(No Model.)

G. W. ROOT.

FIRE ESCAPE.

No. 541,120. Patented June 18, 1895.

Fig. 2.

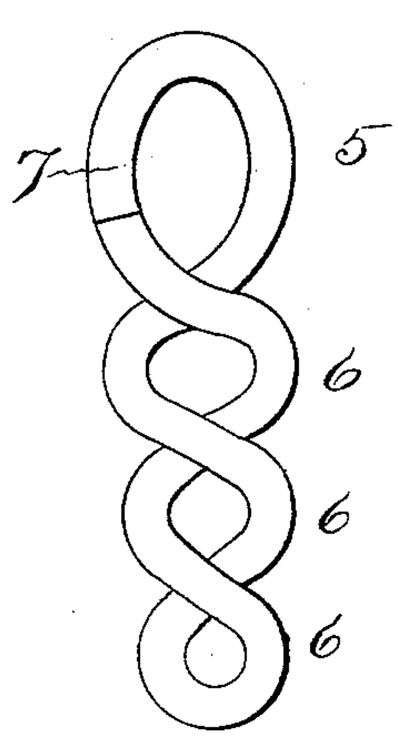


Fig. 1.

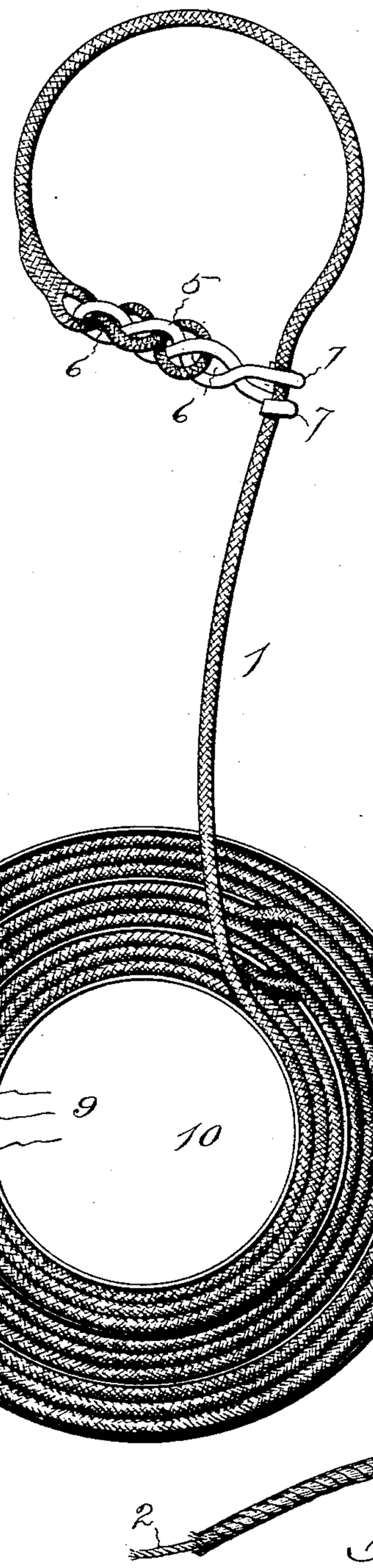
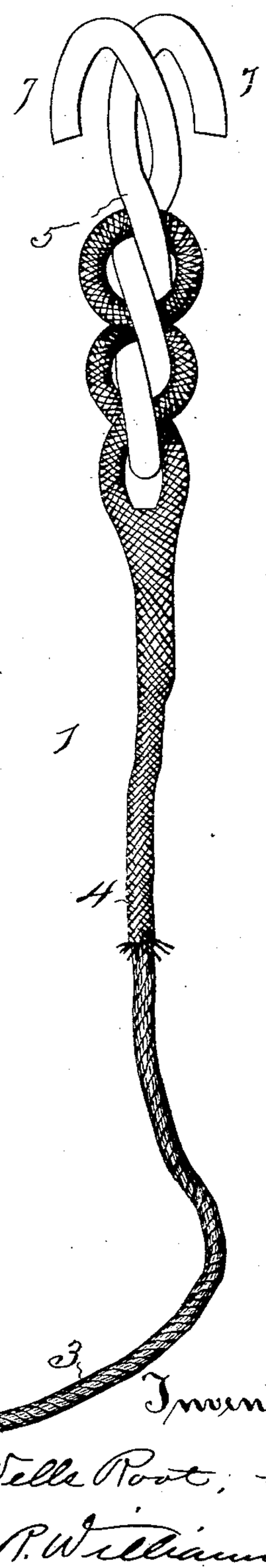


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE WELLS ROOT, OF HARTFORD, CONNECTICUT.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 541,120, dated June 18, 1895.

Application filed April 11, 1895. Serial No. 545,313. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WELLS ROOT, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

The invention relates to the class of portable fire escapes, and the object is to provide an efficient article of this class which will occupy but little space, which will be light in weight, which will resist fire, which will be simple to use and not liable to become inoperative in an emergency, and which will be cheap, durable and strong, whereby it may be conveniently carried from place to place and kept at hand for instant use in assisting persons to descend from elevated places.

Referring to the accompanying drawings, Figure 1 is a plan view of the case with the cover removed, showing the cord looped through the hook. Fig. 2 is a view of the hook, natural size; and Fig. 3 is another view of the same hook with a piece of the cord rove through the eyes of the shank of the hook.

In the views 1 indicates the cord, which is usually somewhat longer than the distance from the elevation at which it is to be utilized to the ground. The cord may be made in lengths of fifty, seventy-five or one hundred feet, according to the desire of the purchaser of the fire escape. This cord is formed of a central core 2 of cotton or other soft string, about which is closely wound strands 3 formed of a number of fine but strong steel wires tightly twisted together. This forms an interior for the cord which is small in cross section, very flexible and exceedingly strong and which flame will not quickly weaken or destroy. Over this interior a covering 4 of cotton or other threads is braided by any common means in such manner as to add strength to the interior and also protect the wires of the core from rust and corrosion without materially stiffening or adding to the weight of the cord. Rubbed into this braided covering is what may be called a resistance powder, which may contain rosin or the like that will add resistance to the movement of the hands along the cord and aid the hands in obtaining a tight grasp. This resistance powder, besides reducing the liability of the slipping of the hands on the cord, will also aid in keeping the interior from the attacks of moisture.

The hook 5 is formed of a hard and strong piece of metal, usually a steel rod, which is doubled, twisted and bent so as to have a shank with three closed eyes 6 and two open eyes, loops or hooks 7 at the end. These open eyes or hooks 7 are preferably turned or bent back in such manner as to open on opposite sides of the hook and they lie parallel with a little space between them. With this shape, when looking at the hook flatwise as shown in Fig. 2, the end hooks appear to form a single closed loop, while looking edgewise, as in Fig. 1 shows that the hooks are separated and lie approximately parallel with each other. The end of the cord is rove back and forth through the eyes of the shank of this hook and turned back on itself, then fastened by weaving or braiding over the end the threads that form the soft exterior covering of the cord.

The case 8 is a circular box, preferably formed of tin or other thin, light sheet metal, with a removable lid or cover. This case has in the interior circular divisions 9 around and between which the cord can be easily coiled so that it will occupy but a very small space and run out when desired for use without kinking, the hook end of course lying on the top side of the coils and being free. In the center of the case is a space 10 in which are to be placed a pair of mittens, mitts or gloves provided with a piece of leather, that may be readily slipped upon the hands of the user of the device to prevent cutting or abrading the flesh when an attempt is made to pass down the cord. The hook is also laid in this central space when the case is closed for transportation. This form of hook is very strong, being bent or twisted from a stiff steel bar or rod to a shape that will withstand a heavy strain without breaking, the hooks of the size shown in Figs. 2 and 3 of the drawings having a tensile strength of more than two thousand pounds, there being no angles at which the material of the hook would readily break off. The cord is easily rove or laced through the closed eyes of this hook and the end simply fastened to prevent it from sticking out. The shape of the eyes is such that when this cord with the twisted metal core and the soft exterior cover is rove through the eyes it can-

not be pulled out, even if the end is left loose. The cord at any place along its length can be very quickly caught by the open hooks at the end so as to form a sliding loop, as shown in Fig. 1, by simply passing the cord between the parallel end hooks and then turning it first under one hook and then under the other hook. Although the hook can be made to grasp the cord at any portion of its length very quickly and simply the cord when once run through the loop of the hooks in this manner cannot of itself come out, for it is too stiff to unhook without aid and any strain brought upon the cord would be in such a direction as to prevent its pulling from the hooks.

The cord when made in the manner described is very strong, although small in cross section. The core, which is indestructible in flame, is capable of sustaining more than seven hundred and fifty pounds, while to this the exterior covering adds a tensile strength of twenty-five pounds without materially affecting the flexibility of the interior. The cord can be rolled into a small compass and will not kink and tangle when it unrolls, nor will it snap and break off when it is urgently desired for use.

The covering, which provides a soft and attractive exterior besides adding strength to the cord, protects the metal portion from rust and corrosion and affords a holder for the resistance powder which can be applied in order that the cord may be made less slippery than in its natural condition.

When it is desired to use the device in an emergency a turn of the cord may be taken around anything in a room that is handy and which will not pull through a window, such as a bedstead, sofa or trunk, and instantly fastened through the hook on the cord in the manner above described so that a loop will be formed around the article. The case may then be thrown out of the window from which it may be necessary to escape and it will, with the other end of the cord, drop to the ground. The hand protectors are placed on the hands and the person can then grasp the cord and slide down from the window to the ground. The resistance powder aids the grasp and prevents slipping too fast, and should flame blaze from a window below the exterior covering only might be burned off, leaving the cord sufficiently strong, for the interior can be subjected to flame for some time before it becomes too weak to support the weight of an individual.

The device is convenient for use in an emergency. It is exceedingly strong, durable and indestructible. It has very little weight and can be compacted in a small space so that it is portable, and can be made exceedingly cheap.

I claim as my invention—

1. A fire escape consisting of a hook having a shank that is twisted so as to form closed eyes and an end with two hooks that open on opposite sides with a space between them, a cord with its free end rove back and forth through the eyes of the shank and its other end wound within a case, said cord being formed of an interior portion composed of twisted strands of wires and an outer covering portion of braided threads, substantially as specified.

2. A fire escape consisting of a hook having a shank that is twisted so as to form closed eyes and an end with two hooks that open on opposite sides with a space between them, a cord with its free end rove back and forth through the eyes of the shank and its other end wound within a case, said cord being formed of an interior portion composed of twisted strands of wires and an outer covering portion of braided threads with a filling of resistance powder, substantially as specified.

3. A fire escape hook consisting of a shank that is twisted upon itself so as to form closed eyes with an end having two hooks or eyes that open on opposite sides with a space between these two hooks, substantially as specified.

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