J. K. KELLOGG.

CLASP AFFIXING AND DETACHING DEVICE.

APPLICATION FILED AUG. 14, 1920.

1,402,618. **Patented Jan. 3, 1922.**

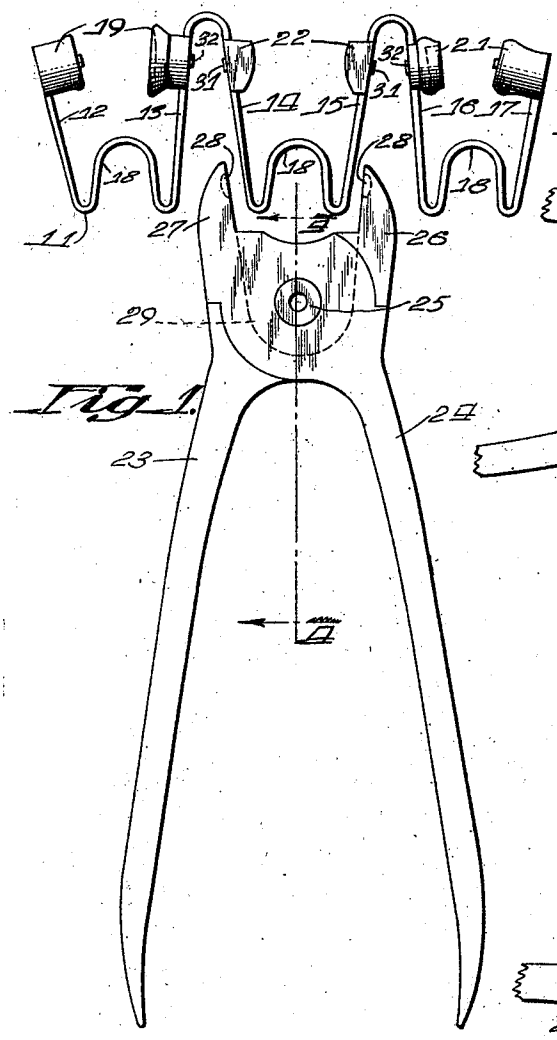


Fig. 1.

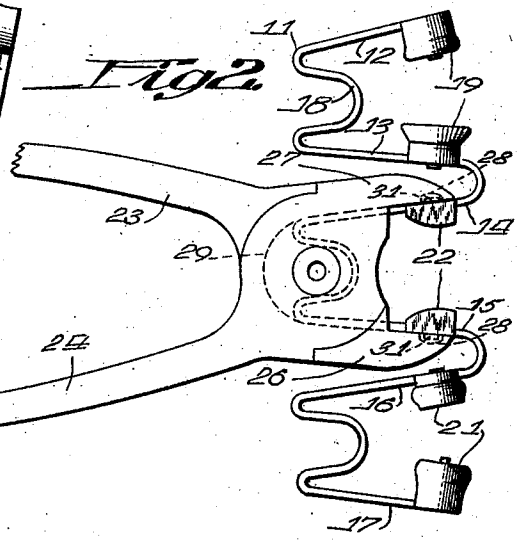


Fig. 2.

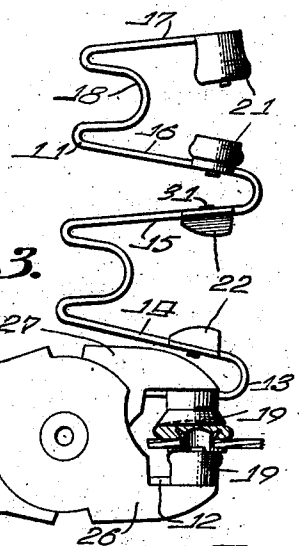


Fig. 3.

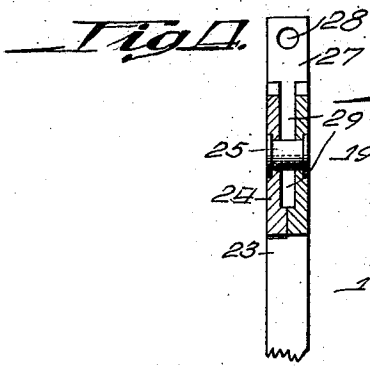


Fig. 4.

Fig. 5.

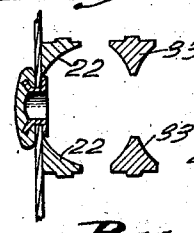


Fig. 6.

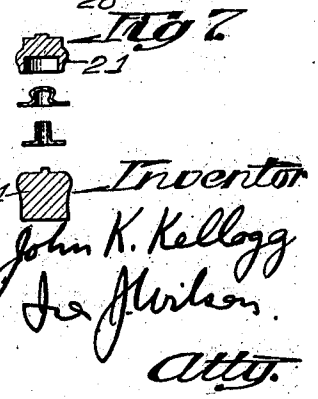


Fig. 7.

Inventor
John K. Kellogg
By Jas. Morrison.
Atty.

UNITED STATES PATENT OFFICE.

JOHN K. KELLOGG, OF BERKELEY, CALIFORNIA.

CLASP AFFIXING AND DETACHING DEVICE.

1,402,618. Specification of Letters Patent. Patented Jan. 3, 1922.

Application filed August 14, 1920. Serial No. 403,625.

To all whom it may concern:

Be it known that I, JOHN K. KELLOGG, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented certain new and useful Improvements in Clasp Affixing and Detaching Devices, of which the following is a specification.

This invention pertaining in general to the art of clasps, has more particular reference to a device particularly adapted for affixing and also removing clasps. My invention is of special utility in connection with affixing glove clasps, so called, to a glove or the like; and it also contemplates a means for easily and conveniently removing a clasp from a glove when necessary.

The primary object is to provide a simple and practical means for affixing and detaching glove clasps and the like, which shall be especially adapted for use wherever gloves or other articles having separable snap-fasteners or clasps are made, handled or sold. In other words, I have aimed to provide a device which may be conveniently operated by hand to quickly and easily affix or remove if necessary, separable fasteners, such as are clamped or pressed onto an article, as a glove, and which requires no skill for manipulating, but may be effectually operated equally well by any one of ordinary intelligence.

A further object of my invention is to provide a device of the character described including a die holder having pairs of relatively movable arms equipped with complemental die members such as are used for affixing either male or female clasps, or for detaching them, and in the provision of means, preferably in the form of a plier, for operatively engaging any set of die members without removal thereof from the holder, or for pressing them together and thus clamping the members of an interposed clasp.

My invention also contemplates the provision of a die holder and a plier of such novel design as to be co-operatively employed in clamping the clasp members.

Still another object is to provide a device of the character described which shall be capable of production at a comparatively low cost and which shall serve in a practical and satisfactory manner the purposes in mind.

Other objects and attendant advantages will be appreciated by those familiar with this art as the invention becomes better understood by reference to the following description when considered in connection with the accompanying drawings, in which—

Figure 1 is a view of a plier and die-holding member embodying my invention;

Fig. 2, a view of said parts showing the die holder in operative association with the plier in the position for detaching a clasp;

Fig. 3, a view of the plier and die holder showing the dies pressed together for assembling the members of a female clasp;

Fig. 4, a sectional view through the plier taken on the line 4—4 of Fig. 1;

Fig. 5, a sectional view through the dies and separated parts of a female clasp;

Fig. 6, sectional views through two forms of complemental dies employed for detaching or separating the assembled members of a clasp, the embodiment at the left showing the dies in the act of separating the elements of the clasp; and

Fig. 7, a sectional view through the complemental die members and separated elements of a male clasp.

The die holder which carries the several pairs of complemental die members may be constructed in various ways; and in the present case, I have illustrated as a working example a preferred embodiment in which the holder is in the form of a resilient wire member designated generally by character 11, bent back and forth upon itself in a sinuous manner to provide relatively movable pairs of arms 12—13, 14—15, and 16—17. It will be observed that the wire body intermediate the complemental arms of each pair is arched inwardly as at 18 and so that the ends of the arms opposite from the arched portion are relatively movable toward and from each other, being normally disposed in separated relation and adapted to be pressed together by flexing the spring body for the purpose of bringing the die members together in alignment in a clamping action. When my invention is employed for affixing and removing glove clasps, the die members may be arranged as shown, comprising dies 19 for clamping together the elements of a female clasp, dies 21 for a male clasp and dies 22 for separating or detaching the elements of a clasp already affixed to an article.

I have now provided a simple and practi-

cal means co-operating in a particularly advantageous manner with the die holder for operating any pair of dies to clamp the interposed clasp elements. This consists of a plier which may be of any suitable form, and which is preferably composed of two parts 23 and 24, pivotally connected together at 25, and shaped to provide handles and jaws 26 and 27 respectively. It will be observed that each jaw is formed on its face with a locating recess 28, and that the jaws are further shaped to jointly provide a socket 29 extending inwardly beyond the pivot-connector 25. This socket is for the reception of the complemental arms of any pair as shown in Fig. 2, and the medial portion 18 between each pair of arms is arched so as to permit a substantial insertion of the arms inwardly intermediate the jaws of the plier. It will be observed in Fig. 2, that when a pair of complemental arms, such as 14—15, have been inserted between the jaws, they are held in operative position therebetween by the small studs 31 at the back of the die members 22 engaging in the locating recesses 28. Upon now pressing the handles of the plier together, the die members will be likewise pressed together but with a considerable leverage advantage so that a powerful pressure or clamping action may be obtained.

In operation, any pair of arms may be inserted between the jaws of the plier and be properly located and held therebetween by reason of one or more lugs 31 or 32 engaging in the locating recesses 28 and the die members may be pressed together for clamping the interposed clasp elements by a wedging action when it is desired to detach a clasp. It will be manifest that the die elements may be of any suitable shape or construction suitable for the particular clasps, the two forms of dies shown in Figs. 5 and 7 illustrating their use in connection with male and female members of a conventional clasp. The dies used for separating the elements of a clasp member are preferably of wedge shape in cross section as shown in either embodiment in Fig. 6. In that form designated by 22, the sides of the die adjacent to the material carrying the clasp member are flat. In the other form at the right designated by 33, both sides of the wedge shaped members may be of similar convergence, and if desired, the point may be slightly grooved for clamping the periphery of a clasp element to facilitate removal thereof.

From the foregoing, it will be observed that I have provided a die holder carrying a plurality of sets of complemental die members in proper co-operative relation and that I have further provided a simple means for operating any set of dies. The operation of either affixing or removing a clasp member may be easily performed by any ordinary person; thus it serves a large demand and is especially suited for glove sales clerks for affixing clasps which have become loosened or detached, and also for replacing them in the event that they have been damaged, or for any similar purpose. It will also be noted that I prefer to so arrange the dies that when employing either end set, the major portion of the die holder will be disposed uppermost, as shown in Fig. 3, so as not to interfere with the free hand which is used for properly holding and positioning the glove or other article between the dies. In the event that a greater or lesser number of dies are required, the die holder would be shaped accordingly.

It is believed that the foregoing conveys a clear understanding of the objects prefaced above, and while I have illustrated and described a single practical embodiment of my invention, it should be understood that various changes might be made in the construction without departing from the spirit and scope of the invention as expressed in the appended claims, in which—

I claim:

1. A clasp affixing device of the character described comprising in combination with a plier, a plurality of pairs of clasp-engaging dies, and means independent of the plier for normally holding the dies in separated operative relation, the jaws of said plier being constructed to receive each pair of dies in said separated relation and adapted for relatively moving the dies of each pair for clamping an interposed clasp.

2. The combination with a plier, of a flexible member carrying in operative relation a plurality of pairs of dies each pair of which is adapted to be operated by the plier for clamping interposed parts, said flexible member normally holding the dies of each pair in separated relation and permitting relative movement between them during the clamping operation.

3. The combination of a plier having a retaining recess in the face of one jaw, and means carrying in operative relation a plurality of pairs of dies, one of which has a locating boss adapted to enter said recess, each pair of dies adapted to be inserted between said jaws when open and to be pressed together to clamp interposed parts.

4. A clasp affixing device comprising a plier, the mouth of which extends inwardly beyond the pivotal connection between the plier members, and a flexible member equipped with a pair of clamping dies normally held in separated relation, said member shaped to fit between the jaws of the plier inwardly beyond the pivot thereof and permitting relative movement between the dies by closing action of the plier for clamping an interposed clasp.

5. A clasp affixing device comprising a

sinuous wire spring member, and a plurality of pairs of clasp-engaging dies, each pair attached in co-operative relation to the separated adjoining portions of said member so as to be independently movable toward each other against the tension of said spring member for the purpose of clamping an interposed clasp and to be returned to normal separated position after completion of the clamping action.

6. A clasp affixing and removing device comprising a wire member bent back and forth upon itself to provide pairs of complemental relatively movable arms, a pair of clasp-affixing dies attached to one set of arms, and a pair of clasp-removing dies attached to another set of arms.

7. A clasp affixing device comprising a plier, a resilient wire bent back and forth upon itself to provide a plurality of relatively compressible die-carrying arms insertible between the jaws of the plier, and a pair of complemental dies attached to each pair of arms and adapted when said member is in co-operative relation with the plier to clamp an interposed clasp by operation of the plier.

JOHN K. KELLOGG.