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2,853,761

CLASP

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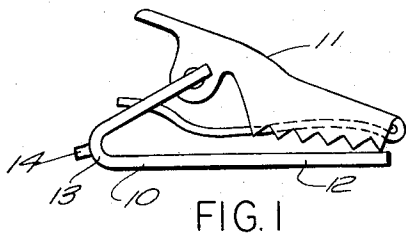


FIG. 1

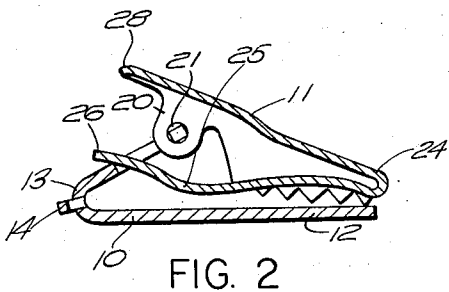


FIG. 2

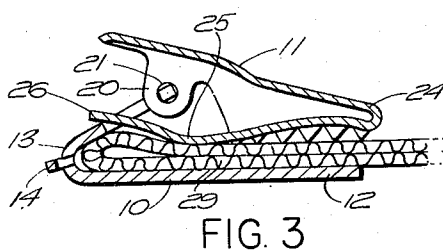


FIG. 3

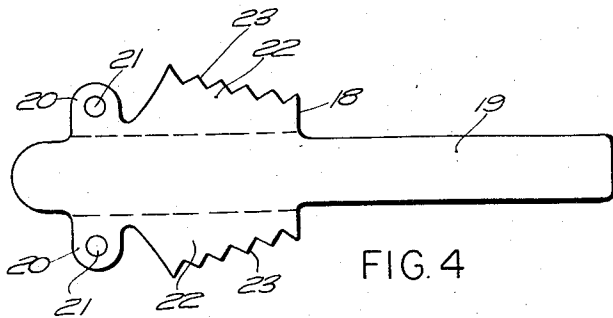
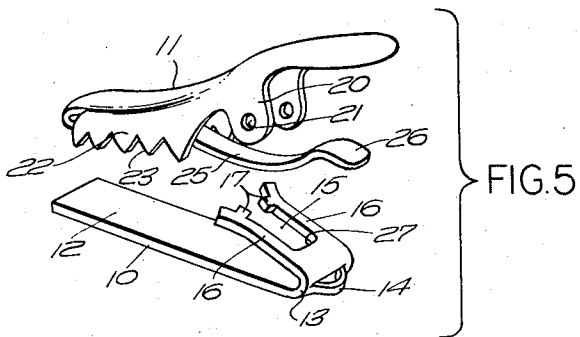


FIG. 4



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5 Claims. (Cl. 24—252)

Our present invention relates to the jewelry art and more particularly to a novel construction of a spring clasp.

The principal object of the present invention is to provide a spring clasp which can be used as a necktie holder, chain clip, or similar jewelry item.

Another object of the present invention is to provide a spring clasp construction which greatly simplifies the manufacture and assembly by eliminating the use of separate springs and pivot pins.

A further object of the present invention is to provide a spring clasp which will retain material in the clasp without wrinkling.

Another object of the present invention is to provide a spring clasp construction which permits the use of a minimum number of integrally stamped parts, thus reducing the cost of manufacture and the number of steps necessary for assembly.

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

In the drawings,

Fig. 1 is a side elevation of a clasp embodying our invention.

Fig. 2 is a longitudinal section of the clasp shown in Fig. 1.

Fig. 3 is a view similar to Fig. 2 with the clasp in use.

Fig. 4 is a plan view of the blank for forming the spring jaw.

Fig. 5 is an exploded view showing the parts of the clasp before assembly.

Spring clasps have long been used in the jewelry art for various purposes such as tie holders and garment clips for holding chains of various types. Originally the conventional spring clip comprised a pair of jaws pivotally mounted. A coil spring surrounded the pivot pin and urged the jaws into clamping position. To open the jaws it was necessary that integral portions of each jaw extend beyond the pivot so that they could be squeezed towards each other. When this construction was used the pivot point and the extended portions always extended beyond the point of grasping and unbalanced the clasp. Subsequently the clasps were constructed as shown in Mix Patent No. 1,981,740, November 20, 1934. In this construction the base of the clasp is formed with one end bent at an acute angle. A jaw was pivoted at that end and a spring surrounded the pivot. The jaw extended integrally rearwardly to a point above the acute angle bend. Such a construction resulted in a base with a spring pressed jaw. The garment material could now be inserted beyond the pivot point so that no portion of the clasp extended beyond the edge of the garment or tie. This construction has certain disadvantages. A considerable free space exists in the clasp between the

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bend and the contacting portion of the jaw. Experience has shown that the garment or tie material has a tendency to bunch up and wrinkle in this area and is not held smoothly flat. Furthermore, the clasp requires a base, a jaw, a pivot pin and a spring. The many parts make the clasp comparatively expensive to manufacture and assemble and hinders the use of automatic mass production methods.

The present invention constitutes an improvement over Patent No. 1,981,740. By the use of the present invention the wrinkling problem is eliminated and the separate spring and pivot pin are also eliminated. The construction of the present invention produces the clasp in two manufactured integral portions which lend themselves to rapid automatic assembly.

Referring more in detail to the drawings, the clasp of the present invention comprises a base 10 and a spring jaw 11. The base 10 comprises an elongated rectangular strip of material 12 which may be ornamented at its front face. One end of the strip 12 is rearwardly bent at 13 at an acute angle, the bent portion extending in spaced relation over the portion 12 as shown in Figs. 1, 2, 3 and 5. At the bend 13 an integral loop 14 may be forced integrally from the base for the attachment of a chain, if desired. The outer end of the bent portion is provided with a central cut out 15 dividing the bent portion into arms 16. Adjacent the outer end of the arm 16 short integral pivot portions 17 extend towards each other as shown in Fig. 5.

The spring jaw 11 is also stamped from sheet stock, first being formed into a flat blank 18 shown in Fig. 4. The flat blank includes an elongated narrow strip of material 19 having integral ear portions 20 extending from opposite side edges spaced from one end. Each portion 20 is provided with an opening 21. Extending from each side edge of the portion 19, adjacent the ears 20, are a pair of wing sections 22 having serrated edges 23. By conventional methods, after the forming of the blank shown in Fig. 4, the blank is passed through a series of bending operations to form the spring jaw. The ears 20 are bent at right angles to form spaced parallel ears as shown in Fig. 5, with the openings 21 in alignment. The wings 22 are similarly bent to form spaced parallel gripping edges also shown in Fig. 5. The elongated portion 19 is then rearwardly bent to form an integral spring as shown in Figs. 2, 3 and 5. The bend is sharp at the tip 24 and the member 19 is then curved downwardly at 25 and then upwardly terminating in a short straightened end 26. The jaw 11 may be made initially out of tempered stock or may be tempered after completion, to provide the necessary spring action.

The base 10 and spring jaw 11 constitute the only parts necessary for forming the finished clasp. The assembly of the clasp is simple. Referring to Fig. 5, the ends of the base arms 16 are bent outwardly to spread the pivot portions 17. The spring jaw 11 is positioned over the base as shown in Fig. 5. Now when the spring jaw is lowered the portion 26 at the tip end of the integral spring will slip between the arms 16 of the base and rest against the lower edge 27 of the cut out 15 in the base. Further movement will compress the spring and bring the aligned openings 21 of the ears 20 in alignment with the pivot portions 17. The ends of the arms 16 are then forced inwardly into parallel position so that the pivot portions 17 enter the openings 21 into the position shown in Figs. 1, 2 and 3. This completes the assembly. As can be seen in Figs. 1, 2 and 3 the spring member rests on the base portion 27 at a point to the left of the pivot portion 17 and the serrated teeth 23 are forced downwardly on to the base portion 12.

The above manufacture and assembly can thus be done with progressive tools automatically. This is pos-

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sible because of the novel integral construction of the spring jaw 11 which permits an integral one-piece construction of the spring, jaw, and pivot portions. In use, the tip end 28 of the spring jaw is pressed downwardly causing a counterclockwise rotation of the jaw against the action of the spring. Referring to Fig. 3, when the jaw has been opened to allow the material 29 to be inserted it will be noted that the serrated edges 23 will serve to grasp the material adjacent to the entrance of the clasp whereas the spring portion 25 serves to press the material downwardly and retain it in flat position to prevent wrinkling. It is also desirable that the serrations be so constructed that when the clasp is partially open to allow for the thickness of the material, all the serrations will become parallel to the base and grip the material evenly. This is illustrated in Figs. 2 and 3.

The above construction thus permits the manufacture and assembly of a spring clasp in a minimum of integral parts in a construction which greatly facilitates the final assembly operations. The clasp can actually be completely manufactured and assembled automatically without the necessity of manual assembly. Other advantages of the present invention will be readily apparent to a person skilled in the art.

We claim:

1. A clasp for jewelry or the like having a base member comprising an elongated strip of rigid material having one end reentrantly bent at an acute angle, a jaw pivotally mounted at the end of said bent portion of said base, and a spring extending integrally from the front end of said jaw and contacting said bent portion below said pivot to resiliently urge said jaw into clamping position against said base, said jaw having integral depending clamping wall portions from each side edge, the edges of said wall portions being serrated, said spring extending between said wall portions.

2. A clasp for jewelry or the like having a base member comprising an elongated strip of rigid material having one end reentrantly bent at an acute angle, said bent portion terminating in spaced arms extending in parallel relation from each side edge, said arms having integral pivot members adjacent the ends extending toward each other, a jaw pivotally mounted at the end of said bent portion of said base, said jaw having spaced depending integral ears with aligned pivot openings, spaced from the rear end thereof, said ears extending between said spaced arms and said pivot members extending into said openings, and a spring extending integrally from the front end of said jaw and contacting said bent portion below said pivot to resiliently urge said jaw into clamping position against said base, said jaw having integral depending clamping wall portions from each side edge, the edges of said wall portions being serrated, said spring extending between said wall portions.

3. A clasp for jewelry or the like having a base member comprising an elongated strip of rigid material having one end reentrantly bent at an acute angle, said bent portion terminating in spaced arms extending in parallel relation from each side edge, said arms having integral pivot members adjacent the ends extending toward each

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other, a jaw pivotally mounted at the end of said bent portion of said base, said jaw having spaced depending integral ears with aligned pivot openings, spaced from the rear end thereof, said ears extending between said spaced arms and said pivot members extending into said openings, and a spring extending integrally from the front end of said jaw and contacting said bent portion to resiliently urge said jaw into clamping position against said base, the free end of said spring bearing against the end of said bent portion between said arms.

4. A clasp for jewelry or the like having a base member comprising an elongated strip of rigid material having one end reentrantly bent at an acute angle, said bent portion terminating in spaced arms extending in parallel relation from each side edge, said arms having integral pivot members adjacent the ends extending toward each other, a jaw pivotally mounted at the end of said bent portion of said base, said jaw having spaced depending integral ears with aligned pivot openings, spaced from the rear end thereof, said ears extending between said spaced arms and said pivot members extending into said openings, and a spring extending integrally from the front end of said jaw and contacting said bent portion to resiliently urge said jaw into clamping position against said base, said jaw having integral depending clamping wall portions from each side edge, the edges of said wall portions being serrated, said spring extending between said wall portions, the free end of said spring bearing against the end of said bent portion between said arms.

5. A clasp for jewelry or the like having a base member comprising an elongated strip of rigid material having one end reentrantly bent at an acute angle, said bent portion terminating in spaced arms extending in parallel relation from each side edge, said arms having integral pivot members adjacent the ends extending toward each other, a jaw pivotally mounted at the end of said bent portion of said base, said jaw having spaced depending integral ears with aligned pivot openings, spaced from the rear end thereof, said ears extending between said spaced arms and said pivot members extending into said openings, and a spring extending integrally from the front end of said jaw and contacting said bent portion to resiliently urge said jaw into clamping position against said base, said spring being reentrantly bent at the front end of said jaw, then curving downwardly towards said base, then upwardly and rearwardly toward said bent portion, to present a curved portion slightly spaced from said base, the free end of said spring bearing against the end of said bent portion between said arms.

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