

(No Model.)

L. KING.  
SAFETY HOOK.

No. 577,040.

Patented Feb. 16, 1897.

Fig. 1.

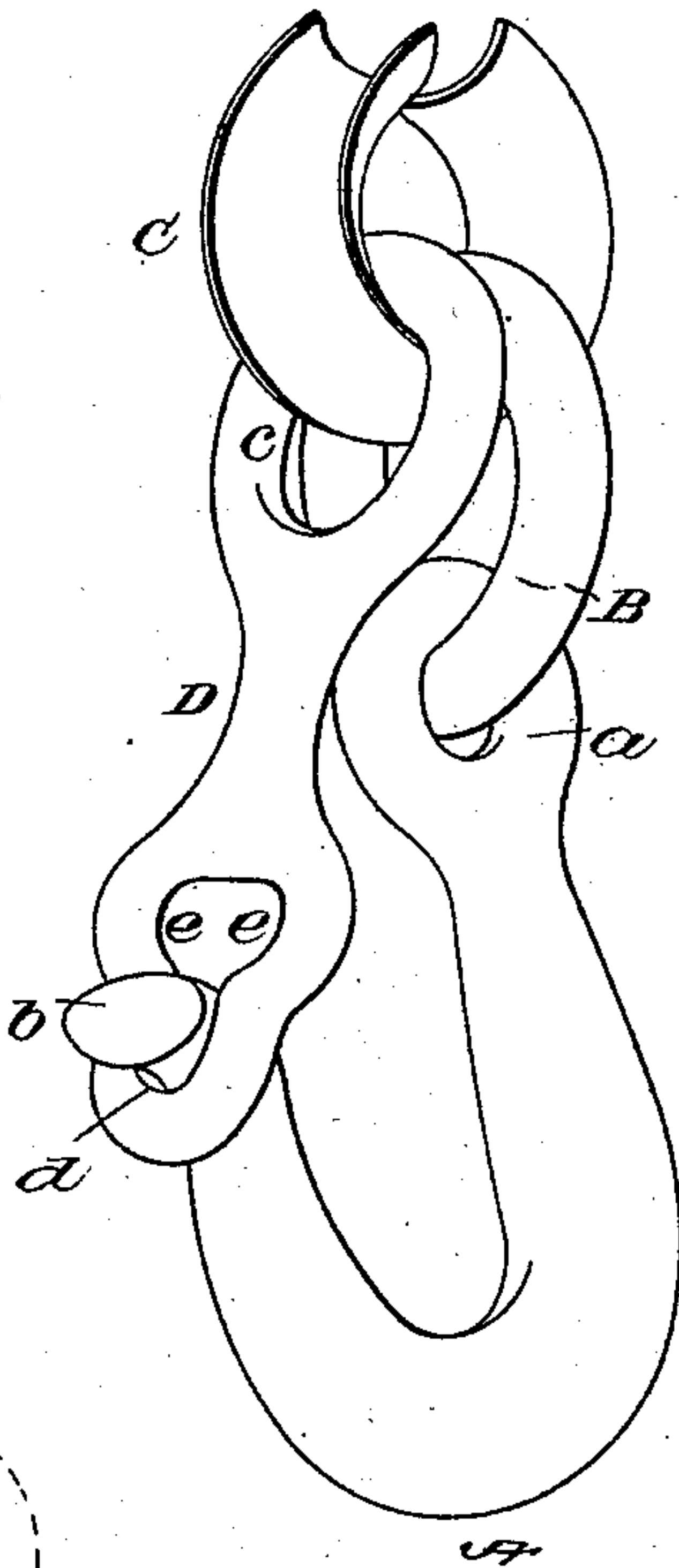


Fig. 2.

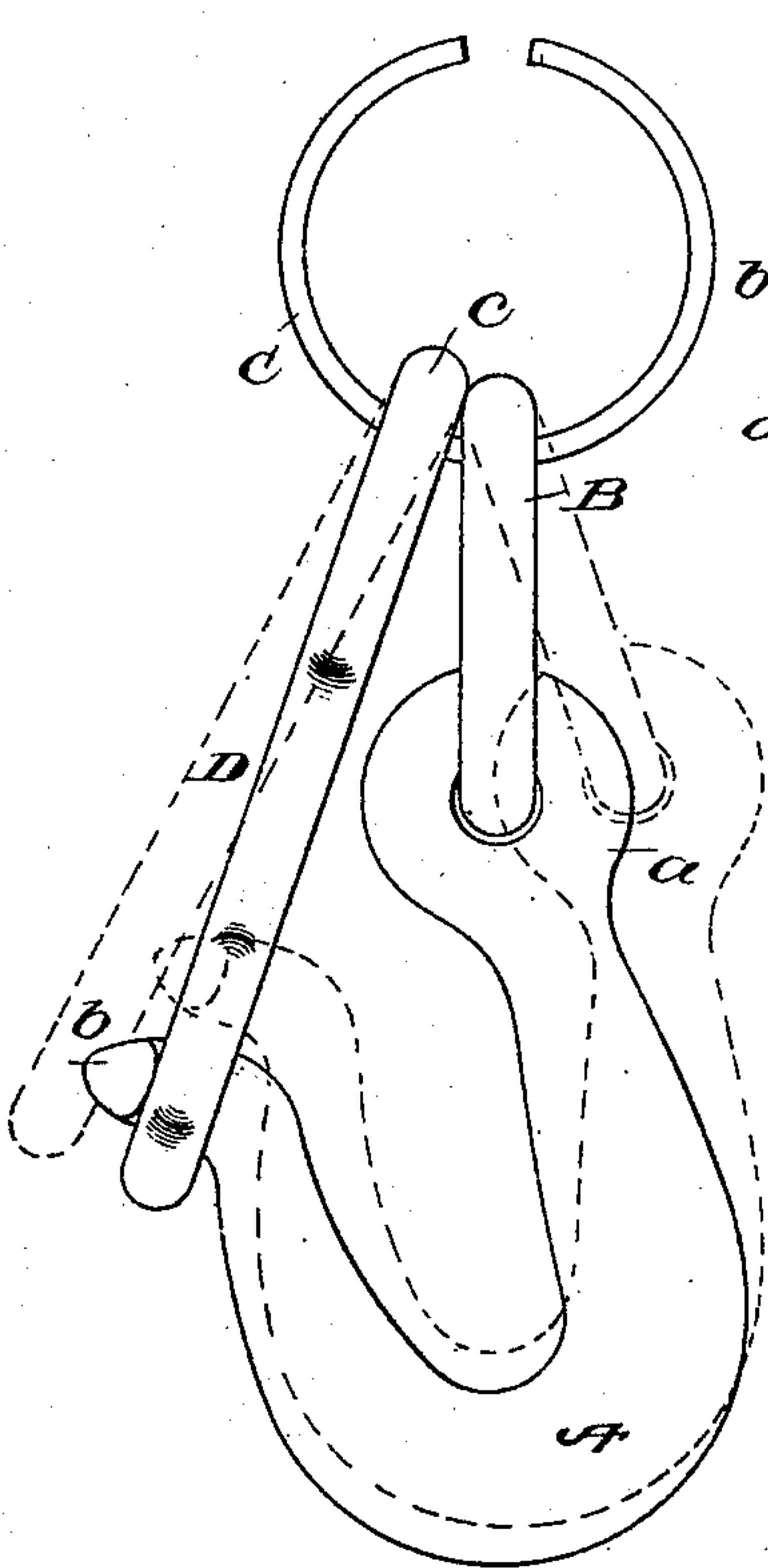


Fig. 3.

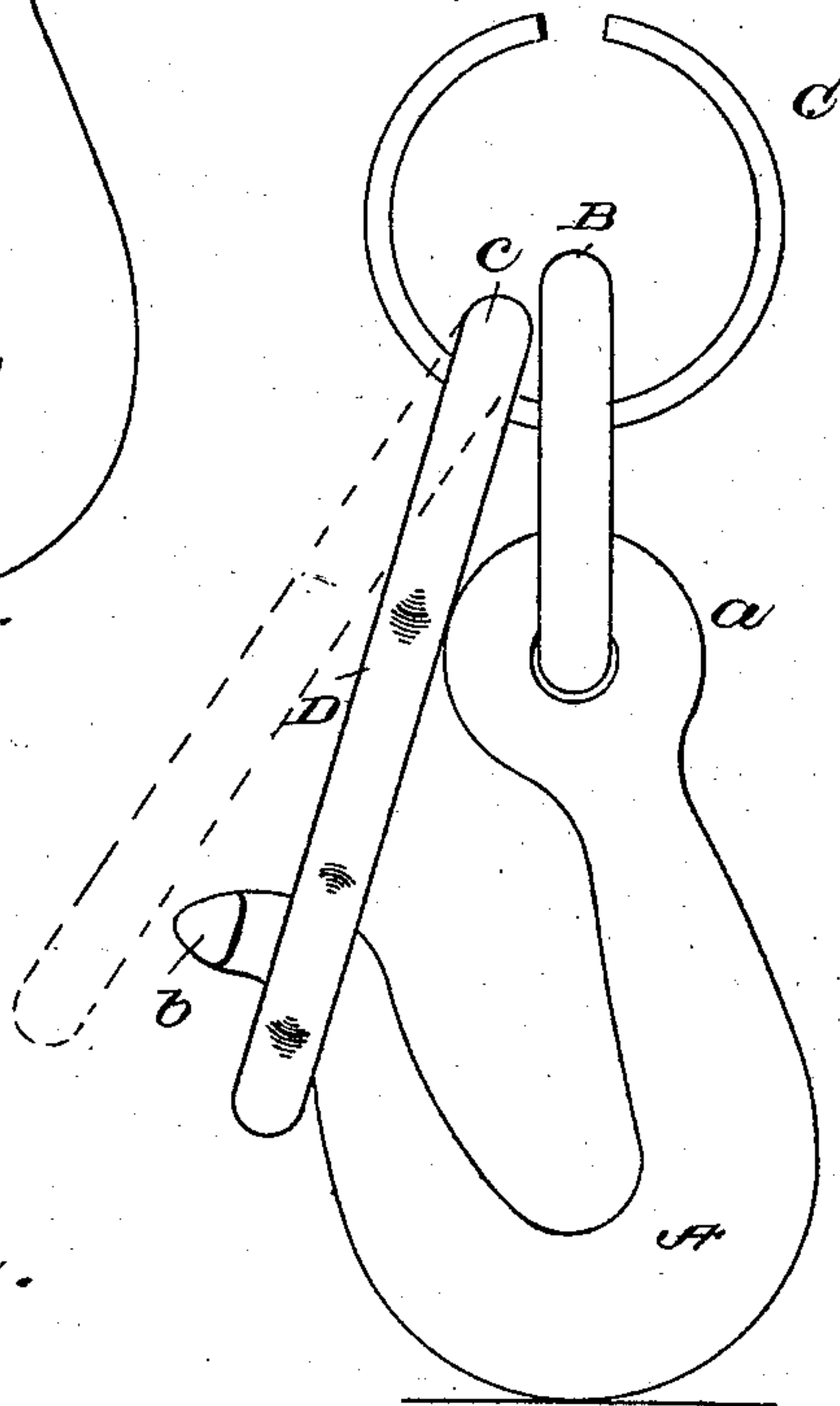
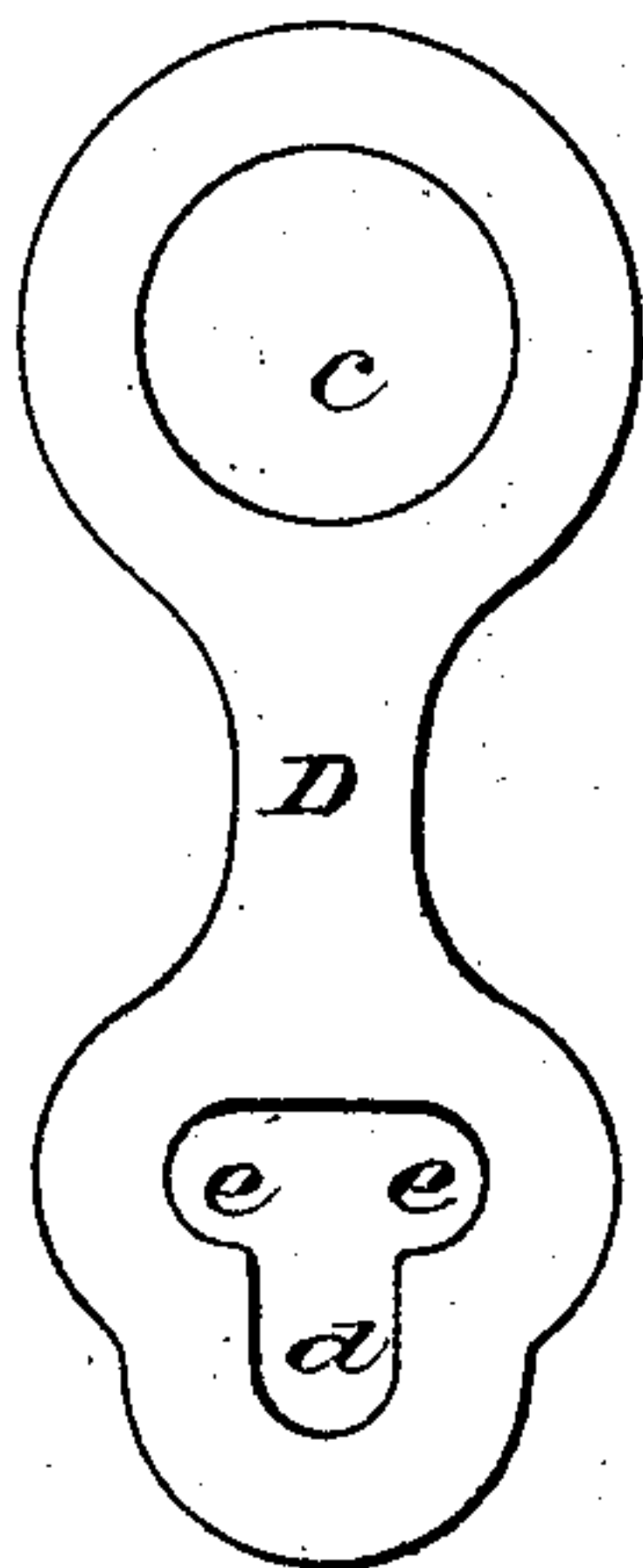


Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## SAFETY-HOOK.

SPECIFICATION forming part of Letters Patent No. 577,040, dated February 16, 1897.

Application filed March 25, 1896. Serial No. 584,768. (No model.)

*To all whom it may concern:*

Be it known that I, LINCOLN KING, a citizen of the United States of America, and a resident of Port Richmond, Staten Island, in the State of New York, have invented a new and useful Improvement in Safety-Hooks, of which the following is a specification.

This invention, in common with my improvement in safety-hooks patented November 15, 1892, by United States Letters Patent No. 486,181, relates to load-suspending hooks for use in hoisting-tackle, on wire guy-ropes, and on hand-falls for all work which is likely to spread open hooks and for which safety-hooks having tightly-fitted or spring-fastened guards are not suitable.

The present invention consists in the combination, with a hook having a laterally-enlarged point and with a suspending-ring or its equivalent, of a novel safety-link or "shackle-bar," as it is hereinafter termed, having an opening fitted at its lower end to said point of the hook behind its enlargement and widened above said lower end for the passage of said enlarged point in a single position of the hook relative to the shackle-bar, said shackle-bar being movable endwise relatively to the hook to unlock the hook.

The invention further consists in a specific combination of parts whereby the improved hook is adapted to be unshackled at will with the utmost facility and is at the same time prevented from becoming accidentally unlocked or unshackled by any movement to which it is liable while loaded or under strain.

The distinctive object of the present improvement is to adapt the hook to be shackled or unshackled by simple movements of the unloaded hook and the shackle-bar or either of them in the plane in which the hook proper hangs, the improved hook being designed for very quick and very heavy work.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 of the drawings is a perspective view of an improved safety-hook constructed according to this invention. Fig. 2 is an elevation of the same, including dotted outlines of the parts in their unshackling or shackling positions. Fig. 3 is a like view illustrating a preferred method of unlocking or unshack-

ling the hook, and Fig. 4 is a face view of the shackle-bar detached.

Like letters refer to like parts in all the figures.

The hook proper, A, hereinafter termed the "hook," together with a short link or "small ring" B, permanently interlocked with the suspension-eye *a* of said hook, may be and are preferably identical with those described in my previous specification forming part of said Letters Patent No. 486,181, said suspension-eye being in that case in the plane of the body of the hook and the laterally-enlarged point *b* of the hook being of a rounded broad arrow shape, as described in said previous specification, and said small ring being "permanently" interlocked with a main suspension-ring C, (or its equivalent,) with which the upper end of the new shackle-bar D is permanently interlocked in front of the hook and of said small ring, as in the previous arrangement. Said shackle-bar D is also constructed with an eye *c* at its upper end, interlocked with the suspension-ring C, as aforesaid, and preferably distinct from the opening *d* in its lower end to interlock with the point *b* of the hook. This opening *d* is fitted at its lower end to said point of the hook behind the lateral projections of its enlargement, and is widened above said lower end by lateral enlargements *e e*, which provide for the free passage of the hook-point *b* when the parts are in the relative positions represented by dotted lines in Fig. 2 and by full and dotted lines in Fig. 3. The parts are brought into these shackling or unshackling positions in Fig. 2 by tilting the hook in the plane in which it hangs, such tilting being accompanied by a sufficient endwise movement of the hook relatively to the shackle-bar. A crow-bar or the like, inserted as a lever between the small ring B and the shackle-bar D, may serve to thus unlock the hook while it is still loaded, which is sometimes desirable. According to the preferred method illustrated by Fig. 3 it is only necessary to lower the main suspension-ring C so as to let the shackle-bar D drop down to the required extent without changing the position of the hook A in order to unlock the unloaded hook. Sufficient space within the small ring B or



its equivalent permits said ring C to be so lowered, as shown in Fig. 3. Any accidental displacement of the shackle-bar is impossible, as the parts are manifestly incapable of swinging into any such unshackling positions when the hook is loaded or under strain.

The small ring B facilitates simultaneously tilting and retracting the hook to lock or unlock the shackle-bar by a toggle-like action, as demonstrated in Fig. 2, and obviates constructing the hook with a large suspension-eye; but the ordinary large eye integral with the hook in the same plane as said small ring is considered an equivalent of the latter in the primary combination of parts under my present invention. An endless ring, round or of other shape in cross-section, or the clevis of a tackle-block or the like may take the place of the lashing-ring shown at C, and other like modifications will suggest themselves to those skilled in the art.

Having thus described the said improvement, I claim as my invention and desire to patent under this specification—

25 1. The combination, substantially as hereinbefore specified, of a hook having a laterally-enlarged point, a suspension-ring or its equivalent from which said hook is suspend-

ed and which is movable downwardly relatively to said hook, and a shackle-bar suspended from and movable with said ring and having an opening which is fitted at its lower end to said point of the hook behind its enlargement and is widened above said lower end for the passage of said enlarged point when the shackle-bar is lowered. 30 35

2. The combination, in a safety-hook, of a hook proper having a suspension-eye in the same plane as its body and a laterally-enlarged point, a small ring permanently interlocked with said eye, a main suspension-ring, or its equivalent, permanently interlocked with said small ring, and a shackle-bar permanently interlocked with said main ring and having an opening fitted at its lower end to the point of the hook behind its enlargement, and widened above said lower end for the passage of said enlarged point, whereby the hook is adapted to be shackled and unshackled by simple movements in the plane in which the hook proper hangs, substantially as hereinbefore specified. 40 45 50

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Witnesses:

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