

No. 704,357.

Patented July 8, 1902.

J. W. MUTTON.  
DEVICE FOR UNTYING HARD KNOTS.

(Application filed Aug. 30, 1901.)

(No Model.)

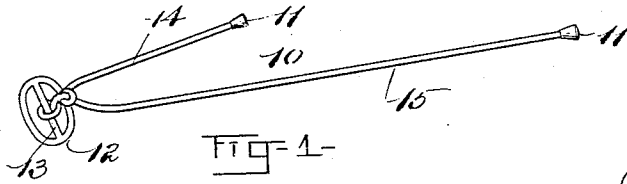


FIG-1-

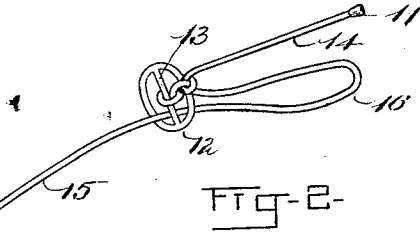


FIG-2-

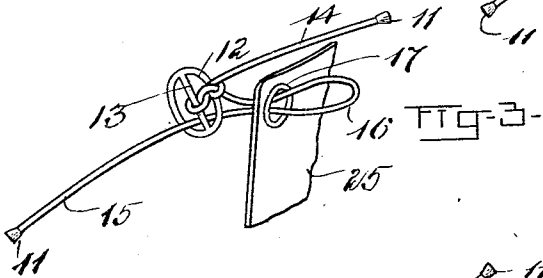


FIG-3-

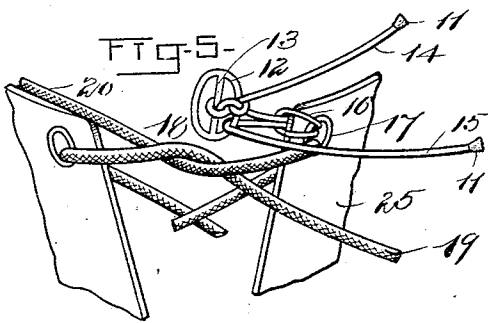


FIG-5-

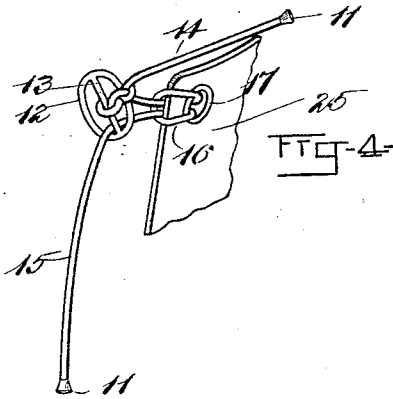


FIG-4-

FIG-6-

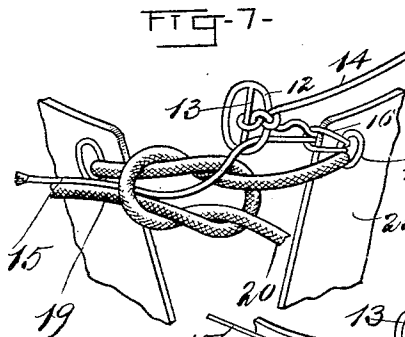
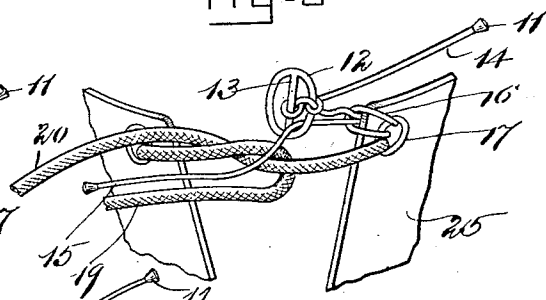


FIG-7-



WITNESSES  
Dwight C. Craft.  
Ralph H. Mutton

FIG-8-

INVENTOR  
John W. Mutton,  
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# UNITED STATES PATENT OFFICE.

JOHN W. MUTTON, OF BOSTON, MASSACHUSETTS.

## DEVICE FOR UNTYING HARD KNOTS.

SPECIFICATION forming part of Letters Patent No. 704,357, dated July 8, 1902.

Application filed August 30, 1901. Serial No. 73,840. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. MUTTON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Devices for Untying Hard Knots, of which the following is a specification.

The object of this invention is to provide a simple, neat, and practical device for untying a hard knot and is especially adapted for untying a hard knot formed by the two ends of a shoe-lacing when tied in a bow-knot are very liable to become untied and cause inconvenience and annoyance to the wearer, and when tied in a hard knot it is very difficult to untie the lacing of a shoe. With my improved device the shoe-lacing can be tied in a hard knot and said hard knot can be untied very easily by the wearer.

The advantages of my improved device consist in its simplicity, cheapness, practicability, and usefulness.

The invention consists in a device for untying hard knots composed of cord having two free ends, a loop formed in said cord between the ends thereof, and means for attaching one of the free ends to the portion of said cord, between the ends thereof, by a sliding connection.

The invention further consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a perspective view of one form of my improved cord for untying hard knots. Fig. 2 shows the same with a ring fast to said cord between the ends thereof and a loop formed by doubling one of the free ends of said cord upon itself and passing said free end through said ring. Fig. 3 shows a perspective view with the loop shown in Fig. 2 passed through the eyelet in the vamp of a shoe. Fig. 4 shows the two free ends and ring passed through said loop, and thus firmly attached to the vamp of a shoe. Fig. 5 shows my untying-cord attached to the vamp of a shoe, as shown in Fig. 4, with a shoe-lacing attaching the two sides of the vamp and the ends of the

shoe-lacing tied in a single knot. Fig. 6 is a view similar to Fig. 5 with the left-hand end of the shoe-lacing turned over toward the right of the shoe and the long end of the untying-cord laid alongside said shoe-lacing. Fig. 7 shows the shoe-lacing tied in a hard knot with the long end of the untying-cord laid between the two tyings of the shoe-lacing. Fig. 8 is a view similar to Fig. 7, showing the shoe-lacing drawn taut and the two ends of the untying-cord drawn upwardly in position for loosening the hard knot.

Like numerals refer to like parts throughout the several views of the drawings.

One form of untying-cord which may be used to carry my invention into practice is illustrated in Figs. 1 to 8, inclusive, of the drawings. I do not wish, however, to be understood as confining myself to any particular form or construction of cord, as many different forms may be used without departing from the spirit of my invention.

In the drawings, 10 is a cord formed of any desirable material and preferably having the ends secured against raveling by clips 11, attached thereto. Between the ends of the cord 10 is fastened a ring 12, said ring having a cross-bar 13, to which the cord is fastened as a matter of convenience. One of the free ends 14 is made, preferably, shorter than the other free end 15 of the cord 10, and in all of the views of the drawings hereinafter described the ring, the shoe-lacings, and the untying-cord, as well as the eyelet in the vamp of a shoe, are shown very much enlarged and the knots are loosened in order to more clearly illustrate the manner in which the untying-cord is placed in relation to the hard knot formed by the shoe-lacing. In Fig. 2 the cord 10 has a loop 16 therein, formed by doubling the free end 15 upon itself and then passing said free end 15 through the ring 12.

To attach the untying-cord 10 to the vamp 25 of a shoe, the loop 16 is passed through an eyelet 17 in the vamp 25 of a shoe, as shown in Fig. 3. The two free ends 14 and 15 of the cord 10, together with the ring 12, are then passed through the loop 16, forming a slip-knot, which is drawn tightly upon the upper 25, as shown in Fig. 4. In use the untying-cord is left tied to the vamp of the shoe,

as shown in Fig. 4, it being understood that said figures are greatly exaggerated as to the size of the different parts.

The shoe-lacing 18, Fig. 5, is first tied in a single knot, as shown in said figure. The left-hand end 19 of the shoe-lacing is then turned over toward the right of the shoe, as shown in Fig. 6, and the long free end 15 of the untying-cord is laid over the single knot of the shoe-lacing and alongside the end 19 of said shoe-lacing. The end 20 of the shoe-lacing is then passed over the long free end 15 of the untying-cord 10 and the end 19 of the shoe-lacing and is tied in a second single knot with said end 19, as shown in Fig. 7, thus leaving the free end 15 of the untying-cord laid between the two tyings of the shoe-lacing. The shoe-lacing is finally drawn taut to form a hard knot, as shown in Fig. 8, with the free end 15 of the untying-cord lying between the two tyings of the shoe-lacing.

To untie the knot, the wearer takes hold of the free ends 14 and 15 of the untying-cord and pulls on the short free end 14, and subsequently pulls on the long free end 15, holding the short end taut while pulling upon the long end. This will loosen the outer knot, so that it may be easily untied. It will be seen that when either of the free ends 14 and 15 are pulled upon separately and independently, either accidentally or by intent, the only result will be to tighten the loop 16 upon the vamp of the shoe and there will be no tendency to unloosen the knot formed by the shoe-lacing.

I have described my invention as particularly adapted for untying the hard knot formed by the lacing of a shoe; but it is evident that the same device may be used to

great advantage in untying hard knots in cords for various purposes, such as cord used in tying grain-bags and many other well-known uses to which cords are applied and in which it is desirable to have a hard knot for a fastening if it were not for the difficulty of untying said hard knot.

It is evident that my untying-cord may be attached to a lacing-hook upon the vamp of a shoe instead of to the eyelet, as hereinbefore described.

It is evident that the ring 12 may be modified in form and in its manner of attachment to the untying-cord between the ends thereof without departing from the spirit of my invention.

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

1. As an article of manufacture a device for untying hard knots composed of cord having two free ends, a loop formed in said cord between the ends thereof, and means for attaching one of said free ends to the portion of said cord between the ends thereof by a sliding connection.

2. As an article of manufacture a device for untying hard knots, which consists of a cord, a ring attached to said cord between the ends thereof, and a loop formed by doubling one of the free ends of said cord upon itself and passing said free end through said ring.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN W. MUTTON.

Witnesses:

CHARLES S. GOODING,  
CHARLES B. CROCKER.