

(No Model.)

J. T. AABEL.  
CAR COUPLING.

No. 465,231.

Patented Dec. 15, 1891.

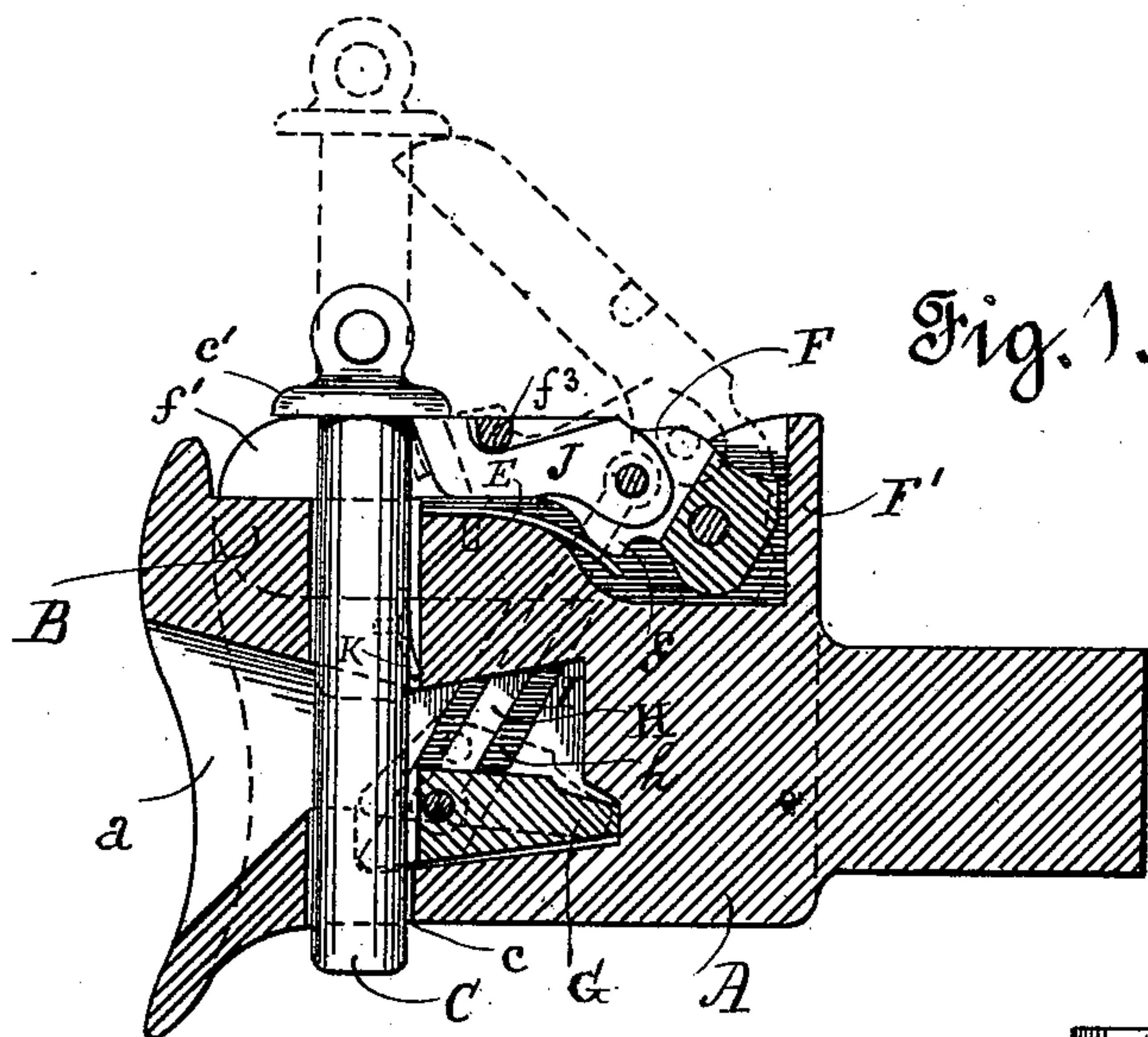


Fig. 1.

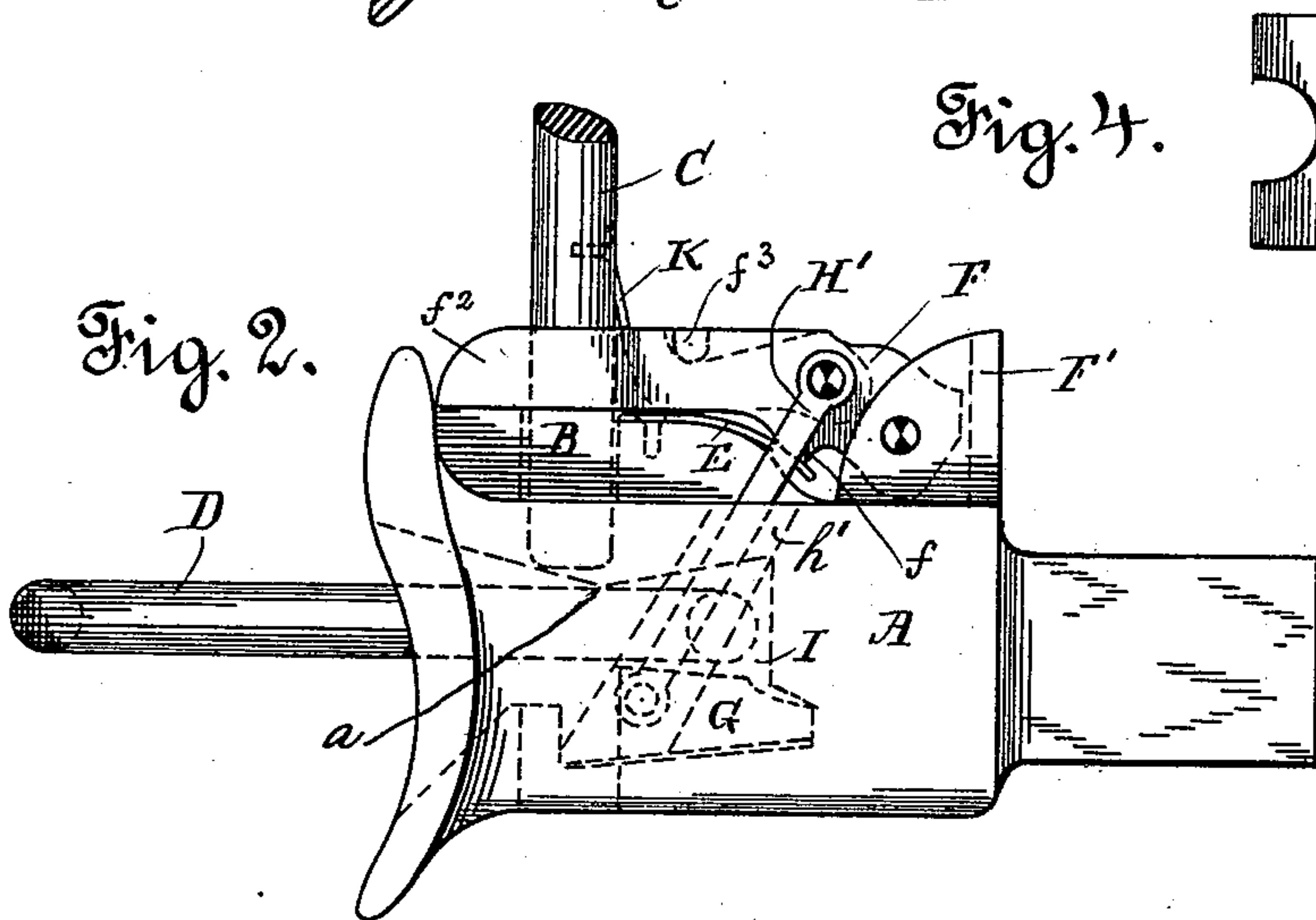


Fig. 2.

Fig. 4.

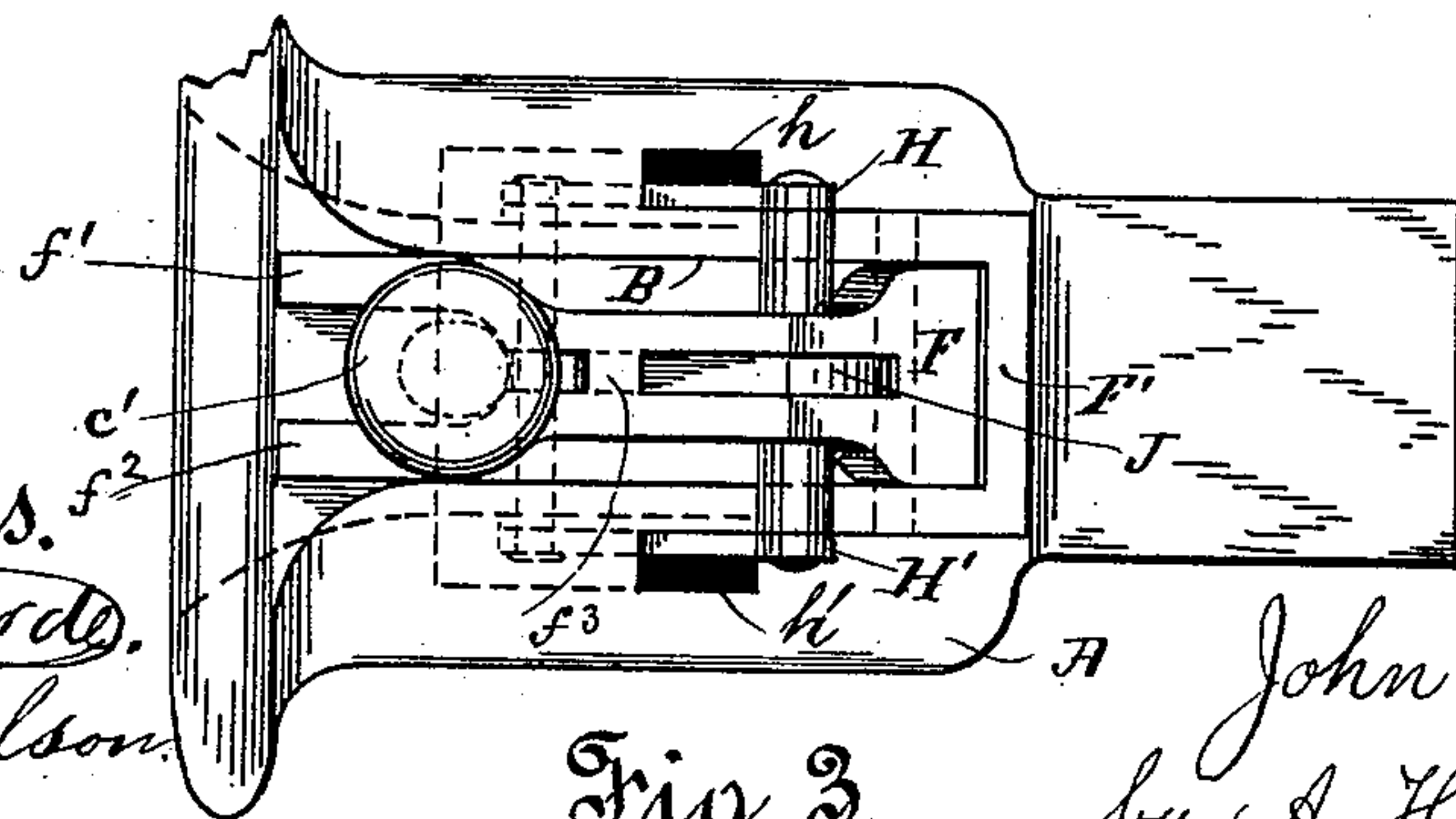
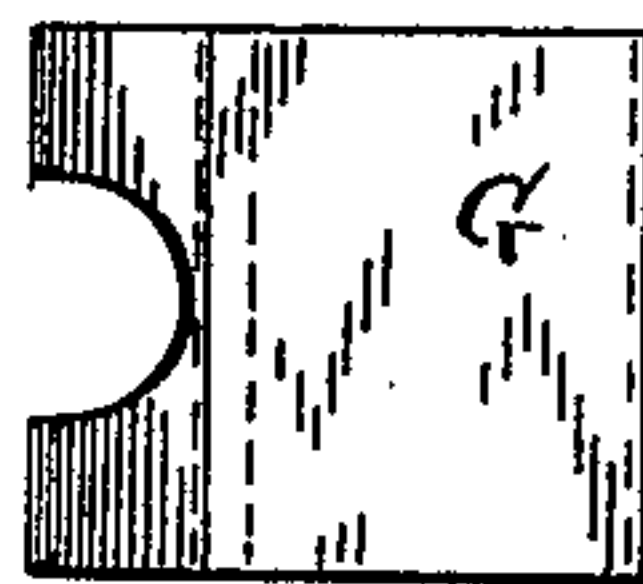


Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 465,231, dated December 15, 1891.

Application filed August 7, 1891. Serial No. 402,037. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN T. AABEL, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Car-Couplings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has been designed with a view to facilitate the coupling and uncoupling of the cars in a train. I have particularly endeavored to produce a device strictly automatic in character, one, in fact, which would do away with the painful necessity for a brakeman or other attendant to risk his life by going between the cars for the purpose of connecting or disconnecting them.

My improvements therefore relate to automatic couplings; and they consist of the peculiar details of construction hereinafter described, and specifically pointed out in the claims.

Referring to the drawings, Figure 1 is a sectional elevation of my improved device, showing the respective position of the uncoupled and coupled pins, the first in dotted lines and the second in full lines. Fig. 2 is a side elevation of the same, showing the temporary position of the coupling-pin while the link is being withdrawn. Fig. 3 is a plan of the coupling, looking from the top; and Fig. 4 is a top view of a small block placed within the draw-head.

The same parts are indicated by the same letters of reference in the four views.

A represents the draw-head, B a central ridge on the top thereof, and C the coupling-pin, which is oval in cross-section. The draw-head is provided with the usual flaring mouth *a* and the hole *c* for the pin. The coupling-pin is normally kept suspended in the upper part of the hole *c* so as not to interfere with the ready entrance of the link D from an opposite draw-head when the cars are brought together. This is effected by means of a spring E acting upon the toe *f* of a forked

support F, pivoted to the sides of a three-sided inclosure F', and the branches *f'* *f''* of which engage the under side of the flange *c'* at the head of the pin. If uncoupled, the pin forcibly remains raised, and though it be accidentally or designedly driven down the spring will fetch it back every time to the position shown by dotted lines in Fig. 1. Pin C is brought down automatically for coupling by the link D, which is made to pull upon the support F, and spring E through the medium of a swinging block G and links or connecting-rods H H' passed through slots or channels *h* *h'* and pivoted to both the block and support. The block G is located in a peculiarly-shaped recess I, against the rear wall of which it finds a bearing in its oscillations. Upon entering the draw-head the link encounters the block and forces it down from the position represented by dotted lines in Fig. 1 to that illustrated by full lines in the same figure, and which is also shown in dotted lines at Fig. 2. The immediate result is the pulling down of the support F, which then falls longitudinally upon the ridge B, thereby causing the pin C to drop through the link and effect the coupling. It will be noticed that block G is nearly triangular in shape. This, taken in connection with the inclined floor of the recess I, is made to fill a double purpose—namely, to facilitate the entrance of the link and to afford a firmer grip on the latter after it has been driven in. Thus the incline at the front end of G insures its safe and gradual depression before the thrust of the link. On the other hand, the flat and nearly-level surface presented by the top of the block, when down, provides a good bearing for the link, which, being caught between the block and the top of the recess, stands straight out, and therefore remains in a coupling position whenever inserted in one of the draw-heads. G is also notched or inwardly curved at its front edge, as shown, to provide a passage for the coupling-pin.

As in other devices of the same type, the uncoupling is done by simply raising the pin C, which may be accomplished by means of a rod or lever worked from the sides of the cars, without going between. If the link be then withdrawn, the forked support will spring back to its original position. It will



be observed, however, that the support has to remain down as long as the link is not withdrawn, and should the pin, after being raised, fall down again before the link is pulled out the uncoupling would be delayed. To avoid this I provide a temporary stop, which consists of a small piece of metal J lodged between the branches of the support F and pivoted thereto. This stop, when F is down, projects over the edge of the hole c, directly above a spring or similar catch K, secured to the side of the coupling-pin. The pin being lifted, the spring K is forced past the projecting end of J and becomes engaged therewith, as shown at Fig. 2, thereby holding the pin in check. A bar or pin  $f^3$ , set between the branches of the support and adapted to fall across the neck of the stop J, prevents the latter from flying backward upon the lifting of the pin. With such an arrangement it matters little how fast or how slow the link is pulled out, as the pin will not drop of itself. Upon the withdrawal of the link, however, the support goes up, as before mentioned, and in doing so draws back the piece J, as shown by dotted lines at Fig. 2. This frees the spring or catch K, and the pin is then allowed to come down far enough to be caught upon the tips of the support branches.

From the foregoing it will be seen that my improved coupling is strictly automatic, as claimed. Thus the pin keeps itself normally raised, the link stands always in coupling position, the coupling itself is effected by a mere thrust of the link, and the pin is automatically checked in uncoupling. All this is done without work on the part of any one, except the handling of a lever to start the uncoupling of the pin. It must be conceded also that my device is equally remarkable for its simplicity and cheapness, calling, as it does, for only a slight change in the castings and the addition of a few inexpensive parts.

Having described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a car-coupling, the combination of a draw-head, a coupling-pin, a horizontal support for said pin, and a spring having one end secured to the draw-head and its free end bearing against the underside of the support, whereby the pin remains normally raised while uncoupled, substantially as set forth.

2. In a car-coupling, the combination of a draw-head, a coupling-pin, a pivoted support for said pin, a swinging block set in said draw-

head, links uniting said block with said support, and a coupling-link adapted to be thrust over said block and thereby cause the coupling-pin to drop, substantially as set forth.

3. The combination, in a car-coupling, of a draw-head, a coupling-pin, a pivoted support for said pin, a swinging block in said draw-head, connecting-rods uniting said block with said support, a link adapted to be thrust over said block and thereby cause the dropping of the coupling-pin, and a spring to raise the support and block upon the withdrawal of the link, substantially as set forth.

4. In a car-coupling, the combination of a draw-head having the upper bordering edge of its link-opening provided with a downward projection, an upward spring-pressed block within the opening, and a link adapted to be held between said block and the downward projection, so as to be maintained in a horizontal position.

5. In a car-coupling, the combination of a draw-head provided with a hole for a coupling-pin, a pin therein, a stop on said draw-head adapted to project over the edge of said hole, and a spring or catch secured to the side of said pin and adapted to engage with said stop, substantially as set forth.

6. In a car-coupling, the combination of a draw-head provided with a hole for a coupling-pin, a pin therein, a stop on said draw-head adapted to project over the edge of said hole, a spring secured to the side of said pin and engaging with said stop, and means to prevent backward movement of said stop, substantially as set forth.

7. In a car-coupling, the combination of a draw-head, a coupling-pin working in a hole therein and provided with a projecting spring, a spring-pressed support adapted to normally engage the head of the coupling-pin and hold the same in an upright position, a stop pivoted in the furcated end of the support and adapted, when the pin drops prior to the withdrawal of the link, to engage the spring secured to the pin, a transverse bar engaging the stop, a block seated in the link-opening of the draw-head, and links connecting said block with the support, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN T. AABEL. [L. S.]

Witnesses:

GEO. A. AABEL,  
ALVAN FLANDERS.