

BUCKLE FOR WATCHBAND

The present invention relates to a buckle for watchband and more particularly to a snap buckle for watchband.

Generally, a watchband is fastened with a snap buckle. A prior-art snap buckle for watchband has a structure in which the snap buckle comprising a buckle lower plate and a buckle upper plate is pivotably mounted to one end of a first watchband half, a hold-down framework is pivotably mounted to an end of a second watchband half, the buckle upper plate is folded over the buckle lower plate so that a hook of the buckle upper plate seizes a hold-down pin of the hold-down framework, and a snapping element of the buckle lower plate snaps a hold-down claw of the buckle upper plate.

However, the prior-art snap buckle has a drawback that the front end of the buckle upper plate tends to swing upwards from the outer surface of the watchband and this front end hits possible surroundings to inadvertently open the buckle upper plate to slacken the watchband so that a wristwatch is liable to fall. In addition, a very expensive wristwatch having an ornamental precious metal and/or jewels or precious stones is often worn so that the watchband is moderately long. In this case, the snap buckle rarely inadvertently swings about a pivot to stand up, which may injure the edge of a sleeve of a suit or a dress, an own arm or the body of another person. In addition, since the front end of the buckle upper plate is seated on the joint, the snap buckle has a step equal to the thickness of the buckle upper plate relative to the outer surface of the joint, which is aesthetically problematic.

Therefore, an object of the present invention is to provide a buckle for watchband which overcomes the drawback in the prior art buckle for watchband and secures the buckle upper plate on the buckle lower plate in the operating position of the buckle.

According to one aspect of the present invention there is provided, a buckle for releasably connecting first and second watchband parts, the buckle comprising a buckle upper plate, a buckle lower plate and a joint for connection to an end of the first watchband part and to which one end of the buckle lower plate is pivotally mounted, in which the one end of the buckle lower plate has a projection, the buckle upper plate is pivotally mounted to the other end of the buckle lower plate so that the buckle upper plate is foldable over the buckle lower plate, and the buckle upper plate has a hook for engagement with a pin of a hold-down framework which is pivotally mounted to an end of the second watchband part, the pin extending in the direction of the width of the buckle, wherein the buckle upper plate has first and second snap hooks projecting therefrom at different distances from the point of pivotal mounting of the buckle upper plate to the buckle lower plate, the joint has a stop for stopping a downward swing of the buckle upper plate, a surface of the stop facing the point of pivotal mounting of the buckle upper plate to the buckle lower plate has a groove, and the first snap hook snap engages the projection of the buckle lower plate and the second snap hook snap engages the groove defined in the stop in the operation of the buckle.

According to a second aspect of the present invention, there is provided, in combination, a watchband and a buckle for releasably connecting first and second watchband parts, the buckle comprising a buckle upper plate and a buckle lower plate to one end of which the first watchband part is pivotally mounted, and in which the one end of the buckle lower plate has a projection, the buckle upper plate is pivotally mounted to the other end of the buckle lower plate so that the buckle upper plate is foldable over the buckle lower plate, and the buckle upper plate has a hook for engagement with a pin of a hold-down framework which is pivotally mounted to an end of the second watchband part, the pin extending in the direction of the width of the buckle, wherein the buckle

upper plate has first and second snap hooks projecting therefrom at different distances from the point of pivotal mounting of the buckle upper plate to the buckle lower plate, a watchband link provided at an end of the first watchband part has a stop for stopping a downward swing of the buckle upper plate, a surface of the stop facing the point of pivotal mounting of the buckle upper plate to the buckle lower plate having a groove, and the first snap hook snap engages the projection of the buckle lower plate and the second snap hook snap engages the groove defined in the stop in the operation of the buckle.

Thus, in a second embodiment of the present invention, a buckle side surface of a watchband link provided at an end of the first watchband half has the groove snap engaging the second snap hook.

According to a third aspect of the present invention there is provided, in combination, a watchband and a buckle for releasably connecting first and second watchband parts, the buckle comprising a buckle upper plate and a buckle lower plate to one end of which the first watchband part is pivotally mounted, and in which the one end of the buckle lower plate has a projection, the buckle upper plate is pivotably mounted to the other end of the buckle lower plate so that the buckle upper plate is foldable over the buckle lower plate, and the buckle upper plate has a hook for engagement with a pin of a hold-down framework which is pivotably mounted to an end of the second watchband part, the pin extending in the direction of the width of the buckle, wherein the buckle upper plate has first and second snap hooks projecting therefrom at different distances from the point of pivotal mounting of the buckle upper plate to the buckle lower plate, the first watchband part comprises a meshed portion, an end of the first watchband part comprises a stop for stopping a downward swing of the buckle upper plate, a surface of the stop facing the point of pivotal mounting of the buckle upper plate to the buckle lower plate has a groove, and the first snap hook snap engages the projection of the buckle lower plate and the second snap hook snap engages the groove defined in the stop in the operation of the buckle.

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Thus, in a third embodiment of the present invention, a buckle side surface of an end of a first meshed watchband half has the groove snapping the second snap hook.

In setting up the buckle for watchband, a user causes the hook of the buckle upper plate attached to the _____

first watchband half to seize the pin of the hold-down framework attached to the second watchband half. He then folds the buckle upper plate over the buckle lower plate. He then causes the first snap hook to snap engage the projection of the buckle lower plate and the second snap hook to snap engage the groove defined in the stop. This setup prevents the buckle upper plate from an advertent swing in the operating position of the buckle to secure the operation of the buckle.

In the operating position of the buckle, the shoulder causes the exterior surface of the buckle upper plate to be flush with that of the watchband, which is aesthetically desirable.

In the accompanying drawings;

Fig. 1A and Fig. 1B are a perspective view of a snap buckle for watchband according to a first embodiment of the present invention;

Fig. 2 is a perspective view of the interiors of a buckle upper plate and a buckle lower plate;

Fig. 3 is a sectional side elevation of the snap buckle of Fig. 1, showing a state that a hold-down framework engages the buckle upper plate in the upright position;

Fig. 4 is a sectional side elevation of the snap buckle of Fig. 1 in operation;

Fig. 5 is a perspective view of a snap buckle for watchband according to a second embodiment of the present invention; and

Fig. 6 is a perspective view of a snap buckle for watchband according to a third embodiment of the present invention.

Embodiments of the present invention will be described with reference to the drawings hereinafter.

In the drawings, a first watchband half extending from a part of a peripheral case of a wristwatch adjacent the position of the numeral of 6 on a dial is indicated

at 1. The front end of the first watchband half 1 has a joint 2 fastened thereto by a pivot 4. The joint 2 comprises a pair of side arms 3, 3 extending along the longitudinal axis of the first watchband half 1, and a stop 5 for the buckle upper plate 10 spanned between the side arms 3, 3 transversely to the longitudinal axis of the joint 2. As shown in FIG. 1 and 3, the top portion of a front part of the stop 5 has a shoulder 5a. The front portion of the stop 5 has a pair of snapping grooves 6, 6 spaced and extending along the stop 5. The front ends of the side arms 3, 3 are joined by a pair of pivots 7, 7 to one end of a buckle lower plate 8. The other or free end of the buckle lower plate 8 is joined by a hinge pin or pivot 11 to one end of a buckle upper plate 10. The buckle upper plate 10 can be folded over the buckle lower plate 8 about the pivot 11.

The interior surface of the buckle upper plate 10 has a pair of hooks 12 each having an L-shaped section and extending therefrom. Each of the hooks 12 has a bent portion or flange 12a projecting toward the free end of the buckle upper plate 10. The hooks 12 are spaced transversely to the longitudinal axis of the buckle upper plate 10 at the opposite ends of the width of the buckle upper plate 10. The interior surface of a part adjoining the free end of the buckle upper plate 10 has a first pair of snap hooks 14, 14 extending therefrom and having a bridge therebetween. The front portion of the bridge has a snap groove 20 extending along the longitudinal axis of the bridge. The snap hooks 14, 14 are spaced transversely to the longitudinal axis of the buckle upper plate 10 at the opposite ends of the width of the buckle upper plate 10. As best shown in FIG. 2, the back surface of each snap hook 14 has a recess having an inner cylindrical surface. On the other hand, the interior surface of the free end of the buckle lower plate 8 has a pair of cylindrical snapping projections 16, 16 spaced transversely to the longitudinal axis of the buckle lower

plate 8 at the opposite ends of the width of the buckle lower plate 8. The interior surface of the buckle upper plate 10 has a second pair of snap hooks 15, 15 extending therefrom and opposite to the first pair of the snap hooks 14, 14 with a predetermined distance along the longitudinal axis of the buckle upper plate 10.

In the operation of the snap buckle, the first snap hooks 14, 14 of the buckle upper plate 10 snap the projections 16, 16 of the buckle lower plate 8. The second snap hooks 15, 15 of the buckle upper plate 10 snap the snapping grooves 6, 6 of the stop 5. The front end of the buckle upper plate 10 is seated on the shoulder 5a of the stop 5 and constitutes part of the buckle.

As shown in FIG.2, a safety plate 17 is hinged by a pivot 18 to the interior surface of a part adjoining the pivotal end of the buckle upper plate 10 adjacent the pivot 11. The safety plate 17 extends toward the free end of the buckle upper plate 10. The free end of the buckle upper plate side surface of the safety plate 12 has a claw 19 engageable with the snap groove 20 defined in the bridge between the snap hooks 14, 14 in the operation of the snap buckle.

In FIGS.1 and 3, a second watchband half extending from a part of the peripheral case of the wristwatch adjacent the position of the numeral of 12 on the dial is indicated at 21. The front end of the second watchband half 21 has a buckle framework 22 mounted thereto by a pivot 23. The buckle framework 22 comprises a pair of side arms 24, 24 extending along the direction of the longitudinal axis of the second watchband half 21. The front ends of the side arms 24, 24 have a pin 25 spanned therebetween and fastened thereto.

In setup of the snap buckle, a user wears the watchband in the released position on the wrist. The user opens the buckle upper plate 10 and then releases the claw 19 of the safety plate 17 from the snap groove

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20. The user then inserts the buckle upper plate 10 into a spacing between the side arms 24, 24 of the buckle framework 22 of the second watchband half 21 upwards from below the buckle framework 22, engages the pin 25 with the hooks 12, descends the safety plate 17 and snaps the claw 19 and the snap groove 20.

The user then folds the buckle upper plate 10 over the buckle lower plate 8 and causes the first snap hooks 14, 14 to snap the projections 16, 16 of the buckle lower plate 8 and the second snap hooks 15, 15 to snap the snap grooves 6, 6 in the stop 5. In this state, the front end of the buckle upper plate 10 is seated on the shoulder 5a so that the exterior surface of the buckle upper plate 10 is flush with the exterior surface of the watchband.

FIG.5 shows a snap buckle for watchband according to a second embodiment of the present invention. This snap buckle has the same structure as the snap buckle according to the first embodiment except that a watchband link 26 in place of the stop 5 is provided at the front end of the first watchband half 1. The front watchband link 26 has a shoulder 26a corresponding to the shoulder 5a of the stop 5. The front watchband link 26 is pinned to the side arms 3, 3 of the joint 2. In operation of the snap buckle, the second snap hooks 15, 15 snap the snapping grooves 6, 6.

FIG.6 shows a snap buckle for watchband according to a third embodiment of the present invention. This snap buckle is attached to a meshed watchband 27. This snap buckle has the same structure as the snap buckle according to the first embodiment except a bar-shaped stop 28 for the buckle upper plate 10. The stop 28 is pinned to the side arms 3, 3 of the joint 2. The back surface of the stop 28 is attached by brazing to the end surface of one end of a first watchband half of the meshed watchband 27. The front portion of the stop 28 has a pair of snapping grooves 6, 6 spaced and extending along the longitudinal axis of the stop 28. The top

surface 28a of the stop 28 constitutes a shoulder of the first watchband half of the meshed watchband 27. In the operation of the snap buckle, the second snap hooks 15, 15 snap the snapping grooves 6, 6.



CLAIMS

1. A buckle for releasably connecting first and second watchband parts, the buckle comprising a buckle upper plate, a buckle lower plate and a joint for connection to an end of the first watchband part and to which one end of the buckle lower plate is pivotally mounted, in which the one end of the buckle lower plate has a projection, the buckle upper plate is pivotally mounted to the other end of the buckle lower plate so that the buckle upper plate is foldable over the buckle lower plate, and the buckle upper plate has a hook for engagement with a pin of a hold-down framework which is pivotally mounted to an end of the second watchband part, the pin extending in the direction of the width of the buckle, wherein the buckle upper plate has first and second snap hooks projecting therefrom at different distances from the point of pivotal mounting of the buckle upper plate to the buckle lower plate, the joint has a stop for stopping a downward swing of the buckle upper plate, a surface of the stop facing the point of pivotal mounting of the buckle upper plate to the buckle lower plate has a groove, and the first snap hook snap engages the projection of the buckle lower plate and the second snap hook snap engages the groove defined in the stop in the operation of the buckle.
2. In combination, a watchband and a buckle for releasably connecting first and second watchband parts, the buckle comprising a buckle upper plate and a buckle lower plate to one end of which the first watchband part is pivotally mounted, and in which the one end of the buckle lower plate has a projection, the buckle upper plate is pivotally mounted to the other end of the buckle lower plate so that the buckle upper plate is foldable over the buckle lower plate, and the buckle upper plate has a hook for engagement with a pin of a hold-down framework which is pivotally mounted to an end of the second watchband part, the pin extending in the direction of the width of the buckle, wherein the buckle upper plate has first and second snap hooks projecting therefrom at different distances from the point of pivotal mounting of the buckle upper plate to the buckle lower plate, a watchband link provided at an end of the first watchband part has a stop for stopping a downward swing of the buckle upper plate, a



surface of the stop facing the point of pivotal mounting of the buckle upper plate to the buckle lower plate having a groove, and the first snap hook snap engages the projection of the buckle lower plate and the second snap hook snap engages the groove defined in the stop in the operation of the buckle.

3. In combination, a watchband and a buckle for releasably connecting first and second watchband parts, the buckle comprising a buckle upper plate and a buckle lower plate to one end of which the first watchband part is pivotally mounted, and in which the one end of the buckle lower plate has a projection, the buckle upper plate is pivotably mounted to the other end of the buckle lower plate so that the buckle upper plate is foldable over the buckle lower plate, and the buckle upper plate has a hook for engagement with a pin of a hold-down framework which is pivotably mounted to an end of the second watchband part, the pin extending in the direction of the width of the buckle, wherein the buckle upper plate has first and second snap hooks projecting therefrom at different distances from the point of pivotal mounting of the buckle upper plate to the buckle lower plate, the first watchband part comprises a meshed portion, an end of the first watchband part comprises a stop for stopping a downward swing of the buckle upper plate, a surface of the stop facing the point of pivotal mounting of the buckle upper plate to the buckle lower plate has a groove, and the first snap hook snap engages the projection of the buckle lower plate and the second snap hook snap engages the groove defined in the stop in the operation of the buckle.

4. A buckle for a watchband, substantially as hereinbefore described with reference to and as illustrated in figures 1 to 4, or 5 or 6 of the accompanying drawings.