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DEVICE FOR ATTACHING A STRAP TO AN ARTICLE

The present invention relates to a device for attaching a strap to an article such as a case or a buckle and more specifically for attaching a band to the case of a watch.

5 The mounting devices most often used for this latter purpose comprise two supports, integral with the case of the watch and a telescopic shaft, whose ends fit into the two supports and around which the band is wrapped.

10 A device of this kind holds the band reliably and can be manufactured easily as well. However, it imposes certain limitations on appearance by virtue of the need to use two supports, one on each side of the case.

15 To eliminate this limitation, Applicant has proposed, in Patent Application FR 79 02 743 dated February 2, 1979, a device for attaching a band to a watch case, wherein in the wearing position, in other words, when the watch is on the user's wrist, the band supports are concealed by the band. In this embodiment, however, it is difficult to use a telescopic shaft of the type cited hereinabove to ensure the attachment of the band.

20 There is thus a need for a generally improved attachment or mounting device which can be used on this type of watch and which is likewise reliable to use and easy to manufacture.

25 According to the present invention there is provided a device for attaching a strap to a lateral support of an article comprising at least one lateral support, a shaft linked to said lateral support, around which lateral support said strap is wrapped, and a removable element linked to the shaft in a removable fashion, wherein said shaft is slidably mounted in said support between two end positions, a first position in which the removable element is pressed by elastic means against said support or against an  
30 intermediate element, and a second position in which said removable element is remote from said support or said intermediate element against said elastic means, said removable element being attached

to the shaft in such fashion that in the first position it is inaccessible and locked to the shaft and in the second position, it is disconnected from said strap and becomes accessible for possible removal.

5        With the device according to the invention, two successive actions are therefore required to accomplish the removal of the band: firstly, to shift the shaft longitudinally, in order to make the removable element which is integral with the axis, accessible, this being done against elastic means, and secondly, to then  
10       remove said element. This means of fastening is therefore one which provides considerable security because the impacts, vibrations and other natural stresses to which the device is subjected in the course of its normal use will not be able to produce the two operations required for its removal.

15       The element can be locked in the abutting position by the band support or by elements internal to the band. However, in an especially significant embodiment of the invention, it is provided by the band itself.

20       Several embodiments of the invention will be described herein- below with reference to the attached drawings, wherein:

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- Figure 1 is a partial cross section along line I-I in Figure 2 of a watch case and watch strap, equipped with a first embodiment of the band-attaching device according to the invention;

5 - Figures 2 and 3 are partial sections along line II-II of the device shown in Figure 1, shown in the wearing position and in the removing position, respectively;

- Figure 4 is a detailed view of the removable element used in the embodiment shown in Figures 1 to 3;

10 - Figures 5, 6 and 7 illustrate various embodiments of the removable element of the device according to the invention;

- Figure 8 is a partial cross section through a watch case and band equipped with an embodiment of the device according to the invention wherein the element is held in position by a sleeve internal to the band;

15 - Figures 9 and 10 are perspective views of said removable element and the associated sleeve, used in the embodiment shown in Figure 8;

20 - Figure 11 is a partial section through another embodiment of the device according to the invention, applied to the attachment of a strap to a belt buckle;

- Figure 12 is a longitudinal section through another embodiment wherein the removable element is composed of a split washer hidden from sight;

25 - Figures 13 and 14 are detailed views of the shaft and of the removable element, in an embodiment of the device according to the

invention which permits installation when the shaft is in the wearing position.

In Figures 1 to 4, the device according to the invention is used to attach a band 1 to a watch case 3.

For this purpose, the latter is provided on two of its opposite lateral surfaces, of which only one is shown in the drawings, with a support 5.

The band is wrapped around this support. For this purpose, it comprises a slot 7 designed for the support to pass through.

The band is held in place on the support by a shaft 9 traversing these two elements. This shaft comprises, at one end, a head 11 and at the other end a circular groove 13, designed to receive a stop composed of a split washer 15 shown in Figure 4.

A compression spring 17 and a sleeve 18 are threaded on the shaft, respectively, between support 5 and head 11 on the one hand and between split washer 15 and support 5 on the other hand.

The device is installed as follows: band 1 is positioned on support 5 and shaft 9 equipped with spring 17 is passed through these two elements. Then pressure is exerted on shaft 9 in the direction of arrow F against spring 17 so as to move annular groove 13 outward away from the band. Slotted washer 15 can then be placed in the groove. Shaft 9 is then released and slotted washer 15 abuts sleeve 18 under the influence of spring 17. The device is then in the wearing position, in which slotted washer 15 is held on all sides by the band, and is therefore not removable. The band thus actually locks the device. (Fig. 2)

To remove the band, pressure must be exerted on shaft 9 to disconnect groove 13 and washer 15 from band 1. A fastening device of this kind is particularly reliable because neither mild impacts nor the natural movements of the band when worn can produce sufficient displacement of the shaft. Of course, the stop composed of washer 15 can be replaced by any other equivalent device such as, for example, a pin 10 fitting into a transverse hole in shaft 9 (Figure 5) or a screw 12 passing radially through the end of shaft 9 (Figure 6).

Likewise, as shown in Figure 7, a sleeve 20 can be used as a stop. For this purpose, it is sufficient to render it integral with shaft 9, for example by means of a screw 30, disposed at the end of the latter.

In addition, the stop can be made inaccessible, in other words, locked in the wearing position by an element other than the band.

Thus, in the embodiment shown in Figures 8 to 10, sleeve 32 is hollowed out to form a bore 34 designed to receive a corresponding semicircular head 36, provided on slotted washer 38. In this fashion, after fitting washer 38 in a groove<sup>33</sup> on shaft 9 and under the influence of spring 17, head 36 comes to rest in bore 34, which, in the wearing position, holds washer 38 and prevents its removal.

The present device can be used to hold any kind of strap on an article, such as a watch case.

Thus, Figure 11 shows the application of the device according to the invention to the attachment of a strap 50 to a belt buckle 52.

With this in view, buckle 52 is provided with two lateral supports 54 and 56, pierced by two chambers 58 and 60 and a bore 62 intended to receive a shaft 64.

5 Strap 50 fits between these two supports and is held in this position by shaft 64, around which it is wrapped. Shaft 64 is provided at one end with a head 66 and at its other end with a radial hole designed to receive a key 68. An elastic foam sleeve 69 is disposed between head 66 and the bottom of chamber 58.

10 This sleeve ensures the installation of shaft 64 and its retention in the wearing position by pressing key 68 against the bottom of chamber 60. In this position, the support ensures that the key will be held in position and consequently the assembly will be locked.

15 In the embodiment shown in Figure 12, the removable element consists of a slotted ring 40 located in a groove 41 of the shaft 43. Said ring 40 abuts sleeve 42 and is integral with a disk shaped part 44 acting as a mask, in order to hide from view the end part 45 of shaft 43.

20 In another version, the stop can also consist as shown in Figures 13 and 14 of a circlip 70 which snaps into a circular groove 72 on shaft 74. End 76 of this shaft can be conical, to permit installation of the circlip without having to position the circular groove outside the strap.



7.

CLAIMS

1. Device for attaching a strap to a lateral support of an article comprising at least one lateral support, a shaft linked to said lateral support, around which lateral support said strap is wrapped, and a removable element linked to the shaft in a removable fashion, wherein said shaft is slidably mounted in said support between two end positions, a first position in which the removable element is pressed by elastic means against said support or against an intermediate element and a second position in which said removable element is remote from said support or said intermediate element against said elastic means, said removable element being attached to the shaft in such fashion that in the first position it is inaccessible and locked to the shaft and in the second position, it is disconnected from said strap and becomes accessible for possible removal.
2. Device according to claim 1, in which in said first end position, said removable element is locked by said strap.
3. Device according to claim 1, in which in said first end position, said removable element is locked by said support.
4. Device according to claim 1, in which in said first end position, said removable element is locked by said intermediate element.



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5. Device according to any one of the preceding claims, wherein said removable element is composed of a washer, or a circlip positioned in a circular groove provided at one end of said shaft.

6. Device according to any one of claims 1 to 4, wherein said removable element is composed of a key or a screw fitted transversely into said shaft at one of its ends.

7. Device according to any one of claims 1 to 4, wherein said removable element is composed of a sleeve which is coaxial with said shaft and integral therewith.

8. Device according to claim 4, wherein said intermediate element is composed of a sleeve coaxial with said shaft.

9. Device according to claim 8, wherein said removable element is composed of a slotted washer comprising a head which, in said first position, is engaged in a chamber of matching shape in a sleeve coaxial with respect to said shaft, abutting said support.

10. Device according to any one of claims 2 to 5, wherein said removable element comprises a mask for concealing the end part of said shaft.

11. Device for attaching a strap to an article, substantially as hereinbefore described with reference to Figures 1 to 4, Figure 5, Figure 6, Figure 7, Figures 8 to 10, Figure 11, Figure 12 or Figures 13 and 14 of the accompanying drawings.