A. N. THOMAS.

EMBROIDERY HOOP.

APPLICATION FILED MAR. 10, 1911.

998,657.

Patented July 25, 1911.

Fig. 1.

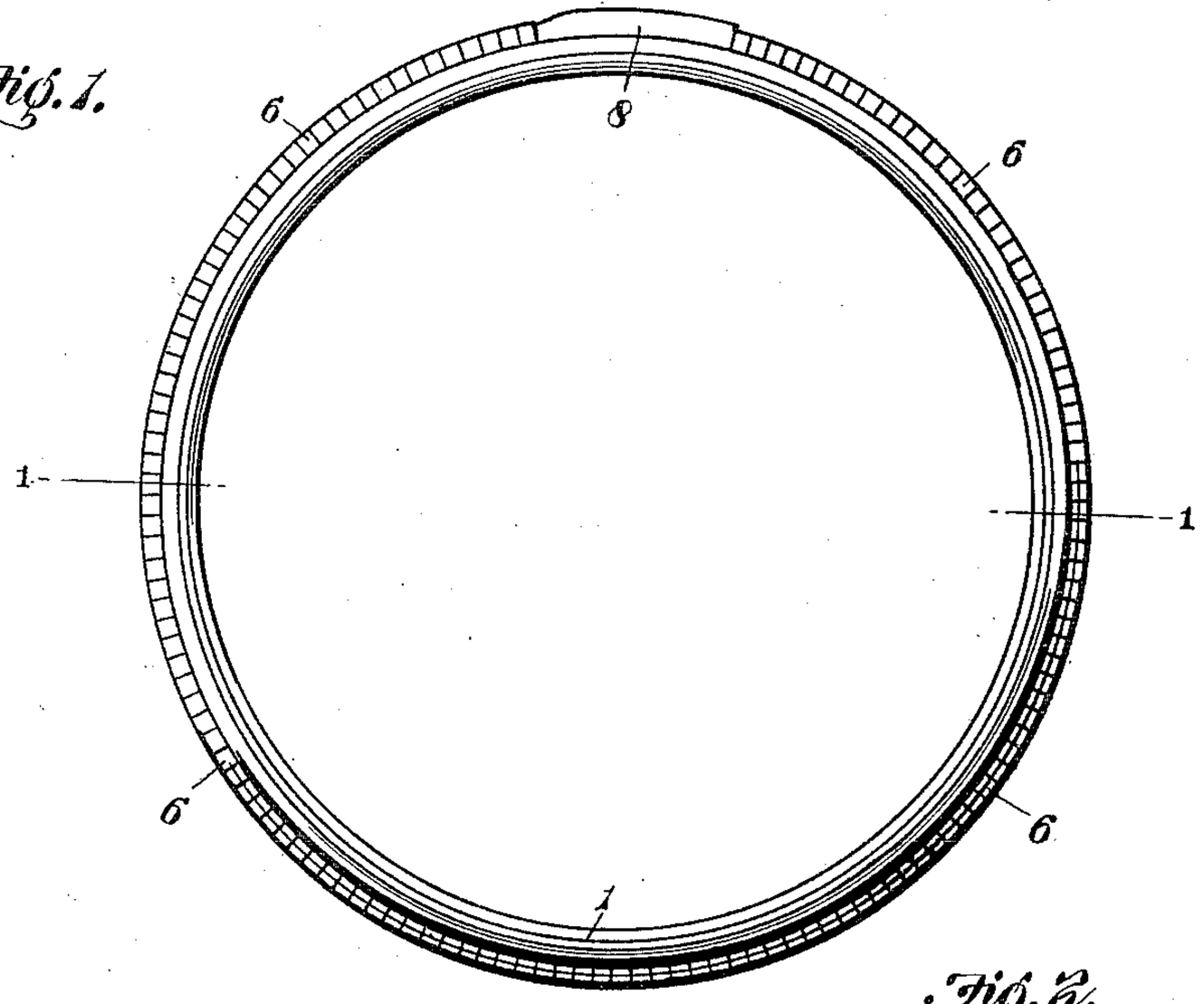

Fig. 2.

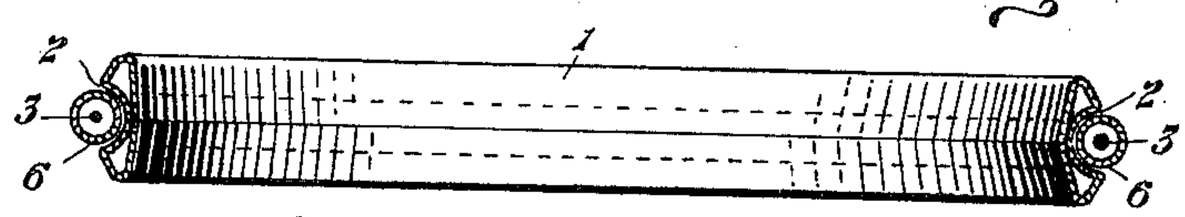

Fig. 3.

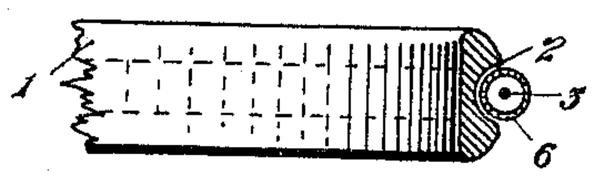

Fig. 11.

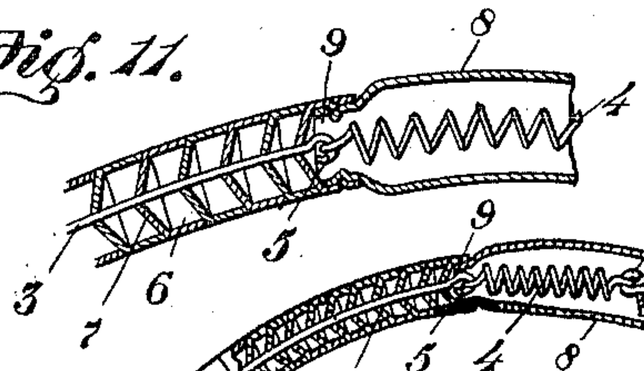

Fig. 10.

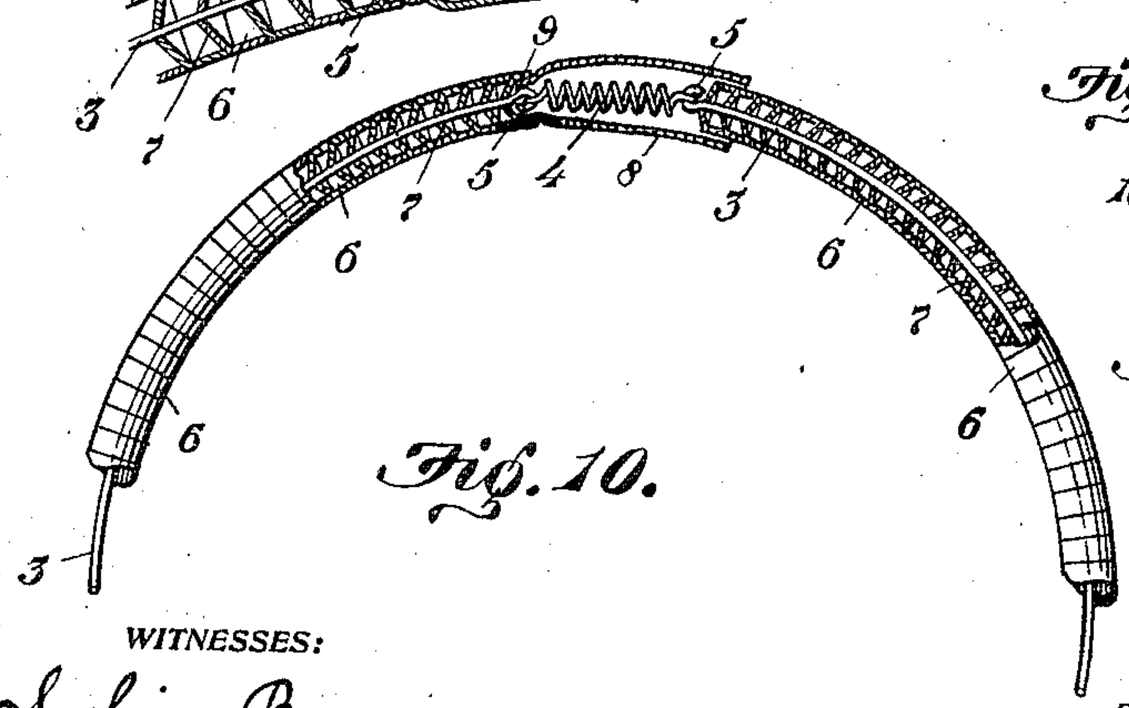

Fig. 4.

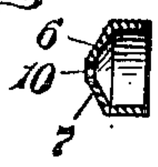

Fig. 5.

Fig. 6.

Fig. 9.

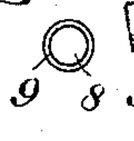

Fig. 7.

Fig. 8.

WITNESSES:

Sylvia Boron.

Irene Lutz

INVENTOR

Arvine N. Thomas.

BY

Bond & Miller

ATTORNEY

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ARVINE N. THOMAS, OF CANTON, OHIO.

EMBROIDERY-HOOP.

998,657. Specification of Letters Patent. **Patented July 25, 1911.**

Application filed March 10, 1911. Serial No. 613,481.

To all whom it may concern:

Be it known that I, ARVINE N. THOMAS, a citizen of the United States, and resident of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Embroidery-Hoops; and I do hereby declare that the following is 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.

The objects of the present invention are, first, to provide means whereby the fabric can be clamped between two concentric hoops or bands, one of said hoops or bands being substantially rigid and the other elastic in nature, or in other words one of said hoops or bands being so constructed that it will hug the non-elastic hoop or band, second, to provide means whereby a rolling action takes place when the elastic hoop or band is placed in position to stretch and hold the fabric taut or when the cloth is pulled or drawn between the clamping surfaces of the rings or bands, third, to provide means to prevent injury to delicate fabrics during the time the fabric is being placed in position to be worked upon. These objects together with other objects readily apparent to those skilled in the art, I attain by the construction illustrated in the accompanying drawings, although my invention may be embodied in other forms, the construction illustrated being chosen by way of example.

In the accompanying drawings:—Figure 1 is a view showing two hoops or bands placed together and in their normal position to clamp and hold the fabric. Fig. 2 is a transverse section on line 1—1, Fig. 1. Fig. 3 is a view showing portions of the two hoops or bands, the rigid one illustrating a slight modification or more specifically a wood hoop or band. Fig. 4 is a sectional view of one of the series of rotatable clamps. Fig. 5 is an end view of the same. Fig. 6 is a side view of the same. Fig. 7 is a detached side elevation of the spring shield or cover. Figs. 8 and 9 are end views of the spring shield. Fig. 10 is a view showing a portion of the elastic clamping band or ring shown partially in section and illustrating a number of the series of the rotatable clamps, also showing the spring and its shield in proper relative position. Fig. 11 is a longitudinal section of a portion of the elastic band, spring and shield.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawing, 1 represents the non-elastic or rigid ring or band, which is preferably the inner one and may be formed of any suitable material, either wood or metal, as the only object of this non-elastic ring is to provide a support of sufficient rigidity to resist the hugging action of the outer ring or band and at the same time provide for the proper clamping of the fabric.

For the purpose of holding the ring or band in proper relative position with reference to the rigid ring or band, said rigid ring or band is preferably provided with a grooved periphery or in other words the groove 2 should be provided but so far as the present invention is concerned the particular form of groove is immaterial, owing to the fact that its only function is to prevent the accidental displacement of the two rings or bands with relation to each other. The elastic or resilient ring or band is preferably formed of the wire 3, which is relatively small in cross section and can be so formed for the reason that the wire within itself is not designed to come in contact with the fabric to be stretched and held. The wire 3 is circular in shape and intermediate its ends is located the spring 4, which spring is connected to the wire 3 by means of the hooked ends 5 or their equivalents. Upon the wire 3 are located a series of rotatable fabric clamping sections 6, which sections when placed together as shown in Figs. 1, 10 and 11 constitute the means whereby the fabric is clamped between the rigid ring or band and the contact surface of the rotatable clamps. These clamps 6 are strung upon the wire 3 in substantially the same manner that beads are strung upon a string and may be of the form shown or they may be modified in form as the only object is to provide a series of independently rotatable clamp sections.

For the purpose of providing for any unevenness of the fabric or for different degrees of pressure the clamping sections 6 are comparatively short so that the rotation of the sections will not be interefered with, with reference to each other or any considerable part of the clamping band or hoop

need be rotated at one and the same time, thereby providing an easy movement when the elastic band is placed in position upon the rigid band or hoop and at the same time allowing small sections or portions of the fabric to be drawn between the rigid ring or band and the clamping sections without disturbing the remaining clamping sections located concentrically with and upon the rigid hoop or band. In the drawings I have shown the clamping sections provided with one convexed side 7, which convexed side 7 is entered in the open side of an adjacent clamping section. This arrangement being for the purpose of assisting in holding all of the clamping sections 6 in proper relative relation with reference to each other. It will be understood that the spring 4 should be protected or covered so that it will not interfere with the placing of the elastic ring or band in position, and in order to so protect the spring and keep it out of contact with the fabric the sleeve 8 is provided, which sleeve is formed of sufficient size to properly inclose the spring.

For the purpose of properly connecting the sleeve so that it will be held in proper relative relationship one end of the sleeve is tapered, so that its tapered end 9 can be entered in the open side of the adjacent clamping section, and for the purpose of connecting the adjacent clamping section the metal is dinted; that is to say a portion of the metal of the cup is forced inward as also a corresponding portion of the metal of the inserted end of the sleeve thereby tying the adjacent clamping member and sleeve together by punching small nibs, the outer nib being seated in the small socket or hollow nib of the inserted end of the sleeve. This particular feature is well understood by those skilled in the art, the nib being made by means of a dull pointed die or punch. The sleeve 8 should be formed of such a length that it will extend over a sufficient number of clamping sections 6 so that at no time will the spring be exposed or there be any gap as between the end of the sleeve and the clamp sections or more specifically the section adjacent the spring.

It will be understod that when the rings or bands are placed in position they will be concentric to each other, and in order to properly clamp the fabric the clamping ring or band should be formed of such a size that when placed in position to clamp the fabric all of the clamping sections will come in proper contact with the fabric, reference being had to any unevenness or folds in the fabric. It will be understood that the convex sides 7 of the clamping sections 6 should be provided with an aperture 10, said aperture being of a size corresponding substantially with the size of the wire 3, but somewhat larger so that the clamping sections 6 will be free to rotate upon the wire.

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 rigid and the other elastic, said elastic hoop provided with a series of movable clamping members, substantially as and for the purpose specified.

2. A pair of concentric embroidery hoops, said elastic hoop provided with a series of independently rotatable clamping members, substantially as and for the purpose specified.

3. A pair of concentric embroidery hoops, one of which is non-elastic and provided with a grooved periphery, the other elastic, said other hoop provided with a series of independently rotatable clamping sections, said clamping sections located face to face, substantially as and for the purpose specified.

4. A pair of embroidery hoops, one of which is substantially non-elastic and the other consisting of a wire concentric with the non-elastic hoop, a spring interposed between the ends of the wire and a series of clamping members rotatably mounted upon the wire provided with the interposed spring, substantially as and for the purpose specified.

5. A pair of embroidery hoops, one of the hoops non-elastic and the other elastic, said elastic hoop provided with a series of independently rotatable clamping sections, said sections provided with open and closed faces, the closed faces of one section, seated in the open face of an adjacent section, substantially as and for the purpose specified.

6. A pair of embroidery hoops, one of which is substantially non-elastic and the other consisting of a wire concentric with the non-elastic hoop, a spring interposed between the ends of the wire and a series of clamping members movably mounted upon the wire provided with the interposed spring, a shield fixed to one of the clamping members and extended over and around the spring and one or more of the clamping sections, said clamping sections adapted to slide back and forth in the shield, 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.

ARVINE N. THOMAS.

Witnesses:

JOHN H. SPONSELLER,

F. W. BOND.