

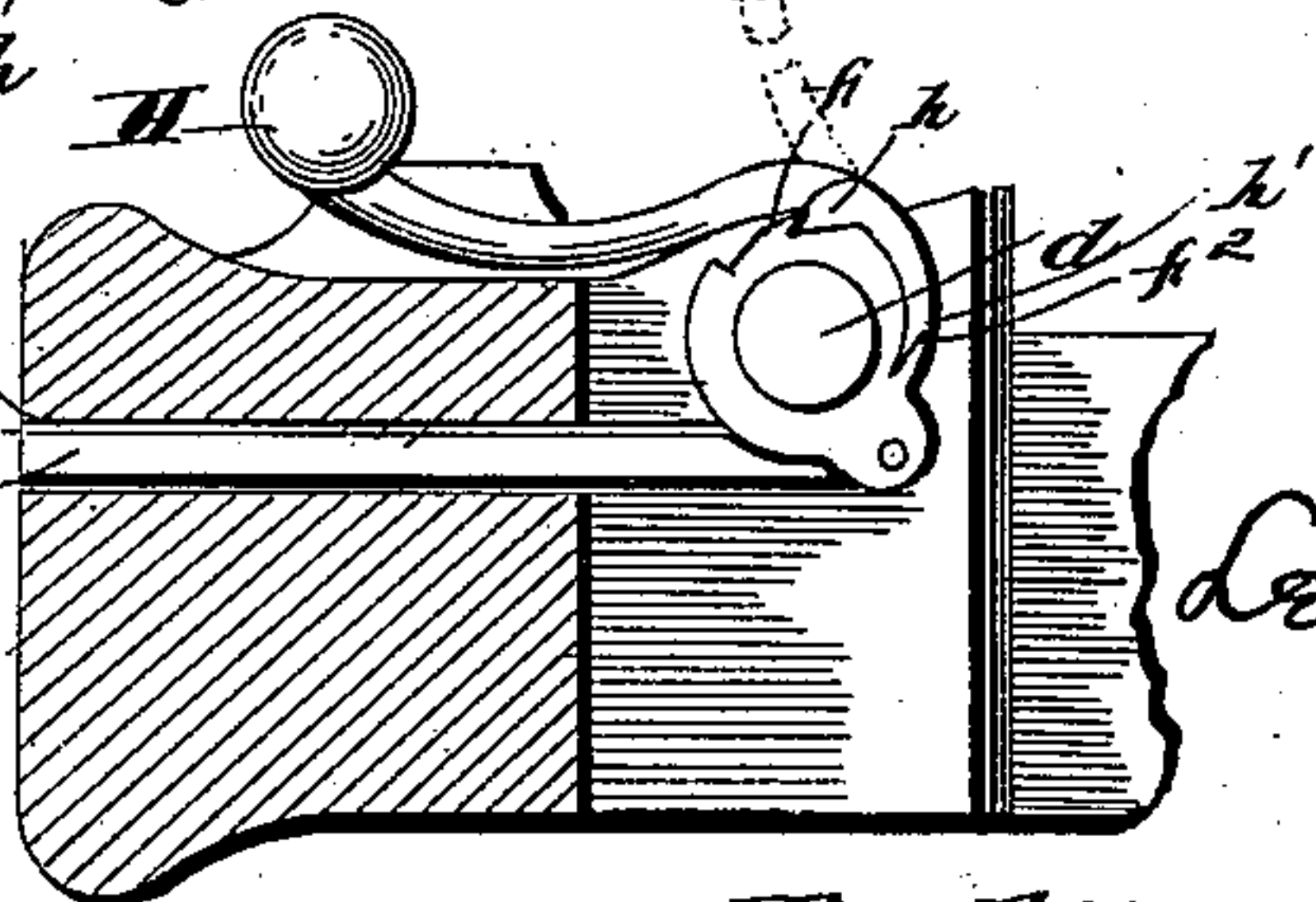
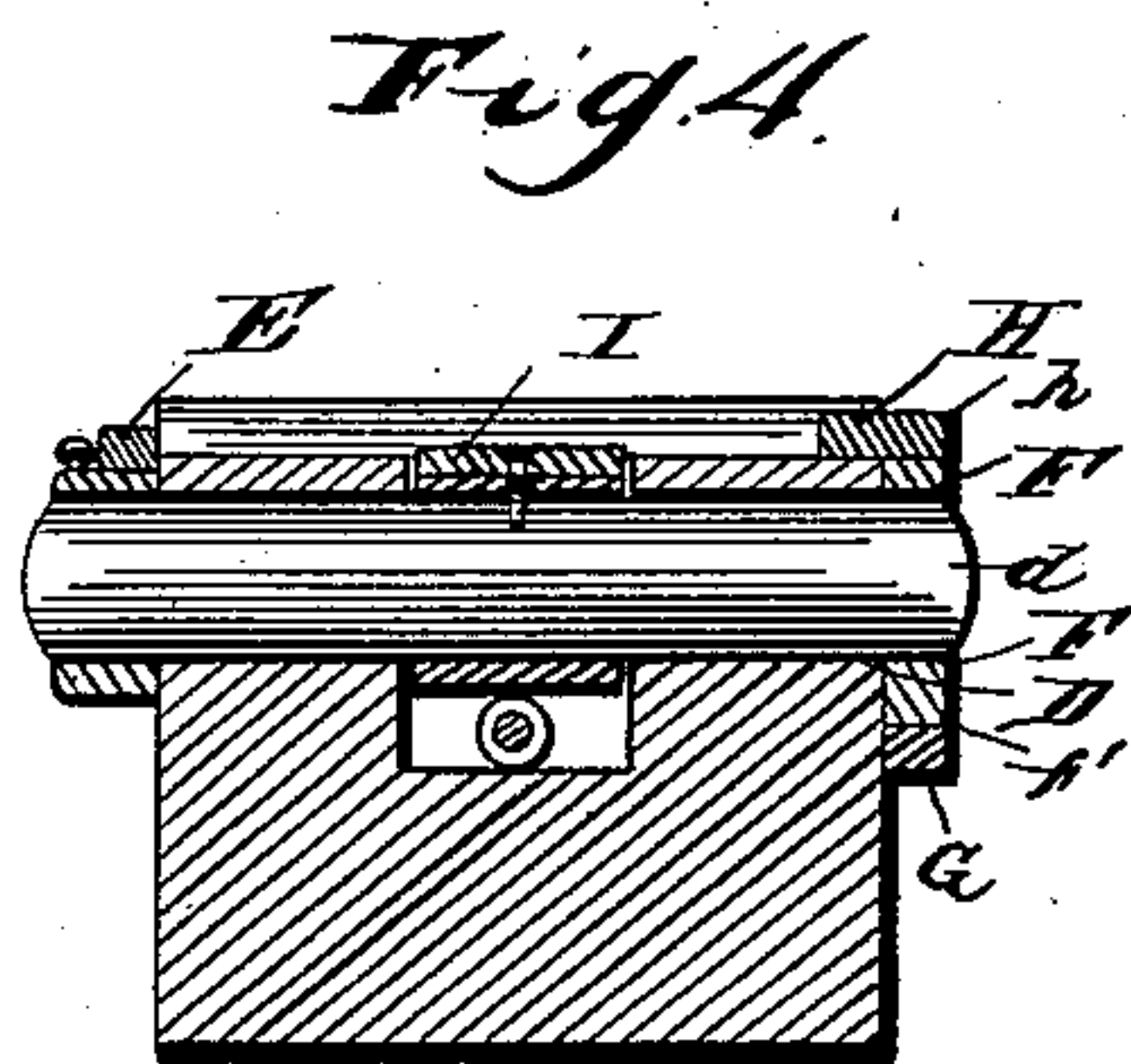
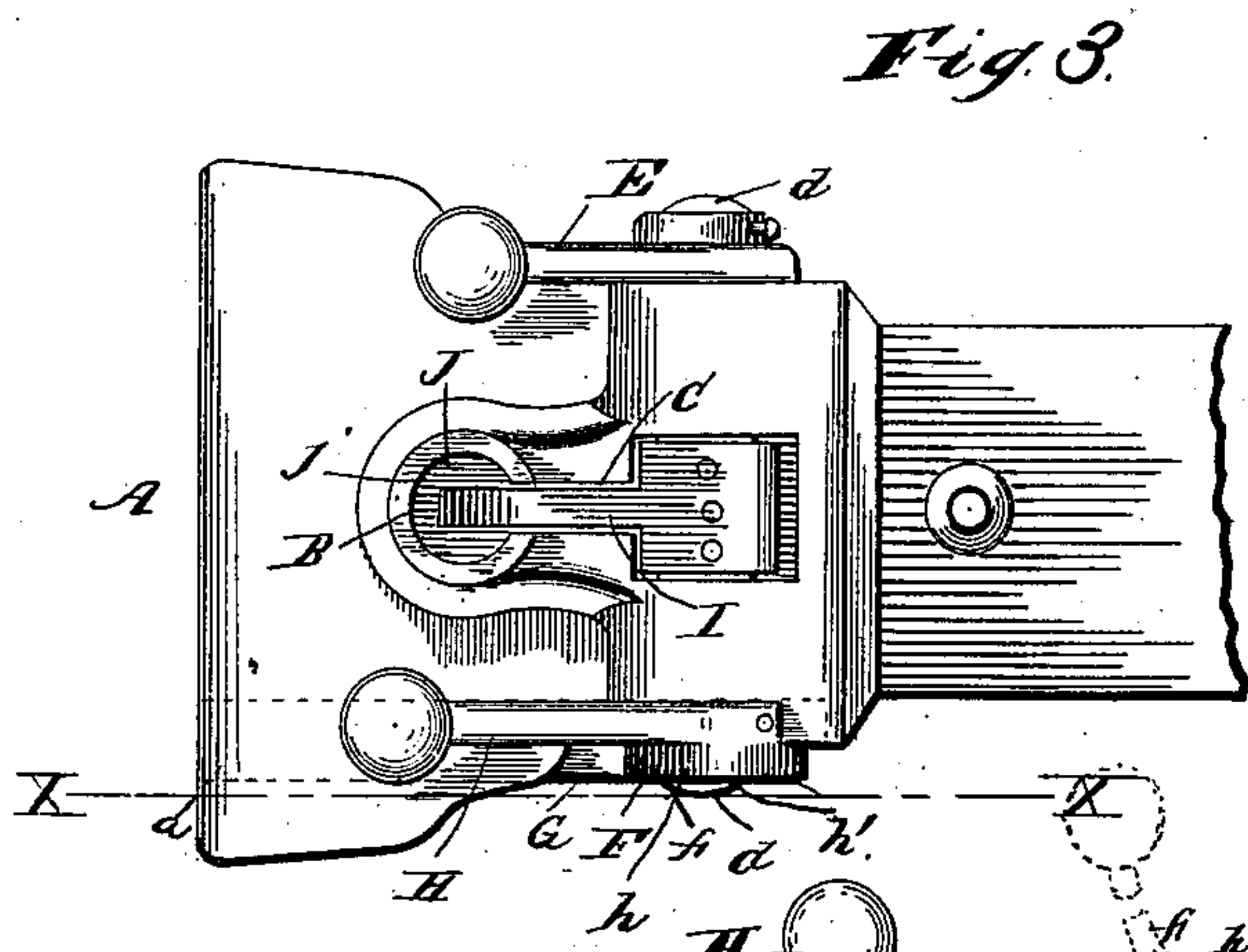
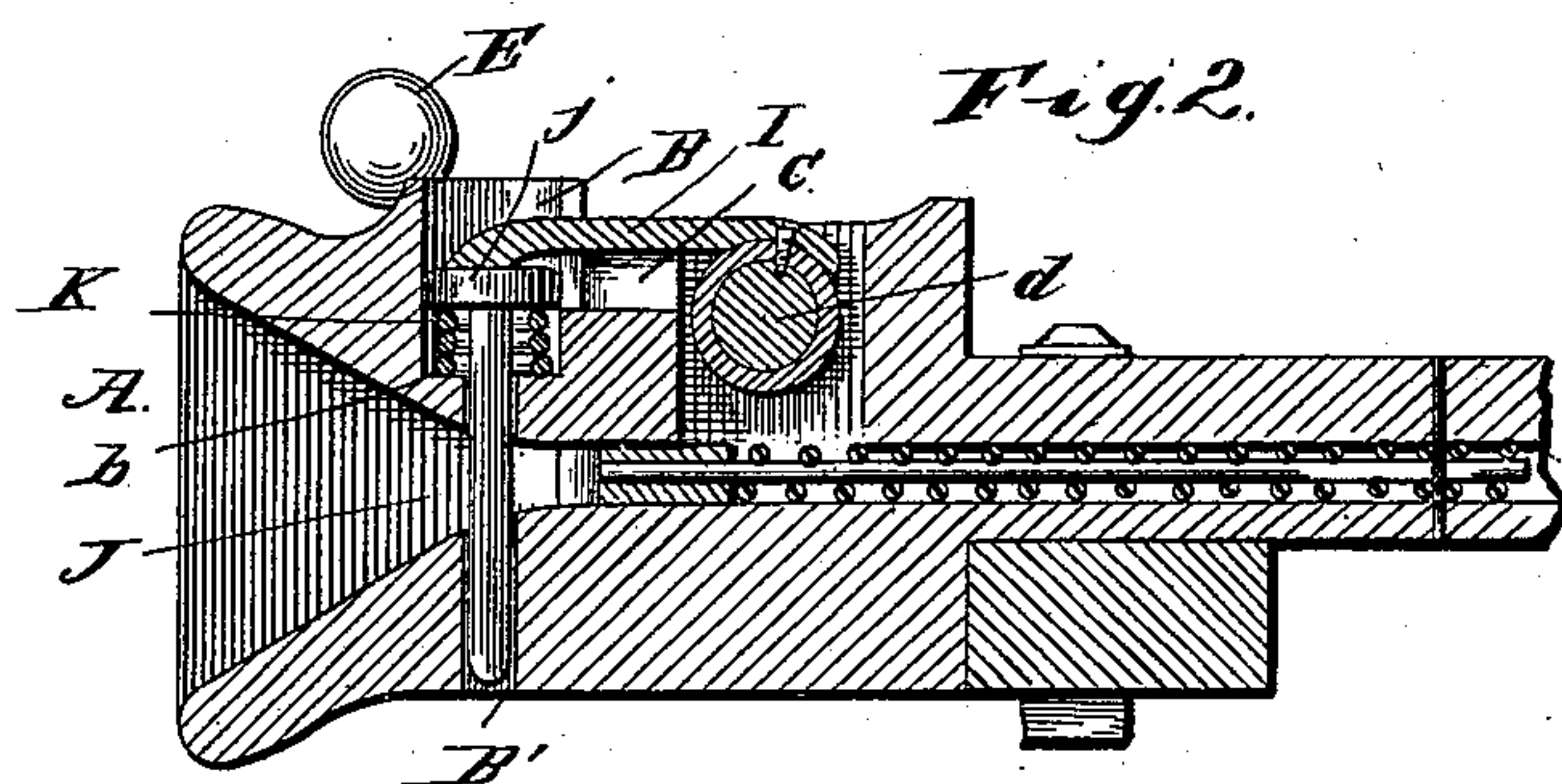
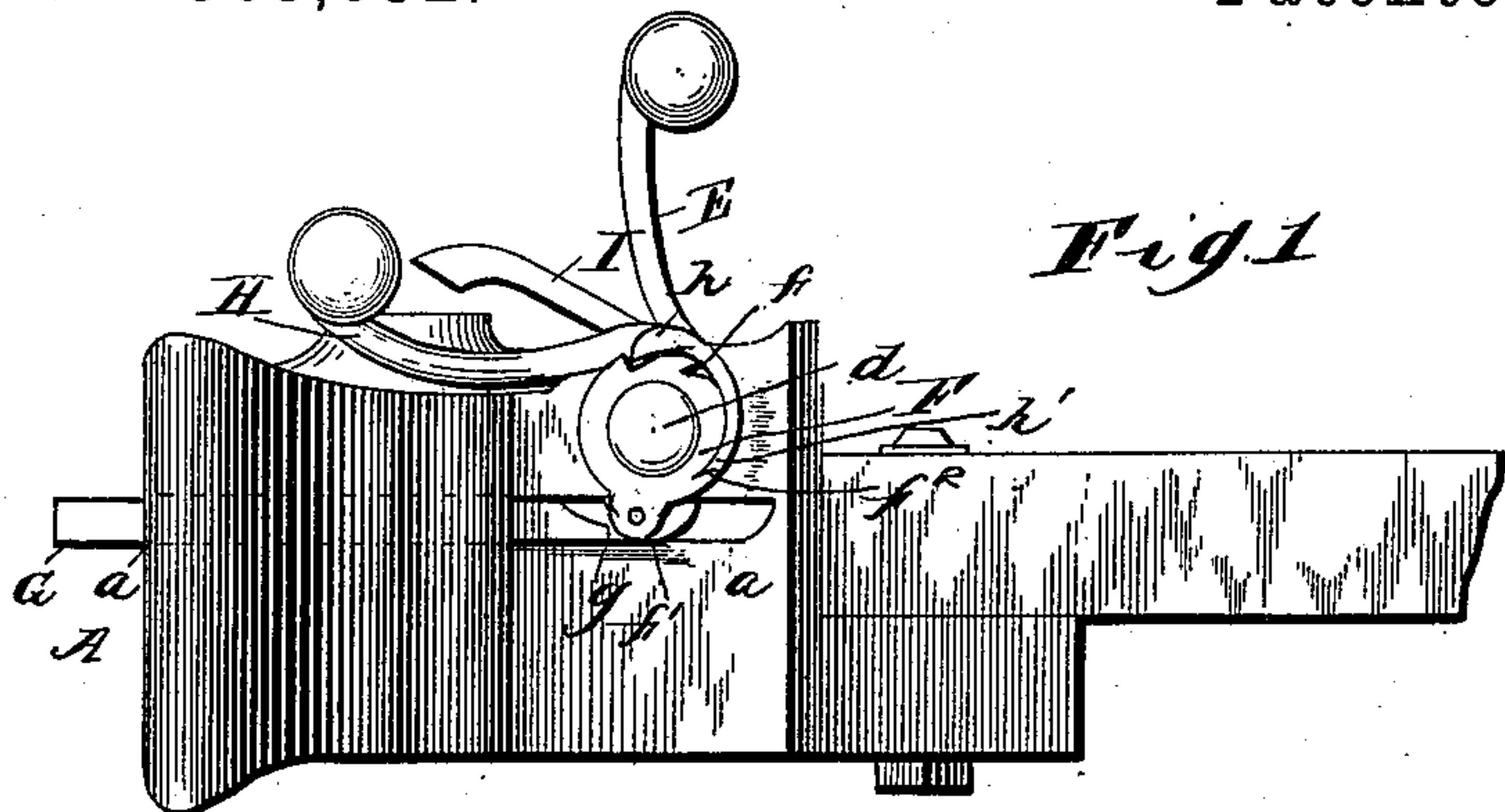
(No Model.)

L. W. LAYTON.

AUTOMATIC CAR COUPLING.

No. 363,832.

Patented May 31, 1887.



Witnesses

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UNITED STATES PATENT OFFICE.

LEWIS WALTER LAYTON, OF CHESTER, ILLINOIS.

AUTOMATIC CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 363,832, dated May 31, 1887.

Application filed April 5, 1887. Serial No. 233,768. (No model.)

To all whom it may concern:

Be it known that I, LEWIS WALTER LAYTON, a citizen of the United States, residing at Chester, in the county of Randolph and State of Illinois, have invented a new and useful Improvement in Automatic Car-Couplings, of which the following is a specification.

My invention is an improved automatic car-coupling; and it consists in certain novel features of the device shown in the accompanying drawings, as will be hereinafter fully described, and then pointed out in the claims.

In the drawings annexed, which fully illustrate my invention, Figure 1 is a side elevation of my improved coupling. Fig. 2 is a central vertical longitudinal section. Fig. 3 is a plan view, and Fig. 4 is a vertical cross-section; Fig. 5, a section on line *xx* of Fig. 3.

Referring to the drawings by letter, A designates the draw-head, of the usual or any preferred shape and size. In one side of the draw-head I provide a longitudinal slot or passage-way, *a*, in which the push-bar, hereinafter referred to, works. The top and bottom of the draw-head are also provided with the vertical aligned openings B B', and the upper opening, B, is larger at its upper than its lower end, thereby forming the shoulder *b*, the function of which will hereinafter appear. In the upper side of the draw-head, extending backward from and communicating with the opening B, is a longitudinal slot, C, and in the rear end of the draw-head is a transverse passage, D. A shaft, *d*, is supported in this passage D and rotates freely therein. The ends of the shaft project from the opposite sides of the draw-head, and on one end I rigidly secure a lever, E. On the other end is keyed or otherwise secured a disk, F, having a series of ratchet-teeth, *f*, on the upper portion of its periphery, and a stud or lug, *f'*, diametrically opposite to the central point of the series of ratchet-teeth. This stud or lug *f'* is pivotally secured to one side of the push-bar G. This disk is also provided, near the lug *f'*, with a hook, *f''*, which is engaged by a hook on the end of the brake or check lever, hereinafter specified.

The push-bar G, as before stated, works in the longitudinal passage *a* in the draw-head, and when the cars are uncoupled the front end

of the bar projects from the draw-head in position to be struck by the approaching draw-head and pushed backward thereby.

H is a brake or check lever hinged upon the upper side of the draw-head, at the rear end of the same. This brake-lever is provided with a pawl or offset, *h*, and is hinged to the draw-head at such a point that the offset will be directly over the ratchet-teeth *f* on the disk E. The free end of the lever is weighted, as shown, to hold the offset in engagement with the said ratchet-teeth. The opposite end of the lever is bent around the disk F, and is provided with a hook, *h'*, which engages the hook *f''* on said disk, as above stated. At the middle of the shaft D, I secure one end of a lever, I, which works vertically in the slot C, and the free end of which bears on the head of the coupling-pin J. The coupling-pin is provided with an enlarged head, *j*, and plays in the aligned openings B B', as will be readily understood, and a coiled spring, K, is placed around the upper portion of the pin and between the enlarged head *j* and the shoulder *b*.

In operation the link is secured in one draw-head, and the two draw-heads then brought together. As the draw-head approaches, the push-bar will be struck and forced back, thereby rotating the disk F. The rotation of the disk will rotate the shaft D, and thereby throw the lever I downward, forcing the pin into engagement with the link. This action is automatic and positive, and the liability of the parts to clog and bind is entirely overcome. The brake-lever, by engaging the ratchet-disk, as described, prevents the spring K forcing the coupling-pin upward so far as to throw the lever I from bearing thereon, and also prevents the uncoupling in the same manner. When it is desired to uncouple, it is necessary only to raise the brake-lever sufficiently to clear the ratchet-tooth then engaged, when the spring K will throw the pin and lever I upward, as will be readily understood. The lever E is used when securing the link in position before causing the draw-heads to approach each other. When the cars are jammed and do not readily uncouple, the hook *h'* is made to engage the hook *f''*, whereby the lever H will be held out of engagement with the

ratchet-wheel until the parts become disengaged, when the action of the spring K will force them to their normal positions.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the draw-head, of a lever bearing on the pin, the spring surrounding the pin, a push-bar working in the draw-head, and intermediate mechanism, whereby when the push-bar is moved the lever will be thrown downward, substantially as specified.

2. The combination, with the draw-head, of a transverse shaft journaled in the draw-head, a lever secured to said shaft and bearing on the coupling-pin, a spring surrounding a push-bar working in the draw-head, and intermediate mechanism, whereby when the push-bar is moved the shaft will be rotated and the lever thrown downward, substantially as set forth.

3. The combination, with the draw-head, of the push-bar, the transverse shaft, the lever secured to said shaft and bearing on the coupling-pin, a spring surrounding the pin, and a disk secured to the end of the shaft and engaged by the push-bar, substantially as specified.

4. The combination, with the draw-head, of the push-bar, the transverse shaft, a lever carried by said shaft and bearing on the coupling-pin, a spring surrounding the pin, a disk secured on the end of the shaft and actuated by the push-bar, and a brake-lever hinged upon the upper side of the draw-head and bearing on the disk, substantially as specified.

5. The combination, with the draw-head, of the push-bar, the transverse shaft, a lever secured to said shaft and bearing on the coupling-pin, a spring surrounding the pin, an operating-lever secured on one end of the transverse shaft, a disk secured on the other end of the said shaft and engaged by the push-bar, and a brake-lever hinged upon the draw-head and bearing on the said disk, substantially as shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

LEWIS WALTER LAYTON.

Witnesses:

I. E. LAYTON,
A. F. MORARD.