

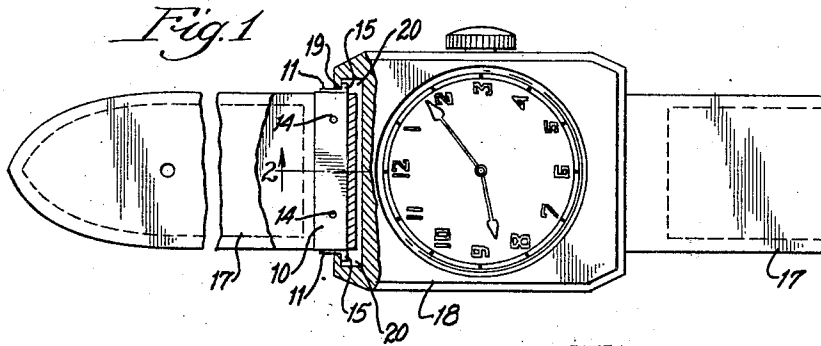
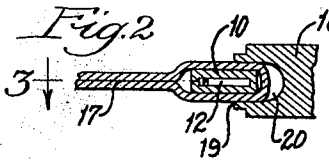
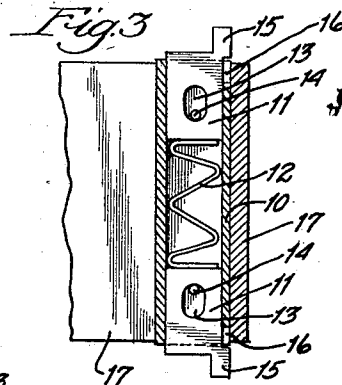
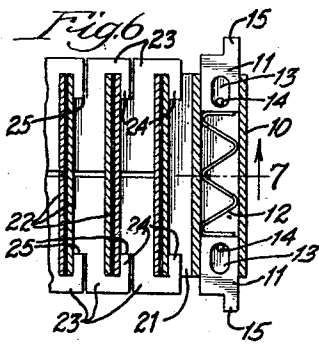
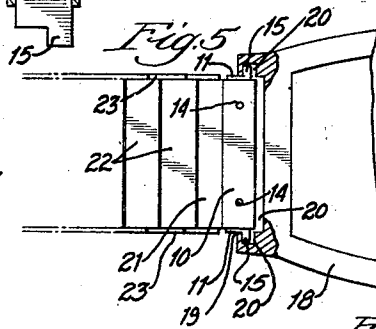
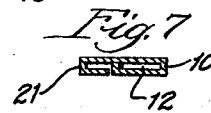
Feb. 3, 1931.

H. M. HILL

1,790,706

SPRING BAR

Filed June 20, 1930



Inventor:
Herbert M. Hill,
By *Spanning & Spanning*
Attys.

UNITED STATES PATENT OFFICE

HERBERT M. HILL, OF ELGIN, ILLINOIS, ASSIGNOR TO ILLINOIS WATCH CASE COMPANY,
OF ELGIN, ILLINOIS, A CORPORATION OF ILLINOIS

SPRING BAR

Application filed June 20, 1930. Serial No. 462,527.

This invention relates to spring bars such as may be employed in connection with bracelets, wrist watches, and other devices.

Among the objects of the invention is to provide a spring bar which is capable of being cheaply, accurately, and expeditiously manufactured, and which is efficient and durable in use. A further object is to provide a spring bar in which the engaging ends are substantially displaced from the axis of the bar.

The invention will readily be understood from the following description of the preferred embodiments shown in the accompanying drawing, in which—

Figure 1 is a plan view, partly in section, showing a spring bar, embodying the invention, in use for securing a leather strap to a wrist watch;

Fig. 2 is a sectional detail on the line 2 of Fig. 1;

Fig. 3 is a sectional detail on the line 3 of Fig. 2;

Fig. 4 is a sectional view of a modified form of spring bar;

Fig. 5 is a detail, partly in section, showing such spring bar associated with a flexible metallic bracelet and securing same to a wrist watch;

Fig. 6 is a sectional view through the bracelet and spring bar; and

Fig. 7 is a sectional view through the spring bar on the line 7 of Fig. 6.

Referring to the drawing, the spring bar comprises a flat tube 10, in the opposite ends of which are slidably located plates 11. Between the plates 11 is provided a spring 12 which tends to push them outwardly. Suitable means are provided to retain the plates 11 in the ends of the tube 10. For example, the plates may be provided with slots 13, and the metal of the sides of the tube 10 may be depressed by a center punch, or the like, as at 14, so that the displaced metal enters the slots 13 and forms a stop for the movement of the plate 11.

The outer ends of the plates 11 carry projecting lugs 15 which are adapted for engagement with other articles. The relation of the slots 13 and stops 14 is such that the lugs 15

normally project from the tube 10 sufficiently to engage the desired objects, while they are capable of being retracted for disengagement from such objects. The lug 15 may be located at the edge of the plate 11, as shown in Figs. 4, 5 and 6, or it may overhang beyond the side of the plate 11, as shown in Fig. 3. As shown in Fig. 3, the ends of the tube 10 may be cut away, as at 16, to accommodate the overhanging lug 15 when the plates 11 are retracted into the tube 10.

As shown in Figs. 1, 2 and 3 the spring bar may be employed to attach a leather strap 17 to a wrist watch 18. For this purpose the spring bar is placed in a loop at the end of the strap, the plates 11 are held retracted, and the bar and enveloping portion of the strap are passed into a slot 19 in the side of the watch. Each end of the slot 19 opens into an undercut recess 20, and the lugs 15, when the plates 11 are released, enter into these recesses and secure the strap to the watch. This form of attachment lends itself to beautiful results since the strap may fit snugly in the slot 19, and have the appearance of entering the side of the watch, the means of attachment being hidden from view.

In the modification shown in Figs. 5, 6 and 7, the tube 10 is rigidly connected to an adjacent parallel tube 21. The tubes 10 and 21 may suitably be formed together from a single strip of metal. The tube 10 secures the plates 11 and spring 12 as in the modification previously described. In attaching to a watch 18, the tube 10 is passed into the slot 19 and the lugs 15 are allowed to expand into the recesses 20. The tube 21 may be associated with a series of flat tubes 22 joined together to form a bracelet or strap, and thus serve to secure the bracelet to the watch. Thus, the tubes 22 may be secured together by plates 23 inserted in each end. Each plate 23 is provided with an overhanging lug 24 and with a recess 25. Each lug 24 enters into the recess 25 of the plate in the adjacent tube and holds that plate in its tube. The lugs 24 of the plates in the first tube enter into the ends of the tube 21 and thus secure the bracelet to the watch. It must be understood that this form of bracelet is not a part

of this invention and is described merely as an example of a manner in which the improved spring bar may be used.

Although the invention has been described in connection with the specific details of certain embodiments thereof, it must be understood that such details are not intended to be limitative of the invention, except insofar as included in the accompanying claims.

I claim:

1. A spring bar comprising a tube, a pair of plates movable within the tube and adapted to project from the ends thereof, the interengaging walls of the tube and plates preventing relative rotation while permitting free sliding movement, and a spring confined within the tube between the plates exerting opposite thrusts on the latter.

2. A spring bar comprising a tube, a pair of plates mounted within the tube for sliding movement and engaged by the tube walls in a manner such as to prevent their rotation relative to each other, coacting means on the tube and plates to limit the movement of the latter, and a spring abutting on both plates to normally project the same from the tube.

3. A spring bar comprising a flat tube, a pair of plates slidably mounted in the ends thereof, and a spring therebetween, the plates being provided with slots and the tube carrying projections extending into the slots.

4. A spring bar comprising a flat tube, a pair of plates slidably mounted in the ends thereof and carrying engaging lugs, resilient means for pushing the plates outwardly, and means for limiting their outward movement, the lugs being displaced with respect to the axis of the tube.

5. A spring bar comprising a flat tube, a pair of plates slidably mounted in the ends thereof and carrying engaging lugs, resilient means for pushing the plates outwardly, and means for limiting their outward movement, the lugs being displaced beyond the edges of the plates and the tube being recessed to accommodate the lugs in their innermost position.

6. A spring bar comprising a flat tube, a pair of plates slidably mounted in the ends thereof, and a spring therebetween, the plates being provided with slots and the tube carrying projections extending into the slots, the plates being provided with projecting lugs displaced beyond the edges of the plates, and the tube being recessed to accommodate the lugs in their innermost position.

7. A spring bar comprising a flat tube, a second flat tube rigidly secured thereto so that the major faces of both tubes lie in the same planes, engaging members slidably mounted in the ends of the first tube, and means resiliently projecting same from the tube, the ends of the second tube being open for reception therewithin of fastening means by which a connection is established with the spring bar.

8. A spring bar unit comprising a pair of adjacent parallel flat tubes formed integrally, plates slidably mounted in the ends of one of the tubes, a spring therebetween, engaging lugs carried by the outermost ends of the plates, and means limiting the outward movement of the plates, the lugs being displaced from the axis of the tube containing the plates away from the adjacent tube.

9. A spring bar assembly in which is comprised a tube wherein is confined a pair of slidable elements with an intermediate spring tending to push both elements outwardly beyond the tube ends, each element having a projection in line with the other and closer to one side of the tube than the other, and the tube walls and elements being so shaped cross-sectionally as to prevent relative rotation between the elements whereby their projections remain always in a fixed rotative position.

In testimony whereof, I have hereunto set my hand this 17 day of June, 1930.

HERBERT M. HILL.