

S. W. GIBBS.
EMBROIDERY HOOP.
APPLICATION FILED MAR. 16, 1909.

928,598.

Patented July 20, 1909.

Fig. 1.

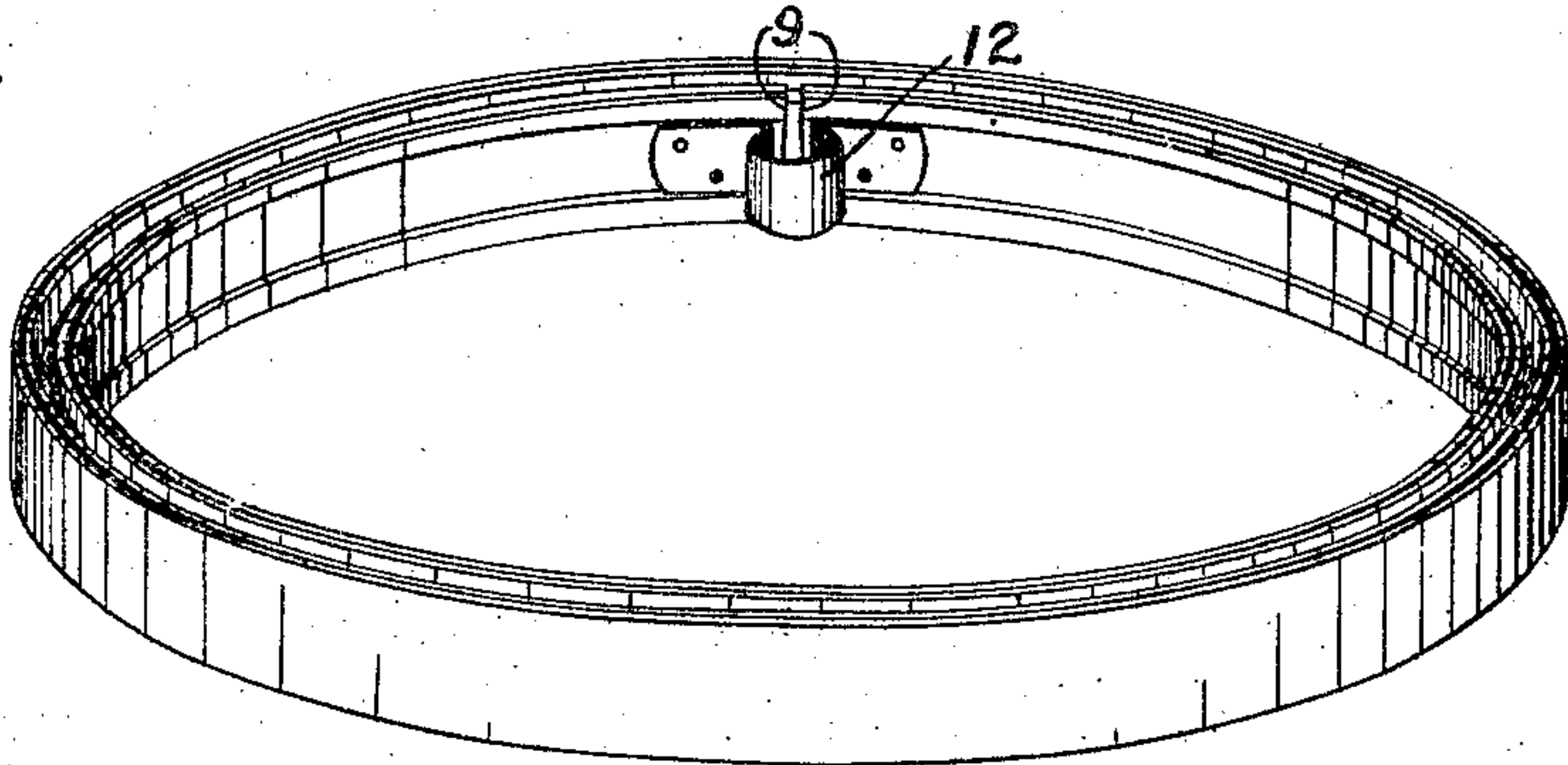


Fig. 2.

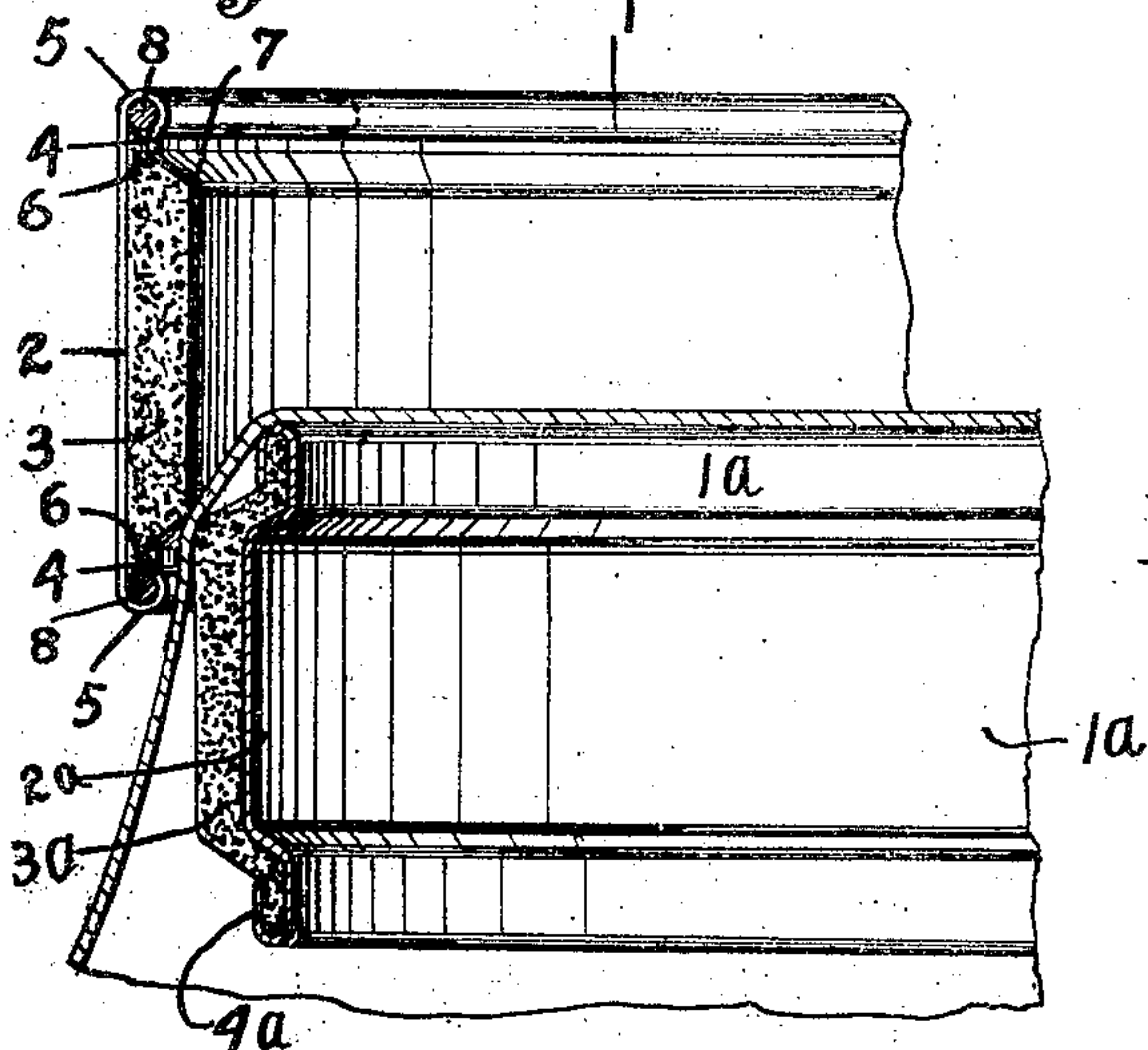


Fig. 4.

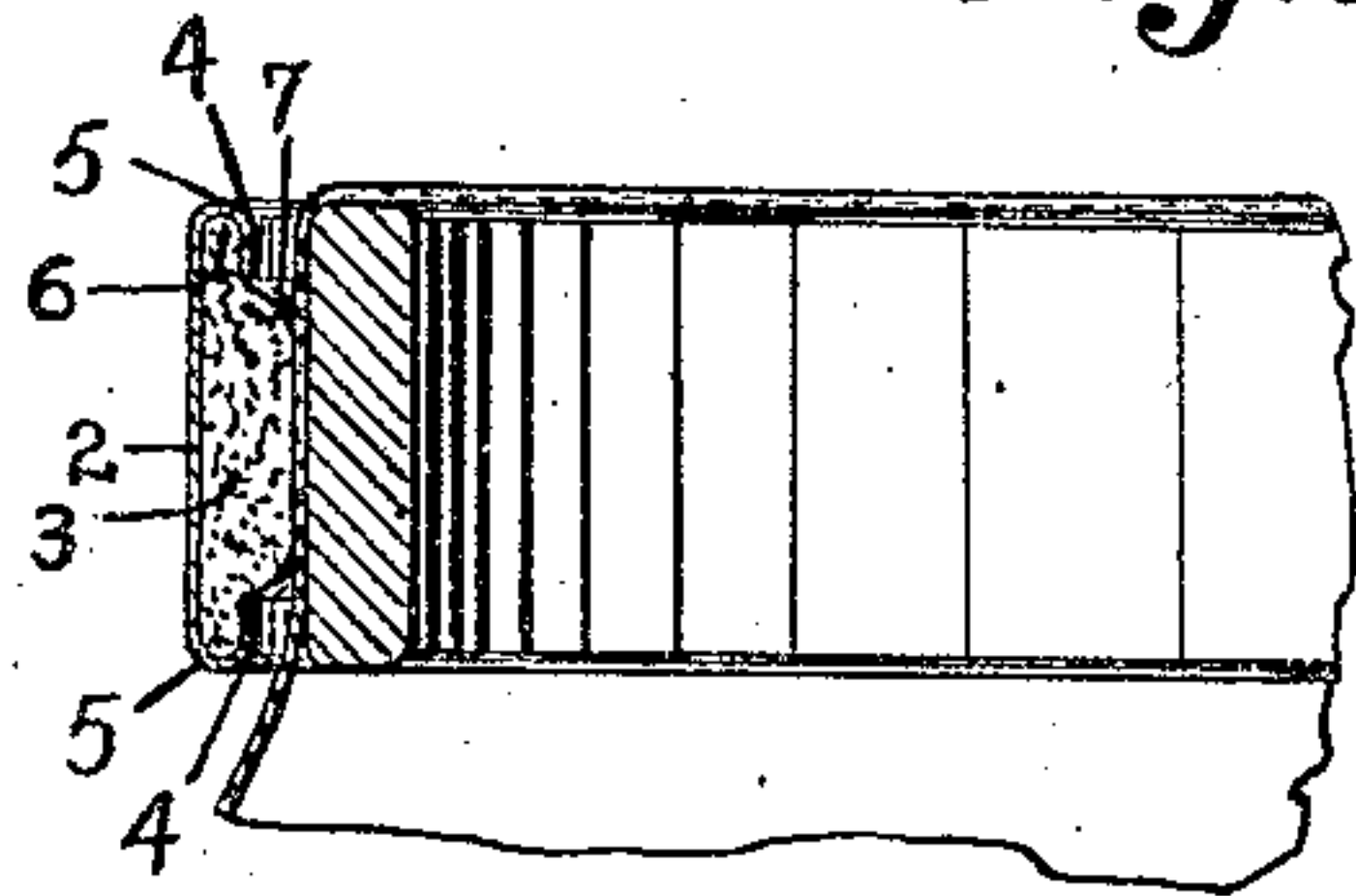


Fig. 5.

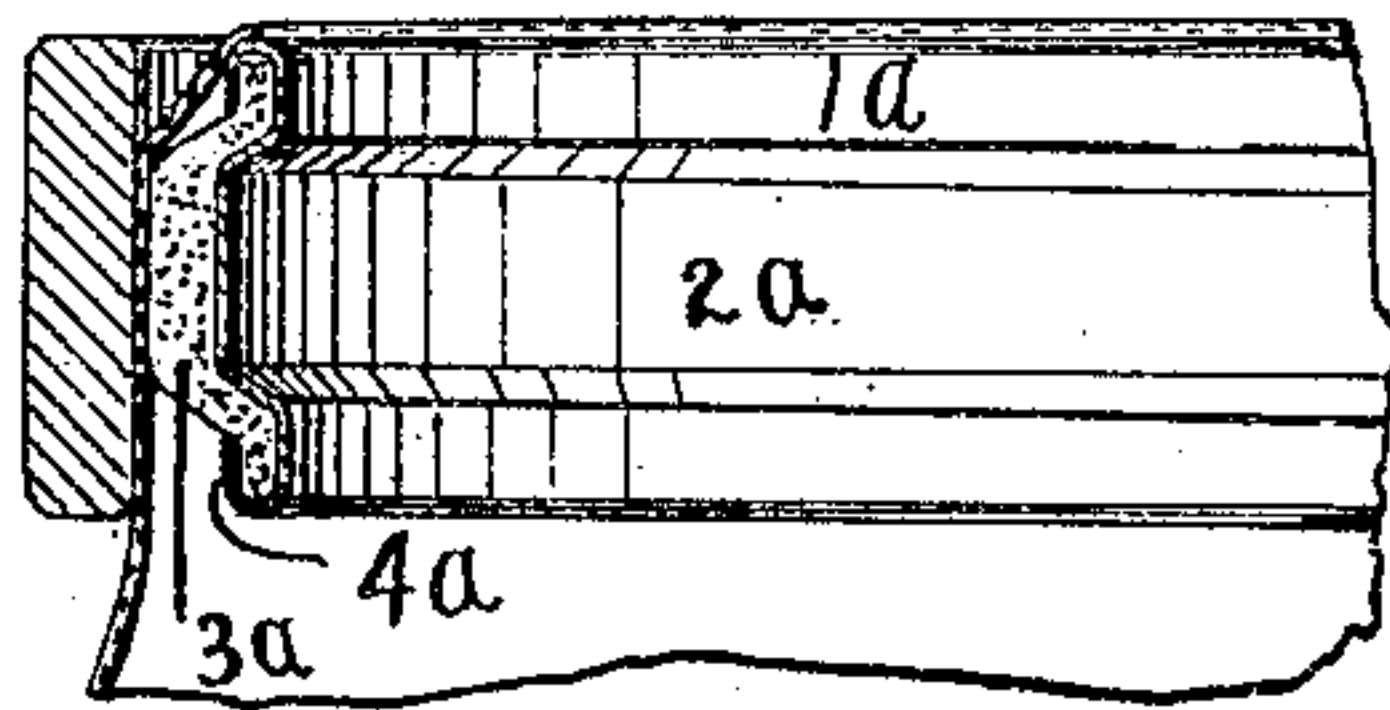


Fig. 6.

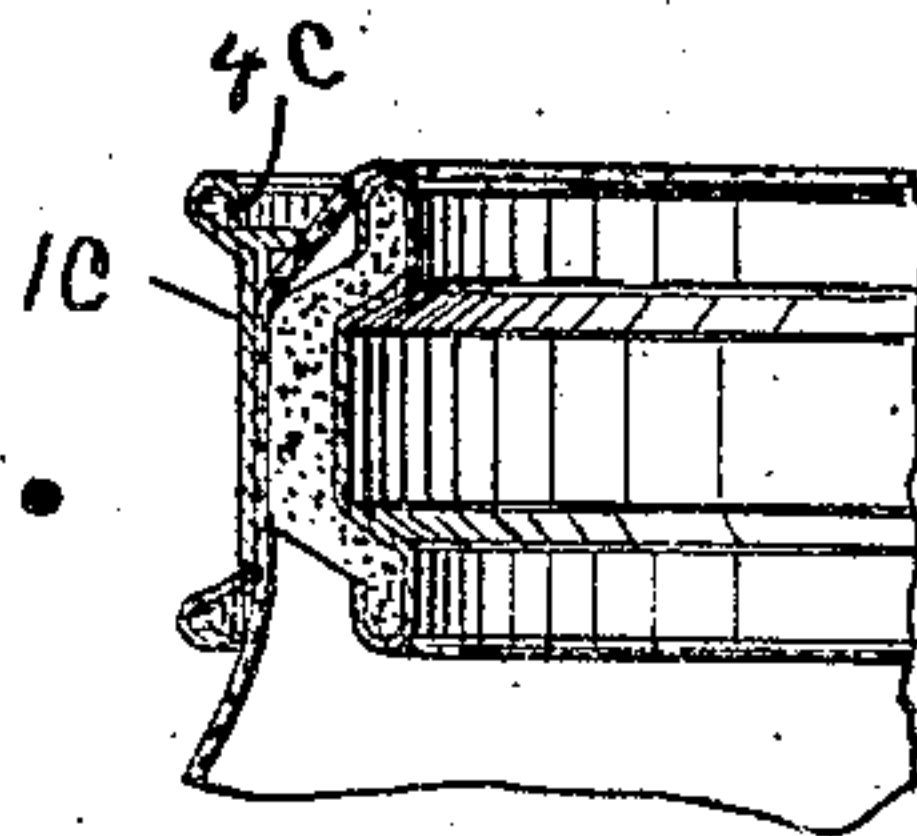


Fig. 7.

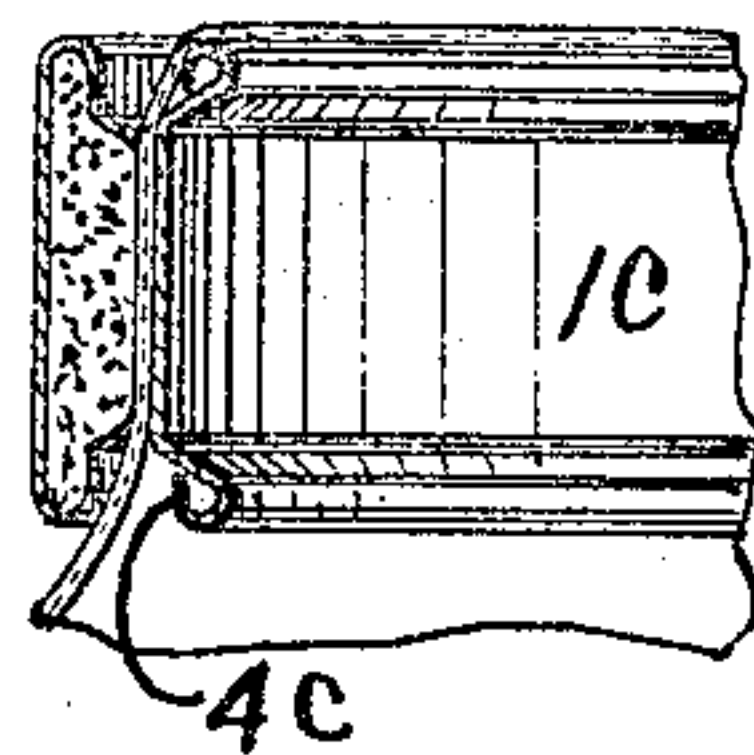


Fig. 3.

Witnesses;

Wm. R. Rhoads
Ruth A. Miller

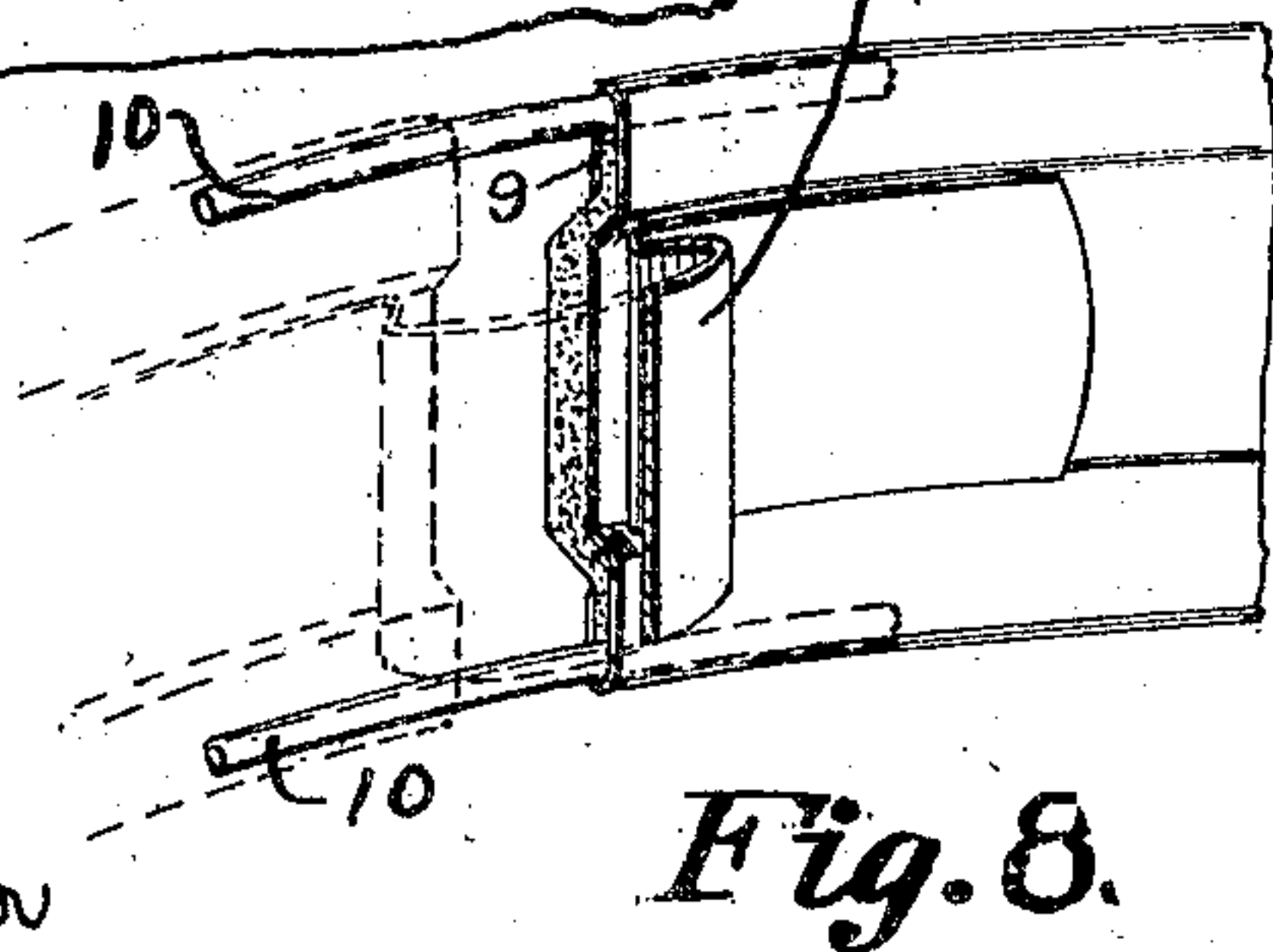


Fig. 8.

Inventor
Sylvester W. Gibbs,
By
Harry Freese
Attorney.

UNITED STATES PATENT OFFICE.

SYLVESTER W. GIBBS, OF CANTON, OHIO; ASSIGNOR TO THE GIBBS MANUFACTURING COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

EMBROIDERY-HOOP.

No. 928,598.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed March 16, 1909. Serial No. 483,717.

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.

The invention relates to a frame composed of two telescoping rings arranged to stretch and hold a fabric over the inner ring for the purpose of embroidering the fabric; and particularly to that class of frames commonly known as cushioned hoops, in which the holding surface of one or both of the rings is provided with a band of felt or other resilient frictional material. In making and using wooden hoops of this character, difficulty has been experienced in applying and holding the resilient frictional band to the body of the ring. This has usually been done by gluing the band either on the face of the ring or in a countersink therein, and the edges of the band have also been depressed in grooves or on diverging side portions of the ring. All these methods of construction depend largely if not entirely upon the adhesiveness of the glue to hold the band in proper position, and in none of them are the edges of the band positively protected and clamped to prevent a loosening of the same from the ring. These difficulties are overcome by making the body of the rings out of sheet metal with a resilient frictional band applied thereto, and by having the edge portions of the sheet metal bent or beaded around and over the edge portions of the band and clamped thereon, whereby the resilient frictional material is held securely in place and its edge portions are positively protected without the use of glue or other adhesive element. The middle portion of the sheet metal ring can also be shaped to be in line with or to protrude beyond the beaded edges thereof, thus positively presenting the whole thickness of the corresponding portion of the resilient frictional material to the holding face of the opposing ring.

In the use of cushioned hoops, a further difficulty arises from the fact that the resilient frictional material ultimately loses a considerable part of its resilience, and becomes worn by abrasion or is permanently packed

into a much less depth than its original thickness; as a result of which the diameter and circumference of the holding face of the cushioned ring is so varied that it does not properly fit the companion ring, thus rendering the hoop inefficient to hold the thinner fabrics. This difficulty has been overcome by transversely cutting or dividing one of the hoops and by connecting the severed ends by a spring adapted to automatically clamp the cut hoop against the other one, whereby the diameter and circumference of the holding face of the severed hoop is automatically adjusted to properly fit the holding face of the companion hoop; and an ancillary object of the present invention is to provide means for suitably joining and holding the severed ends of the cut hoop in proper alinement during the adjusting movements. This particular object is attained by entering pieces of properly curved wire in the hollows of the respective beads on the severed ends of the cut, and by clamping the beads tightly around one end of each wire and loosely around the other end, whereby the loose end of each wire is adapted to slide in the guide formed by the corresponding bead, and the severed ends of the cut hoop are thus held in true circumferential alinement.

The purposes of the invention, thus set forth in general terms are attained by the preferred embodiment of the same illustrated in several modified forms, in the accompanying drawing, forming part hereof, in which—

Figure 1 is a perspective view of the improved embroidery hoop; Fig. 2, an enlarged section through one side of the same, showing the rings separated in proper position for telescoping to stretch and hold an intervening fabric; Fig. 3, a similar section showing the rings telescoped together with the fabric stretched and held between them; Fig. 4, a similar section showing an improved outer ring in conjunction with an ordinary inner ring; Fig. 5, a similar section showing an improved inner ring with an ordinary outer ring; Fig. 6, a similar section showing an improved cushioned inner ring with an improved form of a sheet metal outer ring; Fig. 7, a similar section showing an improved cushioned outer ring with an improved form of sheet metal inner ring; and Fig. 8, a frag-

mentary perspective view showing the improved adjustable joint between the severed ends of the cut hoop.

Similar numerals refer to similar parts throughout the drawing.

The rings are preferably made of sheet metal or other suitable thin material, and in the embodiment of the invention illustrated in Figs. 1, 2 and 3, the outer ring 1 is shaped with a cylindric web or periphery 2, on the inner side of which the band of resilient frictional material, as of felt 3, is laid, and the edge portions or flanges 4 of the ring are formed or bent as a bead 5 around and over the edge portions 6 of the felt, against which the flanges are preferably clamped. The engagement of the flanges against the edge portions of the felt compresses and packs the same into a comparatively thin depth, and the flanged edge portions of the ring are thus located in a plane considerably below the normal surface 7 of the resilient material, so that the same protrudes beyond the edge portions of the ring and is presented to the opposing face of the companion ring. The inner ring 1^a is made in a similar manner, excepting that the middle portion of the web 2^a of this ring is shaped or bent outward to protrude between the flanged edge portions 4^a thereof, either in or beyond the plane thereof, and it is evident that the whole thickness of the corresponding portion of the felt band 3^a is thus located in a plane beyond the flanged edge portions of the ring and therefore cannot be worn or compressed between the same. The joint for the ends of the strip out of which the ring is formed, is preferably made by inserting sections of wire 8 in the hollows of the beads and then clamping the beads around the wires, as shown for the outer rings in Figs. 2 and 3. One of the rings, the inner ring as shown, is preferably cut or divided on one side to permit this ring to be expanded or contracted so that its holding face will properly fit the holding face of the companion ring, and in order to effect this adjustment automatically the severed ends 9 of the divided ring are preferably connected by controlling means, as the bow spring 12, and the severed ends are always held in proper circumferential alignment by curving the wires 10 like the normal circumference of the ring, and inserting them in the hollows of the end portions of the respective beads, one end of each wire being secured in the bead on one side of the divide, and the other end being adapted to slide endwise in the bead on the opposite side thereof.

For simplicity and economy, it is sometimes desirable to make one of the improved rings of sheet metal, without the resilient frictional band, as the rings 1^c in Figs. 6 and 7, in which event the middle portion of the web is preferably shaped or bent to protrude beyond the plane of the edge beads 4^c and to

present a cylindrical holding face to the companion ring.

It is evident that the use of sheet metal for the rings is not an essential feature of the invention but the same is very desirable for conveniently shaping the beads, the flanges and the middle portions thereof. And it is also evident that it is not essential to clamp the flanged edge portions of the ring against the edge portions of the resilient frictional band, but it is desirable to do so when the band is made of felt or other similar flexible material.

The general ideas of making an embroidery hoop out of sheet metal with beads on the edges, and of making a joint by clamping wires in the hollows of the beads, which are illustrated and described, but not claimed herein, are included in the subject-matter of another application for Letters Patent filed herewith. I do not claim to be the first inventor of a cushioned hoop having one ring divided and connected by a controlling spring.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An embroidery hoop composed of two telescoping rings made of sheet metal or the like with resilient frictional bands on their holding faces, the edge portions of the metal being bent around and over the edge portions of the bands, the outer ring being formed with a cylindric periphery, and the middle portion of the inner ring being shaped to protrude between the bent-over edge portions.

2. An embroidery hoop composed of two telescoping rings made of sheet metal or the like with resilient frictional bands on their holding faces, the edge portions of the metal being bent around and over the edge portions of the bands, and the middle portion of one of the rings being shaped to protrude between the bent-over edge portions.

3. An embroidery hoop composed of two telescoping rings made of sheet metal or the like with resilient frictional bands on their holding faces, the edge portions of the sheet metal being bent around and over the edge portions of the bands.

4. A ring for an embroidery hoop made of sheet metal or the like with a band of resilient frictional material on its holding face, the edge portions of the sheet metal being bent around and over the edge portions of the band, and the middle portion of the sheet metal being shaped to protrude between the bent-over edge portions.

5. An embroidery hoop composed of two telescoping rings having resilient frictional bands on their holding faces, there being flanges on the edge portions of the rings extending around and over the edge portions of the bands, the outer ring being formed with a cylindric periphery and the middle portion

of the inner ring being shaped to protrude between the flanges.

5 6. An embroidery hoop composed of two telescoping rings having resilient frictional bands on their holding faces, there being flanges on the edge portions of the rings extending around and over the edge portions of the bands, the middle portion of one of the rings being shaped to protrude between its
10 flanges.

7. A ring for an embroidery hoop having a band of resilient frictional material on its holding face, there being flanges on the edge portions of the ring extending around and
15 over the edge portions of the band, and the middle portion of the ring being shaped to protrude between the flanges.

8. A divided ring for an embroidery hoop with hollow beads on its edges and having
20 wires curved like and extending into the hollows of the beads on each side of the divide, one end of each wire being secured in the bead on one side of the divide and the other end being adapted to slide endwise in the
25 opposing bead, with a controlling spring connecting the severed ends of the ring.

9. A divided ring for an embroidery hoop with hollow beads on its edges and having wires curved like and extending into the hol-

lows of the beads on each side of the divide, 30 one end of each wire being secured in the bead on one side of the divide and the other end being adapted to slide endwise in the opposing bead, with controlling means connecting the severed ends of the ring. 35

10. A ring for an embroidery hoop made of sheet metal or the like with beads on each edge and having the middle portion of the web shaped to protrude a cylindric face beyond the plane of the beads. 40

11. A ring for an embroidery hoop made of sheet metal or the like with a band of resilient frictional material on its holding face, the edge portions of the sheet metal being bent around and over the edge portions of
45 the band, and the web being shaped to present a cylindric face.

12. An embroidery hoop composed of two telescoping rings having at least one of the rings made of sheet metal or the like with a
50 resilient frictional band on its holding face and having the edge portions of the sheet metal bent around and over the edge portions of the band.

SYLVESTER W. GIBBS.

Witnesses:

WM. R. RHOADS,
RUTH A. MILLER.