

No. 658,184.

Patented Sept. 18, 1900.

C. LEIB.
HOOK AND EYE.

(Application filed July 20, 1899.)

(No Model.)

Fig. 1.

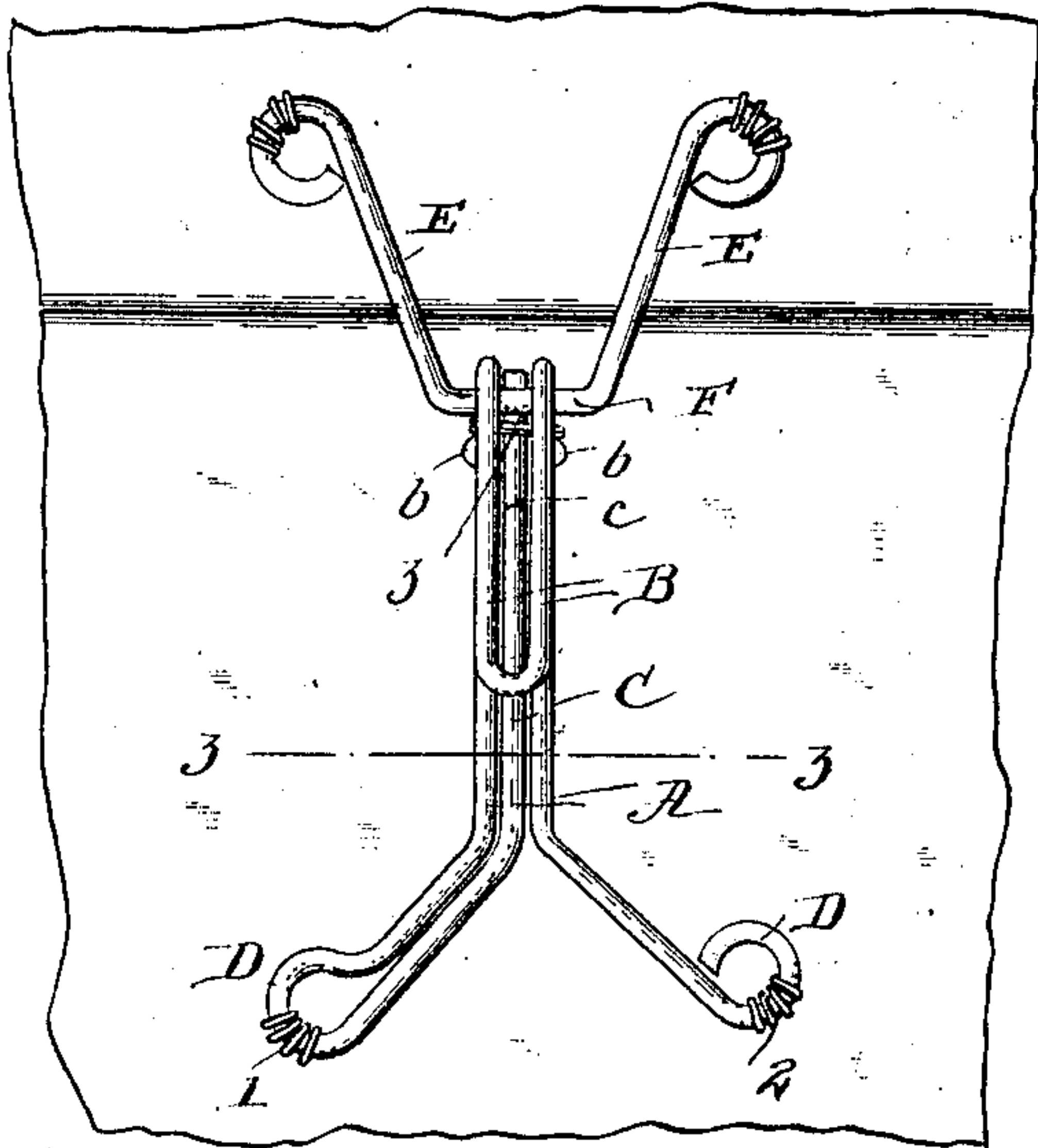


Fig. 2.

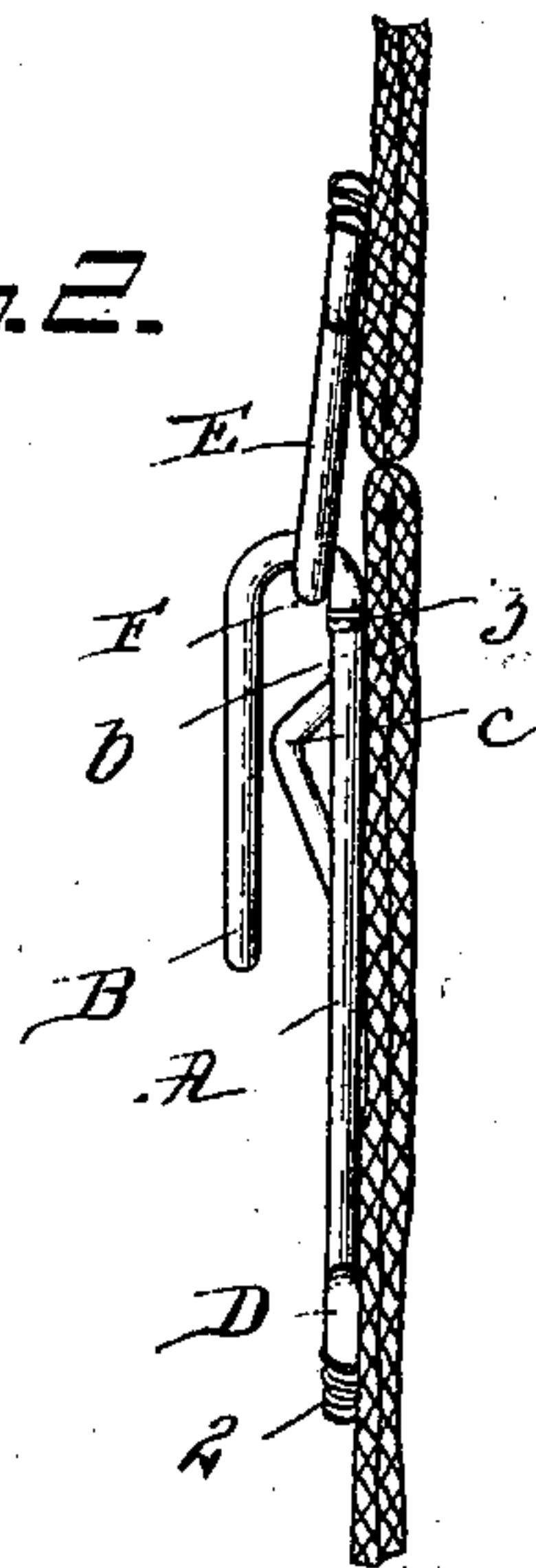


Fig. 3.

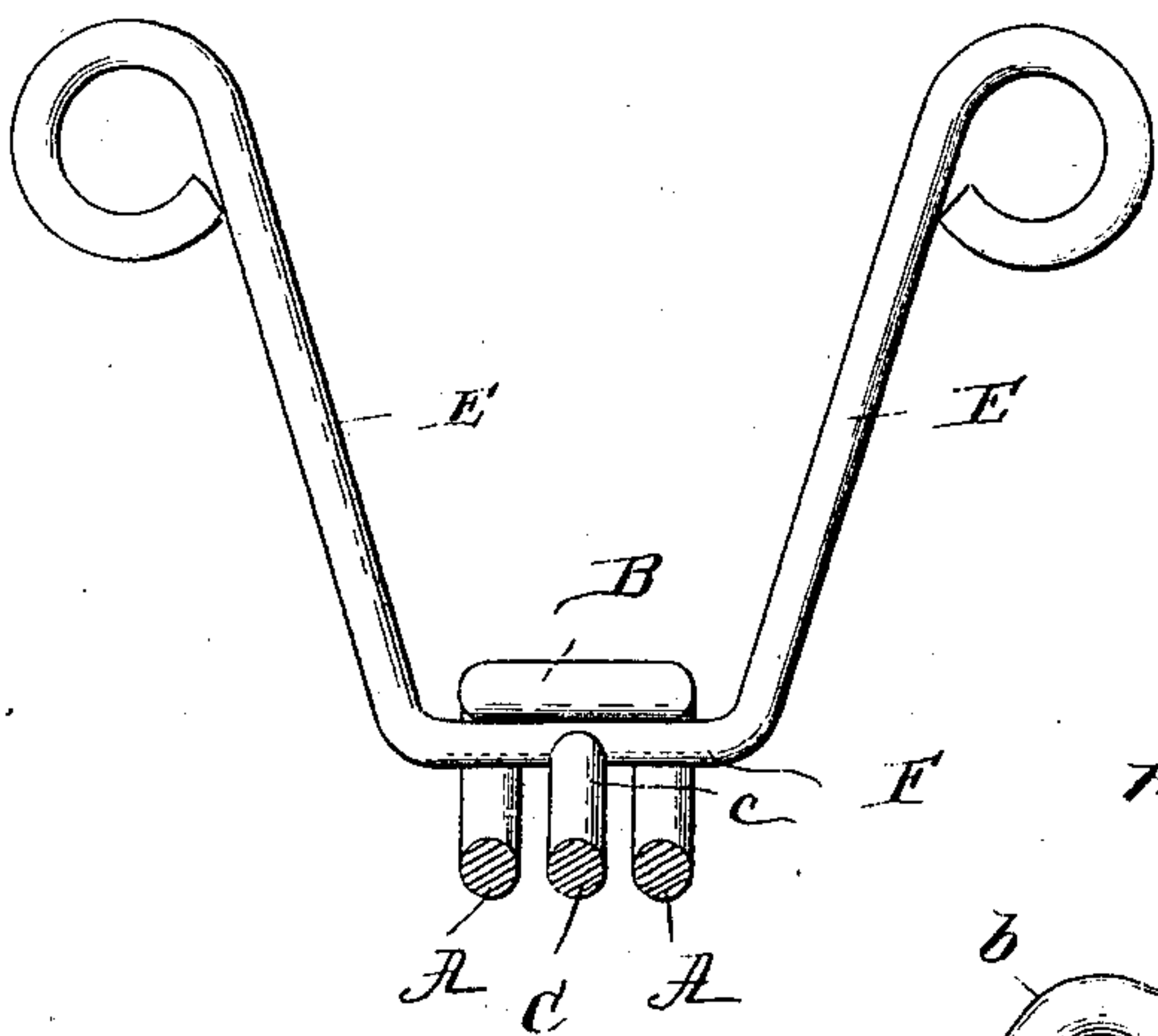


Fig. 4.

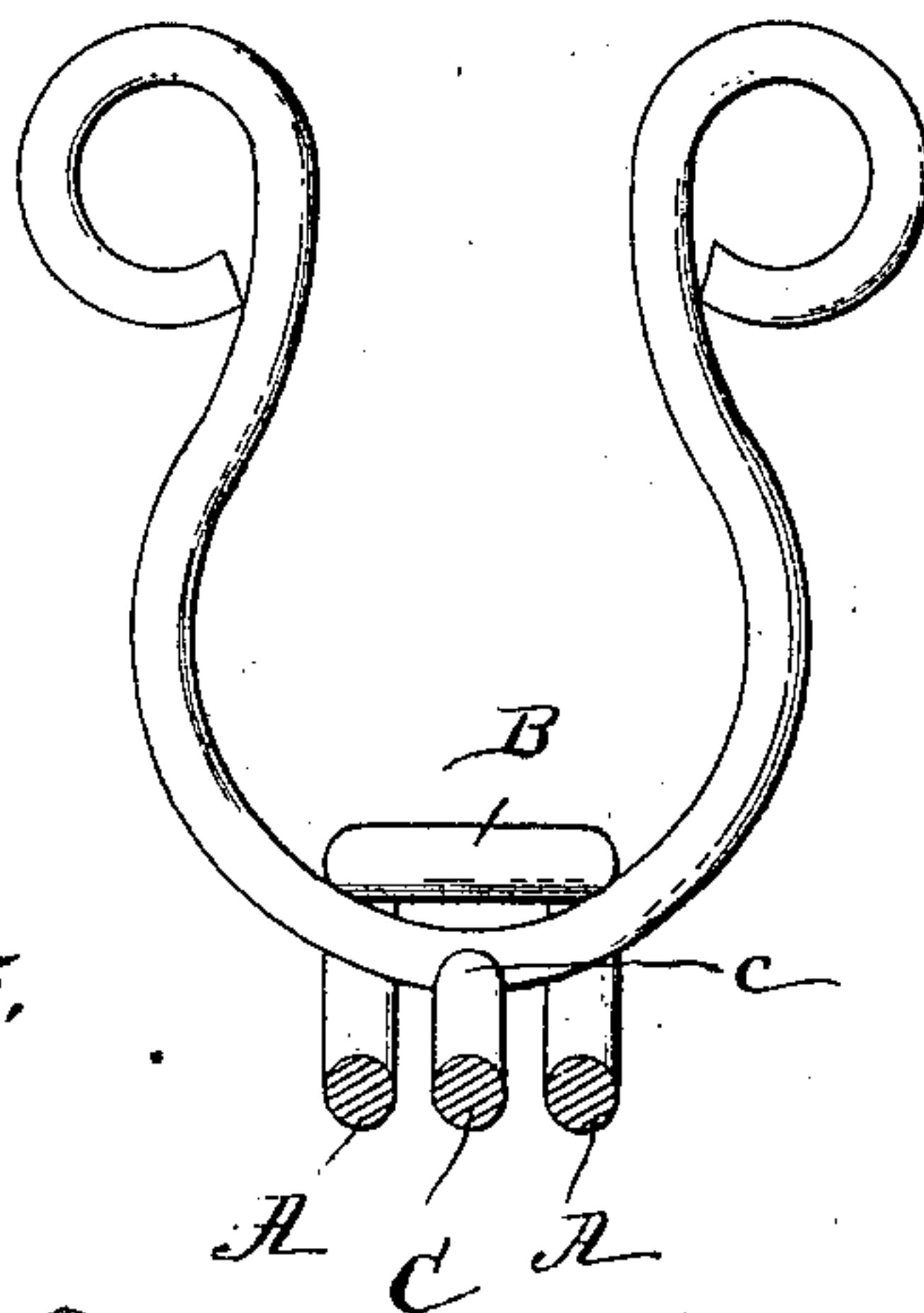
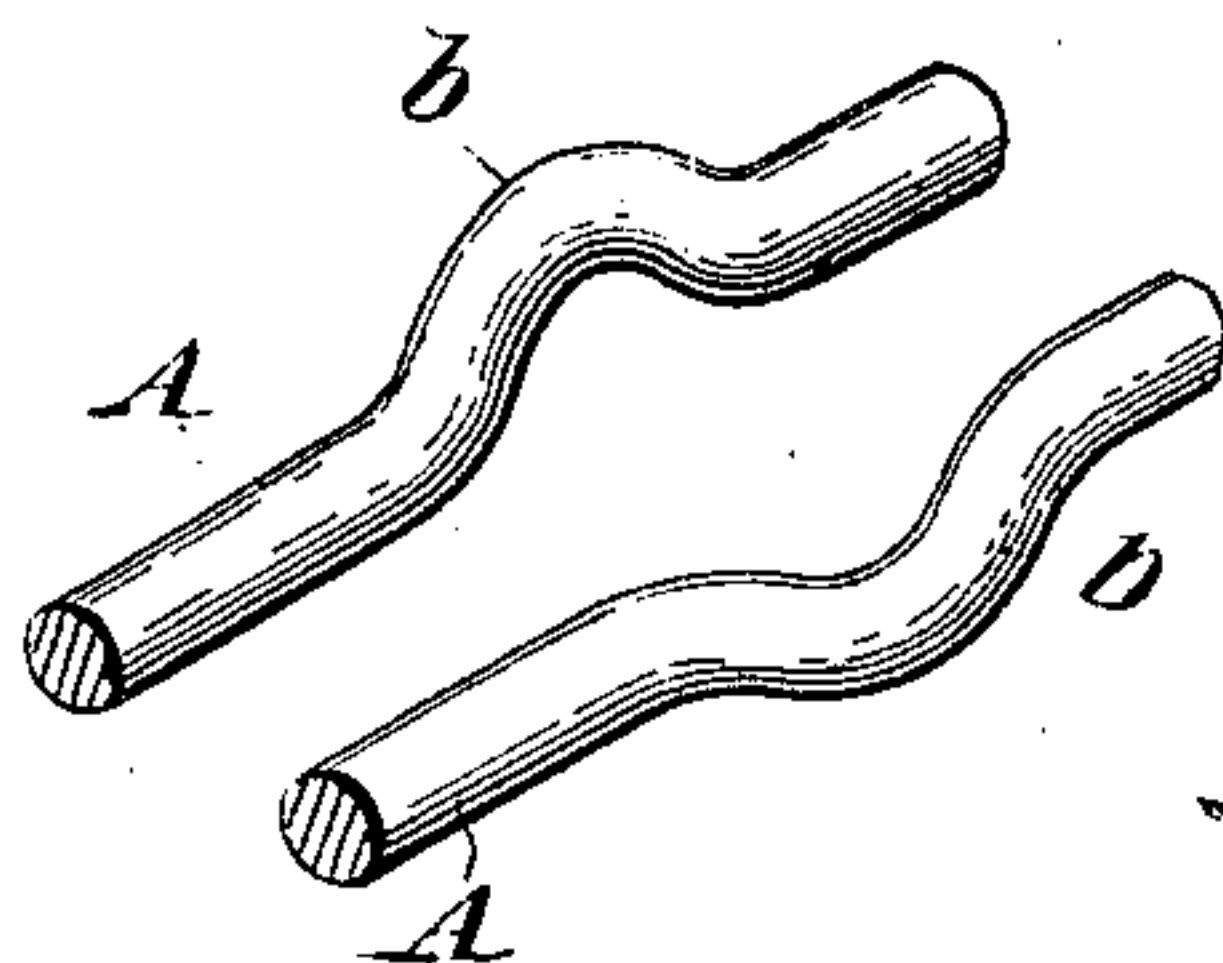


Fig. 5.



Witnesses.

Jesse B. Heller,
Wm C. Brasser

Inventor.

Charles Leib

by Harding Harding
Attorney:

UNITED STATES PATENT OFFICE.

CHARLES LEIB, OF PHILADELPHIA, PENNSYLVANIA.

HOOK AND EYE.

SPECIFICATION forming part of Letters Patent No. 658,184, dated September 18, 1900.

Application filed July 20, 1899. Serial No. 724,471. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LEIB, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Hooks and Eyes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to hooks and eyes; and it consists of a hook having side pieces and an intermediate tongue and two laterally and obliquely diverging looped ends, combined with an eye having a straight tongue-engaging yoke joining two rearwardly and obliquely extending looped ends.

The objects of the invention are to afford a plurality of relatively widely separated points of attachment for both the hook and the eye upon the fabric or garment to which they are designed to be secured; to reduce gaping between the edges of the sections of garments hooked together; to prevent twisting and turning of the hook and eye upon the fabric after they are sewed in place and the consequent tearing loose from the garment; to enable the eye to be withdrawn from the hook with equal facility at whatever angle the eye may assume relative to the hook during the releasing operation; to prevent the eye during withdrawal from disengaging, and drawing over the bow or swell of the tongue, the thread stitched over the hook adjacent to the bend therein, and to prevent the thread from being displaced by any other cause, even in a hook unprovided with a bow or swell; to enable the parallel bends of the hook to be brought relatively closer together, or, alternately, to enable the bow or swell of the tongue to be made somewhat deeper and more abrupt than in the ordinary hook.

The invention consists of the hereinafter described details of construction for accomplishing said objects.

In the drawings, Figure 1 is a plan view. Fig. 2 is a side elevation with the cloth in section. Fig. 3 is a section on the line 3 3 of Fig. 1 with the eye raised at right angles. Fig. 4 is a similar view showing the old form of eye. Fig. 5 is a detached perspective view of a portion of the side members of the shank.

A is the shank of the hook. The side pieces

of the shank are bent upon themselves in the usual way to form the hook proper or front member B. Between the side pieces of the shank is the tongue C, having the bow or swell *c*, which extends up close to the plane of the side pieces of the member B. This bow is preferably bent so as to extend upwardly on a gradual incline close to the plane of the front member B, then sharply downwardly at a sharp incline to the plane of the shank, and then outwardly in the plane of the shank. The lower or fastening end of the hook instead of being bent into two plain circular loops, as in the ordinary hook, is provided with two laterally-diverging arms D, looped or provided with loops at their ends, these looped arms extending also obliquely downward, as shown. By this construction of hook the two loops that are to be attached to the garment are separated a substantial distance from each other.

The eye consists of the side pieces E, connected by the straight yoke or connecting member F, the side pieces extending from the yoke at an oblique angle thereto and diverging from each other toward their outer ends, which are looped or provided with loops, as shown.

Fig. 1 indicates the preferred method of securing the hook and eye to the garment. The structure of the hook is such that when the same is affixed to the garment at the points 1, 2, and 3 there will be no frictional twisting or turning of the hook upon the fabric, owing to the substantial distance separating the points of attachment 1 and 2, and therefore there is little danger of the hook tearing out and rupturing the fabric. These defects are characteristic of the ordinary hook, which is secured to the garment through the two contiguous circular end-fastening loops. The eye is also held in definite relation with the fabric by reason of the widely-separated loops at the ends of the diverging side pieces. By virtue of the fact that the two looped ends of the eye and the two looped ends of the hook are respectively relatively widely separated the space between adjacent loops of adjacent hooks and eyes is very much reduced, and consequently gaping between the edges of the sections of the garment hooked together is very much lessened. By reason of the connecting-piece

F of the eye being perfectly straight the eye may be withdrawn readily from the hook, even though the eye assumes a position at right angles, or nearly so, with the hook, which is the position in which it is held by most users during the unfastening operation. With an eye having a curved yoke the apex of the yoke is considerably above the plane of the side pieces forming the front member B of the hook, when the eye is withdrawn in the ordinary way, making it necessary to form the tongue with a shallow swell or to increase the distance between the parallel bends A and B of the hook. With an eye constructed according to my invention the bends A and B of the hook can be brought relatively close together, while still retaining a relatively deep and abrupt bow or swell of the tongue, the yoke never rising farther above the plane or bend B than the thickness of the wire from which the eye is formed. I also avoid thereby straining and weakening the tongue when inserting and withdrawing the eye in the ordinary way, which straining and weakening frequently produce dislodgment of the eye working to and fro in its normal position of engagement. The fact that the loops of the eye are widely separated at their ends enables the easy reception of the hook, while the comparatively-short member F, being but slightly wider than the hook, the hook is held substantially stationary, which is an essential point in tight fitting.

On the outside of the side pieces of the shank a short distance from the bend in the hook and at points adjacent to the end of the bow or swell (in a hook constructed with a bow or swell) are formed two fins, shoulders, or enlargements *b b*. These serve to confine the thread in the position at point 3, where it is sewed over the hook at the bend to hold that end of the hook in place. I thus avoid accidentally slipping the thread which secures the hook to the garment at point 3 back toward the lower part of the shank, prevent the eye from being obstructed in its withdrawal by the thread thus displaced, and prevent the thread from working over the bow or swell and holding down the tongue.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. The combination with a hook comprising the shank A, the hook proper or front member B, the tongue C, having the bow *c*, shoulders or enlargements formed on the side pieces of the shank a short distance from the bend in the hook and adjacent to the bow *c*, and the looped arms diverging laterally from the end of the shank and extending at an oblique angle thereto, of an eye having the straight connecting member F and the diverging looped side pieces E extending respectively from opposite ends of the member F at an oblique angle thereto, the eye being adapted to engage the hook by passing the straight connecting member of the eye between the bow of the

tween the bow of the tongue and the front member of the hook, substantially as described.

2. The combination with a hook comprising the shank A, the hook proper or front member B, the tongue C, and the looped arms diverging laterally from the end of the shank and extending at an oblique angle thereto, the tongue having a bow or swell which extends upwardly on a gradual incline toward the connecting bend between shank A and member B and close to the plane of member B, thence downwardly at a substantially-sharper incline, to the plane of the shank, and thence outwardly in the plane of the shank, of an eye having the straight connecting member F and the diverging looped side pieces E extending respectively from opposite ends of the member F at an oblique angle thereto, the eye being adapted to engage the hook by passing the straight connecting member of the eye between the bow of the tongue and the front member of the hook, substantially as described.

3. The combination with a hook comprising the shank A, the hook proper or front member B, the tongue C, having the bow *c*, shoulders or enlargements formed on the side pieces of the shank a short distance from the bend in the hook and adjacent to the bow *c*, and the looped arms diverging laterally from the end of the shank and extending at an oblique angle thereto, the tongue having a bow or swell which extends upwardly on a gradual incline toward the connecting bend between shank A and member B and close to the plane of member B, thence downwardly at a substantially-sharper incline, to the plane of the shank, and thence outwardly in the plane of the shank, of an eye having the straight connecting member E and the diverging looped side pieces F extending respectively from opposite ends of the member F at an oblique angle thereto, the eye being adapted to engage the hook by passing the straight connecting member of the eye between the bow of the tongue and the front member of the hook, substantially as described.

4. The combination, with a hook, of an eye having a straight connecting member adapted to engage the hook and of but slightly-greater length than the width of the shank of the hook, and outwardly-diverging looped side pieces extending respectively from opposite ends of said members and at an oblique angle thereto, thereby permitting the ready insertion of the hook while holding it from substantial lateral movement when engaged with the eye, substantially as described.

In testimony of which invention I have hereunto set my hand, at Philadelphia, Pennsylvania, on this 12th day of July, 1899.

CHAS. LEIB.

Witnesses:

FRANK S. BUSSE,
WM. C. BUSSE.