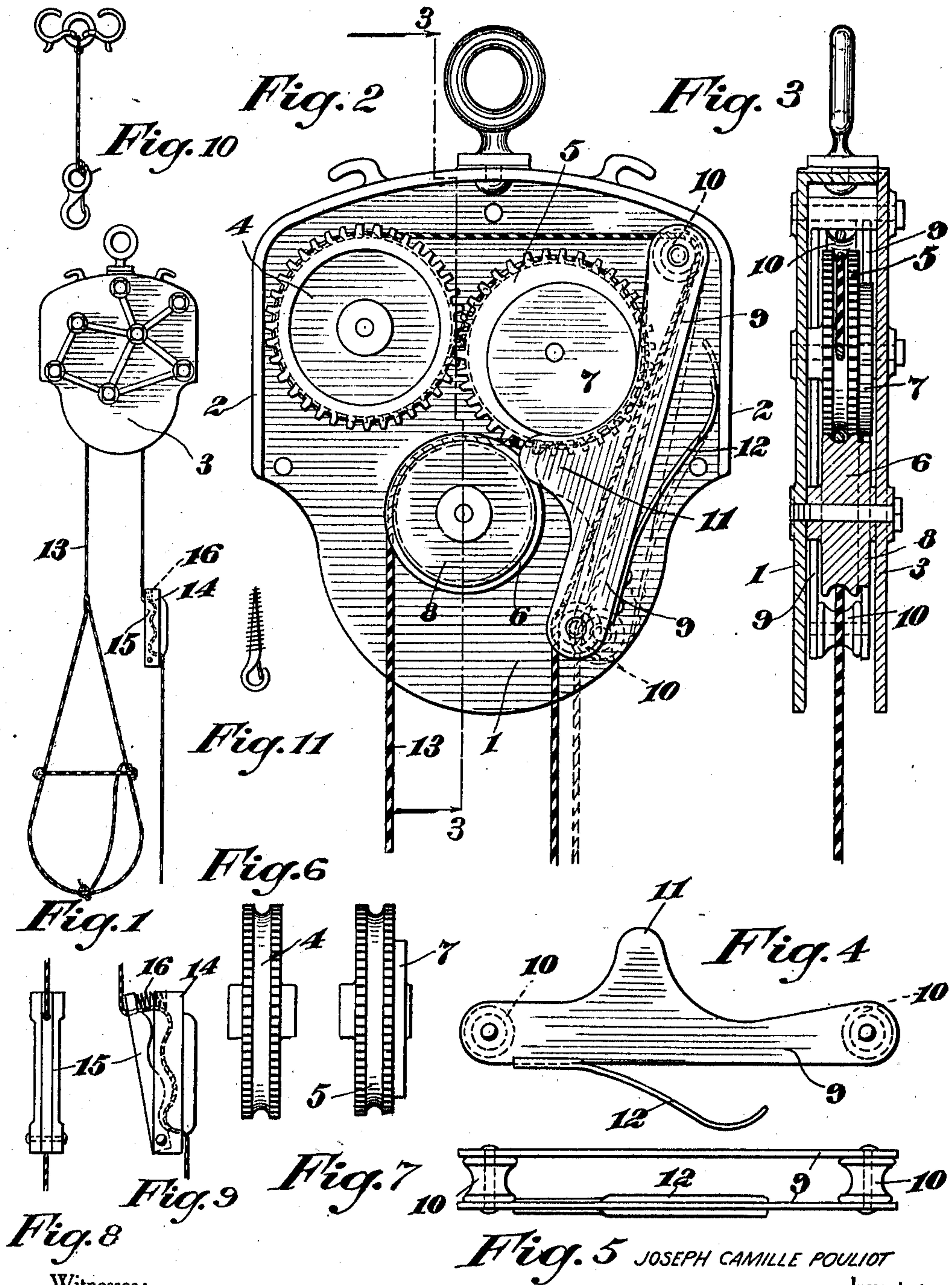


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 PORTABLE FIRE ESCAPE.
 APPLICATION FILED SEPT. 29, 1909.

992,902.

Patented May 23, 1911.



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PORTABLE FIRE-ESCAPE.

992,902.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH CAMILLE POULIOT, a subject of the King of Great Britain, advocate, and a resident of the town of Fraserville, Quebec, Canada, having invented certain new and useful Improvements in Portable Fire-Escapes, hereby declare that the following is a clear, complete, and exact description of same.

The invention to be hereinafter described relates to fire escapes and more particularly to automatic controlling devices therefor.

In order to more clearly disclose the construction, operation, and use of the invention, reference should be had to the accompanying drawings forming part of the present application.

Throughout the several figures of the drawings like reference characters designate the same parts.

In the drawings: Figure 1 is a front view of the complete invention, in use; Fig. 2 is a front view of the escapement and brake mechanism, enlarged, the cover of the casing being removed; Fig. 3 is a vertical cross section on line 3—3 of Fig. 2, looking in the direction of the arrows; Fig. 4 is a front view of the braking lever, removed; Fig. 5 is an edge view of Fig. 4; Figs. 6 and 7 are edge views of two of the grooved pulleys; Fig. 8 is an edge view of the friction grip; Fig. 9 is a side elevation of Fig. 8; Fig. 10 is a plan view of a supplemental support; and Fig. 11 is a side view of the snap hook used with Fig. 10.

The main objects of the invention are to provide a simply constructed, economical, efficient, and durable fire escape apparatus which may be easily, accurately, safely, and positively operated by any one, and one which will always be ready for immediate use in time of need.

The main feature of the invention is the absolute control by the user of his speed of descent, when depending upon the apparatus, together with the automatic brake for stopping descent whenever the user loses control.

Referring to the drawings in detail, 1 indicates a plate provided with a flange 2 against which a cover 3 may be suitably secured, thus forming a casing or box in which the operating mechanism is mounted. In this casing are journaled three pulley blocks or grooved rollers 4, 5, and 6. The pulleys 4 and 5 are provided with peripheral inter-

meshing gear teeth so that each one, by its own rotation, causes the other to rotate. Pulley 5 is mounted slightly below and a little to one side of pulley 4. Pulley 6 is mounted below a point between pulleys 4 and 5. On one face of the pulley 5 is formed an eccentric 7. On the corresponding face of pulley 6 is formed a raised circular disk 8 concentric with the center of pulley 6. Pivotaly mounted in the casing, at a point a little above and a little to one side of the pulley 5, is a lever comprising two side plates 9 spaced apart at their ends by grooved guide rollers 10. One of these plates is provided with a projection or brake block 11 adapted to be swung toward and from the edges of eccentric 7 and disk 8. The edges of this projection are curved to correspond, substantially, with the adjacent curvatures of the eccentric 7 and disk 8. A leaf spring 12 is secured to the straight edge of one of the plates 9 and bears against the adjacent wall of the casing. This spring acts, normally, to force the lever to such position that its brake block 11 will engage the edges of the eccentric 7 and disk 8, thus frictionally preventing their rotation, as will later appear. It will thus be seen that the braking lever acts, normally, to prevent rotation of the pulleys 4, 5, and 6. The lowering rope or cable 13 is passed upwardly over the left edge of pulley 6, across its top, around the pulley 5 from right to left, reversely around the pulley 4, over the upper roller 10, downwardly between the plates 9, over the lower roller 10, reversely, and thence downwardly from the casing. The left hand end of the cable is provided with a sling or other suitable support for the user.

From the above it is evident that weight in the sling will tend to rotate the grooved pulleys 4, 5, and 6. This is not possible, though, until the brake lever is moved to inoperative position, as indicated in dotted lines. To accomplish this result, a sliding friction grip has been provided on the opposite branch of the rope or cable. This comprises a block 14 provided with a cavity on one wall, the cavity being formed with a corrugated bottom wall. A clamping bar 15 is pivotaly mounted in the block and provided with an edge which corresponds and coöperates with the lower face or wall of the cavity of the block. A coil spring 16 interposed between the free end of the bar 15 and the adjacent end of block 14

acts, normally, to hold the bar in inoperative position. Pressure on the bar, of course, overcomes the action of the spring 16 and forces the bar toward the bottom of the cavity of the block 14, thus clamping the cable or rope 13 between the two corrugated faces. The cable or rope 13 is led into the cavity of block 14 through a lateral hole or bore in the lower end and passes out through a similar bore in the upper end of the cooperating bar. The frictional hold of the grip on the cable is regulated, of course, by the amount of force with which the user grasps the grip. In this way, the user may regulate the speed of his descent. It should be noted, here, that a pull on the right hand section or member of the cable will force the brake lever to the dotted line position of Fig. 2—that is, to inoperative position. The speed of descent may then be regulated as desired. However, should the user at any time let go of the friction grip device, or otherwise lose control, so that the pull on the right hand section of the cable is removed, then the leaf spring 12 will immediately swing the brake lever to operative position, as in full lines in Fig. 2, and the descent of the user will be stopped.

From the above it will be clear that it is not only possible to accurately regulate the speed of descent, but that it is practically impossible to descend at a dangerously rapid speed, on account of the automatic operation of the brake lever whenever there is no pull on the right hand section of the cable 13.

The casing is provided with an eye or other device by which it may be easily suspended. Hooks may also be provided at each side of the eye for quick and easy attachment of suspending cables. These cables are adapted to raise or lower the casing rela-

tively to its support, to bring it to the desired starting point.

In Fig. 10 an auxiliary suspending cable is shown. This is for use when it is desired to support the casing from a point which is a considerable distance from the ground—a distance more than equal to one half of the entire length of cable 13. In such case, the upper end of this auxiliary cable is secured to the support and the hook at the lower end receives the eye of the casing. This hook is shown in detail in Fig. 11.

It is thought that the operation and use of the invention will be clear from the preceding detailed description.

Changes may be made in the construction, arrangement, and disposition of the several parts of the invention without in any way departing from the field and scope of the same and it is meant to include all such within this application wherein only a preferred form has been disclosed.

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

In combination, a casing, three grooved pulleys rotatably mounted in said casing, an eccentric on one of said pulleys, a concentric circular disk on another of said pulleys, a braking lever pivotally mounted in said casing and cooperating with said eccentric and disk to brake said pulleys, a cable passed about said pulleys and through said lever and adapted to swing said lever to inoperative position, and means for normally holding said lever in operative position.

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