

(No Model.)

E. KEMPSHALL.
INVISIBLE GARMENT FASTENING.

No. 466,689.

Patented Jan. 5, 1892.

Fig. 1

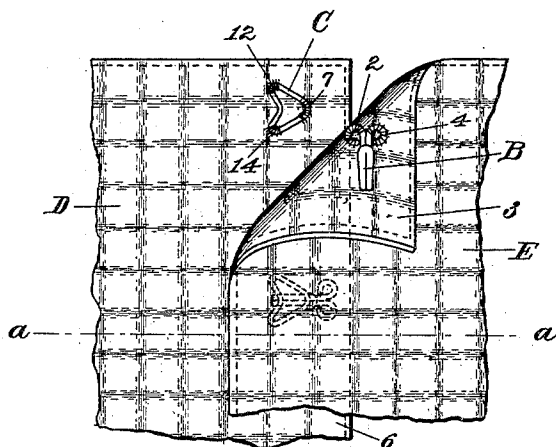


Fig. 2

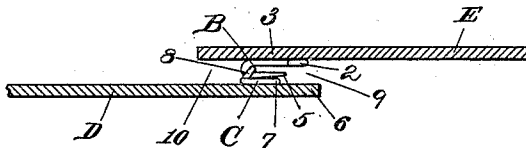
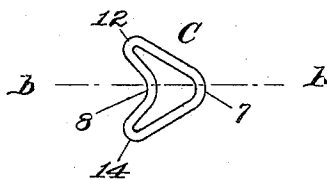


Fig. 3



Witnesses:

Henry L. Rickard.

H. Mallon.

Inventor:

E. Kempshall,

By his Attorney,

F. H. Rickard.

UNITED STATES PATENT OFFICE.

ELEAZER KEMPSHALL, OF HARTFORD, ASSIGNOR TO THE E. KEMPSHALL COMPANY, OF NEW BRITAIN, CONNECTICUT.

INVISIBLE GARMENT-FASTENING.

SPECIFICATION forming part of Letters Patent No. 466,689, dated January 5, 1892.

Application filed July 13, 1891. Serial No. 399,396. (No model.)

To all whom it may concern:

Be it known that I, ELEAZER KEMPSHALL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Invisible Garment-Fastenings, of which the following is a specification.

This invention relates to that class of hook-and-eye fastenings which are known in the trade as "invisible," being hidden by the garment on which the same are used.

The object of my invention is to provide an invisible fastening of the class specified, having the improved features hereinafter more particularly set forth.

Referring to the drawings, Figure 1 is a plan view of the overlapping edges of a garment provided with my improved hook-and-eye fastening. Fig. 2 is a sectional view in line *a a*, Fig. 1. Fig. 3 is a plan view of the eye forming a part of the fastening.

Similar characters designate like parts in all the figures.

The improved fastening shown in the drawings consists of a hook B, substantially of the ordinary form, and which has or may have the loops 2 and 4, whereby to fasten the same to the edge 3 of the garment, and the usual hook or tongue 5 for engaging the eye of the fastening.

The hook-and-eye fastening, considered as a whole, comprises a hook substantially such as described, and an eye or loop which is designated in a general way by C, and is secured to the opposite edge or flap 6 of the garment, as will be understood by comparison of Figs. 1 and 2. The arrangement or position on said edge 6 of the eye C is parallel with and directly underneath the hook when this is engaged with the eye, as will be understood from the dotted lines in Fig. 1, where the hook and eye are shown in engagement. The eye C, extending as it does from its hook-engaging portion toward the edge of the portion D of the garment, is wholly covered by the opposite portion E of the garment, and is thus rendered invisible, after the manner of other invisible garment-fastenings.

The advantages of invisible fastenings of this class being well known to the trade, it is

deemed unnecessary to more particularly point out or describe the same in this present application.

The improved eye C, comprising a portion 55 of the fastening, embodies the more essential features of my improvement, and is especially constructed to coact in a peculiar manner with the hook B and to bring the strain upon the eye-attaching threads at 7, Fig. 1, into the 60 most favorable position for strength and security. To this end said eye C is constructed to be fastened to its portion D of the garment at three points, which points are arranged in a triangular position in accordance with the 65 principle that a triangular base most perfectly conforms to all situations. Obviously the line of stress upon the eye is in the direction of the dotted line *b b*, Fig. 3, and passes longitudinally of the eye through the center 70 thereof, thus bringing the greatest strain upon the rounded end or socket 7 of the eye directly in alignment with the direction of the acting force. This construction and arrangement of the eye in the fastening secures 75 a high degree of strength and security by overcoming the tendency of one side fastening to give or yield in advance of the other, as happens when the eye is provided (in lieu of said central point of attachment) 80 with two attaching points or loops situated at some distance on either side of the said central line *b b*, this being the construction and arrangement heretofore employed in this class of fastenings and shown in prior Let- 85 ters Patent. The hook-engaging side 8 of the eye is preferably slightly elevated, as will be understood from the side view in Fig. 2, to facilitate the engagement therewith of the hook B, and is also shaped to form a slightly 90 re-entrant portion or bend for locating the position of the hook on the eye. This particular formation of said hook-engaging side of the eye also allows the point of the hook to extend farther than it otherwise would in 95 the direction of the central attaching point 7 of the eye, and thereby (when said hook is of proper length) extend over the same, thus providing a bearing for the point 5 of the hook upon said central portion of the eye. 100 This feature prevents the closing together at the point 9 of the two portions or flaps D and

E of the garment, and thus prevents the corresponding opening at the point 10 of said flaps, which would result (on the well-known principle of the lever) from the closing at the
5 aforesaid point 9.

For attaching the hook-engaging side 8 of the eye to the flap 6 of the garment, the eye has the attaching-bends 12 and 14 at each end, respectively, of the re-entrant bend or
10 bar, these attaching-bends being sewed to the flap, as indicated in Fig. 1. The eye C may be formed of wire bent to the required shape, or it may be cut out in its finished
15 form from a suitable sheet of metal of the proper quality.

Having thus described my invention, I claim—

As an improved article of manufacture, a garment-fastening consisting of a closed triangular eye having a re-entrant bend adapted
20 to be engaged by a hook with bends on each side of said re-entrant bend to receive fastening means and a central bend in median line with said re-entrant bend, said garment-
fastening when applied having the re-entrant
25 bend in the rear, substantially as described.

ELEAZER KEMPSHALL.

Witnesses:

FRANCIS H. RICHARDS,
THERON H. CAMP.