

(No Model.)

J. F. SEARS & H. E. KELLEY.
CHAIN FASTENER.

No. 381,855.

Patented Apr. 24, 1888.

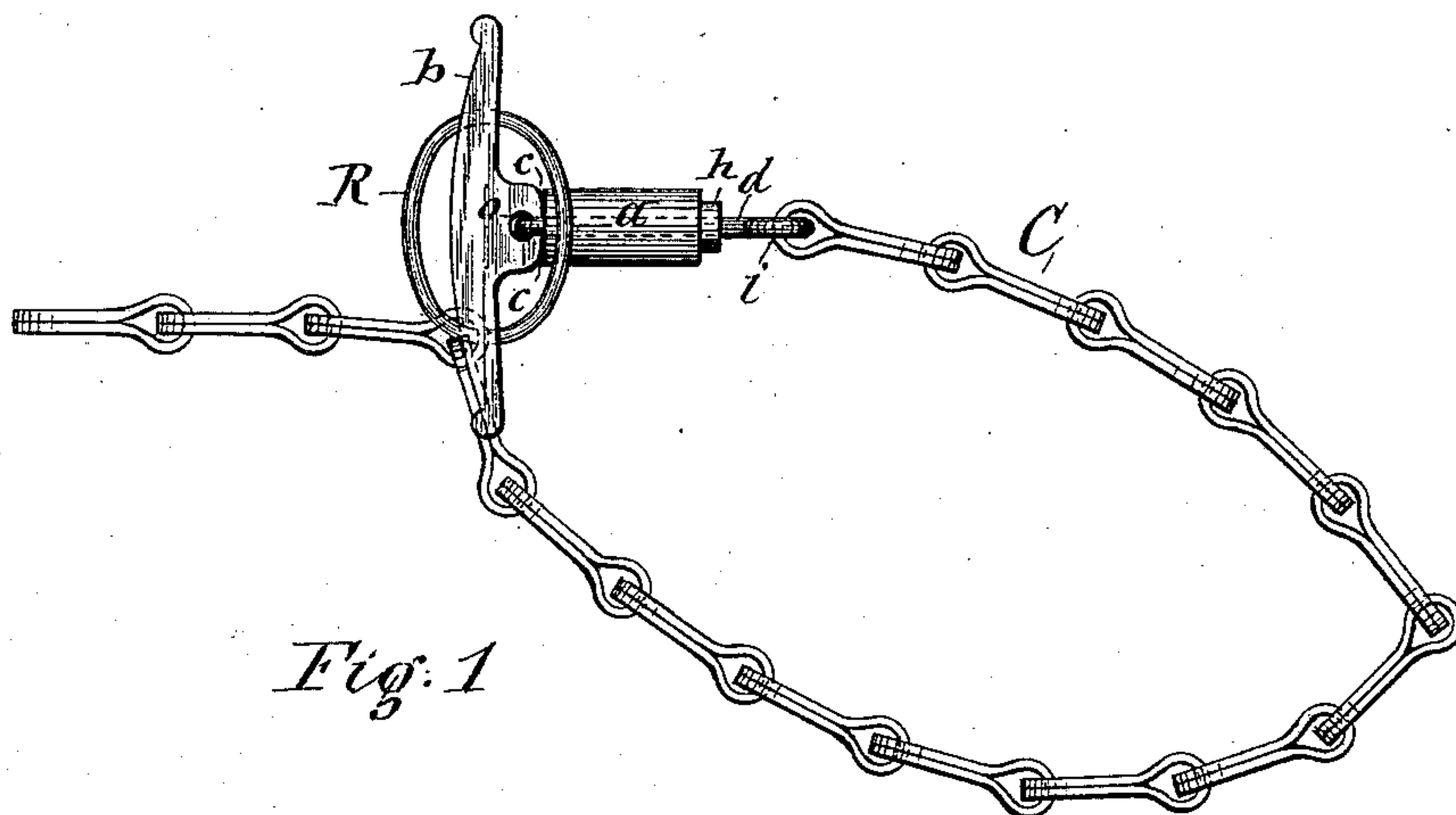


Fig. 1

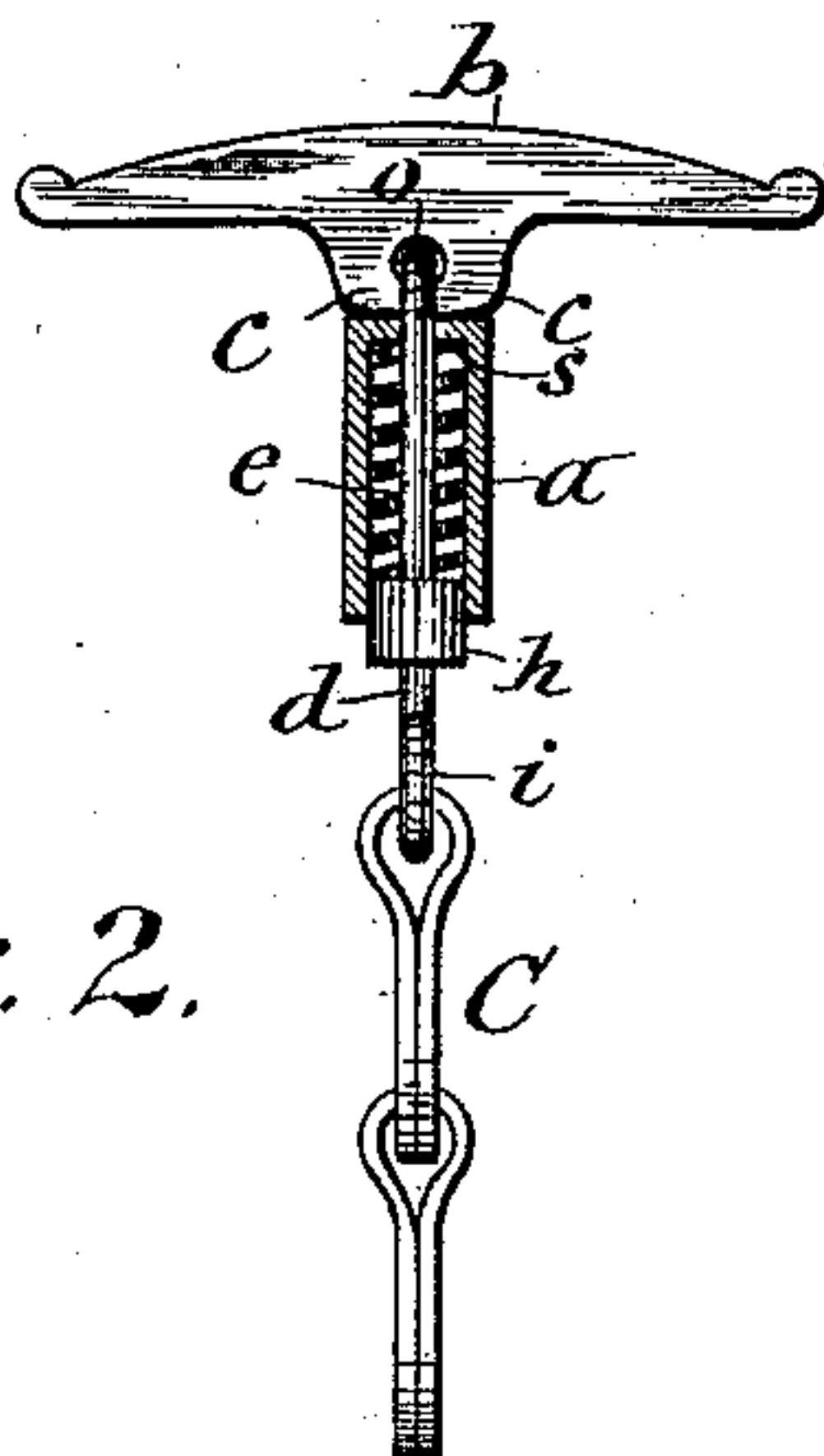


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN F. SEARS, OF CLIFTON, ONTARIO, CANADA, AND HARRY E. KELLEY,
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CHAIN-FASTENER.

SPECIFICATION forming part of Letters Patent No. 381,855, dated April 24, 1888.

Application filed September 2, 1887. Serial No. 248,650. (No model.)

To all whom it may concern:

Be it known that we, JOHN F. SEARS, of Clifton, Ontario, Dominion of Canada, and HARRY E. KELLEY, of Niagara Falls, in the county of Niagara, in the State of New York, have invented new and useful Improvements in Chain-Fasteners, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of chain-fasteners in which a cross-bar on the end of the chain passes through and falls across a ring or link attached to another part of the chain; and the invention consists in improved means for sustaining the cross-bar normally at right angles to the link or coupling by which it is attached to the end of the chain, and thus guarding against accidental disengagement from the ring or link, across which the said cross-bar lies, as hereinbefore stated.

The invention is fully illustrated in the annexed drawings, in which—

Figure 1 is a view of a chain embodying our improvements, and Fig. 2 is a longitudinal section of the devices by which the cross-bar is connected to the end of the chain.

C denotes the chain, and *b* the cross-bar connected to the end of the chain. This cross-bar we form with two cams, *c c*, equidistant from the center of the length of the bar, and with an eye, *o*, between said cams. To the eye *o* we connect the coupling-bar *d*, which is extended through a tube or sleeve, *a*, considerably larger in diameter than the bar *d* and formed with an internal shoulder, *s*. Said coupling-bar terminates with either a hook or eye, *i*, or a suitable head adapted to be attached to the end of the chain C. Back of this attaching end of the coupling-bar the latter has secured to it a head, *h*, which slides in the sleeve *a*, and between this head and a shoulder, *s*, in the end of the sleeve adjacent to the cross-bar *b* we interpose a spiral spring, *e*, the expansive force of which serves to draw the cross-bar *b* toward the end of the sleeve, and by the bearings of the cams *c c* on the end of the sleeve the cross-bar is sustained normally at right angles to the sleeve.

In coupling the cross-bar *b* to the ring R on the chain, as represented in Fig. 1 of the drawings, the cross-bar is to be turned on the

coupling-bar *d* toward parallelism with the sleeve *a* sufficiently to allow said cross-bar to pass endwise completely through the ring R. Then by releasing the cross-bar the force of the spring *e* on the cross-bar, resting with one of its cams *c* on the end of the sleeve, causes said cross-bar to automatically spring into a position at right angles to the sleeve, and thus securely lie across the ring, as represented in Fig. 1 of the drawings.

It will be observed that by connecting the chain C directly to the end of the coupling-bar *d* none of the strain on the chain falls onto the sleeve *a* and spring *e*, said parts being only called into action in the operation of connecting and disconnecting the cross-bar *b* to and from the ring R.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the sleeve *a*, provided with the shoulder *s*, the cross-bar *b*, formed with cams *c c*, the coupling-bar *d*, connected to the cross-bar between the cams thereof and extending into the sleeve, the head *h*, attached to the coupling-bar, and the expansive spring *e*, surrounding the bar *d* between the head *h* and shoulder *s*, substantially as described and shown.

2. The combination of the sleeve *a*, provided with the shoulder *s*, the cross-bar *b*, formed with cams *c c*, the coupling-bar *d*, connected to the cross-bar between the cams thereof and extending through the sleeve and terminating with an attaching hook or eye, the head *h*, secured to the bar *d* back of the hook or eye, and the expansive spring *e*, surrounding the said bar between the head and shoulder *s*, and the chain C, connected to the hook or eye of the coupling-bar *d*, substantially as described and shown.

In testimony whereof we have hereunto signed our names, in the presence of two witnesses, at Niagara Falls, in the county of Niagara, in the State of New York, this 29th day of August, 1887.

JOHN F. SEARS. [L. S.]
HARRY E. KELLEY. [L. S.]

Witnesses:

W. CARYL ELY,
MYRON H. KINSLEY.