

(No Model.)

2 Sheets—Sheet 1.

F. M. QUINN.
FIRE ESCAPE.

No. 547,450.

Patented Oct. 8, 1895.

FIG. 1.

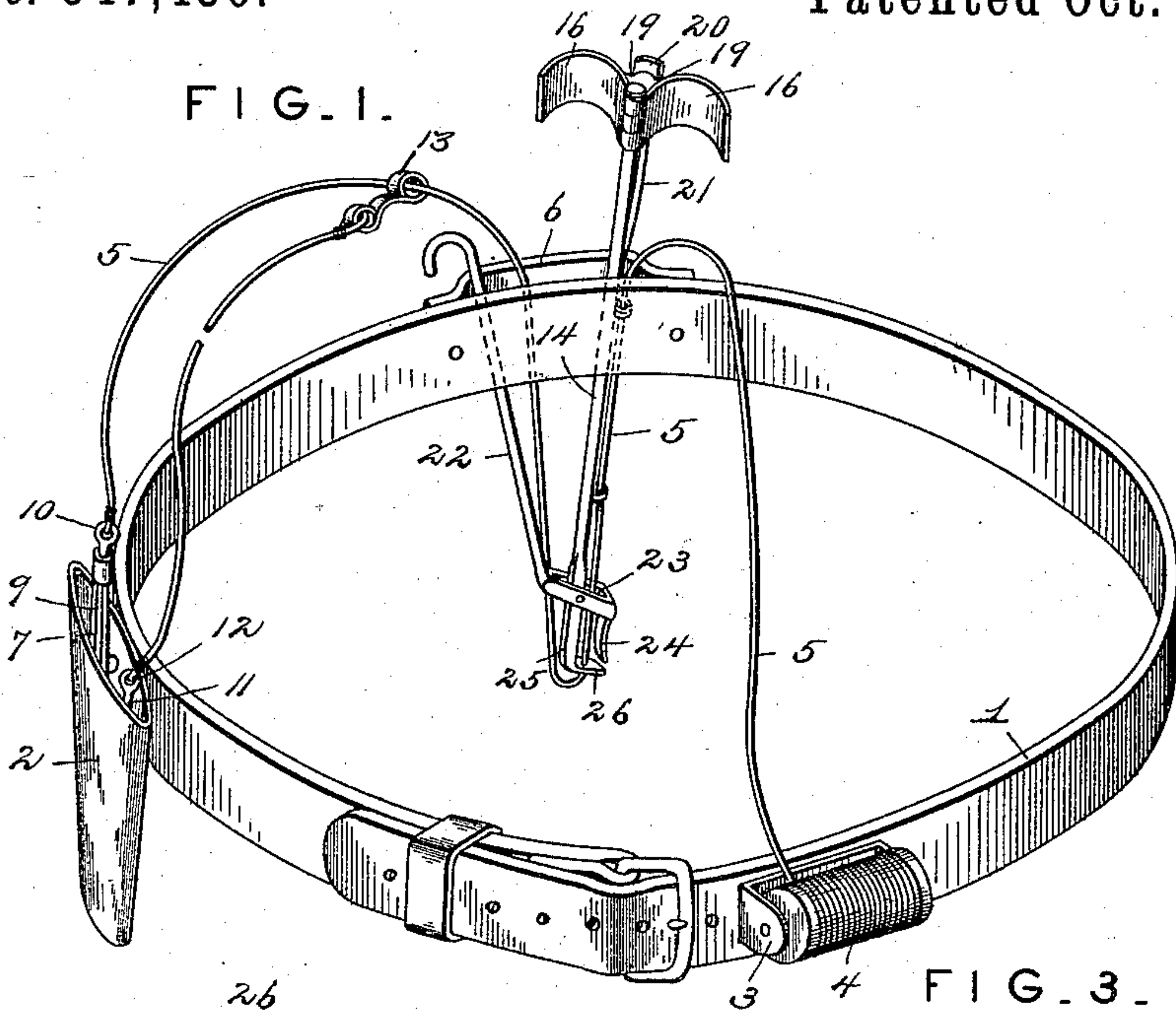


FIG. 3.

FIG. 2.

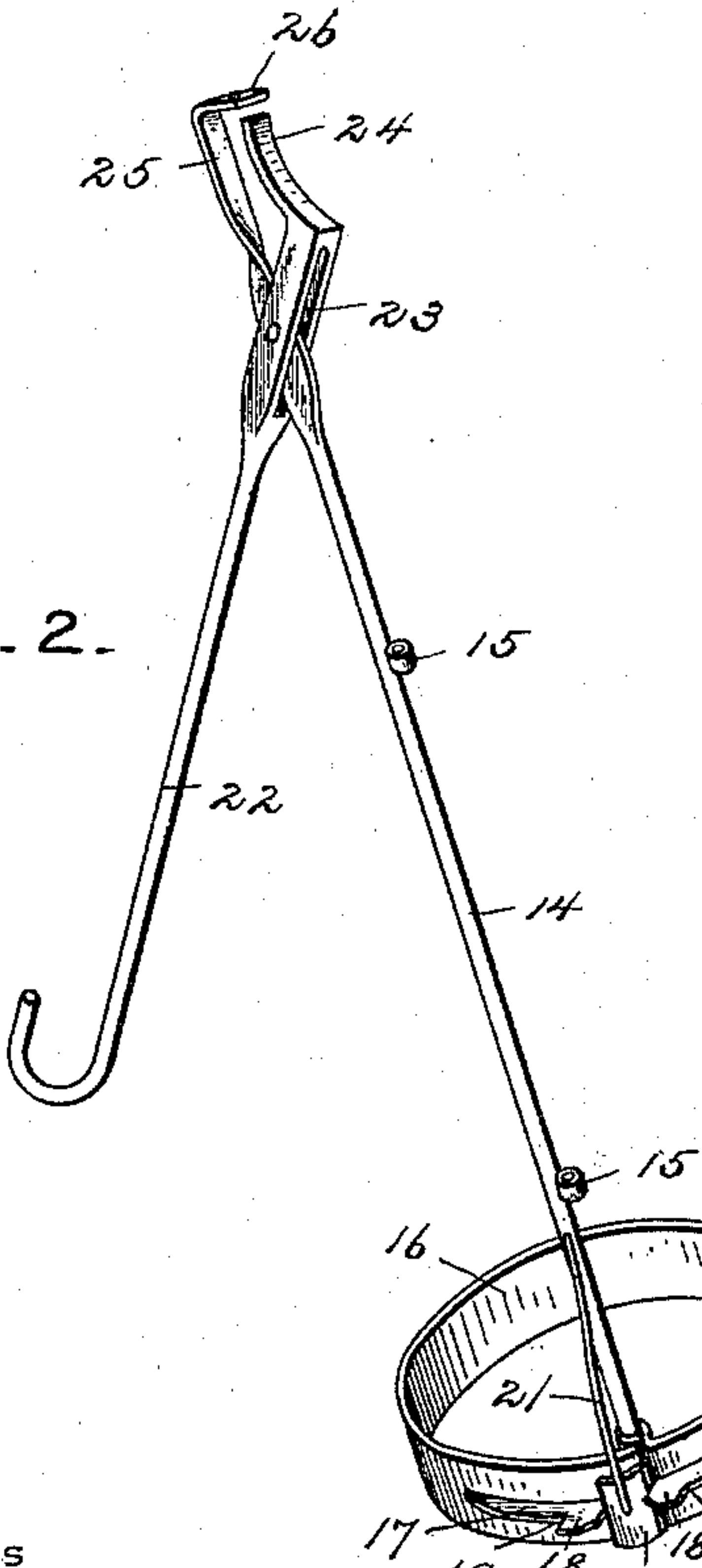
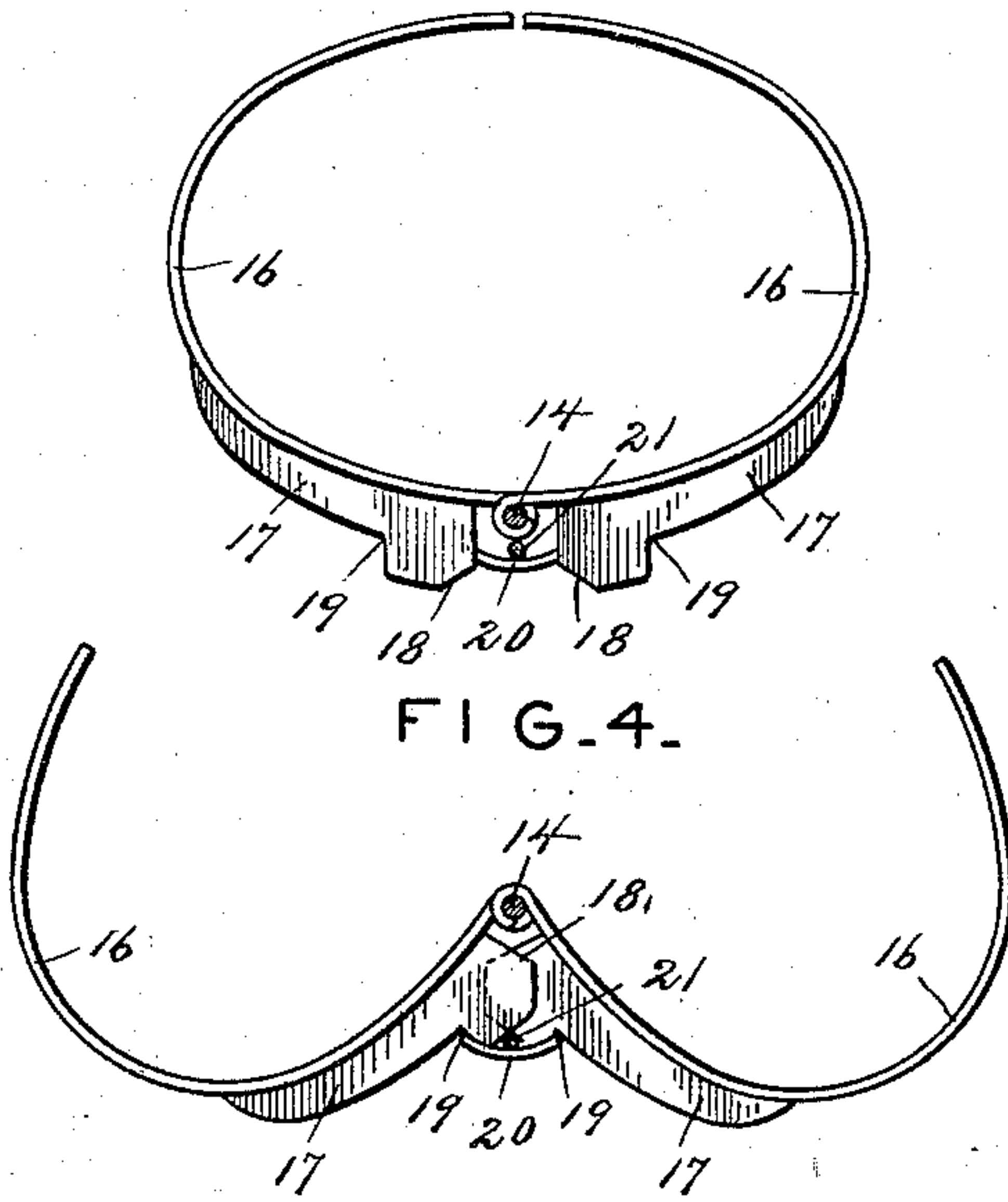


FIG. 4.



Witnesses

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FIG. 8.

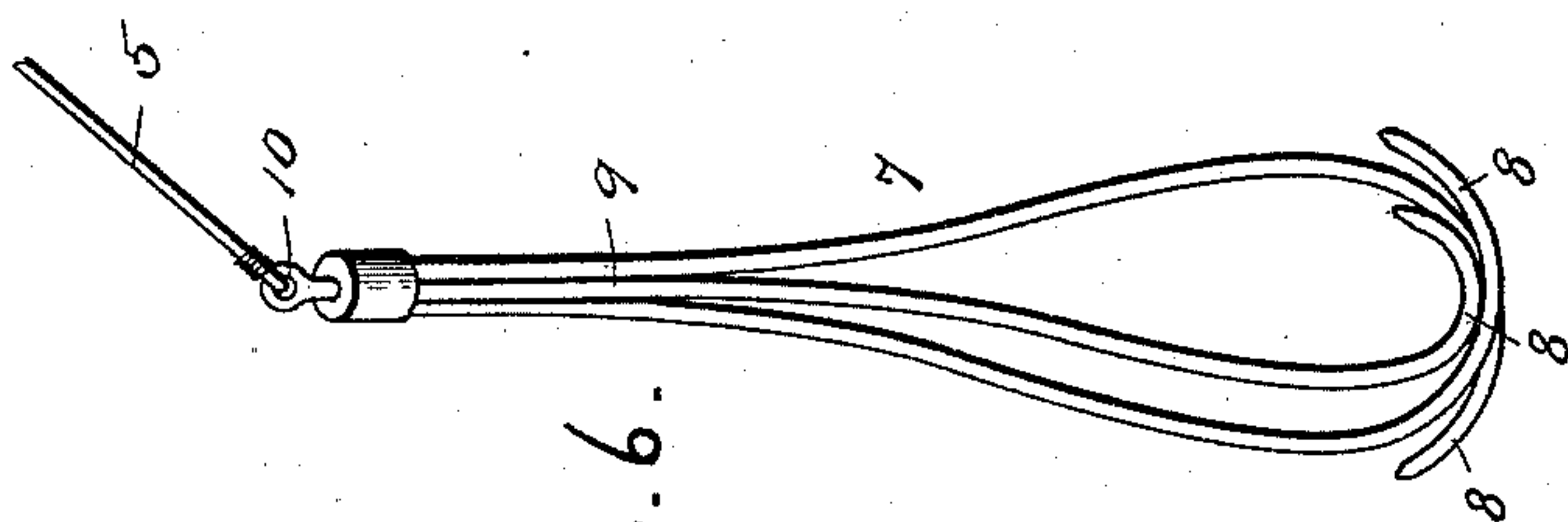
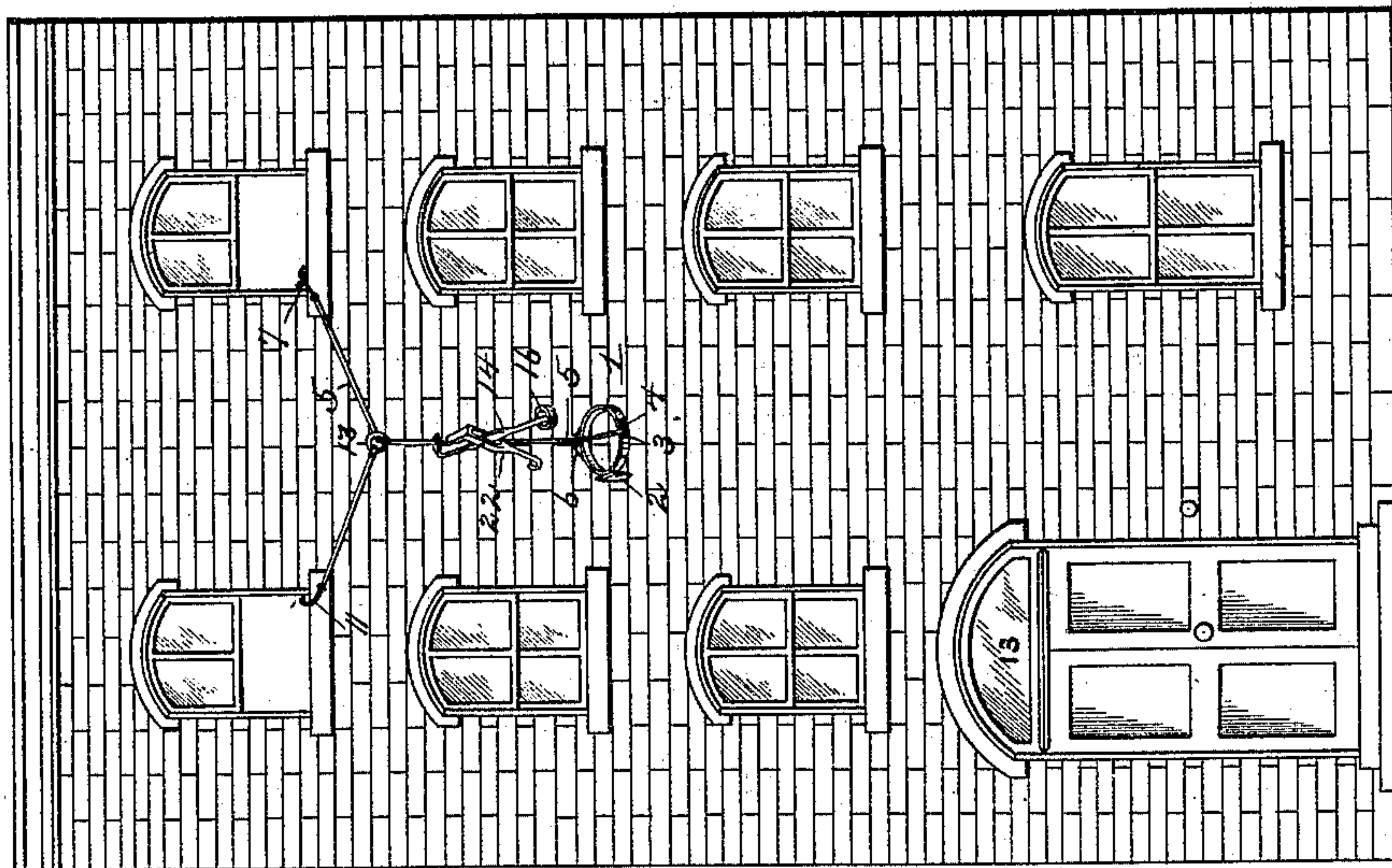


FIG. 6.

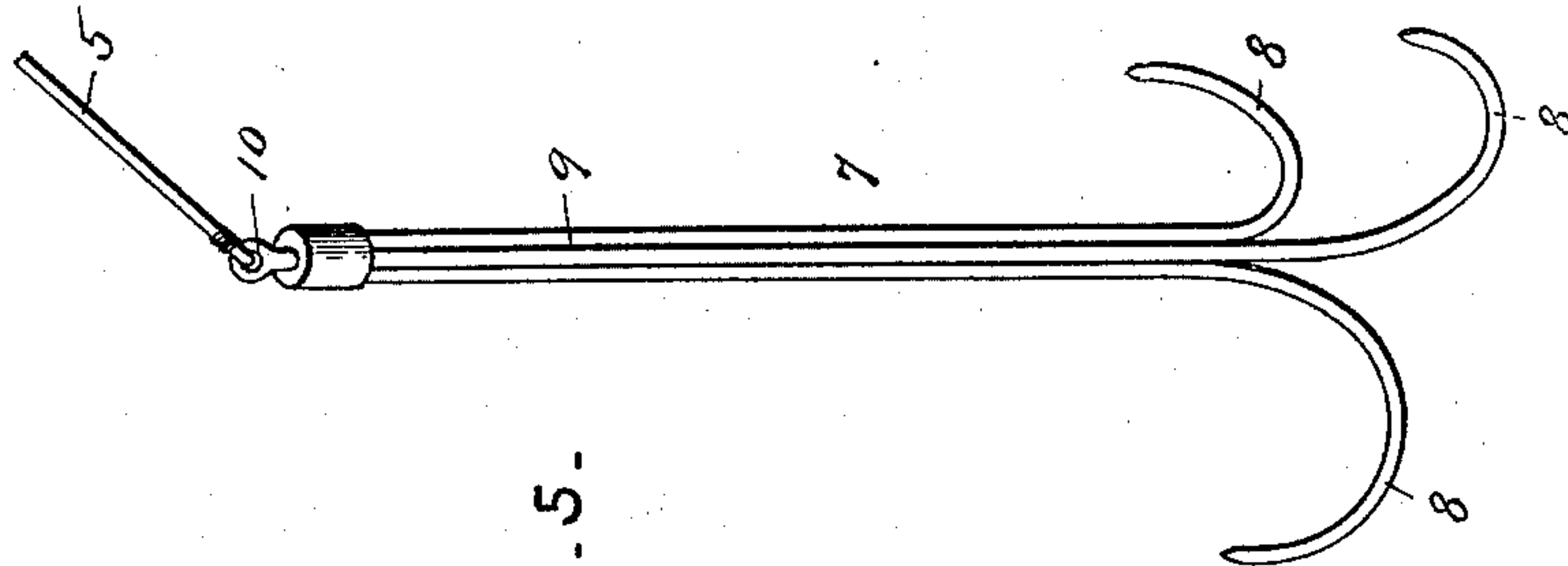
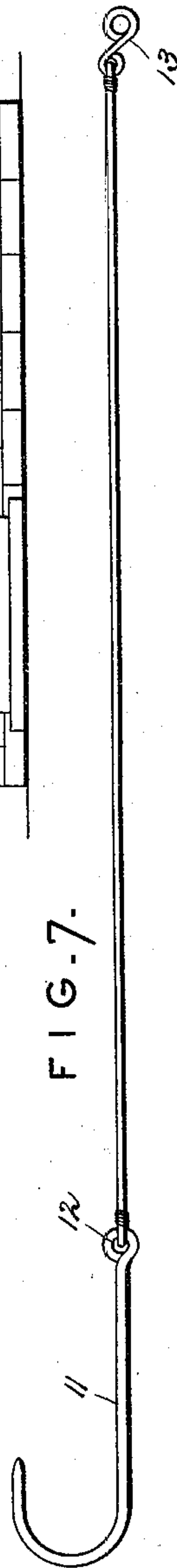


FIG. 5.

FIG. 7.



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UNITED STATES PATENT OFFICE.

FRANCIS M. QUINN, OF ASTORIA, OREGON.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 547,450, dated October 8, 1895.

Application filed April 15, 1895. Serial No. 545,767. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS M. QUINN, a citizen of the United States, residing at Astoria, in the county of Clatsop and State of Oregon, have invented a new and useful Fire-Escape, of which the following is a specification.

This invention relates to an improvement in fire-escapes.

The object of the present invention is to provide a simple and inexpensive form and construction of portable fire-escape, which is adapted to be attached to and carried upon the person, which will be capable of rapid and easy manipulation, which will be efficient and safe in practice, and which will possess other advantages which will appear in the subjoined description.

To this end the invention consists in certain features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of the complete fire-escape apparatus, showing the supporting-belt, by means of which the different parts of the apparatus are carried upon the person. Fig. 2 is an enlarged detail perspective view of the hand grasp or rod, the brake-lever, and the spring-actuated wrist cuff or collar for supporting the hand of the operator. Fig. 3 is a horizontal section through the hand-rod, showing the hinged wrist-cuffs closed. Fig. 4 is a similar view with the parts shown open. Fig. 5 is a detail perspective view of the grapple-iron in operative condition. Fig. 6 is a similar view of the grapple-iron with the flukes thereof thrown inward for transportation. Fig. 7 is a detail view of the single hook, showing also the wire and eyepiece carried thereby. Fig. 8 illustrates the manner in which the improved apparatus is utilized in practice.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 designates a suitable stout leather belt provided with the usual buckle and perforations, by means of which the same may be secured around the waist of the wearer. To the outer face of

this belt, preferably at a point adjacent to the right hip of the wearer, is secured a metal sheath 2, of any suitable size and shape, for the reception of the grapple-iron and single hook to be hereinafter described. The object of the metal sheath is to cover the pointed flukes of the grapple-iron and the single hook to prevent injury to the hands or person of the wearer while the apparatus is being carried from place to place. The belt 1 is also provided in front with a metallic bracket or spool-holder 3, which may be secured thereto in any usual or preferred manner, in which is pivotally mounted a spool 4, having wound thereon a piece of soft wire 5 of any desired length, preferably of sufficient length to reach to the top of a five or six story building, though the wire may be made longer or shorter, as desired. The belt is further provided at the back with a loop or pocket 6 for the reception of the wire-gripping device, which may thus be located in a position where it will be out of the way and not interfere with the work of the fireman or other party upon whose person the apparatus is carried.

To the end of the wire 5, contained on the spool 4, is attached a grapple 7, which is preferably made from heavy spring-wire and composed of three similar sections, each provided at its lower end with a pointed hook or fluke 8, extending outwardly from the main body of the grapple. These three sections are preferably formed with long shanks 9, which are connected only at one end, where they are provided with an eye 10, by means of which the grapple as a whole is secured to the end of the wire or cable 5. The lower hooked ends of the grapple-section are left free or independent for the purpose of adapting them to be folded or forced inward, as indicated in Fig. 6, for adapting the grapple to be inserted into the sheath 2.

11 indicates an ordinary single hook, of any desired size and shape, provided at one end with an eye or loop 12, from which a piece of wire about three or four feet long extends to and is connected with a loop or eye 13, through which passes the main wire 5.

The wire-gripping device, which will now be described, is placed upon the wire 5 between the eye 13 and the spool around which said wire is wound. The gripping device con-

sists of a stout metal rod 14, to which is secured at suitable intervals several guiding-eyes 15, through which the wire 5 is passed. Upon the lower end of the rod 14 are pivoted
 5 two similar and substantially-semicircular cuff-sections 16, which are adapted when closed to snugly embrace the wrist of the operator and to support his hand for a purpose that will appear. The cuff-sections 16 may
 10 be made of metal and internally lined or entirely covered with leather for protecting the wrist of the wearer. The cuff-sections are provided upon their outer faces adjacent to their hinge with outwardly-extending horizontal flanges 17, and said flanges are beveled
 15 off or inclined at 18, and also notched, as indicated at 19, adapting them to be acted upon by a spring-actuated latch 20 on one end of a spring-arm 21, secured at its opposite end
 20 to the rod 14. When the cuff-sections are thrown open, as indicated in Fig. 4, the spring-actuated latch 20 will engage the notches 19 and hold said sections opened, and in the same manner, when the cuff-sections are
 25 closed around the wrist of the wearer, the spring-actuated latch 20 will rest between the adjacent edges of the horizontal flanges 17, thereby locking said sections upon the wearer's wrist, and prevent said sections from accidentally opening. The hand of the operator being thus firmly supported with relation
 30 to the rod 14, he is enabled to reach and grasp with his fingers the lower hooked end of a grip-lever 22, slotted at its upper end, as indicated at 23, to straddle the rod 14, to which it is pivoted, as shown. Beyond or above its pivotal connection with the rod 14 the grip-lever is provided with a shoe 24, which operates in connection with a flat surface or fixed
 35 jaw 25 at the upper end of the rod 14 to grip the wire 5 after it has passed through a perforation in the upper hooked extremity 26 of the rod 14.

In operation, the complete apparatus being
 45 strapped around the waist and supported in place by means of the belt 1 the operator takes the three-fluked grapple from the sheath and, drawing out a sufficient length of wire from the spool fastened to the front of the
 50 belt, he steps upon the sill of the window or door of the room in which he is confined and throws said grapple through an adjacent window, after which, by drawing carefully and slowly upon the wire 5, the grapple is
 55 caused to engage the sill or framework of the window through which it is thrown. The operator now engages the single hook 11 with the sill of the window or door in which he stands, and then, securing the cuff at the
 60 lower end of the rod 14 of the gripping device securely around his wrist and gripping the wire 5 by means of the gripping-lever 22, he lowers himself from the window, when, by the aid of said gripping device, he is enabled
 65 to lower himself at any desired speed to the ground, the wire 5 unwinding from the spool at the front of the belt during the descent.

By means of the single hook 11 and its wire and guiding-eye 13 the operator is enabled to lower himself between the vertical rows of
 70 windows through which the flames and smoke may be finding their egress.

The device above described is simple and inexpensive in construction, is compact, and capable of easy and rapid manipulation. It
 75 is adapted for use by firemen, travelers, &c., and, being carried upon the body without inconvenience, it is always ready for instant use.

It will be apparent that changes in the form, 80 proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what 85 is claimed as new, and desired to be secured by Letters Patent, is—

1. In a fire escape apparatus, a belt or strap adapted to pass around the waist of the wearer and provided with a metal sheath or pocket
 90 adapted to receive and cover the pointed extremities of the grappling iron or hook, and a spool of wire secured to said belt, in combination with a grappling iron or hook secured to one end of said wire, a hand rod mounted
 95 on said wire, and a gripping lever pivoted to said hand rod, and co-operating therewith to grip the wire, all of said parts being attached to and carried by said belt, substantially as shown and described. 100

2. In a portable fire escape apparatus, a belt adapted to be applied to the wearer, and a spool of wire mounted in a bracket or holder secured to said belt, in combination with a
 105 grappling hook provided with several flukes, and secured to one end of said wire, a hand rod provided with eyes for the reception of said wire, a wrist clasp cuff or collar secured to the lower end of said hand rod, and a gripping lever and shoe hinged to said hand
 110 rod and adapted to operate, in the manner and substantially as described. 115

3. In a portable fire escape apparatus, the combination with a waist band or belt, of a spool of wire mounted in bearings in a bracket
 115 or holder secured to said belt, a grappling hook secured to one end of said wire and provided with several flukes, an independent single hook provided with a guiding eye, and an interposed section of wire connected as described with the main wire, and a wire gripping device comprising a hand rod, a pivoted
 120 gripping lever and shoe hinged thereto, guiding eyes for directing the main wire, and a wrist clasp cuff or collar for supporting the hand of the operator and leaving his fingers free to manipulate the gripping lever, substantially as specified. 125

4. In a fire-escape apparatus, the combination with the main supporting wire, and the
 130 hand gripping device for engaging the same, of a triplex grappling hook comprising three similar members made from spring material, the shanks of which are joined together at

one end and extended from thence in parallelism but left free or disconnected, the opposite or free ends of said shank being deflected to form curved hooks or flukes, the grappling hook, as a whole, being adapted to be folded, substantially in the manner and for the purpose specified.

5. In a portable fire escape apparatus, a gripping device for engaging the supporting wire, comprising a hand rod, a gripping lever hinged thereto, and adapted to co-operate with said hand rod for gripping the supporting wire, a wrist cuff made in two substantially semicircular sections pivoted to the hand rod, and a spring actuated latch for holding said cuff sections closed or opened, substantially in the manner specified.

6. In a portable fire escape apparatus, a gripping device for engaging the supporting wire, comprising a hand rod provided with

suitable eyes through which the supporting wire is adapted to pass, a gripping lever hinged to said hand rod and co-operating therewith to grip said supporting wire, a wrist cuff for supporting the hand of the operator made in two similar and substantially semicircular sections hinged to said hand rod and provided with corresponding horizontally extending flanges, and a spring actuated latch operating in connection with said flanges and notches for locking said sections in open or closed position, substantially as specified.

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

FRANCIS M. QUINN.

Witnesses:

F. I. DUNBAR,

H. Q. SMITH.