(No Model.)

# J. BERKEY.

## HOOK AND EYE.

No. 537,380. Patented Apr. 9, 1895.

Fig. 1.

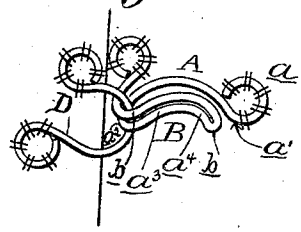
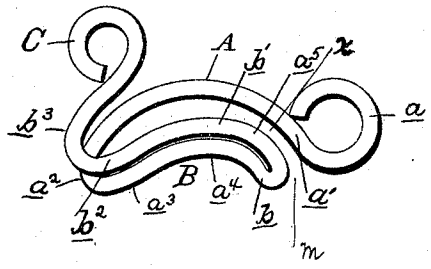



Fig. 2.


Fig. 3.




Witnesses
C. C. Burdine
G. A. Pennington

Inventor,
Julius Berkey,
by L. V. Bacon
Atty.

# UNITED STATES PATENT OFFICE.

JULIUS BERKEY, OF GRAND RAPIDS, MICHIGAN.

## HOOK AND EYE.

SPECIFICATION forming part of Letters Patent No. 537,380, dated April 9, 1895.

Application filed October 9, 1894. Serial No. 525,417. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS BERKEY, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Hooks and Eyes; and I 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.

This invention relates to an improvement in hooks and eyes, and it consists more particularly in improvements in the construction and arrangement of the parts of a hook of the character shown and described in Letters Patent, No. 487,771, granted to myself on the 29th day of November, 1892.

The aim and purpose of my present invention is to so form the hook member that the eye member can when properly adjusted be easily and quickly slipped from the hook or tongue, and will be prevented from being accidentally disengaged during use, irrespective of the position or movements of the wearer.

A further object is to so construct the hook member that by the ordinary means of securing the same the eye member will be prevented from passing onto and around the shank portion of the hook.

A further object is to so form the hook and eye members that when tacked or sewed to the goods they will under all conditions, retain their proper positions relative to each other and to the face of the goods, and this without extra stitching or fastening.

A still further object is to so construct the hook member that a spring or yielding keeper is formed for the eye without the employment of additional extensions of the wire or material of which they are formed.

In the usual or well known hook, the securing loops are made and arranged side by side, and in my patent above referred to I have shown one slightly below the other. In both such forms, but especially the former it is necessary to secure the outer end or heel of the loop by tacking the same with thread to the cloth, which will prevent the hook from turning back and in a measure prevent the eye from riding back around the shank to a point opposite the end of the tongue, at which point it would become disengaged. In my present invention I have wholly overcome these objections and dispense with the extra sewing over the shank.

In the accompanying drawings, wherein is illustrated my invention and wherein like letters of reference designate corresponding parts in the several views,—Figure 1 is an elevation of a hook and eye embodying my invention. Fig. 2 is an edge elevation thereof. Fig. 3 is an enlarged detail view of the hook member.

In the drawings, A designates the shank and B the tongue, the shank having its end curved back in a circle to form the securing loop $a$, the lower portion $a'$ of the loop $a$ constituting a portion of the curved guiding and holding section of the shank. The shank A is bent laterally into a uniform curve, approximating a segment of a circle. At the end of the shank the metal is curved upwardly as at $a^2$ to a point slightly above the plane of the curved portion of the shank. The material is then curved backward and downward as at $a^3$ to the plane of the shank and gradually outward to form a substantially segmental curve as at $a^4$, its outer end approaching the outer end of the shank at a point near the part $a'$, and forming with its outer edge a stop for the eye. The metal as at $b$ is turned slightly upward and then curved back and down and then carried back as at $b'$ parallel with the curved portion $a^4$, but between the same and shank and at the point $a^5$ into close proximity to the shank, the end of the part $b'$ being bent slightly upward as at $b^2$ and there extended across the curved end portion of the shank. It is then bent downward and back as at $b^3$ parallel with and on the same plane as that of the lower curved end of the shank. The material terminates at a point adjacent the heel of the hook, into a loop C which is located on a plane between the heel and point of the tongue, but in relative close proximity to the heel.

By the peculiar construction above described it will be seen that the lateral curvature of the shank A and tongue B are approximately the same, the inner edge of the outer portion of the tongue being in closer proximity to the shank than the remaining portion of the tongue, the space $x$ between the approaching points being less than the

diameter of the wire of which the eye is formed. The extreme point of the tongue is curved out to form a guide mouth *m* between the same and part *a'*.

By forming the substantially corresponding lateral curve to the shank and tongue it will be seen that the eye member has the curved inner wall of the tongue over which to pass and as it approaches the space or contracted throat *x* it is prevented from further movement unless force is applied to force the tongue B out. The tongue thereby forms a spring stop or keeper. I have found, however, that by giving the eye member a short twist during its disengaging movement that a rolling sliding movement is permitted on the curved tongue, which when a line of eyes are to be disengaged they can be slid or rolled off in quick and rapid succession.

A further advantage gained by the construction described is in the formation of the shank with its loop, so that the portion *a'* will form a continuation of the shank and thereby present no obstruction to the out or in movement of the eye member, and it further forms a continuation of the holding surface or edge, which is extended entirely to and on the same curvature as that of the outer portion of the tongue.

By forming the eye C at the heel of the hook and back from the point of the tongue, the eye member is prevented from moving up around the shank, and also the hook is held firmly on the goods when secured, and prevented from moving laterally or swinging back toward the outer end of the shank. It will also be noticed that any direct movement of the eye is opposed by the downward and lateral curved portion of the tongue and the curved shank against which it will strike, while should the eye be moved indirectly or tilted during use, its escape will be opposed by the spring or keeper formed by the tongue, and by coming in contact with the outer edge of the tongue. By placing the spring tongue laterally to one side of the shank the space between is prevented from being closed by any pressure placed on the outer face of the tongue, the same as in the construction shown in my former patent herein referred to.

The eye member D that I, by preference, employ is constructed in the usual manner with the exception that I form the arms thereof of unequal length, so that when the eye is secured on the material it will be held flat therewith.

An additional advantage gained by spacing the attaching loops as described, is that an ordinary steel stay can be spanned and a loop attached on opposite sides thereof by passing the threads wholly through the goods rather than through the inner layer alone as is usual where hooks and eyes are employed on material having stays.

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

1. A hook consisting of a shank curved laterally substantially throughout its length, a tongue arranged at one side of the shank and curved laterally toward and substantially parallel with the concaved edge of the shank, its outer portion approaching in relative close proximity to the outer portion of the shank, whereby a restricted throat is formed, substantially as described.

2. A hook constructed of a single piece of wire and consisting of a shank curved laterally throughout its length and having an eye at its end, a tongue arranged at one side of the shank and curved laterally substantially throughout its length in the direction of the concaved edge of the shank, its outer end portion approaching in close proximity to the outer portion of the shank, whereby a restricted throat is formed, and a loop formed with the opposite end of the wire at a point adjacent to the plane of the heel of the hook, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JULIUS BERKEY.

Witnesses:
G. A. PENNINGTON,
L. S. BACON.