

No. 892,961.

PATENTED JULY 7, 1908.

F. E. KOHLER.  
EMBROIDERY HOOP.

APPLICATION FILED APR. 22, 1908.

2 SHEETS—SHEET 1.

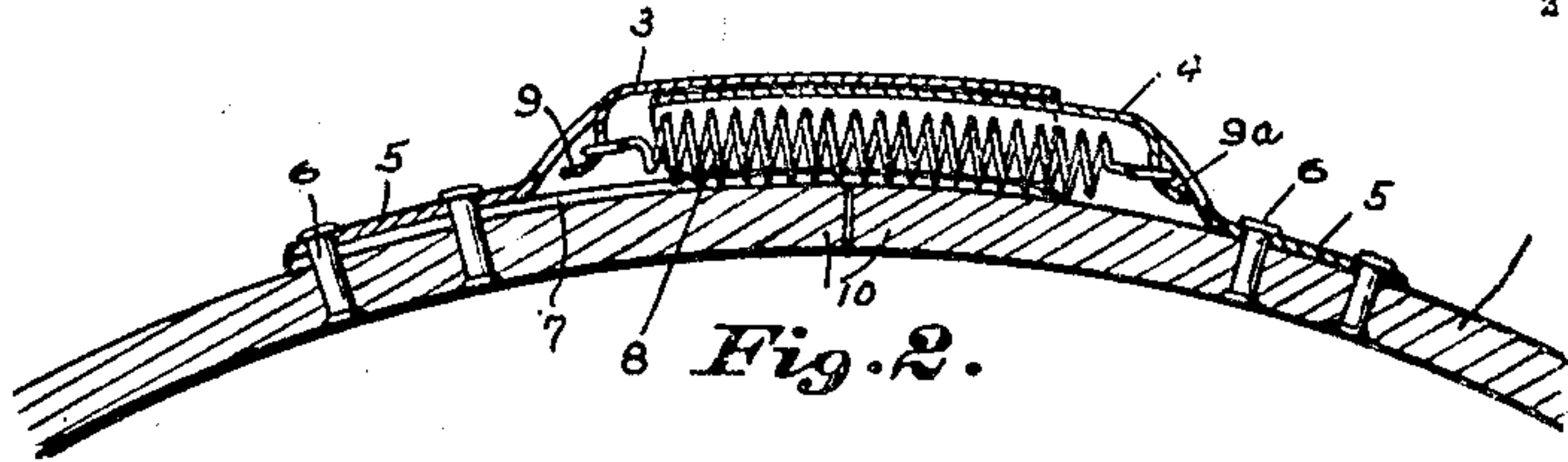
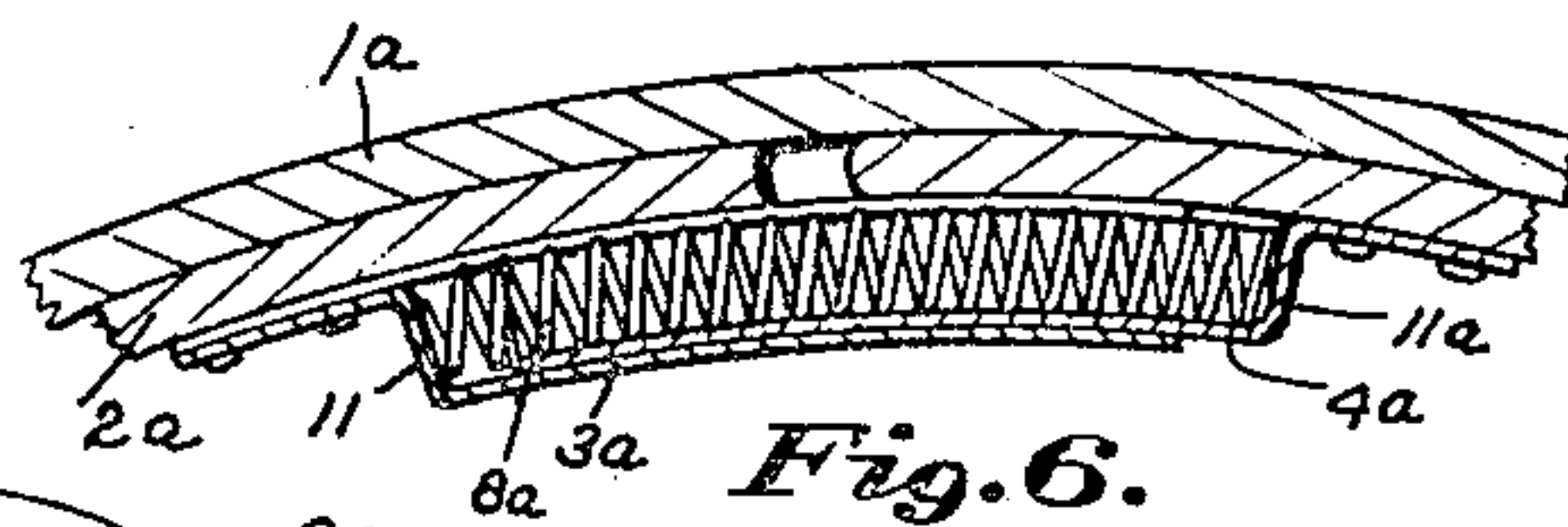
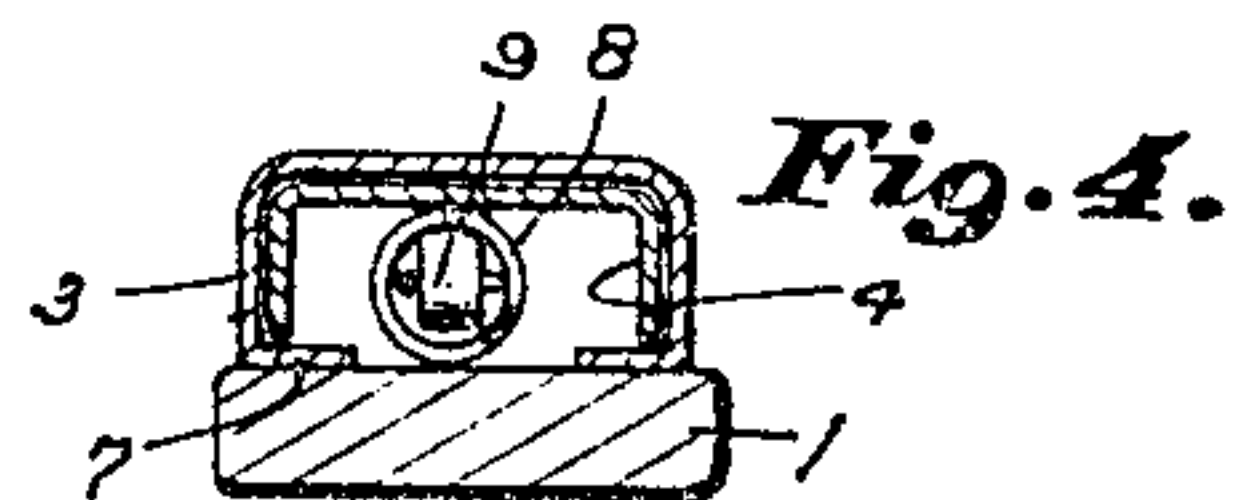
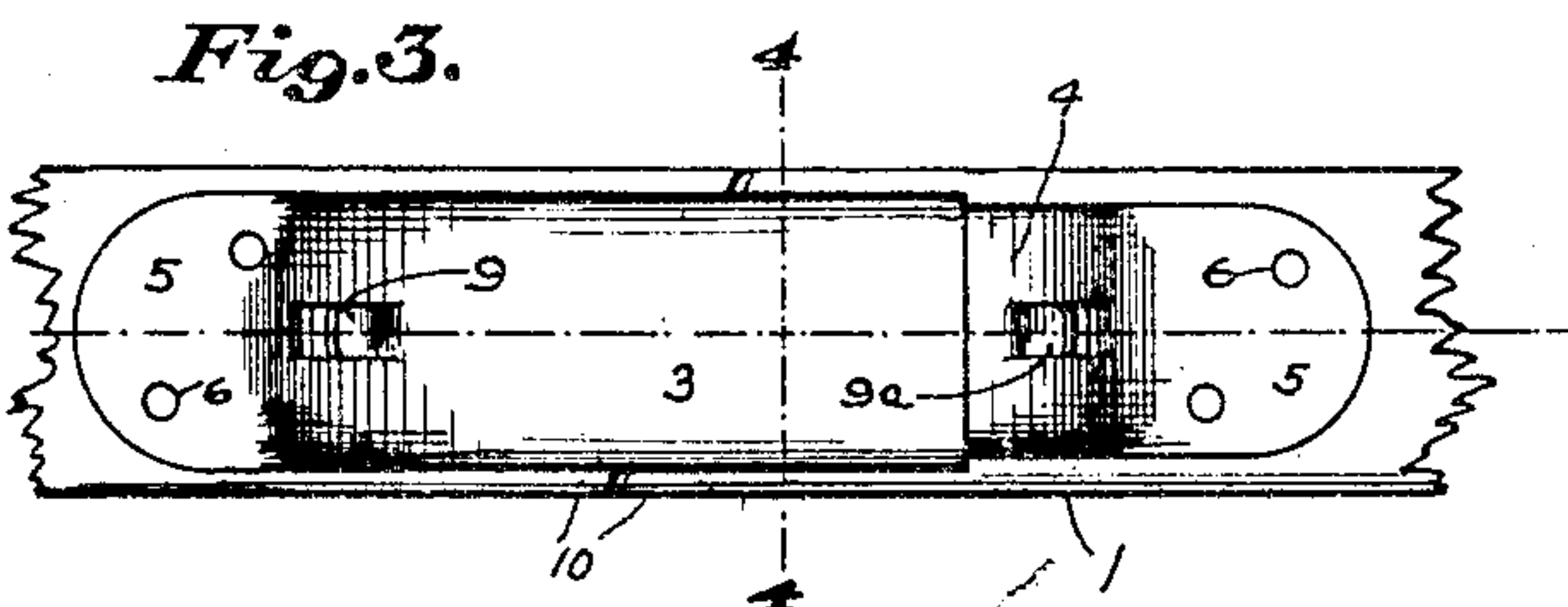
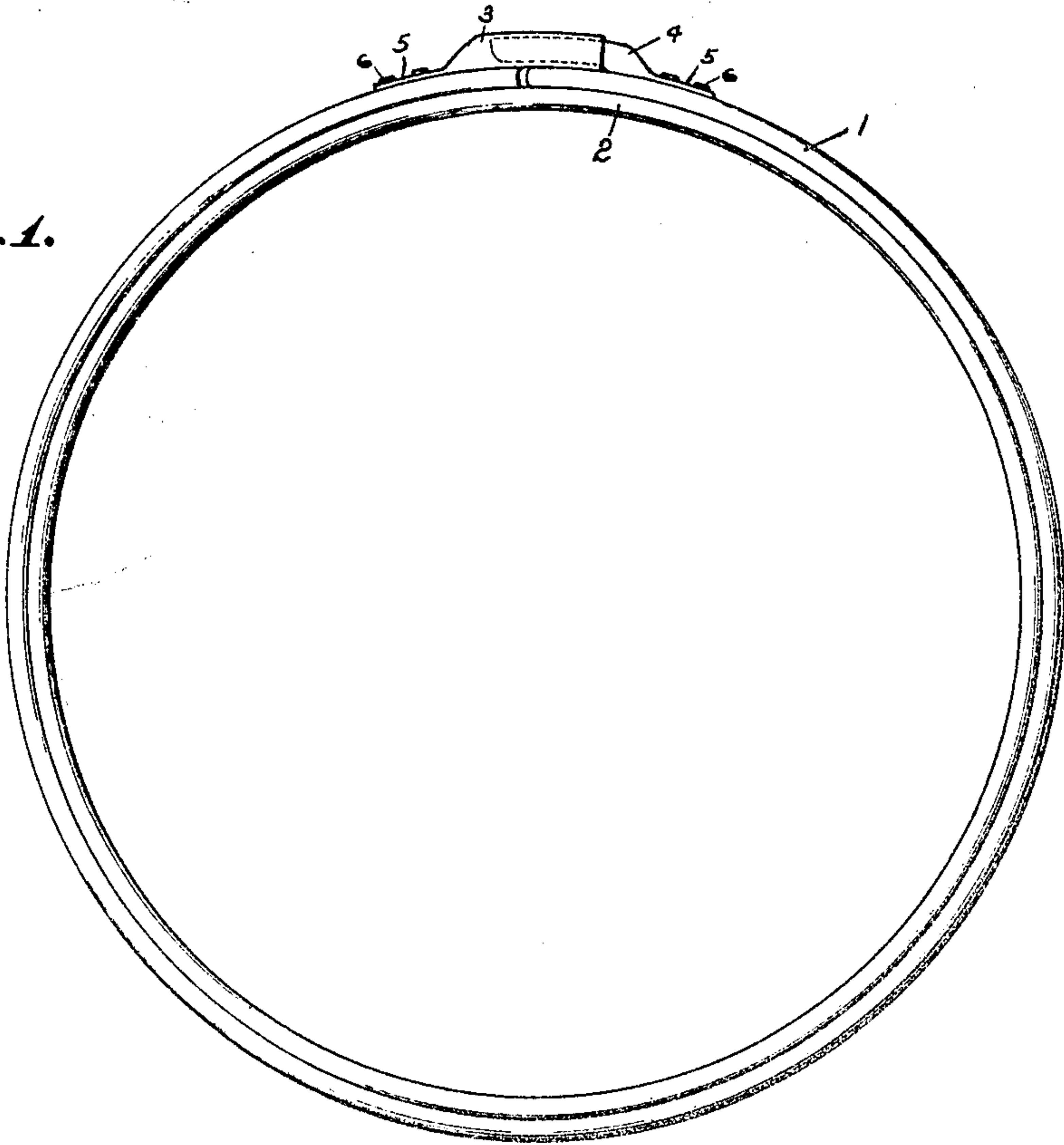


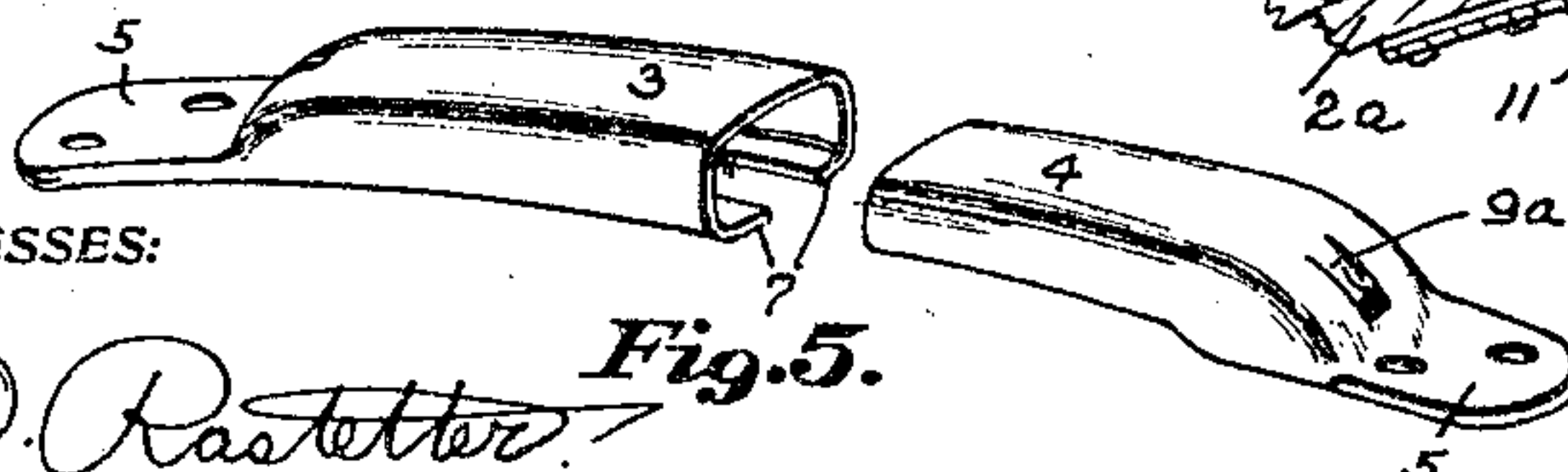
Fig. 1.



WITNESSES:

Harry O. Rastetter  
Ruth A. Miller

Fig. 5.



Frederick E. Kohler  
BY  
Harry Freese.  
ATTORNEY

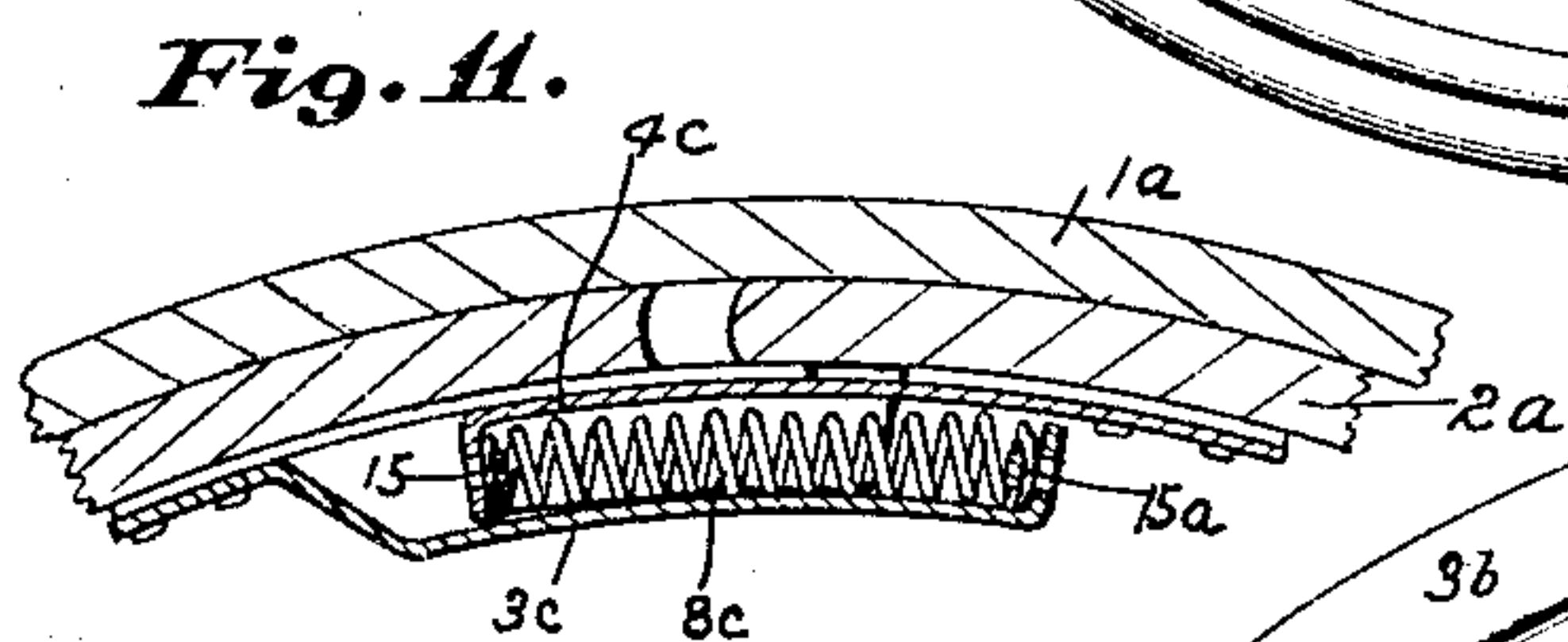
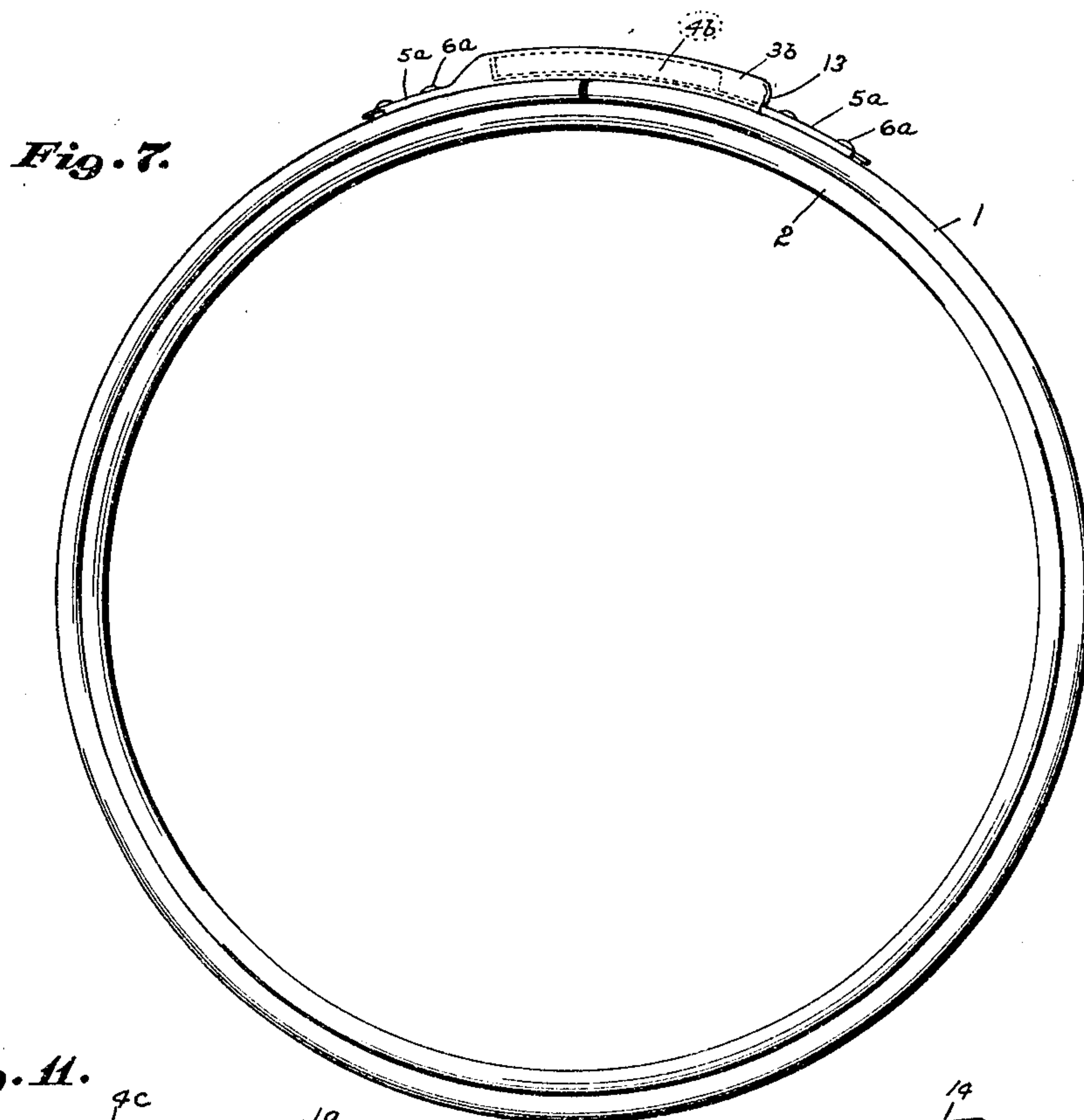
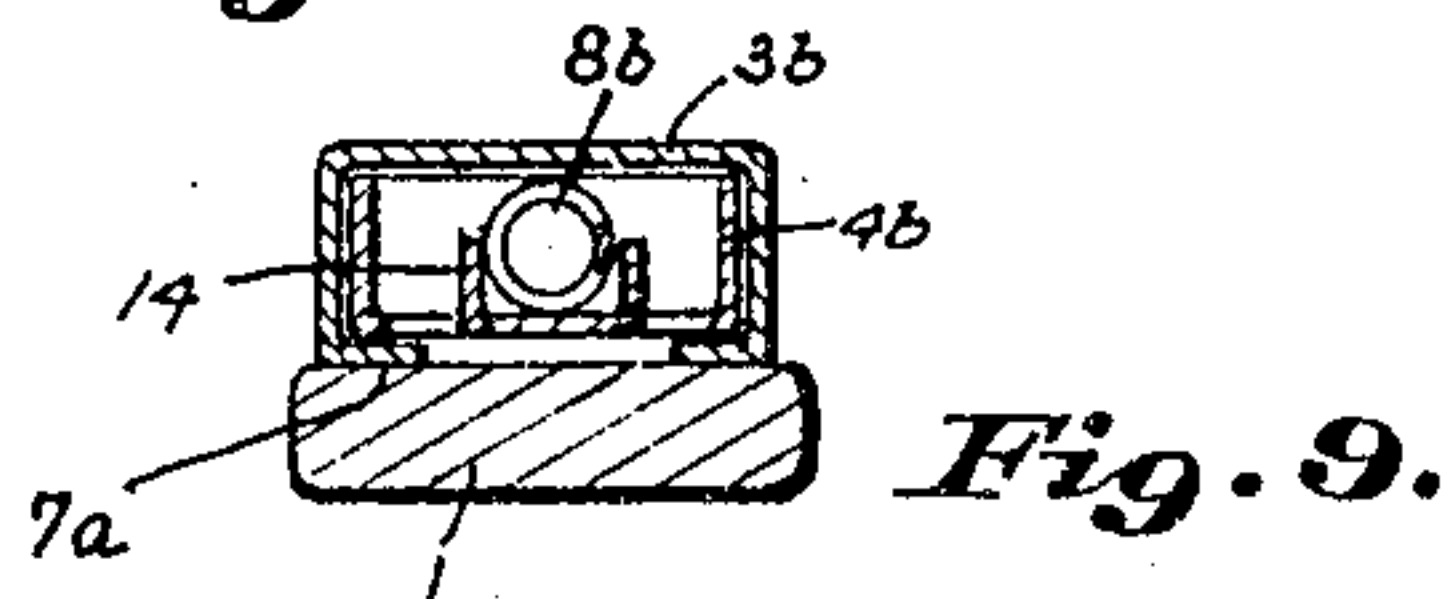
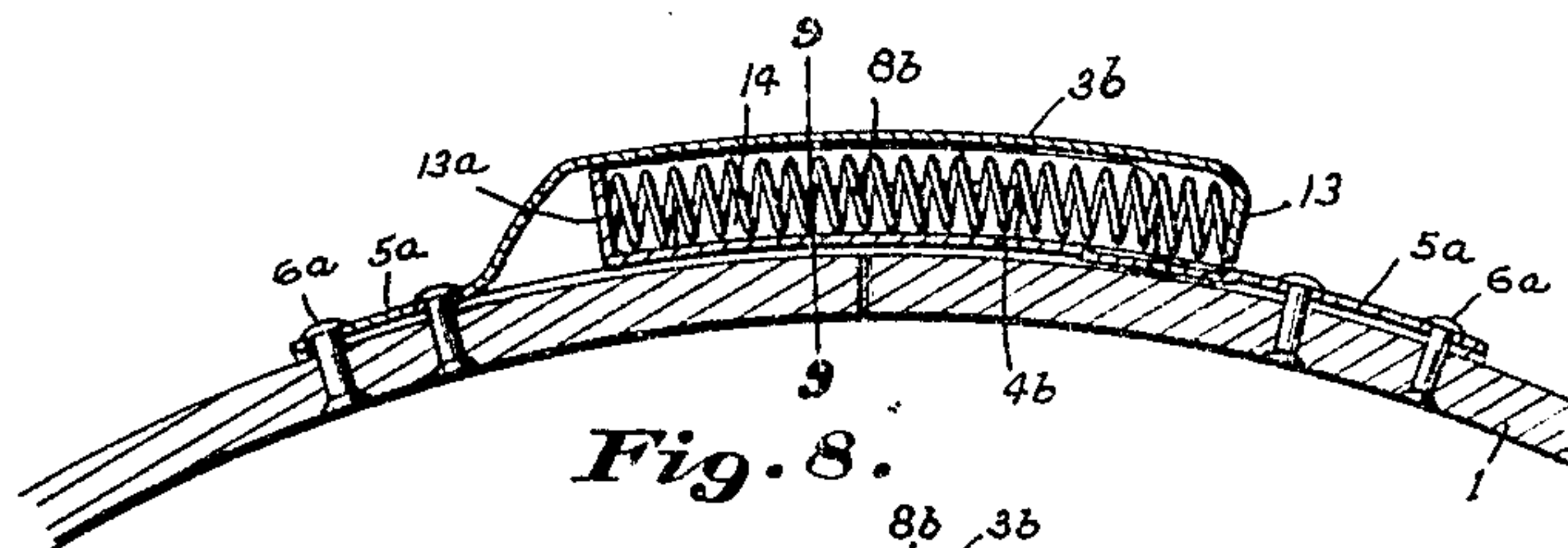
No. 892,961.

PATENTED JULY 7, 1908.

F. E. KOHLER.  
EMBROIDERY HOOP.

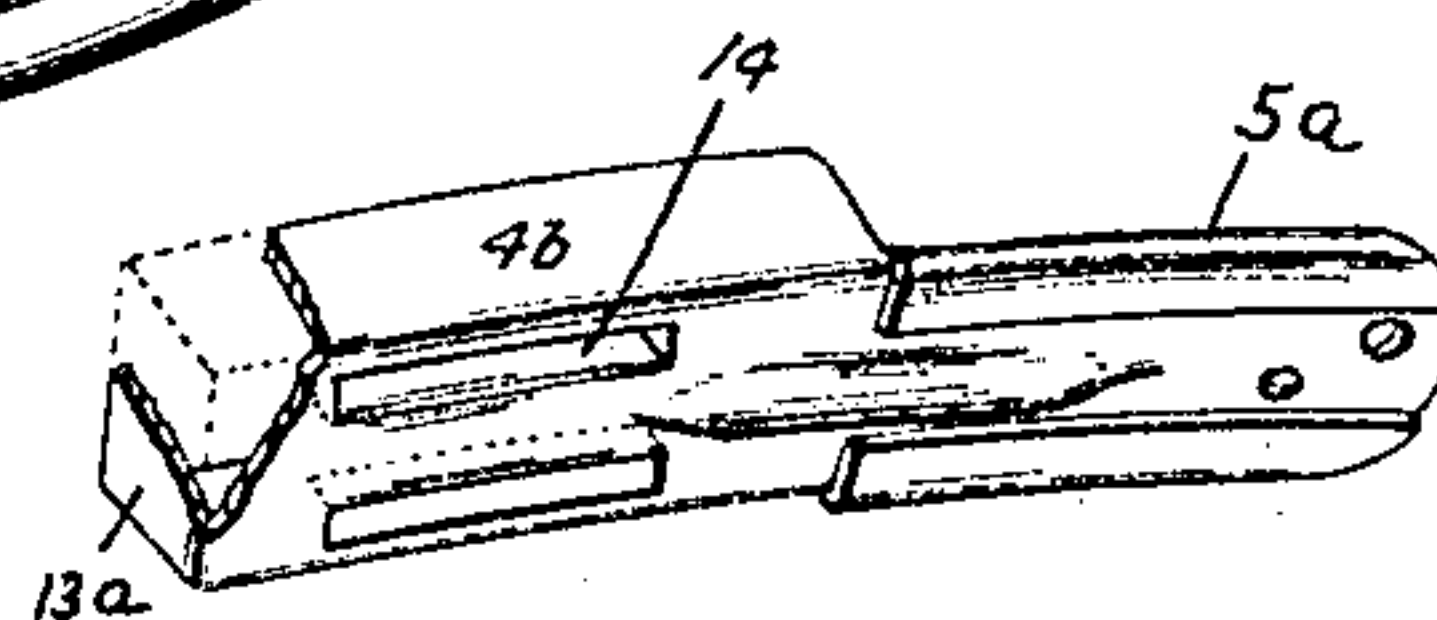
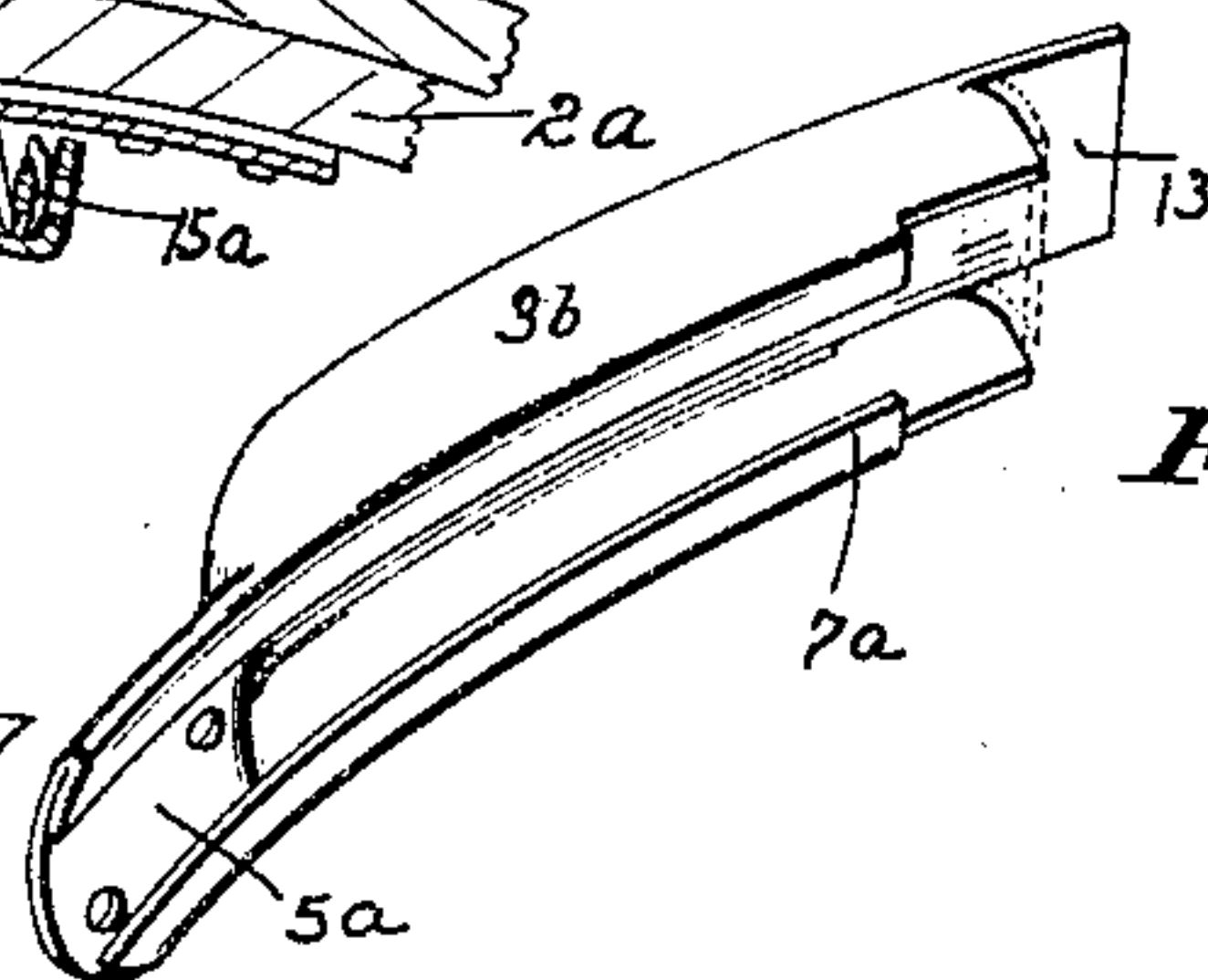
APPLICATION FILED APR. 22, 1908.

2 SHEETS—SHEET 2.



WITNESSES:

Harry O. Rastetter,  
Ruth A. Miller



INVENTOR  
Frederick E. Kohler,  
BY  
Harry Freese,  
ATTORNEY



# UNITED STATES PATENT OFFICE.

FREDERICK E. KOHLER, OF CANTON, OHIO.

## EMBROIDERY-HOOP.

No. 892,961.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed April 22, 1908. Serial No. 428,492.

*To all whom it may concern:*

Be it known that I, FREDERICK E. KOHLER, 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 hoop composed of two rings, one telescoping within the other, by means of which a piece of linen or other fabric or thin material is stretched and held for embroidering or other work, and of that particular class of hoops in which at least one ring is cut and the severed ends thereof are automatically controlled by an expansion or compression spring, as the case may be, to permit its being forced outside or inside the other ring; and the object of the improvement is to provide connecting means for holding the severed ends of the cut ring in true annular alinement, so that the same will press against the other ring just as firmly and as positively as any other portion of the cut ring, and the fabric will be held equally secure at all points between the rings of the hoop.

Another feature of the invention relates to the embodiment of connecting means in a case composed of two telescoping members on the respective adjacent ends of the cut ring, in which case the controlling spring is adapted to be inclosed. This arrangement permits the use of a spiral spring, which would otherwise be objectionable for the purpose in question, and the inclosure of the spring in a case permits the connecting means to be made with a smooth exterior, and with little protrusion from the side of the hoop, so that no projections are presented on which the fabric or thread may be caught, and a neat contour of the hoop, as a whole, is preserved.

The invention is illustrated in the accompanying drawings, forming part hereof, in which—

Figure 1 is an edge plan view of a hoop having a cut outer ring and a connecting case adapted to the use of an expansion spring; Fig. 2, a fragmentary view of the outer ring showing the expansion-spring connecting case in longitudinal section; Fig. 3, a fragmentary view of the outer ring showing a

plan of the expansion-spring connecting case; Fig. 4, a cross section on line 4—4, Fig. 3; Fig. 5, a detached perspective view of the expansion-spring connecting case, showing the two members separated; Fig. 6, a longitudinal sectional view showing a similar form of connecting case applied to a cut inner ring, in connection with a compression spring; Fig. 7, an edge plan view of a hoop having a cut outer ring and a modified connecting case adapted to the use of a compression spring; Fig. 8, a fragmentary view of the outer ring showing the compression-spring connecting case in longitudinal section; Fig. 9, a cross section on line 9—9, Fig. 8; Fig. 10, a detached perspective view of the compression-spring connecting case, showing its members separated and illustrating the method of assembling the same; and Fig. 11, a longitudinal sectional view showing a similar form of connecting case applied to a cut inner ring, in connection with an expansion spring.

Similar numerals refer to similar parts throughout the drawings.

The form of connecting case illustrated in Sheet 1 of the drawings is adapted to the use of an expansion spring when applied to the cut outer ring 1, in conjunction with a continuous inner ring 2, as shown in Figs. 1 and 2, and to the use of a compression spring when applied to a cut inner ring, as 2<sup>a</sup> in Fig. 6. As applied to the outer ring, the case is composed of the telescoping members 3 and 4, which are attached respectively to the adjacent ends of the severed ring, as by means of the flat end extensions 5 and the rivets 6. The body of the one member constitutes a guide in which the other member is adapted to operate by sliding endwise. For this purpose, the guide member 3 is preferably formed in cross section as a wide U with the inturned edge flanges 7 adapted to abut the outer face of the ring, and the slide member 4 is likewise formed as a wide U, neatly telescoping within the U-shaped guide member and having its edges adapted to abut on the inturned flanges thereof, whereby the telescoping members are adapted to slide freely, longitudinally, one within another, but at the same time are held firmly against flexion in either direction.

The spiral expansion spring 8 is located



longitudinally within the case and its ends are connected to the outer ends of the case members. This connection is preferably made by means of the tongues 9 and 9<sup>a</sup> which are cut and bent inward in the form of hooks from the end walls of the case members. The parts are so proportioned and arranged that the severed ends 10 of the cut ring are normally held firmly together by the longitudinal action of the spring, and that when they are drawn apart, as by telescoping the ring outside the inner ring, either with or without a fabric (not shown) thereon, the spring will be forcefully expanded and the resistance of the same will automatically tightly clamp the outer ring around the inner ring, or the fabric thereon; and, it is furthermore evident, that in all positions of the outer ring, the adjacent ends of the severed ring will be held in true annular alinement by the telescoping members of the case. It is evident that the telescoping members of the connection hold the adjacent ends of the ring against any lateral displacement, as well as serving to prevent the natural tendency of the severed ends to straighten out in a tangential direction, which latter, if permitted, would relieve the opposing ring or intervening fabric of any pressure therefrom. When a similar form of connecting case is employed on an inner severed ring, the compression spring 8<sup>a</sup> is employed within the telescoping case members 3<sup>a</sup> and 4<sup>a</sup>, and the ends thereof are arranged to abut against the square end walls 11 and 11<sup>a</sup> of the respective case members. In this form of hoop, a sufficient interval is left between the adjacent severed ends of the cut ring to permit a contraction of the circumference of the same when it is forced within the outer ring, which contraction is made against the energy of the compression spring, and thereby the inner ring is automatically clamped outward against the outer ring.

The modified form of connecting case illustrated in Sheet 2 of the drawings is adapted to the use of a compression spring when applied to the cut outer ring in conjunction with a continuous inner ring 2, as shown in Figs. 7 and 8, and to the use of an expansion spring when applied to a cut inner hoop, as 2<sup>a</sup> in Fig. 11. As applied to the outer ring, the case is composed of the telescoping parts 3<sup>b</sup> and 4<sup>b</sup>, which are attached respectively to the adjacent ends of the severed hoop, as by means of the flat end extensions 5<sup>a</sup> and the rivets 6<sup>a</sup>. The body of the one member constitutes a guide in and along which the other member is adapted to operate by sliding endwise. For this purpose, the guide member 3<sup>b</sup> is preferably formed in cross section as a wide, flat-bottomed U with the inturned edge flanges adapted to abut the outer face of the ring, and the slide member 4<sup>b</sup> is like-

wise formed as a wide, flat-bottomed U, neatly telescoping within the U-shaped guide member and having its edges adapted to abut the flat bottom thereof, whereby the telescoping members are adapted to slide freely longitudinally one within another, but at the same time are held firmly against flexion in either direction.

The spiral compression spring 8<sup>b</sup> is located longitudinally within the case and its ends are arranged to abut against the end walls 13 and 13<sup>a</sup> of the respective case members. For convenience in assembling the parts, the end wall of the outer case member is preferably originally formed in longitudinal extension of the case, as shown in Fig. 10, until the other member and the spring are telescoped within the same, after which the end wall is bent downward to abut the end of the spring, as shown in Fig. 7. It is evident that by this modified form of construction, an enlargement of the circumference of the outer ring will act against the energy of the compression spring, which will, therefore, serve to automatically clamp the outer ring around the inner ring or intervening fabric. The flanges 14 are preferably cut from the bottom of the slide member of the case, and then bent to abut on the sides of the spring, which, with the bottoms of the case members, prevents a flexing of the same under compression. When the same form of connecting case is employed on a severed inner ring, as shown in Fig. 11, the expansion spring 8<sup>c</sup> is employed within the connecting case, and the ends thereof are connected, as by the hooks 15 and 15<sup>a</sup>, cut and bent inward from the end walls of the respective case members 3<sup>c</sup> and 4<sup>c</sup>. In this form of construction, a contraction of the circumference of the inner ring acts against the energy of the expansion spring, which serves to automatically thrust the inner ring outward against the outer ring or the intervening fabric.

It is evident that it is not essential to make the telescoping connecting members in the form of a case, as herein illustrated and described, but such a case is very convenient and desirable for the purpose of inclosing the spring; and, furthermore, that the use of the particular forms of springs and the inclosing of the same in a case, as herein illustrated and described, are not essential to the other features of the invention.

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

1. A hoop composed of two telescoping rings, one of the rings being cut, a connecting case including telescoping U-shaped slide and guide members respectively on the severed ends of the cut ring, and a spring in the case acting to clamp the rings together.

2. A hoop composed of two telescoping rings, one of the rings being cut, a connecting



case including telescoping slide and guide members respectively on the severed ends of the cut ring, and a spring in the case acting to clamp the rings together.

5 3. A hoop composed of two telescoping rings, one of the rings being cut, connecting means including telescoping slide and guide

members respectively on the severed ends of the cut ring, and automatic means for clamping the rings together.

FREDERICK E. KOHLER.

Witnesses:

JOSEPH FREASE,  
RUTH A. MILLER.