

(No Model.)

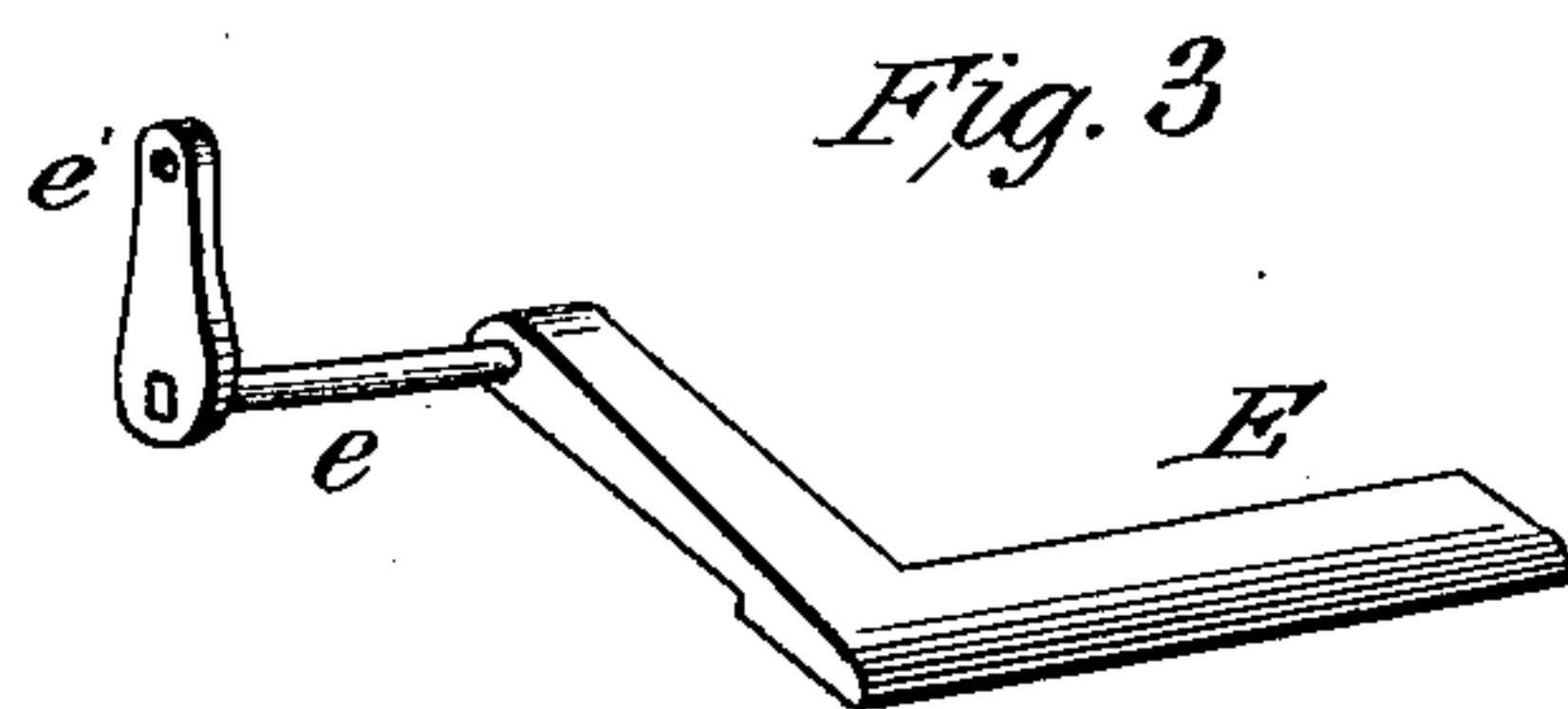
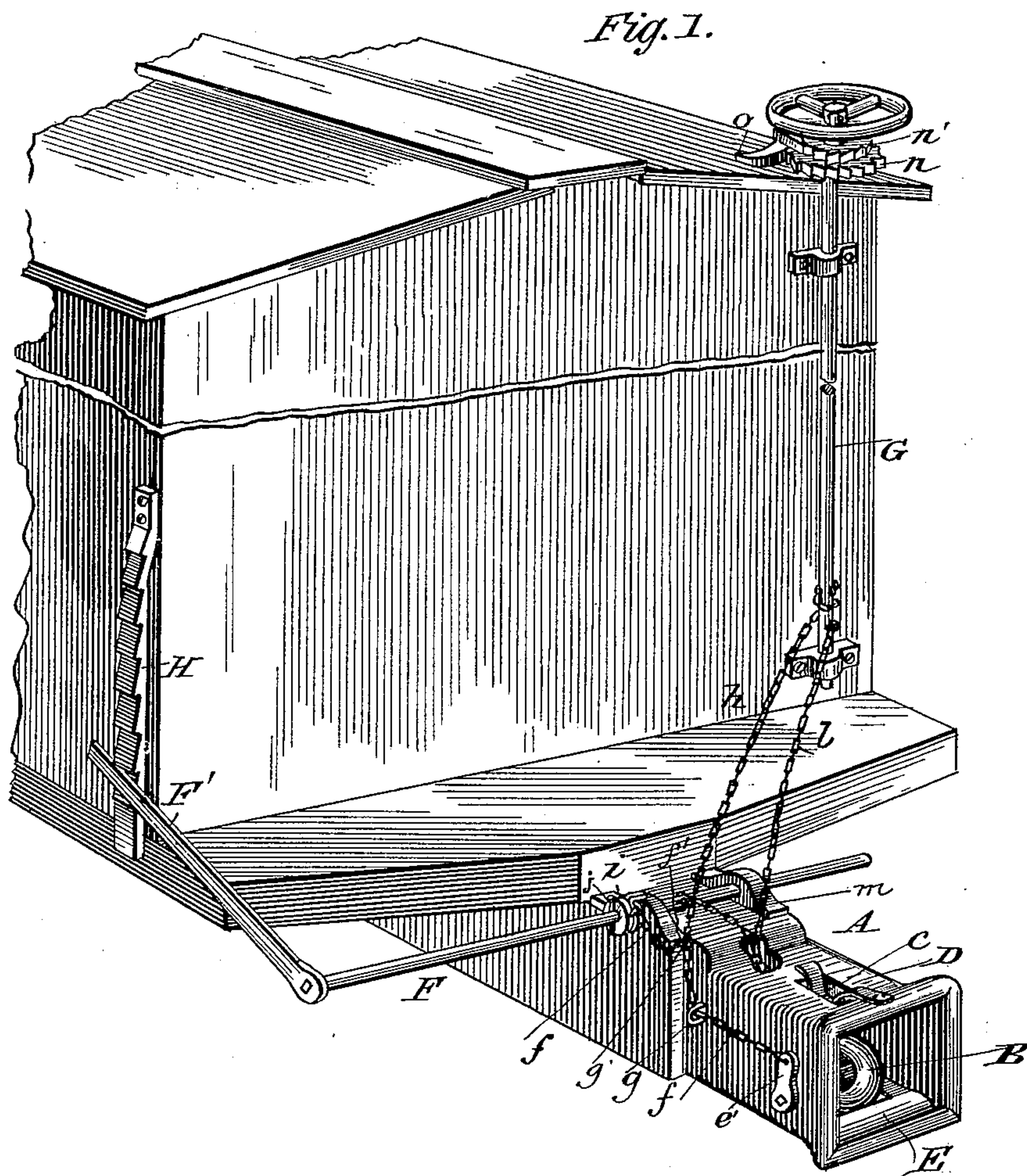
2 Sheets—Sheet 1.

F. M. RARIDEN.

CAR COUPLING.

No. 390,095.

Patented Sept. 25, 1888.



WITNESSES:
Fred G. Dieterich
J. H. Wister

INVENTOR
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ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

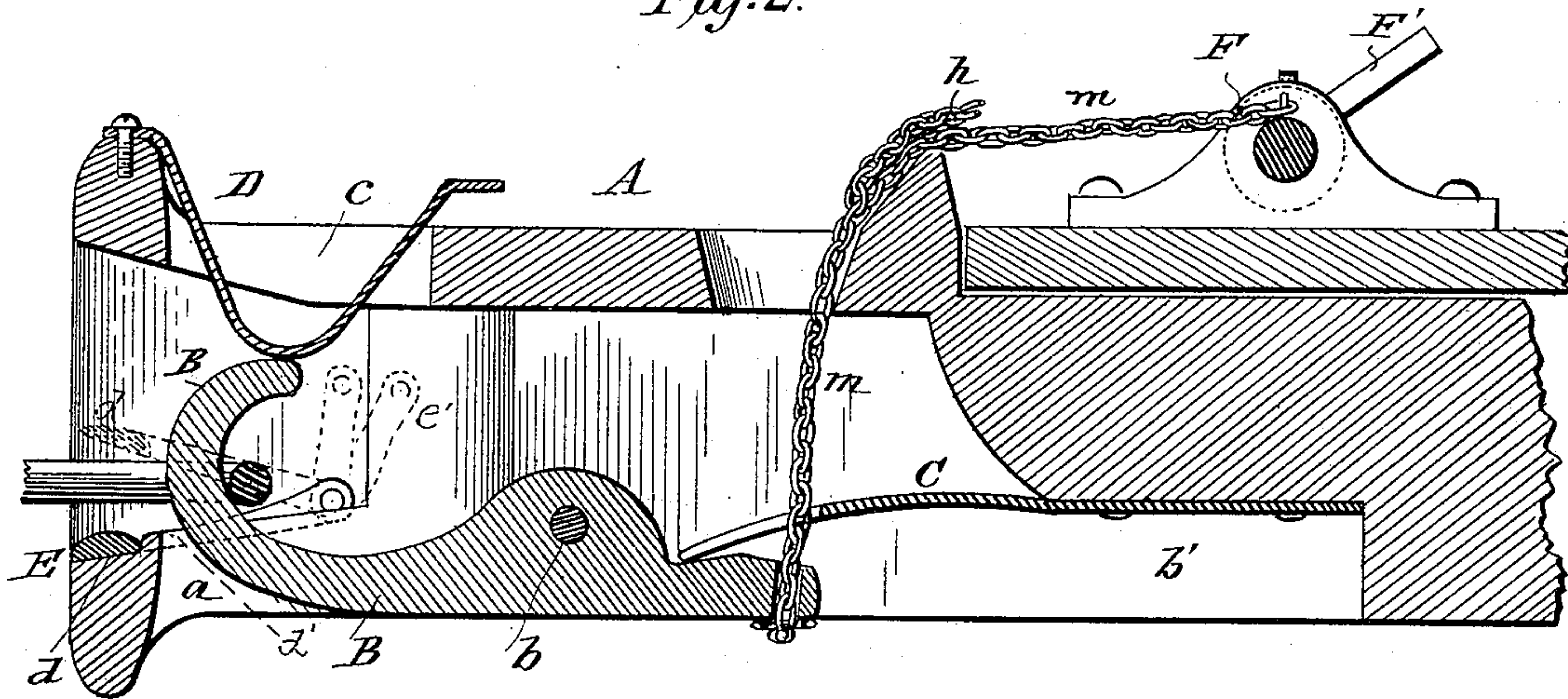


Fig. 4.

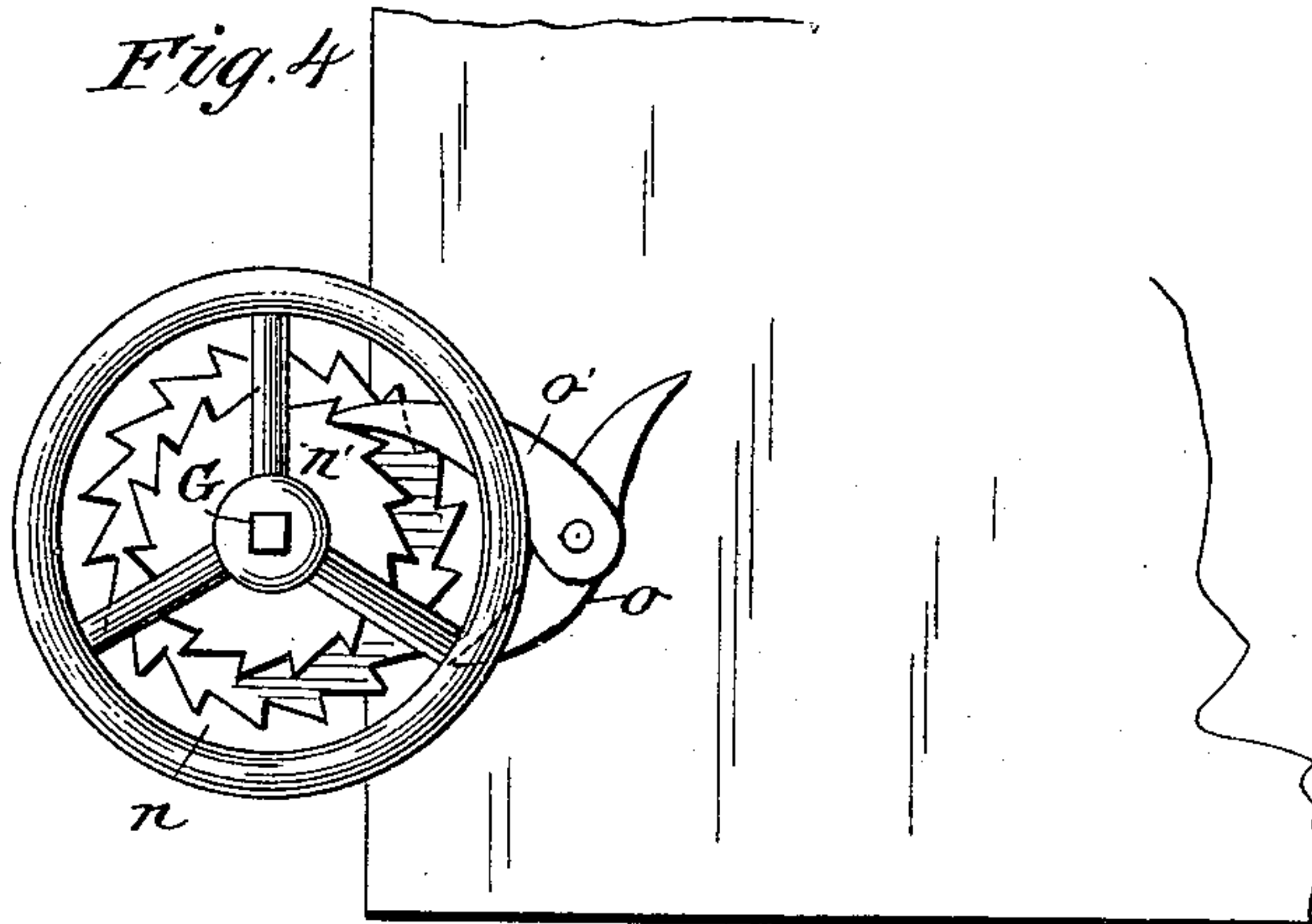


Fig. 5.

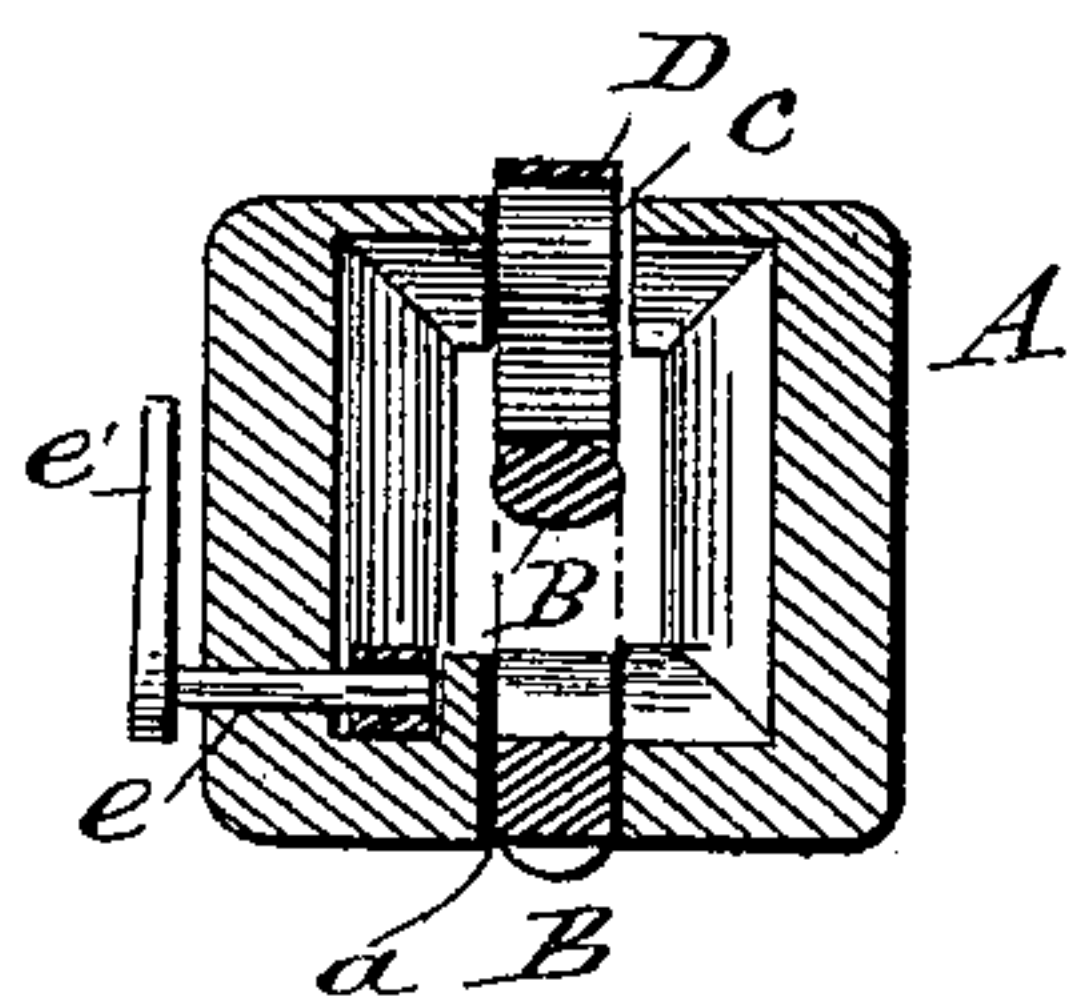
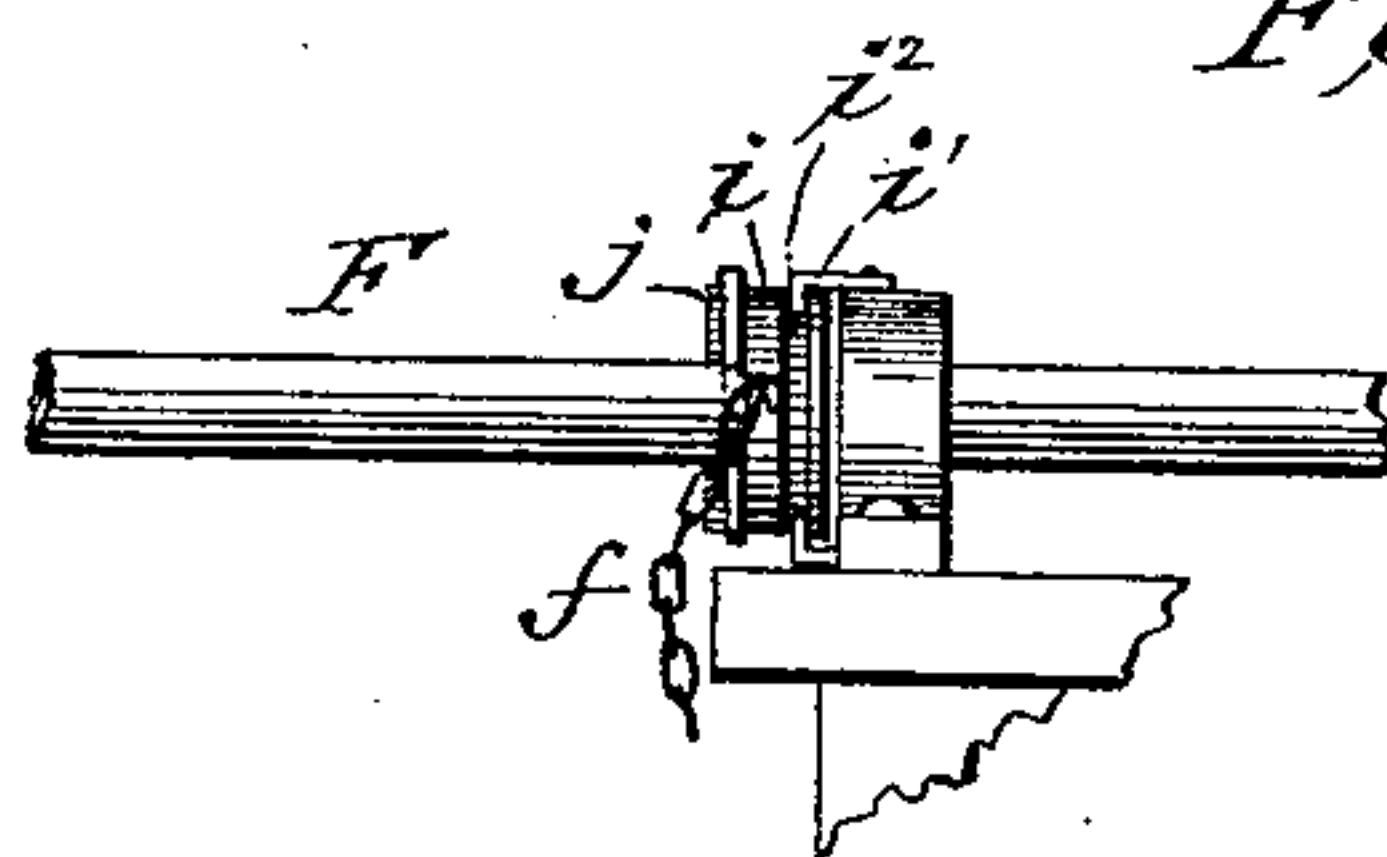


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRANCIS MARION RARIDEN, OF WAYNETOWN, INDIANA, ASSIGNOR OF
ONE-HALF TO THOMAS D. HARTSON, OF BLOOMINGTON, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 390,095, dated September 25, 1888.

Application filed May 15, 1888. Serial No. 274,017. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS MARION RARIDEN, of Waynetown, in the county of Montgomery and State of Indiana, have invented a
5 new and useful Improvement in Car-Couplings, of which the following is a specification.

This invention has relation to certain improvements in car-couplings, having for its object to effect the coupling operation automatically and to effect the ready uncoupling of the
10 cars, with the operator or train-man standing either upon the ground or the cars, and without the necessity of the operator or train-man passing in between the cars; and to these ends
15 the nature of the invention consists of the sundry combinations of parts, including their construction, substantially as hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a
20 perspective view of my improved car-coupling. Fig. 2 is a longitudinal section of the same. Fig. 3 is a detail view of the link-adjuster, and Fig. 4 is a similar view of the
25 hand-wheel shaft with its ratchet-wheels and their holding-pawls. Fig. 5 is a cross-section taken through the coupling-hook and the spring applied to its forward end, and Fig. 6
30 is a detail view, somewhat enlarged, of the coupling-hook-operating shaft and certain adjunctive parts, whereby it may be adapted to effect the adjustment or operation of the coupling-hook from the ground.

In carrying out my invention I employ a
35 draw-head, A, which is suitably disposed and spring-cushioned in a socket or casting applied in the usual way upon the under side of the car at its end.

The draw-head A is supplied with a coupling-hook, B, which is arranged in a longitudinal
40 slot, *a*, in the bottom thereof and pivoted near its rear end, as at *b*. A spring, C, secured in a groove or recess, *b'*, (an extension of the slot *a*,) at one end and pressing at its
45 opposite end upon the extreme rear end of the coupling-hook, holds the hook in its normal elevated position.

D is a second spring, preferably of an approximate bail shape, which is disposed in a
50 slot, *c*, in the upper part of the draw-head A, its forward end being secured to the forward end of the draw-head, while its looped or

bowed portion depends through the slot and rests upon the inwardly-turned beak or free end of the coupling-hook B. The rear end of
said spring D is limited in its downward movement as the coupling-hook is depressed in effecting the coupling of the cars by an extension of said end above the draw-head. By
this arrangement—*i. e.*, the joint action of the springs C and D—the forward end of the coupling-hook B is held about centrally in the
60 draw-head, as is desirable, to present it squarely to the coupling-link.

E is the link-adjuster, which is disposed in the mouth of the draw-head A just in advance
65 of the coupling-hook B, in order to readily guide and adjust the link according to the height of the approaching draw-head. This link-adjuster consists of a right-angled lever, having one arm resting in a depression, *d*, in
70 the bottom of the mouth of the draw-head A, and arranged crosswise of said mouth. The other arm of said lever rests in a similar depression, *d'*, extending longitudinally of and in one side of the bottom of the draw-head
75 mouth. Said latter arm of the said lever is provided with a lateral extension or pivot, *e*, which bears in an aperture extending through that side of the draw-head A. The outer projecting end of said pivot or extension *e* is provided with a handle or crank, *e'*, to which is
80 connected one end of a chain, *f*, or other suitable medium, or through an eye in which handle or crank may be looped such chain. The chain or other suitable medium, *f*, is carried
85 back and guided through an eye or staple, *g*, projecting from the draw-head near its point of reception in the casting upon the under side of the car. The chain *f* is provided with an elongated staple, *f'*, with which connects a loop
90 or ring, *g'*, of a second chain or other suitable medium, *h*. The chain *f* is thence extended and connected by a staple or otherwise to a collar or sleeve, *i*, upon a sliding horizontal shaft, F, supported, it may be, in boxes or
95 bearings secured upon the car-platform and provided with handles or levers F'. The collar or sleeve *i* is adapted to be held against sliding by a holding dog or pawl, *i'*, set into a groove therein, and hung upon a box or bearing
100 of the shaft F. The opposite side of the collar or sleeve *i* is notched or cut away, as at

i^2 , which receives a cross-pin, j , held in the shaft F.

The shaft F is, as above intimated, capable of having a sliding or endwise movement, in order to effect an engagement between its cross-pin j and the shoulders of the collar or sleeve i , produced by notching or cutting away the same, as at i^2 , when it is desired to effect the adjustment of the link-adjuster E from the ground.

The chain h is carried and connected to an upright shaft, G, suitably supported in boxes or bearings applied to the end of the car—a house-car. This permits of the adjustment of the link-adjuster E from the top of the car. The shaft G is also connected by a chain, l , with the coupling-hook B, to effect the actuation of the latter also from the car-top, while, in order to permit of the movement of the coupling-hook in uncoupling the cars from the ground, the coupling-hook is connected by a chain, m , with the horizontal shaft F.

The shaft G is provided with a hand-wheel for its convenient manipulation, and with two ratchet-wheels, n n' , having oppositely-projecting teeth, with which engage correspondingly-disposed pawls o o' , applied to the top of the car to effect the holding of the shaft G after being released from the hand, whichever way it may have been turned.

H is a notched or ratchet spring rack or bar, which, in practice, is secured at the upper end to the side of the car, near the top, to effect the retention of either lever F', so as to temporarily hold the link-adjuster and the coupling-hook, without the continuous use of the hand in adjusting the hook, in an uncoupled position and the link-adjuster in an elevated position preparatory to coupling the cars.

It will be seen that as the coupling-link enters the draw-head A it will strike the convexity of the coupling-hook B, and be deflected thereby upward to and pass in between the spring C and the hook, the spring yielding and permitting the link to drop in behind and have engagement with the hook, thus automatically effecting the coupling operation.

This car-coupling avoids the necessity of the operator or train-man passing in between the cars when the coupling operation is to be effected, while the adjustment of the link, as also the uncoupling of the cars, can be readily and quickly performed either from the top of the car or with the operator standing on the ground.

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

1. The car-coupling comprising the draw-

head provided with a coupling-hook and springs, one resting upon the beak of said hook and the other resting upon the rear end of said hook, substantially as set forth.

2. The car-coupling comprising the draw-head provided with a link-adjuster consisting of the right-angled lever having one arm disposed crosswise of and resting in a depression in the mouth of the draw-head, while its other arm rests in a depression in one side of the bottom of the draw-head mouth and is provided with a lateral extension or pivot extending through the draw-head and connecting with operating mechanism, substantially as set forth.

3. The car-coupling comprising the draw-head provided with a coupling-hook and spring resting upon the beak of said hook, substantially as and for the purpose set forth.

4. The car-coupling consisting of the draw-head provided with the coupling-hook and its operating medium, the spring resting upon the rear end of the coupling-hook, a second spring applied in a slot in the upper part of the draw-head and resting upon the beak or free end of the coupling-hook, and the sliding horizontal shaft provided with a loose notched collar adapted to be held independently of the shaft and engaging with a pin upon said shaft, substantially as set forth.

5. In a car-coupling, the combination, with the spring-pressed coupling-hook and the link-adjuster, of the sliding horizontal shaft and upright shaft, the horizontal shaft having a cross-pin engaging with a notched collar loose upon said shaft and adapted to be held independently thereof, said upright shaft having ratchet-wheels provided with oppositely-projecting teeth engaged by corresponding pawls, and chains or other suitable connecting medium between said shafts and the link-adjuster and the coupling-hook to effect the actuation of said link adjuster and coupling-hook either from the ground or top of the car, substantially as set forth.

6. In a car-coupling, the combination, with the coupling-hook and link-adjuster, of the sliding horizontal shaft provided with a cross-pin and a loose notched collar or sleeve adapted to be held independently of said shaft, said shaft having a handle or lever engaging a spring rack-bar, and means for connecting said coupling-hook and link-adjuster with said shaft, substantially as set forth.

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Witnesses:

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W. H. SIMMS.