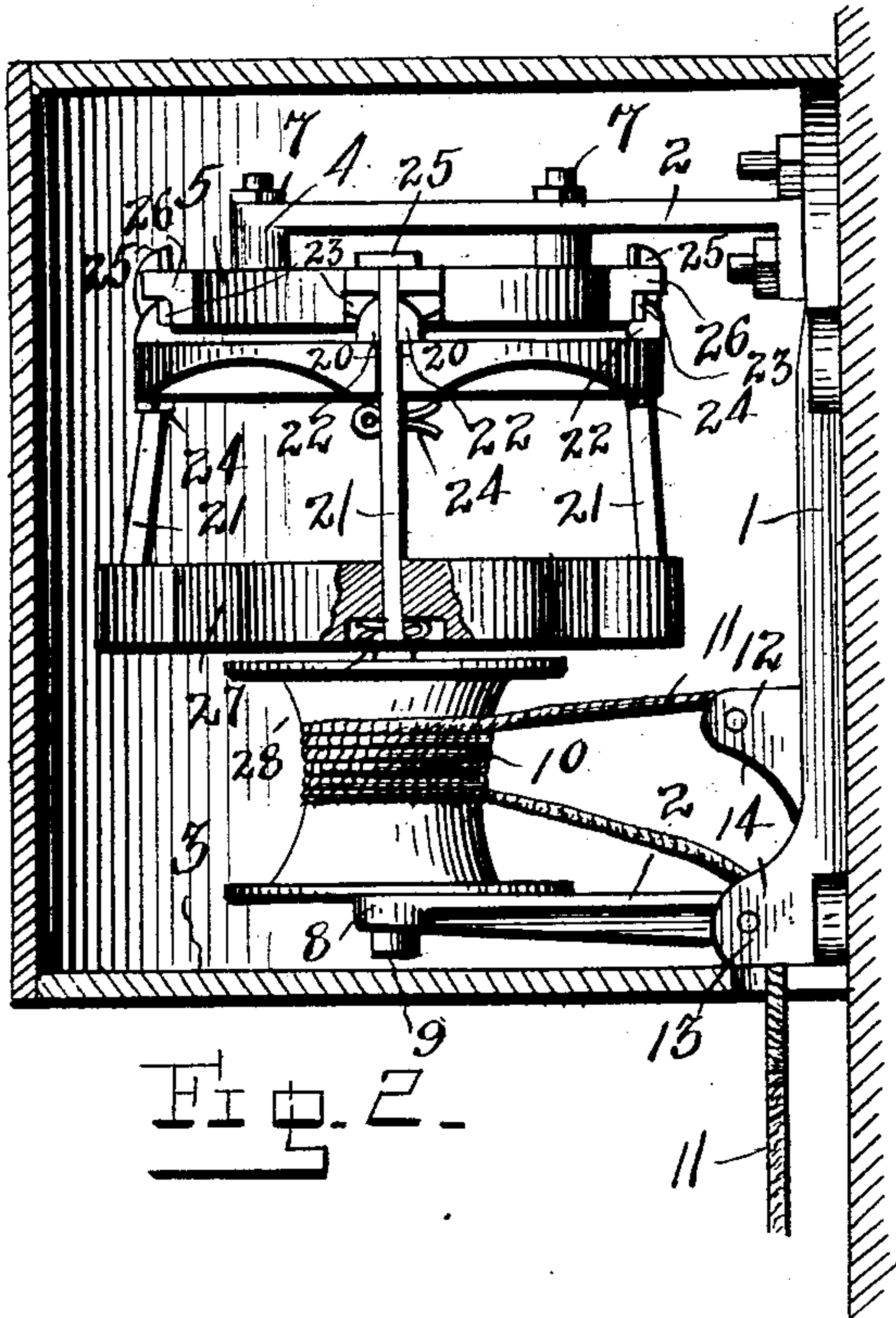
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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES J. HAGGSTROM, OF WARREN, PENNSYLVANIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 750,640, dated January 26, 1904.

Application filed June 29, 1903. Serial No. 163,579. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. HAGGSTROM, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Fire-Escapes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to fire-escapes, and more particularly to improvements on the machine set forth in my former patent, No. 708,546, issued September 9, 1902.

The object of the present invention is to improve and simplify the former machine and render it more efficient in operation and less expensive of production.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a front elevation of the machine, showing it secured to the wall of a room adjacent to a window, the casing of the machine being shown in dotted lines to more clearly illustrate the invention. Fig. 2 is a vertical sectional view through the casing, showing the machine in side elevation. Fig. 3 is a vertical sectional view through the machine. Fig. 4 is a top plan view of the same. Fig. 5 is a side elevation of a portion of the frame and the shaft, showing a modified form of supporting-bracket and drum attached thereto, which bracket and drum are used when a chain is substituted for the rope. Fig. 6 is a detail perspective view of the supporting-bracket shown in Fig. 5.

Referring to the drawings by numerals, 1 denotes a base-frame, which is adapted to be secured to the wall of a room to one side of a window, as seen in Fig. 1. Said frame is preferably a casting and is formed with arms 2, to which a casing 3 is secured. Attached to the center of the frame at the upper end is a bearing-bracket 4, to which a circular disk 5 is rigidly secured by bolts 7. At the lower end

of the frame is another supporting or bearing bracket 8, in which the lower end of a vertical shaft 9 is journaled. Said shaft passes concentrically through the disk 5 and has its upper end journaled in the bearing-bracket 4.

Secured to the shaft adjacent to its lower end is a drum or sheave 10, about which a rope 11 is wound several times, the ends of the same being then passed over guide-pulleys 12 and 13, which are journaled between ears or lugs 14, formed upon the frame 1. Upon each end of said rope is a suitable belt 15, which is adapted to be secured about the body of the person using the machine as a fire-escape, or if it is desired to use the same for other purposes any form of attaching device adapted to hold the object to be lowered may be substituted for the belt. In order to hold the rope taut upon the drum 10, flat springs 16 are secured to the frame 1 and have their free ends bearing upon the rope to hold the same against the pulleys 12 and 13. For convenience in handling the rope when the machine is not in use one end of the same is wound upon a reel or drum 17, suitably journaled to the wall of the room below the machine. The rope, it will be understood, is of sufficient length to reach from the ground to the machine, so that when the belt upon one end is on the ground the belt upon the other end will be up at the window and as one end goes down the other end comes up.

In order to control the speed of descent of the person or load, I secure to the shaft 9 below the disk 5 a circular plate or spider 19, provided with slots 20, in which levers 21 are adapted to swing. Said levers have a pivotal connection with the plate 19 by forming lugs or ears 22 upon the upper surface of the plate at each side of the slots 20 and similar lugs or ears 23 upon each side of the levers 21. Said ears 23 engage the ears 22 and serve as a fulcrum for the levers. Split keys or pins 24 are passed through apertures in the levers below the plate 19 to limit the upward or vertical movement of the levers, and thus prevent the latter from being disengaged from the plate. At the extreme upper end of the levers are lugs 25, between which and the lugs 23 brake-shoes 26 are loosely mounted

and adapted to engage the periphery of the fixed disk 5. The lower ends of the levers 21 pass through apertures formed in segmental-shaped weights 27, which are secured to said levers by keys or pins 28. When the shaft 9 is rotated, the weights 27 will be thrown out by centrifugal action, and the shoes 26 will be forced against the periphery of disk 5 to brake the speed of rotation of the plate and shaft.

The operation of the machine will be readily understood. When the parts are in the position shown in Fig. 1 of the drawings, a person desiring to use the same secures the belt 15 about his body and lets himself drop out of the window. As he descends the drum 10, shaft 9, and plate 19 will be rotated, and the rope wound upon the reel 17 will unwind. The speed of descent of the person is regulated by the action of the brake-shoes 26 upon the disk 5, as previously described. When he reaches the ground, the belt 15 at the other end of the rope which has been unwound from the reel 17 will be ready to be used by a second person, and as the latter goes down the belt used by the first person will go up to be used by a third person.

Instead of employing the rope 11 I may use a chain 30 in its place, and in such case I replace the lower bracket 8 with a bracket 31, which is illustrated in Figs. 5 and 6 of the drawings. I also substitute the sheave 32 for the drum 10 and pass the chain but once about said sheave. Said sheave has its grooved periphery provided with teeth or flanges 33, which engage the links of the chain and prevent the same from slipping. The bracket 31 has its base 34 formed with guide-lugs 35, which hold the chain upon the sheave, and with two guide passages or openings 36,

through which the chain passes. The operation of these parts of the machine is the same as the operation previously described.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

The combination with a frame provided with bearing-brackets, of a shaft journaled in said bearing-brackets, a drum upon the lower end of said shaft, guide-pulleys mounted upon said frame, a rope wound around said drum and having its ends pendent from said pulleys, springs for holding said rope upon the pulleys and keeping the same taut upon the drum, a plate or spider fixed to the upper end of said shaft to turn therewith, a relatively fixed friction-disk, levers pivoted intermediate their ends to said plate, brake-shoes carried by the upper ends of said levers for frictional contact with said disk, and weights upon the lower ends of said levers, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES J. HAGGSTROM.

Witnesses:

E. H. BESH LIN,
LEON G. BALL.