S. W. GIBBS.

EMBROIDERY HOOP.

APPLICATION FILED MAY 4, 1910.

989,597. Patented Apr. 18, 1911.

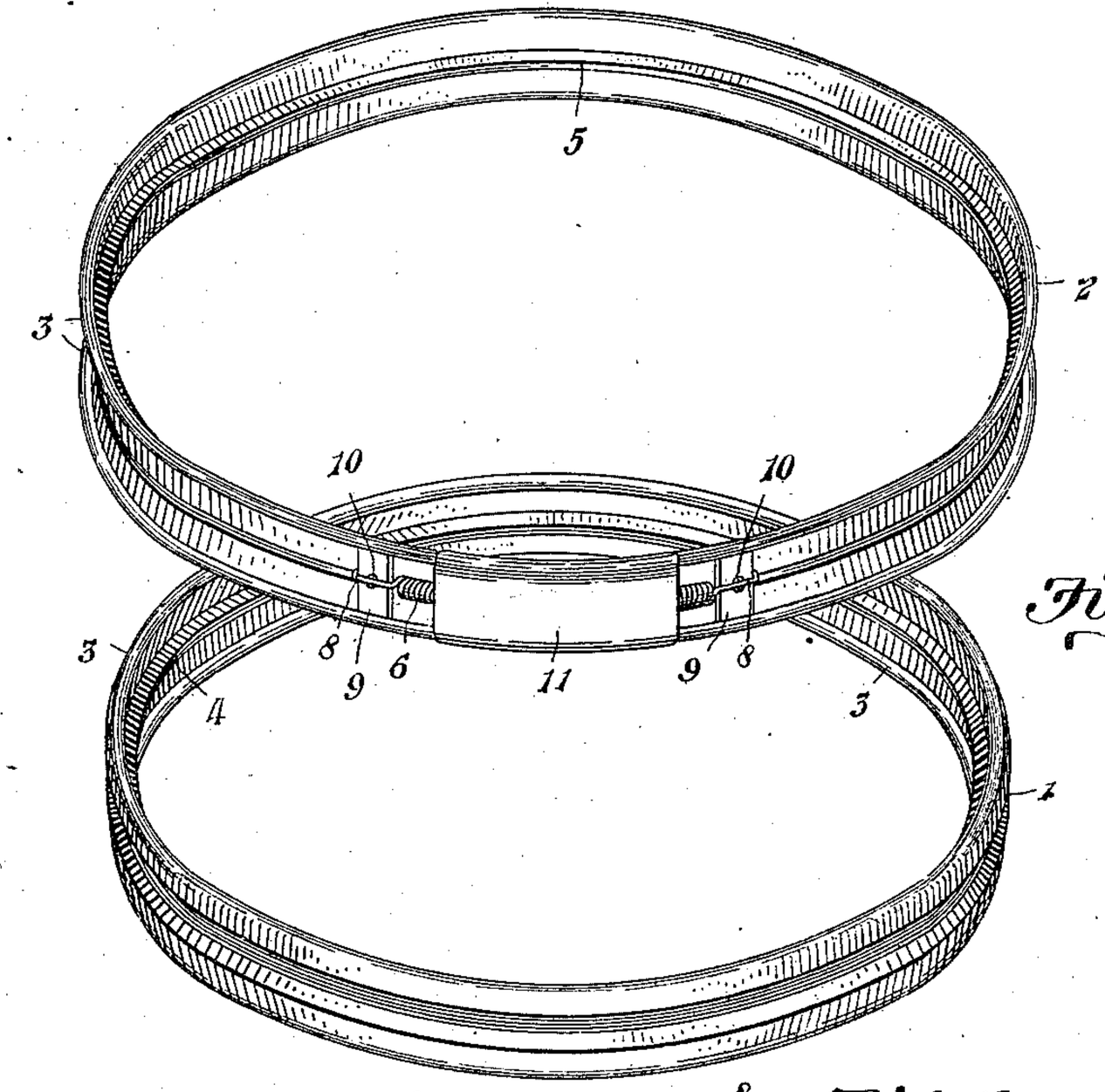


Fig. 1.

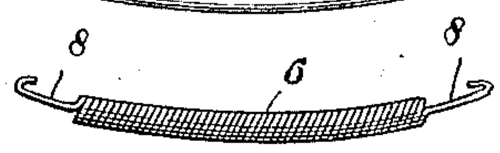


Fig. 2.

Fig. 4.

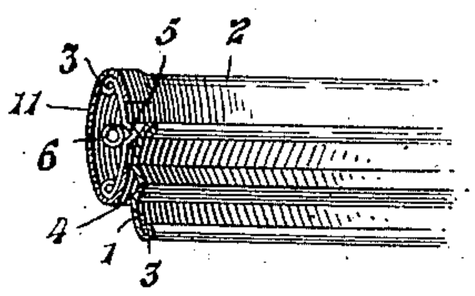
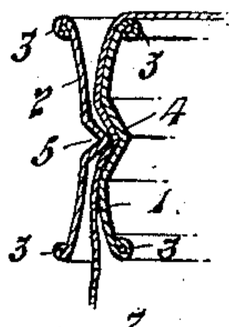


Fig. 3.



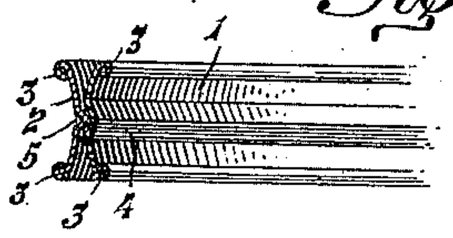


Fig. 6

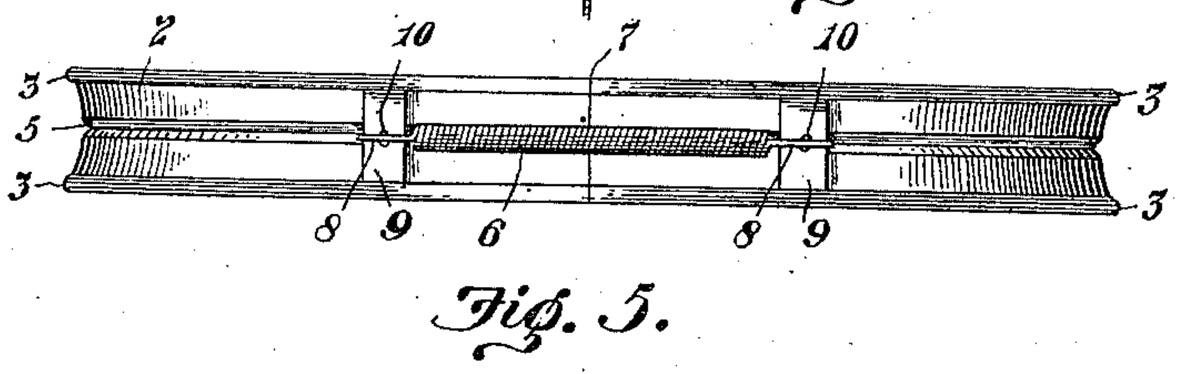


Fig. 5.

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EMBROIDERY-HOOP.

989,597. Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed May 4, 1910. Serial No. 559,305.

To all whom it may concern:

Be it known that I, SYLVESTER W. GIBBS, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Embroidery-Hoops, of which the following is a specification.

My invention relates to improvements in devices for holding or supporting cloth or other fabric upon which it is desired to embroider designs or do similar work and particularly relates to a device wherein two rings are provided, the relative adaptation of said rings being such that the one may be arranged within the other and the peripheries of the rings so shaped with reference to each other that the fabric to be worked upon will be held between the inner and outer rings and supported in taut condition across the inner ring, the fabric being clamped between the two rings about midway between the edges of the two concentric rings, but free at all other points except what might be termed the dull edge of contact of the outer ring upon the fabric.

The objects of my invention are, to firmly and securely hold the fabric in place and at the same time provide a device of simple construction which will clamp the fabric between the inner and outer rings without clamping the fabric between the entire surfaces of the inner and outer rings. I attain these objects together with other objects readily apparent to those skilled in the art by the construction illustrated in the accompanying drawing, although my invention may be embodied in a variety of other mechanical forms, the construction illustrated being chosen by way of example.

In the accompanying drawing:—Figure 1 is a perspective view of the inner and outer rings separated from each other to more fully disclose their construction. Fig. 2, is a detached view of the tension spring. Fig. 3 is a view showing portions of the inner and outer rings placed in proper relative position to clamp the cloth or fabric. Fig. 4 is a view showing portions of the inner and outer rings partially separated but in proper relative position to bring the outer ring over and upon the inner one, also showing a portion of the combined shield and clasp. Fig. 5 is a side elevation of the outer ring showing the combined shield and clasp removed. Fig. 6 is an enlarged view of the inner and outer hoop showing the same in proper relative position and the cloth or fabric properly clamped.

Throughout the several views like numerals of reference indicate corresponding parts.

The numeral 1 indicates the inner ring and 2 the outer ring between which rings the fabric is to be held. The rings 1 and 2 are preferably formed of sheet metal of comparatively light weight, but of such a weight that they will be firm and possess the desired amount of rigidity to properly hold the fabric.

For the purpose of increasing the rigidity of the rings and at the same time giving a neat and finished appearance and a protection as against the raw edges of the sheet metal, the rings are provided with the folded edges or beads 3. For the purpose of spacing the outer surface of the inner ring from the inner surface of the outer ring, except as hereinafter described, said rings are substantially convexo-concave and when the rings are placed one within the other the convexed faces of the rings are located adjacent each other.

About midway between the beaded edges of the inner ring there is formed an annular angular groove 4, said groove being located in the periphery of the inner ring. The outer ring is provided with an inwardly projecting angular ridge 5 which is designed to fit the groove formed in the inner ring. The groove 4 and the ridge 5 are comparatively narrow and are so formed for the purpose of gripping or clamping a very narrow strip or portion of the fabric or cloth. It will be understood that by forming the rings as shown; that is to say providing oppositely curved convexed surfaces as between the outer and inner ring the fabric or cloth will not be clamped between the inner and outer rings except at the dull edge of the angular ridge upon the outer and the narrow seat of the open groove formed in the inner ring.

It will be understood that when the fabric or cloth is placed between the inner and outer rings and said inner and outer rings brought into the position illustrated in Fig. 3 that the rings will be held in proper relative position with reference to each other, owing to the fact that the groove together with the narrow strip of fabric or cloth

which abuts against said angular ridge will be seated in the groove formed in the inner ring, thereby preventing any accidental displacement of the inner and outer rings and by reason of the tension of the outer ring the fabric or cloth will be properly gripped and held.

For the purpose of providing or forming the angular ridge 5 so that it will come in contact only at the seat of the groove 4, the walls constituting the groove and the angular ridge are given different angularities; that is to say the outer ring having the angular ridge is formed so that the walls or inclined faces will be at a sharper or nearer to a right angle than the inner faces of the groove, thereby, producing a divergency of the inner and outer faces as between the groove and the angular ridge by which arrangement there is no gripping of the cloth or fabric except as between the dull inner edge of the angular ridge and the extreme seat of the groove and when the cloth is placed between the rings as shown in Fig. 6 and the rings brought into the position shown in said figure the cloth will be forced into the groove which forcing of the cloth stretches the same and holds it in taut condition but only between the dull edge of the V-shaped ridge and the extreme seat of the groove, the balance of the cloth located between the two rings is not gripped or frictionally held between the rings except at the very narrowest portion necessary to hold the cloth.

It will of course be understood that the cloth will be held tight and snugly against the outer face of the inner ring after the same has been properly gripped, this feature being illustrated in Fig. 6. It will be understood that when the rings are placed in position and after the cloth is placed in position and during the time the rings are brought into position to grip the cloth, said cloth or fabric will be drawn taut or stretched by reason of the contact of the dull edge of the angular ridge upon the goods thereby stretching the goods in all directions and when the angular ridge comes directly opposite the V-shaped groove the action of the spring will seat the angular ridge in the groove thereby holding the cloth in its stretched condition and holding the rings in proper relative position with reference to each other.

In order to provide for the proper gripping of the cloth the outer ring is provided with a spring 6, which spring is formed of such a tension that it will have a tendency to hold the outer ring snugly upon the inner ring under all circumstances, said ring being formed of sufficient elasticity to allow the outer ring to be easily removed from the inner ring or placed upon said inner ring.

The outer ring is cut as at 7 for the purpose of allowing proper adjustment for said outer ring with reference to the inner ring and also with reference to the fabric and cloth clamped between the two rings.

In order to hold the opposite ends of the outer ring in contact with each other as best illustrated in Fig. 5 the spring 6 is provided, which spring is provided with the hooked extensions 8, which are for the purpose of engaging the bridge bars 9, which bridge bars are located upon opposite sides of the cut as best illustrated in Fig. 5. It will be understood that in some instances it may be desirable to adjust the tension of the spring and in order to provide for such adjustment the bridge bars 9 are provided with the apertures 10, which apertures are for the purpose of receiving the hooked ends 8. In Fig. 5 the hooked ends are shown located upon the outer edges of the bridge bars, but should it be desired to change the tension of the spring this adjustment can be made by hooking in the apertures.

For the purpose of providing a shield for the spring and at the same time a clasp to hold the outer ring at the portion where it is cut the combined shield and clasp 11 is provided, which consists of a sheet of metal formed of a sufficient width to be bent over the beaded edges of said outer hoop and for the purpose of allowing the ends of the hoop to come and go to and from each other the combined shield and clasp should be attached upon one side of the cut only, thereby, allowing the hoop to be expanded or contracted during the time the inner and outer hoops are adjusted one upon the other. In the drawing I have illustrated two bridge bars 9 but it will readily occur to a skilled mechanic that one of the bridge bars may be dispensed with and one of the hooked ends simply connected to the combined shield and clasp 11, said connection being made at the end of said clasp which is attached to the hoop.

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

1. An embroidery hoop comprising two rings, one adapted to be arranged within the other, said rings provided with convexo-concave faces, the convex faces located opposite each other, one of said rings provided with an annular groove and the other of said rings provided with an annular angular ridge, said ridge and groove located intermediate the edges of the rings, the angular ridge adapted for contact with the apex of the groove, substantially as and for the purpose set forth.

2. An embroidery hoop comprising two rings, one adapted to be arranged within the other, said rings provided with convexo-concave faces located opposite each other, the

outer ring provided with bridge-bars and cut intermediate said bridge-bars, a tension spring adapted to be connected to the bridge-bars, a shield secured to said outer ring upon one side of the cut and adapted to bridge the spring, substantially as and for the purpose specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

SYLVESTER W. GIBBS.

Witnesses:
F. W. BOND,
A. M. MCCARTY.