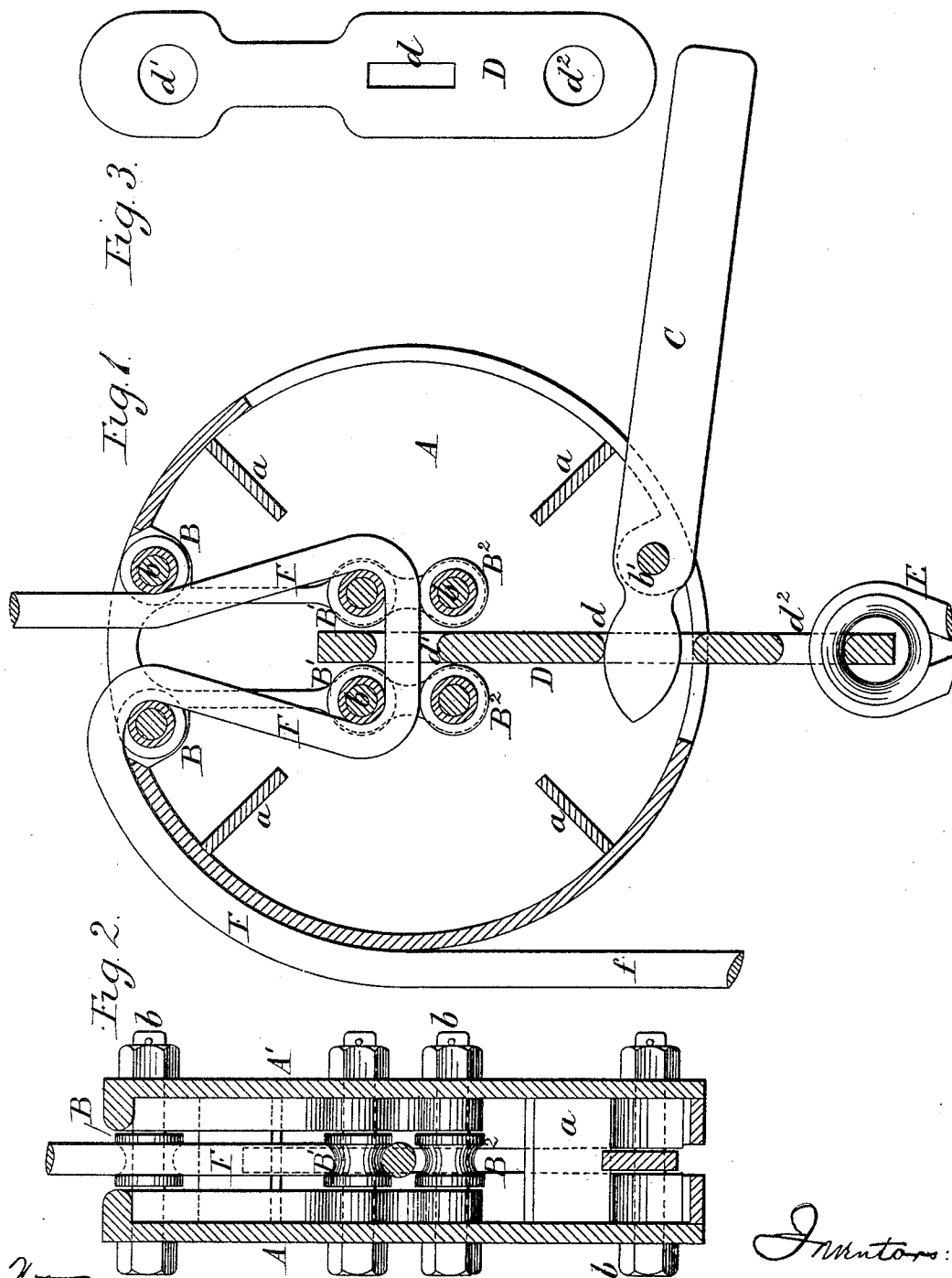


(No Model.)

W. P. SMITH & R. MAYNARD.
 LOWERING GEAR FOR FIRE ESCAPES.

No. 439,438.

Patented Oct. 28, 1890.



Witnesses

J. A. Rutherford
 Geo. H. Bear.

Inventors:

Walter Parker Smith
 and Robert Maynard
 By James L. Norris, Atty.

UNITED STATES PATENT OFFICE.

WALTER PARKER SMITH AND ROBERT MAYNARD, OF LONDON, ENGLAND,
ASSIGNORS TO JOHN EDWARD CAMPBELL KOCH, OF SAME PLACE.

LOWERING-GEAR FOR FIRE-ESCAPES.

SPECIFICATION forming part of Letters Patent No. 439,438, dated October 28, 1890.

Application filed July 31, 1890. Serial No. 360,499. (No model.)

To all whom it may concern:

Be it known that we, WALTER PARKER SMITH, civil and mechanical engineer, residing at 16 Tunstall Road, Brixton, Surrey, England, and ROBERT MAYNARD, gentleman, residing at 58 Trinity Square, Borough, Surrey, England, citizens of England, have invented an Improvement in Lowering-Gear for Fire-Escapes and Like Purposes, of which the following is a specification.

Our invention relates to means whereby a person while being lowered along a rope—as, for example, in order to escape from a fire—can with great facility regulate the speed of descent or arrest it altogether. We shall describe apparatus according to our invention.

Referring to the accompanying drawings, Figure 1 is a vertical section, Fig. 2 a section on a plane at right angles to that of Fig. 1, of lowering-gear according to our invention; and Fig. 3 is a side view of the link, hereinafter referred to.

A A' are two side cheeks with lips at the periphery and with projecting ribs *a*, forming distance-pieces, keeping the cheeks somewhat apart when they are held together by a number of bolts *b*, which form axes for a pair of pulleys B at the top, a pair B' above the center, and a pair B² below the center, of the cheeks. The bolt *b'* forms the pivot for a lever C, the short arm of which engages in a slot *d* of a link D. This link has a hole *d'* near the top and a hole *d²* near the bottom. Through the lower hole *d²* is passed the rope or chain E, which holds the descending person. Through the upper hole *d'* is passed the rope F, which has its upper end fixed at a high part of a building or elsewhere and has its lower end hanging free, as partly shown at *f*, but which is passed over and between the pulleys B B' under the pair B' and above the pair B² and through the hole *d'* of the link D. The weight of the person suspended by E would draw down the link D, bending the rope F downward between the pulleys B² B² and producing such flexure and friction that the rope F could not slip, and

consequently the person suspended by E would not descend; but by applying his hand to pull down the lever C he can cause the link D to ascend toward the position shown in Fig. 1, in which position it allows the rope F to slip freely through the hole *d'*, and therefore the person can descend quickly. By moving up or down the lever C the person can produce more or less flexure and friction of the rope F, and can thus regulate the speed of his descent, as he may desire.

Obviously instead of the pulleys B B' B² mere studs might be employed, or the rope may be led along a channel, following the course shown in Fig. 1; but it is preferable to employ guide-pulleys, as shown, so as to lessen wear of the rope.

Having now described the nature of our said invention, and the best means we know for carrying the same into practical effect, we claim as our invention—

Lowering-gear for fire-escapes and like purposes, consisting of two cheeks between which are mounted guide-pulleys for a hanging rope, and between the pulleys a link, through a hole of which the rope is passed and from which the descending person is suspended, in combination with a lever engaging the link and in position to be manipulated by the descending person so as to bend more or less the rope between a pair of the pulleys and thus cause more or less friction and consequent retardation of the descending body, substantially as herein described.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 18th day of July, A. D. 1890.

WALTER PARKER SMITH.
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