N. C. LEONARD.

EMBROIDERY HOOP.

APPLICATION FILED NOV. 5, 1908.

955,415. Patented Apr. 19, 1910.

Fig. 2.

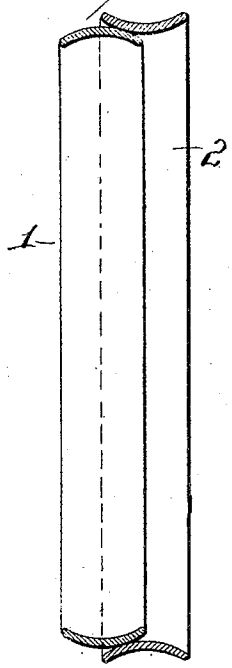


Fig. 1.

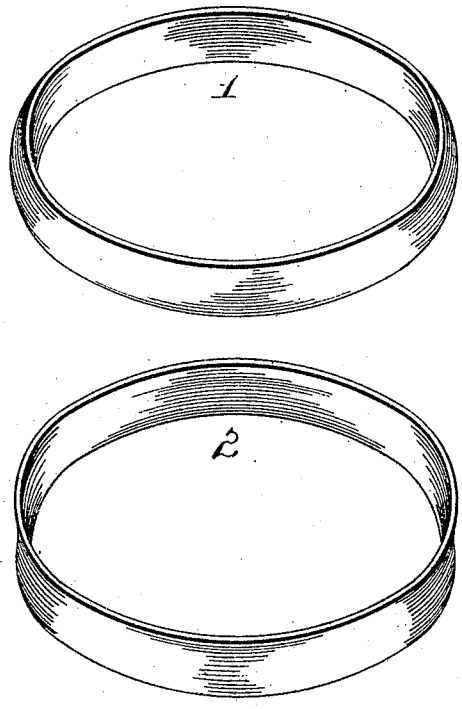


Fig. 3.

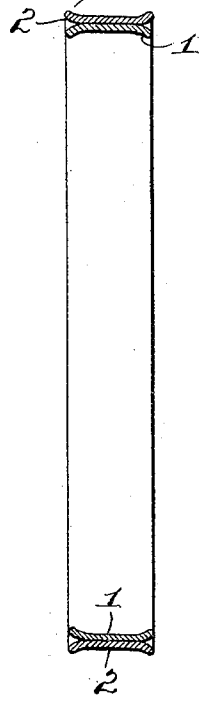


Fig. 4.

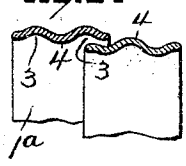


Fig. 5.

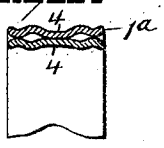


Fig. 6.

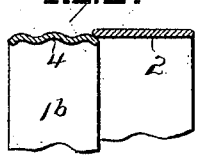
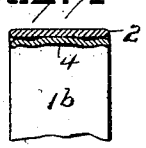


Fig. 7.



WITNESSES

E. Nottingham

G. F. Downing.

INVENTOR

N. C. Leonard

By A. A. Seymour

Attorney

UNITED STATES PATENT OFFICE.

NORRIS C. LEONARD, OF NASHVILLE, TENNESSEE.

EMBROIDERY-HOOP.

955,415. Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed November 5, 1908. Serial No. 461,221.

To all whom it may concern:

Be it known that I, NORRIS C. LEONARD, of Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Embroidery-Hoops; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in embroidery hoops.

Heretofore embroidery hoops have been provided with longitudinally corrugated faces, the corrugations of each hoop fitting the spaces between the projecting corrugations of the other hoop, for the purpose of solidly fastening the material to be embroidered, between the hoops, the two hoops being locked or clamped together by screw or other device on the outer hoop. With this, and other hoops of the same type, it is necessary to employ a split outer hoop, the ends thereof being provided with screw or other means whereby the hoop may be expanded and contracted, and locked in its contracted position around the inner endless hoop.

The object of my invention is to utilize the elasticity or resiliency of the material of which one or both hoops are formed and it consists in providing one or both of the hoops with elevations which will be compressed or more or less flattened, when the two hoops are assembled in their normal operative positions.

My invention further consists in the details of construction as will be more fully explained and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of two assembled hoops embodying my invention. Fig. 2 is a view in section of the hoops before they are assembled or forced together. Fig. 3 is a view in section showing them in their normal, assembled position and Figs. 4, and 5, and 6 and 7 are similar views of modified forms of hoops.

1 and 2 represent respectively the inner and outer hoops, both of which are made of a yielding or elastic material, such as indurated fiber, and are preferably formed from strips bent into circular form with abutting or overlapping ends secured together in any approved manner. In Fig. 1 the outer hoop 2 is convex on its inner or contacting face, and concave externally, while the inner hoop 1, is convex on its outer or contacting face and concave internally the extreme diameter of the outer convex surface of the inner hoop 1, being slightly greater than the diameter of the inner convex face of the outer hoop 2, so that a pressure will be required to force the outer hoop over and into position on the inner hoop. This forcing together of the two hoops causes an expansion and consequent flattening of the inner surface of the projecting portion of the outer hoop 1, and a compression and flattening of the projecting portion of the inner hoop 2 as shown in Fig. 3, which flattening, operates to not only secure the two hoops together but to firmly clamp the fabric being embroidered between them.

The main feature of this improvement, is in constructing one or both hoops with a projecting surface which when forced in contact with the other hoop, or with the fabric to be embroidered, will yield or flatten out, thus increasing the width of the contacting surfaces between the two hoops, and also the frictional resistance between them.

In the construction shown in Figs. 4 and 5 the outer hoop 1^a, is provided on its inner surface with two longitudinal depressions 3 forming a central longitudinal ridge 4, and the inner hoop is similarly shaped on its outer surfaces, so that when the two ridges 4 come together as in Fig. 5, both will be flattened, the inner one being compressed and the outer one expanded.

In the construction shown in Figs. 6 and 7, the outer hoop 2 is plain, and the inner one, 1^b, corrugated to form a central ridge as in Figs. 4 and 5.

In all the forms, I prefer to have the inner and outer faces of both hoops parallel.

The hoop can be corrugated or otherwise shaped between rollers, while in strip form, after which the ends are secured together by any approved fastening device.

From the foregoing it will be seen that the two hoops, are not necessarily alike in transverse section, but at least one of them is of such shape transversely, that when subjected to pressure, it will flatten out or yield, thus increasing its contacting surface with the other hoop, securely holding any

fabric placed between the hoops, and adjusting themselves to different thicknesses of fabric.

It is evident that the hoops may have shapes in transverse section other than those shown, hence I would have it understood that I do not confine myself to the shapes shown but consider myself at liberty to make such changes as fairly fall within the spirit and scope of my invention.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. A pair of concentric embroidery hoops, one of which is provided on its contacting face with an integral yielding projecting surface, and the other hoop having a contacting surface opposing the pressure exerted by the integral yielding contacting surface of the first-mentioned hoop so that said yielding contacting surface will be compressed or flattened under such pressure.

2. A pair of concentric embroidery hoops, one of which has parallel faces and provided on its contacting face with an integral yielding projecting surface engaged by the contacting face of the other hoop, said last-mentioned hoop having a contacting surface opposing the pressure exerted by the yielding surface of the first-mentioned hoop and operating to compress said yielding surface.

3. A pair of concentric embroidery hoops, one of which has an integral yielding ridge on its contacting face and a corresponding groove on its opposite face, and the other member coöperating with said ridge and tending to compress or flatten the same when in contact therewith or with the fabric between the hoops.

4. A pair of concentric embroidery hoops one of which is provided with a centrally located longitudinal ridge on its contacting face and a correspondingly located groove on its opposite face, the said ridge adapted to overlap the corresponding contacting face of its companion hoop and be flattened by contact therewith or with the fabric between the hoops.

5. A pair of embroidery hoops, one having one surface concave and the other surface convex, the convex surface adapted to coöperate with the contacting face of the other hoop, the contacting surface of said last-mentioned hoop being out of parallel with the convex contacting surface of the first-mentioned hoop and adapted to compress said convex surface.

6. A pair of concentric embroidery hoops each having a convex contacting surface.

7. A pair of concentric embroidery hoops each having a convex contacting surface, and a concave outer surface.

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

NORRIS C. LEONARD.

Witnesses:
EDGAR MAGNESS,
T. J. WRIGHT.