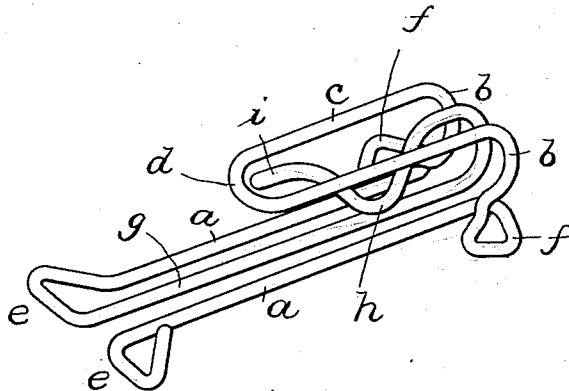


(No Model.)

C. L. LEWIS & C. E. MIXER.
HOOK.

No. 570,855.

Patented Nov. 3, 1896.



WITNESSES.

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HOOK.

SPECIFICATION forming part of Letters Patent No. 570,855, dated November 3, 1896.

Application filed October 17, 1895. Serial No. 565,937. (No model.)

To all whom it may concern:

Be it known that we, CAROLINE L. LEWIS and CHARLES E. MIXER, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Hooks; and we do hereby 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 drawing, and to letters of reference marked thereon, which form a part of this specification.

This invention has relation to a "hook-and-eye" fastening, so-called, especially for use on dresses or articles of apparel worn by women; and it consists in improvements in the construction of the hook member of that class of hooks in which the hooks are provided with a spring device or obstruction interposed between the point of the hook and the bend of the same to prevent the eye from slipping off, the said improvements being for the purpose of preventing the hook member from engaging the fibers of the garment as well as of securing the hook member to the edge of the garment or article of apparel in such way as to hold it flatly thereon without affecting the action of the spring projection.

Heretofore in the art to which this class of hooks belongs it has been customary to provide the hook member either with a projection or detent extending up from the shank toward the hook or with a depending projection extending downward from the hook toward the shank, and it is to this last particular subclass that a portion of our invention relates.

We have found that by forming a hook member with two parallel bars bent into a hook and an intermediate spring member formed with a depending projection we are enabled to provide a spring-detent which is highly resilient and which is most efficient in allowing the eye member to slip on the hook, and in retaining it in place; but such hook members, as heretofore constructed, have been unsatisfactory in that the end of the spring member extended from behind the point of the hook directly downward to form the detent, and hence when an eye was passed be-

tween the shank and the detent the latter was forced upward and the end thereof projecting beyond the plane of the hook engaged and penetrated the fabric of the garment so as to prevent the hook and the eye from being properly engaged. The end of the member being cut by machinery was generally ragged or sharp, so that the fabric, after the said end had penetrated it, was forced between the said member and the outside of the hook. Again it has generally been the practice to form the hook member with two eyes at the rear of the shank, through which threads are passed to secure the hook to the fabric of the garment, other threads being passed over and over the shank of the hook near or at the bend thereof to hold it down flat on the fabric. This binding of the bend not only prevented a free passage of the eye member into engagement with the hook, but likewise prevented any spring action on the part of the spring projection or "hump," so-called.

The object of this invention, then, is to provide against the end of the detent engaging or penetrating the garment, this result being secured by forming the depending bend in the spring at some distance from the end thereof and having the portion of the spring from the detent to the extremity lie in the plane of the hook, so that when it is thrust upward by engaging the eye with the hook it lies parallel with the fabric and will not tend to penetrate it.

Another object of the invention is to provide a hook member having two outer parallel side portions, each formed at the end with an eye, and a central parallel spring member formed with a depending projection, with two supplemental eyes formed in the two outer parallel portions at the bend of the hook, so that the hook member may be secured to the fabric not only by means of the usual eyes, but also at the bend of the hook without affecting the spring action of the central spring member.

Reference is to be had to the annexed drawing, on which is portrayed a hook member formed in accordance with our invention.

The hook member thereon shown is composed of wire, bent in such manner that the shank consists of two outer parallel bars *a a*,

bent at *b* to provide a hook *c*, which has a point *d*. The ends of the parallel bars are bent into triangular eyes *e* at their outer ends, and are also bent into triangular laterally-projecting eyes *f*, directly at the bends *b*, so that the shank may be secured to the fabric at four points, namely, at the outer end of the shank and at the bend of the hook. When threads are passed through the eyes, the hook member will be held firmly and flatly against the fabric.

It will be observed that the four eyes are triangular. This is preferable to having circular eyes, since these securing-threads may be concentrated to prevent them from shifting and thereby obviate any change in the position of the hook.

The retaining member *g* lies between and parallel to the bars of the shank, coinciding with the bend thereof, being formed with a pendent detent *h*, which acts as a retainer for the eye member when the latter is engaged with the hook member. The member *g* terminates just behind the point of the hook and has a portion *i*, which lies in the plane of the hook between the bars thereof. The said portion *i* is of comparatively considerable length, so that the depression or pendent loop is at or about midway between the bend and the point of the hook. Hence when the eye member is slipped on the hook it has traversed about one-third the length of the latter before the spring member is raised at all. Then when the eye passes between the shank and the pendent detent the latter is raised, forcing the portion *i* out above the plane of the hook. Since, however, the fabric is loose at this distance from the point of attachment of the eye to the former, and since the end of the portion *i* does not project up at an angle to the bars of the hook, but lies parallel therewith, the said end does not penetrate the fabric, but slides freely thereunder without engaging the fibers of the same.

It will be observed that by reason of the shank being secured to the fabric by threads passing through the eyes *f* (as contradistinguished from securing the hook member by passing threads over and over the shank and across the retaining member) the retaining member is free from its point of attachment with the eye *e* to its termination, so that it has a spring action which is entirely free and unimpeded. Being flexible or yielding, the bend *h* is raised and lowered to permit the eye member to engage or disengage the hook member without engaging the fabric.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, it is declared that what is claimed is—

1. A hook of the character described composed of two outer parallel bars, forming a shank and bent to form a hook, and a centrally-arranged spring member extending from the base of the shank and coincident therewith as to position, to a point just inside the point of the hook, and being formed intermediately with a pendent detent, said spring member having a portion *i* extending forward from the detent to the point of the hook, said forwardly-extending part *i* lying normally in a plane parallel with the body part of the hook, whereby the free end of the spring member is prevented from catching into the fabric when the detent is raised in the operation of fastening the hook, all as is herein shown and described.

2. A hook of the character described, composed of a shank formed of two outer parallel bars bent into a hook, and a centrally-arranged spring member extending from the base of the shank and coincident therewith as to position, to a point just inside the point of the hook, and being formed intermediately with a portion *i* extending forward from the detent to the point of the hook, said forwardly-extending part *i* lying normally in a plane parallel with the body part, and said parallel bars being formed at their ends and at the bend of the hook into fastening-eyes independent of any other features or elements of service whereby the shank may be sewed into place without affecting the action of the spring member, substantially as shown and described.

3. A hook of the character described composed of a shank formed of two outer parallel bars bent into a hook, and a centrally-arranged spring member extending from the base of the shank and coincident therewith as to position, to a point just inside the point of the hook, and being formed intermediately with a portion *i* extending forward from the detent to the point of the hook, said forwardly-extending part *i* lying normally in a plane parallel with the body part, and said parallel bars being formed at their ends and at the bend of the hook into triangular fastening-eyes independent of any other features or elements of service whereby the shank may be sewed into place without affecting the action of the spring member, and without the liability of the fastening-stitches slipping around in the fastening-eyes so as to displace the hook from its position, substantially as shown and described.

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

CAROLINE L. LEWIS.
CHARLES E. MIXER.

Witnesses:

F. H. LUDINGTON,
H. E. LODGE.