

(No Model.)

J. H. HIGGINS.
FIRE ESCAPE.

No. 579,060.

Patented Mar. 16, 1897.

Fig. 1.

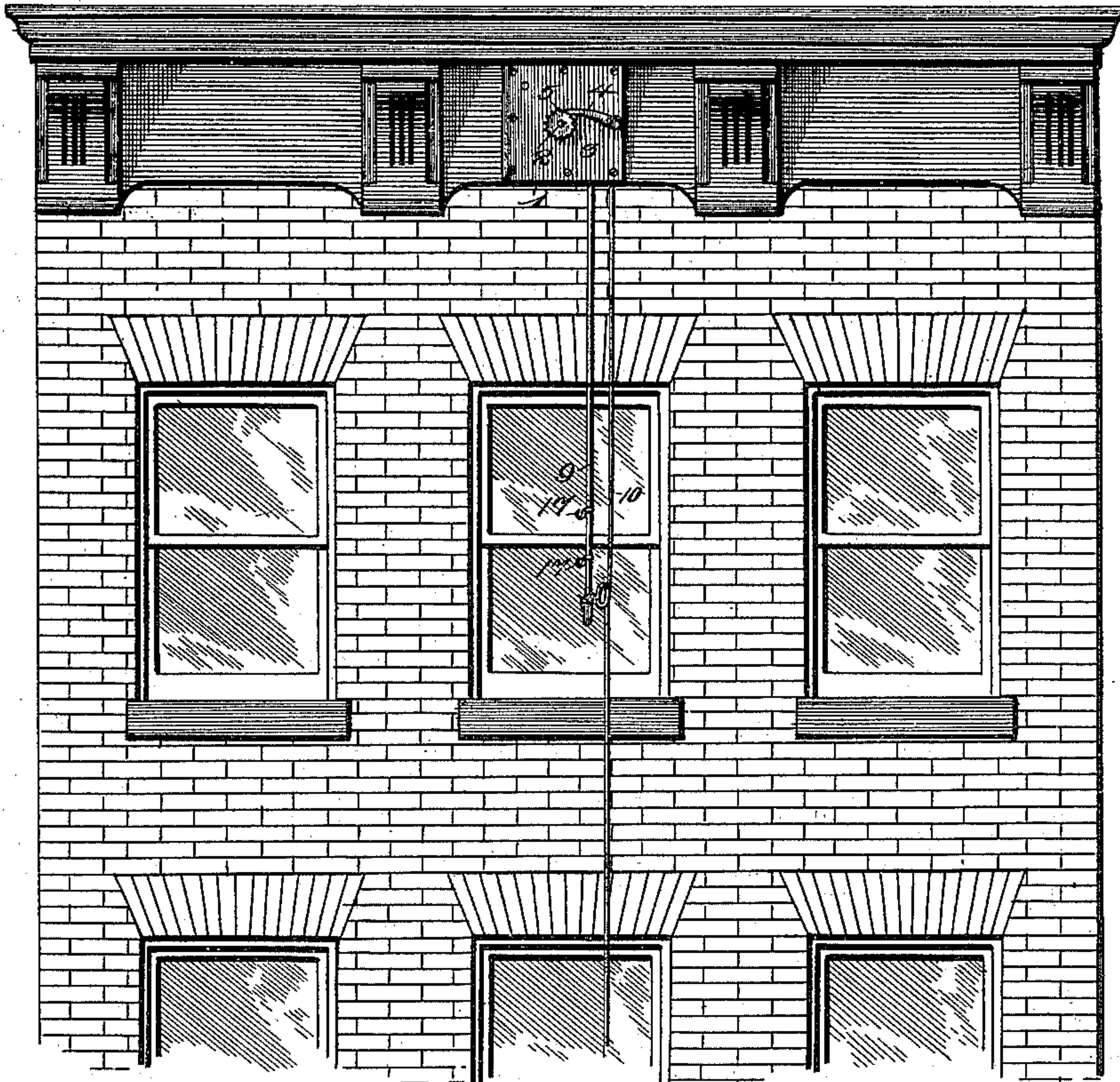
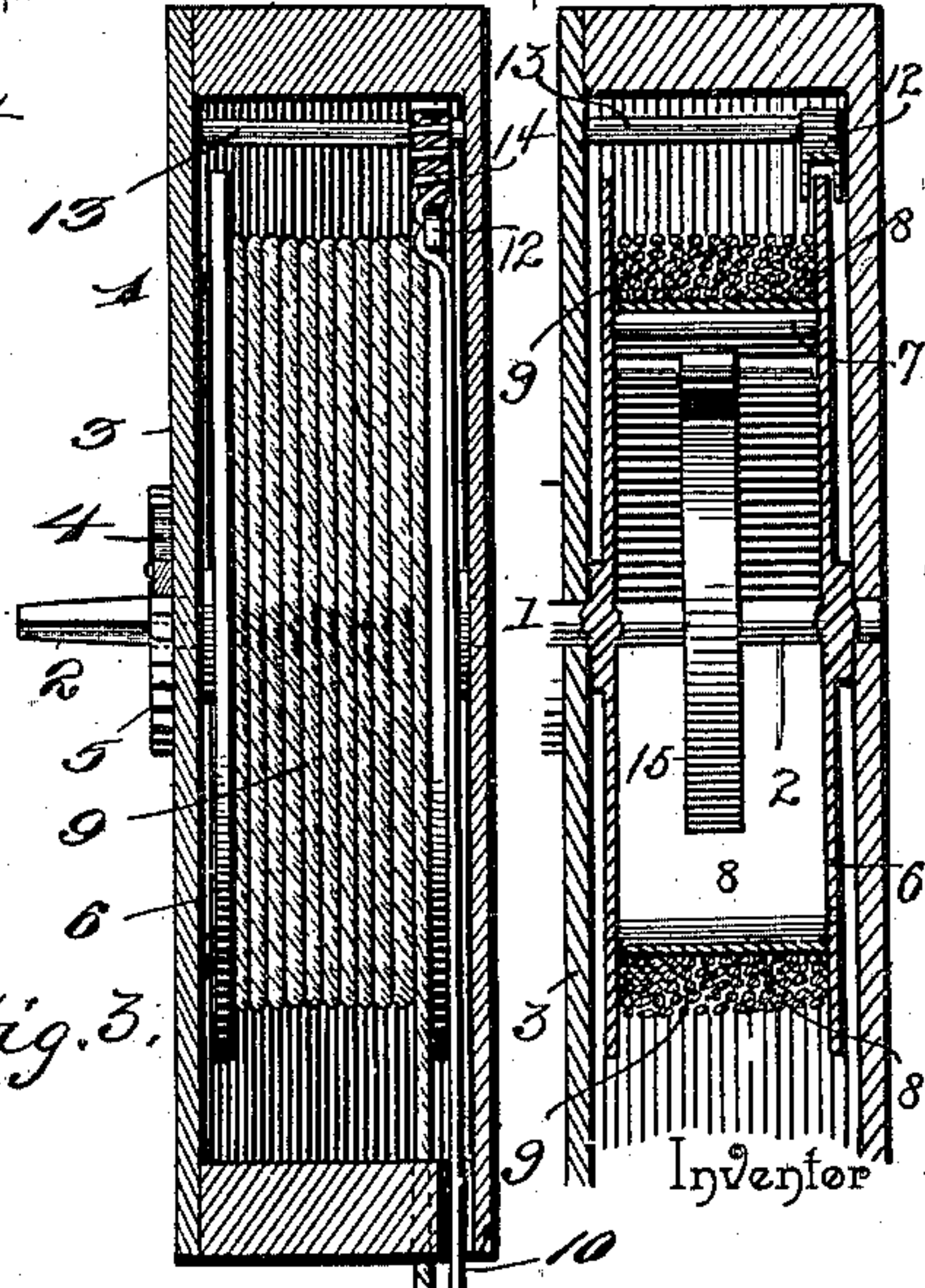
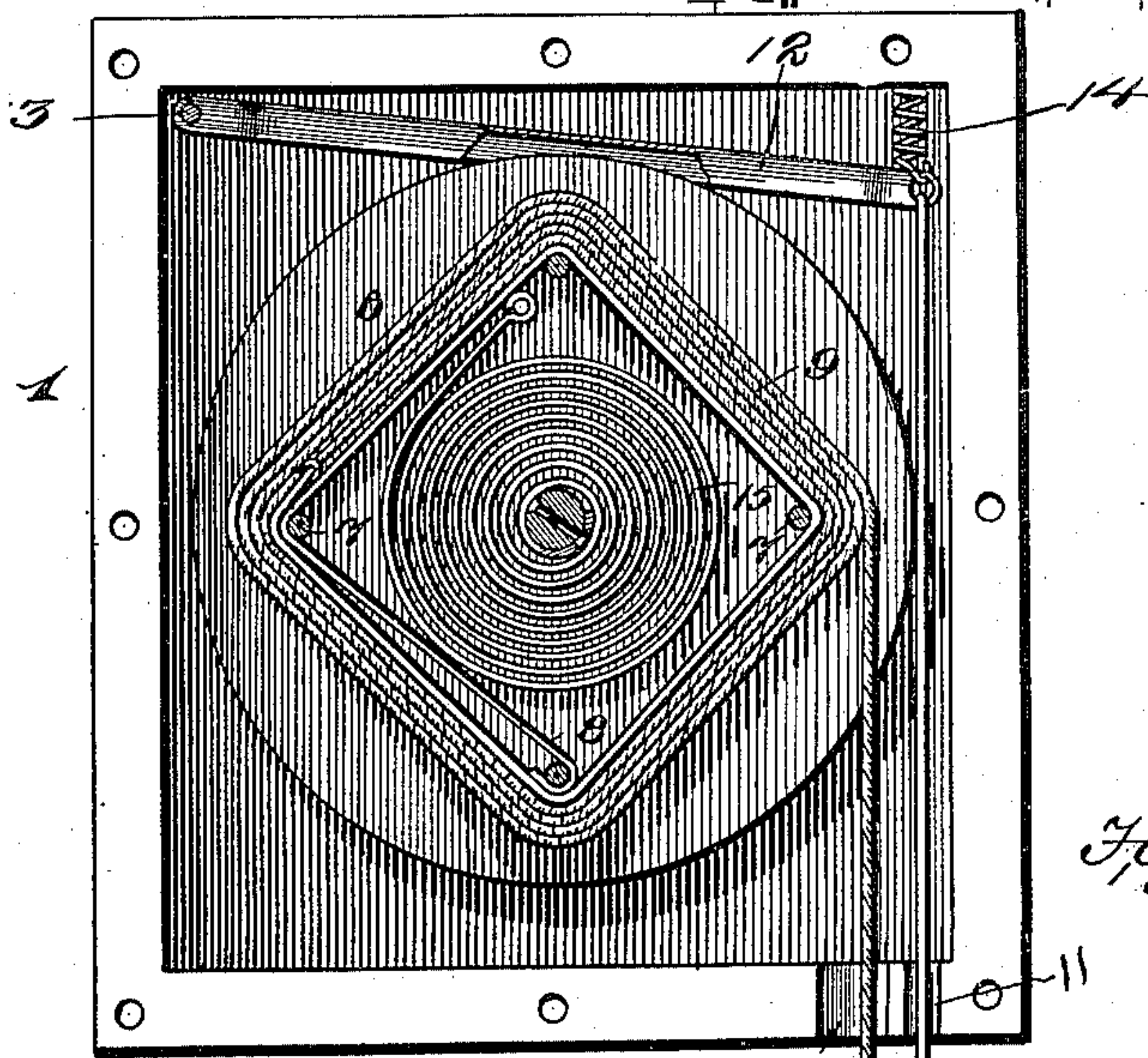


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSIAH H. HIGGINS, OF ELLSWORTH, MAINE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 579,060, dated March 16, 1897.

Application filed August 6, 1896. Serial No. 601,898. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH H. HIGGINS, a citizen of the United States, residing at Ellsworth, in the county of Hancock and State of Maine, have invented a new and useful Fire-Escape, of which the following is a specification.

The invention relates to improvements in fire-escapes.

10 The object of the present invention is to improve the construction of fire-escapes and to provide a simple and inexpensive one, adapted to be readily attached to a building, capable of enabling persons to descend safely
15 to the ground, and adapted to return automatically to the top of the building or any portion thereof between the ground and the top to receive a fresh load.

20 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

25 In the drawings, Figure 1 is an elevation of a building provided with a fire-escape constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the fire-escape. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a similar view
30 illustrating the construction of the housing of the spring.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

35 1 designates a casing adapted to be mounted on the front or side of a building beneath the eaves of a roof and adapted to be of any desired form to conform to the configuration of a gable or flat roof and provided with bearings receiving a winding-shaft 2. The front
40 3 of the casing is removable to afford access to the interior, and it has a pawl 4, pivotally mounted on it and engaging a ratchet-wheel 5 of the winding-shaft, which has its outer
45 end squared for the reception of a crank-handle, for the purpose hereinafter described.

50 A drum 6, which is arranged within the casing on the shaft 2, is composed of a pair of end disks or plates connected by transverse rods or fastening devices 7 and a metal strip 8, interposed between the plates or sides of the drum, supported by the transverse rods

or fastening devices, and located within the outer edges or periphery of the end plates to form a groove for the reception of a cable or rope 9, which may be of any desired construction. The cable or rope is wound around the drum and is adapted to be gradually unwound to lower a person to the ground from the upper portion of a building, and the descent of
55 the person is controlled by a brake-wire 10, extending from the ground to the casing, passing through an opening 11 at the bottom thereof, and secured at its upper end to a brake-lever 12. The brake-lever 12, which is
60 arranged substantially horizontally at the top of the drum, has one end connected to the brake-wire, and its other end is pivoted at 13 in the casing. By drawing down on the brake-wire the brake-lever is held in frictional contact with the adjacent side of the
65 drum, retarding the rotation thereof, and if a sufficient force is applied to the brake-wire the drum may be held stationary. A spring 14, which is located above the brake-lever,
70 has one end attached to the free end of the same, and its other end is connected with the top of the casing, and this spring is adapted to lift the lever off the drum when the brake-wire is released.
80

The transverse rods or fastening devices 7, which connect the end plates of the drum, are located at points between the center and periphery thereof, and the metal strip 8, which is arranged on the rods or fastening devices,
85 forms a rectangular housing to receive a coiled spring 15, which has its outer and inner ends connected, respectively, to one of the end plates of the drum and to the winding-shaft. The tension of the spring is regulated by the
90 winding-shaft, which is held stationary by the pawl and ratchet. After the rope has been unwound the spring, which is coiled or wound by the said rope, automatically rewinds the rope on the drum, returning the end of the
95 rope to the top of the building, and the upward movement of the rope may be regulated by the brake so as to stop the fire-escape at any desired point.

By locating the spring within the housing
100 of the drum the parts are compactly arranged and the spring is protected.

The rope 9, which extends through an opening 16 of the bottom of the casing, is de-

signed to be provided at its lower end with a chair, and it has hooks 17 above the chair to enable persons or objects to be suspended from it and lowered to the ground.

5 In suspending a person from one of the hooks a shawl, sheet, or similar fabric is passed under the arms and a loop is formed for engaging a hook. The brake-wire is designed to be provided at the various stories or
10 landings with loops or hand-holes to enable sufficient force to be readily applied to the brake-lever to hold the fire-escape stationary while loading it.

It will be seen that the fire-escape is exceedingly simple and inexpensive in construction,
15 that it is positive and reliable in operation, and that after lowering a person or object to the ground it returns automatically for another load.

20 Instead of the shawl, sheet, or similar fabric, as before explained, a specially-constructed chair may be used, suspended at its four corners by means of ropes or straps, and as this is perfectly obvious illustration thereof
25 does not seem to be necessary. I do not wish to be limited to any form of chair to be used in this connection.

It will be understood that the entire apparatus may be located within the building and
30 have the escape and brake-wire come out

through a pipe in the wall, so that everything may be out of sight and avoid the action of the elements thereon.

What I claim is—

In a fire-escape, the combination of a casing, a winding-shaft mounted in the casing, a drum arranged within the casing, mounted on the shaft and composed of a pair of end plates, transverse rods or fastening devices connecting the end plates and located at points
35 between the center and periphery thereof, and a metal strip interposed between the end plates, supported by the transverse rods or fastening devices and forming a rectangular housing, a coiled spring arranged on the shaft
40 within the housing and having one end attached to the shaft and its other end connected with one of the end plates, a rope or cable wound around the drum and arranged on the metal strip, a brake for controlling the rotation of the drum, and means for locking the shaft against rotation, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in
55 the presence of two witnesses.

JOSIAH H. HIGGINS.

Witnesses:

A. A. LORD,

W. B. CAMPBELL.