

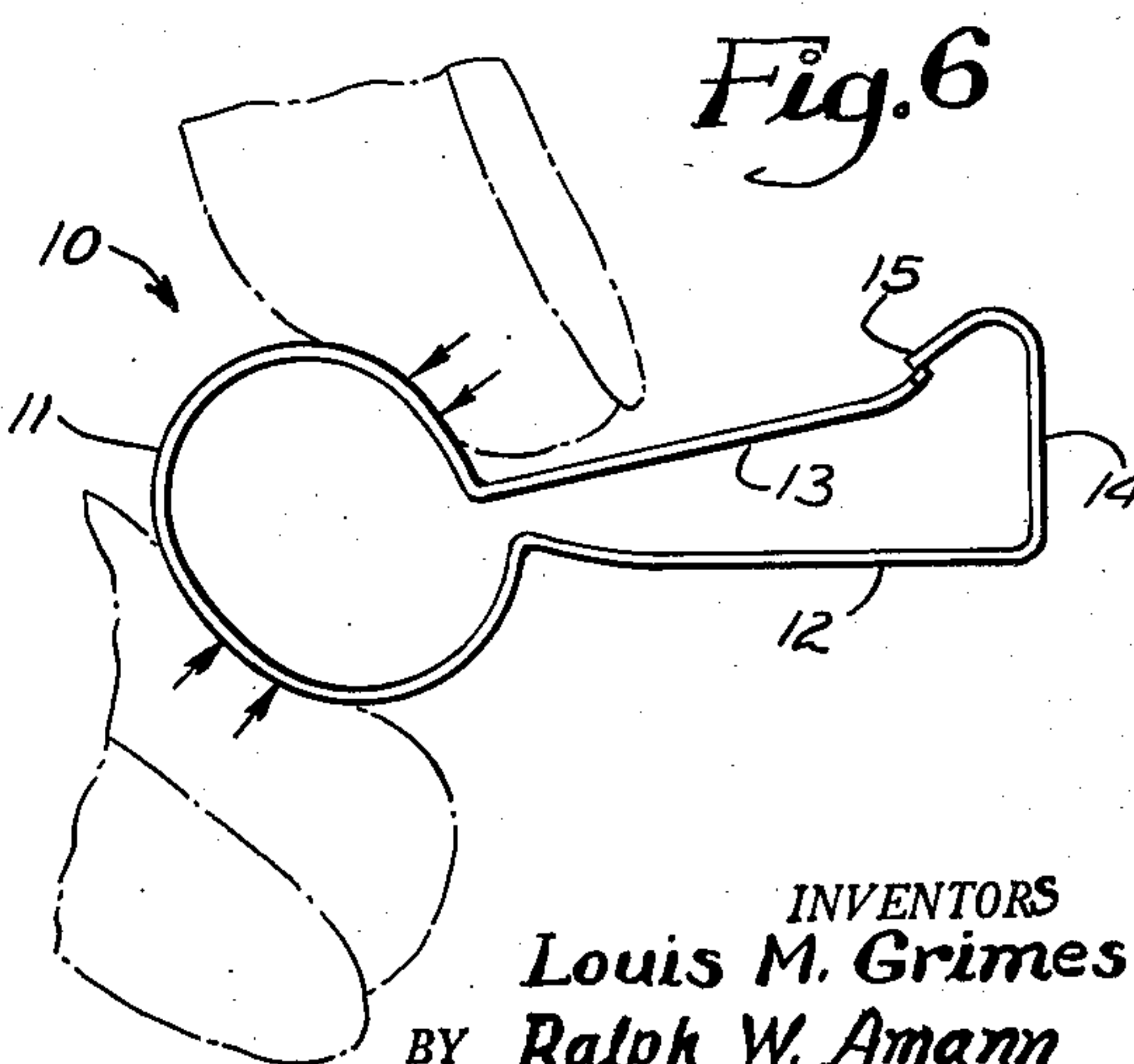
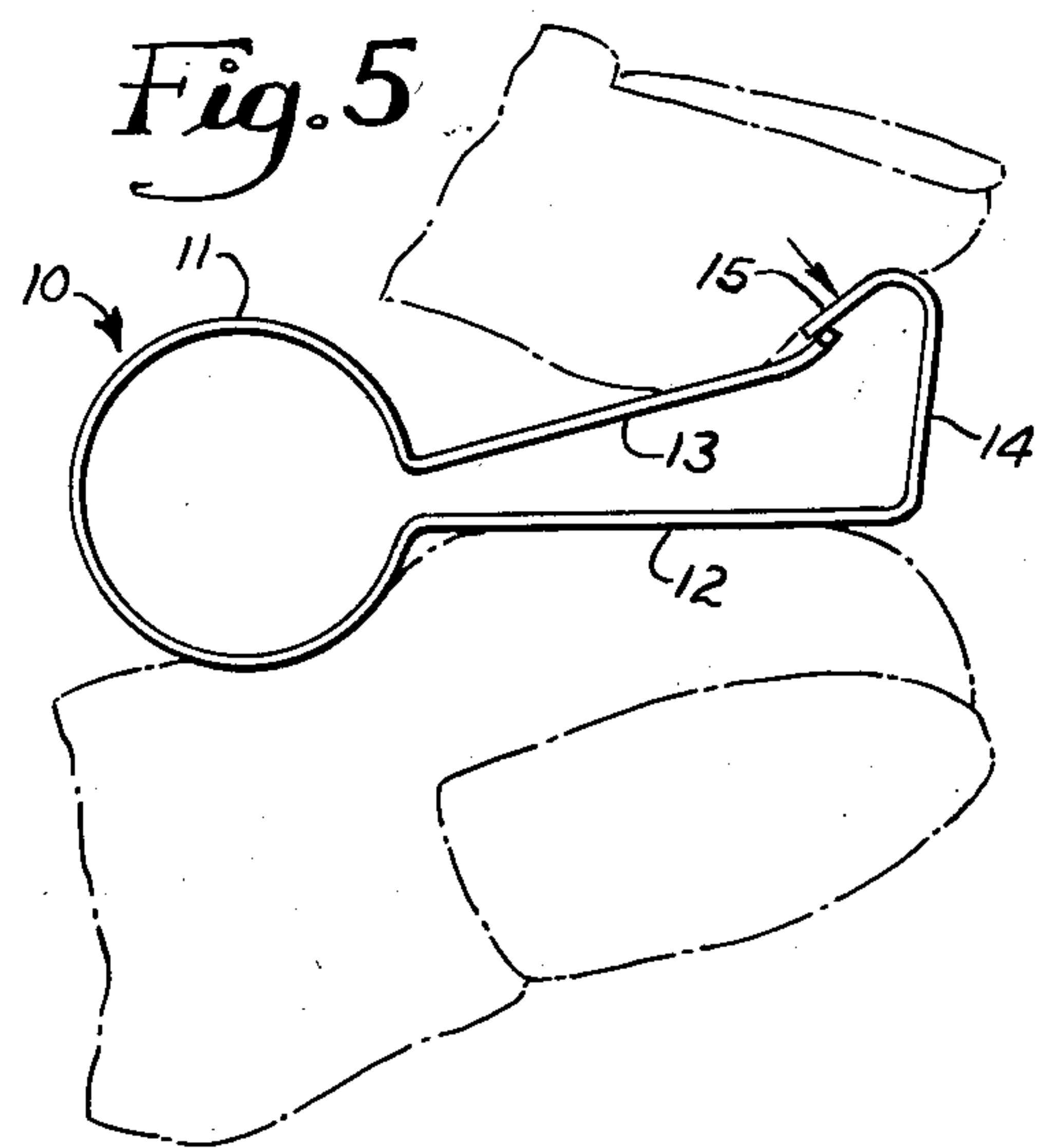
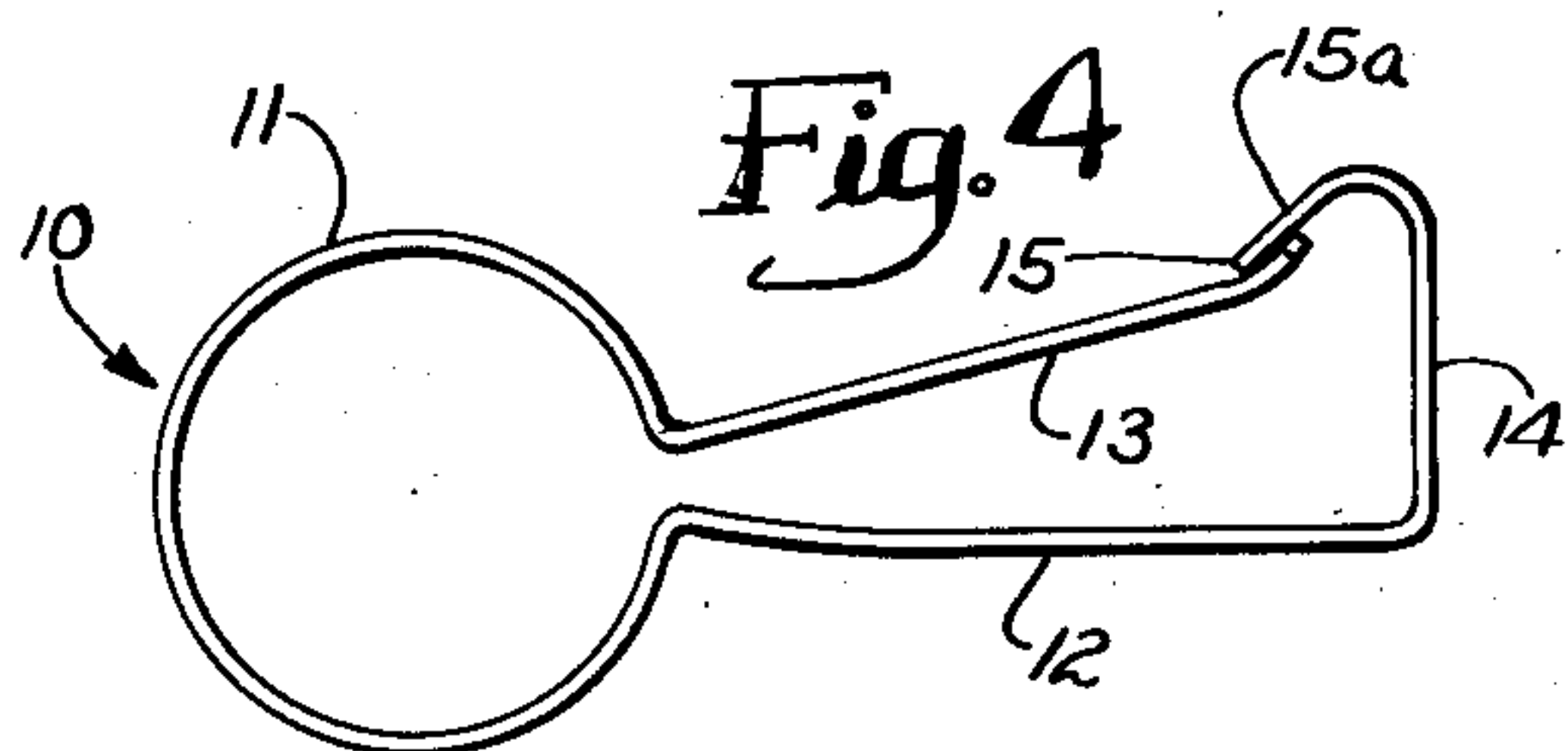
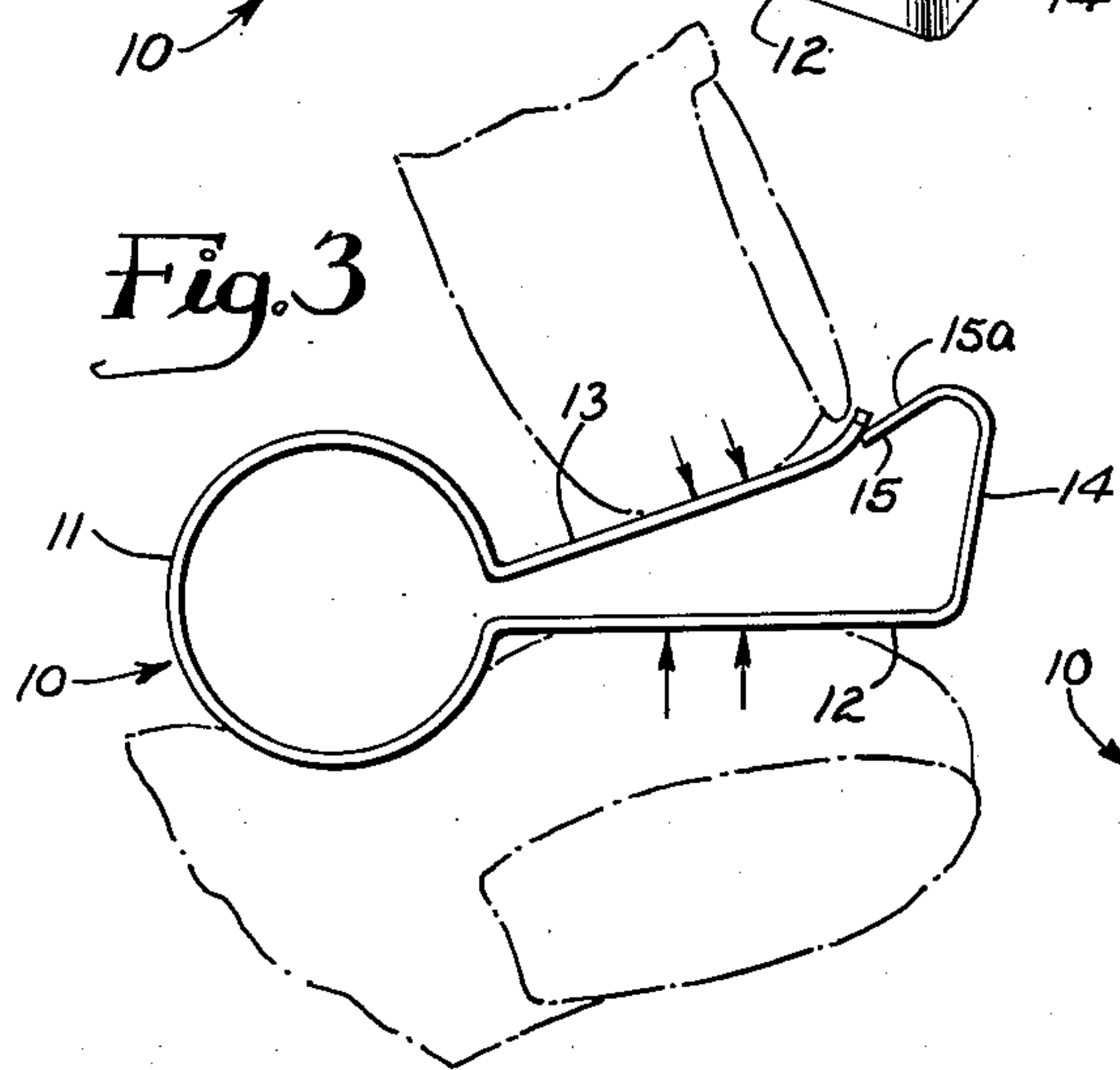
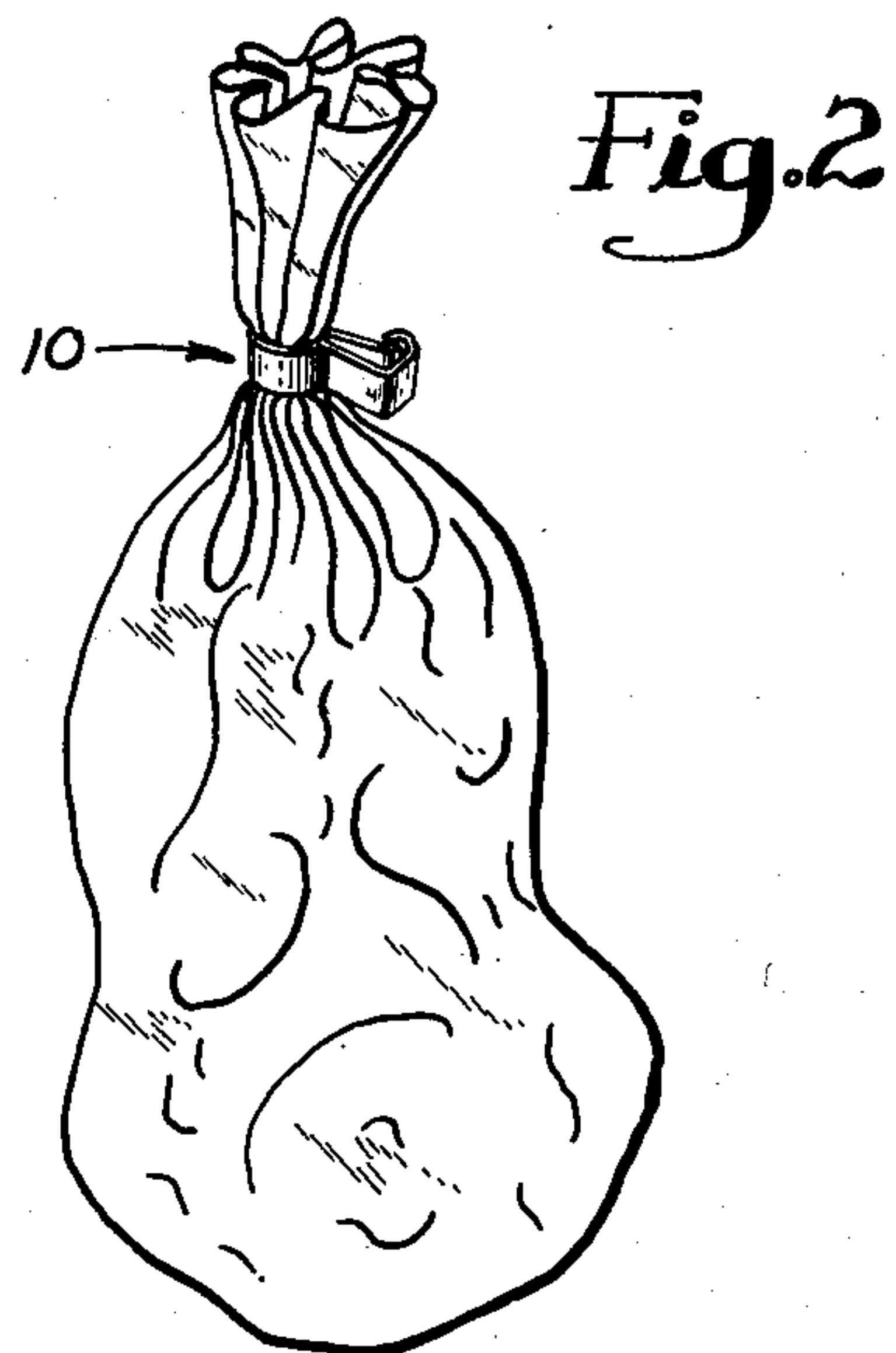
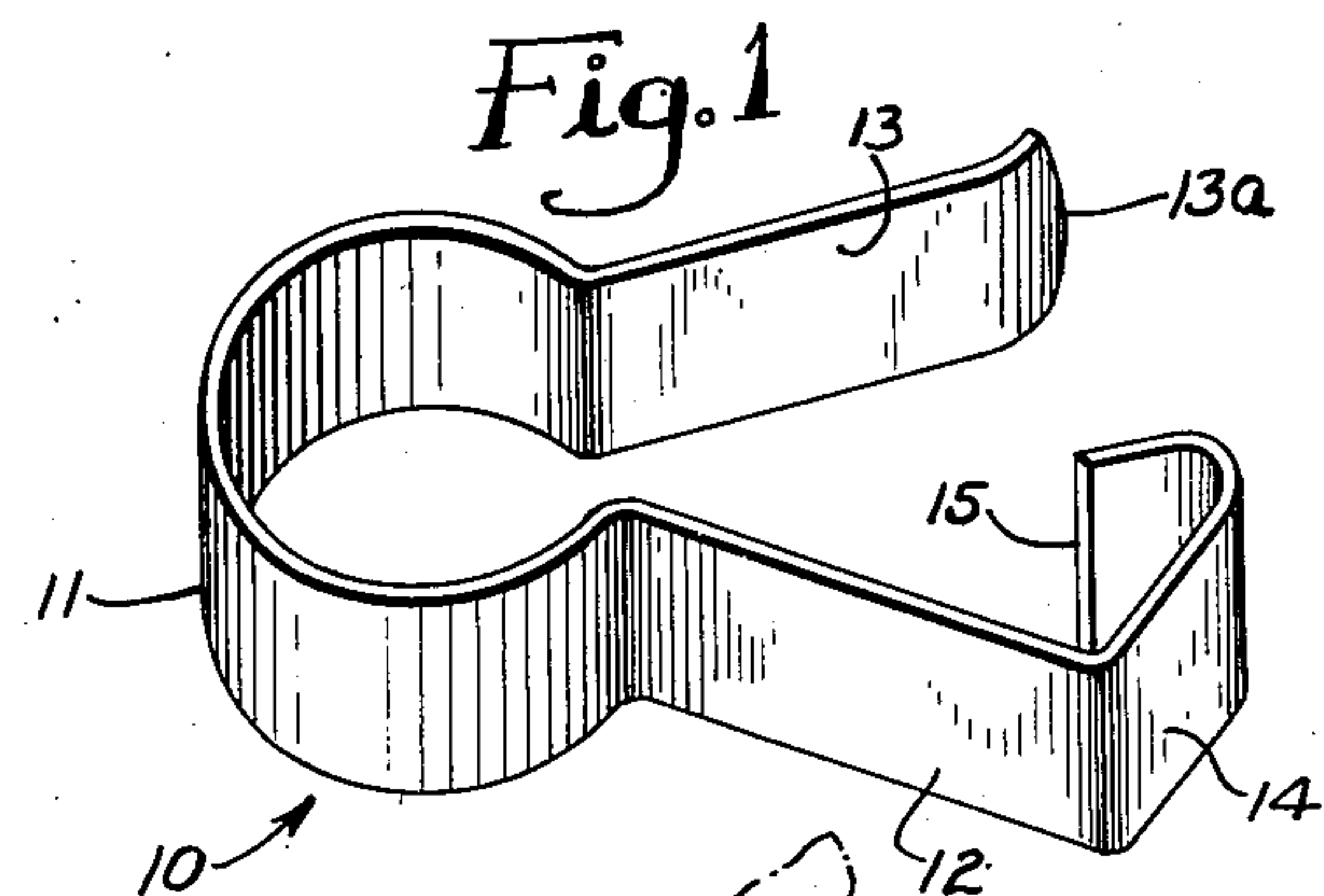
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BAG CLOSURE

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## UNITED STATES PATENT OFFICE

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## BAG CLOSURE

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1 Claim. (Cl. 24—30.5)

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The present invention relates to bag closures and more particularly to a snap type closure suitable for a sealing bag of thin transparent plastic or the like.

It is an object of the invention to provide a novel closure for bags of transparent plastic which is quick and easy to apply, which has a positive locking action preventing accidental disengagement and yet is easily removable with fingertip pressure. It is another object to provide a closure which is inexpensive, which can be used over and over again, and which cannot injure the bag on which it is used.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawing in which:

Fig. 1 shows a closure constructed in accordance with the present invention in the open condition.

Fig. 2 is a general view showing the closure of Fig. 1 applied to the neck of a bag.

Fig. 3 shows the manner in which the closure is applied.

Fig. 4 shows the appearance of the closure when locked in the closed position.

Fig. 5 shows the manner in which the closure may be opened by pressure on the catch portion.

Fig. 6 shows an alternate method of releasing the closure by applying squeezing pressure to the loop portion.

Referring now to Figure 1 it will be seen that the closure indicated generally at 10 is in the general shape of a keyhole when said closure is in its closed position. It is formed of a flat strip of spring metal such as stainless steel to provide a loop portion 11 with a first leg 12 and a second leg 13 on the respective sides of the loop. At the end of the first leg 12 is a transversely bent end portion 14 which terminates in a hook or catch 15, preferably formed by bending the very tip of the metal strip back upon itself so that said hook or catch 15 is directed inwardly toward the loop portion 11. The hook thus presents an inclined outer surface 15a which serves to cam the engaged leg into position. If desired, the tip of leg 13 may be bent outwardly to a slight degree as indicated at 13a (see Fig. 1) for the purpose of causing more positive locking between the engaged ends.

The closure is pre-sprung so that it tends upon opening to assume a wide V-formation as shown in Fig. 1. This deformation is primarily in the loop portion although the legs may also be bowed outwardly a slight amount if desired. The open legs therefore tend to "funnel" or "corral" the gathered

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5 folds of the neck of the bag and to facilitate packing them into the loop portion 11. Because of the easy entry afforded the neck of the bag, very little care need be exercised in applying the closure and the possibility of tearing or other damage during assembly is substantially eliminated. The closure is therefore well suited to automatic or machine application. If desired, the operation of applying the closure to the neck of the bag may be facilitated by twisting the neck once or twice in order to gather the folds into a ropelike section of relatively small diameter.

After the folds have been gathered into the loop 11, the closure may then be closed merely by applying inward squeezing pressure to the legs 12, 13 as indicated in Fig. 3. With the closure in the resulting locked condition, it is apparent that the neck of the bag is closed as firmly as though tied with several loops of cord. Since the outwardly presented surfaces of the closure when locked are all either flat or smoothly curved, there is no danger that the closure will be caught on a passing object and opened inadvertently.

It is to be particularly noted that when closing pressure is applied the folds of bag material gathered in the loop 11 are confined and inwardly squeezed with a rather powerful pressure due to the leverage inherent in the construction and without any tendency for the folds to escape from the loop. This fact, combined with the resilient, rubber-like nature of flexible plastic film, results in a seal which is substantially water and air-tight. The closure construction thus lends itself not only to refrigerator bags and other bags for household purposes where water and air-tightness is desirable but also permits the use of the closure for retail distribution of any commodity where it is necessary to preserve freshness and cleanliness on the shelf until the goods have been purchased by the customer. Cereals and fresh vegetables may be mentioned by way of example.

The closure combined with a transparent bag as a sales promotion feature not only enables the contents to be in full view and freely inspected by the customer but also provides the customer with a bag and closure as a premium which may be repeatedly used for other purposes long after the original goods have been consumed.

One of the primary features of the present invention is the quick and easy manner in which the closure may be released prior to removal from the bag. One manner of release is shown in Fig. 5 and consists merely in applying pressure to the hook or catch 15 with an outward sliding movement of the finger or thumb. This moves the



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hook in an inward direction until it clears the engaged leg 13 whereupon the opposed legs spring apart to free the neck of the bag. This can be effected without straining the closure since the outward pressure on the hook is taken up by the inward bowing of the leg 12 to which it is fastened. Preferably the grip or overlap of the hook is sufficiently shallow so that a light pressure is adequate for release.

Another manner of release is disclosed in Fig. 6. Here to release the closure, squeezing pressure is applied to the loop 11 not transversely but at an angle. The resulting deformation or flattening of the loop causes endwise inward movement of the leg 13 and withdrawal of the leg from the hook 15. This manner of release is particularly convenient where the closure is constructed of spring metal which is sufficiently resilient so as to enable the loop to be deformed by the thumb and forefinger of one hand without, however, imparting to it a permanent set.

The closure is distinguished by its simplicity and cheapness. Because it may be conveniently made of stainless spring steel or the like it may be used over and over again and is much less expensive to use than strings, rubber bands or other closure expedients which have been used in the past. A single size suffices for a large range of bag sizes, one commercial embodiment of the closure, having a loop approximately one-fourth of an inch in diameter and legs five-sixteenths of an inch long, being readily employed on bags from four inches to fourteen inches in width.

While the preferred form of closure has been described as being of keyhole shape when said closure is in its closed position for purposes of simplicity and easy understanding, it will be understood that this term as used in the claim is not to be construed strictly but would also include constructions in which the two legs are spaced more closely together and in fact touch when the device is closed and constructions in which the loop is not symmetrically arranged with respect to the legs.

We claim as our invention:

As an article of manufacture, a bag closure consisting of a flat strip of metal formed in key-

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hole shape when in closed position, said closure comprising an outwardly sprung loop portion and two legs extending outwardly therefrom, said legs being of a flat smoothly continuous leaf spring nature throughout their length, the first leg having a transversely bent portion at the free end thereof for completing the keyhole configuration when said closure is in its closed position, said first leg terminating in an integral hook directed inwardly toward said loop portion, said hook overlapping the free end of the second leg to prevent the legs from springing apart and to form a relatively smooth continuation of the outer surface of said second leg when said closure is in its closed position, the loop portion of the closure being substantially complete when the closure is in its closed position for the entrapment of the gathered neck of the bag closure, said loop portion being made of sufficiently thin spring metal and the degree of overlap of said hook with respect to the free end of the second leg being sufficiently small so as to enable the second leg to be freed from the hook by squeezing the loop portion with fingertip pressure in a direction to cause endwise retraction of the second leg from engagement of the end thereof from beneath said hook to permit said closure to spring to open position.

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