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2,477,446

RING EXPANDER

Original Filed Sept. 8, 1944

FIG. 5

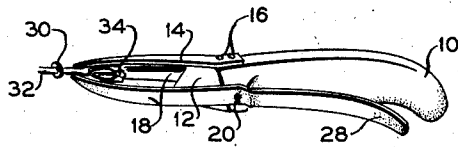


FIG. 4

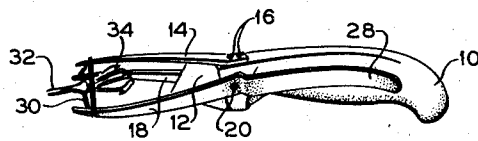


FIG. 3

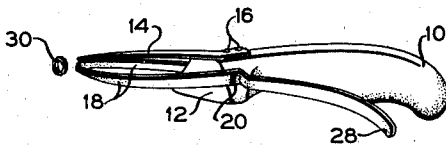
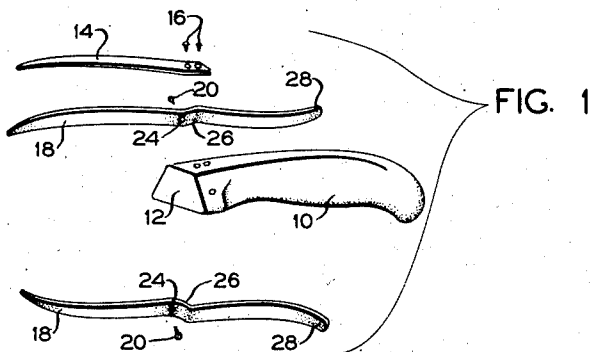
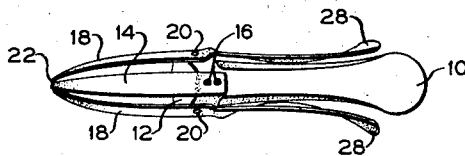


FIG. 2



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2,477,446

RING EXPANDER

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Substitute for abandoned application Serial No.
553,277, September 8, 1944. This application
June 7, 1946, Serial No. 675,067

5 Claims. (Cl. 29—235)

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This invention relates to a ring expanding tool and more particularly to a tool for expanding a rubber ring or the like and placing the same on the leg of a racing pigeon or other bird for identification purposes and this application is a substitute for applicant's abandoned application Serial No. 553,277.

Heretofore devices of this nature have been complicated and consisted of several levers pivoted together resulting in a weak structure which was difficult and expensive to manufacture with a resulting high purchase price and unreliability in use.

It is therefore an object of this invention to provide a tool for expanding a marking ring and placing the same over the leg of a bird or other object to be marked.

It is a further object of this invention to provide a ring expanding tool constructed of a minimum number of parts and which will easily and efficiently perform the function intended.

It is a still further object of this invention to provide a ring expanding tool which is easily and cheaply manufactured and which is of such construction that the tool will stand considerable abuse and still perform its intended function in an efficient manner.

Further objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is an exploded view showing the various parts of the tool immediately prior to final assembly;

Fig. 2, a plan view of the tool with the expanding fingers in collapsed position;

Fig. 3, an elevational view of the tool with the ring expanding fingers in collapsed position and showing a ring about to be introduced over the fingers;

Fig. 4, an elevational view of the tool with the ring on the fingers in expanded position and showing a bird's leg in position to receive the ring; and,

Fig. 5, an elevational view of the tool in collapsed position preparatory to removal of the bird's leg and with the ring applied thereto.

With continued reference to the drawings and particularly Fig. 1, there is shown a handle 10 of wood, molded plastic or the like, the handle being shaped to fit the hand of the user and being formed at its inner end 12 to receive the various parts of the tool. A tapered spring steel finger 14 is secured to the top of the inner end of the handle by screws 16 and serves as one element of

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the three stretching jaws or fingers. The other two elements of the stretching jaws or fingers are formed by two identical spring fingers 18 secured to the inner end of the handle by screws 20 and in combination with the finger 14 provide a cone shaped ring receiving portion having three sides formed by the three spring fingers.

The fingers 18 are tapered at their outer ends and these fingers as well as the fingers 14 are curved inwardly at their outer ends so that when secured to the handle the ends of the fingers come together forming substantially a point indicated at 22. The fingers 18 are provided with elongated openings 24 for reception of the screws 20, these openings permitting the fingers 18 to rock on the handle, the screws 20 providing in effect a pivot. The fingers 18 slightly rearwardly of the opening 24 are provided with an offset 26. The portions 28 of the fingers rearwardly of this offset are curved outwardly at the ends thereof to receive the fingers of the operator and when pressed toward the handle 10 rock the fingers 18 about the screws 20 thus moving the inner ends of these fingers apart.

With particular reference to Fig. 3, the tool is shown with the fingers 18 in collapsed position to receive a rubber or other resilient marking ring 30, the ring being introduced over the fingers 14 and 18 preparatory to expanding the same. The tool is then grasped in the hand of the operator and by exerting pressure on the handle portions 28 the fingers 18 are caused to move apart, thus stretching the ring 30 as shown in Fig. 4. While holding the fingers 18 expanded the leg 32 of a bird or other object upon which it is desired to position a ring is introduced through the ring 30 and into the space formed by the expanded fingers 18 and fixed finger 14. Either the tool or the bird's leg is moved until the expanded ring is at a point adjacent that which it is intended to occupy in its final position. At this point the handle portions 28 are released allowing the ring 30 to contract at which time the ring is removed from the fingers and takes its place in the desired position on the bird's leg or other object. The handle portions 28 are again depressed expanding the fingers 18 to permit removal of the tool without injuring the bird's foot 34.

From the above description, it will be seen that this tool is made up of only four parts and the necessary fastening screws, that these parts may be stamped out in a single die stamping operation and that the handle 10 may be molded to construct a very cheap and easily assembled tool,

while from the above described mode of operation, it can readily be seen that the act of applying a marking ring in the desired position is very easily and efficiently accomplished.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore the invention is not limited by that which is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. A ring expanding tool comprising a handle member, a tapered inwardly curved spring finger fixed to said handle member adjacent the forward end thereof, a plurality of tapered inwardly curved spring fingers individually rockably mounted at a point intermediate the ends thereof on said handle member adjacent the forward end thereof forming with said fixed finger a generally triangular cone shaped portion for receiving a resilient ring, the rear portions of said rockably mounted fingers being offset and curved outwardly to receive the fingers of the operator whereby the rear ends of the rockably mounted fingers may be pressed toward the handle member thus moving the forward ends of said fingers apart to expand said resilient ring sufficiently to permit the insertion of a bird's leg or the like within the ring and fingers.

2. A ring expanding tool comprising a handle member, a tapered finger fixed to said handle member adjacent the forward end thereof, a plurality of movable tapered fingers individually rockably mounted at a point intermediate the ends thereof on said handle member adjacent the forward end thereof and cooperating with said fixed finger to form a generally triangular cone shaped portion to receive and expand a resilient ring, the rear portions of said movable fingers being formed to receive the fingers of the operator thus facilitating rocking movement of said movable fingers to expand said resilient ring.

3. A ring expanding tool comprising a handle member, a finger fixed to said handle member adjacent the forward end thereof, a plurality of movable fingers individually rockably mounted at a point intermediate the ends thereof on said handle member adjacent the forward end thereof forming with said fixed finger a ring receiving portion, handle portions formed on said movable fingers to facilitate outward movement of the forward ends thereof whereby a resilient ring positioned on said fingers may be expanded.

4. A ring expanding tool comprising a handle member, a tapered finger fixed to said handle member, means cooperating with said fixed finger to receive and expand a resilient ring, said means comprising separate manually operable tapered fingers individually movably mounted at a point intermediate the ends thereof on said handle member for movement toward and away from said fixed finger.

5. A ring expanding tool comprising a handle member, a finger fixed to said handle member adjacent the forward end thereof, means cooperating with said fixed finger to receive and expand a resilient ring, said means comprising separate manually operable fingers individually movably mounted at a point intermediate the ends thereof on said handle member for movement toward and away from said fixed finger.

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