N. B. NOBLE.

EMBROIDERY FRAME.

APPLICATION FILED APR. 24, 1907.

904,716. **Patented Nov. 24, 1908.**

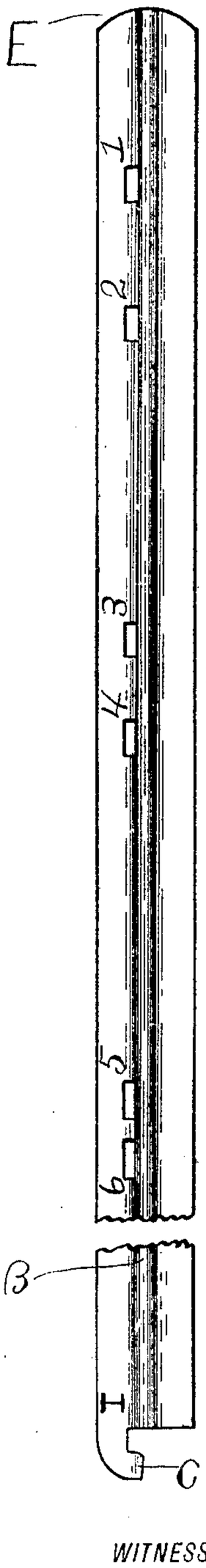

Fig. 3.

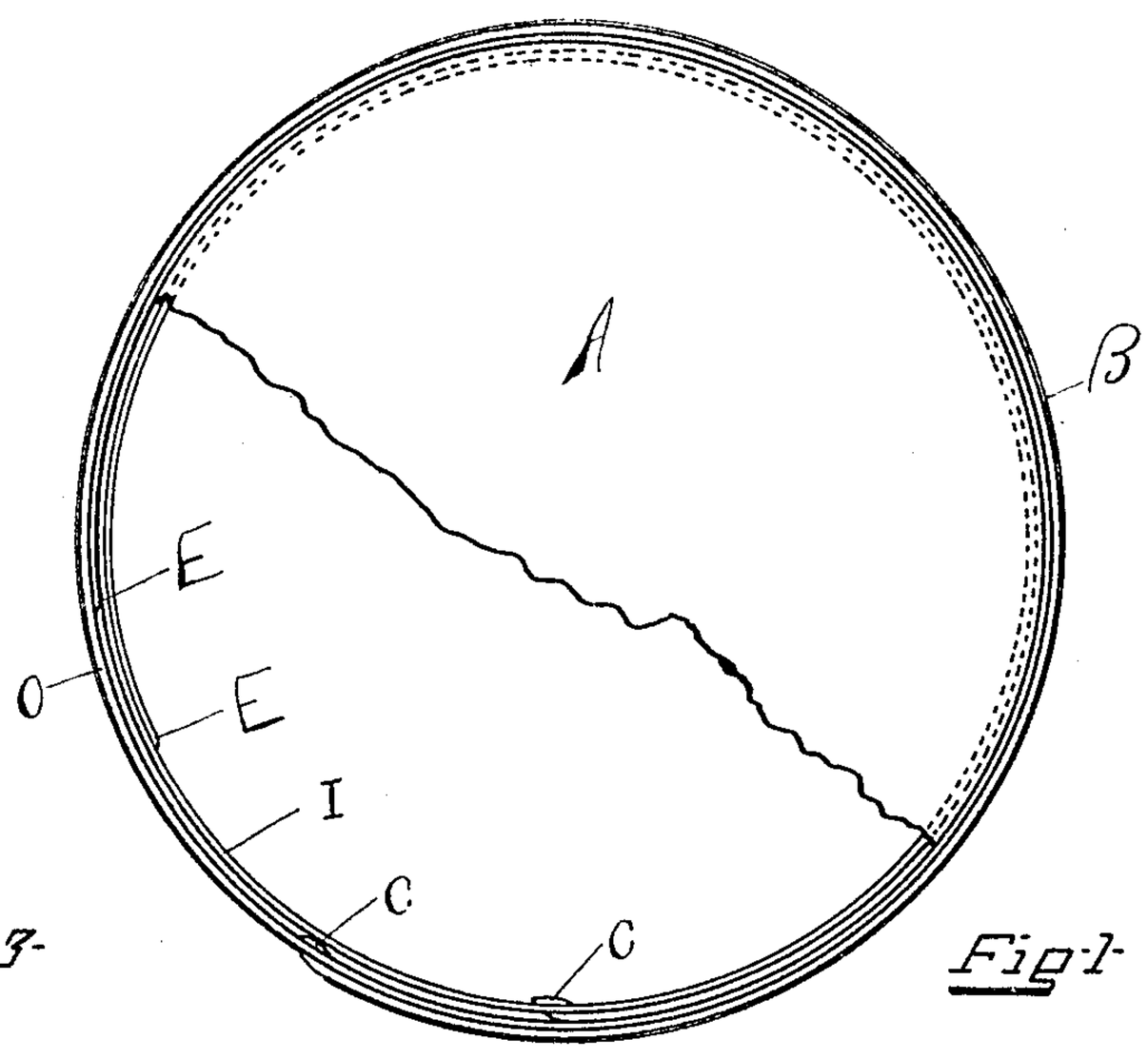

Fig. 1.

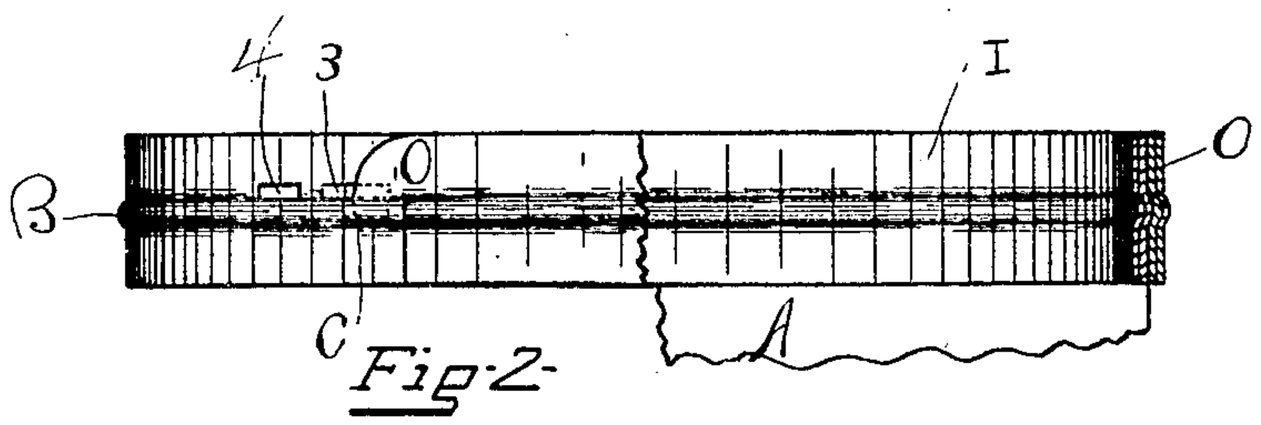

Fig. 2.

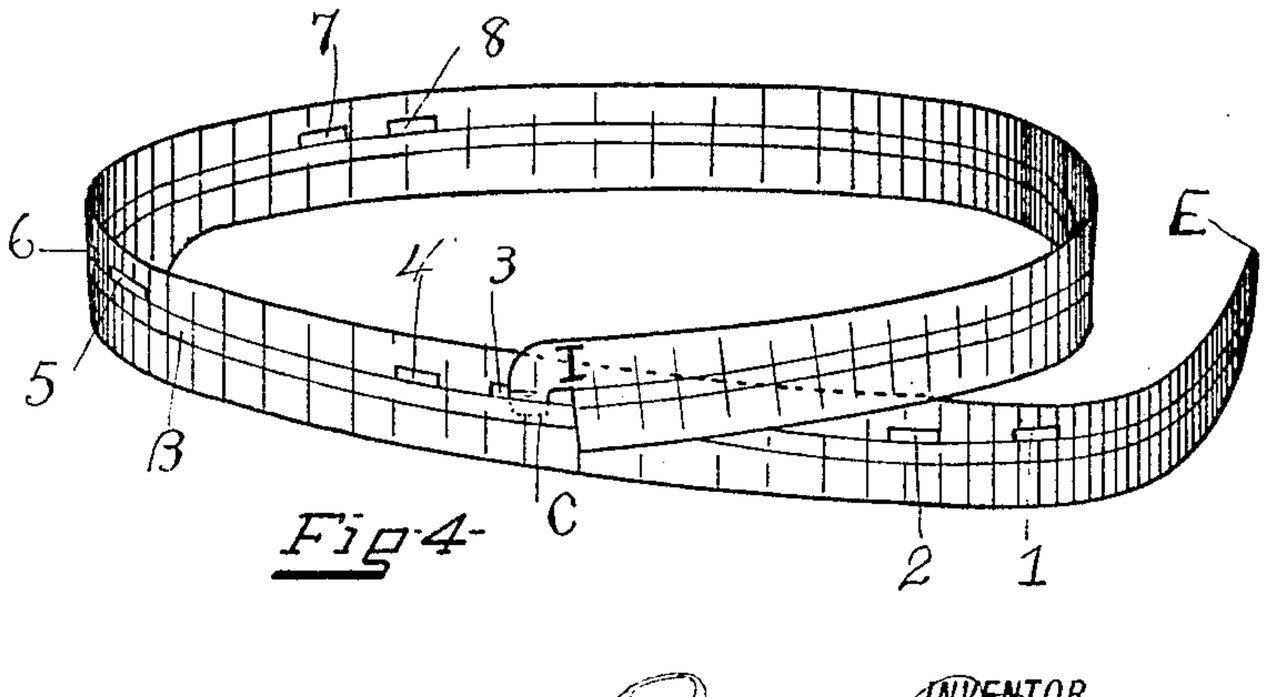

Fig. 4.

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EMBROIDERY-FRAME.

No. 904,716. Specification of Letters Patent. Patented Nov. 24, 1908.

Application filed April 24, 1907. Serial No. 369,958.

To all whom it may concern:

Be it known that I, NELLIE B. NOBLE, a citizen of the United States, residing at Ithaca, in the county of Tompkins and State of New York, have invented certain new and useful Improvements in Embroidery-Frames, of which the following is a specification.

This invention relates to certain improvements in embroidery frames.

The object of my invention is to provide a set of rings or hoops that can be cheaply and easily manufactured and at the same time are capable of use with different sizes and thicknesses of material to be worked upon.

In carrying out the above functions and advantages I have employed two rings to be used as an outer and inner ring and have made each ring adjustable in size to accommodate a fabric therebetween. The adjusting means ordinarily employed, such as buckles, slides, clamps, and snaps, are difficult to operate, unsightly and liable to injure the fabric worked upon and to remedy these defects I have constructed a more simple and perfect retainer.

With these general objects in view and others which will appear as the nature of the improvement is better understood the invention consists, substantially, in the novel construction, combination and arrangement of parts, which will be hereinafter fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

While the forms of the invention herein shown and described are what are believed to be preferable embodiments thereof, it is to be understood that the same are susceptible of various changes in the form, proportion, and minor details of construction and the right is therefore reserved to modify or vary the invention as falls within the spirit and scope thereof.

In the drawings, forming a part of the specifications and in which like numerals of reference indicate corresponding parts throughout the several views, Figure 1 is a view showing the two hoops of my improved design, inclosing a fabric fragment between said hoops. Fig. 2 is a side view of Fig. 1, taken partly in section. Fig. 3 represents a hoop in a straightened or flat position. Fig. 4 shows a hoop partially changed from the straightened to the circular position.

Referring in detail to the drawings, A represents a piece of material or fabric to be worked upon and presents the appearance of a drum-head, being firmly held by insertion between the outer hoop O and the inner hoop I. The hoops are open and are preferably constructed of copper, brass or aluminum, and may be nickeled or plated, but any suitable metal may however be employed. These hoops are easily manufactured by being stamped from strips of metal, in a shape substantially as illustrated by Fig. 3 and said strips are of such length that their ends will overlap a suitable distance.

The hoops are provided with an outwardly extending groove or corrugation B extending the entire length of the strips, which groove corresponds in each hoop when they are placed in their concentric relation for use, and by this means the material to be worked upon is more firmly secured therebetween.

One end of each hoop is provided with a finger or hook C, formed by cutting or notching out a small portion of the metal strip. Each hoop is provided with slots or apertures, longitudinally arranged in groups of two and designated 1 and 2, 3 and 4, 5 and 6, 7 and 8. These slots are preferably placed contiguous to the corrugation B and upon the flat portion of the strips and the designating numerals permanently stamped in the metal as shown in Fig. 3. The designating letter O for "outside" and I for "inside" is also stamped upon the respective hoops in a suitable place near the end hooks C as shown in Figs. 2 and 3. As will be seen, the hook or finger C, when the strip is placed in its hoop form, passes through the desired opening in a direction at an angle to the plane of the axis of the opening (the actual angle is slightly less than a right angle, so that the hook or finger extends in a direction approximately co-incident with the plane of the sides of the strip) in such manner that the hook itself has portions located on the opposite sides of the strip and these portions are located on opposite sides of the plane of the axis of the opening. Owing to this construction the strip, when placed in hoop form with the hook in its proper position in the desired opening, will be held against either an expanding or a contracting movement of the hoop greater than that permitted by the play of the hook within the opening in a direction longitudinally of the strip, without the requirement of additional means for

retaining the hoop against expansion due to the resiliency of the material. The longitudinal corrugation aids in this result in that the nesting of the corrugation at the point of contact of that portion of the hoop between the point of connection of the hook end with the strip and the free end of the strip, prevents relative movement at the point of connection in a direction to permit the hook being accidentally carried out of the opening.

Each group of slots arranged upon the two hoops with like corresponding numerals are so positioned that when the hoops are closed for use, their sizes will so correspond that when the even numbered slots are employed for securing the hooks C, the two hoops placed in concentric relation will only accommodate a thin fabric therebetween; on the other hand when the slots designated by odd numbers are employed, (as corresponding slots 3, 3 as illustrated in Figs. 2 and 4 of the drawing) a greater distance is provided between the two concentric hoops for the accommodation of a much coarser or thicker fabric.

We have illustrated eight slots arranged into four groups but any number of groups may be employed and likewise any number of slots may constitute a single group. Each corresponding group of slots determines the size of the hoops and the use of either odd numbered or even numbered slots in that group accommodates either a thick or thin fabric. The hoops herein illustrated are capable of assuming four different sizes and of accommodating two different thicknesses of fabric but many different thicknesses of fabric may be used by providing additional slots in each group.

The operation of my invention is as follows:—With the straightened hoop as shown in Fig. 3 a circular hoop is formed as shown in Fig. 1 by grasping the hook end with the right hand and the opposite end E with the left hand when the same is easily bent to the form shown in Fig. 4 and the hook C inserted into a slot, as slot 3. The disengaged end E is then easily placed within the partially formed hoop when the corrugation G upon the opposite end portions will closely unite and remain removably engaged as shown in section in Fig. 2.

When not in use, my hoops take up but little room in the straightened position. Both hoops are arranged for use in the manner set forth in the desired size and the fabric firmly stretched over the inner hoop, marked I; the fabric is secured by placing the outer hoop, marked O, over said inner hoop.

My invention is not intended to be limited for use as an embroidery frame, only, but may be employed as a belt, bracelet and many other devices.

Having thus described my invention and in what manner the same is designed for use, what I claim as new and desire to secure by Letters Patent of the United States, is—

1. An adjustable embroidery hoop formed of a single metal strip, longitudinally corrugated, provided at one end with an integral finger and intermediate slots for receiving said finger, said finger extending in a direction laterally of the direction of length of the strip and approximately coincident with the plane of the sides of the strip.

2. An adjustable embroidery hoop consisting of a single corrugated metal strip provided at one end with an integral finger and apertures in said strip contiguous to the corrugation adapted to receive said finger, said finger extending in a direction laterally of the direction of length of the strip and approximately coincident with the plane of the sides of the strip.

3. An embroidery frame member comprising a strip of material having complemental means located at spaced points in the length of the strip for mutual engagement at a single point when the strip is placed in hoop form, said means being engageable only by a relative movement in a direction corresponding to the direction of width of the strip.

4. An adjustable embroidery-frame comprising two open hoops, the ends of each hoop overlapping, each hoop being provided with series of apertures intermediate its ends and with an integral finger at one end to enter said apertures, said finger extending in a direction laterally of the direction of length of the strip and approximately coincident with the plane of the sides of the strip.

5. An adjustable embroidery-frame comprising two open hoops, each hoop formed of a corrugated single metal strip, the ends of each hoop overlapping, each hoop being provided with an integral finger at one end and with a multiple of series of apertures contiguous to the corrugation and adapted to receive and removably retain said finger, said finger extending in a direction laterally of the direction of length of the strip and approximately coincident with the plane of the sides of the strip.

6. An embroidery hoop member comprising a strip of material having an opening therein intermediate its ends, and also having one of its ends formed to permit a portion thereof to extend through said opening, in a direction corresponding substantially to the direction of width of the strip, said end extending on opposite sides of the plane of the axis of the opening on the opposing sides of the strip.

7. An embroidery frame member comprising a strip of material having an opening formed therethrough intermediate the ends of the strip, and a finger formed at one end, said finger being positioned on the strip in a manner to permit it to pass through the

opening in a direction angular with respect to the axis of the opening to provide portions of the finger extending on opposite sides of the plane of the axis of the opening on the opposing sides of the strip.

8. An embroidery frame member comprising a strip of material of substantially equal thickness from end to end having an opening formed therethrough intermediate the ends of the strip, and a finger formed at one end, said finger being positioned on the strip in a manner to permit it to pass through the opening in a direction angular with respect to the axis of the opening to provide portions of the finger extending on opposite sides of the plane of the axis of the opening on the opposing sides of the strip.

9. An embroidery frame member comprising a strip of material having an opening formed therethrough intermediate the ends of the strip, and a finger formed at one end, said finger extending in a direction at approximate right angles to the plane of the axis of the opening and being positioned on the strip in a manner to permit it to pass through the opening in a direction angular with respect to the axis of the opening to provide portions of the finger extending on opposite sides of the plane of the axis of the opening on the opposing sides of the strip.

10. An embroidery frame member comprising a strip of material having an opening formed therethrough intermediate the ends of the strip, and a finger formed at one end, said finger being positioned on the strip in a manner to permit it to pass through the opening in a direction angular with respect to the axis of the opening to provide portions of the finger extending on opposite sides of the plane of the axis of the opening on the opposing sides of the strip, said strip having a corrugation extending longitudinally of the strip from end to end.

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

NELLIE B. NOBLE.

Witnesses:
EDW. J. MONE,
F. K. BRYANT.