

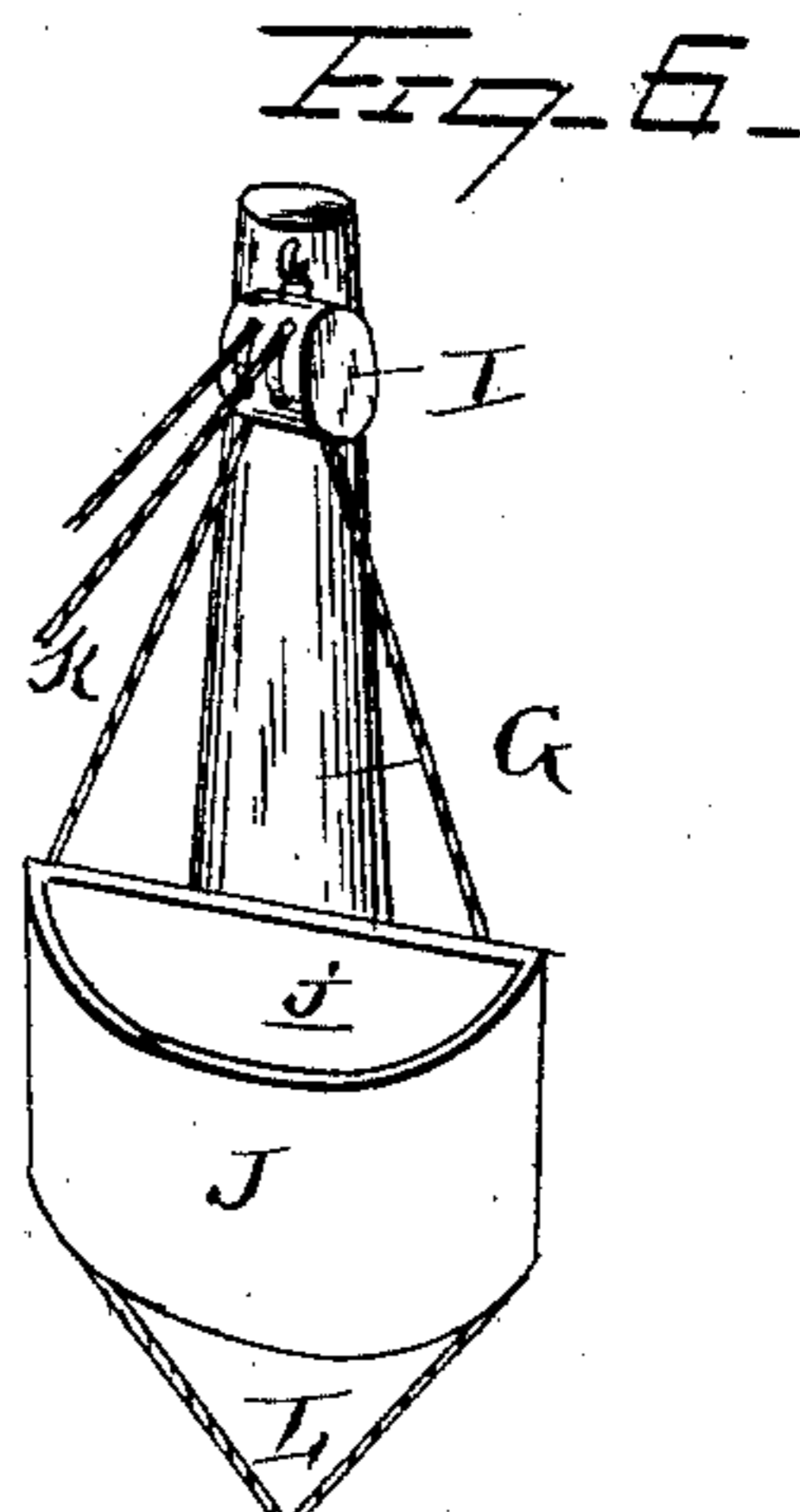
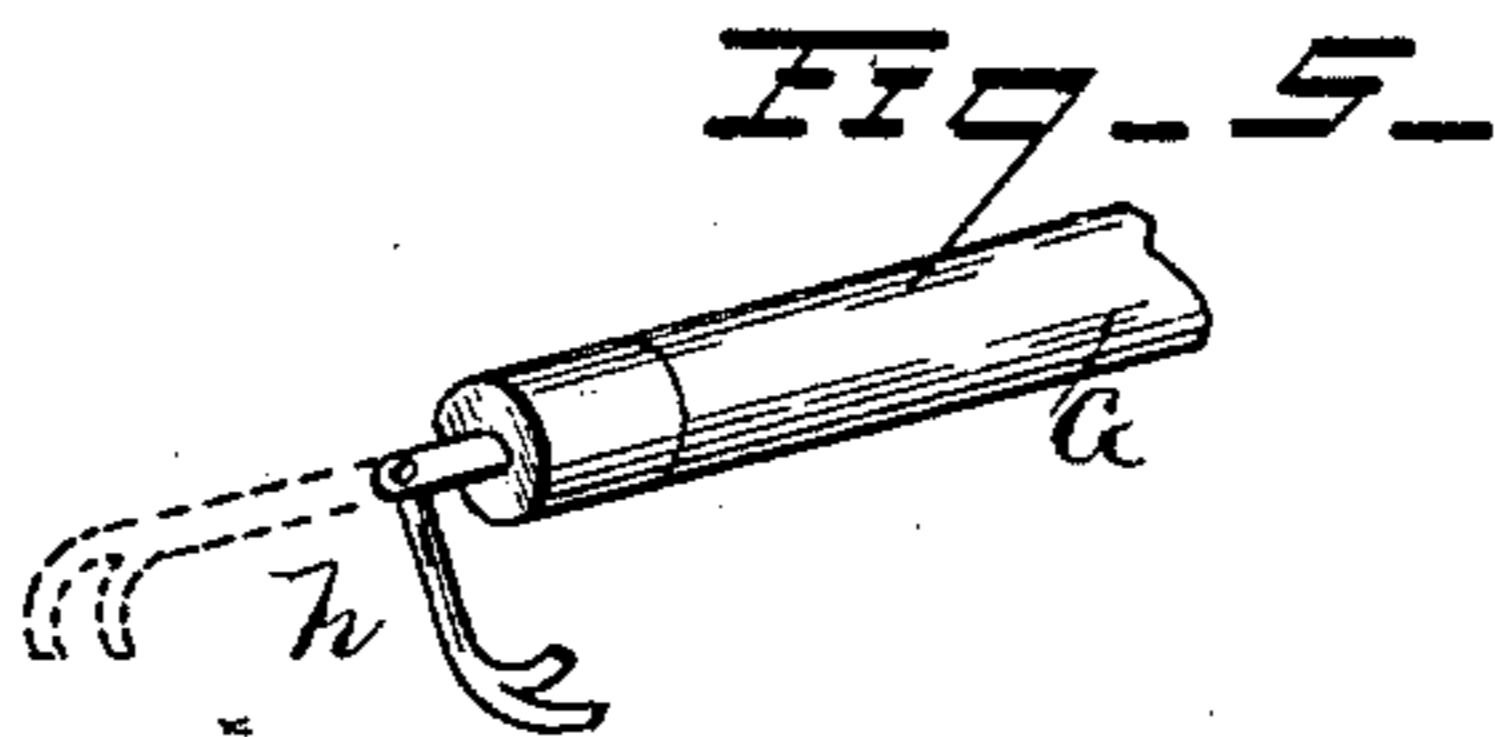
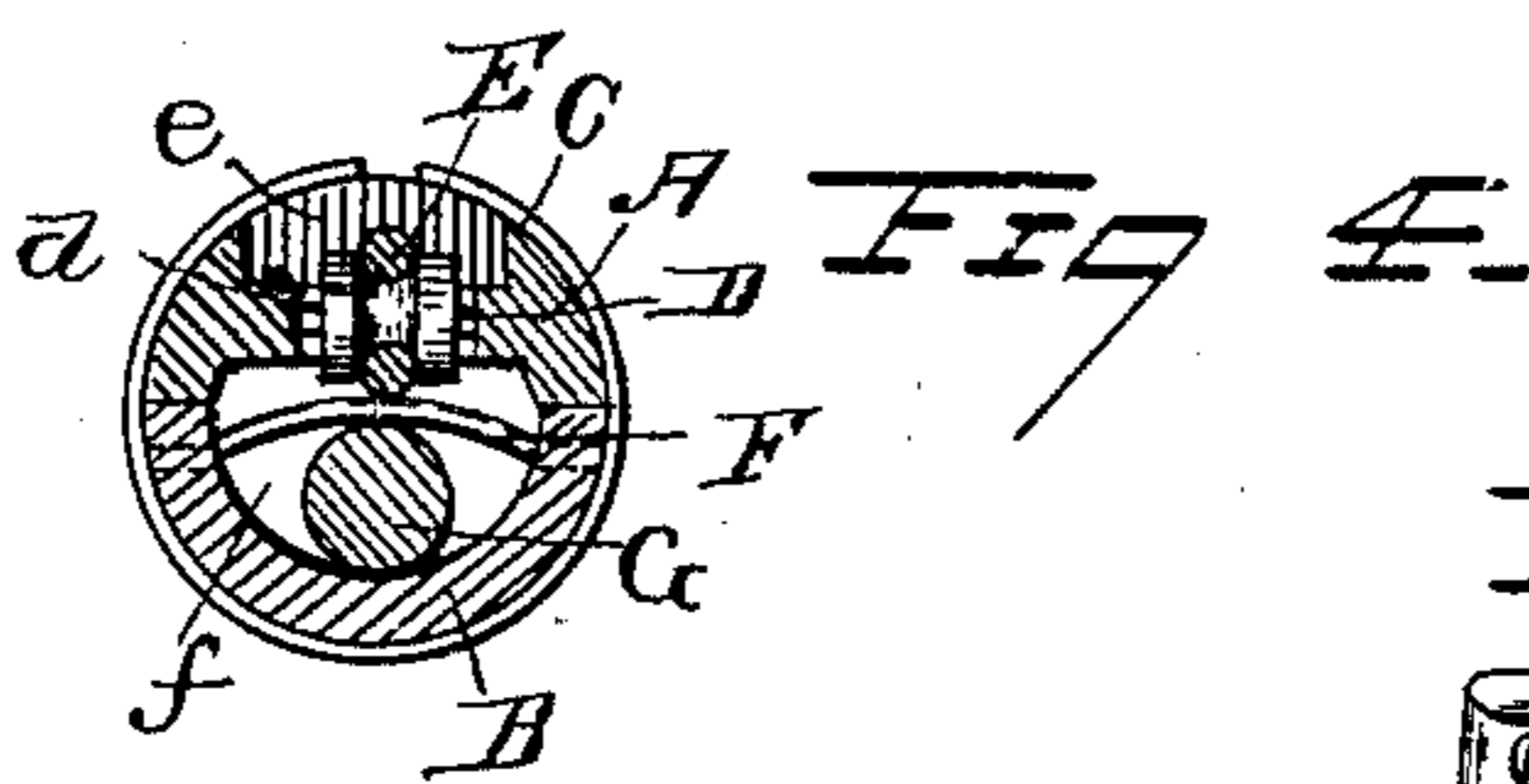
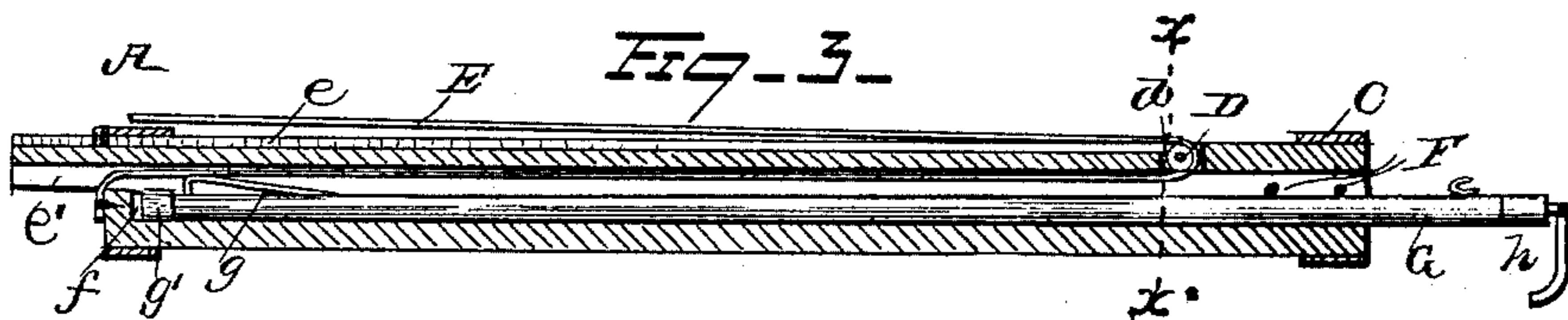
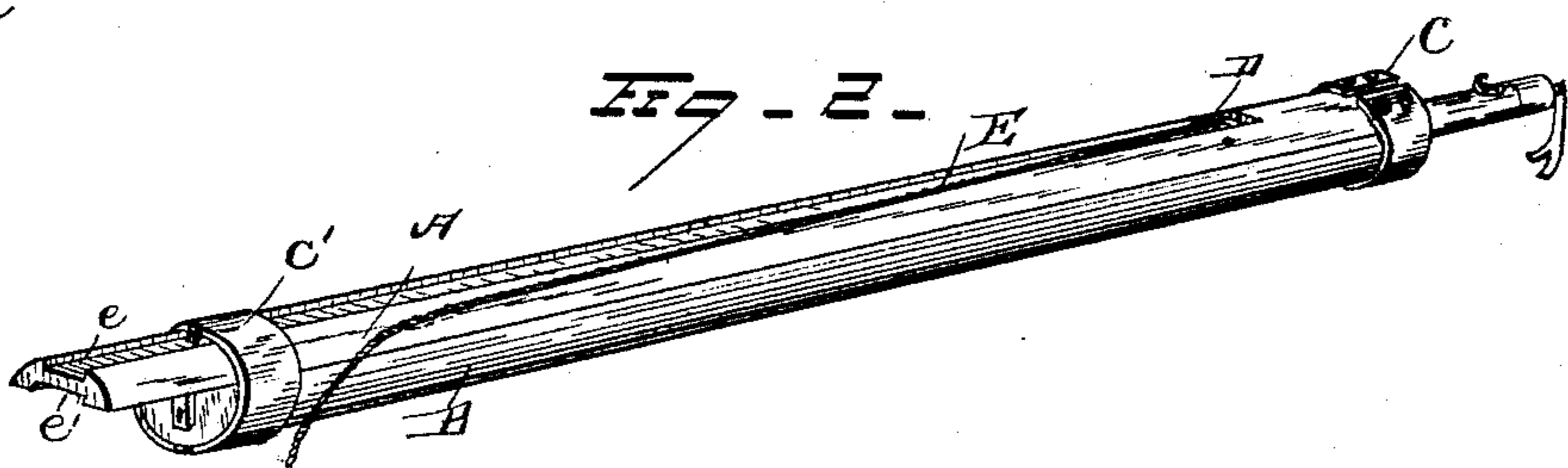
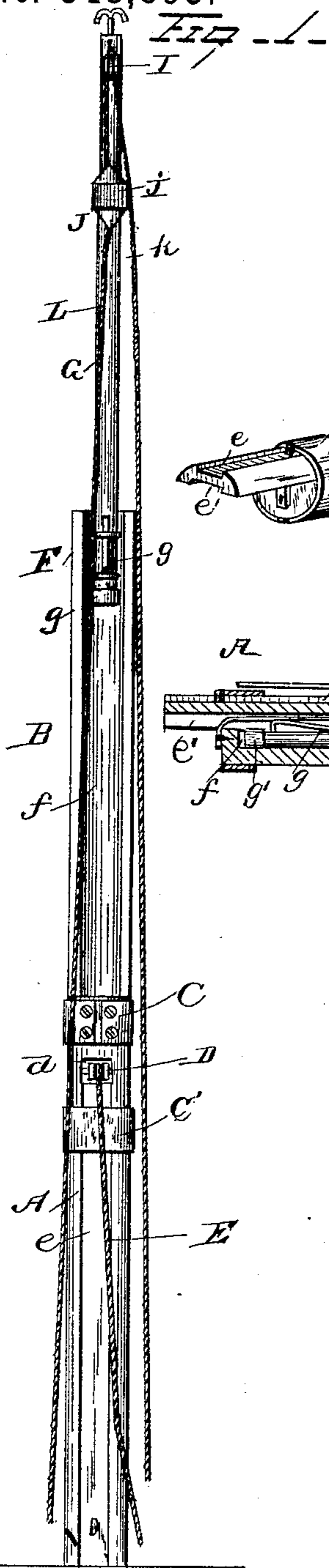
(No Model.)

F. E. DAVIS.

FIRE ESCAPE.

No. 348,895.

Patented Sept. 7, 1886.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK ELWIN DAVIS, OF CHARLESTOWN, NEW HAMPSHIRE, ASSIGNOR OF
ONE-HALF TO WILLIAM WALLACE HARRIS, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 348,895, dated September 7, 1886.

Application filed April 17, 1886. Serial No. 199,222. (No model.)

To all whom it may concern:

Be it known that I, FRANK ELWIN DAVIS, a citizen of the United States, residing at Charlestown, in the county of Sullivan and State of New Hampshire, have invented a new and useful Improvement in Fire-Escapes, of which the following is a specification.

My invention relates to improvements in fire-escapes; and it consists of the peculiar and novel construction and combination of parts, substantially as hereinafter fully set forth, and specifically pointed out in the claims.

The object of my invention is to provide a fire-escape apparatus which can be quickly and easily adjusted for use to enable a fireman or other person to enter the elevated stories of a burning building; to provide means which can be quickly and securely folded together in a compact manner for transportation or storage; to provide means that can be elevated and lowered to carry persons from the building to the ground, and to provide an apparatus of the class named which shall be simple and strong in construction, effective in operation, and comparatively cheap of manufacture.

In the accompanying drawings, Figure 1 is a view showing my improved fire-escape apparatus adjusted for use. Fig. 2 is a perspective view of the apparatus folded for transportation or storage. Fig. 3 is a longitudinal sectional view of the apparatus in its folded condition shown in Fig. 2. Fig. 4 is a transverse sectional view on the line *xx* of Fig. 3. Fig. 5 is a detached detail view. Fig. 6 is the top of the standard with the car attached.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A and B designate the longitudinally-sliding sections which are adapted to be folded together or to be extended for use. The section A is provided at one end with a metallic strap or band, C, that is rigidly secured thereto by bolts or otherwise, and the opposite end of the fellow section, B, is provided with a similar band or strap, C', suitably secured thereto. These bands or straps are carried by the sections to which they are secured, and they encompass the section that lies against their support, and these straps

serve as guides to the sections in their longitudinally-sliding movements, and to normally hold and retain them together in position for instant use. The section A is made slightly longer than the section B, and the lower end of said section A is adapted to rest on the ground or in a base or other suitable support when the apparatus is unfolded and adjusted for use. The section A is further provided at or near its upper end with a sheave or guide pulley or roller, D, which is located or arranged in a slot, *d*, formed in the section A, and the shaft or trunnions of the roller or sheave is journaled in the walls of the slot or in suitable bearings provided therefor. On its outer and inner faces the section A is provided with longitudinal grooves *e e'*, that are cut or formed therein, and in these grooves work and is guided an operating cord or rope, E, that passes through the slot *d*, and over the sheave or roller therein, and thence down the groove *e'* to the lower end of the sliding section B, where one end of the rope is rigidly and permanently secured. It will thus be seen that when the sections are folded together and it is desired to unfold them, it is only necessary to draw upon the free end of the elevating cord or rope E, which will pass through the grooves and over the sheaves and force the section B upwardly, all the strain on the rope being exerted on the lower end of the section B, and the straps serving to guide the same in its elevation. The sliding section B is provided on its inner face with a longitudinal channel or groove, *f*, and at its upper end with fixed or stationary keepers or guides F, that are rigidly secured thereto and carried thereby.

A designates a standard, which is adapted to be inclosed snugly within the longitudinal groove or channel *f* without interfering in any manner with the sliding movement of the section B. When the sections are folded together, the standard lies snugly within the groove or channel *f* and between the opposing faces of the grooves in the sections, and the lower end of the standard is provided with a spring latch or catch, *g*, that is adapted to engage with the keepers F, when the standard is withdrawn from the section B, the spring-

catch automatically engaging with the keepers to securely retain the standard on the section B. The lower end of the standard is further provided with an enlarged head or collar, *g'*, that takes against the lower one of the keepers, *F*, to prevent the standard from being wholly withdrawn from the section B, and the spring latch or catch prevents the retrograde movement of the standard within the section B when the weight and strain of a person is brought thereon. The free upper end of the extensible standard carries a hook or claw, *h*, that is adapted to take over or engage with a window sill or frame and the eaves or other part of a burning building, to steady the apparatus, and said standard is further provided with a double pulley-block, *I*, that is suitably secured thereto.

When the apparatus is adjusted for use, the standard *G* is first withdrawn by hand from the sections until its catch engages the keepers, after which the apparatus is elevated or turned to an upright position, and the rope *E* drawn upon to elevate the section B and the standard *G*, and the catch of the said standard is first released from the keepers by hand before the sections are drawn or closed together in closing or folding the apparatus for transportation.

J designates a car for the safe elevation of firemen or others into the building, or for the descent of the occupants thereof, and this car is provided with a straight elevated back, *j*, to which the lower ends of the operating-ropes *k* are permanently secured. These ropes pass over the double pulley-block *I* on the extensible standard, and then lead to the ground, and to the bottom or other suitable part of the car are rigidly and permanently secured guy-ropes *L*, that serve to guide the car, and which lead to the ground, so that they can be very conveniently manipulated.

If desired, the sliding section B can be provided with a car, and the rigging for operating the same to rescue persons from stories that lie lower than the upper end of the extensible standard, and the claw or hook thereof is hinged or pivoted so that it can be folded down against the standard.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the drawings.

I do not confine myself to the exact details of construction and form and proportions of parts herein shown and described as an embodiment of my invention.

The hook or claw that connects or engages with the window-sill or eaves of the building may be provided with the support for the car, so that the hook will support the weight and the strain of the car and its contents, and thus relieve the standard of the considerable strain, and it is obvious that the car can be elevated or lowered without extending the standard from the sliding sections, and while it yet remains inclosed within the latter.

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

1. The combination of the section A, having the sheave or roller, the sliding section B, having the longitudinal groove or channel and the keepers, the cord or rope connected to the section B and passing over the sheave, and the extensible standard carrying the car, and the spring latch or catch adapted to engage with the keepers, substantially as described.

2. In a fire-escape apparatus, the combination of the section A, having the pulley or sheave and the grooves *e e'*, the section B, having the channel *f* and the keepers, the rope connected to the section B and passing over the sheave of the section A, the guide-straps carried by the sections, the extensible standard having the spring latch or catch, the claw or hook, and the pulley *I*, the car having the guy-ropes, and the elevating-ropes connected to the car and passing over the pulley *I*, substantially as described, for the purpose set forth.

3. In a fire-escape, the combination of a section, A, having a longitudinal groove on its inner face and a roller or sheave near its upper end, a sliding section, B, bearing against the fellow section, the bands secured to opposite ends of both sections for keeping them together, the elevating-rope secured to the lower end of the section B and passing between the sections through the longitudinal groove of the section A and over the sheave or roller thereof, a car, and ropes for moving it vertically, substantially as described, for the purpose set forth.

4. In a fire-escape, the combination of a section, A, a sliding section, and a rope for elevating the sliding section, an extensible standard, and a catch for locking the said standard to the sliding section when it is extended beyond the same, substantially as described.

5. In a fire-escape, the combination, with a section, A, a sliding section, and a rope for elevating the sliding section, of the keepers secured to the sliding section, an extensible standard fitted in the keepers and carrying a spring-catch at its lower end to engage the keepers and lock the standard against vertical displacement, a car, and elevating ropes therefor, substantially as described.

6. In a fire-escape, the combination of a section, A, a sliding section, B, having the longitudinal groove or recess on its inner face, a rope for elevating the sliding section at its upper end, an extensible standard fitted in the groove of the sliding section and the keeper, a spring-catch carried by the standard to engage the keepers, a car, and an elevating-rope therefor, substantially as described.

7. In a fire-escape, the combination of a section, A, having a roller or sheave, a sliding section, B, an elevating-rope connected to the

lower end of the sliding section and passing
over the sheave or roller of the section A, the
bands inclosing the sections, an extensible
standard adapted to be inclosed within or with-
5 drawn from the sections, a catch for holding
the standard from retrograde movement when
extended beyond the sections, a swinging claw
carried by the standard, a car, and a rope
therefor, substantially as described, for the
10 purpose set forth.

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

FRANK ELWIN DAVIS.

Witnesses:

GEORGE OLCOTT,
HERBERT W. BOND.