

C. S. LICHTENSTEIN.
 HOOK AND EYE.
 APPLICATION FILED SEPT. 21, 1908.

934,195.

Patented Sept. 14, 1909.

Fig. 1.

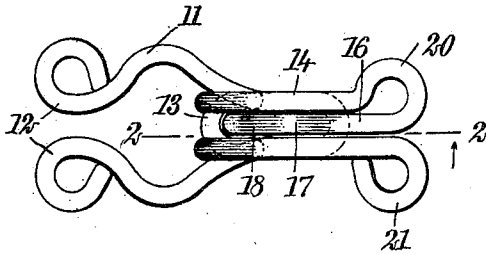


Fig. 2.

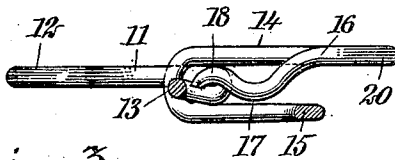


Fig. 3.

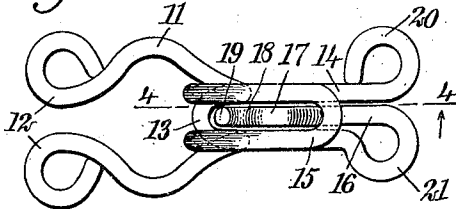


Fig. 4.

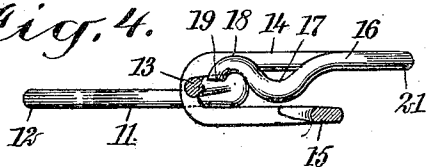


Fig. 10.

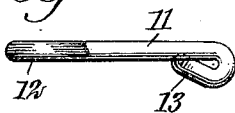


Fig. 7.

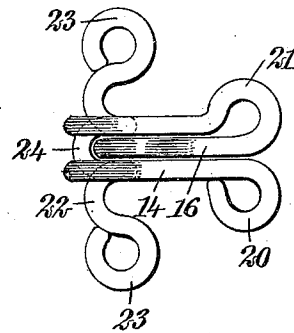


Fig. 8.

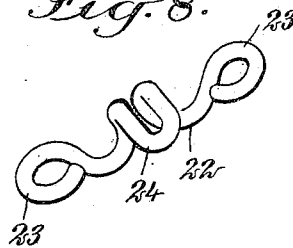


Fig. 9.

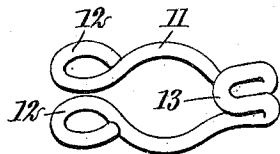
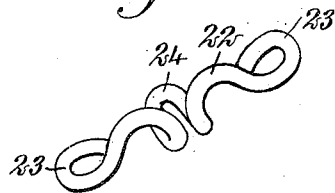
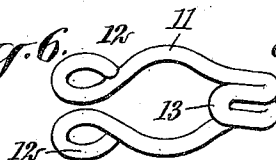


Fig. 5.

Fig. 6.



WITNESSES

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HOOK AND EYE.

934,195.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed September 21, 1908. Serial No. 453,906.

To all whom it may concern:

Be it known that I, CHARLES S. LICHTENSTEIN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Hook and Eye, of which the following is a full, clear, and exact description.

My invention relates to hooks and eyes, my more particular purpose being to improve the construction of both the hook and the eye for the purpose of improving the locking connection therebetween, so as to render the hook and the eye rigid relatively to each other when in position upon a garment.

In most of the hooks and eyes as heretofore constructed the parts are so shaped that when a hook and eye are placed upon different portions of a garment and locked together, these different portions of the garment thus secured together have considerable movement relatively to each other; that is to say, the hook has too much play relatively to the eye, and vice versa. The result is that the garment becomes mis-shapen for the reason that the parts secured by aid of the hook and eye have too much freedom of movement.

In my construction I seek to so shape the hook that when used with almost any form of eye, it will be rigid in relation to the same when connected therewith for securing different portions of the garment together; also to improve the construction of the eye so that when used with hooks of various kinds the same rigidity will be retained.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of my improved hook and improved eye connected together, the figure representing a so-called back view of the device; that is, the bill of the hook being turned in the same direction that the observer is looking; Fig. 2 is a longitudinal section through the device, upon the line 2—2 of Fig. 1, looking in the direction of the arrow; Fig. 3 is an inverted plan view of the device shown in Fig. 1; that is, a view showing the improved hook and the improved eye as they would appear to an observer when the parts are in such position that the bill of the hook is on the side next

the observer; Fig. 4 is a section upon the line 4—4 of Fig. 3, looking in the direction of the arrow; Fig. 5 is a perspective of my improved eye, lying in such a position that the bill turns upwardly; Fig. 6 is a perspective of my improved eye, occupying such position that the bill projects downwardly; Fig. 7 is a plan view showing my improved hook as connected with a so-called invisible eye; Fig. 8 is a perspective of the invisible eye, occupying such position that the bill of the eye projects upwardly; Fig. 9 is a perspective of the invisible eye but showing it as turned over so that the bill projects downwardly; and Fig. 10 is a side elevation of my improved eye, of the form shown in Figs. 1, 2, 3 and 4.

The eye shown in Figs. 1, 2, 3, 4, 5, 6 and 10, is of the general type known as a "visible" eye; that is, an eye the body portion of which is not well adapted to be concealed in securing the eye upon a garment. This eye comprises a body portion 11 provided with rings 12 for securing it in position. The body portion 11 is further provided with a hooked portion 13, which I designate as the bill, this portion being bent backwardly in relation to the body portion 11. The bill 13 is bent slightly inward, as will be understood from Fig. 10; that is to say, the general plane of the extremity of the bill crosses the general plane of the body portion 11. The hook comprises a body portion 14 provided with a bill 15, of substantially U-shaped form, and with a tongue 16, this tongue having a concave portion 17 and a convex portion 18 immediately adjacent thereto and terminating at 19 in a facet, the convex portion 18 being so formed that the facet 19 occupies a plane substantially coinciding in direction with the general plane of the bill 13. The body portion 14 of the hook is further provided with a ring 20 and with a loop 21, this ring and loop serving as means for securing the hook upon the garment. The invisible eye, shown in Figs. 7, 8 and 9, comprises a body portion 22 provided with rings 23 for securing it in position, and is further provided with a bill 24, the latter being of substantially U-shape.

The operation of my device is as follows: Suppose it be desired, as indicated in Figs. 1 to 4, inclusive, to connect together my improved hook and invisible eye, the bill 15 is extended into and through the eye, as in connecting any other hook and eye, and the

parts are then drawn in opposite directions. The portion 17 of the tongue 16 encounters the bill 13, and as the pulling continues, the portion 17 slips over the bill, and the facet 19 likewise passes over the bill 13, as indicated in Figs. 2 and 4. For this purpose it matters not whether the eye be turned in the position indicated in Fig. 2 or the one indicated in Fig. 4. In either event, the tongue 16 springs into such position that its tip bearing the facet 19 does not permit the ready removal of the bill of the eye from the hook. At the moment when this occurs, the bill 13 and the body portion 11 of the eye lodge directly against the adjacent portions of the bill 15 and the body portion 14 of the hook, as will be understood from Fig. 3, so as to prevent further travel of the hook and eye in the opposite direction. The hook and the eye are thus effectively locked together. They cannot separate by pulling them apart nor can they be released too easily by pushing them together from their opposite ends. When this occurs the loose or free end of the tongue 16 immediately adjacent to the convex portion 18 is, by virtue of its own spring tendency, held within the bill 13 with some little degree of firmness. This prevents any rocking or springing movement of the hook and eye relatively to each other. It will thus be seen that the hook and eye can have, under ordinary conditions, no appreciable movement of any kind relatively to each other. They are quite rigid in relation to each other, and therefore the parts of the garment upon which they are secured have but little chance for displacement.

With the invisible eye shown in Figs. 7, 8 and 9, the action is substantially the same as that above described. It is true that in the invisible eye the rings 23 are wider apart than the rings 12 in the visible hook, but the locking action is substantially the same.

In the visible eye, the body portion is of

substantially heart shape, so as to facilitate the fastening of the eye at several distinct points upon the goods. This is desirable in order to prevent the eye from rocking, twisting, or otherwise moving upon the goods. The heart shape also lessens the difficulty of inserting the hook within the eye, by allowing greater room for the length of the bill of the hook.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. An eye comprising a body portion, and a bill integral therewith, said body portion having two members spaced apart and said bill being bent backwardly and toward said body portion so that the end of said bill will lie intermediate the members of said body portion and intersect the plane thereof, and a hook provided with a bill and with a portion for engaging the bill of said eye.

2. The combination of an eye, and a hook separate from said eye and provided with a bill, said hook being further provided with a tongue having a concave portion serving as a limiting stop for preventing travel of said bill in one direction relatively to said eye, said hook also having a tip extending into close proximity to a portion of said eye for preventing the travel of said bill in the opposite direction relatively to said eye.

3. The combination of a hook provided with a substantially U-shaped bill, and further provided with a tongue, said tongue having a portion bent toward said bill, and an eye separate from said hook and provided with a bill for receiving said tongue.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES S. LICHTENSTEIN.

Witnesses:

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JOHN P. DAVIS.