

V. S. WESTCOTT.
KNOT TIE.
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1,024,873.

Patented Apr. 30, 1912.

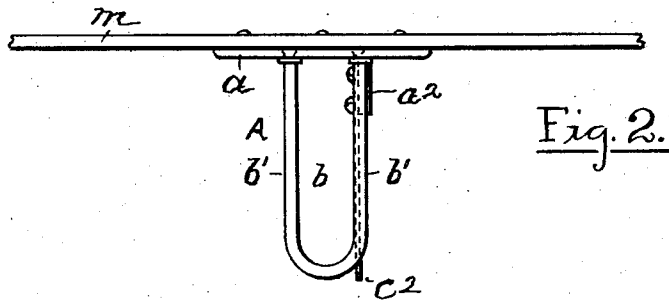


Fig. 2.

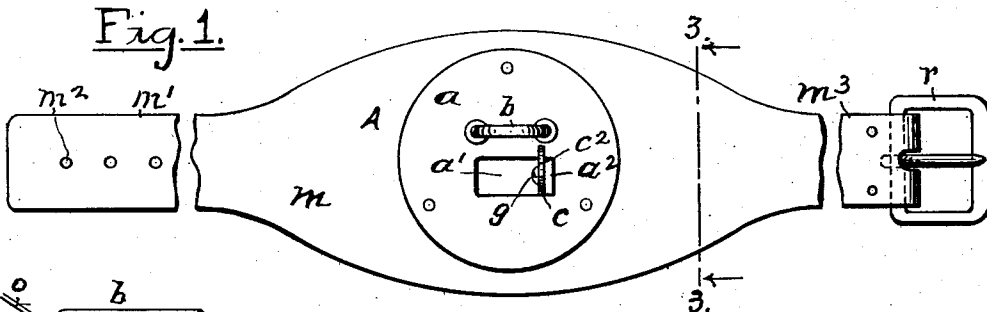


Fig. 1.

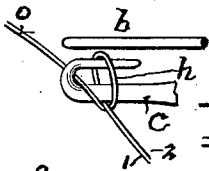


Fig. 4.

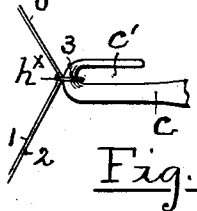


Fig. 5.

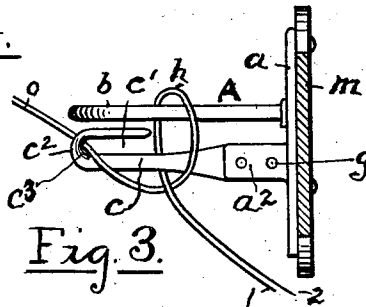


Fig. 3.

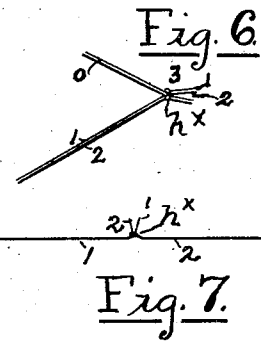


Fig. 6.

Fig. 7.

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UNITED STATES PATENT OFFICE.

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KNOT-TIER.

1,024,873.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, VALORUS S. WESTCOTT, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Knot-Tiers, of which the following is a specification.

My present invention relates to improvements in knot-tiers, so-called; that is, a small portable device constructed and adapted more especially for tying together in a semi-mechanical manner the two broken ends of a thread or yarn.

The improved tool or tier is or may be mounted on a strap or belt arranged to be worn by the attendant or operative employed in connection with winding, spooling and analogous machines, in which a plurality of individual threads are wound onto individual spools from cops, or in which the threads are simultaneously wound onto beams or large spools from relatively smaller cops or bobbins.

The invention consists in the construction and arrangement of parts or elements comprising the same, all as more fully hereinafter set forth and claimed.

In the accompanying sheet of drawings, Figure 1 represents a front elevation of my improved knot-tier, mounted on a flexible strap or band. Fig. 2 is a corresponding top plan view. Fig. 3 is a combined side elevation and sectional view, the section being taken on line 3-3 of Fig. 1; and Figs. 4 to 7, inclusive, represent different steps in the knot-tying operation.

In the drawings, the improved knot-tier A has a suitable metal base or plate a , to which is rigidly secured the looper member proper b , which is folded or bent to a U-shape form having two parallel sides or legs b^1 . The looper is located at or near the center of the plate and extends outward therefrom horizontally at substantially right angles to its front face; the free end of the looper being closed.

c designates a thin, flat combined hook and cutter made of suitable metal, as steel, and being disposed edgewise horizontally immediately below the looper and parallel with one of its legs b^1 . The front or free end of the hook is closed and extends to or nearly to the corresponding end of the looper. It is provided longitudinally with an elongated narrow recess or bight c^1 , open

at its inner end to facilitate the introduction of the thread or yarn. I prefer to shape the metal or stock at the opposite or closed bottom end of the opening c^1 so as to provide a holding portion c^2 having more or less of a cutting edge.

The member c is removably secured to the plate a by means of screws g , thereby adapting it to be readily detached when desired. In case the plate a is made of sheet metal, the stock may be incised at the proper point and the contiguous portion bent outward to form the lug a^2 , to which the hook member c may be secured, as stated; a^1 , Fig. 1, designates the opening after the lug has been formed.

In order that the knot-tier may be used with greater ease and facility it is attached to a flexible strap or band m , one of its ends m^1 having spaced holes m^2 , the other end m^3 having a buckle r .

The manner of operation is as follows: The belt is first secured in position around the user's or spooler attendant's waist, the device itself then being in front, thus leaving both hands of the operator free. When the two broken ends, say of a thread, are to be tied together, the two main parts 1 and 2 thereof are placed parallel side by side and threaded loosely completely around the looper and hook members, thus forming a loop h , followed by inserting the shorter ends o of the threads into the hook opening c^1 , said ends then extending beyond the opening, substantially as indicated in Fig. 3; the thread is then drawn bodily forward until the looped part h drops from the looper onto the adjacent end of the hook, as in Fig. 4, followed by further drawing the looped part of the doubled threads bodily over the outer end c^2 of the member c and pulling the two double thread portions snugly around the neck of the hook, thereby drawing the former loop h into a closed knot h^x around the end portions o and also producing in the threads the short loop 3, as indicated in Fig. 5. Now, by giving a smart pull outward upon the free end portion o of the thread, said action, in cooperation with the cutting edge c^3 of the hook, simultaneously severs the subsidiary loop 3 and the two main parts 1 and 2, the thus knotted thread then appearing as shown in Fig. 6. At the same time the continued pulling action causes the short end portions o (being waste) to be drawn through the knot h^x .

Fig. 7 indicates the appearance of the reunited thread after the parts 1 and 2 are opened or unfolded, thus completing the operation.

5 My improved knot-tier is small, but strong and light, simple in construction, inexpensive to manufacture, the hook may be readily disconnected and replaced. The device is thoroughly practical and efficient and at the
10 same time permits the wearer to use both hands in connection with the knot-tying operation. It may be added that my improved knot-tier possesses other advantages over
15 analogous articles in this class heretofore devised, in that the length of the waste end portions *o*, when severed, is or may be reduced to a minimum, and that the short ends of the loop 3, when cut, are uniform in
20 length.

I claim as my invention:
The improved knot-tying device herein

described, the same comprising a base member adapted to be secured or attached to a flexible band or other support, a U-shaped
25 looper extending outwardly from and rigidly secured to said base, and an integral combined hook and cutter element also secured to the base, said element being disposed edgewise below and substantially parallel
30 with one arm of the looper, the hook part being uppermost, and terminating at its outer end portion in a bight having its inner edge adapted to be employed for cutting or severing the looped portion of the
35 knotted cord.

In testimony whereof I have affixed my signature in presence of two witnesses.

VALORUS S. WESTCOTT.

Witnesses:

GEO. H. REMINGTON,
CALVIN H. BROWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."