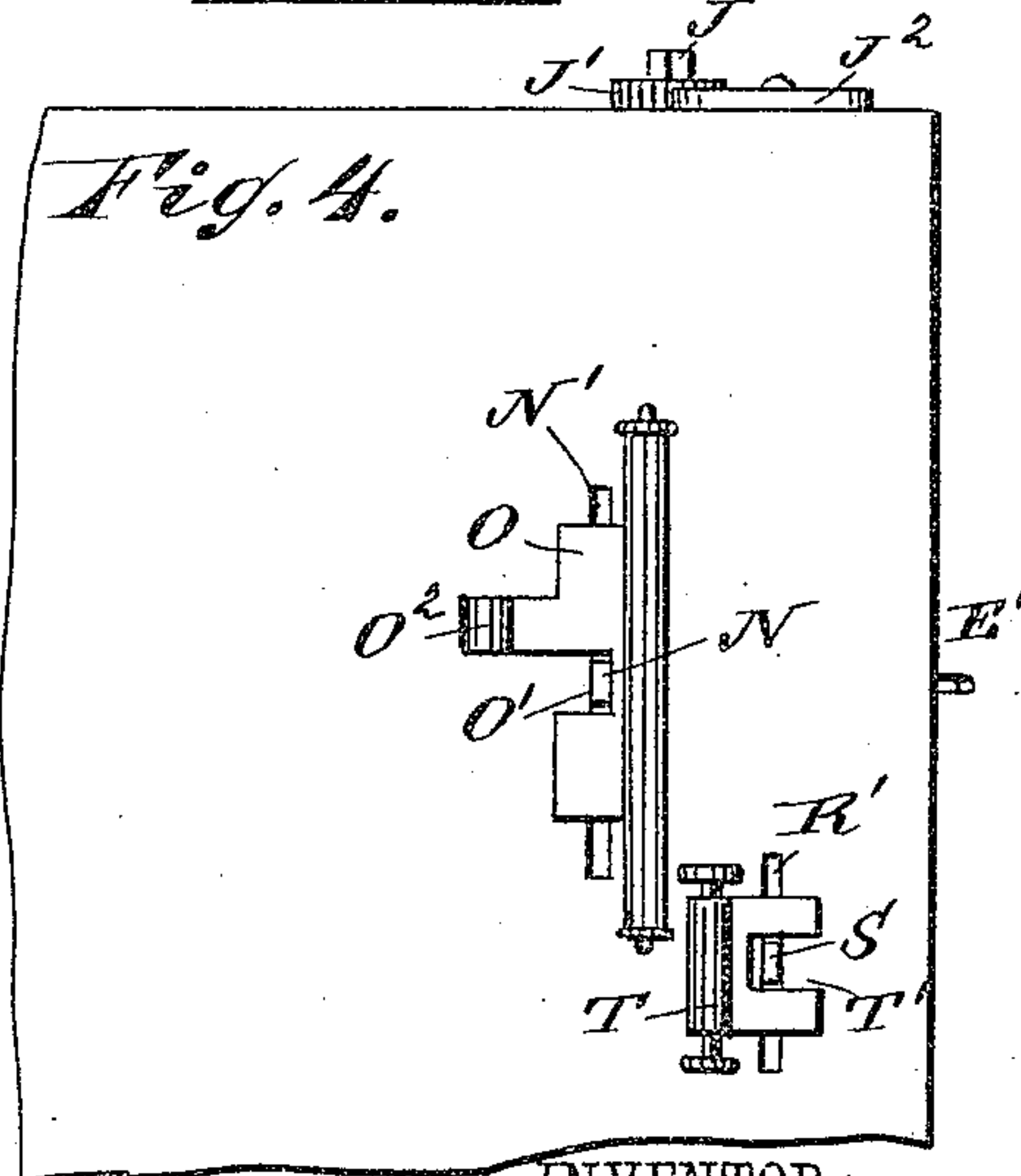
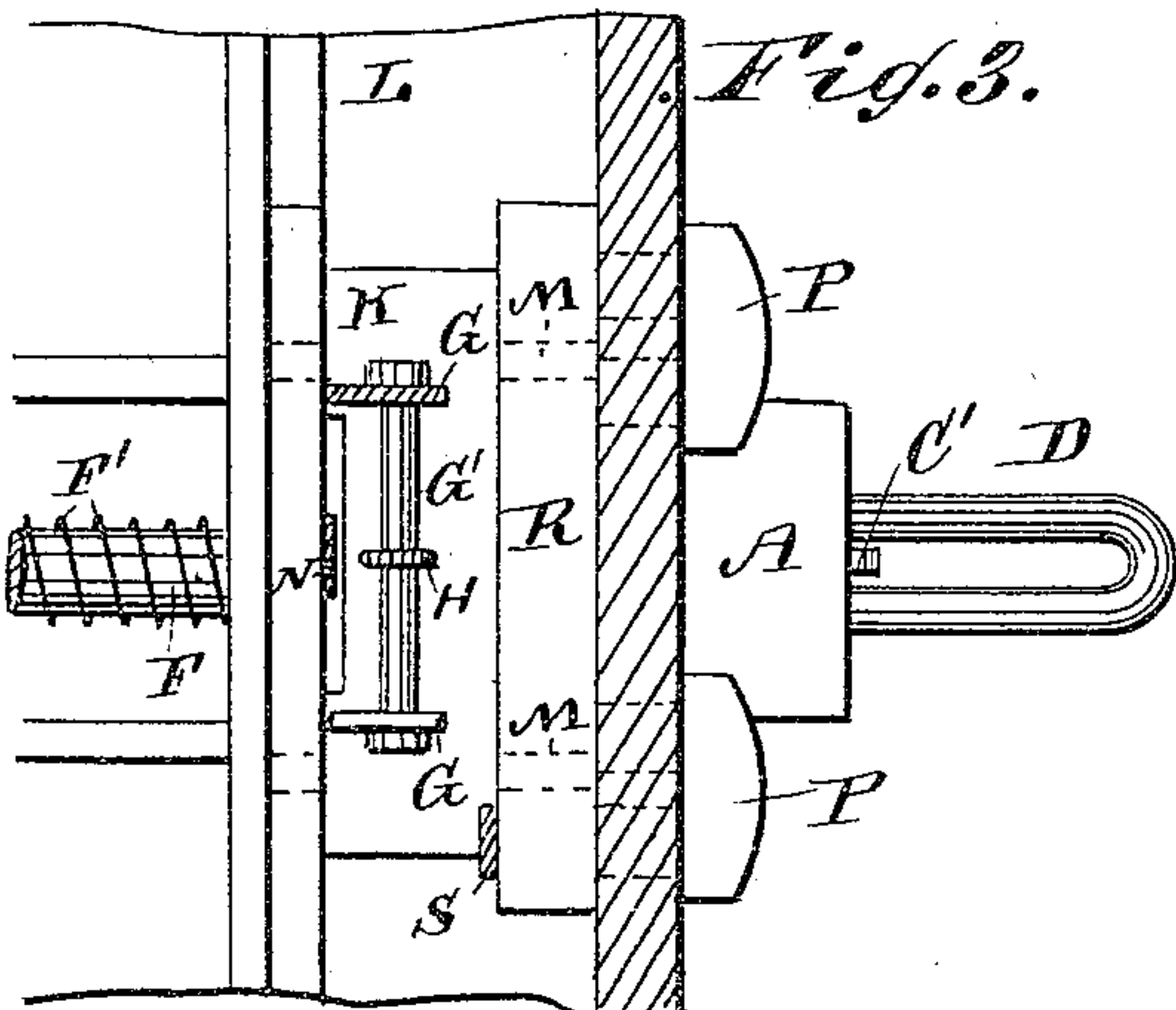
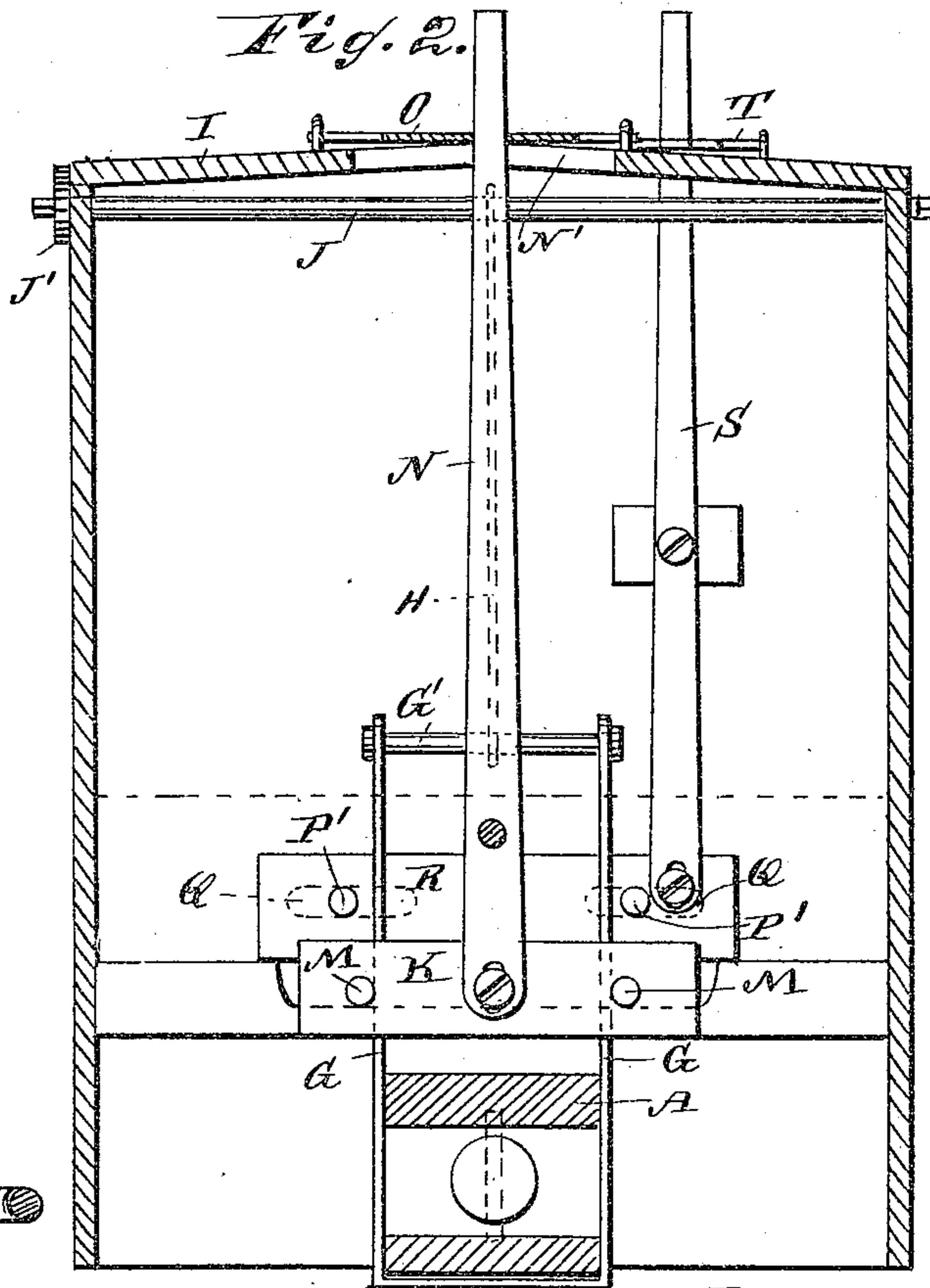
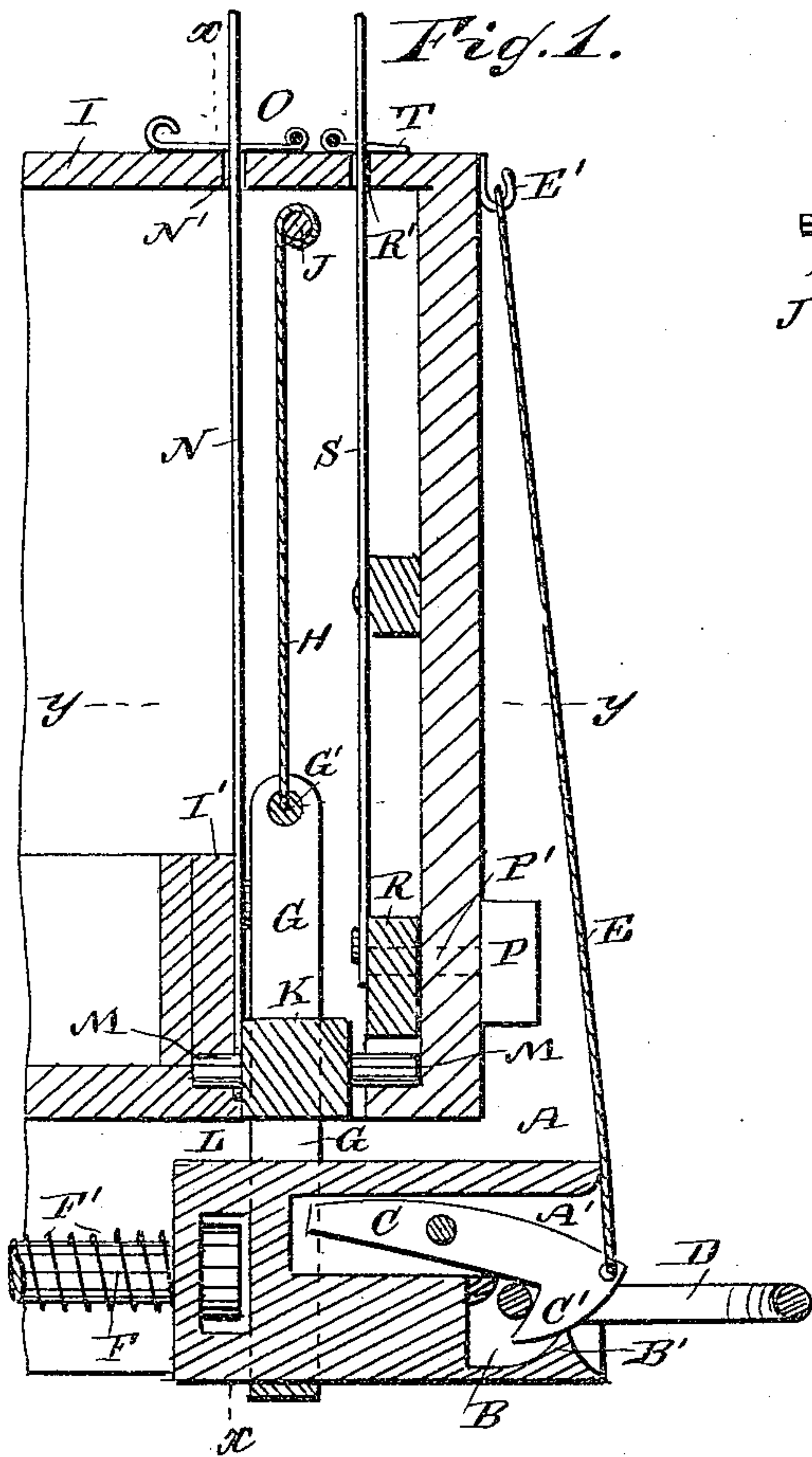


(No Model.)

G. H. LIVINGSTON.
CAR COUPLING.

No. 309,966.

Patented Dec. 30, 1884.



WITNESSES:

Geo. G. Norton
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GEORGE H. LIVINGSTON, OF ANTES FORT, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 309,966, dated December 30, 1884.

Application filed August 1, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. LIVINGSTON, of Antes Fort, in the county of Lycoming and State of Pennsylvania, have invented
5 a new and Improved Car-Coupling, of which the following is a full, clear and exact description.

The object of my invention is to provide a new and improved car-coupling, by means of
10 which cars on wide and narrow gage tracks, or high and low cars, can be coupled.

The invention consists in the combination, with a car, of a transversely-movable draw-head and means for shifting it.

15 It further consists in means for moving the draw-head vertically.

It further consists in transversely-movable buffers and means for shifting them; and it also consists in parts and details and combinations of the same, as will be fully set forth
20 hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate
25 corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of an end of a car provided with my improved car-coupling. Fig. 2 is a cross-sectional elevation of the same on the line *xx*,
30 Fig. 1. Fig. 3 is a sectional plan view of the same on the line *yy*, Fig. 1. Fig. 4 is a plan view of the top of a car, parts being broken out.

The draw-head A has an opening or mouth,
35 A', on the bottom of which a recess, B, is formed for receiving the prong C' of a hook, C, pivoted to swing vertically in the draw-head. In front of the recess B a transverse ridge, B', is formed, on which the link D can
40 rest. A cord, wire, or chain, E, extends from the outer end of the coupling-hook C to a hook, E', on the top of the end of the car. A spindle, F, projects from the inner or rear end of the draw-head, and is surrounded by a spiral
45 buffer-spring, F'. The draw-head rests on the cross-piece of a bail or U-shaped hanger or frame, G, provided with a top cross-rod, G', from which a rope or chain, H, extends to a transverse shaft, J, journaled in the sides of
50 the car near the top, the ends of which shaft project from the sides of the car, and are

squared to receive a key for turning the shaft. On one of the said projecting ends of the shaft J is mounted a ratchet-wheel, J', with which
a pawl, J², engages, which is pivoted on the 55 side of the car. The side bars of the frame G are held to slide vertically in a bar, K, adapted to slide transversely in a slot, L, in the bottom of the car, from the sides of which bar pins M project, which support and guide 60 the bar K, and slide in recesses of bars parallel with the bar K. A lever, N, has its lower end pivoted to the bar K, and its upper end projects through a transverse slot, N', in the roof I of the car, and the said lever N is 65 pivoted a short distance above its lower end to a cross piece or bar, I', of the car. A plate, O, is hinged on the roof of the car for the purpose of covering the slot N', and is provided with a notch, O', for receiving the upper end 70 of the lever N, and is also provided with a handle-lug, O². Buffer-heads P are secured to the outer ends of pins P', projecting through horizontal slots Q in the end of the car, the inner ends of the pins P' being held in a hori- 75 zontally-sliding bar, R, on the inner surface of the end of the car. A lever, S, pivoted at or near its middle to the inner surface of the car end, has its lower end connected to one end of the bar R, and its upper end projects 80 through a slot, R', in the roof I of the car. The said slot R' can be closed by a hinged plate, T, having a notch, T', for the upper end of the lever S.

The draw-head is operated as follows: If it 85 is to be raised, the rope or chain H, from which the draw-head-supporting frame G is hung, is wound on the shaft J. If it is to be lowered, the rope or chain is permitted to unwind by raising the pawl J². The frame G, 90 with the draw-head A in it, can be moved toward either side of the car by means of the lever N, and the buffers P can be moved accordingly by means of the lever S. The draw-head can thus be adjusted laterally to suit the 95 position of the draw-head on the end of a car of a wider or narrower gage, and can also be adjusted vertically to suit draw-heads held at any elevation. When the link D enters the draw-head, it swings up the prong C' of the 100 hook, passes under it, and is then held by the same.

To uncouple the car the hook is raised by means of the cord or rope E, or by any other suitable device.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a car, of the sliding bar K, provided with pins M, fitting guides in a slot in the bottom of the car, the draw-head A, suspended from the said bar, and the lever N, pivoted to the car, and the sliding bar projecting through a slot in the top of the car, substantially as herein shown and described.
2. The combination, with a car, of a transversely-movable draw-head, a pivoted lever connected with said draw-head and projecting through a transverse slot in the roof of the car, and a plate for covering the said slot, substantially as herein shown and described.
3. The combination, with a car, of a vertically-sliding frame, G, the draw-head A, resting on the cross-piece of the frame G, the shaft J in the top of the car, and the rope or chain H, secured to the top of the frame G and to the shaft J, substantially as herein shown and described.
4. The combination, with a car, of the vertically-sliding frame G, the draw-head A, resting on the bottom cross-piece of the same, the shaft J, the rope or chain H, secured to the frame G and the shaft J, the ratchet-wheel J' on the shaft J, and the pawl J², pivoted to the side of the car, substantially as herein shown and described.
5. The combination, with a car, of the transversely-sliding bar K, the frame G, held to slide vertically in the bar K, the draw-head A, supported by the frame G, the lever N, for shifting the bar K laterally, and the shaft J and cord or chain H, for raising the frame G, substantially as herein shown and described.

6. The combination, with a car, of buffers held to slide transversely on the end of the car, and the lever S, for shifting the buffers, substantially as herein shown and described.

7. The combination, with a car, of buffers held to slide transversely on the end of the car, and a pivoted lever connected with the buffers, substantially as herein shown and described.

8. The combination, with a car, of buffers held to slide transversely on the end of the car, a pivoted lever connected with the buffers and projecting through a transverse slot in the roof of the car, and a plate for covering the slot, substantially as herein shown and described.

9. The combination, with a car, of buffers P, held to slide on the end of the car, the bar R, uniting the buffers, and the pivoted lever S, pivoted to the bar R, substantially as herein shown and described.

10. The combination, with a car, of a transversely-movable draw-head, and transversely-movable buffers above the draw-head, the buffers and draw-head being independent, substantially as herein shown and described.

11. The combination, with a car, of a transversely and vertically movable draw-head, and of transversely-movable buffers above the draw-head, the buffers and draw-head being independent of each other, substantially as herein shown and described.

12. The combination, with a car, of the draw-head A, the coupling-hook C, pivoted in the same, the cord or chain E, secured to the free end of the hook C, and the hook E' on the top of the end of the car, substantially as herein shown and described.

GEORGE H. LIVINGSTON.

Witnesses:

H. H. MYERS,
J. B. SHANK.