

I. H. MULFORD.
Fire-Escapes.

No. 149,328.

Patented April 7, 1874.

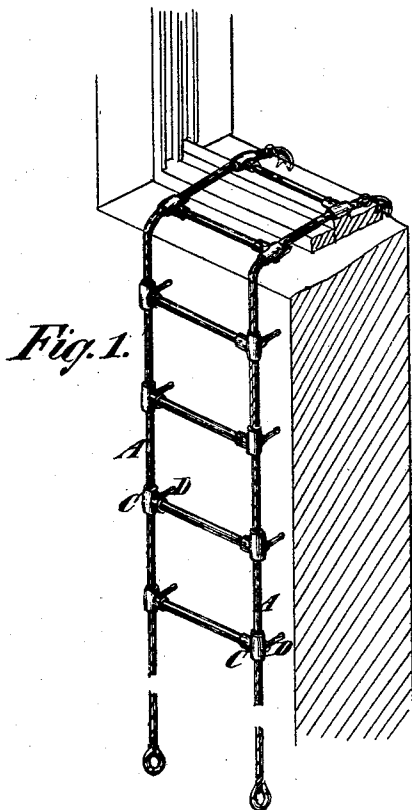


Fig. 1.

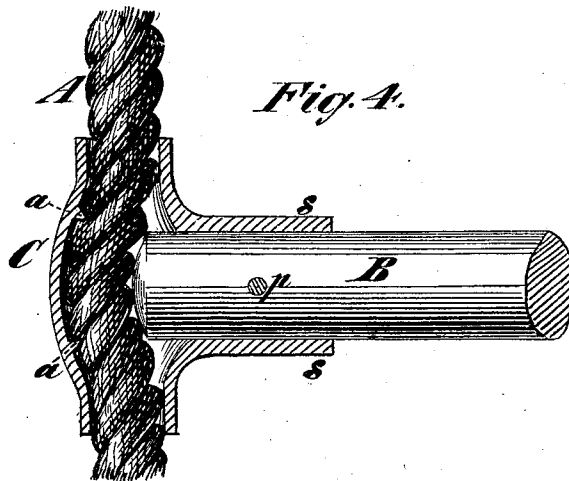


Fig. 4.

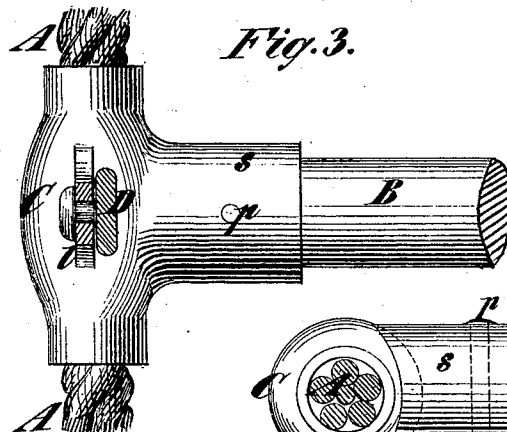


Fig. 3.

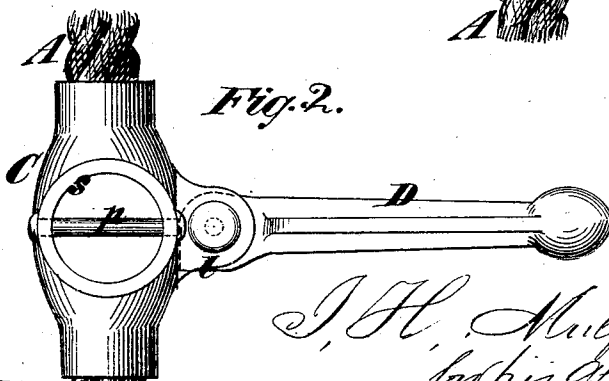


Fig. 2.

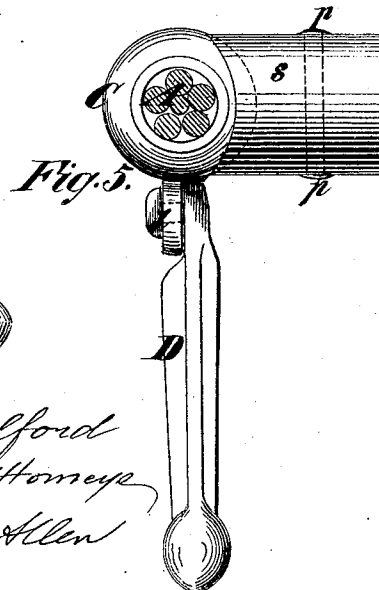


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

ICHABOD H. MULFORD, OF MORRISTOWN, NEW JERSEY.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **149,328**, dated April 7, 1874; application filed September 2, 1873.

To all whom it may concern:

Be it known that I, ICHABOD H. MULFORD, of Morristown, in the county of Morris and State of New Jersey, have invented an Improved Fire-Escape, of which the following is a specification:

This invention relates to fire-escapes of flexible ladder-like construction; and it consists mainly in T-shaped sockets which receive the ropes or cables in their T-heads and the ends of the rungs of the ladder in their bodies. Opposite the bodies of the sockets there are in the T-heads outward bulges, and the ends of the rungs, by being forced toward these and fastened in position, clamp and hold the ropes or cables within the sockets very securely, and thereby maintain the positions of the several rungs relatively to each other.

In the accompanying drawing, Figure 1 is a perspective view of the fire-escape applied to the window of a building. Fig. 2 is an elevation viewed from between the cables of one of the sockets, showing the supporter for holding it away from the building. Fig. 3 is a side view of the same from the wall. Fig. 4 is a vertical sectional view of a socket taken at right angles to Fig. 2. Fig. 5 is a top view of the same, the cable being shown in section.

Similar letters of reference indicate corresponding parts in the several figures.

A A are the ropes or cables of the fire-escape, and B B the rounds or rungs of the same. The cables will, preferably, be made of wire, so as to be fire-proof, and, likewise, the rungs will be of metal pipes. They are secured together by metal T-shaped sockets C C. These are hollow throughout, and their T-heads are slightly bulged out opposite the rung-sockets, as shown in Fig. 4, and in these bulged-out portions there are V-shaped ribs *a a* opposite the upper and lower edges of the bodies of the sockets or rung-receptacles *s s*. The cables pass through the T-heads of the sockets, and the ends of the rungs are inserted in their sockets and forced against the cables, so as to press them into the bulges of the T-heads, and then the rungs are secured by pins *p p* passing transversely through them and their sockets. By this means the cables are not only clamped securely, but are, moreover,

pressed against the ribs *a a*, so that thereby the sockets are fully insured against slipping down the cables when supporting a heavy weight. Supporters or braces D D are furnished on the sides of these sockets to keep the fire-escape, as it hangs down, a suitable distance away from the building to enable a good foot-hold to be obtained. They consist of arms furnished at the outer ends with balls slightly pointed, so that they will indent themselves into the building and hold the ladder from swaying sidewise back and forth. They are pivoted to lugs *l l* formed on the sides of the sockets, and are shouldered, so that they cannot drop down, but they may, however, fold upward against the cables when the fire-escape is rolled up. Hooks or other suitable devices are employed to fasten the escape to the building on which it is used.

This is a simple and very efficient fire-escape, inasmuch as it is fire-proof, is easily applied, is steady, and affords a good foot-hold. Moreover, it can be rolled up so as to occupy very little space. It is, withal, strong and very durable.

In some cases I shall form right and left hand screw-threads, respectively, on the different ends of the rungs, and shall provide their sockets with corresponding threads, to the end that the rungs may be forced into and be secured therein simultaneously by simply turning them round.

The device is useful for various other purposes—such, for instance, as ships' ladders. When put to this use india-rubber tips will be substituted for the pointed balls before mentioned, so as to prevent the sides of the ships from being scratched. It is likewise very suitable for use in working on slated roofs.

What I claim as my invention is—

The T-shaped sockets C C, constructed with a bulge or bend opposite to the rung-socket S, and ribs *a a* on the interior of said bulge, in combination with the cable A and rungs B, substantially as and for the purpose or purposes specified.

ICHABOD H. MULFORD.

Witnesses:

EDWIN H. BROWN,
MICHAEL RYAN.