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END CLASP FOR BRACELETS AND THE LIKE

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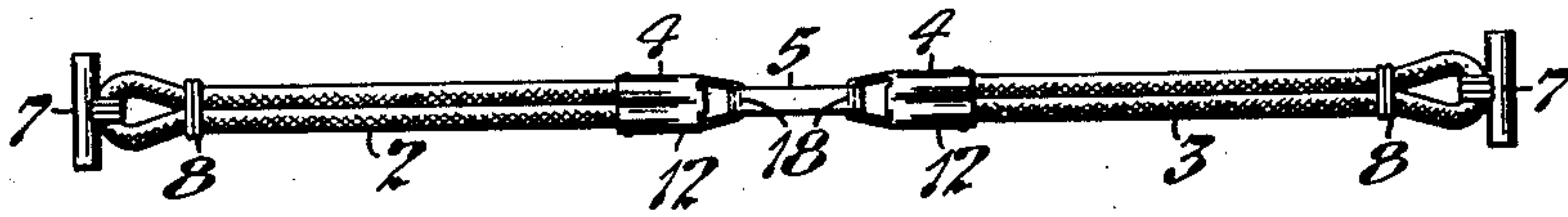


Fig. 1.

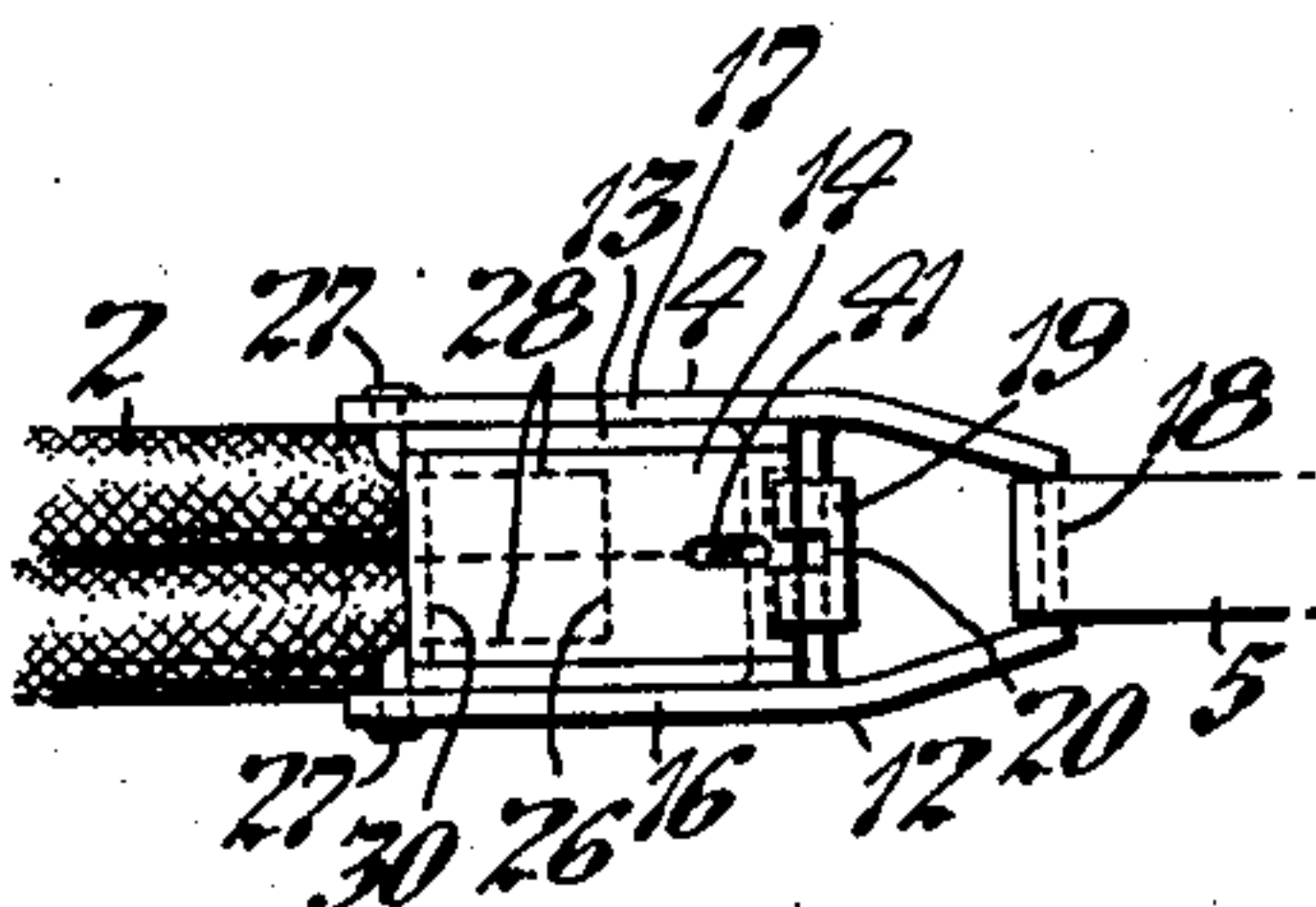


Fig. 2.

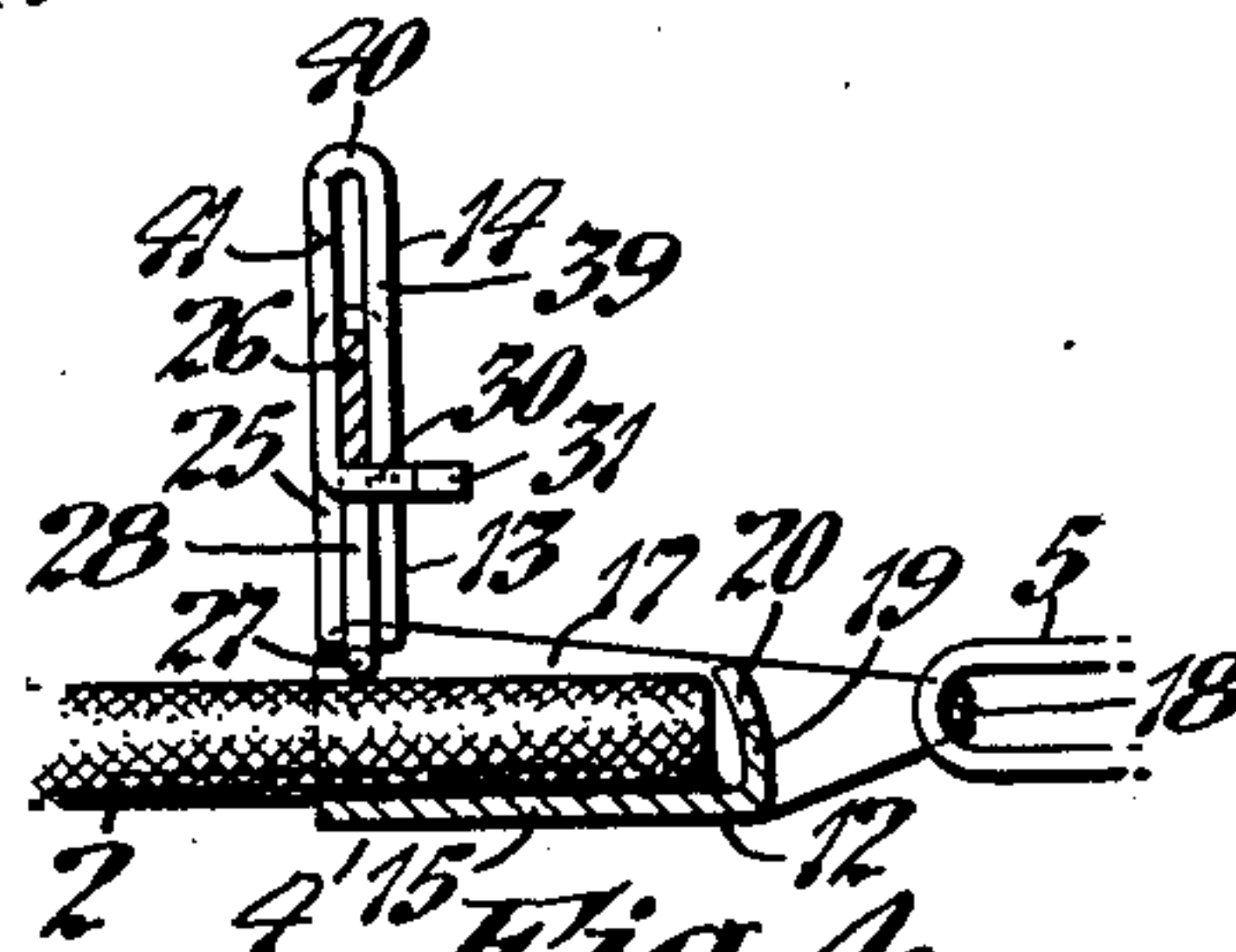


Fig. 4.

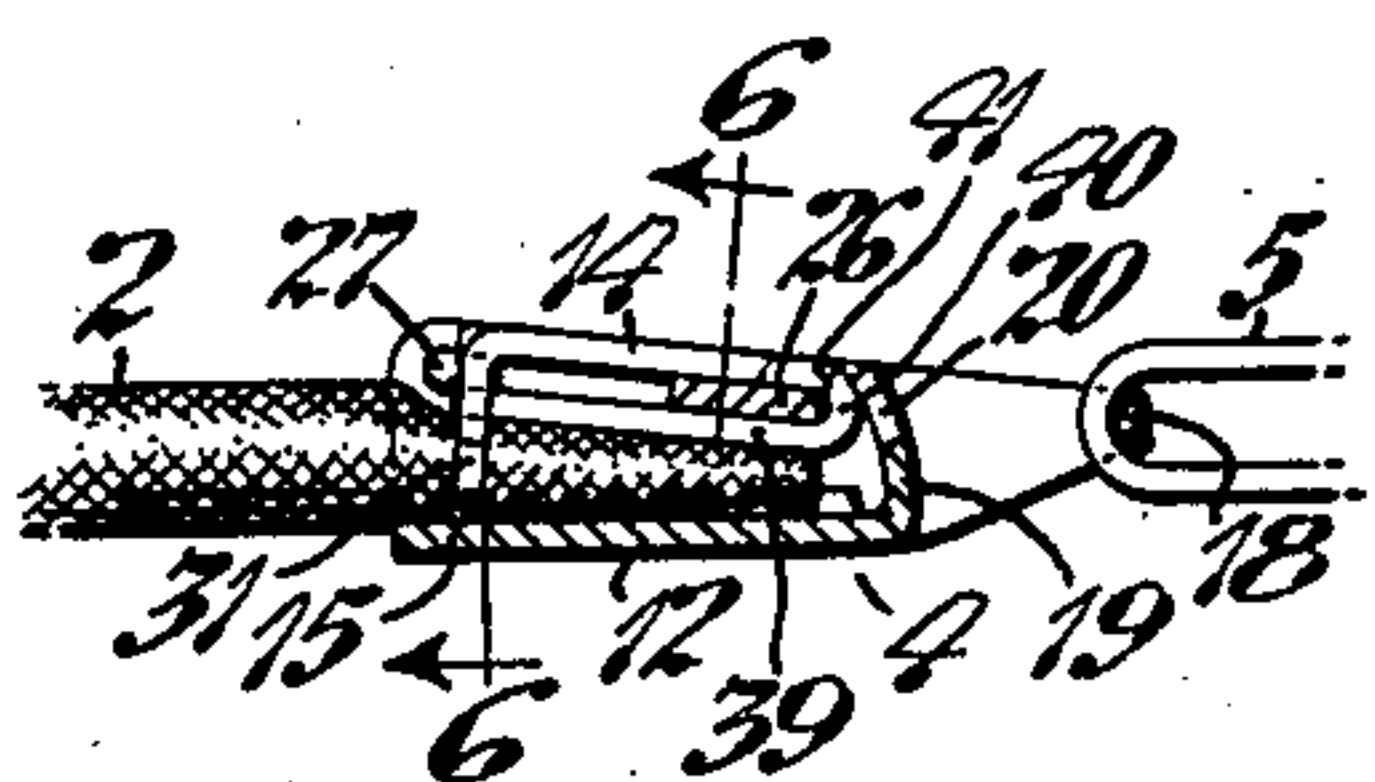


Fig. 3.

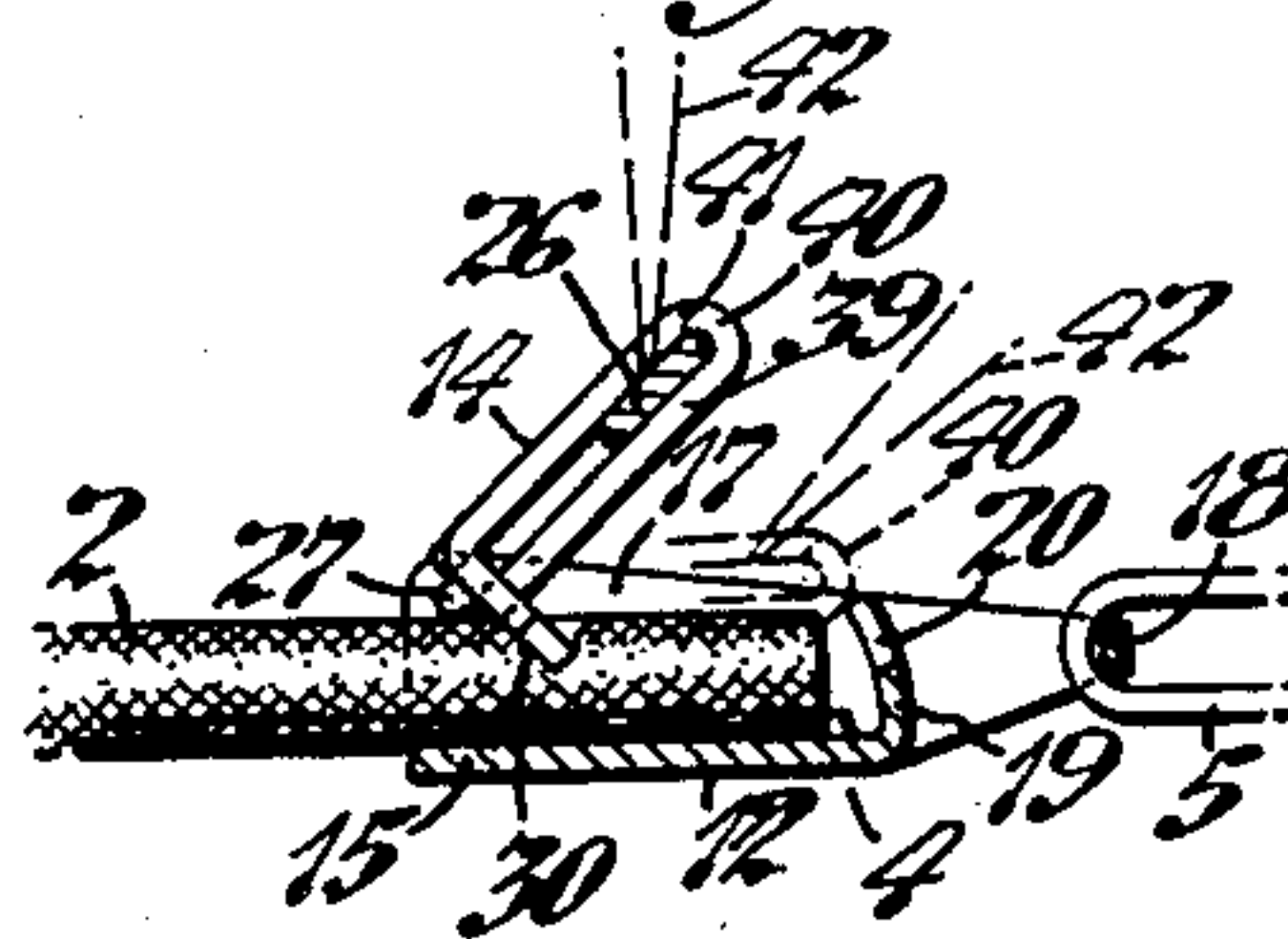


Fig. 5.

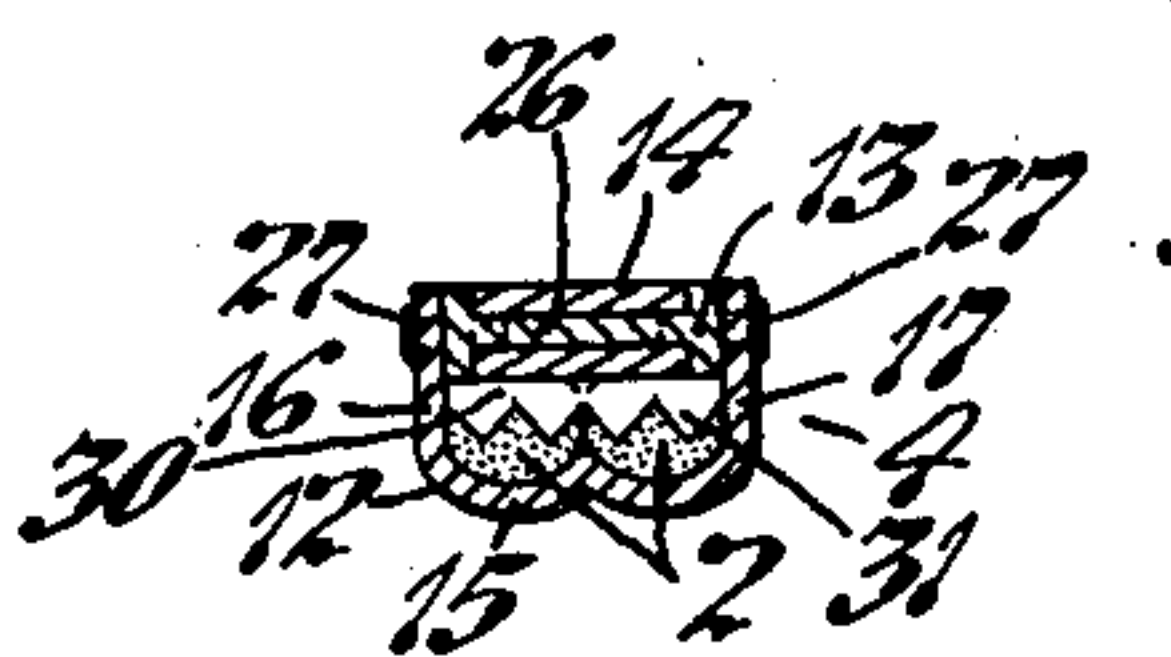


Fig. 6.

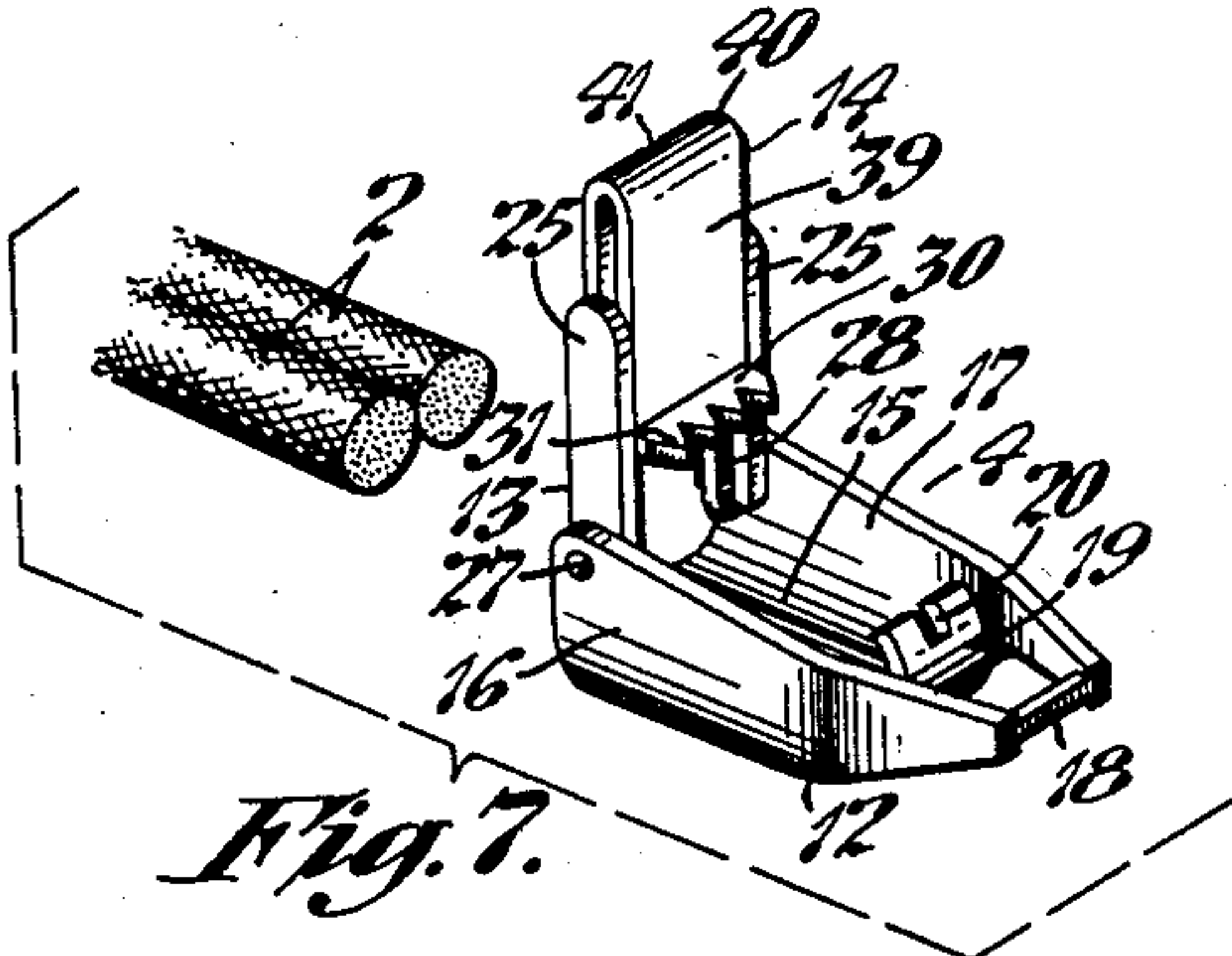


Fig. 7.

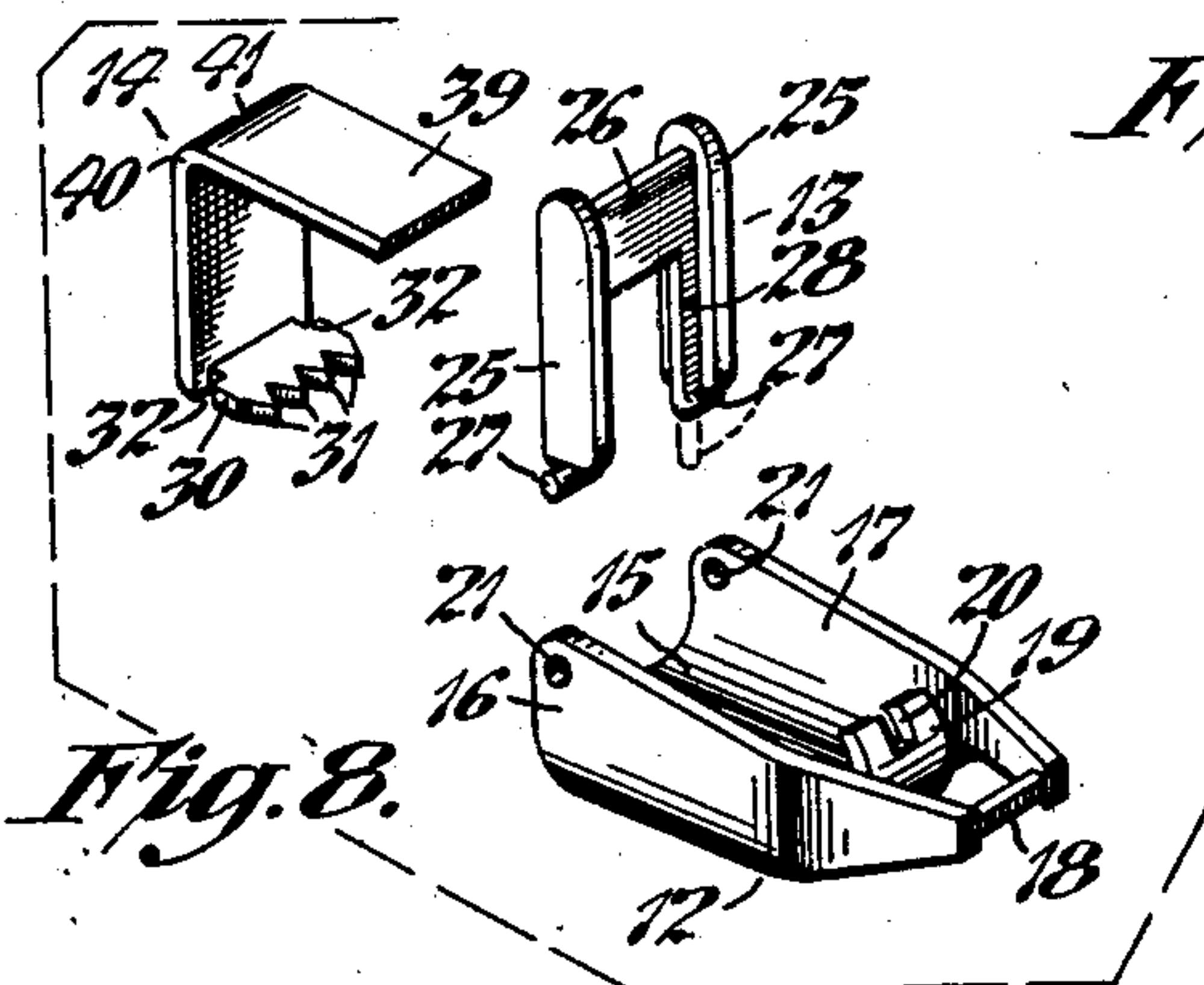


Fig. 8.

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END CLASP FOR BRACELETS AND THE LIKE

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5 Claims. (Cl. 24—265)

The present invention relates to improvements in end clasps or fastening devices for attaching the ends of cords, straps, bands, bracelets and the like.

One object of the present invention is to provide an end clasp of the type indicated having a construction and arrangement of the parts which facilitates the operation of attaching the bracelet or cord ends thereto.

Another object of the invention is to provide a clasp of the type indicated having a gripper element movable away from the body-member to facilitate the insertion of the bracelet end and rockable into binding engagement therewith.

Another object of the invention is to provide a clasp of the type indicated having a rockable operating lever and a gripper slidable on the lever toward and away from the body-member and adapted to be rocked with the lever into gripping engagement with the bracelet end.

Still another object of the invention is to provide a clasp of the type indicated which is of simple and compact construction, economical to manufacture and assemble, and neat and ornamental in appearance to adapt it for its intended use.

Further objects of the improvement are set forth in the following specification which describes a preferred form of construction of the device, by way of example, as illustrated by the accompanying drawing. In the drawing:

Fig. 1 is a top plan view of a cord bracelet showing the present invention embodied in a pair of clasps attached to the ends of the cords and joined by a suitable buckle;

Fig. 2 is an enlarged bottom plan view of one of the end clasps shown in Fig. 1 illustrating the operating lever overlying the body-member and latched in closed position thereon;

Fig. 3 is a longitudinal sectional view of the improved clasp showing it in gripping engagement with the ends of the bracelet-cord;

Fig. 4 is a view similar to Fig. 3 showing the operating lever rocked to open position with respect to the body-member and the gripper slid outwardly on the lever away from the body-member;

Fig. 5 is a view similar to Fig. 4 showing the manner in which the operating lever is rocked toward the body-member to grip the ends of the bracelet-cords therein;

Fig. 6 is a transverse sectional view on line 6—6 of Fig. 3 showing the teeth on the gripper in binding engagement with the ends of the bracelet-cord;

Fig. 7 is a perspective view of the end clasp shown with the parts in the relationship illustrated in Fig. 4 to facilitate the insertion of the ends of the bracelet-cord, also illustrated, into the body-member; and

Fig. 8 is a perspective view of the parts of the end clasp in disassembled relationship with the gripper shown as only partly formed.

A usual type of end clasp comprises a body-member or housing having an open end for receiving the ends of a cord-bracelet or the like and a lever pivotally mounted thereon adjacent its open end. The lever is provided with an angular gripping jaw adjacent the pivot adapted to engage and hold the bracelet end when the lever is rocked toward the body-member. In such prior art clasps the bracelet-end cannot be readily inserted into the body-member due to the relatively narrow opening between the gripping jaw and the top wall of the body-member, the cords being apt to fray at their ends. As a result, considerable care and patience is required to insert the bracelet-cord into the clasp and the operation of attaching the bracelet consumes considerable time.

Fig. 1 of the present drawing illustrates a cord-bracelet of usual construction comprising a pair of looped cords 2 and 3 having their ends gripped in fasteners or end clasps 4 forming the subject-matter of the present invention. The end clasps 4 at the ends of the looped cords 2 and 3 are directly connected to the opposite ends of a buckle 5 of usual construction. At the outer looped ends of the cords 2 and 3 are terminal members or connectors 7 adapted to be attached to the bails of a wrist watch or to similar parts of jewelry or the like not herein shown. Metal loops 8 of usual construction are also provided for encircling the looped cords 2 and 3 to hold them together in parallel relationship.

As most clearly illustrated in Fig. 7 of the drawing each clasp 4 comprises a box-like body member 12, an operating lever 13 and a gripper 14. As shown in perspective in Fig. 8, the body-member or housing 12 has a top wall 15 of a contour corresponding to that of the end of the bracelet 2 or 3 and side walls 16 and 17 with one end and the bottom open, it being understood that Figs. 2 to 8 illustrate the clasp in inverted position, or bottom side up. In some instances the body-member may take other forms for adapting it to receive a flat strap or band. The side walls 16 and 17 of the body-member 12 project beyond the top wall 15 at its closed end and are connected at their outer extremities by

a transverse bail 18. Between the projecting ends of the side walls 16 and 17 is a tab or strip 19 of the metal extending from the end of the top wall 15 and curled downwardly and rearwardly to form a catch for latching the operating lever 13 thereto, in the manner as later more fully explained, the end of the tab 19 being slotted as indicated by the reference character 20. Although the side walls 16 and 17 may take other forms they are herein illustrated as inclined downwardly toward the open end of the body-member 12 and adjacent this end they are provided with alined bearing apertures 21.

The operating lever 13 comprises a pair of spaced side rails 25 joined by a connecting web 26 adjacent one of their ends. Pintles 27 project laterally from the opposite ends of the rails 25 into the alined bearing apertures 21 in the body-member 12 to pivotally mount the lever 13 for rocking movement thereon. Flanges or guides 28, formed by relatively narrow continuations of the web 26, project inwardly from the opposite side rails 25, being of the same thickness as the web and in alinement therewith to provide a continuous guiding surface. Although the lever 13 may be made by any suitable method, for example, as a stamping produced in dies, it is preferably constructed from an I-shaped wire strip or "finding" having side rails 25 and a continuous web therebetween. A length of the strip equal to the length of the lever to be formed is cut off and the web 26 is cut away at one end to provide the inwardly-directed guides 28. The guides 28 may be extended beyond the side rails 25 and swedged to cylindrical form and bent outwardly to form the pintles 27; or the ends of the side rails 25 may be extended, shaped and bent outwardly for this purpose. The operating lever 13 when pivotally mounted on the side walls 16 and 17 of the body-member 12 is adapted to be rocked away therefrom to the position illustrated in Fig. 4, or it may be rocked toward the body-member to the position illustrated in Fig. 3. In this latter position the operating lever 13 underlies and closes the open bottom of the clasp with its side rails 25 within the side walls 16 and 17 of the body-member 12.

In accordance with the present invention the gripper 14 is constituted as a separate element slidably mounted on the operating lever 13. As herein illustrated the gripper 14 is constructed from a strip of sheet-metal bent at right-angles to form a jaw 30 with teeth 31 at its end and slotted at its edges to provide guideways 32 adapted to interfit with the guides 28 on the lever 13. The gripper 14 is mounted on the operating lever 13 with its guideways 32 in engagement with the guides 28 thereof, being held in position by folding a portion 39 of the strip back on itself to form a loop 40 which embraces the connecting web 26 of the lever 13. The gripper 14 is of a width equal to the distance between the side rails 25 of the lever 13 and the thickness of the metal is equal to the width of the rails at either side of the web 26 so that when the gripper is mounted on the lever its outer faces are flush with the edges of the side rails to provide a smooth finish. The jaw 30 of the gripper 14 is guided for sliding movement on the lever 13 by the interfitting guides 28 and guideways 32 while the opposite end of the gripper is guided by its parallel sides embracing the sides of the connecting web 26 of the lever.

The gripper 14 is of substantially the same length as the lever 13 and the cut-out portion of

the web 26 adapts it to slide longitudinally to the opposite extreme positions illustrated in Figs. 4 and 5. When the gripper 14 is slid to the position illustrated in Fig. 4 its jaw 30 will be spaced a considerable distance away from the top wall 15 of the body-member 12; while when it is in the position illustrated in Fig. 5 its jaw 30 is in substantial alinement with the pintles 27 of the lever 13. The gripper 14 is limited in its sliding movement to the extreme position illustrated in Fig. 5 by the engagement of its end loop 40 with one edge of the web 26 of the lever 13 and in its movement to the opposite position shown in Fig. 4 by the engagement of its jaw 30 with the opposite edge of the web 26. The outer face of the gripper 14 adjacent the loop 40 is provided with a slot 41 to receive a pointed tool 42 or the like, shown by dash lines in Fig. 5, which may be used to slide the gripper 14 on the operating lever 13. The dimensions of the operating lever 13 and gripper 14 are such that when the gripper 14 is slid to the position illustrated in Fig. 5 and the operating lever 13 is rocked toward the body-member 12 the rounded loop 40 of the gripper will snap within the curled tab or catch 19 on the body-member to latch it in place between the side walls 16 and 17. The operating lever 13 may be unlatched by prying the looped end of the gripper free from engagement with the catch 19, a pointed instrument being inserted in the slot 20 in the end of the catch to facilitate this operation.

To attach the ends of the cords 2 or 3 to the end clasp 4 the latter is placed in inverted position and the operating lever 13 rocked on its pintles 27 to the open position shown in Figs. 4 and 7. The gripper 14 is then slid outwardly on the lever 13 to provide a relatively wide opening between the jaw 30 and the top wall 15 of the body-member 12. The ends of the bracelet-cord 2 or 3 may then be inserted into the body-member 12 without difficulty. When the ends of the cord are properly positioned in the body-member 12 the gripper 14 is slid on the lever 13 to press its jaw 30 into engagement with the ends of the cord in substantial alinement with the pintles 27 on the operating lever. The operating lever 13 is then rocked from the position shown in Fig. 4 to that shown in Fig. 3 and due to the engagement of the teeth 31 on the jaw 30 with the ends of the cords and the rocking movement of the jaw into the body-member 12 the ends of the cord are tightly gripped between the teeth and the top wall 15 as illustrated in Fig. 6. As the rocking movement of the operating lever 13 is continued the rounded loop 40 at the end of the gripper 14 is snapped within the curved catch 19 on the body-member 12 to latch the lever in closed position. As the operating lever 13 is rocked toward the body-member 12 the sliding gripper 14 tends to move outwardly thereon due to the penetration of the teeth 31 on the jaw 30 into the cords, but by holding the finger firmly against the looped end of the gripper this tendency is resisted. If desired, the lever 13 may be rocked by inserting a pointed tool into the slot 41 and pressing it toward the pivot of the lever in the manner indicated by dash lines in Fig. 5.

When it becomes necessary to replace or adjust the length of the cords, or to open the clasp 4 for any other purpose, the operating lever 13 is released from its catch 19 and rocked to its open position illustrated in Fig. 4. To this end a pointed tool such as that illustrated in Fig. 5 may be inserted through the slot 20 of the catch

19 to pry the looped end of the gripper 14 outwardly therefrom. As the operating lever 13 is swung to open position it pivots on the pintles 27 and rocks the jaw 30 from a position at right-angles to the top wall 15 of the body-member 12 to a position parallel thereto whereof to release the ends of the cords. The gripper 14 may then be slid outwardly on the operating lever 13 to adjust its jaw 30 away from the top wall 15 of the body-member 12 as shown in Figs. 4 and 7 to permit worn bracelet cords to be removed and new cords substituted therefor. The new bracelet cords may then be gripped in the body-member 12 by rocking the lever 13 toward its open bottom in the manner as previously explained.

It will be observed from the foregoing that the present invention provides an improved form of clasp or fastener having a gripper slidably mounted on the operating lever to adapt it to be moved to a position to provide a relatively wide opening for receiving the cord or strap to be fastened in the clasp. It will further be observed that the invention provides a novel construction and arrangement of elements in a clasp adapted for economical manufacture and convenient assembly while being proof against derangement and durable in use for the purposes specified.

While I have herein shown and described a preferred embodiment of the clasp, it is to be understood that various modifications may be made in the structure and arrangement of the parts of the device without departing from the spirit or scope of the invention. Therefore, without limiting myself in this respect, I claim:

1. In a device of the type indicated, a body-member for receiving the end of a bracelet or the like, a lever pivotally mounted on the body-member to adapt it to rock toward and away therefrom, a gripper, and means for mounting the gripper on the lever for rocking movement therewith and sliding movement relatively thereto to adapt the gripper to be moved away from the body-member to facilitate the application of the bracelet-end thereto, said gripper acting to clamp the bracelet-end to the body-member when the lever is rocked toward the latter.

2. In a device of the type indicated, a body-member having a top wall, side walls and an

open end and bottom, a lever pivoted to the side walls of the body-member and adapted to overlie the open bottom thereof, a gripper-element, and means for slidably mounting the gripper on the lever for movement away from the top wall of the body-member and for rocking movement with the lever to clamp the end of a bracelet against the top wall of the body-member as the lever is rocked toward the latter.

3. In a device of the type indicated, a body-member for receiving the end of a bracelet or the like, a lever pivotally mounted on the body-member and having guides extending longitudinally thereof, a slide mounted on the lever to slide on the guides and having a gripper-jaw at one end, said slide being slidable longitudinally on the lever away from the body-member to facilitate the insertion of the bracelet-end into the body-member, and said lever being rockable on the body-member to engage the gripper jaw with the bracelet-end.

4. In a device of the type indicated, a body-member for receiving the end of a bracelet or the like, a lever pivotally mounted on the body-member to rock toward and away from the latter, said lever having side rails and a transverse connecting web therebetween, a slide on said lever embracing its connecting web and having a gripper-jaw at one end, said slide being slidable on the lever away from the body-member to facilitate the insertion of the bracelet-end into the clasp, and said jaw being arranged to engage the bracelet-end when the lever is rocked toward the body-member.

5. In a device of the type indicated, a body-member having a top wall, side walls and an open bottom and end, a lever having spaced side rails with a connecting web therebetween, said side rails having inwardly-projecting guide-flanges, and a slide having a looped portion embracing the connecting web of the lever and a gripper-jaw adjacent its end, said jaw having guideways cooperating with the guide-flanges on the side rails of the lever to adapt the slide to be slid longitudinally thereof to facilitate the insertion of the end of a bracelet into the clasp and arranged to rock with the lever to clamp the bracelet-end in the body-member.

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