Oct. 15, 1957 R. C. BANGS 2,809,501

SPRING BIASED EAR RING WITH MEANS VARYING THE PRESSURE OF THE SPRING

Filed June 25, 1953

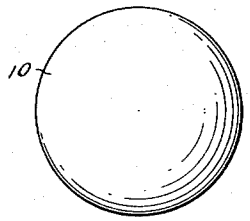


Fig. 1

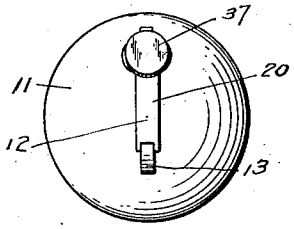


Fig. 2

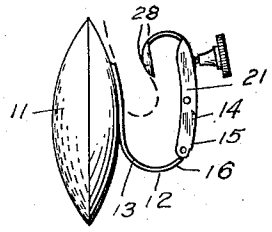


Fig. 3

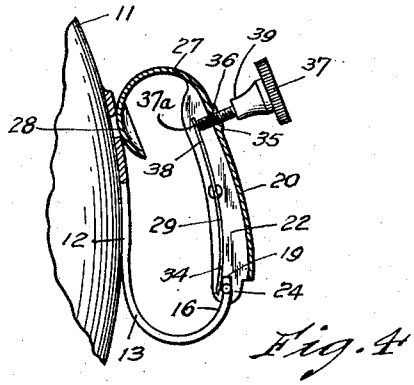


Fig. 4

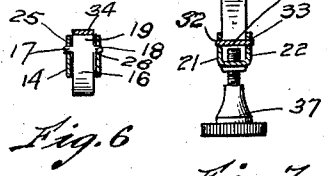


Fig. 6

Fig. 7

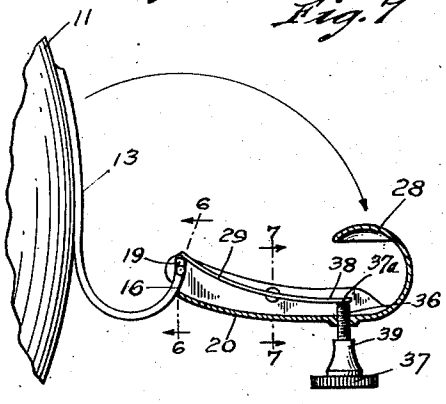


Fig. 5

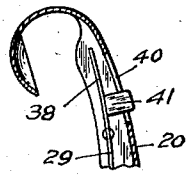


Fig. 8

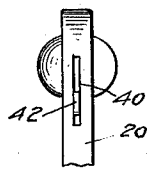


Fig. 9

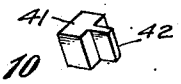


Fig. 10

INVENTOR
Ralph C. Bangs
BY
Nathaniel Finch
ATTORNEY

United States Patent Office

2,809,501

Patented Oct. 15, 1957

2,809,501

SPRING BIASED EAR RING WITH MEANS VARYING THE PRESSURE OF THE SPRING

Ralph C. Bangs, Providence, R. I., assignor to Coro, Inc., a corporation of Rhode Island

Application June 25, 1953, Serial No. 364,010

2 Claims. (Cl. 63—14)

The present invention relates to the jewelry art, and has particular reference to a novel construction for an earring ear wire.

The principal object of the invention is to provide an ear wire having an ear lobe engaging member with adjustable tension.

Another object of the invention is to provide an ear wire having a section secured to an ornamental member and a second section pivotally secured thereto and having an ear lobe engaging element, said section being adjustably resiliently urged to ear-lobe engaging position.

A further object is to provide an ear wire having a section with an ear lobe engaging element, said section being spring urged into ear lobe engaging position and said spring having manually adjustable tensioning means.

An additional object of the invention is to provide a manually adjustable tensioning device for a spring pressed ear wire with a limit stop for preventing tensioning of the spring element beyond its elastic limit.

With the above and other objects and advantageous features in view, the invention consists of a novel arrangement of parts more fully disclosed in the detailed description following, in conjunction with the accompanying drawings, and more specifically defined in the claims appended thereto.

In the drawings,

Fig. 1 is a front view of an illustrative ornamental earring embodying an ear wire of the novel construction;

Fig. 2 is a rear view of Fig. 1;

Fig. 3 is a side view of Fig. 1, the parts being in ear lobe gripping relation;

Fig. 4 is an enlarged sectional view of the ear wire parts of Fig. 3, the parts being in closed relation;

Fig. 5 is a view similar to Fig. 4, the parts being in open relation;

Figs. 6 and 7 are detail sections on the lines **6**—**6** and **7**—**7** of Fig. 5;

Fig. 8 is a sectional detail similar to Fig. 4, showing a modified spring tension control;

Fig. 9 is a side view of Fig. 6; and

Fig. 10 is a perspective view of the spring tension control element of Fig. 6.

It has been found desirable to provide an earring earwire which is resiliently tensioned to grip an ear lobe, the parts being arranged to permit a manual regulation of the resilient tension. To this end, I form the ear wire with an ornament attaching section, and I pivotally connect an ear lobe gripping section thereto; a spring element is mounted in the ear lobe gripping section to engage a fixed cam element on the ornament attaching section and to selectively snap hold the ear lobe gripping section in closed and in open relation to the ornament attaching section. I further position a manually adjustable tensioning device on the ear lobe gripping section to adjustably tension the spring element, whereby the gripping action on the ear lobe may be initially manually set, or may be adjusted while the earring is mounted on

the ear lobe, the adjustable tensioning device being provided with limit stop means to prevent tensioning of the spring element beyond its elastic limit.

Referring to the drawings, the earring **10** comprises an ornament **11** and an ear wire **12**, the ear wire being of U-shape as illustrated and including an ornament attaching section **13** which is soldered or otherwise secured to the ornament **11** and an ear lobe gripping section **14** which is pivotally secured at its lower end **15** to the lower portion **16** of the ornament section **13**.

As illustrated, the section **13** is in the form of a wire having two laterally extending pivot pins **17**, **18**, on the lower portion **16** of the section **13** at a point spaced from but closely adjacent the end **19** of the section **13**, said end **19** being slightly rounded whereby to provide an upwardly extending cam edge as hereinafter to be described.

The ear lobe gripping section **14** is of channel shape, with a rear portion or back wall **20** and sides **21**, **22** provided with extensions **23**, **24** at their lower ends which have aligned openings **25**, **26** to receive the pivot pins **17**, **18**, the rear portion being curved at its upper end into a bend **27** and shaped to provide a reversely cupped ear lobe engaging disk **28**.

A flat spring **29**, see Fig. 4, is provided with intermediate laterally extending pins **30**, **31** which seat in aligned openings **32**, **33** in the sides **21**, **22**, the lower end **34** of the spring **29** making engagement with the inner surface of cam edge **19** as clearly shown in Fig. 4. A boss **35** is provided in the rear portion **20**, see Fig. 5, and is bored and threaded to receive the threaded stem **36** of an adjusting screw **37**. The inner end **37***a* of the threaded stem functions as a spring engaging surface and contacts the upper end **38** of the flat spring **29** on the rear side thereof for projecting the spring toward and away from the back wall **20**. The screw **37** has an enlarged shank **39** adapted to engage the boss **35** and to function as a limit stop when the screw is threaded inwardly to press the upper spring end **38** inwardly for tensioning the spring, whereby the tensioning is limited to not exceed the elastic limit of the spring.

The operation of the novel ear wire construction may now be explained. As shown in Figs. 4 and 5, the lower end of the spring **29** seats against the inner surface of cam edge **19** of the ornament attaching section **13**, and exerts spring pressure on the ear lobe engaging section to urge it inwardly when the parts are in the closed position of Fig. 4, and to urge it outwardly when the parts are in open position as shown in Fig. 5, due to the relative displacement of the lower spring end about the pivotal mounting center. Inward threading movement of the screw **37** increases the pressure on the upper spring end and thus increases the spring tension, and outward threading movement decreases the spring tension, this adjustment being made either before mounting the earring on the ear lobe, or while it is mounted thereon. The gripping action of the ear wire on the ear lobe is therefore readily adjusted to obtain the desired holding action.

If desired, the rear portion **20** may have a vertical slot **40**, see Fig. 9, and a block **41** may be slidably mounted in the ear lobe gripping section, see Fig. 8, to press on the upper end of the spring **29**, the block **41** having a stem **42** extending through the slot **40** for manual movement, whereby the block **41** may be shifted longitudinally to change the spring tension.

Although I have disclosed specific constructional embodiments of my invention, and a flat spring tensioner, it is obvious that changes in the size, shape and arrangement of the parts, and in the type of spring tensioner used, may be made to meet different earring requirements, without departing from the spirit and the scope of the invention as defined in the appended claims.

I claim:

1. In an ear wire, an ornament attaching section having an upright ornament support portion and a lower portion extending rearwardly therefrom and terminating in an upwardly extending cam edge, an ear lobe gripping section comprising an elongated back wall and forwardly extending side walls pivotally secured adjacent their lower extremities to said lower portion adjacent the cam edge thereof, the upper end of said gripping section having an ear lobe engaging part, a flat spring pivotally mounted between said side walls in spaced, substantially parallel relation to said elongated back wall, said spring being mounted intermediate its length and having its lower end in engagement with the inner side of the upwardly extending cam edge, a spring engaging surface making contact with the rear side of said spring above the pivot mounting thereof, means for adjustably projecting said surface against said spring rear side for moving the spring upper end toward and away from said gripping section back wall, whereby to vary the pressure exerted by the spring lower end against said cam edge, said spring engaging surface having a manipulating portion disposed rearwardly of said back wall whereby the gripping tension of the ear wire may be readily adjusted while it is mounted on the wearer's lobe.

2. In the combination of claim 1, said projecting means comprising an elongated element extending through said gripping section back wall substantially perpendicular to the plane of said spring, said element being threadably received by said back wall.

References Cited in the file of this patent

UNITED STATES PATENTS

687,446	Washburn	Nov. 26, 1901
893,048	Balzer	July 14, 1908
1,992,643	Vidal	Feb. 26, 1935
2,230,984	Chernow	Feb. 4, 1941
2,557,200	Pujol	June 19, 1951

FOREIGN PATENTS

14,786	Great Britain	June 26, 1913