PATENT SPECIFICATION

781,352

Date of Application and filing Complete Specification: Sept. 2, 1955. No. 25312/55.

Application made in Japan on Oct. 9, 1954.

Complete Specification Published: Aug. 21, 1957.

Index at acceptance:—Class 43, H1A.
International Classification:—A44c.

COMPLETE SPECIFICATION

Improvements in or relating to Expansible Watch, or the like, Bands

I, CHARLES HENRY DOLANSKY, of 2875 Hochelaga Street, Montreal, Canada, a subject of the Queen of Great Britain, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to an expansible band, for example an expansible wrist-watch band.

Expansible bands are known which consist of front and rear sets of chain pieces, the chain pieces of one set being arranged in staggered relation to those of the other set. Leaf springs are disposed one in each chain piece, and substantially **U**-shaped connecting links are employed to form articulated connections between the ends of the chain pieces of the front set and the ends of the chain pieces of the rear set, the links acting against the springs when the band is extended. The chain pieces are formed as hollow cylindrical sleeves, and each leaf spring is in the form of a bent spring plate which serves also for keeping the connecting links in position in the sleeves.

With the expansible bands just described, the chain pieces are held in position only by the engagement between a transverse groove in each of the legs of the **U**-shaped links themselves and the spring with which the respective legs co-act.

According to the present invention there is provided an expansible watch, or the like, band comprising front and rear sets of chain pieces, the chain pieces of one set being arranged in staggered relation to those of the other set, leaf springs located one in each chain piece, and substantially **U**-shaped connecting links which form articulated connections between the ends of the chain pieces of the front set and the ends of the chain pieces of the rear set, and which act against the springs when the band is extended, the band having the characteristic feature that the chain pieces have associated therewith, retaining portions which engage the substantially **U**-shaped links so that the latter are held in posittion.

The construction in accordance with the invention as just forth, permits the employment of connecting links with straight, planar legs, since such links need no longer be grooved, or otherwise shaped for retaining engagement with the springs. The straight form of leg allows maximum angular movement of the connecting links during expansion of the band.

For a better understanding of the invention, and to show how the same may be carried into effect reference will now be made to the accompanying drawings in which:—

Fig. 1 shows a partly cut-away top plan view on an enlarged scale of an expansible band in contracted form;

Fig. 2 is a view similar to Fig. 1, of the band in expanded form;

Fig. 3 is a front view of the longitudinal edges of a part of the band in contracted form;

Fig. 4 is a front view of part of the band in expanded form;

Fig. 5 is a top plan view of the band in contracted form;

Fig. 6 is a cross-section on the line 6—6 of Fig. 1;

Fig. 7 is a cross-section on the line 7—7 of Fig. 6; and

Fig. 8 is an exploded isometric view of some of the constituent parts of the band.

Referring now to the drawings there is shown an expansible watch band which is composed of two sets of box-like chain pieces, a front set and a rear set, which are in staggered relationship to one another. Each front set includes chain pieces 2 and outer shells 4, while each rear set includes chain pieces 6 and, optionally, outer shells 8. The chain pieces 2 and 6 are each formed

with a main wall portion 10, side wall portions 12 and inwardly turned flanges 14 which terminate short of the ends of the side walls as seen in Figs. 4 and 6, and which also have a cut away portion centrally of their length. Each main wall portion 10 has two bendable retaining tabs 16 formed at each end thereof.

The outer shells 4 and 8 are of similar form, each having a main wall portion 18, side wall portions 20, and central tabs 22 which can be bent around, through the gaps in the flanges 14, against the inside of the walls 12 to secure the outer shells on the chain pieces as shown in Fig. 7. The outer shells 4 of the front set may be given ornamental shapes if desired, while the outer shells 8 of the rear set are preferably plain and smooth, the shells being provided for ornamental and aesthetic purposes. However, the outer shells 8 of the rear set may be dispensed with if desired.

A leaf spring 24 is arranged within each chain piece (see Fig. 6), the spring being of substantially the same width as the inside of the chain piece. This spring has a centrally bowed portion 26, which rests at 28 against the flanges 14, and outwardly bent end portions 30 pressing towards the outside walls 10. Between these end portions and the walls 10, legs 32 of connecting links are located, the two legs being connected by an arched portion 34. These links are formed of plain metal strip of rectangular cross-section bent to a substantially U-shape, and the legs 32 have a continuous or regular surface (see Fig. 8). The tabs 16 engage over the arched portions 34 to hold the links in position in the band.

With such a construction as just described, the springs 24 normally hold the links in the position shown in Fig 1, and the band is contracted. If, however, a longitudinal pull is exerted along the band, the chain pieces move apart, as shown in Fig. 2, and the legs 32 of the links turn against the action of the springs 24 thus causing the bent end portions 30 of the spring to be flattened. Due to this flattening, the length of the spring increases somewhat but the inwardly bent portions 30 can slide along the inner surface of the legs 32 thereby minimising longitudinal strains on the springs and on the sides of the band. When the tension is released, the springs will restore the band to a contracted condition.

In the manufacture of the band, the chain pieces 2 and 6 are stamped out with the tabs 16 in the plane of the outside wall 10. The springs are inserted into the chain pieces, and the legs of the links are positioned between the springs and the walls of the chain pieces. The tabs are then bent into position.

To remove one or more links, for repairing or shortening the band, the tabs 16 are bent upwardly into the plane of the outside walls, and the links can then be removed.

It will be noted that the completed band is of ornamental appearance, even when expanded, since, as shown in Fig. 4, the flanges 14 and the bowed spring portion 26 provide a definite pattern which enhances the appearance of the band.

Instead of forming the chain pieces 2 and 6 with the retaining tabs 16, the outer shells 4 and 8 may be formed with bendable retaining tabs at the ends of their main walls 18. Such tabs are effectively connected or associated with the chain pieces by virtue of the fact that the shells themselves are secured to the chain pieces.

What I claim is:—

1. An expansible watch, or the like, band comprising front and rear sets of chain pieces, the chain pieces of one set being arranged in staggered relation to those of the other set, leaf springs located one in each chain piece, and substantially U-shaped connecting links which for articulated connections between the ends of the chain pieces of the front set and the ends of the chain pieces of the rear set, and which act against the springs when the band is extended, the band having the characteristic feature that the chain pieces have associated therewith, retaining portions which engage the substantially U-shaped links so that the latter are held in position.

2. A band as claimed in Claim 1, wherein said retaining portions are constituted by tabs integral with the chain pieces, said tabs being bent over the substantially U-shaped connecting links to retain them in position.

3. A band as claimed in either preceding claim, wherein the legs of the substantially U-shaped connecting links are planar or straight.

4. A band as claimed in any preceding claim, wherein at least the chain pieces of the front set have ornamental shells attached over them.

5. A band as claimed in any preceding claim, wherein each chain piece is of substantially rectangular cross-section, and has a main wall, side walls and inwardly turned flanges on the free edges of the side walls, and wherein the leaf spring is arranged to rest with its central portion against the flanges, and its end portions pressing towards the outside wall of the chain piece.

6. A band as claimed in Claims 4 and 5, wherein each shell is substantially rectangular in cross-section and has a front wall, side walls and tabs at, or near, the central part of the free edges of the side walls, and wherein the flanges of each chain piece are interrupted near the centres thereof, the arrangement being such that, when a shell is fitted over a chain piece, the tabs can be bent inwardly through the interruption of said flanges so as to engage against the in-

with a main wall portion 10, side wall portions 12 and inwardly turned flanges 14 which terminate short of the ends of the side walls as seen in Figs. 4 and 6, and which also have a cut away portion centrally of their length. Each main wall portion 10 has two bendable retaining tabs 16 formed at each end thereof.

The outer shells 4 and 8 are of similar form, each having a main wall portion 18, side wall portions 20, and central tabs 22 which can be bent around, through the gaps in the flanges 14, against the inside of the walls 12 to secure the outer shells on the chain pieces as shown in Fig. 7. The outer shells 4 of the front set may be given ornamental shapes if desired, while the outer shells 8 of the rear set are preferably plain and smooth, the shells being provided for ornamental and aesthetic purposes. However, the outer shells 8 of the rear set may be dispensed with if desired.

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With such a construction as just described, the springs 24 normally hold the links in the position shown in Fig 1, and the band is contracted. If, however, a longitudinal pull is exerted along the band, the chain pieces move apart, as shown in Fig. 2, and the legs 32 of the links turn against the action of the springs 24 thus causing the bent end portions 30 of the spring to be flattened. Due to this flattening, the length of the spring increases somewhat but the inwardly bent portions 30 can slide along the inner surface of the legs 32 thereby minimising longitudinal strains on the springs and on the sides of the band. When the tension is released, the springs will restore the band to a contracted condition.

In the manufacture of the band, the chain pieces 2 and 6 are stamped out with the tabs 16 in the plane of the outside wall 10. The springs are inserted into the chain pieces, and the legs of the links are positioned between the springs and the walls of the chain pieces. The tabs are then bent into position.

To remove one or more links, for repairing or shortening the band, the tabs 16 are bent upwardly into the plane of the outside walls, and the links can then be removed.

It will be noted that the completed band is of ornamental appearance, even when expanded, since, as shown in Fig. 4, the flanges 14 and the bowed spring portion 26 provide a definite pattern which enhances the appearance of the band.

Instead of forming the chain pieces 2 and 6 with the retaining tabs 16, the outer shells 4 and 8 may be formed with bendable retaining tabs at the ends of their main walls 18. Such tabs are effectively connected or associated with the chain pieces by virtue of the fact that the shells themselves are secured to the chain pieces.

What I claim is:—

1. An expansible watch, or the like, band comprising front and rear sets of chain pieces, the chain pieces of one set being arranged in staggered relation to those of the other set, leaf springs located one in each chain piece, and substantially U-shaped connecting links which for articulated connections between the ends of the chain pieces of the front set and the ends of the chain pieces of the rear set, and which act against the springs when the band is extended, the band having the characteristic feature that the chain pieces have associated therewith, retaining portions which engage the substantially U-shaped links so that the latter are held in position.

2. A band as claimed in Claim 1, wherein said retaining portions are constituted by tabs integral with the chain pieces, said tabs being bent over the substantially U-shaped connecting links to retain them in position.

3. A band as claimed in either preceding claim, wherein the legs of the substantially U-shaped connecting links are planar or straight.

4. A band as claimed in any preceding claim, wherein at least the chain pieces of the front set have ornamental shells attached over them.

5. A band as claimed in any preceding claim, wherein each chain piece is of substantially rectangular cross-section, and has a main wall, side walls and inwardly turned flanges on the free edges of the side walls, and wherein the leaf spring is arranged to rest with its central portion against the flanges, and its end portions pressing towards the outside wall of the chain piece.

6. A band as claimed in Claims 4 and 5, wherein each shell is substantially rectangular in cross-section and has a front wall, side walls and tabs at, or near, the central part of the free edges of the side walls, and wherein the flanges of each chain piece are interrupted near the centres thereof, the arrangement being such that, when a shell is fitted over a chain piece, the tabs can be bent inwardly through the interruption of said flanges so as to engage against the in-

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sides of the side walls of the chain piece, and to hold the shell in position.

7. An expansible watch, or the like, band, substantially as hereinbefore described with reference to the accompanying drawings.

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Printed for Her Majesty's Stationery Office by Wickes & Andrews, Ltd., E.C.4. 684/2.—1957.
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies may be obtained.

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