March 18, 1941. A. J. PUJOL 2,235,407

CLASP

Filed May 21, 1940

Fig. 1.

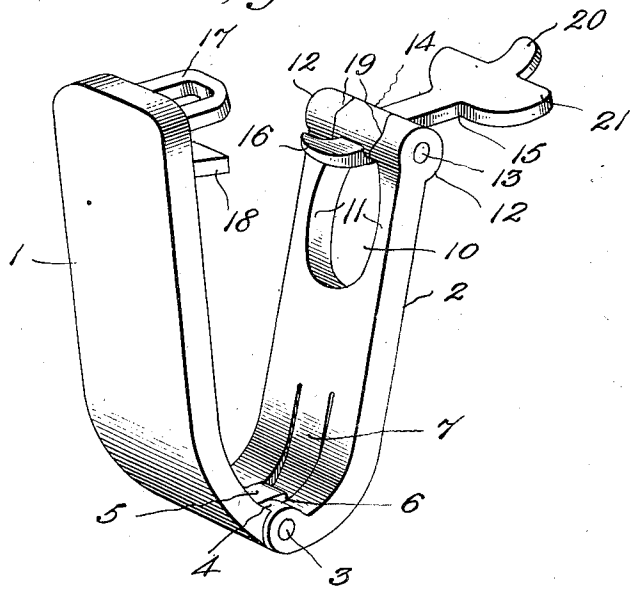


Fig. 2.

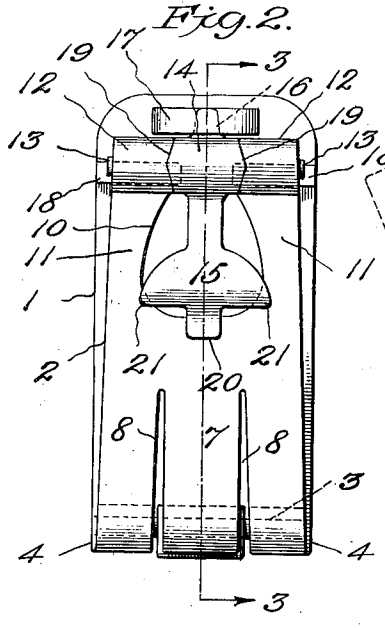
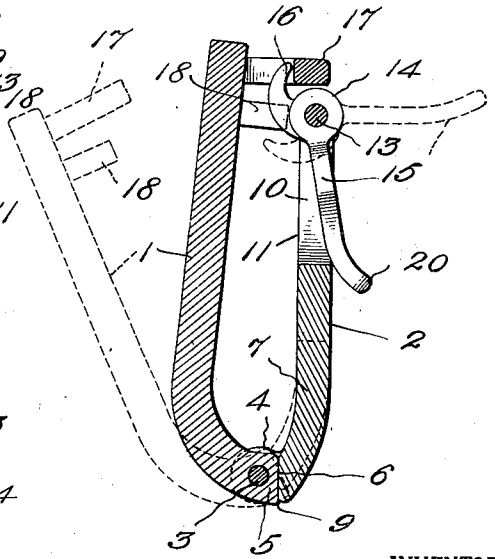


Fig. 3.



INVENTOR.

Albert J. Pujol

BY

Cornelius Fabricius

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2,235,407

CLASP

Albert J. Pujol, Astoria, Long Island, N. Y., assignor to Cartier, Inc., New York, N. Y., a corporation of New York

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2 Claims. (Cl. 24—250)

This invention is a clasp adapted for use in connection with jewelry.

The object of the invention is to provide a clasp which may be depended upon to safely maintain an article of jewelry in a predetermined position without fear of inadvertent detachment and to serve as a protection against theft from the person of the wearer.

In its preferred practical forms the present clasp comprises two relatively pivoted jaws having a novel spring connection between them which normally tends to maintain them in closed condition. One of these jaws carries a pivoted locking member adapted to cooperate with a loop or keeper on the other jaw and locking cam connections are provided so that the locking member will not inadvertently unlock when engaged with the keeper.

An important feature of the present invention resides in the novel utilization of the physical properties of the material from which one of said jaws is made and the formation of said jaw in such manner that the inherent resiliency thereof may be utilized to carry out the desired purposes, whereby the use of independent springs is rendered unnecessary. This feature makes it possible to produce a highly satisfactory clasp with a minimum number of parts, so constituted that none of the operating parts are apt to get out of order or become dislodged or broken.

Features of the invention, other than those adverted to, will be apparent from the hereinafter detailed description and claims, when read in conjunction with the accompanying drawing.

The accompanying drawing illustrates the invention in one of its preferred practical forms, but the construction therein shown is to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a perspective view showing a clasp, embodying the present invention, in open condition.

Figure 2 is a rear elevation of the clasp with the parts in closed condition.

Figure 3 is a section on the line 3—3 of Figure 2, but showing the locking member in elevation.

The clasp as shown in the accompanying drawing comprises two jaws 1 and 2 pivoted at corresponding ends to one another by a hinge connection including a pivot pin 3. This pin passes through marginal bosses 4 on the jaw 2 and a single central boss 5 on the jaw 1. The bosses 4 of the jaw 2 are rounded in the manner common to hinge connections, whereas the boss 5 of the jaw 1 has a flattened end as shown at 6 in Figure 3 to adapt it for cooperation with a spring tongue 7 formed in the jaw 2 between parallel slots 8 therein. The spring tongue 7 also has a flattened end adapted to cooperate with the flattened end of the boss 5 and to exert thereon a camming action tending to normally move the jaws into the closed condition shown in full lines in Figure 3. The resiliency of the spring tongue 7, however, is such as to permit the jaws to be opened as indicated in dotted lines in this figure and in full lines in Figure 1.

The mode of operation of these parts will be clear from Figure 3. Here it will be noted that the boss 5 of the jaw 1 has a nose 9 well below the pivot 3, while the flat surface of the spring tongue also extends well below the pivot. The distance from the axis of the pivot 3 to the end of the nose 9 is greater than the distance from the axis of the pivot to the flat surface 6 of the boss 5. Consequently, pivotal movement between the jaws 1 and 2 will cause the nose 9 to exert a camming action against the spring tongue 7, to place this tongue under increased tension as the jaws are moved apart and this tension will react to close the jaws when they are released.

This operation will result unless the tongues are moved apart sufficiently to cause the nose 9 to pass through a plane normal to the flat surface at the end of the tongue and then the spring action will tend to further open the jaws. Under normal conditions, however, the clasp need not be opened much more than is shown in Figures 1 and 3, so that the spring tongue always tends to close the clasp when the operator permits it to do so. The resiliency of the spring tongue, moreover, tends to keep the jaws in closed condition so that they will clamp between them whatever may be there introduced.

In order, however, to positively lock the jaws in closed condition, I provide the locking means next to be described. The free end of the jaw 2 is centrally cut away or bifurcated, as indicated at 10, to provide oppositely disposed spring arms 11, the ends of which are provided with cylindrical bosses 12 perforated to receive a pivot pin 13. This pin extends across both bosses and for the full width of the jaw 2. Between the bosses 12 is interposed a locking member 14 comprising a cylindrical portion embracing the pin 13 and rotatable thereon. Integral with this cylindrical portion is a finger piece 15 and an integral hook shaped prong 16 adapted to cooperate with a loop or keeper 17 mounted on the inner face and near the free end of the jaw 1. Spacing abutments 18 are also mounted on the

inner face of the jaw 1 for engagement with the bosses 12 of the jaw 2 to space the free ends of the jaws apart. Through movement of the finger piece 15, the locking prong 16 may be moved into locking engagement with the keeper 17, as shown in full lines in Figure 3, or retracted into unlocked position, as shown in dotted lines.

The locking member may be maintained against inadvertent movement from either of the positions described by virtue of a camming action set up between the cylindrical portion of the locking member and the bosses 12 of the jaw 2 for, as shown best in Figures 1 and 2, the opposing faces of these parts comprise an annular sequence of normally interfitting undulations 19, which bring about the camming action referred to. The spring arms 11 permit the bosses 12 to spread apart as the high points of the respective undulations are passed and draw the bosses together as the undulations of the respective parts come into register. Thus the locking member is maintained by this camming action in either its unlocked or locked position, as the case may be.

The finger piece 15 is preferably flared out as indicated at 20 and broadened as indicated at 21, so as to permit it to be conveniently grasped and operated as stated.

The clasp which I have described embodies many advantages over all former clasps of which I am aware. It has the inherent resiliency necessary to perform the functions described, but this inherent resiliency is obtained without the use of any extraneous parts, for the spring tongue 7 is a part of the jaw 2 and the spring arms 11 are also a part of the same jaw. The clasp tends to automatically close and stay closed and after it is locked by the prong 16, the strong camming action, due to the undulating surfaces 19, will positively maintain the locking member in locking position, so that the clasp cannot be inadvertently opened nor can it be readily removed by a thief from the person of the wearer. In practice, these clasps are generally made quite small, with the finger piece 15 of diminutive size, so that its presence is not readily apparent and to the casual observer it is unnoticeable. Consequently, only the wearer who is familiar with the construction can readily and conveniently manipulate it.

The jaws of the clasp of this invention may be of other shapes than as illustrated in the drawing and may be studded with jewels or precious stones and ornamented as desired. Any appropriate metal may be used for the making of the clasp, but the jaw 1 should be sufficiently hard so that the wear on the nose 9 is not excessive while the jaw 2 should be made of material which has inherent resiliency sufficient to carry out the purposes stated. Many of the precious metals may be satisfactorily used in this connection.

The foregoing detailed description sets forth the present invention in its preferred practical forms, but the invention is to be understood as fully commensurate with the appended claims.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

1. A clasp comprising a pair of jaws, one end of one of which is hinged to the corresponding end of the other, one of said jaws being provided at its inner face and adjacent its free end with a keeper, and the corresponding end of the other jaw being bifurcated to provide spaced apart spring arms, a pivot pin mounted on said spring arms and extending across the space between them, a locking member occupying said space and mounted for pivotal movement on said pivot pin, with the contiguous faces of the locking member and the spring arms comprising opposed complementary, interfitting, annularly arranged undulations, and the locking member having a locking prong adapted to be introduced into and retracted from said keeper through pivotal movement of the locking member.

2. A clasp comprising a pair of jaws, one end of one of which is hinged to the corresponding end of the other, one of said jaws being provided adjacent its free end with a keeper, and the corresponding end of the other jaw being bifurcated to provide spaced apart spring arms, a pivot pin extending across the space between said spring arms, a locking member occupying said space and mounted for pivotal movement on said pivot pin, the contiguous faces of the locking member and the spring arms having opposed complementary interfitting annularly arranged undulations, and the locking member being shaped to engage with said keeper through pivotal movement of the locking member when the jaws are in closed positions.

ALBERT J. PUJOL.