

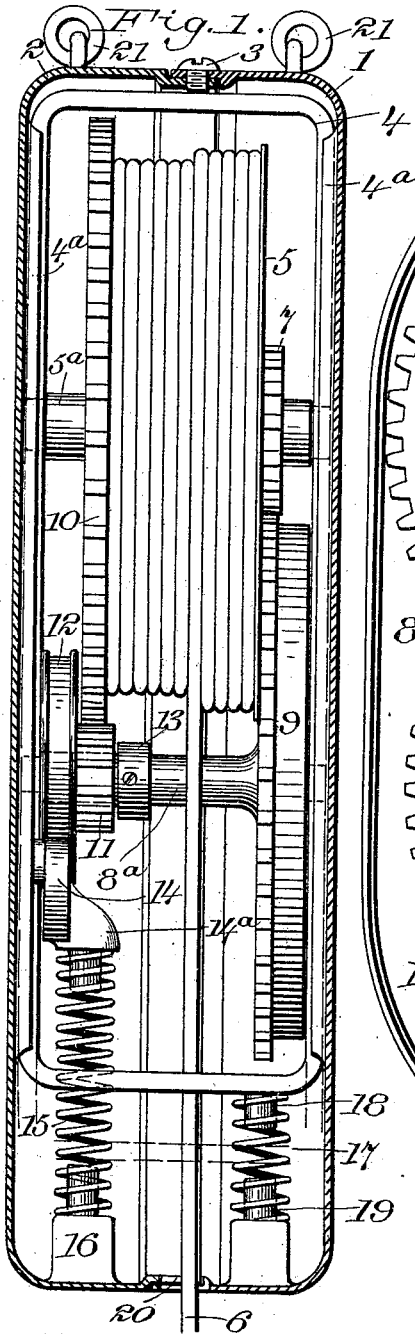
No. 646,635.

Patented Apr. 3, 1900.

J. CABUS.
FIRE ESCAPE.

(Application filed July 28, 1899.)

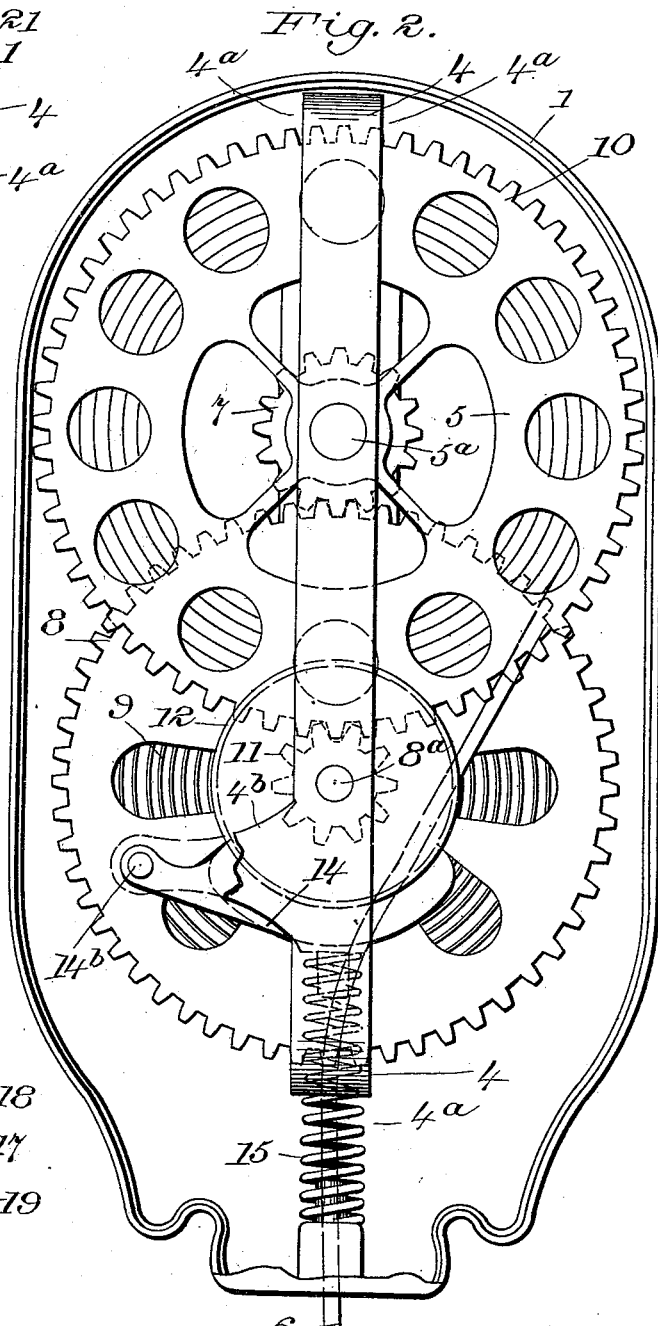
(No Model.)



WITNESSES:

L. H. Foster

W. H. Humphrey



INVENTOR

Joseph Cabus

BY

A. Parker Smith

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH CABUS, OF NEW YORK, N. Y., ASSIGNOR TO CAROLINE B. CABUS,
OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 646,635, dated April 3, 1900.

Application filed July 28, 1899. Serial No. 725,346. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CABUS, a citizen of the United States of America, and a resident 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 specification.

My invention relates to fire-escapes; and it consists of an improved form of portable apparatus to enable persons to escape from the windows of burning buildings with safety.

The preferred form of apparatus is illustrated in the accompanying sheet of drawings, in which—

Figure 1 is a vertical central section of Fig. 2. Fig. 2 is a side elevation with the near portion of the casing broken away to show the contained apparatus.

Throughout the drawings like reference-figures refer to like parts.

The ornamental pouch-shaped casing is composed of two parts 1 and 2, which may be held together by a series of screws, one of which is shown at 3, or in any other convenient manner. This casing has an opening 20, through which a fine wire cord 6 or other flexible form of rope or chain passes, said cord or rope 6 being wound upon the drum 5, which has its shaft 5^a journaled in a sliding frame 4. This frame 4 has a limited sliding motion in guides 4^a, formed on the interior of the casing.

On the shaft 5^a is a pinion 7, which meshes with a gear 8, mounted on a parallel shaft 8^a, also journaled in the sliding frame and controlled by the spiral spring 9, one end of which is fastened to the shaft 8^a or gear 8, while the other end is fastened to the sliding frame 4 or otherwise held rigidly. The gear 10 is also rigidly mounted on the shaft 5^a and meshes with the pinion 11, loosely mounted on the shaft 8^a and rigidly connected to the friction or brake wheel 12. The pinion 11 and brake-wheel 12 are prevented from end-wise sliding by the collar 13 on the shaft 8^a or by other equivalent means. The brake-shoe 14 engages the brake-wheel 12 and is held in such engagement by the strong spiral spring 15, which is confined between a downward projection from the lug 14^a on the brake-shoe and an upward projection from the lug 16, formed on the interior of the casing. This

brake-shoe is kept in position by the pin 14^b, engaging a recess in a projection 4^b from the sliding frame 4 or by other convenient means. A lighter compression-spring 17 is compressed between the downwardly-projecting lug 18 from the sliding frame 4 and the upwardly-projecting lug 19 from the interior of the casing.

The gear-wheels 8 and 10 may be made in skeleton shape, as shown, for lightness, and the external casing is provided with any convenient means of attachment to the walls of a building, such as eyebolts 21 21.

The use of the pinion 7 and gear 8 is to enable a given and convenient length of spring 9 to wind up a greater length of cable than would be practicable if said spiral spring were attached directly to the shaft 5^a.

The mode of operation of my invention is as follows: The spiral spring 9 normally tends to rotate the gearing in a direction to wind up the cord 6 on the drum 5. The spring 15 is so designed that when the sliding frame 4 is forced up into the position shown in the drawings in full lines by the light spring 17 the brake-shoe 14 bears with a light pressure only, if at all, upon the brake-wheel 12, said pressure not being sufficient to prevent the rotation of the parts by the spiral spring 9 to wind up the cord 6. When the cord 6 is pulled out and unwound from the drum, as by the weight of a person descending, the spiral spring 9 opposes only enough resistance to this unwinding to cause the resultant pull upon the sliding frame 4 to overpower the light spring 17 and force the brake-wheel 12 down upon the brake-shoe 14 with a force proportional to the weight of the person suspended from the cord 6. The brake-spring 15 yields slightly, so as to permit the sliding frame 4 to move to a position indicated by dotted lines in Fig. 1, and equalizes the action of the brake. When the person has descended and the weight is removed from the cord 6, the spring 17 acts to force the sliding frame 4 and brake-wheel 12 up and away from the brake-shoe 14, so that the spiral spring 9 is free to act to again wind up the cord.

The advantages of the invention are its compactness and its automatic action both in winding up and in adjusting the brake friction in unwinding to the weight suspended,

so that a heavy man may descend at approximately the same speed and with the same safety as a child.

It is evident that various changes could be made in the details of construction illustrated without departing from the spirit and scope of my invention so long as the relative arrangement of parts shown in the drawings and the principle of operation described in the specification are preserved. Other forms of spring might be employed. A different form of brake might be substituted. The proportions of the gearing might be varied or such gearing dispensed with so long as the winding-up spring operates on the drum in a direction to wind up the cord and so long as the brake opposes the unwinding of the cord when the sliding frame is pulled in a direction to bring said brake into action. All such changes are matters of detail and leave the resultant construction within the scope of my invention.

Having therefore described my invention, what I claim as new, and desire to protect by Letters Patent, is—

1. In a fire-escape apparatus the combination of a casing, a sliding frame therein, a drum journaled in the frame, a spiral spring mounted on said frame, a gear journaled on the sliding frame, to which gear the spiral spring is attached, a pinion on the drum meshing with the gear, a brake-wheel journaled on the sliding frame, a pinion rigidly attached to the brake-wheel, a gear meshing with said pinion and rigidly attached to the drum, a brake-shoe loosely mounted on the

sliding frame and adapted to press upon the brake-wheel, a spring supported in the casing and normally forcing said brake-shoe against the brake-wheel, a second spring mounted in the casing and normally tending to force the sliding frame in a direction such that the pressure of the brake-shoe upon the brake-wheel is diminished, and a cable wound about the drum in a direction to be wound up by the action of the spiral spring and gearing, said cable extending out through the casing in a direction such that a pull thereon will tend to move the sliding frame in a direction to increase the pressure of the brake-shoe upon the brake-wheel.

2. In a fire-escape apparatus the combination of a casing, a sliding frame therein, a drum journaled in the frame, a cable wound on the drum and extending out through an opening in the casing, spring means for rotating the drum to wind up the cable, a brake-wheel journaled in the sliding frame and geared to the drum so as to rotate at a much higher speed than said drum, a brake-shoe pivoted to the sliding frame and bearing on said brake-wheel, a spring confined between the brake-shoe and that end of the casing through which the cable passes out, and a weaker spring confined between the sliding frame and the same end of the casing.

Signed by me at New York city, New York, this 25th day of July, 1899.

JOSEPH CABUS.

Witnesses:

LILIAN FOSTER,
J. E. PEARSON.