

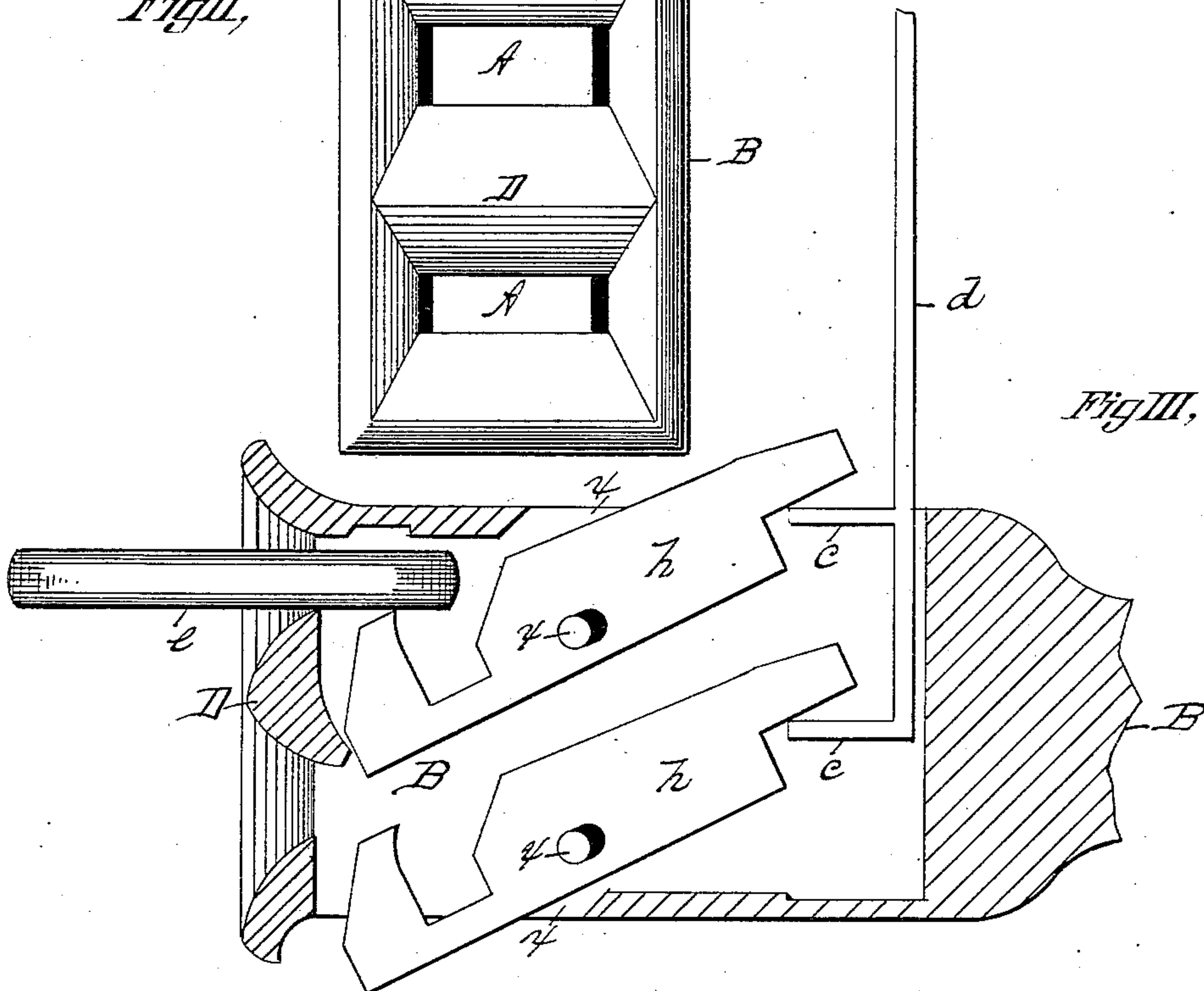
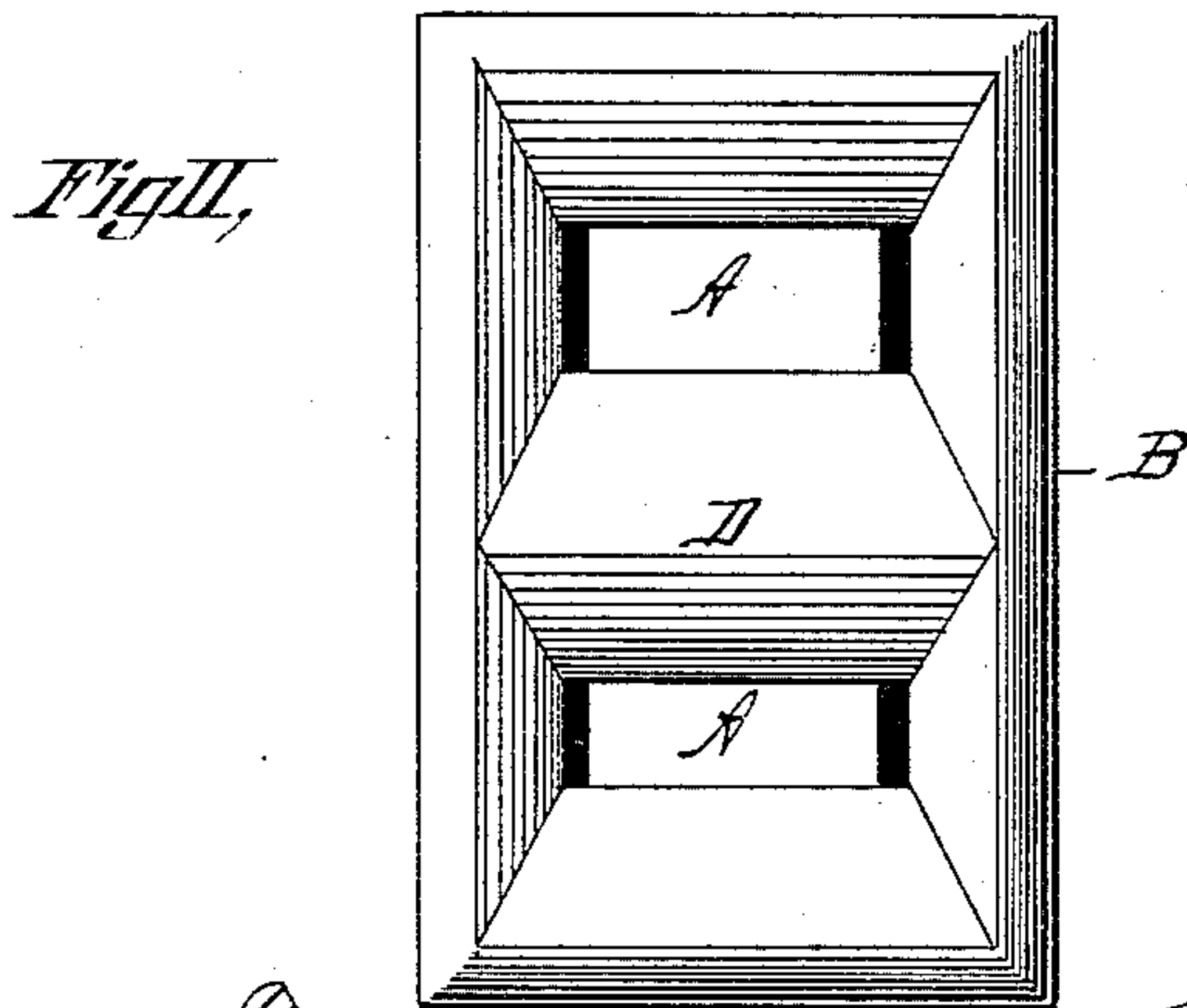
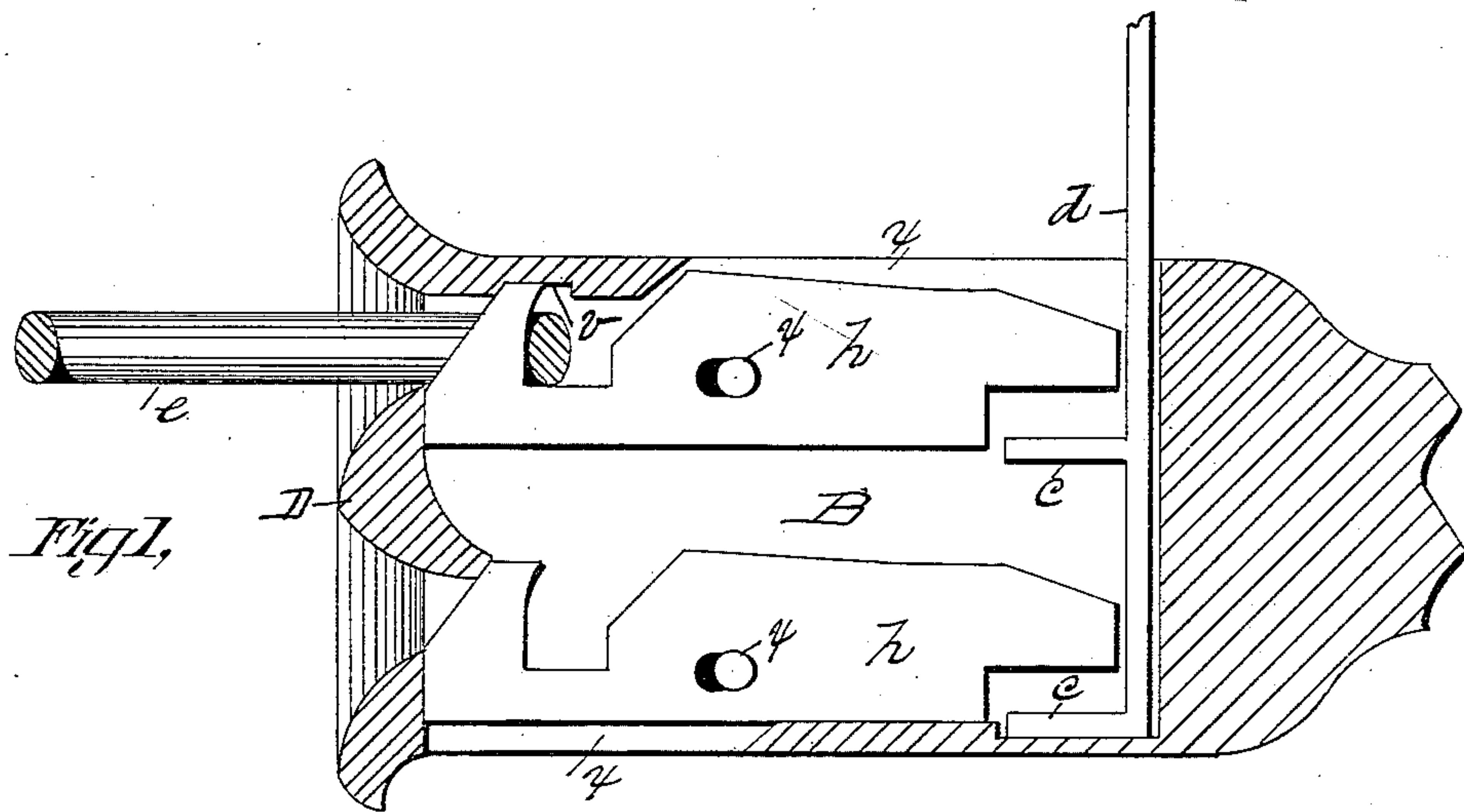
(No Model.)

H. M. KEITH.

CAR COUPLING.

No. 259,315.

Patented June 13, 1882.



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UNITED STATES PATENT OFFICE.

HENRY M. KEITH, OF ORANGE, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 259,315, dated June 13, 1882.

Application filed April 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. KEITH, a citizen of the United States, residing at Orange, in the county of Franklin and State of Massachusetts, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to improvements in the construction of automatically-operating car-couplings provided with devices for operating the link-engaging mechanism to free the link otherwise than by obliging the operator to stand near the coupling, the object being to entirely obviate the necessity of having a person go between the ends of the cars of a railway-train to either couple or uncouple the cars.

In the drawings, forming part of this specification, Figure I is a longitudinal sectional view of a car-coupling constructed according to my invention. Fig. III is a similar view to Fig. I, but showing the coupling in a position to free the link therefrom. Fig. II is an end elevation.

In the drawings, B is the draw-bar. D is a cross-bar intermediate between the upper and lower sides of the open front end of said draw-bar. *h h* are link-hooks. *d* is a link-hook lifter. *e* is the link.

I construct the draw-bar B with a chamber in its front end much like an ordinary one, except that I make it of greater vertical width and provide openings *x x* through the upper and lower walls of said chamber; and I also fix a transverse bar, D, across the open end of said draw-bar, whereby is formed in the latter two mouths, one above the other; and the curves of the upper and lower surfaces of said bar D are made to correspond with those of the draw-bar above and below said bar to form the usual proper inclines to guide the end of an approaching link into the mouth of the coupling. The inner face of said cross-bar D is curved, as shown, its lower edge projecting somewhat into the chamber in the draw-bar, as and for the purpose hereinafter set forth. Two horizontal link-hooks, *h h*, are pivoted in said draw-bar chamber on the transverse bolts *x x*, the holes in said hooks being somewhat elongated to permit said hooks to move longitudinally thereon; and the latter are provided with link-notches, forming a vertical arm,

against which the link draws, whose upper end inclines rearward from the mouth of the coupling, to better insure a positive engagement of the link *e* therewith. Said hooks *h h* are hung forward of their centers, so that the weight of their rear ends will overbalance the weight of their hook ends and cause them to maintain the positions shown in Fig. I, and to regain them after having been tilted by the entrance of a link into the mouth of the coupling. The front ends of hooks *h h* and the form of the inner face of the front end of the draw-bar B and the bar D are made to so conform to each other that when said hooks are in the positions shown in Fig. I and are drawn toward the mouth of the coupling the entire strain of the pull is on the draw-bar itself and not on the bolt or bolts *x*. Thus, as in the case of the upper one of said hooks, the extreme upper end of its aforesaid vertical arm is supported by the side of a socket, *v*, in the upper side of the draw-bar, and the end of said hook bears in a direct line against the inner face of the bar D, so that practically said vertical arm forms a short link-pin of the best form for strength, a little longer only than the width of the mouth of the coupling through which the link enters. The form of the lower edge of bar D relative to said vertical arm on the lower hook *h* is such as to provide a bearing for the latter such as is above described for the arm of the upper hook, and the end of said lower hook draws directly against the inner side of the end of the draw-bar, thus supporting it against any tensile strain in like manner to said upper hook. Thus, when said hooks occupy their normal positions, as in Fig. I, the entrance of a link, *e*, into either mouth of the coupling, and striking against the inclined end of said hook, causes the latter to be tilted, as in Fig. 3, and the end of said link having passed over the vertical arm of said hook, the latter swings on bolt *x* and causes the link to be securely hooked, as in Fig. I.

This coupling is provided with two mouths and hooks, so as to adapt it to cars of different heights and bring either one or the other of the mouths A opposite, or nearly so, to the end of an advancing link.

The upper edge of bar D and the lower edge of the lower mouth A constitute a support for

the link *e* to lie upon when the coupling is holding the said link, as in Fig. I, whereby the link is maintained in a horizontal position, so that it may properly enter the open end of another coupling.

5 In the rear end of chamber in the draw-bar I place a hook-lifter, *d*, having arms *c c* thereon, extending under the rear ends of the hooks *h*. Said lifter is adapted to be moved vertically, and by the engagement of its arms with said hooks cause the latter to tilt and disengage the link therefrom. Said lifter *d* may be connected with a suitable chain attached to the roof of a car, whereby the coupling may be operated from that point; or a suitable transverse shaft may be run across the end of the car in the rear of said lifter, having cranks on the ends thereof, and provided with an arm to engage with the lifter, whereby the coupling-

hooks *h* may be operated without going between the cars. 20

It is obvious that a coupling of the above description may be made having only a single hook, *h*, which would embody all of the elements of said improvements. 25

What I claim as my invention is—

In a car-coupling, the chambered draw-bar B, provided with the cross-bar D, the two link-hooks *h h*, pivoted in said draw-bar, one above the other, and adapted to operate independently of each other to engage with the link, and the vertically-operating link-lifter *d*, provided with the arms *c c*, combined and operating substantially as set forth. 30

HENRY M. KEITH.

Witnesses:

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