

2 Sheets—Sheet 1.

No. 285,634.

Patented Sept. 25, 1883.

Fig. 1.

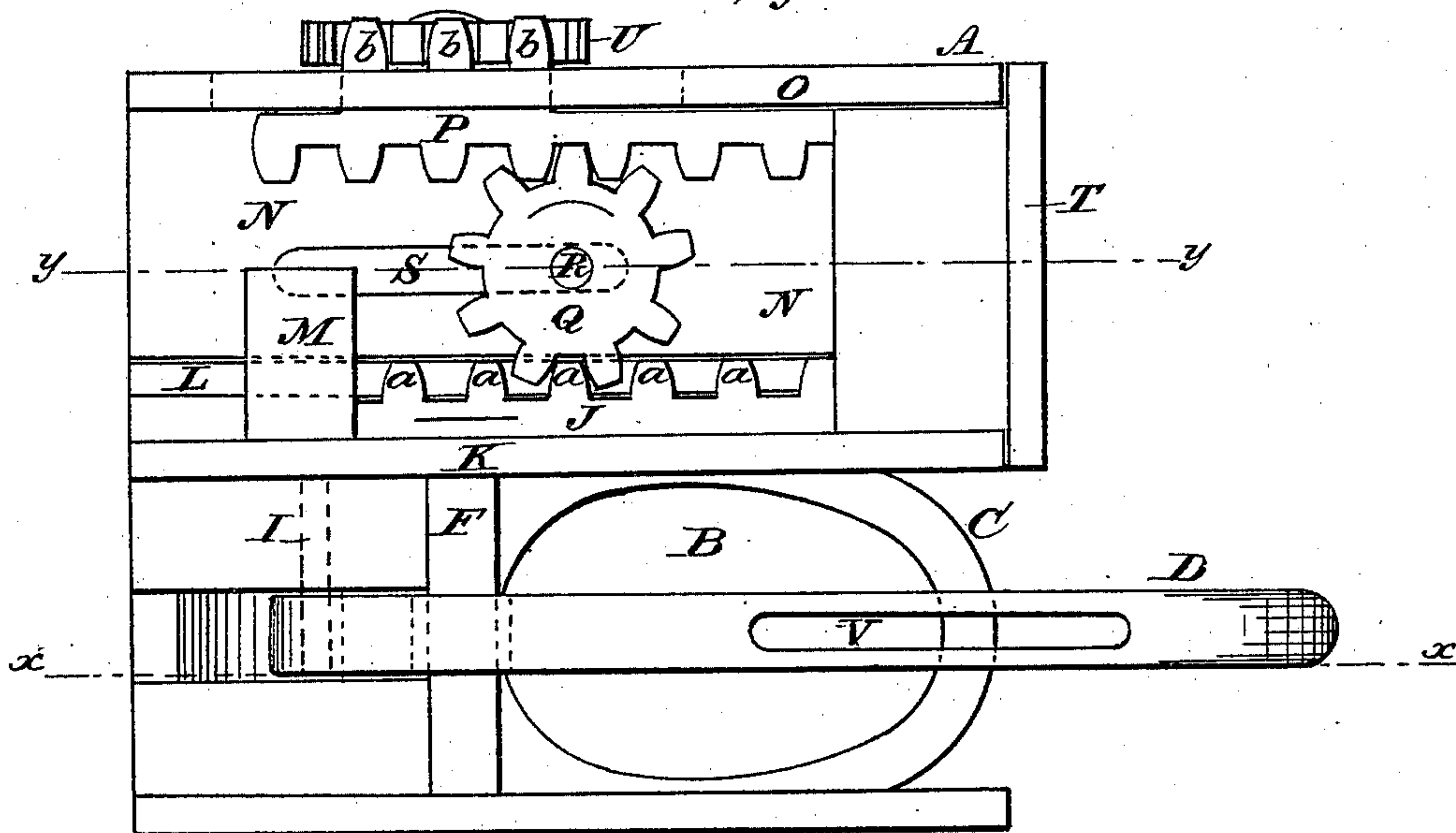


Fig. 2.

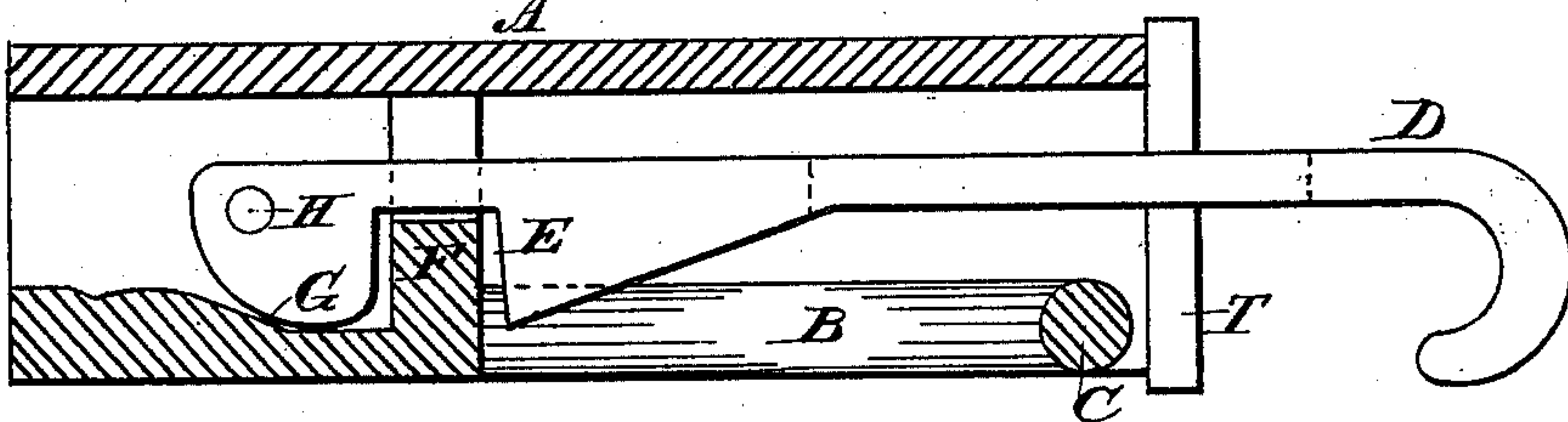
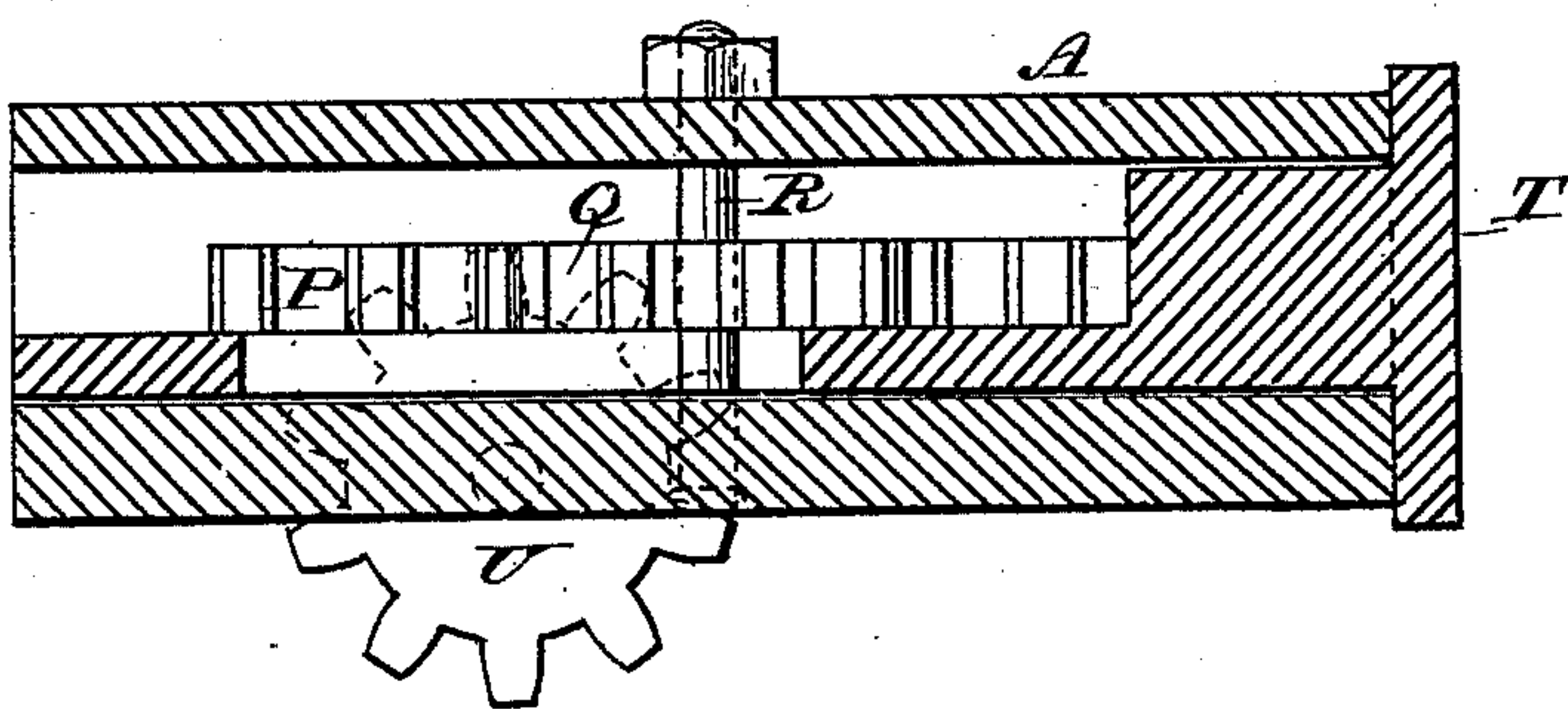


Fig. 3.



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(No Model.)

2 Sheets—Sheet 2.

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CAR COUPLING.

No. 285,634.

Patented Sept. 25, 1883.

Fig. 4.

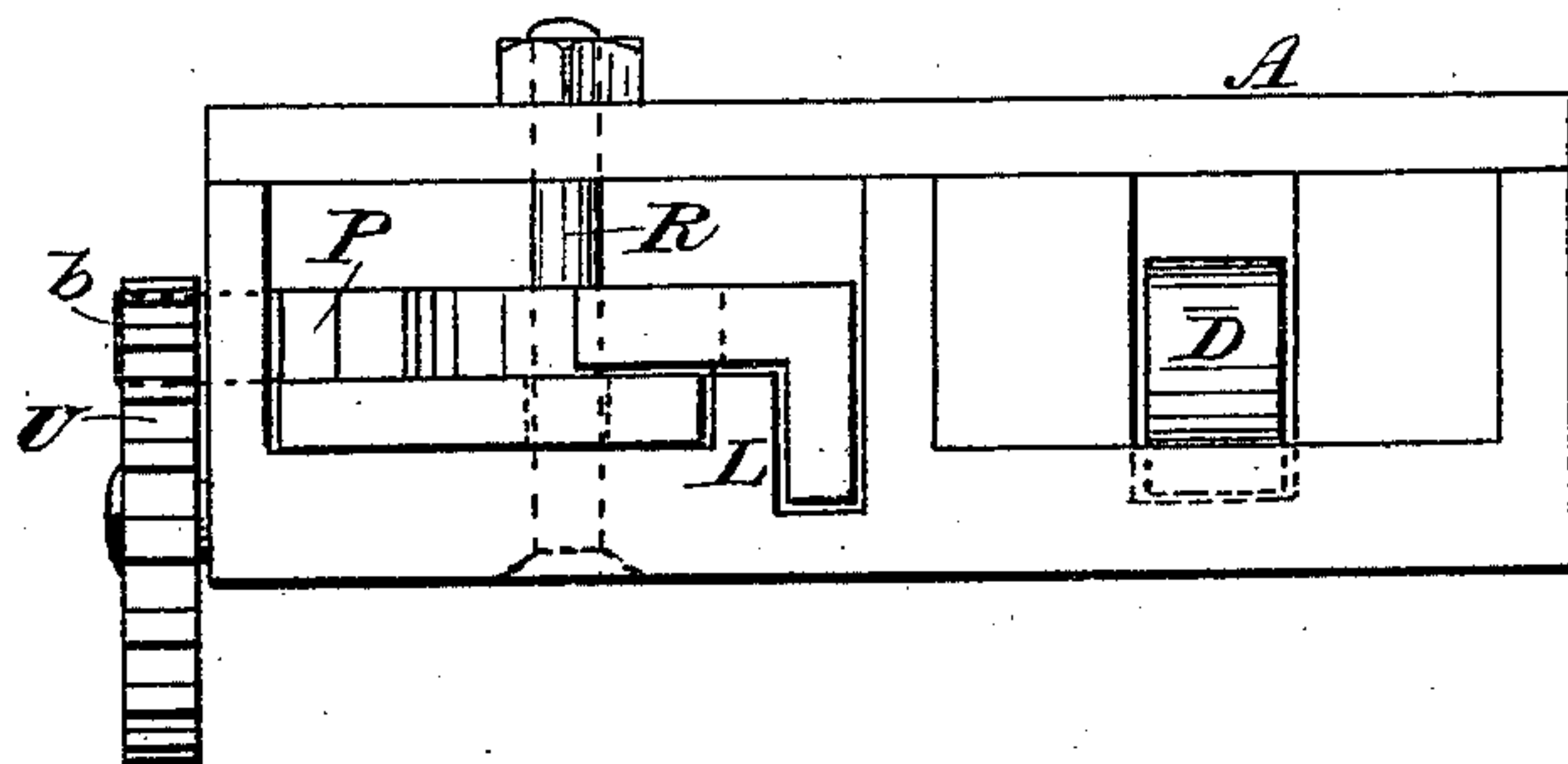


Fig. 5.

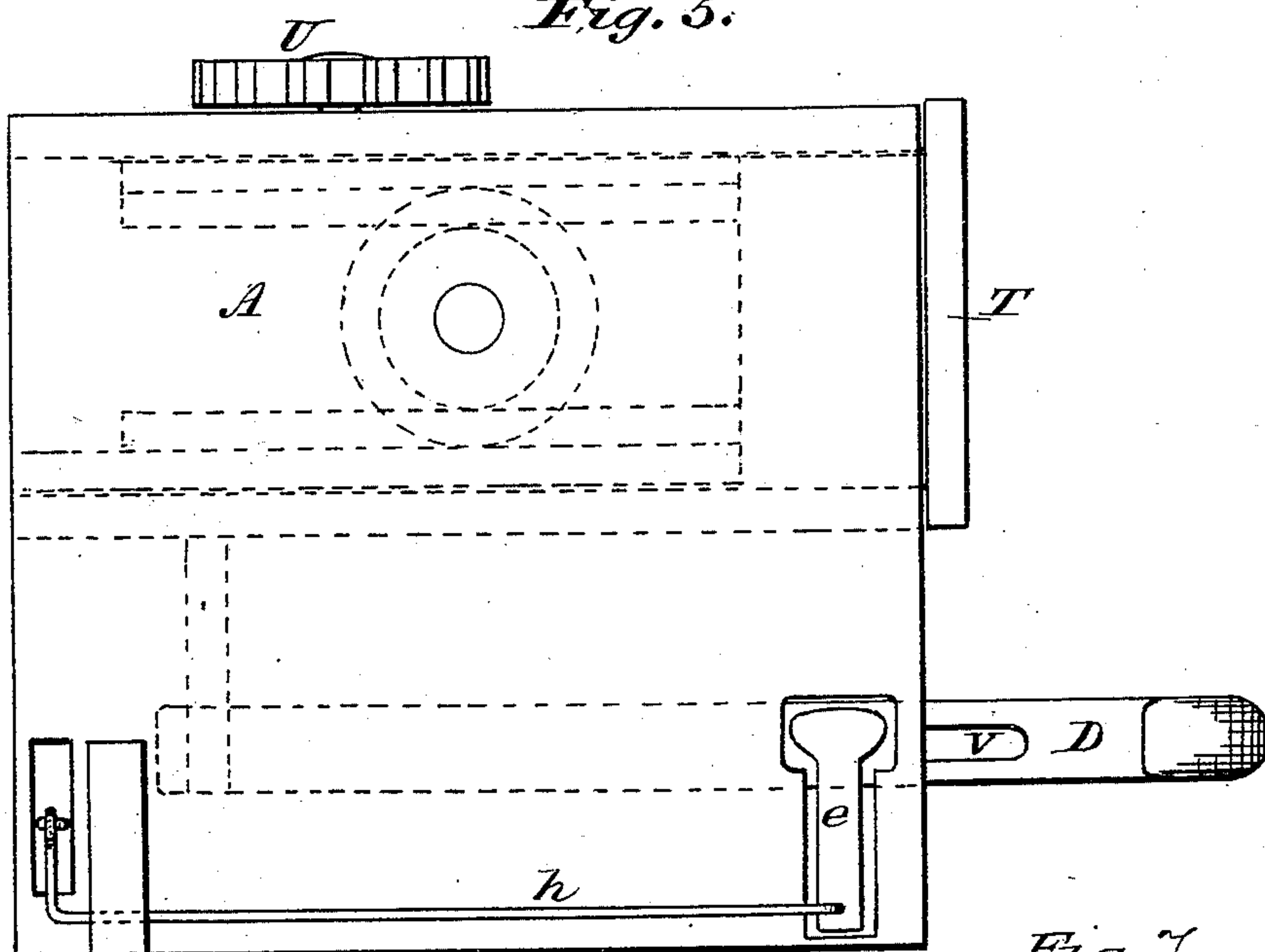


Fig. 7.

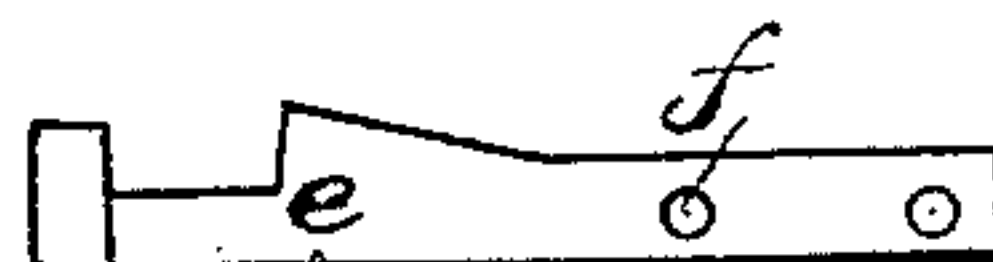
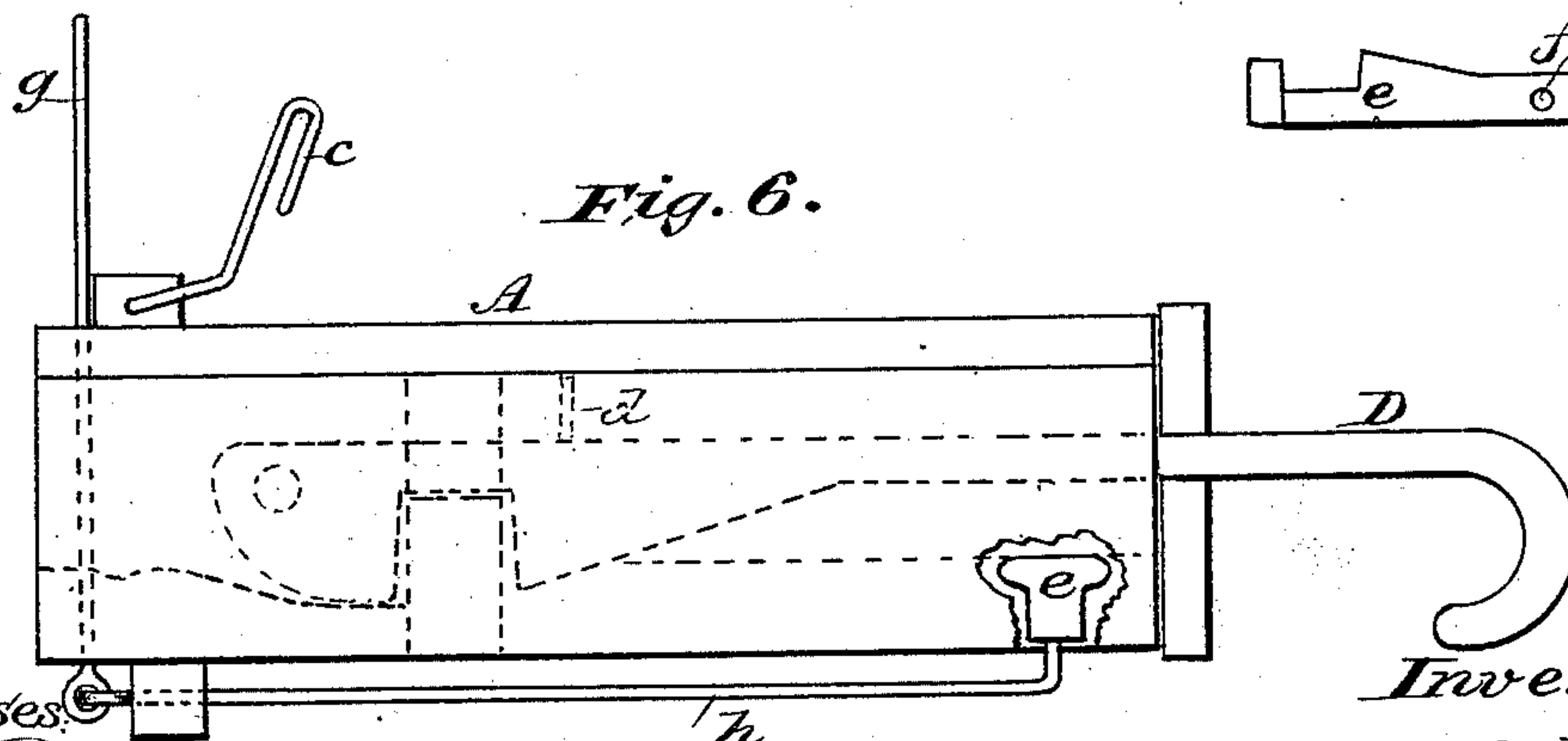


Fig. 6.



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UNITED STATES PATENT OFFICE.

THOMAS DAILEY LOBB, OF MOOREFIELD, WEST VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 285,634, dated September 25, 1883.

Application filed August 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS DAILEY LOBB, a citizen of the United States, residing at Moorefield, Hardy county, West Virginia, have invented new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates to certain new and useful improvements in car-couplers. It has for its object to provide for a positive and accurate coupling the instant that adjacent cars are brought in contact, thus dispensing with the presence and avoiding the danger of a man between the cars; and with these ends in view my invention consists of the peculiar construction and arrangement of parts whereby the momentum of adjacent cars shall operate to cause a positive coupling, as will be hereinafter fully described and specifically claimed.

In order that those skilled in the art may know how to make and use my improved coupler, I will proceed to describe the same, referring by letters to the accompanying drawings, in which—

Figure 1 is a plan view of a draw-head with my improvement, the top removed. Fig. 2 is a longitudinal section at $x x$ of Fig. 1. Fig. 3 is a similar view taken at the line $y y$ of Fig. 1. Fig. 4 is an end view. Fig. 5 is a bottom view; and Fig. 6 is a side elevation, showing the means used for uncoupling. Fig. 7 is a detached view of lever e .

Similar letters indicate like parts in the several views.

A represents a draw-head provided with suitable means for securing it in place. The bottom is provided at one side with an opening, B, forming a holdfast or link, C, over which the coupling-hook D drops. The hook D is provided with a slot, E, near its rear end, adapted to straddle a cross-bar or bridge, F, to receive the strain, and in rear of the slot E the hook is formed with a curved face, G, and pivot-hole H. The bottom of the draw-head in rear of the bridge F is provided with an incline channel, as clearly shown at Fig. 2, of such form that the rear movement of the hook will cause the curved face G to ride upon said incline, and by reason of its pivot at H cause the hook end D to be lifted up, and the opposite movement will permit the fall of the hook end,

as will be hereinafter more fully set forth. The rear end of the hook is pivoted at H to a bolt, I, extended laterally from a sliding bar, J, which moves freely between the side K of the draw-head and a guide rail or projection, L. The rear end of the sliding bar J is provided with an inwardly-projecting strengthening arm or projection, M, to provide a firm support for the bolt I. The latter passes through a longitudinal slot in the side K, so that it is free to reciprocate therein, and its inner edge is formed with five or more teeth or cogs, $a a$, &c., for the purpose presently explained.

N is a plate arranged upon the bottom of the draw-head, and adapted to reciprocate longitudinally thereon. It is guided between the strip L and the side O of the draw-head. This plate is provided with a rack, P, inside the draw-head, and with three or more rack-teeth, $b b b$, projecting outwardly through a longitudinal slot in the side O of the draw-head.

Q is a pinion meshing with the rack P and the teeth a on the bar J, and is pivoted in place by a bolt, R, passing vertically through it and the draw-head, the plate N being provided with a longitudinal slot, S, through which the bolt R passes. The front end of the plate N is furnished with a head-piece or bumper, T.

It will be understood that when the plate N and its bumper T are forced outwardly the rack P, meshing with the pinion Q, will cause it to rotate in the direction indicated by the arrow at Fig. 1; and the said pinion, also meshing with the teeth or cogs a on the bar J, will cause the latter to move backward, as indicated also by an arrow at Fig. 1. Now, as the bar J is connected through the medium of the bolt I to the hook, the latter is also drawn back, and the curved face G, traveling up the incline before referred to, causes the front end of the hook D to be lifted, so that when the bumper T is extended the normal position of the hook will be in an elevated condition, and when two cars are brought together for the purpose of coupling, the bumper and plate N will be forced backward into the position seen at Fig. 1, and a reverse movement to that just described of the pinion Q will take place, causing the bar J to move forward, carrying with it the hook,

the curved face G of which, traveling down the incline, permits the free end of the hook to drop over the portion C of the adjacent draw-bar, the slot E of the hook at the same time straddling the cross-bar or bridge F, so that the pulling strain on the hook is brought against the bridge, and not on the pivot H. The means employed for forcing the plate N and bumper T out to the position necessary to effect an automatic coupling consists of a cog-wheel or pinion, U, meshing with the outer teeth or cogs, b. This pinion U may be operated by a lever or windlass rod, or in any other manner; or the pinion U and teeth b may be entirely dispensed with, and the plate N may be forced outward by an ordinary hand-lever. The hook D is formed, if desired, with a slot, V, (see Fig. 1,) so that it may couple with the pin of an ordinary coupler.

As my improved couplers are the same on each car, it is of course only necessary that one hook should be permitted to drop, and hence that one which it is intended should not operate is held in its upward position by a link or hook rod, c, (see Fig. 6,) which is adapted to be dropped down over a pin or projection, d, on the upper surface of the hook d. This hook c may be operated by a lever, or in any suitable manner, and when one of the hooks D is held in an elevated position, as described, the one in the opposite draw-head passes under the elevated hook and drops down over the portion C of the draw-head.

In order to uncouple the cars, it becomes necessary to release the hook D from the bearing C, and I provide the under side of the draw-head with a short lever, e, pivoted at f, so that a pull on the platform lever or bar g through the medium of a rock-shaft connection, h, will cause the free end of the lever e to move upwardly and lift the hook D free from the portion C of the cross-head. I do not, of course, wish to be limited to this particular construction of device for releasing the hook, as it may be varied in many particulars, or an entirely different means may be employed to release the hook without departing from the spirit of my invention in other particulars.

The gist of my invention rests in the idea of utilizing the momentum of approaching cars to effect the coupling action of the hooks D.

The draw-heads may of course be made of any suitable weight and proportions found necessary.

The vertical vibratory movement of the hooks will be sufficient to enable cars of varying

height to be readily coupled, and it will be readily seen that, as the bumper T has but a limited movement before it comes in contact with the draw-head, no damage will be done to the gearing.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a draw-head provided with a holdfast or link, C, and incline groove in rear of the supporting-bridge F, the hook D, provided with vertical slot E, curved face G, and pivot-bearing H, and connected with a reciprocating carrier or support, whereby the free end of the hook is caused to rise and fall, substantially as and for the purpose set forth.

2. In combination with the draw-head A and hook D, constructed as described, the sliding bar or frame J, connected by bolt I to the hook D, and provided with inwardly-projecting teeth a, adapted to mesh with an operating-pinion, Q, substantially as hereinbefore set forth.

3. In combination with hook D and bar or frame J, connected as described, the pinion Q and sliding plate N, provided with rack P, whereby the movement of the plate N will cause the hook D to rise and fall, substantially as hereinbefore set forth.

4. The plate N, provided with an inwardly-projecting rack, P, adapted to mesh with pinion Q, and provided with an outwardly-projecting set of teeth or cogs, b, adapted to mesh with an operating-pinion, U, substantially as shown and described.

5. The plate N, provided with the rack P, and furnished at the front end with the bumper T, to receive the momentum of approaching cars, substantially as shown and described.

6. In combination with the draw-head A and vibrating hook D, the releasing-lever e, arranged on the under side of the draw-head and adapted to be operated from the platform, substantially as described.

7. The hook D, provided with a stud or projection, d, the link or hook c, constructed as described, to hold the coupling-hook D in an elevated position, as hereinbefore set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THOMAS DAILEY LOBB.

Witnesses:

WM. C. MCINTIRE,
F. L. BROWNE.