

No. 696,228.

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M. E. DUNN & O. B. HENDERSON.

GARMENT FASTENER.

(Application filed June 28, 1901.)

(No Model.)

Fig. 1.

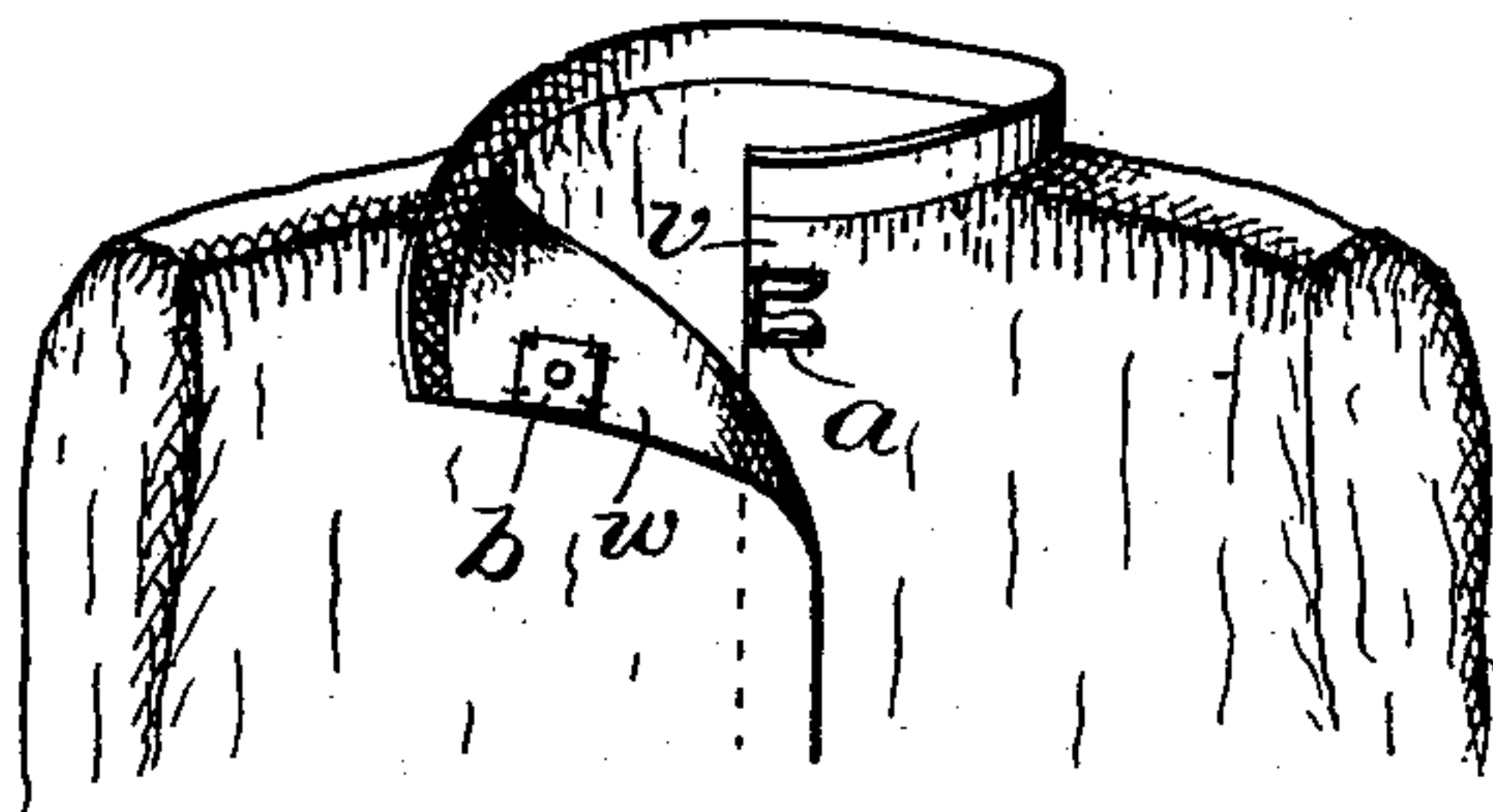


Fig. 2.

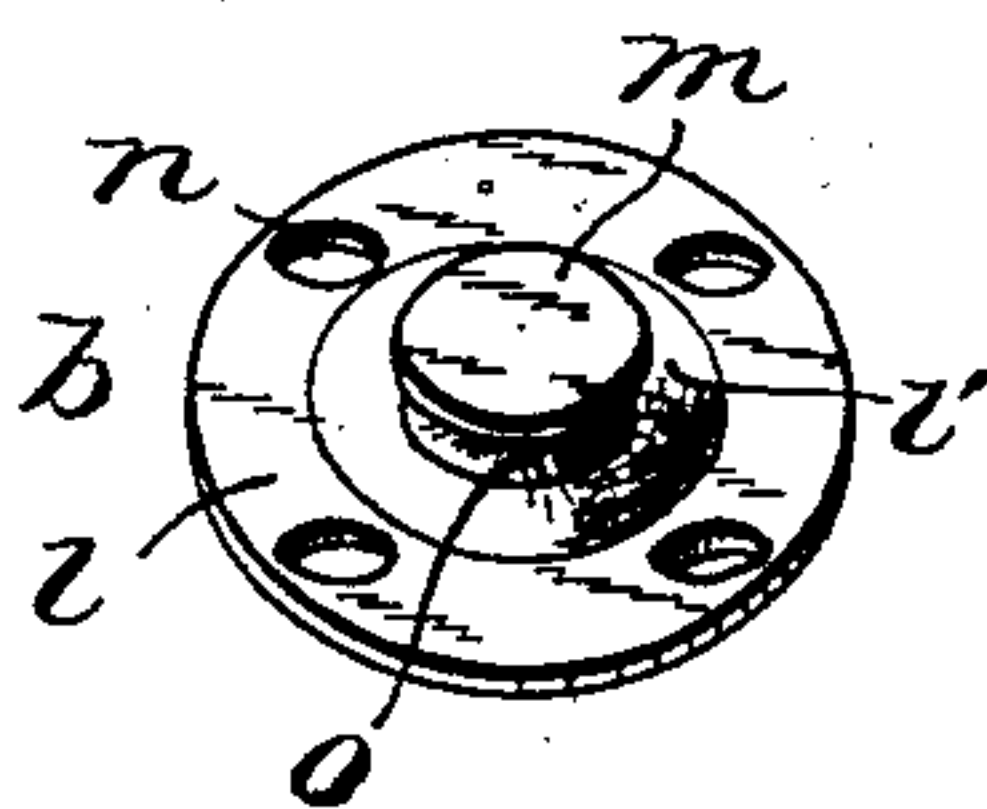


Fig. 3.

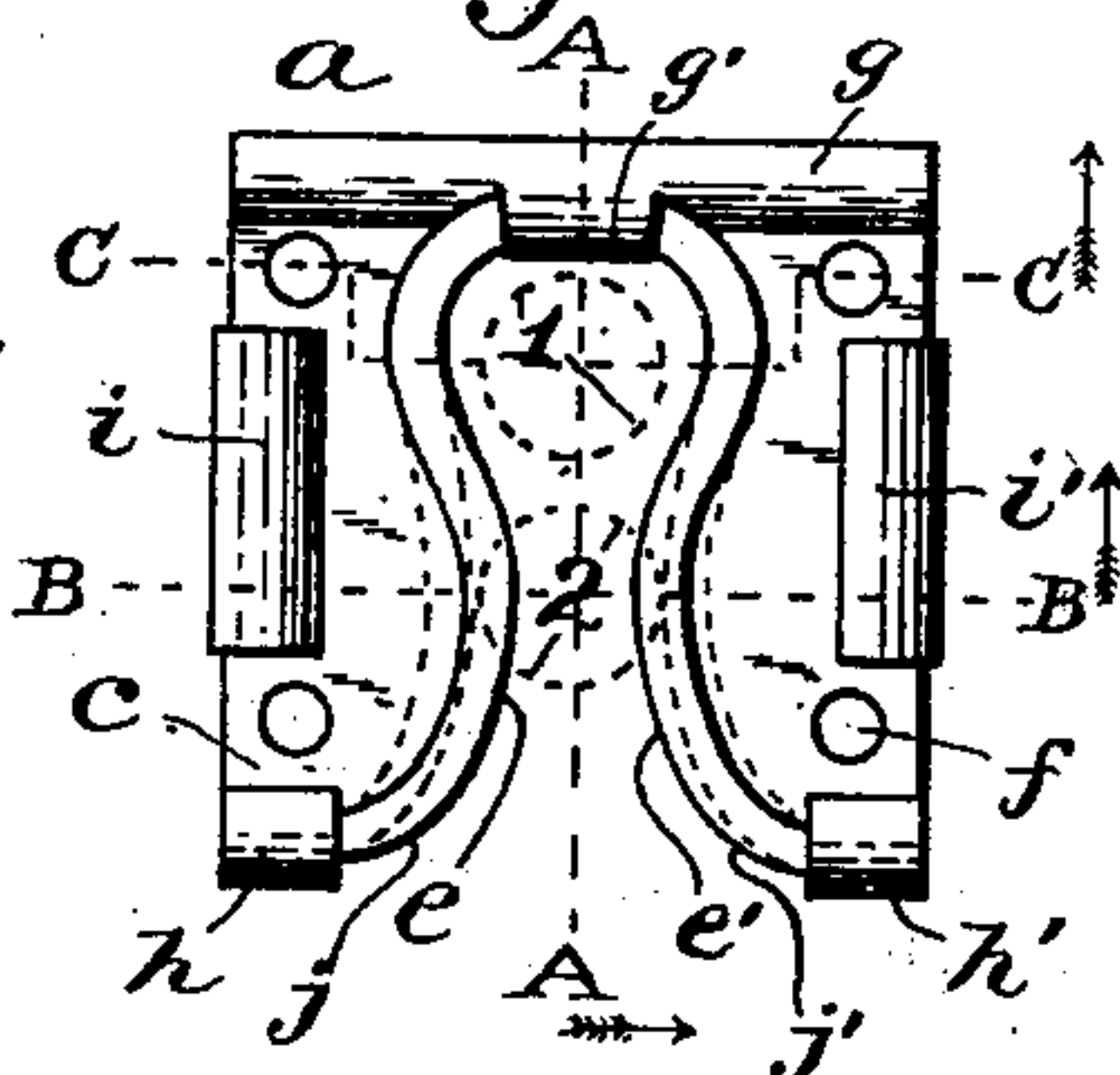


Fig. 4.

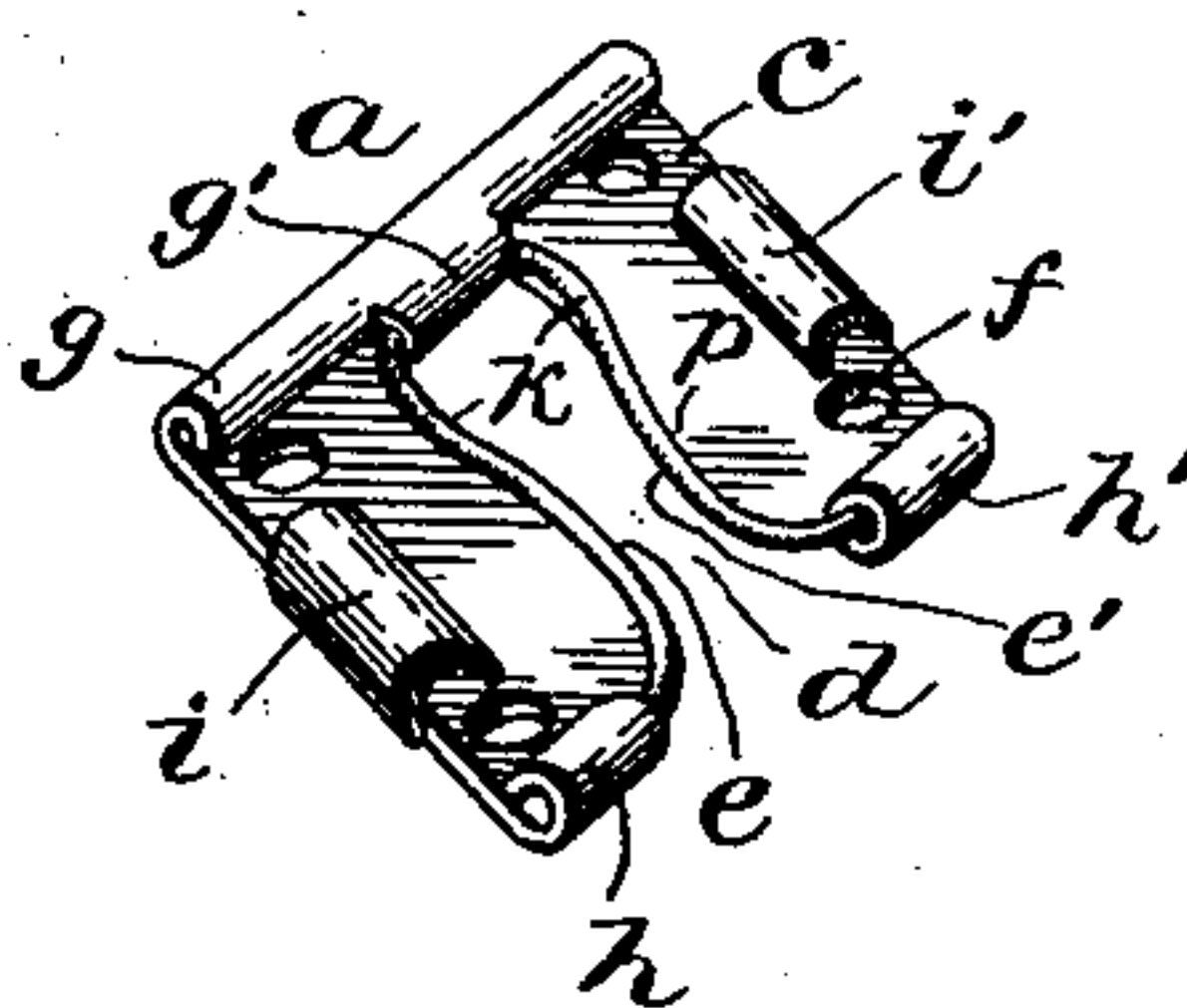


Fig. 5.



Fig. 6.

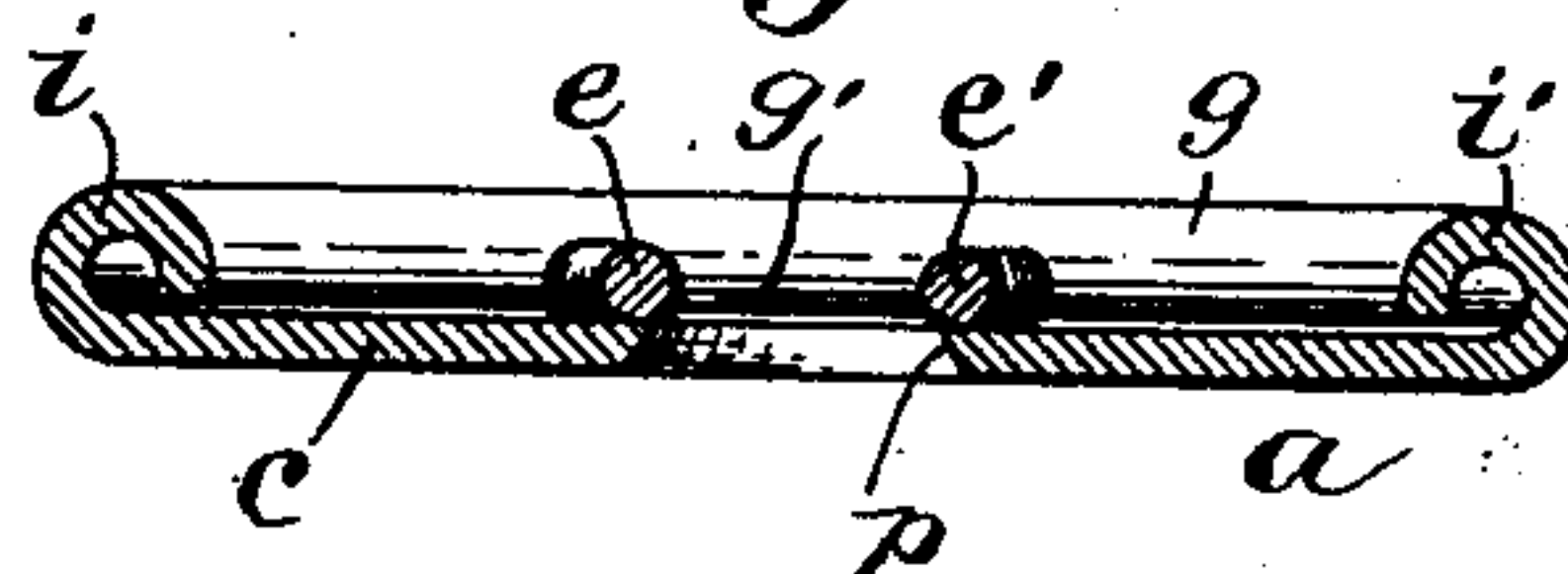
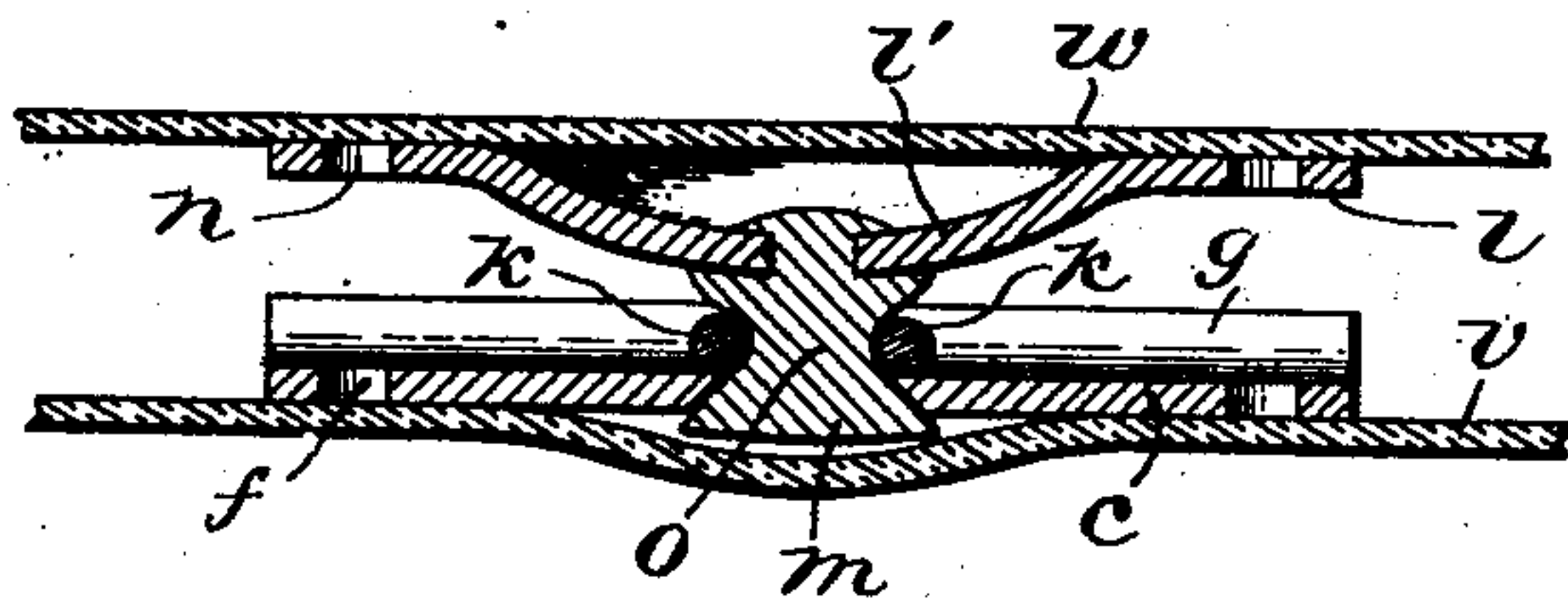


Fig. 7.



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GARMENT-FASTENER.

SPECIFICATION forming part of Letters Patent No. 696,228, dated March 25, 1902.

Application filed June 28, 1901. Serial No. 66,320. (No model.)

To all whom it may concern:

Be it known that we, MORTON E. DUNN and OSCAR B. HENDERSON, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Garment-Fasteners; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to devices for detachably connecting two parts of garments of various kinds together or for connecting two articles of other descriptions together in a manner somewhat similar in effect to that in which such articles have heretofore been connected by means of hooks and eyes, buttons, or ball-and-socket fasteners.

The object of the invention is to provide a fastener of the above-mentioned character that may be hidden when in use, that may be easily operated both in connecting and in disconnecting the two parts, and which will remain securely connected without liability to accidental derangement, while at the same time being simple and inexpensive.

Referring to the drawings, Figure 1 illustrates the purposes for which our invention is designed as applied to a parted garment, a fragment of which is shown, the two members or parts of the fastener being detached; Fig. 2, a perspective view of one of the two members comprised in our invention; Fig. 3, a top plan view of the other one of such two members, showing in dotted or broken lines the manner in which movable parts of the members operate; Fig. 4, a perspective view of the member shown in Fig. 3; Fig. 5, a vertical sectional view on a line A A in Fig. 3, Fig. 6 a vertical sectional view on a line B B in Fig. 3, and Fig. 7 a vertical sectional view on a line C C in Fig. 3, including a similar view of the other member (shown in Fig. 2) connected therewith and also showing fragments of the garment in operative positions. The several figures are more or less exaggerated in order to clearly show the important parts, the members of the device practically

being in some cases very small in dimensions, as will be understood.

Similar reference characters in the several figures of the drawings indicate corresponding parts.

Broadly considered, the invention comprises two interlocking members *a* and *b*, respectively, each member being suitably adapted to be attached to the garment or other article with which it may be designed to be employed. The member *a* is as a whole operative—that is to say, by reason of parts thereof being capable of action, while the member *b* is in itself inactive, but is capable of coacting with the other member *a* when connected one with the other, and also when either connecting or disconnecting the two members.

In construction we employ a suitable base-plate *c*, which when composed of metal may be very thin, comparatively, and when composed of hard rubber or other substance may be of suitable thickness to suit requirements. This plate has a central opening *d* at one edge, extending somewhat closely to the opposite edge of the plate. Upon one of the faces of said plate is a pair of opposing spring-arms *e e'*, arranged, substantially, along the edges of the opening *d*, but not conforming exactly to the line of such edges, as will be further explained. Said plate *c* is usually provided with perforations *f*, to be made use of in sewing or riveting the plate to fabric or other material; but obviously we may employ clench-points instead of the perforations. When the plate is designed to be secured by means of threads to a garment or other article, we prefer to turn over or press up two opposing edges of the plate to form ribs *i i'* to protect the threads from being worn by the other member *b* or the base-plate thereof. The threads will also be protected by other parts *g* and *h h'*, employed, primarily, however, for other purposes, and by the spring-arms *e e'*. The edge of the plate *c* opposite the mouth of the opening *d* is turned over to form the rib *g*, and a portion of this is employed as a clip *g'*, whereby to secure parts of the spring-arms *e e'* to the base-plate *c*. The opposite edge of the plate *c*, at the sides of the opening *d*, is turned over to form clips *h h'*, whereby other parts of the spring-arms *e e'* are attached to the base-plate *c*. The spring-arms *e e'* each

rests upon the face of the plate *c*, one end of the spring-arm *e* being connected either rigidly or movably in the clip *h*, according to design, and the other end of the arm being connected, substantially immovably, by the clip *g'* to the plate *c*. The spring-arm *e'* is likewise connected by the clips *h'* and *g'*. In practice the two spring-arms *e e'* may be formed from a continuous piece of spring-wire extending through the clip *g'*. In very small fasteners the arms may be designed to move slightly in the clips *h h'*; but in larger sizes they may be secured rigidly by the clips. Said two arms are so formed that the space between them, as at *j j'*, shall be greatest (near their ends that are connected to the clips *h h'*) where they form a mouth, together with the opening in the plate, to the receiver for the neck of the companion member. From such mouth the arms are curved oppositely, so as to approach each other and form a throat or narrow passage about at *p*, and from thence they diverge, as at *k*, at which is said receiver, and then meet in the clip *g'*. In the throat, as at *p*, the arms extend over the edges of the plate, so that the space between the two opposing edges of the plate *c* is greater than the space between the two opposing arms *e e'*. At other parts the edges of the plate in the opening *d* may conform in contour, substantially, to the contours of the arms.

The member *b* comprises a base-plate *l*, to which is rigidly secured a stud-neck *o*, having a thin head *m* and projecting from a raised or crowning center part *l'*, perforations *n* being provided, as in the plate *c*, for the same purpose, or, if desired, clench-points may be substituted for the perforations. The head *m* and neck *o* are designed to operate substantially as a T-shaped stud; but in order that they may engage operatively when placed in any position rotatively they are made circular, as indicated.

In practical use the member *a* should be attached to the outer face of the part *v* of the garment, that will be covered by the other part *w* in such position that the clip *g'* shall be nearest the edge of the part *v* than will be the mouth *d*, the spring-arms *e e'* being presented at the front. The part *b* should be attached to the inner face of the outer part *w* of the garment in such position that when the part *w* is turned down against the part *v* the neck *o* will fit neatly in the receptacle, substantially as indicated by the imaginary circle 1 in Fig. 3. (It will be obvious, of course, that the two members may be transposed on the garment, if desired.) In connecting the two members of the fastener thus attached the part *w* is to be drawn over the part *v* until the neck *o* may enter the mouth *d*, and then drawn so that the neck *o* shall engage the arms *e e'*, forcing them apart, as indicated by the dotted lines in Fig. 3, the imaginary circle 2 representing the position of the neck *o* until the neck passes into the receptacle

therefor at *k*, where it will be retained by the closing in of the arms, the head *m* being at the rear or under side of the plate *c*, whereby the member is retained against withdrawal in all directions except that in which the stud was inserted.

It may be stated that the members *a* and *b*, and consequently the two parts of the garment, are to be connected and disconnected in substantially the same manner as are the well-known hooks and eyes, except that the movements of the plates *c* and *l* will be in parallel planes in the operation, thus rendering the act more easy and certain of accomplishment than in the use of the other devices. The mouth *d* affords a positive guide for the neck *o*, and the arms *e e'* being quite elastic permits of free action, while preventing accidental removal of the neck *o* from the receptacle, and consequently the parts *v* and *w* cannot accidentally become disconnected, since the strains upon the fastener are in the direction opposed to such action. It will be understood that the opening, except the mouth thereof, in the plate *c* is designed to be only sufficiently broad to admit the neck *o*, and the neck *o* is of proper length to extend through said opening and between the arms *e e'*, as will be seen in Fig. 7.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A garment-fastener comprising a plate having an opening extending through an edge thereof and into the plate leaving narrow projecting corners, clips upon said corners at the front face of the plate, spring-arms extending into said clips, a member securing said spring-arms to said plate, an opposing plate, and a stud attached to the opposing plate and engaging said first-described plate near said member.

2. A garment-fastener comprising a plate having ribs at three sides thereof, an opening extending between two of said ribs, clips at two corners of said plate, a clip at the third rib, spring-arms secured by said clips, an opposing plate, and a stud attached to the opposing plate and engaging said first-described plate.

3. In a garment-fastener, the combination of the base-plate having clips turned up at two corners thereof and also having the opening extending between said clips through the edge and into the plate, a rib forming also a clip turned up at one edge of said plate, the spring-arms engaged by said clips, the opposing plate, the stud attached to the opposing plate, and the perforations at the ends of said ribs.

4. In a garment-fastener, the combination with the plate having the projecting stud, of the plate having the opening extending from one edge thereof, the clips at the sides of said opening at the extremities of said edge from which said opening extends, the spring-arms secured in said clips, the clip engaging the

opposite ends of said spring-arms, and the ribs on said plate at the edges thereof.

5 5. In a garment-fastener, the combination of the plate having the opening extending through an edge thereof and into the plate, the clips at the sides of said opening at the front face of said plate, the spring-arms having each an end extending into one of said clips in a line parallel to the line of the edge
10 of said plate that has the opening therein, a third clip securing said arms, ribs upon the face of said plate at edges thereof, the opposing plate, and the stud on the opposing plate in contact with said first-described plate.

15 6. In a garment-fastener, the combination of the plate *c* having the mouth *d*, throat *j j'* and receptacle *k*, the clips *h h'* at the sides of

said mouth, the perforations near said clips, the rib *g* at the opposite edge of said plate from said mouth, the clip *g'* adjacent to said 20 rib *g* the spring-arms engaged by said clips, the perforations adjacent to said rib *g*, the ribs *i i'* at opposite edges of said plate near said spring-arms and said perforations, the plate *l*, and the stud *o*, substantially as set 25 forth.

In testimony whereof we affix our signatures in presence of two witnesses.

MORTON E. DUNN.

OSCAR B. HENDERSON.

Witnesses:

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