

No. 637,532.

Patented Nov. 21, 1899.

M. STANDISH.

FIRE ESCAPE.

(Application filed May 3, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

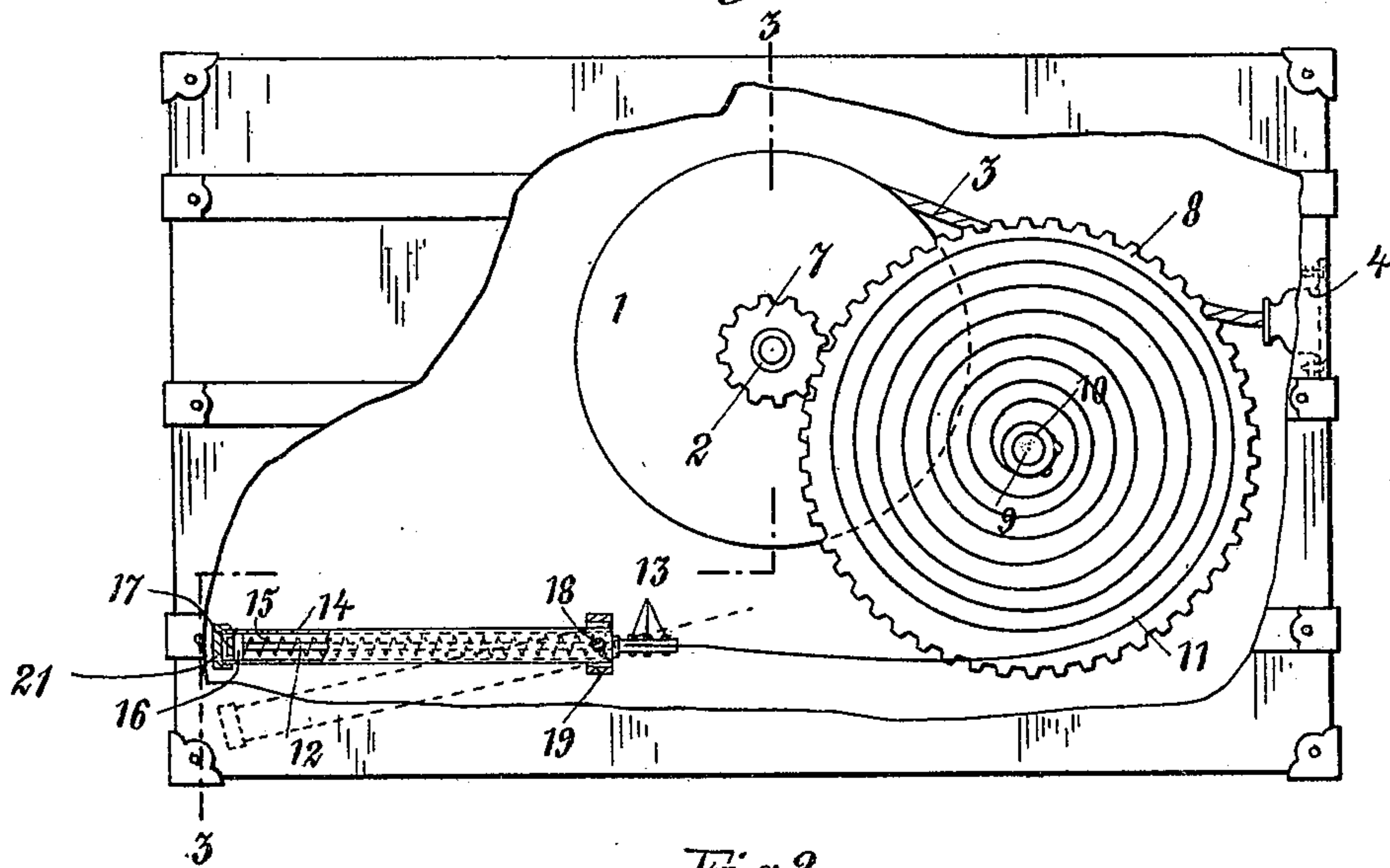


Fig. 2.

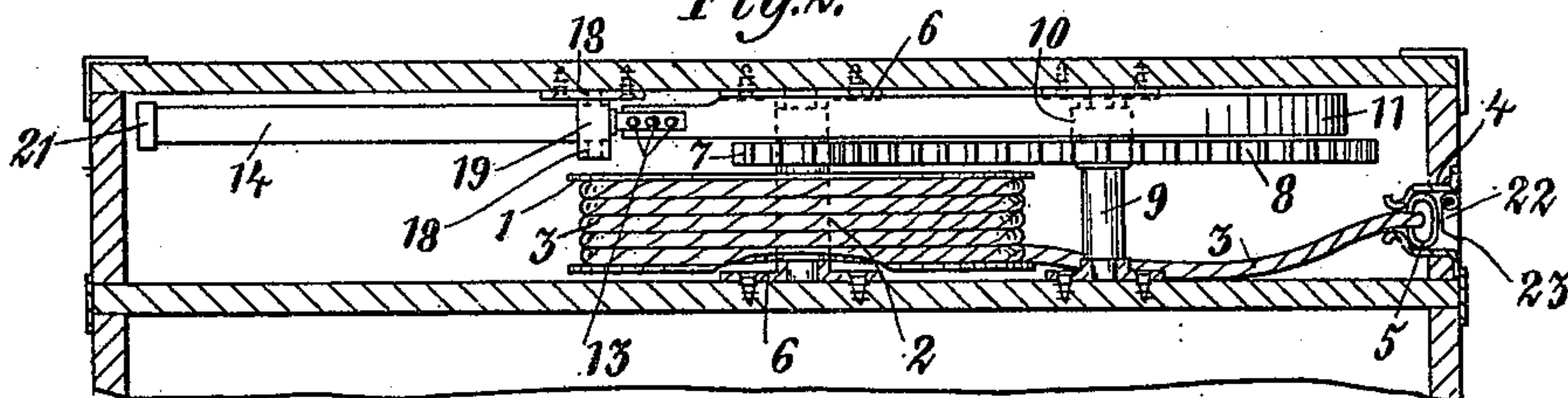
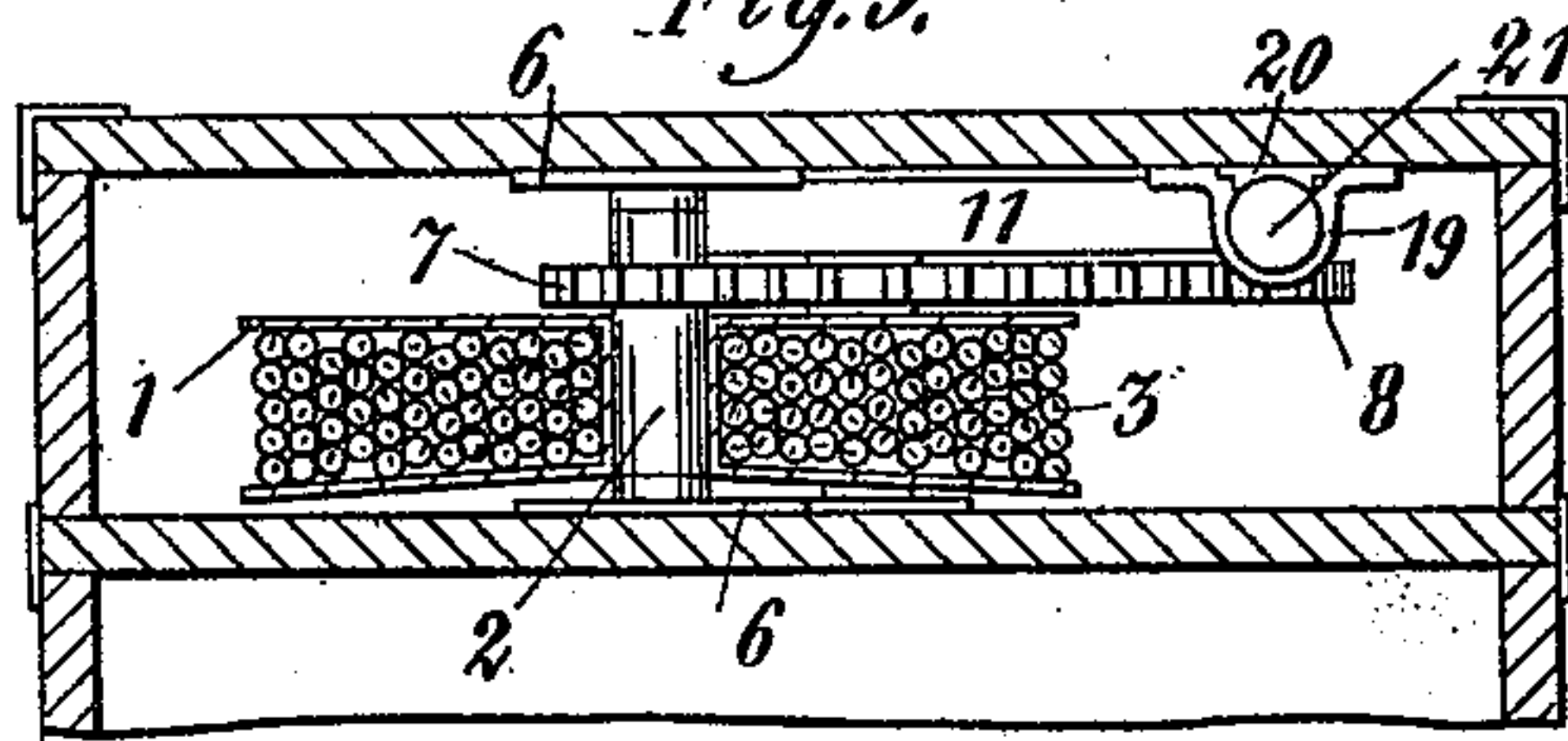


Fig. 3.



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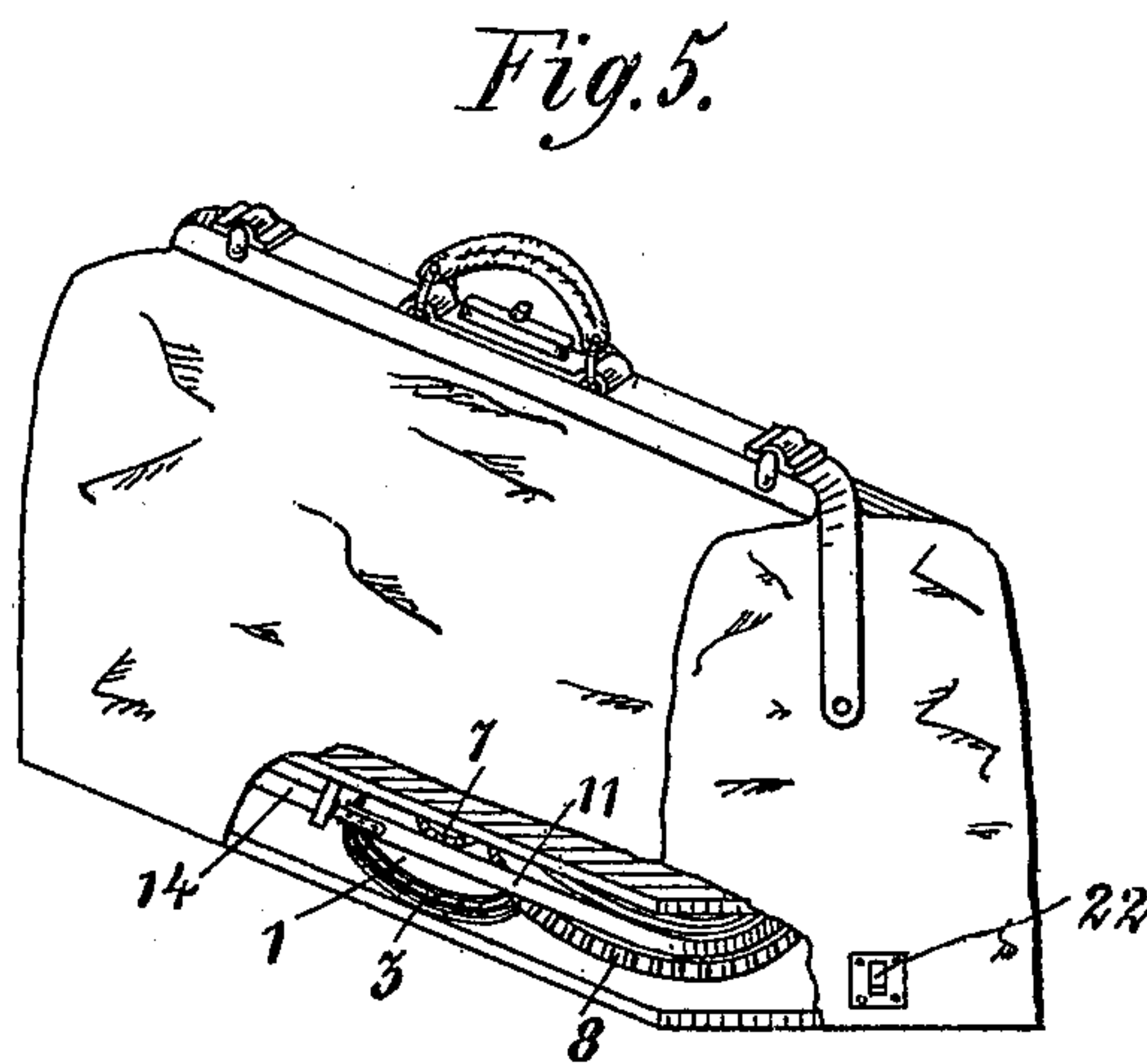
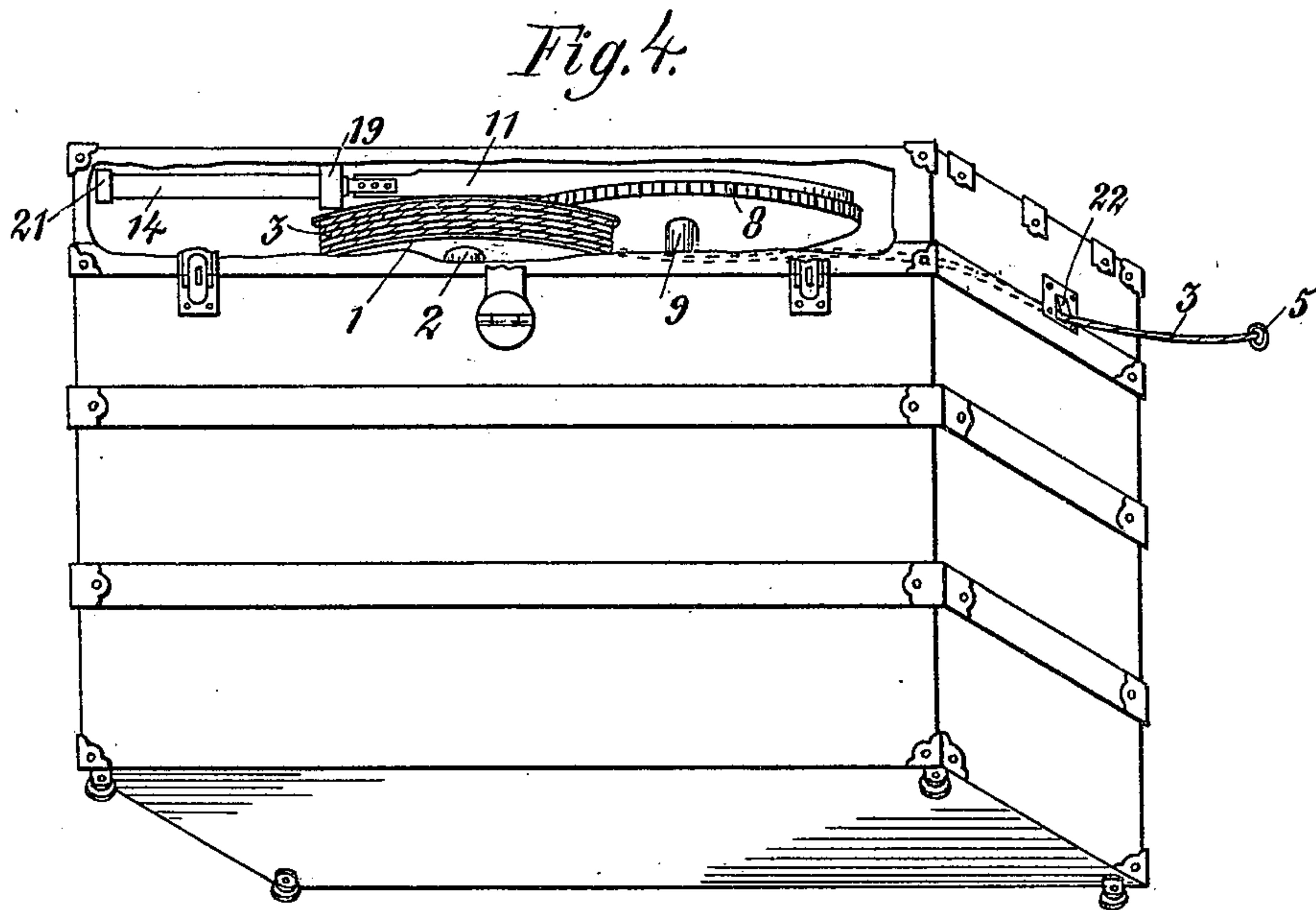
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UNITED STATES PATENT OFFICE.

MYLES STANDISH, OF NEW YORK, N. Y.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 637,532, dated November 21, 1899.

Application filed May 3, 1899. Serial No. 715,408. (No model.)

To all whom it may concern:

Be it known that I, MYLES STANDISH, of New York, county and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, wherein—

Figure 1 is a plan view of my improved fire-escape attachment; Fig. 2, a longitudinal sectional view; Fig. 3, a cross-sectional view on lines 3 3, indicated in Fig. 1. Fig. 4 is a perspective view of a trunk, and Fig. 5 a perspective view of a valise provided with my improved fire-escape attachment.

Similar letters of reference indicate corresponding parts in all views of the drawings.

My invention relates to fire-escapes; and it consists of a fire-escape rope, of mechanism for automatically winding the rope upon a reel and for gradually reducing the speed and momentum of a falling body suspended on the rope, and of the combination of the apparatus with a trunk, valise, or other receptacle for baggage in such manner that the fire-escape is at all times ready and available for use.

In the drawings, 1 designates a reel secured to spindle 2. This reel is adapted to receive a thin strong line or rope 3, which is wound thereon. One end of the rope is secured to the reel, and the other end is drawn through aperture 4 in the side of the casing and is provided with an eyelet or buckle 5 to afford easy means for taking hold of the rope or fastening thereto of a holder or other suspending device.

Spindle 2 is journaled in bearings 6, secured to the sides of the casing. Pinion 7 is also rigidly secured to stud 2, or it may be made integral with the reel 1, and in such a case the reel 1 and pinion 7 may revolve on stud 2, which then would be stationary. Pinion 7 meshes with cog-wheel 8, rotatably mounted on spindle 9. Hub 10 of this cog-wheel 8 is elongated and serves as a mandrel for spring 11, loosely wound thereon. One end of the spring 11 is riveted to hub 10, whereas the other end is clamped to the projecting end of piston-rod 12.

For better convenience in connecting the spring 11 to the rod 12 the end of the said rod

is bifurcated and provided with bores for rivets or screws 13, which pass through both branches of the bifurcated end of the rod 12 and also through spring 11. Piston 16 is secured by screw-nut 17 to the other end of rod 12, and a spiral spring 15 is set thereon between the closed end of the cylinder and the piston. Cylinder 14 oscillates on trunnions 18, which are journaled in bearings 19 and 20, respectively.

Spring 11 is unwound when rope 3 is coiled on the reel 1. By pulling the outwardly-projecting end of the rope the rope is uncoiled and at the same time spring 11 is wound. When the rope is released, the reaction of spring 11 causes the reel 1 to revolve and wind up the rope. At the commencement of the unwinding of the rope the spring 11 causes only a slight resistance. As, however, the uncoiling progresses the spring is gradually wound more and more tightly upon hub 10 of the cog-wheel 8 and resists more and more strongly the unwinding of the rope. This action of the spring is finally supplemented by the action of the spiral spring 15, which comes into action after the spring 11 is fully wound up. At the same time piston 16, which is snugly fitted into the cylinder 14, acts as an air-pump, exhausting the air from the front part of cylinder 14, which is closed by cap 21, and compressing the air in the rear part thereof to some extent.

The air contained in the rear part of the cylinder 14—namely, between the piston 16 and the closed end thereof, through which the rod 12 passes outwardly—escapes gradually through the clearance around the rod 12. The area of this clearance is very small in proportion to the area of the piston 16. The air contained in this part of the cylinder 14 is to a considerable extent compressed and acts as an air-cushion, resisting the motion of the piston, and thereby also the speed and momentum of the force unwinding the rope off the reel.

The resisting power developed by the spring 11, spring 15, and the piston 16 is sufficient to so reduce the momentum of a falling body (a person suspended on the rope) that a person may safely take hold or be tied to the end

of the rope and drop from the window of a building without danger of falling heavily upon the ground.

The rope is provided with marks indicating
5 its length in feet, and thus a person using this fire-escape may properly adjust its length according to the height of the room in which the escape is located by withdrawing so much of the rope 3 from reel 1 and attaching him-
10 self to the rope at a particular place. The rope when released is coiled up automatically upon the reel by the reaction of the spring 11 and the checking devices. It may thus be used over again, one after another, by as
15 many persons as may happen to be in a room.

To prevent the recoiling of the rope while the apparatus is being adjusted, spring-clamp 22 is pivotally affixed to the side of the casing adjoining the aperture 4. This clamp is
20 free to swing outwardly with the rope when the same is being pulled off of the reel. When, however, the rope is released, the clamp returns to its normal position, partly blocking the aperture 4, and the inward motion of the
25 rope is arrested by the edge 23 stemming against the rope and squeezing it between the edge of the clamp and the opposite edge of the aperture.

This escape may be permanently affixed to
30 the wall of a building, preferably near a door or window, or it may be combined with a trunk or valise or any other receptacle for baggage in the manner shown in Figs. 4 and 5. In such combination of my improved fire-
35 escape with the receptacle for baggage the object of my invention is better attained, because the fire-escape is rendered available to the traveler in every place.

It is well known that traveling people are
40 in most cases unacquainted with the safety arrangements and safety devices provided in inns, hotels, and boarding-houses and that in case of fire very seldom use is made of the fire-escapes provided in such places owing to
45 the unfamiliarity of the occupants with such devices. It is therefore considered that if such devices are combined with trunks, valises, and similar receptacles for baggage, which are always in possession of their re-
50 spective owners, these people will be accus-

tomed to using and handling such devices and that by using this improved fire-escape they will save themselves from destruction.

I claim as my invention and desire to secure by Letters Patent—

1. An improved fire-escape comprising a
55 casing, a spindle rotatably mounted in the casing, a reel and a pinion mounted on the spindle, a rope wound upon the reel and having one end secured to the reel and the other
60 end projecting through the casing, a second spindle mounted in the casing, a cog-wheel having an elongated hub revolubly mounted on the second spindle and engaging with the pinion, a closed cylinder, pivotally mounted
65 in the casing, a piston fitted in the cylinder, a piston-rod secured to the piston and projecting through one end of the casing, a spring coiled thereon and having one end secured to the hub of the cog-wheel and its other end
70 connected to the projecting end of the piston-rod, and a clamping device affixed to the casing adjoining to the aperture for the rope.

2. The combination with a trunk or valise or similar receptacle for baggage, of a fire-
75 scape comprising a casing, a spindle rotatably mounted in the casing, a reel and a pinion mounted on the spindle, a rope wound upon the reel and having one end secured to the reel and the other end projecting through
80 the casing, a second spindle mounted in the casing, a cog-wheel having an elongated hub revolubly mounted on the second spindle and engaging with the pinion, a closed cylinder, pivotally mounted in the casing, a piston fit-
85 ted in the cylinder, a piston-rod secured to the piston and projecting through one end of the casing, a spring coiled thereon and having one end secured to the hub of the cog-wheel and its other end connected to the pro-
90 jecting end of the piston-rod, and means for clamping the rope unwound off the reel.

In witness that I claim the improvements described in the foregoing specification I have signed my name in the presence of two sub-
95 scribing witnesses.

MYLES STANDISH.

Witnesses:

HENRY SCHREITER,

ROBERT VALENTINE MATHEWS.