J. H. PAYNE.

Car-Couplings.

No. 143,636. Patented Oct. 14, 1873.

Fig: 1.

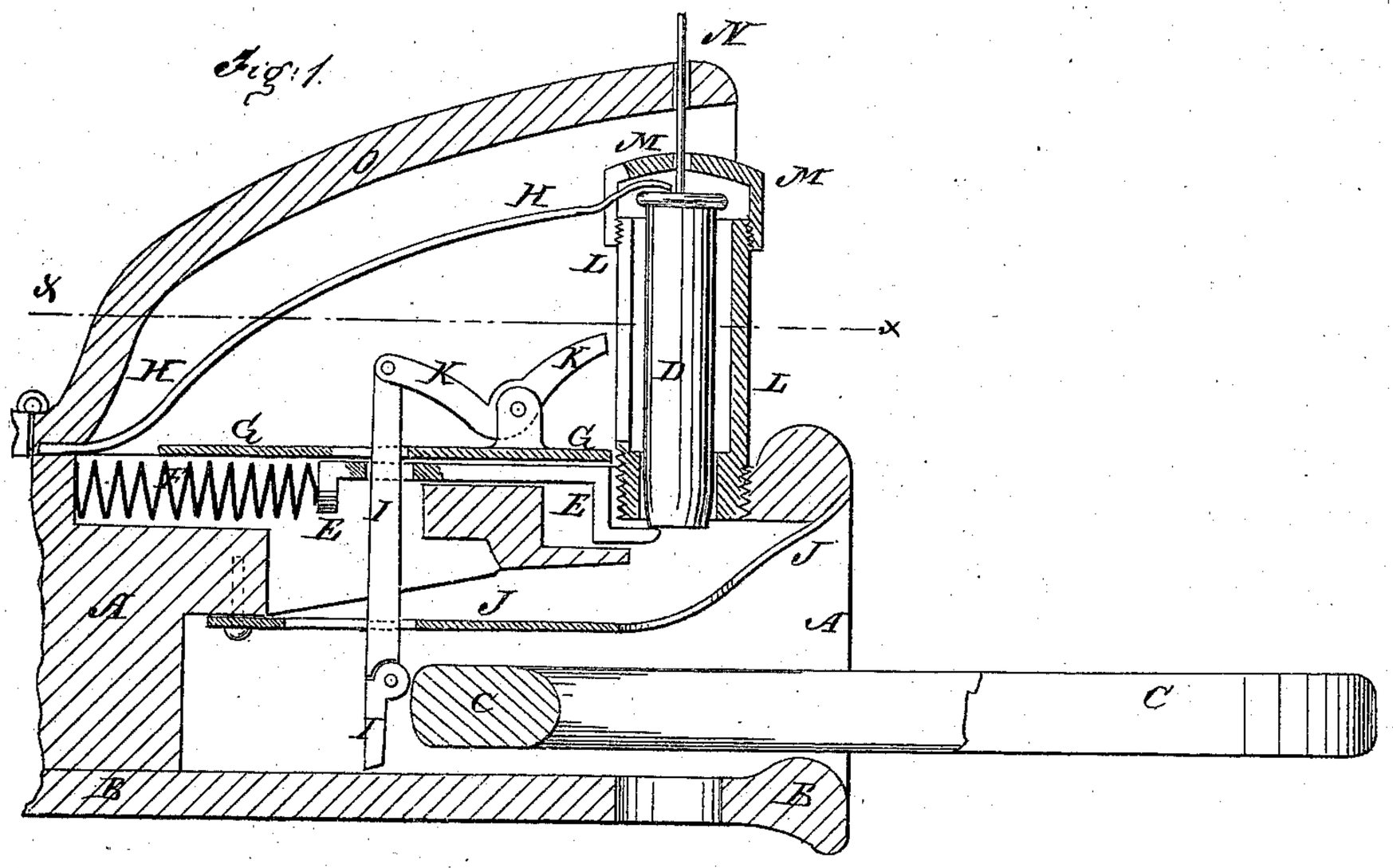
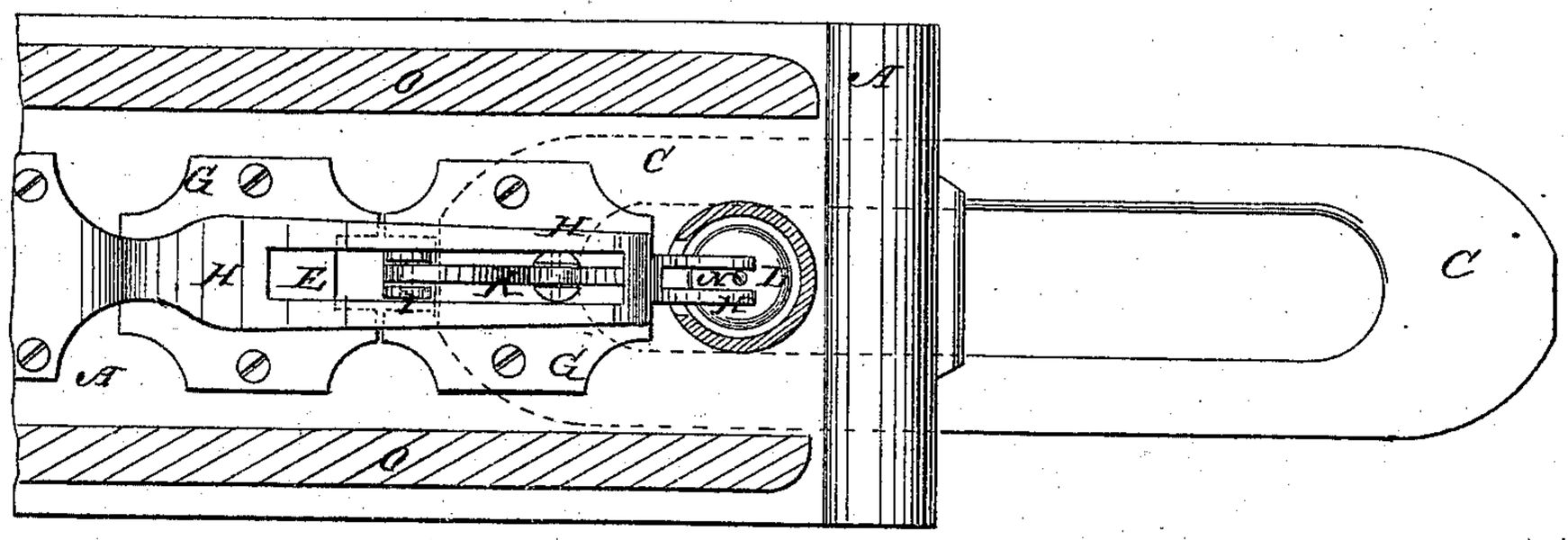


Fig: 2.



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UNITED STATES PATENT OFFICE.

JASON H. PAYNE, OF ROSEVILLE, MINNESOTA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **143,636**, dated October 14, 1873; application filed May 17, 1873.

To all whom it may concern:

Be it known that I, JASON H. PAYNE, of Roseville, in the county of Kandiyohi and State of Minnesota, have invented a new and useful Improvement in Automatic Car-Couplings, of which the following is a specification:

Figure 1 is a vertical longitudinal section of my improved car-coupling. Fig. 2 is a horizontal section of the same taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention comprises improvements in the class of couplings adapted to operate automatically, as hereinafter described and specifically indicated in the claims.

A represents the bumper-head, the mouth of which is made hopper-shaped in the ordinary manner. The lower side of the bumper-head A is formed of a spring, B, the rear end of which is attached to the draw-bar. The spring B should be strong enough to support the link C under ordinary circumstances; but should one or more of the cars drop much below the level of the others, the spring B will yield and allow the link C to be drawn from the pin D. The pin D is supported, when raised, by a bolt or slide, E, which works in a groove or recess in the upper part of the bumper-head A, and is held forward by a coiled spring, F, also placed in a recess in the upper part of said bumper-head A, and which presses against the rear end of the slide E. The slide E and coiled spring F are covered and protected by a plate, G, attached to the upper side of the bumper-head A, and which, for convenience, may be made in two parts. When the slide E is withdrawn the pin D is forced and held down by the spring H, the forward end of which rests upon the upper end of the said pin D, and its rear end is attached to the bumper A. I is a trigger, which passes down through a slot in the plate G, the slide E, the bumper-head A, and the spring J, and its lower end projects into the cavity of the said bumper-head A, so as to be struck by the entering link as the cars are run together and pushed back, withdrawing the slide E from beneath the pin D, allowing said pin to drop down through the bumper-head A, spring J, link C, and spring B. The lower part of the trigger I has a rule-joint formed in it, so that the link C may be withdrawn, even when the trigger I may be down. The upper end of the trigger I is pivoted to the rear end of a bent or elbow lever, K, which is pivoted at its bend to a boss or stud formed upon, or attached to, the forward part of the plate G. The forward end of the lever K projects nearly to the pin D, so that, when the slide E is withdrawn and the pin D drops into place, the forward end of the spring H, as it descends, strikes the forward end of the lever K, raising the rear end of said lever, and lifting the trigger I above the link C, so that it may not interfere with the play of said link C. As the pin D is raised the lever K is released, and the trigger I drops into position to be struck and tripped by the entering link C. The forward end of the spring-plate J is secured to the upper part of the mouth of the bumper-head A, and its rear end is secured to the upper part of the bumper-head, at the inner end of its cavity, by screws or bolts, which pass through short slots in the said spring J, to give it the necessary play. The spring-plate J serves as a guide to the link when entering the bumper-head, keeps the link down when at work, and also protects the mechanism in the upper part of the bumper-head from being injured by the link when entering the said bumper-head. L is a cap to receive, guide, and protect the pin D, and the lower end of which is screwed into the upper part of the bumper-head. The rear side of the cap L is slotted longitudinally to receive the forward end of the spring H. Upon the top of the cap L is screwed a cap, M, the rear side of which is slotted to correspond with the slot of the cap L. The cap M has a hole through its center for the passage of the rod or chain N, the lower end of which is attached to the upper end of the pin D, and its upper end extends up to the platform or top of the car, where it is designed to be connected with a lever, which should have sufficient leverage to withdraw the pin D, even when under the draft-strain. The operating parts of the coupling are covered and protected from rain, snow, ice, accidental blows, &c., by a cap, O, hinged at its rear end to the bumper-head A, and secured at its forward end by hooks or other convenient fastenings,

so that it may be turned back when access to the operating parts of the coupling is necessary.

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

1. The combination of the bent lever K, trigger-lever I, and spring H, substantially as shown and described.

2. The combination of the jointed trigger-lever I with the slide E and spring F, as shown and described, for the purpose specified.

3. The cap O, hinged at its rear end, and arranged to cover and protect the accessory coupling devices on the upper side of the draw-head, as set forth.

JASON H. PAYNE.

Witnesses:
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