J. L. POPE & W. S. SAMPSON.

Car-Couplings.

No. 205,298. Patented June 25, 1878.

Fig 1

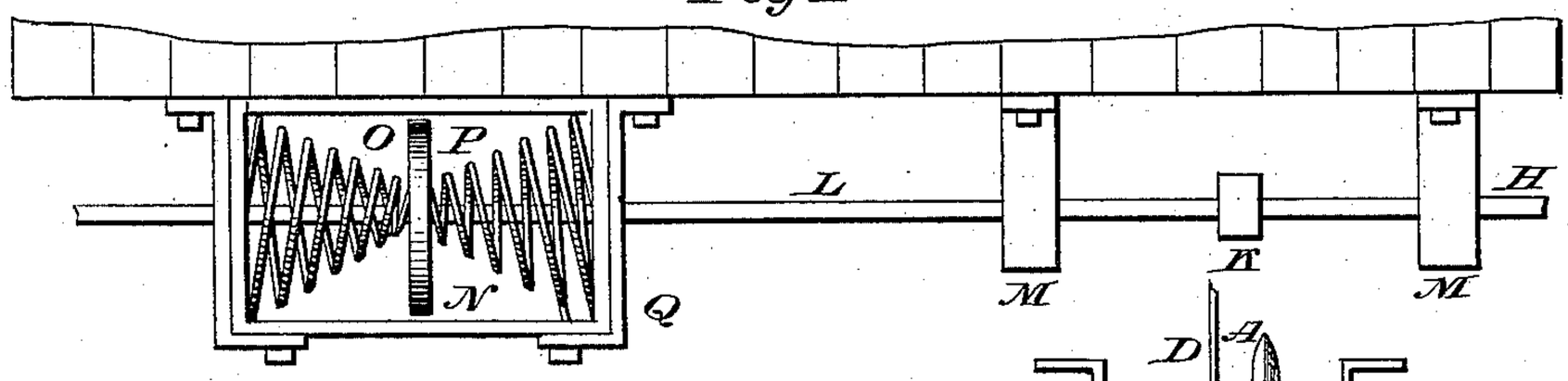


Fig 3

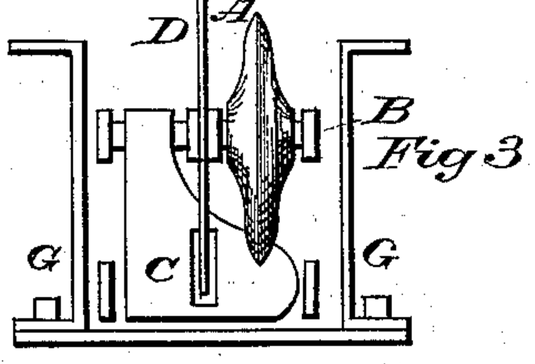


Fig 2

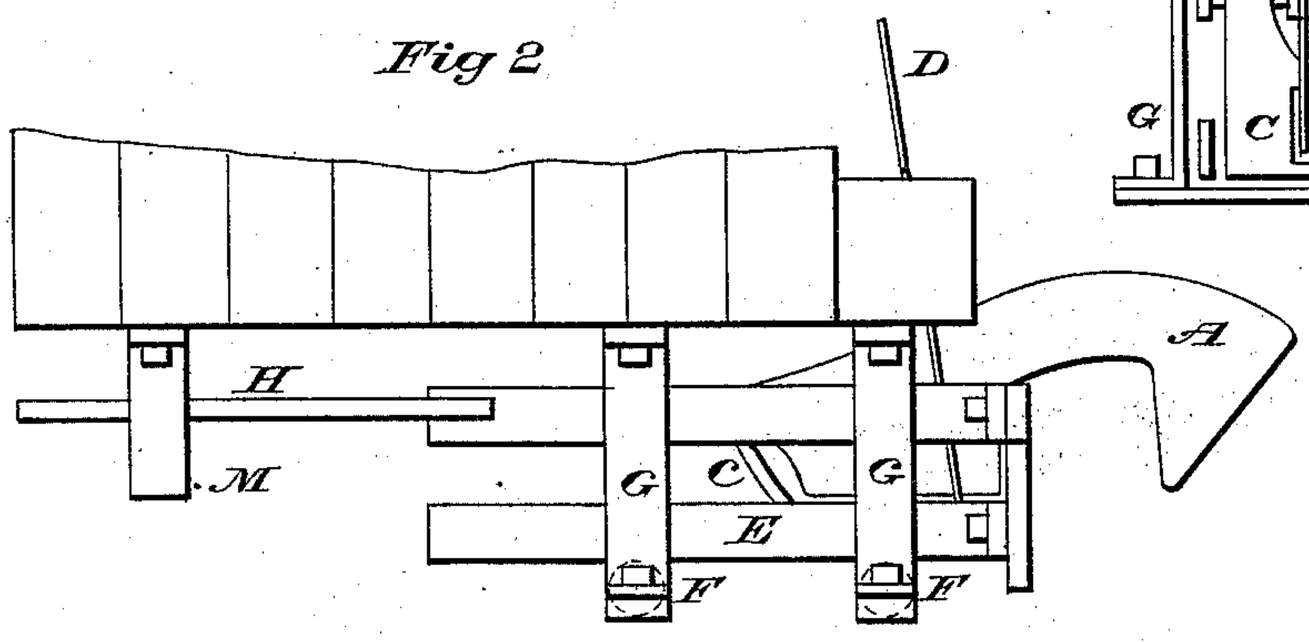


Fig 5

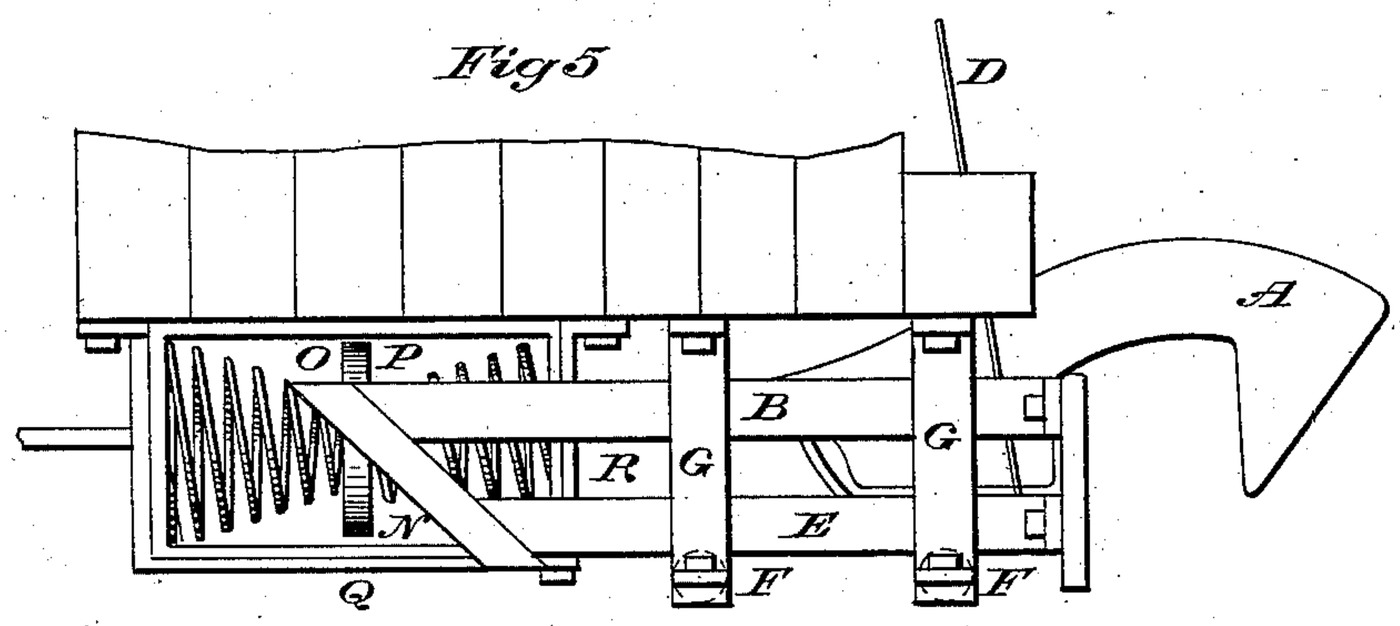
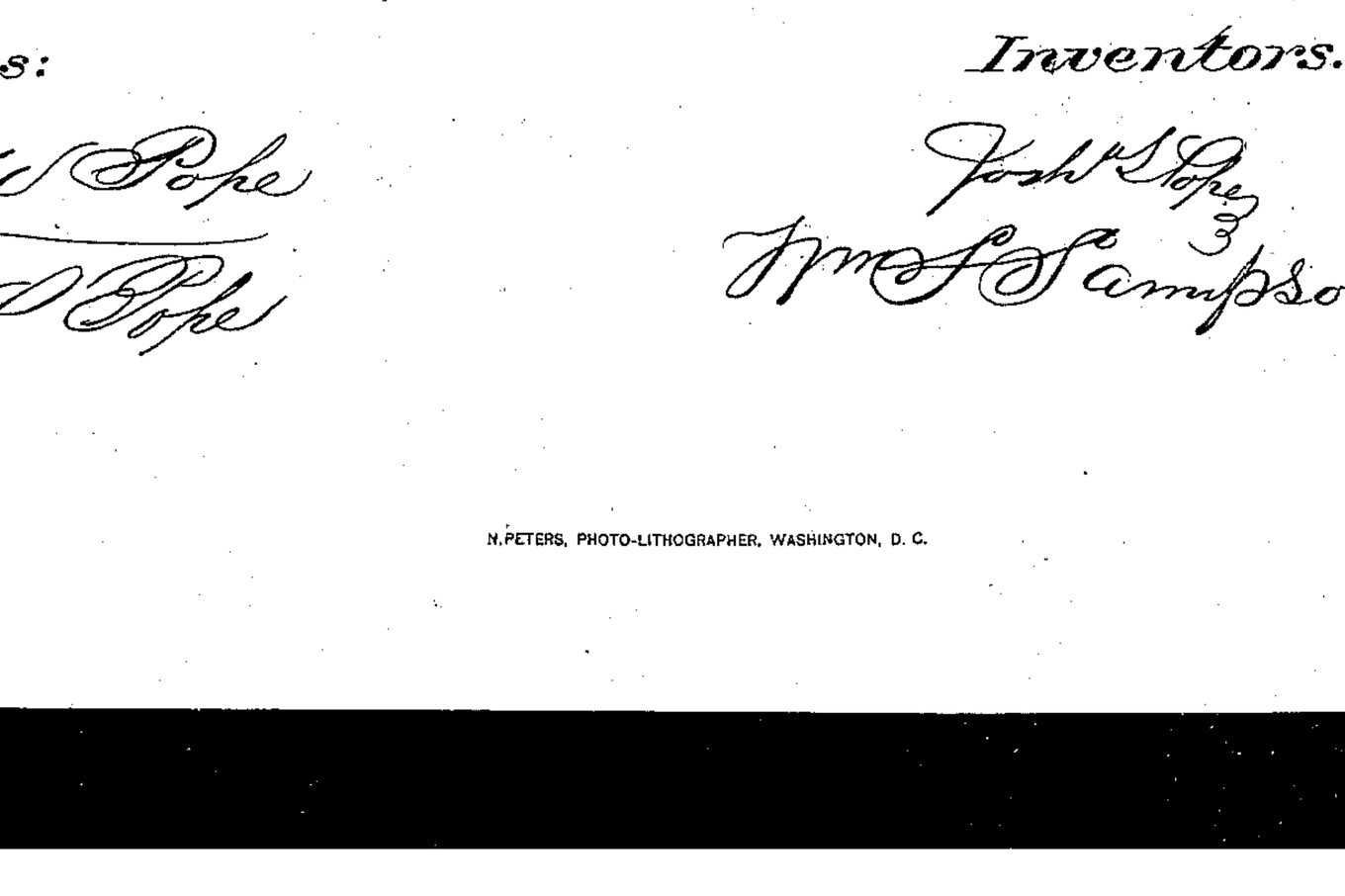


Fig 4



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UNITED STATES PATENT OFFICE.

JOSHUA L. POPE, OF BROOKLYN, AND WILLIAM S. SAMPSON, OF NEW YORK, N. Y.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **205,298**, dated June 25, 1878; application filed April 24, 1876.

To all whom it may concern:

Be it known that we, JOSHUA L. POPE, of the city of Brooklyn, county of Kings, State of New York, and WILLIAM S. SAMPSON, of the city, county, and State of New York, have invented a Car-Coupler, of which the following is a specification:

The object of our invention is to provide efficient means for throwing off or uncoupling the coupling-hook from the face-plate of the draw-bar. This object is accomplished by means of a palm or lifter. This lifter is arranged within the draw-head and below the coupling-hook, having its fulcrum upon the same axle with the coupling-hook. This lifter is bent downward from its fulcrum, so that its body or main portion is below the fulcrum, and thus, in the partial rotation of the lifter to uncouple the front edge of said lifter, advances toward the face of the draw-heads.

By such construction and operation the front edge of the lifter makes a close joint with the upper edge of the inner face of the draw-head, and thus the coupling-hook is thrown off freely, without any liability to catch upon this upper edge in the process of being released.

The mechanism is illustrated in detail in the accompanying drawings, in which similar letters indicate corresponding parts.

Figures 1 and 2 together show a side view. Fig. 3 is an end view of the hook, frame, palm, and lifting-rod with face-plate removed. Fig. 4 is a plan, showing how the frame can be attached to the volute springs without the intervention of the draw-bar. Fig. 5 is a longitudinal section, showing how the frame can be attached to the volute springs without the intervention of the draw-bar.

A is the hook, constructed with an inclined face, to engage easily with and be lifted by the front of the frame E. The hook works freely on the axle B, and is raised by the palm C, which is also attached to said axle, and the rod D from the platform or from the top of the car, as may be deemed expedient, the rod D extending up to the platform or to the top of the car, where it can be raised or lowered by means of a cross-handle or other suitable device. The rod D passes through a slot in the palm C, in which it is loosely buttoned, to allow it to slide freely in the slot, in order that the palm may be raised to its fullest extent.

The frame E, which carries the palm and hook, works freely between the supports G upon rollers F, the supports G being firmly attached to the bottom of the car. To the frame E are attached two bars, H, which are continued beyond the king-bolt of the car, one passing on each side of the king-bolt. After passing the king-bolt they are united by a cross-bar, K, to which is attached the draw-bar L. The draw-bar passes over rollers in the guides M M, which are fastened to the bottom of the car. The bearing-rod or draw-bar L carries the plate or piston N, working between two reciprocating volute springs, O and P, in the box or cylinder Q, which is firmly secured to the bottom of the car.

If it is deemed expedient to obtain the advantages of the combination of the hook, palm, frame, and springs without using the draw-bar, the frame E may be attached directly to the piston or plate N by means of the bars and braces R, as shown in Figs. 4 and 5, in which case the box or cylinder Q, containing the springs, can be attached immediately behind the frame and hook to the bottom of the car.

The manner of operating our invention is as follows: The hook A is so constructed that it projects beyond the frame E and the platform of the car sufficiently to enable it to engage with the front bar of a frame similar to E, attached to the car which it is desired to couple. It is beveled, and of such a shape that the point of the hook is lifted by the pressure of the sloping front upon the bar of the frame. When the cars come together the front bars of the frames on the two cars are in contact, and the hooks drop over them and hold the cars firmly together.

The shock or jar of the cars coming together is taken by the frame E, which yields to the blow, and is conveyed by the draw-bar to the center of the car, where it is met by the resistance of the spring O, which thus acts as a buffer.

To uncouple the cars, it is only necessary to raise the palm C by means of the rod D from the platform or from the top of the car. This raises the hook, and at the same time the point of the hook of the adjoining car, above the top of the bar of the frame, which engages the hooks, when the cars may be separated.

When the cars are coupled and force is applied to pull them, the frame and draw-bar convey the motion to the spring P by means of the plate N, and the jerk or sudden pull of the engine is avoided, and the car put in motion gradually.

We claim as our invention—

In hook car-couplings, a lifter or palm having its fulcrum or axle above the face of said lifter, so as to form a close joint with the inner face of the draw-head when the upper and front edge of the lifter is on a line with the top of the draw-head.

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