

No. 750,033.

PATENTED JAN. 19, 1904.

A. S. HORLACHER.
KNOTTING TOOL.

APPLICATION FILED FEB. 26, 1903.

NO MODEL.

Fig 1

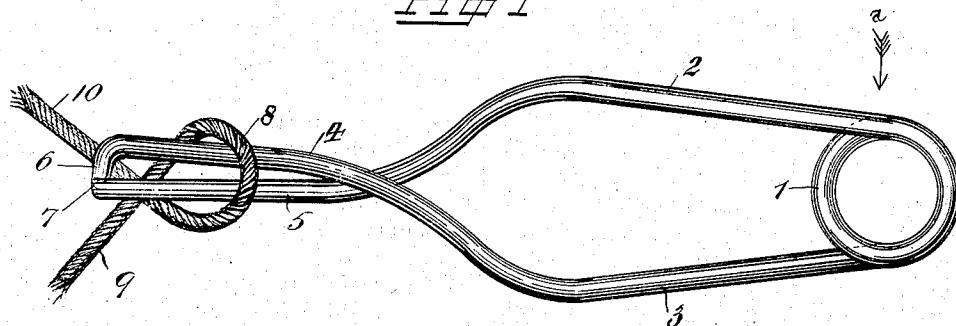


Fig 2

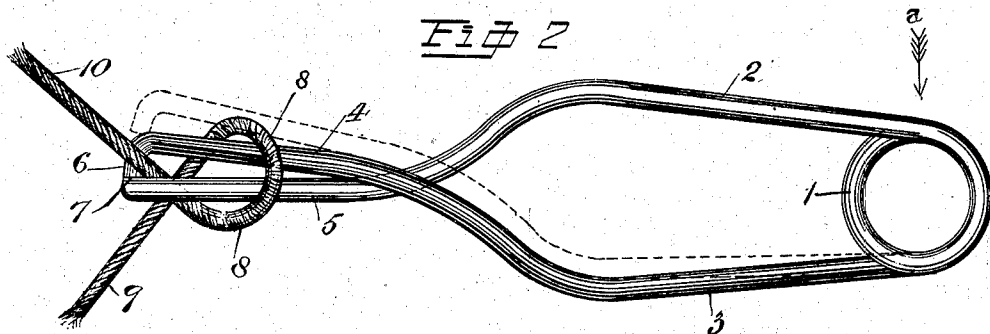
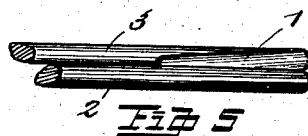
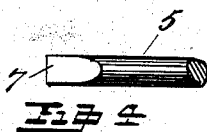
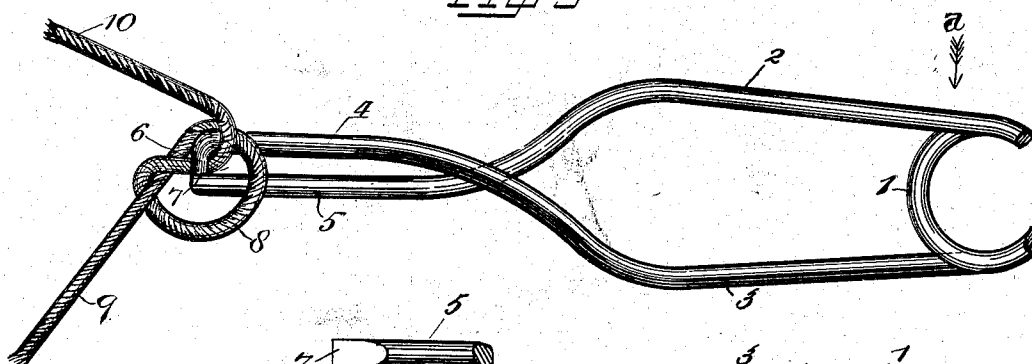


Fig 3



WITNESSES:
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UNITED STATES PATENT OFFICE.

ADAM S. HORLACHER, OF INDIANAPOLIS, INDIANA.

KNOTTING-TOOL.

SPECIFICATION forming part of Letters Patent No. 750,033, dated January 19, 1904.

Application filed February 26, 1903. Serial No. 145,209. (No model.)

To all whom it may concern:

Be it known that I, ADAM S. HORLACHER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented new and useful Improvements in Knotting-Tools, of which the following is a specification.

This invention relates to certain new and useful improvements in knotting or yarn-tying tools, and is particularly adapted to knotting the fringe on rugs or covers and such like, as will be hereinafter more fully described, and particularly pointed out in the claims.

The object of this invention is to provide a hand knotting-tool by means of which the yarns applied to the ends of rugs to form fringe may be artistically knotted to not only permanently secure said yarns to the rug, but also to produce a fringe that will be neat and artistic in appearance as well as durable. I attain these objects by means of the device illustrated in the accompanying drawings, in which similar numerals of reference designate like parts throughout the several views.

Figure 1 is a view of the knotting-tool, showing the first operation or the manner of looping the yarn round the arms of said knotting-tool. Fig. 2 is a similar view showing the second operation or the manner of engaging the end to be knotted. Fig. 3 is a similar view showing said end engaged by said tool and in position to be drawn through the loop first formed to complete the knot. Fig. 4 is a broken detail view of the arm having the plane or face against which the hooked or bent end of the opposing arm contacts or binds, and Fig. 5 is a view of the spring-hinge portion of the knotting-tool and looking in the direction of the arrow *a*. (See Figs. 1, 2, 3, and 4.)

I first obtain a wire of suitable diameter, strength, elasticity, and length and bend, wind, or coil the same intermediate its ends to form a spring coil or hinge 1, having the arms 2 and 3 extending therefrom. The opposing open portions of the arms 2 and 3 are curved to cross at points intermediate their free ends and the spring coil or hinge 1 and are then bent in the reverse direction to from the ap-

proximately parallel opposing closing arms 4 and 5. The arm 4 is provided with a bend or hook 6, the end of which contacts with the flat or flattened binding-face 7 of the arm 5 to form a closed loop or engaging end. A single bend may be substituted for the double bend or coil 1 to form a spring-hinge connection between said arms 2 and 3, or said arms may be connected by any suitable connection whereby the end flat 7 will be held in contact with or bind on the end of the bend 6 to form a closed loop or hook. The knotting-tool is applied to the material to be knotted in such a manner (see Fig. 1) that the arms 4 and 5 will be surrounded by the yarn to form a loop 8, having the crossed ends 9 and 10, the end 9 being next to and in contact with the knotting-arms 4 and 5, and the end 10 is therefore underneath the end 9. I next press the arms 2 and 3 to open or spread apart, as shown in dotted lines in Fig. 2, the knotting-arms 4 and 5 and engage the lower end 10 of the yarn by the bend or hook 6, then permit the said arms 4 and 5 to close to retain said end 10 in the closed loop portion of said knotting-tool. The end 10 is now drawn through the loop 8, as shown in Fig. 3, to form the desired knot.

In practice this device is particularly used in connection with the process of forming artistic and ornamental fringe-work on the ends of rugs, table and other furniture covers, which fringe is generally composed of yarns or threads extending from the ends of said rugs or covers, and all said extending threads are divided into series of four or more yarns, according as a thinner or thicker string is required, which are interwoven or knotted to form a fringe of some desired pattern or design, which operation is rapidly performed by the use of the above-described tool, and by its use the labor of knotting or working said fringe is materially reduced from that required to perform the operation by the fingers.

Having thus fully described this my invention, what I claim as new and useful, and desire to cover by Letters Patent of the United States therefor, is—

1. A Knotting-tool comprising two spring-connected arms formed of a single piece of

metal, one of which arms is provided with an end hook or bend and the other plane arm adapted to bind on the end of said hook or bend.

2. A knotting-tool comprising two spring-
5 connected arms formed of a single piece of metal bent at its center portion to cross intermediate the spring-connected ends of said arms and the free ends thereof, and one of
10 which arms is provided with an end hook or bend and the other plane arm adapted to bind on the end of said hook or bend.

3. A knotting-tool comprising a single wire
bent intermediate its ends to form a spring-
15 coil and two projecting ends, said ends extending from said coil and bent to cross to form two closing arms, one of which is provided with an end hook or bend and the other

plane end of the other arm adapted to bind on the end of said hook or bend to form a closed
hook. 20

4. A knotting-tool comprising a single wire bent intermediate its ends to form two projecting spring-arms, the end of one of which is provided with a bend or hook and the opposing arm with a flat plane end adapted to
25 bind on the end of said bend or hook to form a closed looped end.

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

ADAM S. HORLACHER.

Witnesses:

THOMPSON R. BELL,
WM. O. MOREK.