May 14, 1946. W. F. LIBER 2,400,425

EYE PLATE ATTACHMENT FOR COILED SPRINGS

Filed Aug. 2, 1943

Fig. 1.

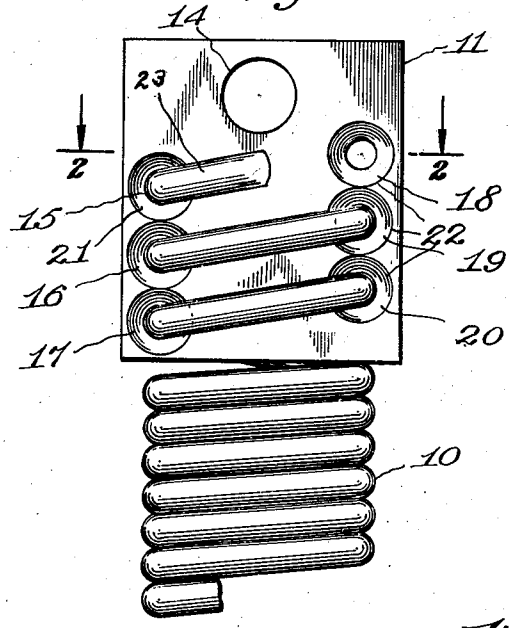


Fig. 2.

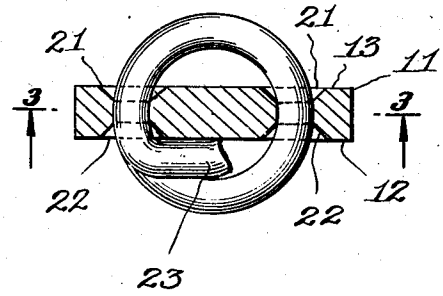
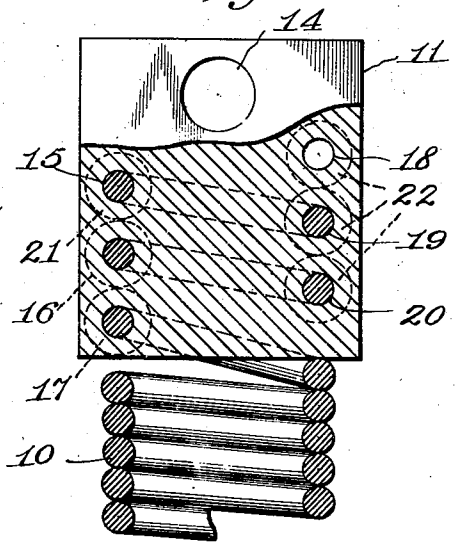


Fig. 3.



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EYE PLATE ATTACHMENT FOR COILED SPRINGS

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5 Claims. (Cl. 267—1)

This invention relates to coiled springs, and more particularly to a vertical eye plate for embracing a coiled spring and connecting it to a hook or other anchorage.

The objects of the invention are to provide a device of the above nature which will be simple in construction, inexpensive to manufacture, easy to install and manipulate, compact, ornamental in appearance, and very efficient and durable in use.

In the former methods of attaching a coiled wire spring to an anchorage, the end of the spring was usually bent into an integral eye, which not only was a difficult operation to perform, but the wire of the spring was likely to break off.

By means of the present invention the above and other disadvantages have been avoided, and a flat plate has been provided having an eye formed in one end thereof, and supplied with two rows of drilled countersunk holes on opposite sides of said plate, below said eye.

With these and other objects in view there has been illustrated on the accompanying drawing one form in which the invention may be conveniently embodied in practice.

In the drawing,

Fig. 1 represents a side view showing the appearance of a coiled wire spring when assembled in the improved eye plate attachment.

Fig. 2 is a sectional view of the same, taken along the line 2—2 of Fig. 1, looking downwardly.

Fig. 3 is a sectional view, taken along the line 3—3 of Fig. 2, looking in the direction of the arrows.

Referring now to the drawing in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates a helical coiled wire spring, the convolutions of which normally lie in abutment with each other, as clearly shown in the bottom portions of Figs. 1 and 3.

In order to attach the coiled spring 10 to a hook or other anchorage member (not shown), provision is made of a longitudinal eye plate 11, herein shown as rectangular in shape, and having a pair of parallel flat opposite faces 12 and 13, as clearly shown in Fig. 2.

The eye plate 11 is adapted to be used in the longitudinal position shown in the drawing, embracing the upper part of the coiled spring, and is provided near its upper end with a horizontal aperture 14 which constitutes an eye for receiving a hook or other anchorage member (not shown).

In order to attach the eye plate 11 to the helical coiled spring 10 at a plurality of points on each side of the spring so as to strengthen the construction and equalize the stresses and strains during use, provision is made in the lower part of said eye plate 11 of two vertical rows of drilled holes 15, 16, 17, and 18, 19, 20, which holes extend horizontally through the eye plate 11 and are located adjacent the opposite vertical edges thereof.

Each of the drilled holes 15, 16, 17, and 18, 19, 20, are countersunk, chamfered, or beveled at their opposite ends, as indicated by the numerals 21 and 22, for facilitating the insertion of the end and convolutions of the coiled spring 10 therethrough, and also to prevent binding of said spring at the inner portions of said drilled holes.

In order to permit the insertion of the coiled spring 10 into the side holes 15—20 of the eye plate 11, with the minimum amount of effort, said holes preferably are located close together with the countersunk bevels 21, 22 touching each other, as shown.

After the coiled spring 10 has been completely assembled in the eye plate 11, the upper end portion 23 of said helical coiled spring 10 will be bent inwardly (as by striking it with a hammer) so that it will lie adjacent to and substantially parallel to the surface 12, as shown in Fig. 2. The coiled spring 10 will thus be securely locked in assembled position.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

Having thus fully described the invention, what is claimed as new and for which it is desired to secure Letters Patent is:

1. An attaching element for embracing one end of a coiled spring, comprising a thin plate member having a central eye aperture in the upper end thereof, said plate also having two rows of transverse cylindrical apertures located adjacent the opposite sides of the lower end of said plate for receiving the upper convolutions of said coiled spring, the opposite ends of said coil-receiving apertures being countersunk.

2. The invention as defined in claim 1, in which said countersunk portions are conical in shape.

3. An attaching element for embracing one end of a coiled spring, comprising a rectangular flat plate having a transverse eye aperture adjacent the end of said plate, said plate also having two rows of parallel transverse apertures located adjacent the opposite sides of said plate below said eye aperture for receiving the opposite portions of the upper convolutions of said coiled spring,

the upper end of said coiled spring being bent inwardly into proximity to one side of said plate.

4. An attaching element as defined in claim 1, in which the countersunk portions of said side apertures touch each other.

5. An attaching element for embracing one end of a tightly wound coiled spring, comprising a rectangular flat plate having two rows of parallel transverse apertures located adjacent the sides of said plate for frictionally receiving the opposite portions of the end convolutions of said coiled spring, and means on said spring and engaging said plate at all times to hold said plate from twisting with respect to said spring.

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