March 15, 1932. F. DÖPPENSCHMITT 1,849,741

FLEXIBLE BAND

Filed April 21, 1930

Fig. 1.

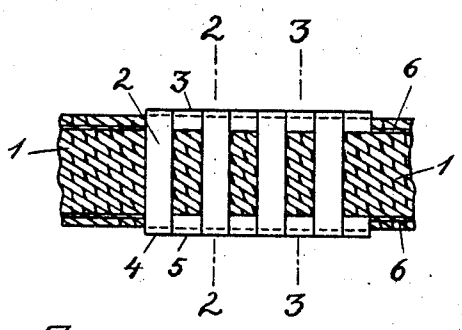


Fig. 2.

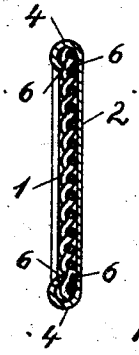


Fig. 3.

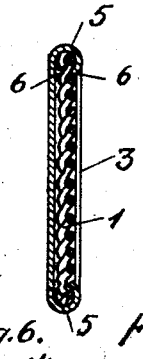


Fig. 4.

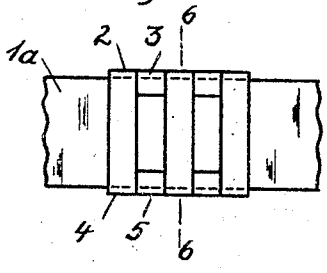


Fig. 5.

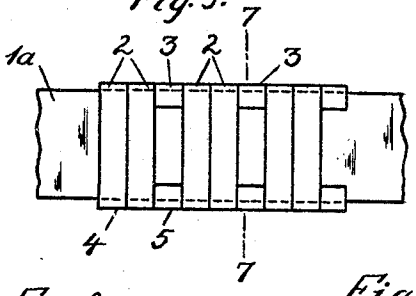


Fig. 6.

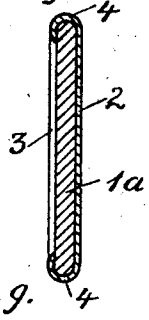


Fig. 7.

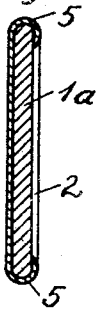


Fig. 8.

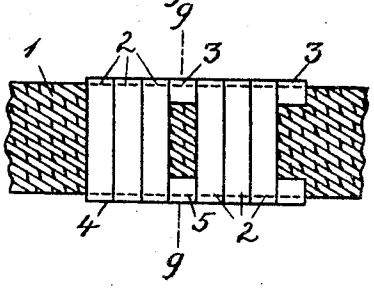


Fig. 9.

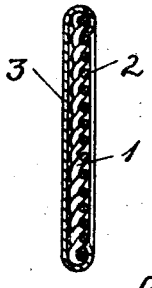


Fig. 10.

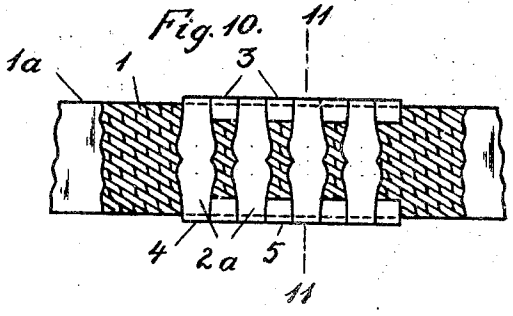
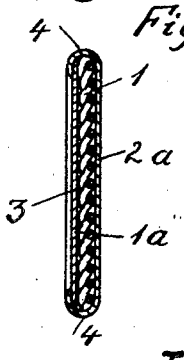


Fig. 11.



Inventor:
Friedrich Döppenschmitt
by Paul S. Sollitt
Attorney.

Patented Mar. 15, 1932

1,849,741

UNITED STATES PATENT OFFICE

FRIEDRICH DÖPPENSCHMITT, OF PFORZHEIM, GERMANY

FLEXIBLE BAND

Application filed April 21, 1930, Serial No. 445,950, and in Germany September 2, 1929.

This invention relates to improvements in flexible bands, especially designed for the purposes of personal adornment, such as wrist watch and other bracelets, anklets, etc., and particularly to improvements in bracelets of the general type shown in my prior application Serial No. 250,756, filed January 31, 1928, wherein the bracelet is formed of a flexible band of metal, fox-tail strip, milanaise fabric or other flexible material reinforced against distortion by transverse cross-members which serve also to give an ornamental appearance to the band and which are provided with clips at their ends engaging the longitudinal edges of the band to hold said cross-members in position as well as to furnish an ornamental edging for the band and to conceal and protect the raw edges thereof. More particularly my invention relates to structures of this character which, while possessing the characteristics above stated, are intended to allow such cross-members to be used while admitting of a desired degree of flexibility of the bracelet.

One object of the present invention is to provide a construction and arrangement whereby the cross-members may be spaced to allow flexibility of the bracelet without the necessity of tapering or cutting the edges of the clips at an angle in order to obtain flexibility of the bracelet band.

A further object of the invention is to provide a construction and arrangement of the cross-members whereby such members may be spaced as desired to regulate the flexibility of the band and/or to expose portions of the band to aid in securing ornamentality or to produce pattern changes, when desired.

The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Fig. 1 is an outer side views of a portion of a milanaise or other metal mesh fabric bracelet band showing cross-members arranged alternately on opposite sides of the band to mutually act as reinforcing and spacing cross-members.

Figs. 2 and 3 are respectively cross-sections on lines 2—2 and 3—3 of Fig. 1.

Fig. 4 is a view similar to Fig. 1 showing a flexible band of metal or other non-mesh fabric material.

Fig. 5 is a similar view showing a modification in the spacing arrangement of outer and inner cross-members.

Figs. 6 and 7 are sections taken on line 6—6 and 7—7 of Figs. 4 and 5, respectively.

Fig. 8 is a view showing another spacing arrangement of the cross-members.

Fig. 9 is a cross-section on line 9—9 of Fig. 8.

Fig. 10 is a view showing a modification of the band and in the form of the cross-pieces.

Fig. 11 is a cross-section on line 11—11 of Fig. 10.

Referring now more particularly to Figs. 1 to 3, inclusive, of the drawings, 1 designates the flexible body band of the bracelet, which is represented as being made of fox-tail chain or milanaise or other metal mesh fabric, but which, as hereinafter described, may be made of thin gold, silver, or other flexible sheet metal, leather, celluloid or other suitable material. This band 1 is provided upon the outer and inner sides thereof with an armor consisting of thin, narrow transverse reinforcing members 2 and 3, preferably made of sheet metal of the character desired, said reinforcing members extending between the longitudinal marginal edges of the band 1 and being provided at their ends with U-shaped portions or clips 4 and 5 which engage over said ends of the band and are compressed tightly to frictionally engage and interlock with the band and to thereby secure the reinforcing members thereto. If desired, the band may be provided in its opposite sides adjacent to and parallel with its longitudinal edges with grooves 6 into which the free edges of the clips 4 and 5 may be forced for an interlocking engagement to assist in the security of the connection. In the particular arrangement shown in Fig. 1 the reinforcing members 2 and 3 are arranged singly and in alternation with each other at opposite sides of the band, and the clips 4 of

the outer members 2 are turned inwardly over the edges of the band, while the clips 5 of the inner members 3 are turned outwardly over the edges of the band, so that the clips of each set of cross-members are arranged between and hold the other cross-members spaced apart a distance equal to the width of a cross-member. By this arrangement the reinforcing members render the band 1 of equal flexibility in either lateral direction, while spacing the members of each set, so that the spaced arrangement of the outer members 2 will allow the intervening portions of the outer surface of the band 1 to show through such spaces between them, whereby contrast in effect may be produced to add ornamentality and novelty of appearance to the bracelet. The clips 4 and 5 also serve the purpose of concealing and protecting the marginal edges of the band and obviate the necessity of selvaging such edges, so that a cut band with raw edges may be employed without any preliminary finishing.

In the form of the invention shown in Figs. 4 and 6 the construction is the same as that described with respect to Figs. 1, 2 and 3 except that a flexible metal band 1^a is shown as employed in place of the metal mesh fabric band 1. In the construction shown in Figs. 5 and 7, however, which also illustrate the use of a metallic band 1^a, there is a change in the arrangement of the reinforcing members or strips 2 and 3, the members 2 being here shown as arranged in groups, of a pair of strips or members to each group, and spaced by a single strip or member 3 between them. By this arrangement the general external appearance of the bracelet may be varied from that shown in Figs. 1 and 4, while at the same time the degree of flexibility of the bracelet in one lateral direction may be decreased with respect to its degree of flexibility in the other lateral direction.

In Figs. 8 and 9 I have shown still another form of the invention in which a band 1 of metal mesh fabric, as in Fig. 1, is used and in which the transverse members or strips 2 are arranged in groups of three members to a group and in which adjacent groups of the members 2 are separated by individual cross-members 3. This arrangement of the reinforcing members allows the external appearance of the bracelet to be further changed and its lateral flexibility regulated to a further degree, as will be readily understood.

In the form of my invention shown in Figs. 10 and 11, I disclose the use of a double body band, consisting of members 1 and 1^a arranged in parallel relation and adapted to mutually reinforce each other and to give increased thickness and strength to the bracelet structure. These members 1 and 1^a may be made respectively of metal mesh fabric and sheet metal or of any of the other materials mentioned. In this structure I also show individual cross-members or reinforcing strips arranged singly and in alternation as in Fig. 2, but in place of the plain metal strips 2 strips 2^a of ornamental outline shape are used. Of course strips of this ornamental outline shape, or of other ornamental outline shapes, may be used in any of the forms of the invention disclosed, and any of the various arrangements of the cross strips or reinforcing members amy be employel as occasion, taste or fancy may require or dictate in the production of bracelets of different degrees of strength and flexibility and formed of different materials.

It will be seen from the foregoing that the invention provides a bracelet or like band for personal adornment which provides an effective type of armor for the bracelet band itself without rendering the band unduly stiff or requiring the clips of the transverse reinforcing members to be tapered or cut off at an angle in order to secure a desired degree of flexibility of the band. By the spaced arrangement of the outer and inner bands, more or less of the outer surface of the body band may be left exposed to add ornamentality or contrast to the surface of the bracelet when this part of the bracelet is made of a precious metal or is otherwise of ornamental or finished appearance. By arrangement of the outer and inner bands in the various ways set forth the degree of lateral flexibility of the bracelet band in either direction may also be governed and controlled, as circumstances may require, and the use of outer and inner reinforcing members allows very thin material to be employed in the construction of these members without reducing the strength of the bracelet. As previously described, the provision of the transverse reinforcing members with end clips admits of the use of a band having raw or unselvaged edges, which are covered and concealed by the clips to prevent exposure thereof and liability of injury to the person or garments of the wearer. The band and reinforcing elements may, also, in addition to being formed of materials of contrasting appearance, be variously shaped or enameled or otherwise finished so that by the use of bracelet forming elements of the same general character or structure bracelets of widely different surface appearances may be produced.

Having thus fully described my invention, I claim:—

1. A flexible structure of the character set forth comprising a flexible body band, and sets of reinforcing members on opposite sides of said band having clips embracing the edges of the band, the clips of the inner set of members holding the outer members spaced to expose the outer surface of the band therethrough.

2. A flexible structure of the character set

forth comprising a body band, outer reinforcing strips extending transversely of the band and having clips engaging the edges of the band, said strips being arranged in groups of a plurality of strips to a group, and inner reinforcing strips having clips engaging the edges of the band and spacing adjacent groups of outer strips.

3. A bracelet including a flexible band, identical stiffening strips extending transversely of the band on both faces thereof, each of the strips having its ends bent over the edge portions of the band to hold the strips in place on the band, certain of the strips on one side of the band being positioned on the band in spaced relation longitudinally of the band, the strips on the other side of the band being spaced longitudinally of the band to lie opposite the spaces between the strips on the first side and having their bent over portions holding the strips on the first side of the band spaced whereby alternate portions of the band are exposed on opposite faces of the bracelet.

FRIEDRICH DÖPPENSCHMITT.