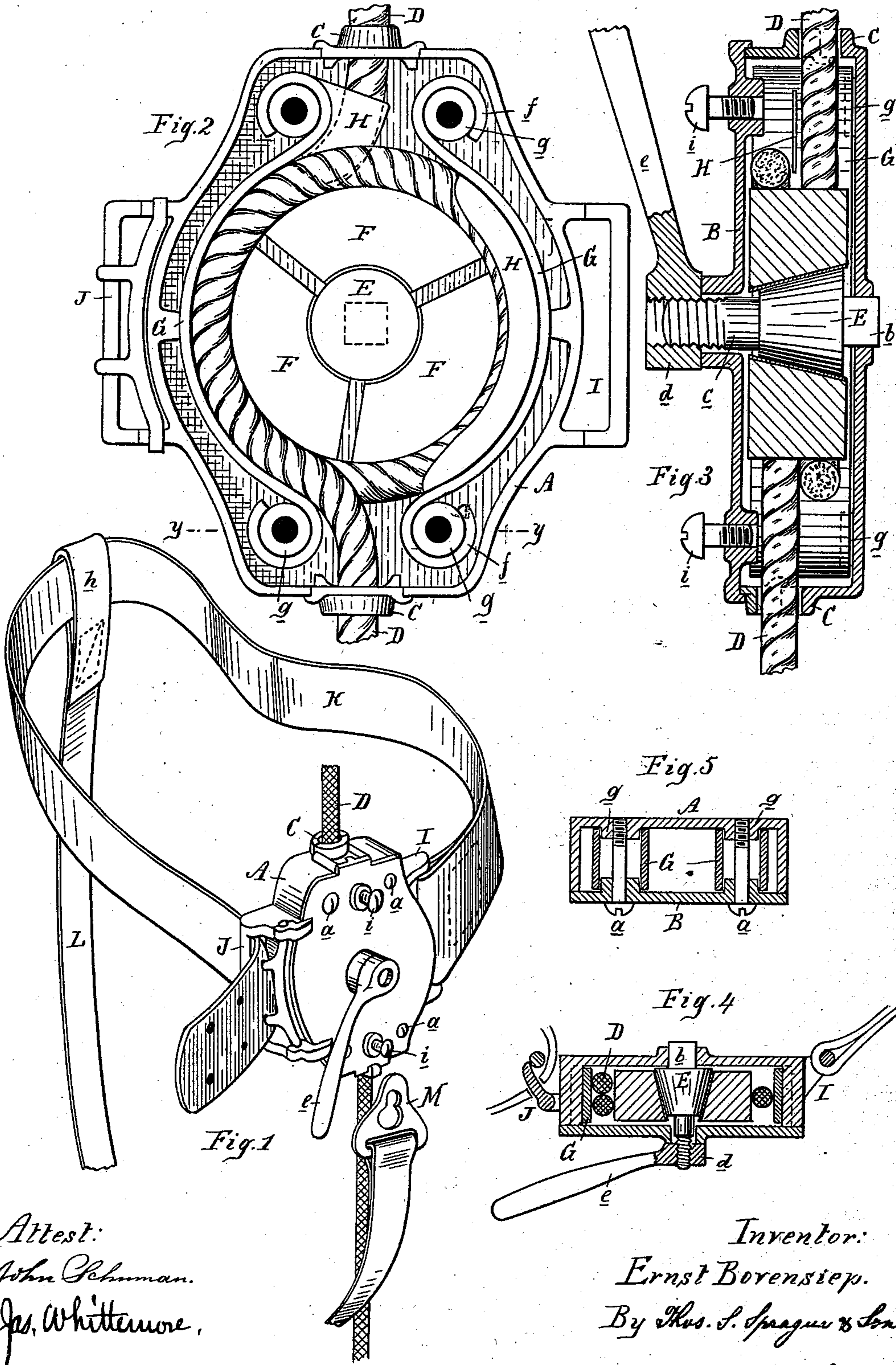


(No Model.)

E. BOVENSIEP.
FIRE ESCAPE.

No. 380,173.

Patented Mar. 27, 1888.



Attest:
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UNITED STATES PATENT OFFICE.

ERNST BOVENSIEP, OF DETROIT, MICHIGAN.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 380,173, dated March 27, 1888.

Application filed January 19, 1888. Serial No. 261,259. (No model.)

To all whom it may concern:

Be it known that I, ERNST BOVENSIEP, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in fire-escapes; and the invention consists in the peculiar arrangement, construction, and combination of the different parts, all as more fully hereinafter described.

In the drawings which accompany this specification, Figure 1 is a perspective view of the device complete for use. Fig. 2 is an elevation with the front plate removed. Fig. 3 is a central vertical cross-section. Fig. 4 is a central horizontal cross-section. Fig. 5 is a section on line *y y* in Fig. 2.

A is the casing.

B is the front plate of the casing, removably secured thereto by means of the screws or bolts *a*.

C C are openings formed in the top and bottom of the casing for the rope D to run through.

E is a conical plug, centrally supported in the case at one end by a squared bearing, *b*, and at the front end by the bearing *c*, which is provided with screw-threads, which engage the screw-nut *d*, actuated by the hand-lever *e*.

F is a pulley loosely fitting the conical plug and radially divided into segments. It is preferably made of wood with metal bearings on the conical plug.

G are segmental circular abutments stationarily secured within the case concentric with the segmentally-divided pulley F. To this end the abutments are preferably of metal, with the ends bent to form eyes *f*, which engage upon bosses *g*, formed upon the inside of the case.

H are flanges formed on the abutments to guide the rope, which is supposed to run loosely around the pulley F, except when the segments are expanded by means of the conical plug E.

The case A is provided on one side with the loop I and on the other side with a buckle, J, and K is a strap secured at one end to the

loop I and adapted to be adjustably engaged with its free end to the buckle J.

L is a crotch-strap secured by a loop, *h*, to the strap K, and terminating at its free end in a hook adapted to be engaged with either one of the buttons, *i*, provided for it on the face of the case.

In practice, the parts being constructed and arranged as described, the device is intended to operate as a means of escape in case of fire as follows: The rope D, as shown in the drawings, passes in through the top and around the pulley F and then out through the bottom. It is supposed to be of sufficient length to reach from an elevated position to the ground. The operator secures one end of the rope firmly to a convenient support—such as a railing, window-sash, or other object—and lets the other end trail to the ground. Now, by means of the waist band or strap K and the strap L, which is passed between the legs and hooked to the lower one of the buttons *i*, the operator secures the device on his breast, and after turning the handle *e* so as to expand the segments of the pulley sufficiently to clamp the rope firmly between the face of the pulley and the abutments G, he trusts himself to the rope. As long as the rope remains firmly clamped the operator will keep suspended in the air; but as soon as he turns the handle *e* in the reverse direction the rope can be made to run more or less freely through the device under the control of the operator, who thereby guides his descent to the ground.

The device, as will be seen, is made reversible, so that in case of repeated use no time may be lost. All that need be done is to reverse the rope.

The whole device, with the exception of the pulley, if desired, is preferably made of metal, which makes it amply strong to support the weight of a man and permits of making it of small size convenient to be carried around in the trunk of the traveler.

What I claim as my invention is—

1. In a fire-escape, the combination of the case and securing-straps, the conical plug slidably secured in the case, the segmentally-divided rope-pulley sleeved thereon, the stationary abutments concentric with the rope-pul-

ley, the rope passing through the case and around the rope-pulley, and the lever having a screw-thread engagement with the conical plug, all arranged to operate substantially as described.

2. In a fire-escape, the combination, with the case, the rope passing through the case, the rope friction device, consisting, essentially, of an expansible pulley and an expander, substantially as described, the controlling-handle thereof, the loop provided on one side of the case, the buckle provided on the opposite side, the waist-strap, the hook on the crotch-strap, and the buttons on the case for engaging therewith, all substantially as described.

3. In a fire-escape, the combination, with

the case, of the conical plug E, slidingly secured therein, the handle e, screw-threaded thereon, the segmentally-divided pulley F, sleeved thereon, the abutments G, concentrically secured to the rope-pulley, the loop I and buckle J, secured to the case, the waist-strap K, crotch-strap L, and the rope D, all combined substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 28th day of December, 1887.

ERNST BOVENSIEP.

Witnesses:

JAS. WHITTEMORE,
ADOLPH BARTHEL.