

C. H. KNOWLTON.

CAR-COUPLING.

No. 177,648.

Patented May 23, 1876.

Fig. 1.

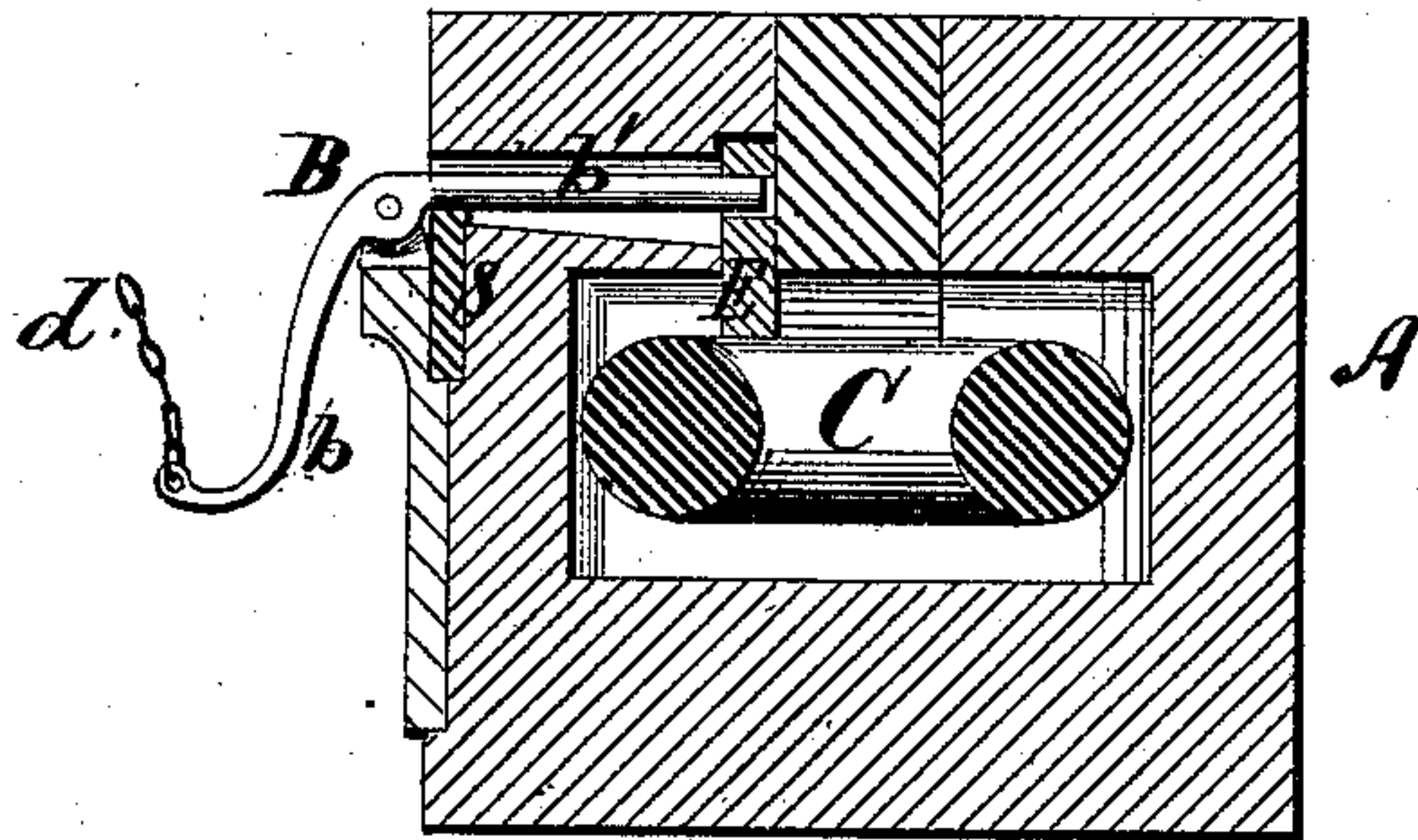


Fig. 2.

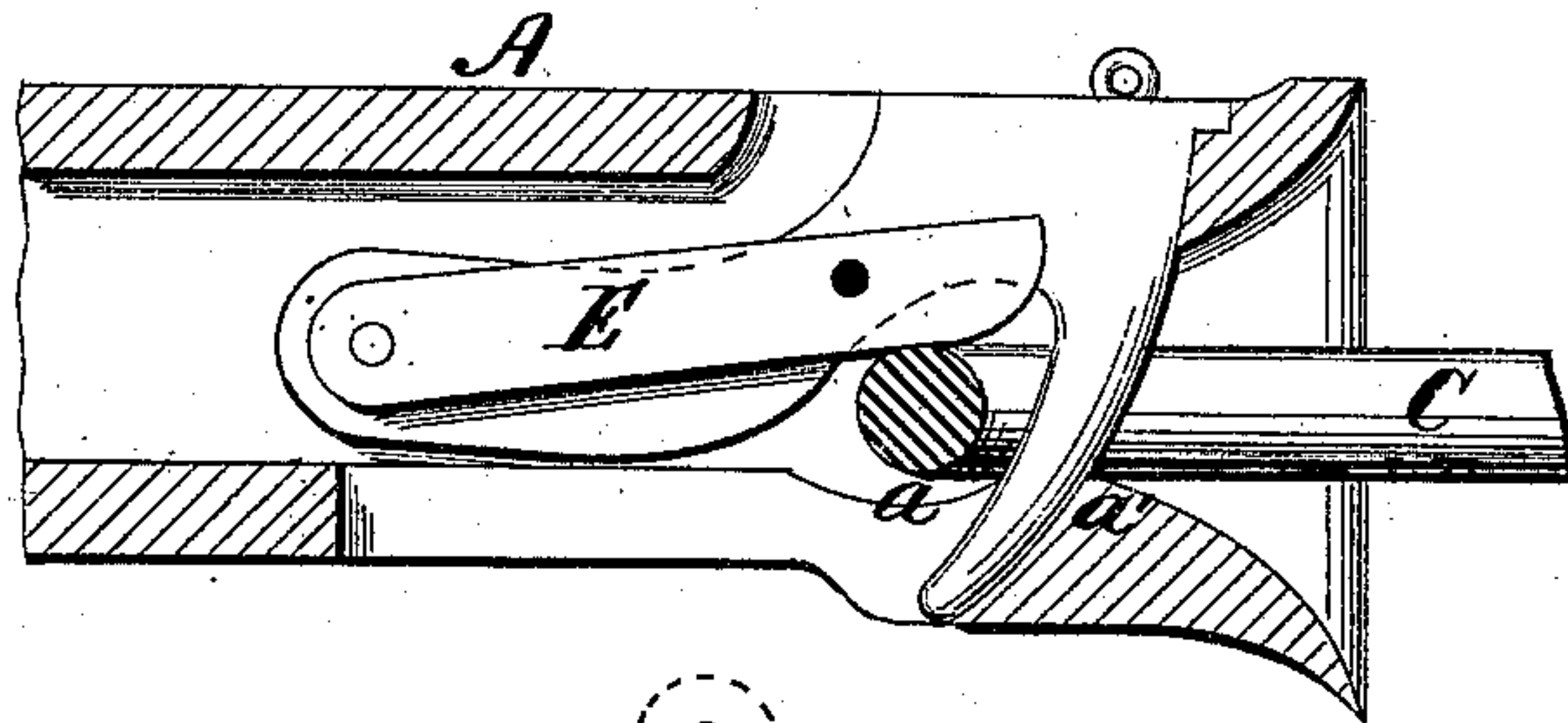
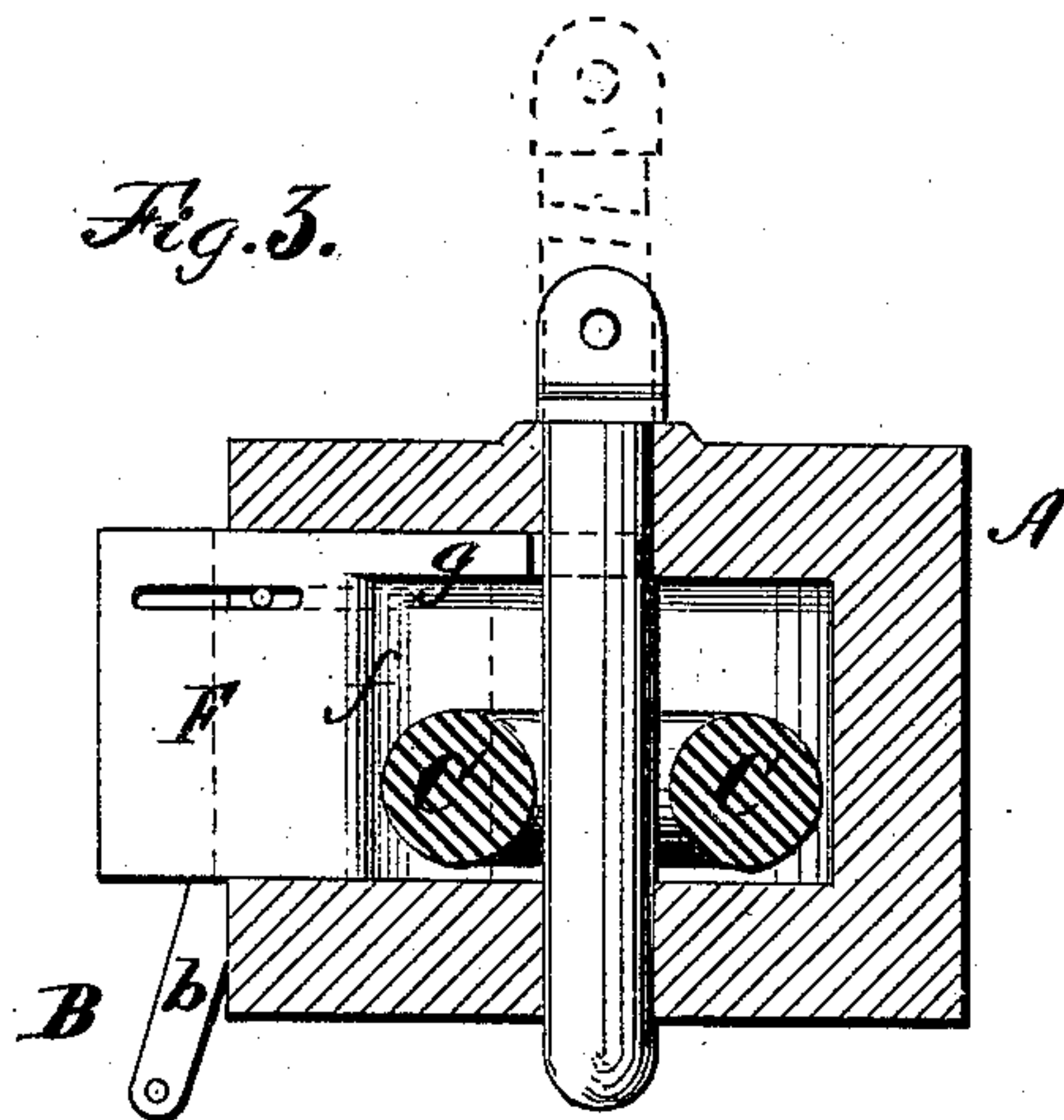


Fig. 3.



WITNESSES

*M. Church*  
*E. S. Kassar.*

INVENTOR

*Chas. H. Knowlton*  
*By Hill & Ellsworth*

*His ATTORNEYS*



# UNITED STATES PATENT OFFICE.

CHARLES H. KNOWLTON, OF ROCKLAND, MAINE.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **177,648**, dated May 23, 1876; application filed March 18, 1875.

*To all whom it may concern:*

Be it known that I, CHARLES H. KNOWLTON, of Rockland, in Knox county, State of Maine, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 3 are vertical cross-sections, the former showing the invention as adapted to the link-and-hook coupling, and the latter showing it as adapted to the old-fashioned link-and-pin coupling; and Fig. 2 is a longitudinal vertical section, showing the link-and-hook coupling.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of one part of my invention is to save the train-hands from the dangerous service of going between the cars that are to be coupled and holding up the coupling-links in order that they may properly enter the mouth of the opposite draw-heads; and to this end the first part of my invention consists in combining a lever, pivoted within the draw-head and adapted to bear on the inner end of the coupling-link, with an operating-lever pivoted in the side of the draw-head and having one arm which projects into the interior of the draw-head and is articulated to the lever pivoted thereon, and another arm which projects outside of the draw-head, and serves as a handle, the whole operating in such a manner that when the coupling-link is in place its outer end can be raised or lowered to any practicable extent by merely operating the handle at the side of the draw-head, which can be done by a chain or cord without the necessity of going between the cars.

The object of another part of my invention is to devise a convenient and practicable means by which cars provided with the old-fashioned link-and-pin coupling can be automatically coupled without the necessity of going between the cars; and to this end the second part of my invention consists in a beveled slide, arranged in the side of the draw-head, which will support the pin till the approaching link enters, and will then slide lat-

erally out of the way and allow the pin to drop and hold the link.

In the drawings, A is the draw-bar or head, having an expanding or bell-shaped mouth, as shown in Fig. 2. Directly under the inner end of the link C, when the latter is in place, the draw-head is recessed, as represented at *a*, so that immediately forward of the recess the link rests upon a bridge or elevation, *a'*. E is a lever pivoted within the draw-head, preferably upon the same cross-bolt that serves as a pivotal point for the coupling-hook. This lever bears upon the inner end of the coupling-link, immediately over the recess or cavity *a*. B is a lever pivoted on the side of the draw-head, with one arm, *b*, serving as a handle, and the other, *b'*, projecting into the interior of the draw-head and articulated to the lever E, as shown in Fig. 1.

By so operating the lever B as to press its inner end down, the outer end of the link will be raised, and, on the contrary by raising the inner end of the lever the outer end of the link will be allowed to incline downward by its own gravity. The lever B can be caused to depress the inner end of the link by means of a chain, *d*, extending to the platform or side of the car; and when the inner arm of the lever is not thus held down by force it can be kept elevated by weighting the outer arm, or by the use of a spring, *s*, suitably arranged for the purpose. By that means the lever will be kept out of the way of the link when the latter is entering the draw-head.

The second part of my invention consists in the employment of the horizontal slide F having its inner vertical edge beveled, as shown at *f*, and having its upper edge elongated into an arm, *g*. When the cars are about to be coupled the slide F of the car, which has not the link, is pushed in, and the pin is dropped into its hole till its lower end rests on the top of the arm *g*. When the opposite car comes up to be coupled the link will strike the beveled edge *f*, force the slide laterally out of the way, and cause the pin to drop and couple the cars. The slide and draw-head are to be of such dimensions that an ordinary coupling-link cannot enter without pushing the slide out of its way.

The adoption of these two devices will render railway service much less dangerous than heretofore, and will save the companies large annual expenditures and liabilities incurred in consequence of the almost daily accidents that result from the present dangerous mode of coupling cars, and particularly freight cars. The devices are simple, cheap, and not liable to get out of order, and at a slight expense can be applied to almost any form of draw-head.

Having thus described my invention, what I claim as new is—

1. The lever E, pivoted within the draw-

head, in combination with the lever B, pivoted to the side of the draw-head, and having arms *b b'*, substantially as described, for the purpose specified.

2. The beveled slide F, having the arm *g*, and combined with the draw-head, so as to slide laterally therein, substantially as and for the purposes set forth.

CHARLES H. KNOWLTON.

Witnesses:

JAMES E. STONE,

W. WRITT.