Sept. 27, 1960 W. C. BOOTS 2,953,833

ADJUSTABLE CONNECTING DEVICE FOR WRIST WATCH BRACELETS

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Fig. 1

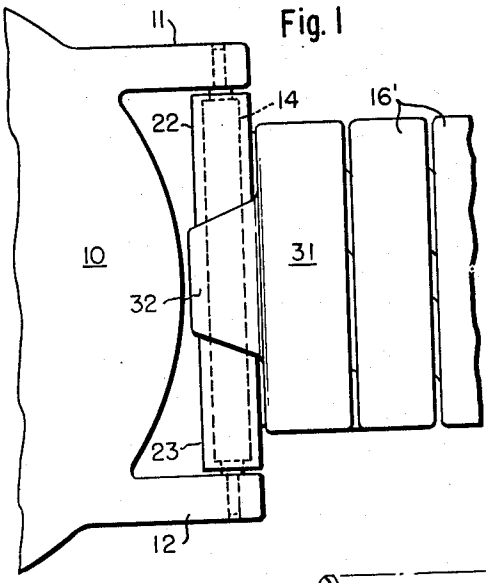


Fig. 2

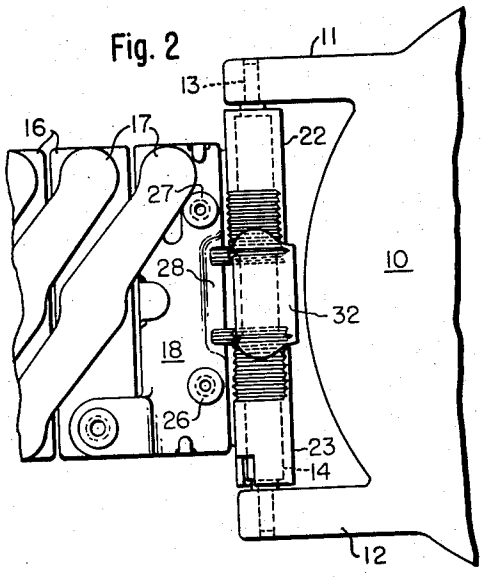


Fig. 3

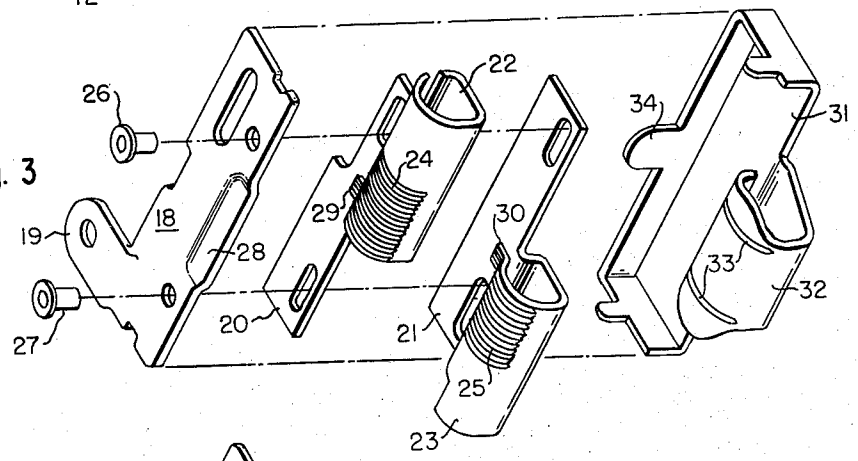


Fig. 4

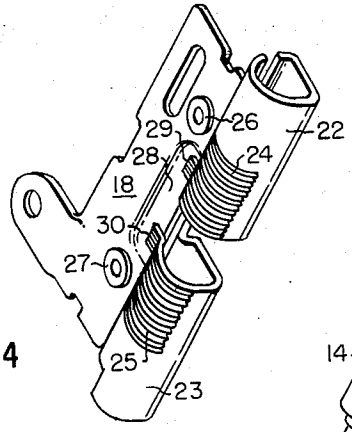
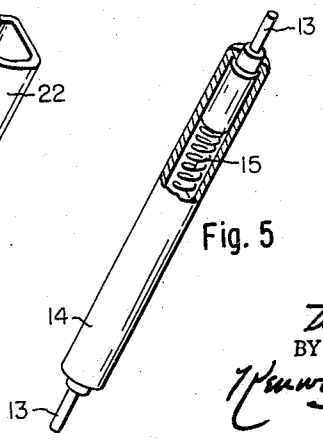


Fig. 5



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ADJUSTABLE CONNECTING DEVICE FOR WRIST WATCH BRACELETS

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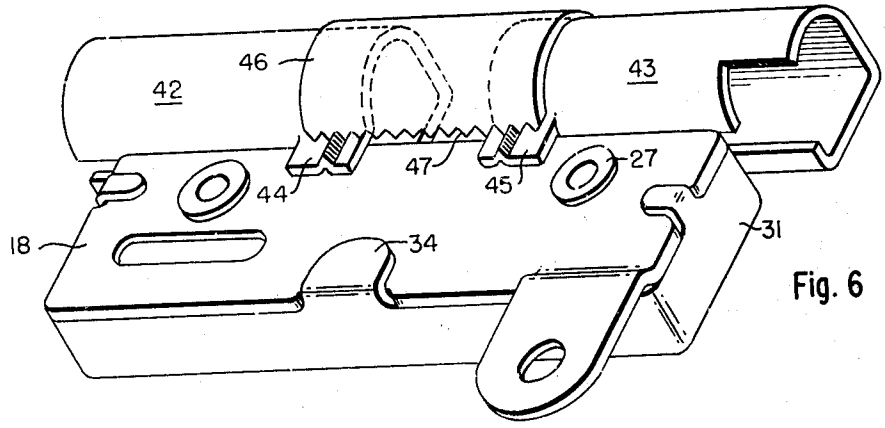

Fig. 6

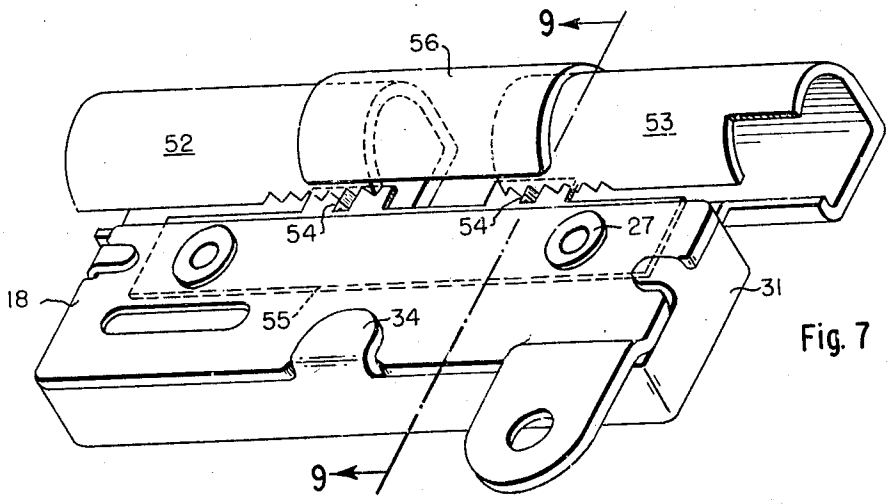

Fig. 7

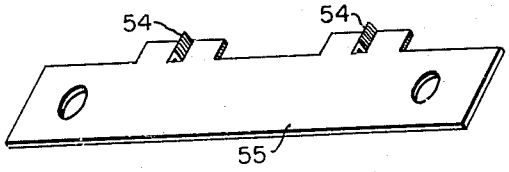

Fig. 8

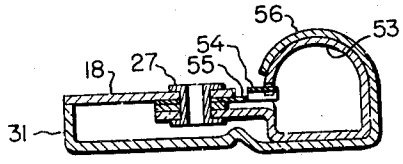

Fig. 9

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ADJUSTABLE CONNECTING DEVICE FOR WRIST WATCH BRACELETS

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6 Claims. (Cl. 24—265)

This invention comprises a new and improved connecting device for use between a watch frame and its wrist band or bracelet.

Watch cases are generally manufactured with projecting attaching lugs differently spaced in different sizes and styles of case and carrying between them a pin which is the connecting element of the watch case, and it is contained within an encircling element of the wrist band. Heretofore it has been necessary to stock an assortment of wrist bands having connecting devices of various widths or to carry out individual fitting operations in order to insure accurate and reliable connection with the pin and lugs of the case.

The principal object of the present invention is to obviate this necessity by providing a novel connecting device that may constitute a permanent part of each wrist band and that has the capacity for adjustment to make the same perfect fit with the attaching lugs of all the different spacings over the full range ordinarily encountered. Consideration has been given to effecting this result without in any way impairing the ornamental appearance of the connection and, on the contrary, to improve the ornamental effect of the wrist band.

Going more into detail, the connecting device comprises a base plate which may be formed as one of the links or attached to one of the links of a wrist band and which has a pair of flat carrier plates having aligned oppositely disposed barrels for containing the pin element of the watch case, together with means for independently retaining said carrier members on the base plate in different positions of widthwise adjustment. Thus the carrier members may be adjusted to bring the outer ends of the barrels into direct contact with the inner faces of the attaching lugs and held in such adjusted position regardless of the span of the lugs. The base plate and the two flat carrier plates are superposed and present substantial areas of flat sliding contact thus imparting a desirable degree of stability and stiffness to the connecting device as a whole.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawings in which:

Fig. 1 is a plan view on an enlarged scale of portions of a watch case and wrist band,

Fig. 2 shows the same parts in inverted position,

Fig. 3 is a view in perspective showing the parts of the connecting device in exploded relation,

Fig. 4 is a view in perspective showing a sub-assembly of certain of the parts shown in Fig. 3,

Fig. 5 is a view in perspective of a connecting pin with parts broken away,

Figs. 6 and 7 are views in perspective of two modified forms of the connecting device,

Fig. 8 is a view in perspective of the locking plate shown in Fig. 7, and

Fig. 9 is a view in cross-section on the line 9—9 of Fig. 7.

In the accompanying drawings the watch case **10** is shown as provided with attaching lugs **11** and **12** spaced widely apart and provided with bores to receive the reduced ends **13** of a tubular connecting pin **14**. The reduced ends **13** extend outwardly from plungers which are received within the barrel of the pin and continuously pressed outwardly by a compression spring **15** which is inserted between them. In making these pins the ends of the barrel are spun inwardly after the spring and plungers have been assembled therein. Each of the reduced ends is shouldered and these shoulders are maintained at all times in contact with the inner faces of the lugs **11** and **12**. The pin as a whole may be detached by retracting one of the reduced ends sufficiently to disengage the lug in which it is inserted.

The adjustable connecting device of the present invention is designed as a component of the expansible band or bracelet to engage and enclose the pin **14** and fill the space between the lugs **11** and **12** of the watch case. The watch band itself is of conventional construction including top links **16**, which are enclosed in more or less ornamental shells **16'** and pivotally connected to bottom links **17** which hold them normally in contracted position. The pivots and springs are not shown in Figs. 1 and 2 but may be of conventional construction.

The connecting device includes a flat base plate **18** approximating in shape one of the bottom links **17** of the wrist band and having a transversely projecting arm **19** which is pivotally connected to one of the bottom links. It is also pivotally connected to one of the top links **16**. Associated with the base plate **18** are right and left carrier members **20** and **21** having superposed flat plate portions. The plate portions of the carrier member **20** is formed integral with a longitudinally disposed barrel **22** which projects slightly beyond its upper end as shown in Fig. 3, while the carrier member **21** has a corresponding barrel **23** projecting beyond its lower end. The barrel **22** is provided in the inner end of its arcuate surface with a series of circumferential corrugations **24** and the barrel **23** with the corresponding series of corrugations **25**. Each of the carrier members is provided with a pair of spaced longitudinally aligned slots through which pass rivets **26** and **27** that project through holes spaced in the base plate **18** and maintain the barrels spaced longitudinally from each other. Between these rivets the base plate is provided with a shallow depression **28** and into this projects an ear **29** from the barrel **22** and an ear **30** from the barrel **25**. It will be understood that the carrier members **20** and **21** are free to slide transversely in their superposed relation on the rivets **26** and **27** and may be so moved by engaging the ears **29** or **30** with a pointed instrument which finds clearance in the recess **28**.

The parts heretofore described are shown in their assembled relation in Fig. 4 and the connecting device is completed when enclosed in a shell **31** which, as shown in Fig. 3, has a hooked tubular portion **32** provided with internally projecting ribs **33** which are designed to fit into the corrugations **24** and **25** in the barrels **22** and **23** thus holding them yieldingly in any desired position of transverse adjustment with ratchet action. The shell **31** is generally of box shaped contour and provided with flexible tongues **34** which are folded beneath the base plate **18** in the completely assembled device so that the connecting device as a whole closely resembles the other links of the bracelet. The hooked tubular portion **32** covers the inner ends of the barrels **22** and **23** and the space between them.

The barrels **22** and **23** are of a diameter to receive the

body of the pin **14** in sliding telescopic relation thereon. When the parts have been assembled as shown in Figs. 1 and 2, the barrels may be forcibly spread outwardly on the pin **14** until their outer ends make a fit with the inner faces of the lugs **11** and **12**. Lost motion in the connection is thus obviated and a secure and mechanically correct connection is effected.

A connection of modified structure is shown in Fig. 6 wherein the barrels **42** and **43** are formed as a part of carrier members similar to the members **20** and **21** adjustably mounted on the enclosed face of the base plate **18**. The barrel **42** is provided with a corrugated ear **44** which extends outwardly over the base plate **18**. The barrel **43** is provided with a corresponding corrugated ear **45**. The hooked tubular portion **46**, which is a part of the shell **31**, is provided with a serrated edge **47** arranged to engage yieldingly with the serrated arms **44** and **45** and to hold the latter securely in any positions of transverse adjustment necessary to bring the barrels **42** and **43** into fitting engagement with the lugs **11** and **12**.

In the modification of Fig. 7 barrels **52** and **53** are each provided with a serrated section in its edge. These serrated sections are arranged for yielding engagement with a pair of upstanding detents **54** projecting from rectangular ears formed in a thin plate **55** which is mounted beneath the base plate **18** and forms in effect a section thereof as shown in Fig. 7. In this construction the hooked portion **56** of the clamp merely engages the barrels telescopically but does not determine their position of widthwise adjustment.

The corrugations **24** and the ribs **33** of Figs. 1 to 4, the serrated edge **47** and the corrugated or toothed ears **44** and **45** of Fig. 6, and the serrated edge section and detents **54** of Figs. 7 to 9 all comprise cooperative elements operating with ratchet action to hold the carrier members in different adjusted spacings.

Having thus disclosed my invention and described in detail preferred embodiments thereof, I claim as new and desire to secure by Letters Patent:

1. An adjustable connecting device for use, in combination with a spring pin between a watch case and a wrist band, comprising a flat base plate having spaced holes for the reception of rivets, two slidable carrier plates, each formed with two elongated and spaced slots for cooperation with rivets anchored in the holes of the base plate, said slidable plates being superposed and having on their outer ends hollow barrels of diameter to receive said spring pin, said barrels being provided on part of their outer circumference with a series of transverse grooves, and a clamping member having spaced detents arranged to engage the grooves of the barrels.

2. An adjustable connecting device, for use in combination with a connecting spring pin, between a watch case and a wrist band; said adjustable connecting device comprising a flat base plate having projecting rivets, two slidable carrier plate, each formed with elongated and

spaced slots for receiving rivets anchored in the base plate, said slidable plates being superposed and each having on its outer end hollow barrels of diameter to receive said spring pin, said barrels being spaced longitudinally and each provided with a corrugated edge, and a shell member with serrations arranged selectively to engage the corrugations in said slidable carrier plates.

3. An adjustable connecting device, for use in combination with a spring pin, between a watch case and a wrist band; said connecting device comprising a flat base plate having projecting rivets, a flat spring member secured to the base plate by said rivets and provided with detents, two flat slidable carrier plates superposed one on the other and each merging at one edge into a hollow barrel of diameter to receive said spring pin and being serrated to engage the detents in the flat spring member.

4. An adjustable connecting device for use with wrist watches, comprising right and left carrier members merging at one end into open end barrels and having flat plate portons arranged in overlapping sliding relation with their barrels separated longitudinally from each other, a base plate to which the carrier members are movably connected, and cooperating ratchet elements on the barrels of both the carrier members and on the base plate for holding the said members yieldingly in different spaced relation.

5. An adjustable connecting device for a wrist watch bracelet, comprising a pair of flat superposed carrier plates each merging at one edge into a barrel and having a slot extending parallel to the axis of its barrel, a flat base plate underlying and supporting said carrier plates, rivets projecting from the base plate through the slots of both the carrier plates for maintaining the said barrels in alignment for adjusting movement, a shell member having a tubular portion partially enclosing said barrels and cooperating elements on the barrels and shell member operating with ratchet action to hold the barrels and their carrier plates in different adjusted spacings.

6. An adjustable connecting device as described in claim 5, further characterized in that the base plate is provided with a depression in its exposed face and the barrels are provided with ears that project into the said depression.

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