No. 653,556. Patented July 10, 1900.

C. R. HARTMANN.

DEVICE FOR MAKING LOOPS IN WIRE.

(Application filed Nov. 17, 1899.)

(No Model.)

Fig 1

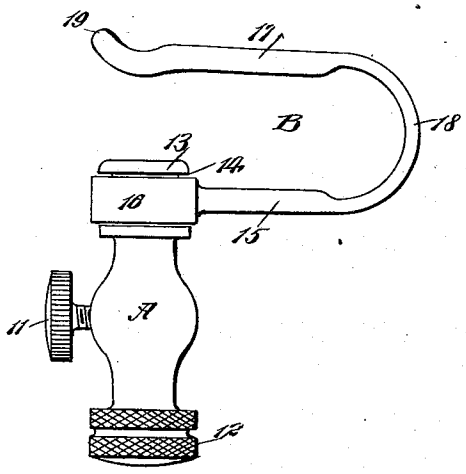


Fig 2

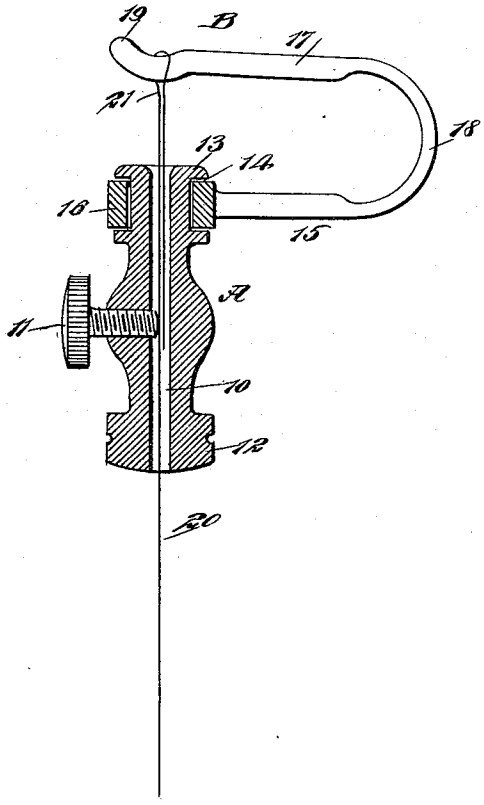
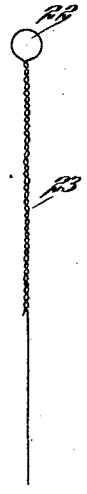


Fig 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES R. HARTMANN, OF NEW YORK, N. Y.

DEVICE FOR MAKING LOOPS IN WIRE.

SPECIFICATION forming part of Letters Patent No. 653,556, dated July 10, 1900.

Application filed November 17, 1899. Serial No. 737,324. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. HARTMANN, of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Device for Making Loops in Wire, of which the following is full, clear, and exact description.

The object of the invention is to provide a device which may be carried in the pocket and is especially adapted for forming eyes or loops at the ends of wire strings for musical instruments, but which may be employed with equally good results where an eye is required at the end of any piece or strand of wire.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved device. Fig. 2 is a longitudinal section through the major portion of the device, and Fig. 3 is a view representing a wire after the loop or eye has been formed therein.

A represents the body of the device, which is in the form of a standard and is provided with a longitudinal bore 10, extending from end to end. A set-screw 11 is passed through one side of the body at any desired point between its ends, the inner extremity of which screw enters the bore 10, as shown in Fig. 2. The body A is provided with a lower head 12, which is roughened in any approved manner, so that the body may be firmly held, for example, between the thumb and fingers of the hand, and the body is further provided with an upper head 13, in which latter head an exterior groove 14 is produced.

In addition to the body A a forming-arm B is employed, which is made of spring material and is practically yoke-shaped in general contour, comprising a bottom member 15, having a sleeve 16 made integral therewith and fitted to turn in the groove 14 at the upper head of the body A, together with an upper member 17 and a connecting member 18, the latter member being of less thickness than the upper and lower members, so that the upper member may be readily drawn down in direction of the lower member or may spring up therefrom. The upper member 17 of the forming-arm B terminates in an upwardly-curved nose 19, as is particularly shown in Figs. 1 and 2.

The wire 20, which is to be manipulated, is passed through the bore 10 in the body and around the nose 19, thereby forming a loop 21, and the end of the wire which is passed around the nose is likewise carried down into the bore 10 of the body A, and the set-screw 11 is then screwed inward, so that it will bite firmly against the parallel strands of the wire, as is indicated in Fig. 2. The body A is now held in one hand, and the forming-arm B is turned on the body by means of the fingers of the other hand, thus causing the parallel strands of the wire to wrap around each other and form a complete eye or loop 22 at that portion of the wire which is passed over the nose 19, as is illustrated in Fig. 3, the wire adjacent to the eye 22 being reinforced by a twist, as shown at 23 in the said Fig. 3. After the screw 11 is loosened to release the wire 20 the wire may be removed from the forming-arm B and drawn from the body A.

When a tool is employed such as has been above described, it is obvious that a loop or eye may be quickly and conveniently formed in the end of any strand or piece of wire. It is furthermore obvious that the device consists, practically, of three parts—the body, forming-arm, and set-screw—and that as the wire travels between the set-screw and the nose of the forming-arm the upper member of the forming-arm is drawn down toward the body proportionately to the shortening of the wire, thus preventing the wire being snapped while the loop or eye is in process of formation.

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

1. A tubular body, a clamping device carried by the body, and a forming-arm mounted to turn upon the body, provided with a retaining-section for forming a loop of wire, which loop of wire is continued into the body for an engagement with the clamping device.

2. A device for making loops in wire, consisting of a tubular body, a clamping device carried by the body, and a forming-arm

mounted to revolve upon the body, which arm is substantially yoke-shaped and is provided with a curved nose at the free end of its upper member.

3. A device for forming loops or eyes in wire, consisting of a tubular body, a clamping device entering a chamber in the body, and a forming-arm mounted to turn around the body, which forming-arm is substantially yoke-shaped and constructed of spring material, being formed with an upwardly-curved nose at the free end of its upper member, as described.

4. A device for forming loops or eyes in wire, comprising a tubular body, a set-screw passed through one side of the body into the interior thereof, and a yoke-shaped spring forming-arm having a sleeve mounted to turn upon the body, the said forming-arm comprising an upper and a lower member, a connecting member of less strength, and an upwardly-inclined nose, which nose is a continuation of the upper member of the forming-arm at its free end, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHAS. R. HARTMANN.

Witnesses:
EUGEN A. FLAMMYR,
FRANCIS T. HARTMANN.