Sept. 12, 1950 R. FEURER 2,522,439

METHOD OF MAKING SPRING BARS

Filed July 31, 1946

Fig. 1

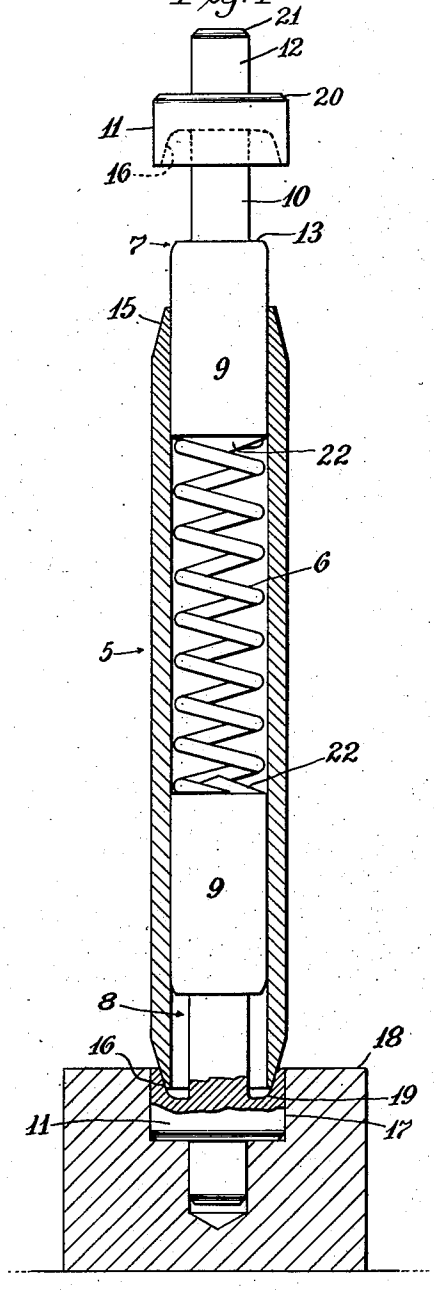
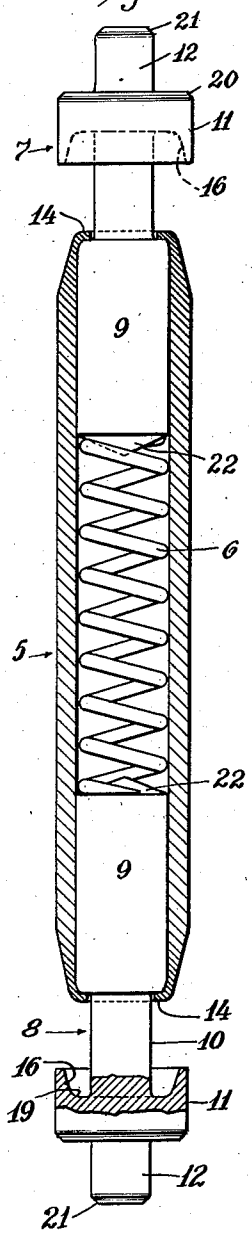


Fig. 2



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METHOD OF MAKING SPRING BARS

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1 Claim. (Cl. 29—148)

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The invention disclosed relates to spring bars for wrist watches, bracelets or the like.

Objects of the invention are to provide a spring bar of simple, inexpensive construction, consisting of few, readily assembled parts, which will hold the strap or wrist band firmly and securely and which, when so required, may be quickly and easily released from the lugs with which it is normally engaged, without the need of special tools.

A particular object of the invention is to provide a construction in which the parts will be automatically secured together in final relation by and in the act of assembly of such parts.

Other desirable objects and the novel features through which the purposes of the invention are attained are set forth or will appear in the course of the following specification.

The drawing accompanying and forming part of the specification illustrates a present preferred embodiment of the invention. Structure, however, may be modified and changed, all within the true and proper scope of the invention, as will be apparent from the following specification and claim.

Fig. 1 in the drawing is a broken sectional view showing the parts of the spring bar put together and ready for securing in that relation;

Fig. 2 is a similar view showing the parts secured in the final form.

The spring bar of the present invention consists of but four parts, a tubular or body portion 5 in the nature of an elongated sleeve, an expansion spring 6 and two end pieces, 7 and 8.

The end pieces may be duplicate parts, as indicated, each comprising an elongated plunger portion 9 freely slidable in the sleeve, a reduced projecting neck portion 10, an enlarged head portion 11 of approximately the same external diameter as the sleeve and a reduced trunnion portion 12.

An abrupt annular shoulder 13 is left at the outer end of the sliding plunger portion 9 to serve as a stop for engagement with the inturned flange 14 at the end of the sleeve to limit the outward extending movement of the pintle forming member.

The pintle confining flange 14, or flanges in the duplicate ended construction illustrated, are provided by forming the ends of the sleeve, as in Fig. 1, with a taper or bevel 15 and by constructing the end heads 11 with conical die cavities 16 in the inner ends which will receive such tapered portions and bend them inwardly into the flange formation indicated in Fig. 2.

While various methods of assembly may be used, the one indicated in Fig. 1 may be employed,

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involving seating one of the end pintles in a correspondingly shaped cavity 17 in a die block 18 and then sliding the sleeve over the projecting plunger portion 9 of the thus supported pintle, dropping the spring in on top of such plunger portion, sliding the plunger portion of the other pintle in over the upper end of the spring and then applying end pressure on the pintles to cause the convergent dies 16 to force the thinned ends of the sleeve inward about the reduced neck portions 10.

The die cavities 16 at the inner faces of the head members 11 are shown as somewhat curved at 19 to curl the thinned edges of the sleeve gradually and smoothly inward into annular flange formation.

In applying the flange closing pressure a die block similar to the one indicated at 18 may be placed over the upper pintle and this work may be performed in a press or by a simple hammer operation.

The few parts shown can be quickly and easily put together and the final act of assembly automatically secures them in that relation but with the pintles free for limited telescopic movement in the sleeve.

With both ends telescopically adjustable, the spring bar is adapted for use in watch cases and the like having considerable variation in the spacing of the mounting lugs.

The head portions 11 may, and preferably do, have beveled outer edges at 20 where they abut the watch case lugs, facilitating entry of a knife or like instrument for forcing the pintles back to release the spring bar from the watch case or other member.

Similarly, the trunnion elements 12 at the extreme ends of the pintles may have beveled or rounded edges at 21 to facilitate entry into and disengagement from the sockets provided to receive the same.

The plunger portions 9 are shown as having conically pointed inner ends 22 to assist in the assembly of the parts and the centering of the spring between the plunger portions.

The head portions 11 being of substantially the same external diameter as the sleeve, provide for support of the strap at its extreme edges, even in the fully expanded position of the parts represented in Fig. 2.

The thinned, convergent ends of the sleeve, by entering the convergent die cavities more or less, permit maximum compression adjustments of the device.

If in service the confining flanges show indica-

tions of weakening or giving way, the parts may again be restored to their firmly secured relation by merely applying sufficient endwise pressure to cause the dies to again fully close the end flanges of the sleeve.

If the spring should break or weaken, the spring bar may be opened up by pulling on the pintles to spring one or both flanges of the sleeve open sufficiently to release one or both pintles. Then after replacement or adjustment of the broken or weakened spring, the parts may be again assembled and secured by applying the endwise pressure necessary to again seat the end flanges of the sleeve over the stop shoulders of the pintles.

What is claimed is:

The herein disclosed method of manufacturing a spring bar which comprises providing a sleeve with a beveled end portion reduced in diameter and wall thickness toward the end of the tube, providing a pintle with a plunger portion to slidingly enter the sleeve, a reduced neck portion to extend beyond the end of the sleeve and an enlarged head portion having a conical die cavity opposed to the reduced end portion of the sleeve, entering a spring in the sleeve and then inserting

the plunger portion of the pintle in the end of the sleeve over said spring and driving the head portion of said pintle inwardly over the end of the sleeve sufficiently to cause the conical die cavity at the inner face of the same to bend the extreme reduced end portion of the sleeve inwardly about the reduced neck portion and over the plunger portion of the pintle.

ROBERT FEURER.

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