

No. 640.225.

Patented Jan. 2, 1900.

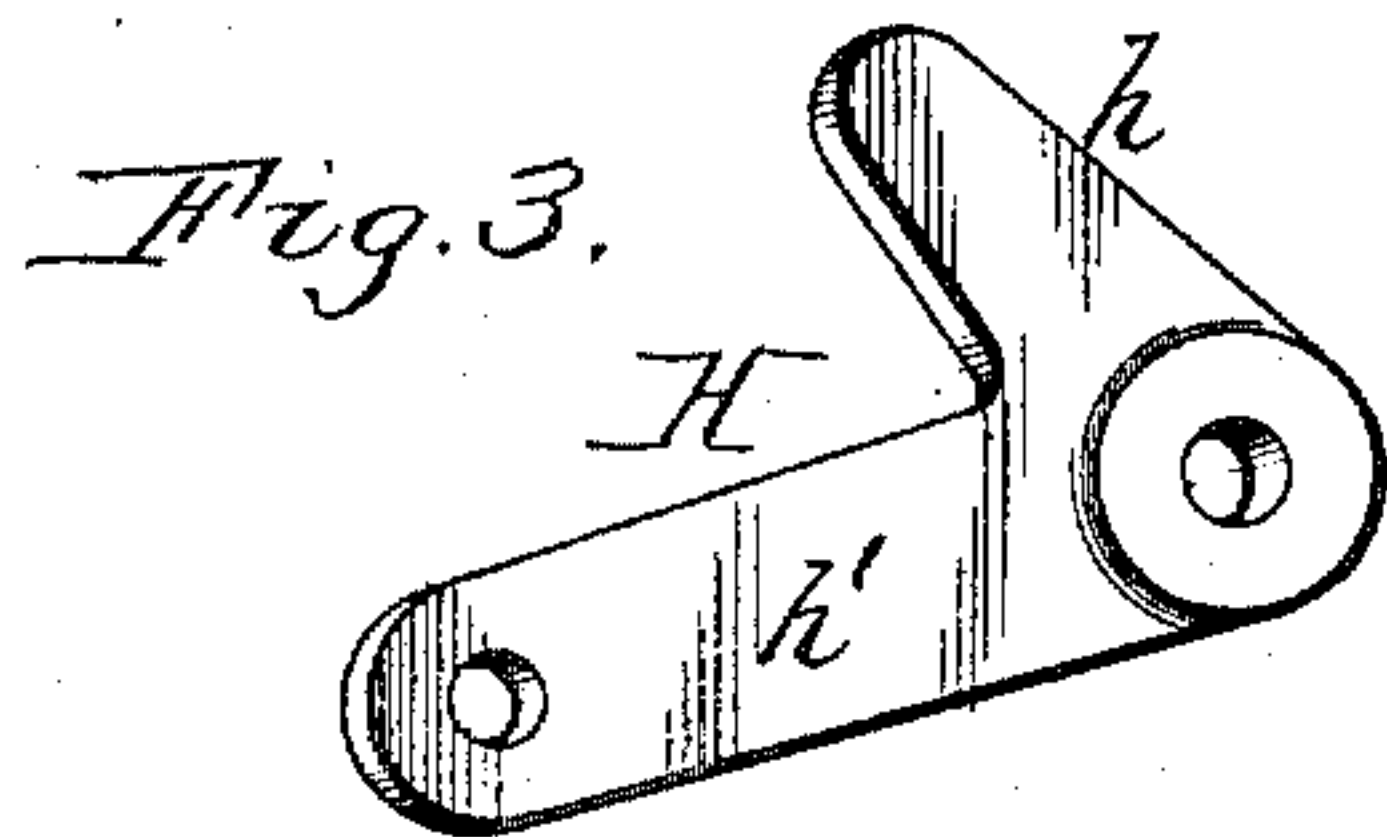
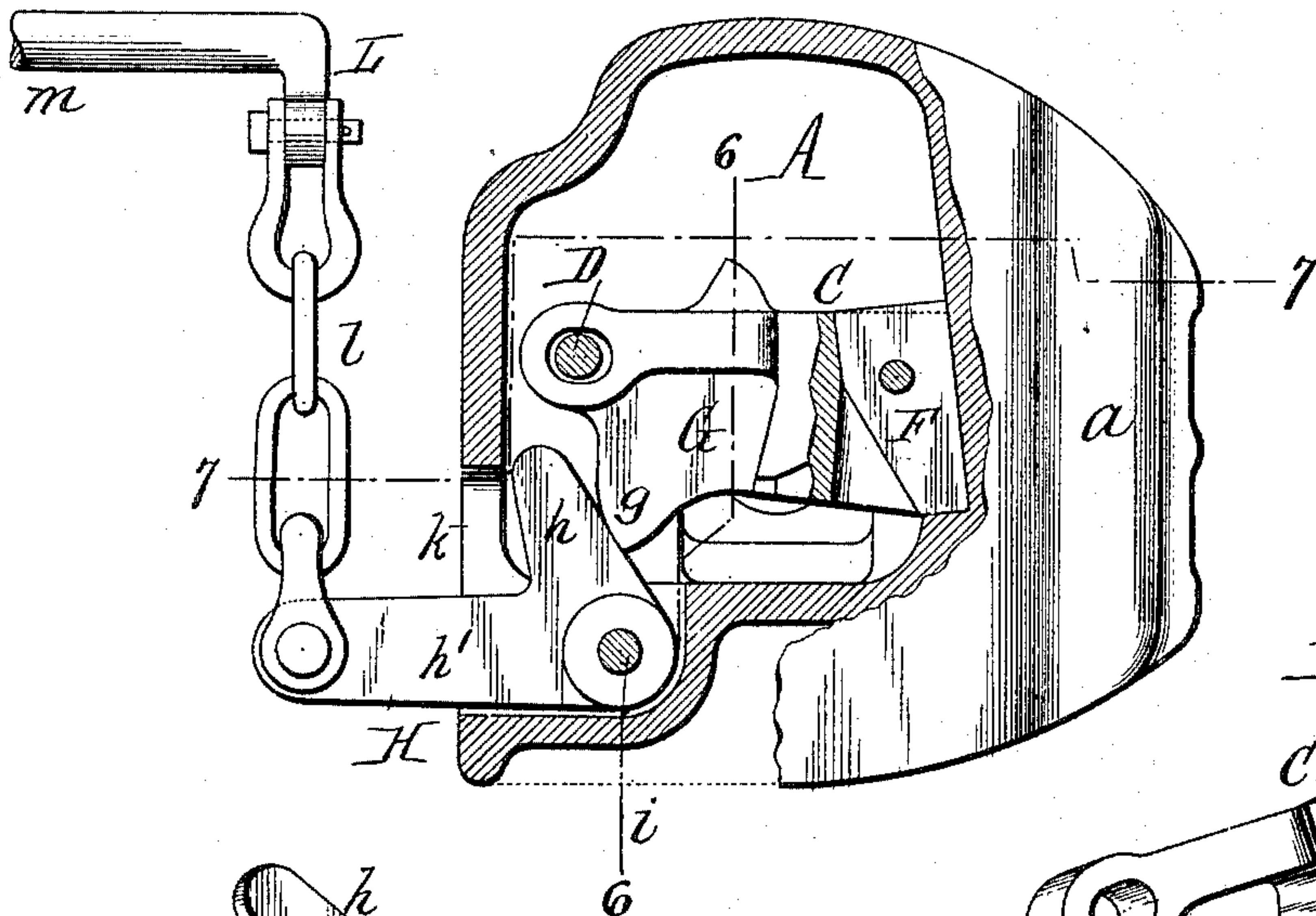
W. F. RICHARDS.  
CAR COUPLING.

(Application filed Mar. 31, 1899.)

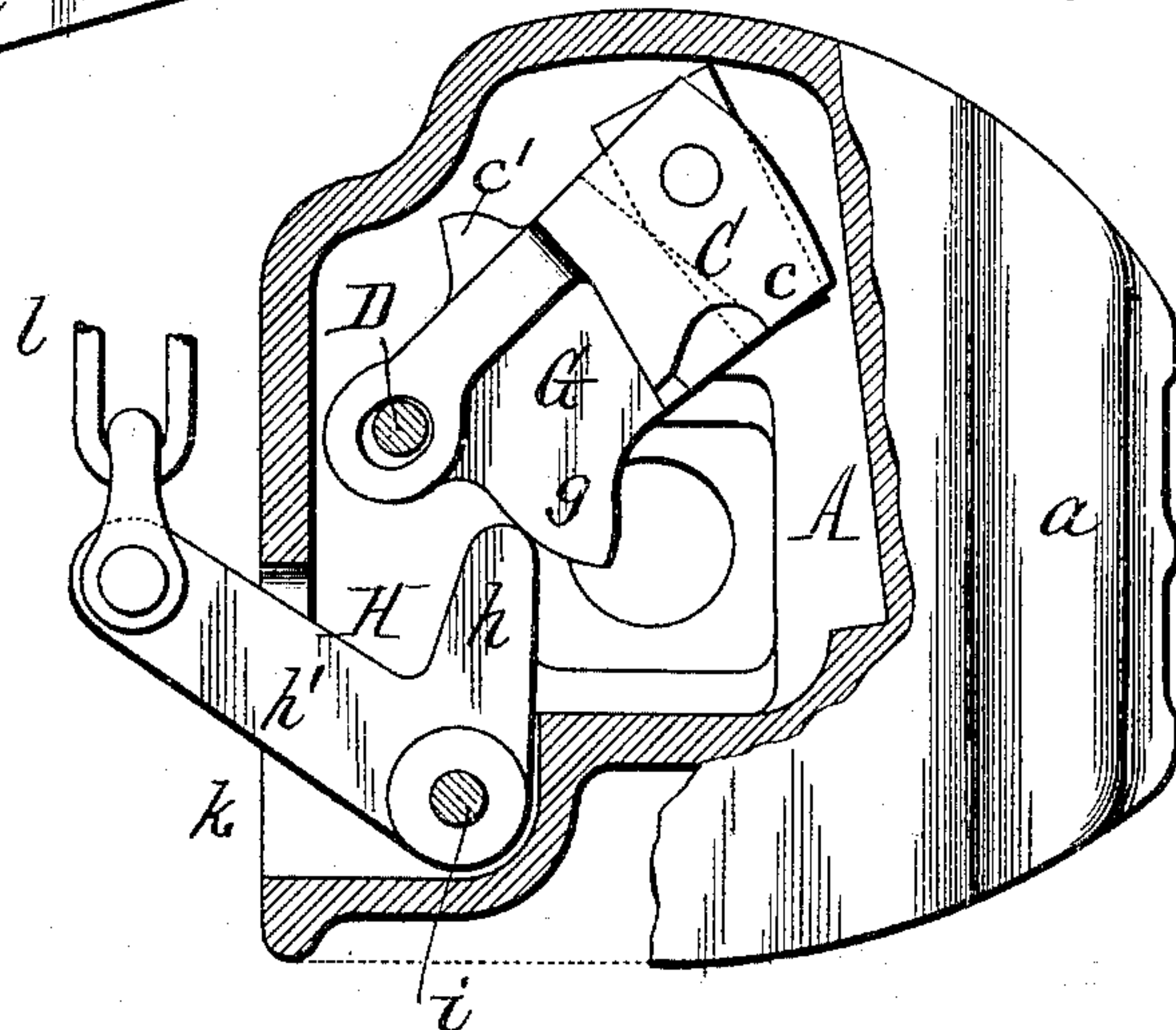
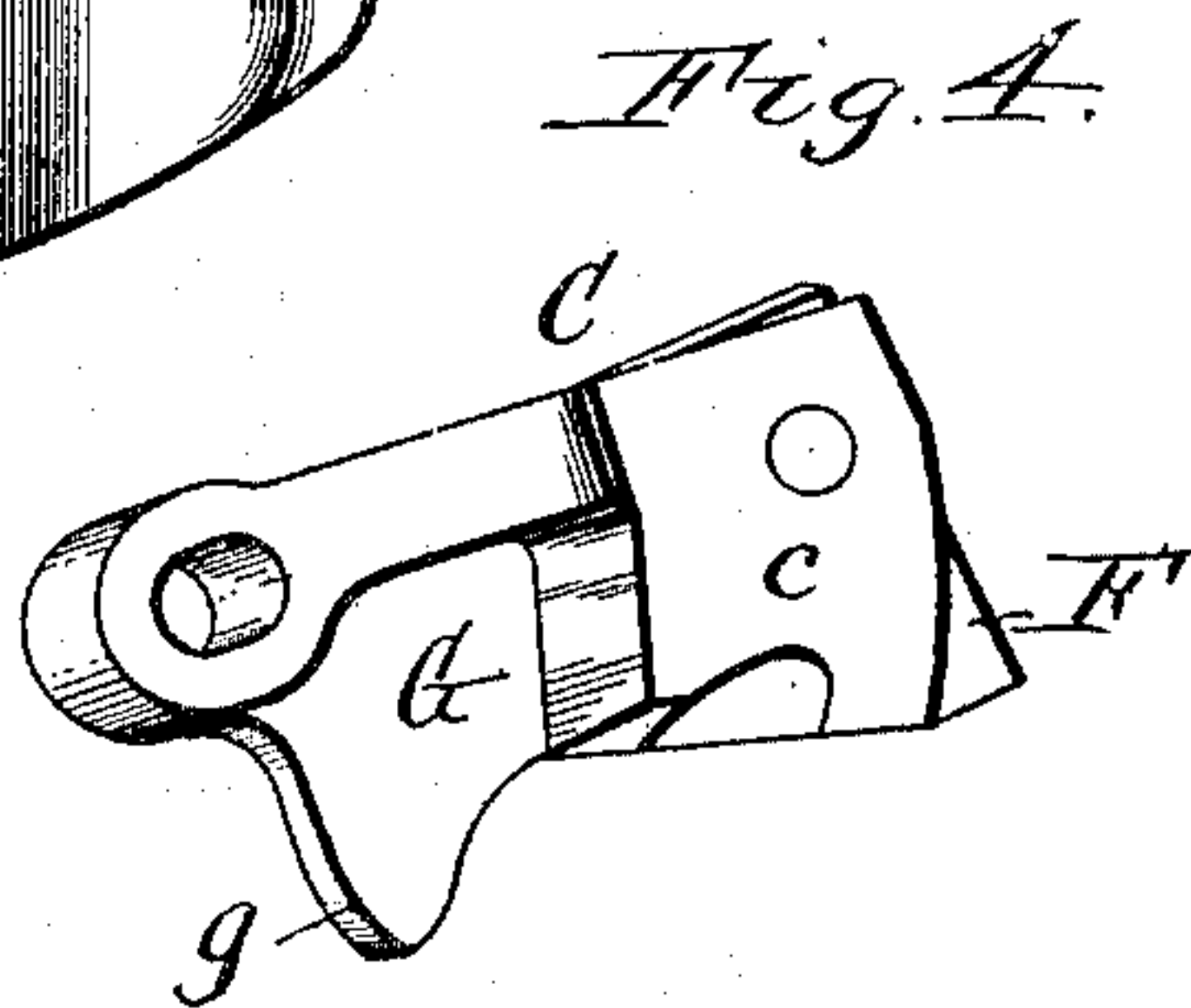
(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



*Fig. 2.*



Witnesses:

Chas. F. Burkhardt,  
Henry L. Deck.

W. F. Richards Inventor.

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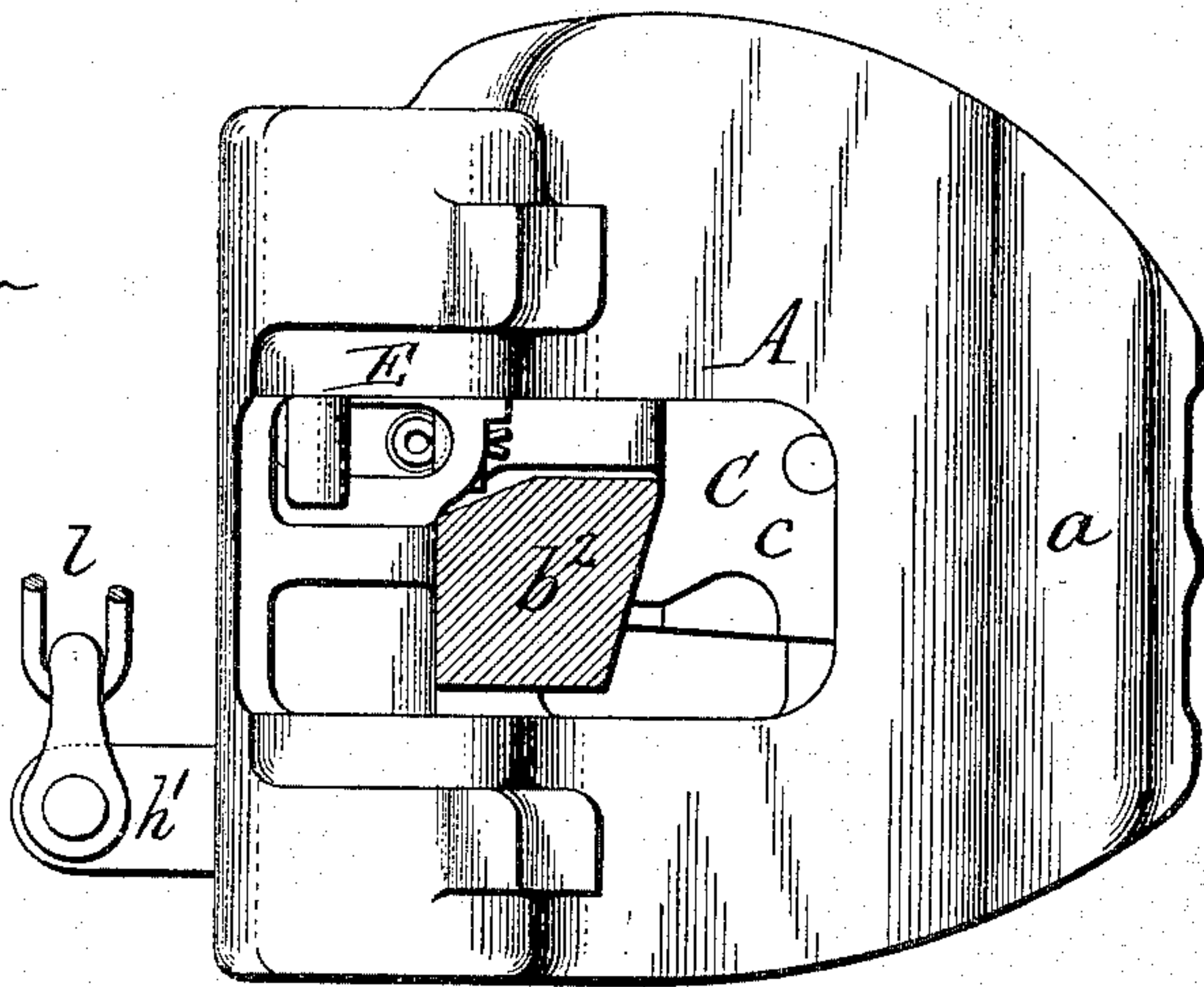
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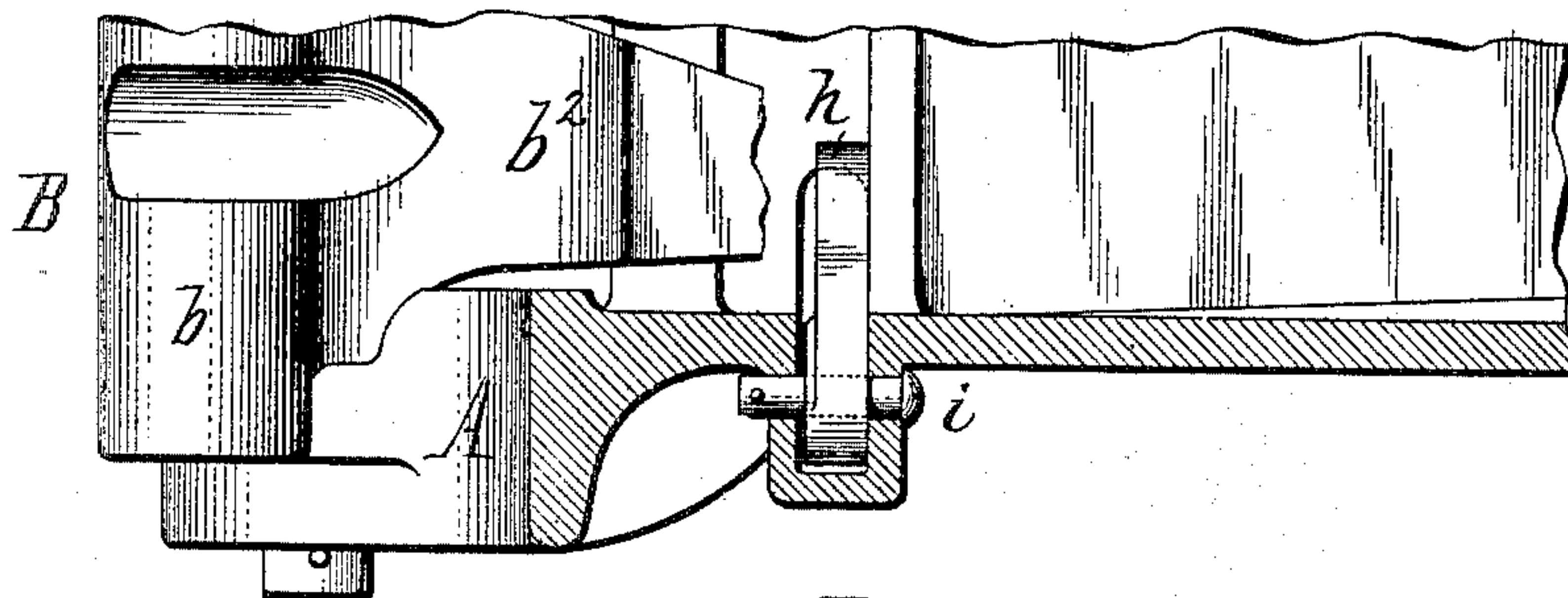
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2 Sheets—Sheet 2.

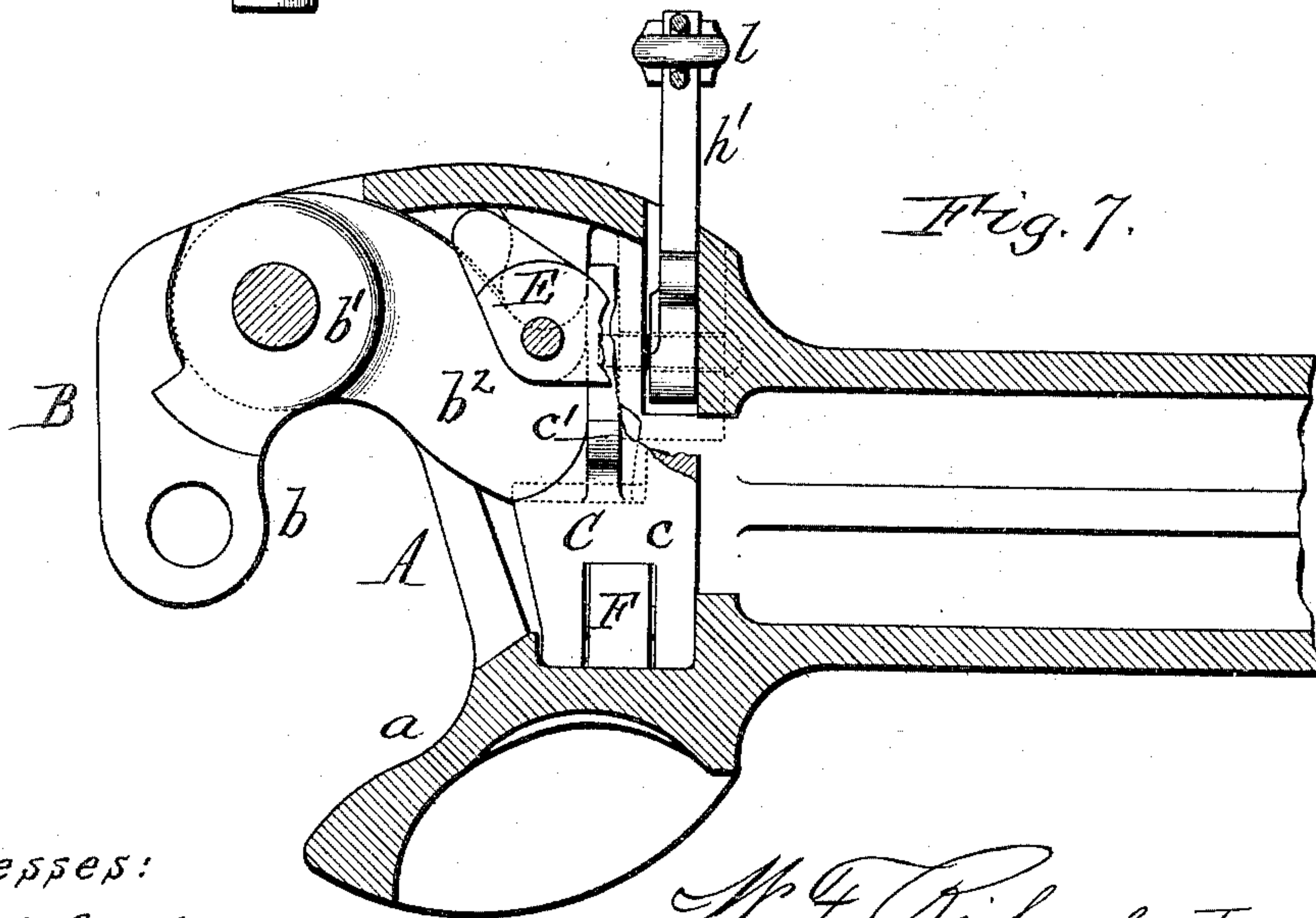
*Fig. 5*



*Fig. 6.*



*Fig. 7.*



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF BUFFALO, NEW YORK, ASSIGNOR TO THE GOULD  
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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 640,225, dated January 2, 1900.

Application filed March 31, 1899, Serial No. 711,272. (No model.)

*To all whom it may concern:*

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to a car-coupling of the Master Car-Builders' type in which the coupling-knuckle is locked by a vertically-movable lock which is arranged transversely in the draw-head and connected by a longitudinal horizontal pivot to the knuckle side of the draw-head, while the free end or head of the lock is arranged on the opposite or guard-arm side of the draw-head. A coupling of this kind is described and shown in my application for Letters Patent filed February 21, 1899, Serial No. 706,327, to which reference is made for a more complete description of such coupling.

The object of this invention is to provide the lock of this coupling with an actuating device which is operated from the knuckle side of the draw-head by an upward pull in order to render the coupling suitable for use on cars with low platforms—for instance, flat cars, in which the platform is arranged so closely to the top of the draw-head that no room is available above the draw-head for an actuating device.

In the accompanying drawings, consisting of two sheets, Figure 1 is a front view of a draw-head provided with my improvements, the view being partly a front elevation and partly a vertical cross-section and showing the lock in its lower locked position. Fig. 2 is a similar view showing the lock raised. Fig. 3 is a perspective view of the actuating-lever of the lock. Fig. 4 is a perspective view of the lock. Fig. 5 is a front elevation of the draw-head, showing the front portion of the knuckle removed and the tailpiece of the lock in cross-section. Fig. 6 is a longitudinal vertical section of the lower portion of the draw-head in line 6 6, Fig. 1. Fig. 7 is a horizontal longitudinal section through the draw-head in line 7 7, Fig. 1.

Like letters of reference refer to like parts in the several figures.

A represents the chambered draw-head,

which conforms to the well-known contour-lines adopted by the Master Car-Builders' Association and which has at one side the usual guard-arm *a*. B represents the coupling-knuckle, which is pivoted to the opposite side of the draw-head and which is composed, as usual, of the coupling-ears *b*, hub *b'*, and tailpiece *b<sup>2</sup>*.

C represents the lock, which engages with the tailpiece *b<sup>2</sup>* of the knuckle for retaining the latter in its closed position. The lock is arranged transversely in the draw-head and pivoted in the chamber thereof, on the knuckleside, by a longitudinal horizontal bolt or pin D, so that the head *c* of the lock, which hooks over the tailpiece of the knuckle, reaches over to the guard-arm side of the chamber and is capable of swinging vertically in the same.

E represents the kicking-lever or kicker whereby the knuckle is automatically thrown into its open position when released by the lock. This kicking-lever may be operated in various ways—for instance, by a spring device similar to that which is shown in Letters Patent of the United States No. 554,310, granted to me February 11, 1896, or, as shown in the drawings, by a nose *c'*, which is formed on the upper side of the lock in such a position that it strikes the rear arm of the kicking-lever in the act of fully raising the lock, and so swings the lever forwardly and opens the knuckle.

F represents a friction-shoe which may be used in the lock for holding the same more securely against accidental upward movement. The shoe is pivoted in a recess in the head of the lock and bears against the adjacent inner side of the draw-head when the lock is in its lower position.

The lock is provided on its rear side with a depending stiffening rib or web G, which terminates below the pivotal portion or hub of the lock in an actuating heel or arm *g*.

H represents the actuating-lever whereby the lock is raised for releasing the knuckle. This lever is arranged transversely and vertically underneath the pivotal portion or hub of the lock and is pivoted on a longitudinal pivot *i*. The short arm *h* of this lever projects upwardly and bears with its inner in-



clined face against the outer side of the heel  
g of the lock, while the long arm *h'* of the lever  
projects outwardly through an opening *k* in  
the knuckle side of the draw-head and is con-  
5 nected by an upwardly-extending operating-  
chain *l* with an operating-lever *L*. The latter  
is mounted on the inner end of a horizontal  
rock-shaft *m*, which is arranged on the  
knuckle side of the draw-head. This shaft  
10 is operated at its outer end by any suitable  
means.

By raising the outer arm *h'* of the actuating-  
lever *H* its inner arm *h* is swung inwardly  
and by pressing against the heel of the lock  
15 swings the latter upwardly, as shown in Fig.  
2, thereby releasing the knuckle. Upon re-  
leasing the actuating-lever *H* the overhang-  
ing weight of the head of the lock returns the  
latter and the actuating-lever to their former  
20 positions.

I claim as my invention—

The combination with the draw-head and  
the coupling-knuckle pivoted to one side  
thereof, of a vertically-swinging transverse  
lock pivoted on the knuckle side of the draw- 25  
head and having below its pivotal portion a  
downwardly-projecting actuating arm or  
heel, and an actuating elbow-lever which is  
also pivoted at the knuckle side of the draw-  
head and which is composed of an upwardly- 30  
projecting arm, which bears against the outer  
side of the heel of the lock, and a lateral arm  
which projects outwardly through an open-  
ing in the knuckle side of the draw-head, sub-  
stantially as set forth. 35

Witness my hand this 24th day of March,  
1899.

WILLARD F. RICHARDS.

Witnesses:

JNO. J. BONNER,  
ELLA R. DEAN.