J. E. SMITH.

Car-Couplings.

No. 142,818. Patented September 16, 1873.

Fig. 1.

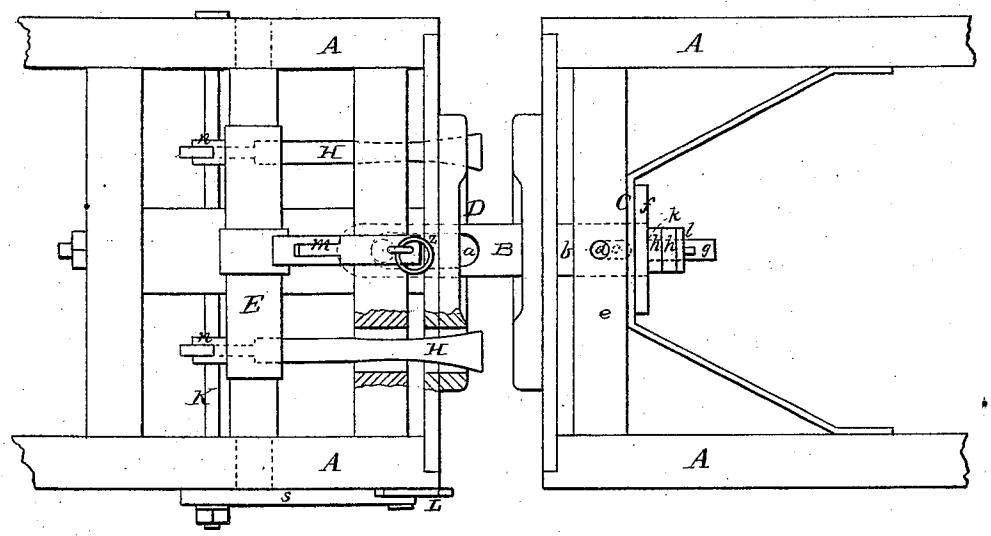
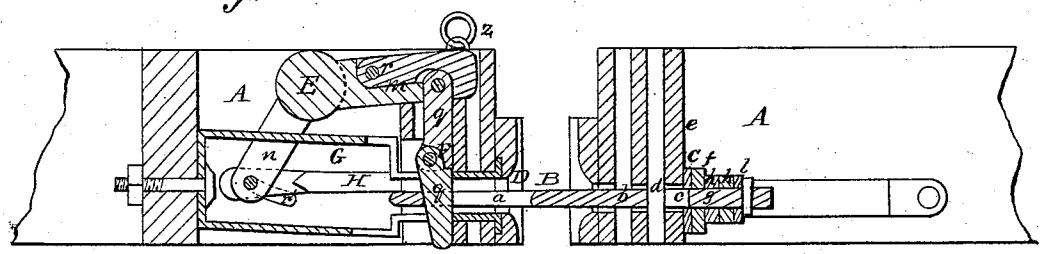


Fig. 2.



Witnesses.
E. A. Bates.
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AM. PHOTO-LITHOGRAPHIC Co. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

JACOB E. SMITH, OF JACKSON, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **142,818**, dated September 16, 1873; application filed March 29, 1873.

To all whom it may concern:

Be it known that I, JACOB E. SMITH, of Jackson, in the county of Lycoming and State of Pennsylvania, have invented a new and valuable Improvement in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of my car-coupling. Fig. 2 is a sectional view of the same.

This invention has relation to means for coupling cars; and it consists in the construction and novel arrangement of the rock-shaft, coupling-pin, and bumpers.

In the accompanying drawings, the letter A designates portions of the bed-frame of two cars. B indicates the coupling-tongue, slotted at *a*, and provided with the flat shank *b*, which is slotted at *c* for the passage of the pin *d* which secures the shank to the frame, and upon which the shank has a certain amount of lateral pivotal play. C indicates a plate, secured to the rear wall of the transverse beam *e*, and slotted for the passage of the shank of the coupling-tongue. To this plate is rigidly secured the packing-block *f*, and to the extended end *g* of the shank the packing-disks *h* are fastened, said disks forming a shoulder, which abuts against the rear face of the packing-block *f*, as indicated at *k*. A metallic washer, *l*, is arranged against the packing-disk, on the end of the shank-extension. D represents the bell-mouth, into which the slotted end of the tongue enters for coupling. E represents a rock-shaft, arranged above and in rear of the bell-mouth D, and provided with the central arm *m* and the lateral arms *n*, the former having a horizontal position extending forward, and the latter extending downward. To the horizontal arm is pivoted the flexible pin F, consisting of two sections, *q*, jointed together at about its middle portion. The arm *m* is also jointed at *r*, so that the pin may be raised by hand without turning the rock-shaft. G indicates the cavity of the draw-head. On each side of the draw-head are arranged the sliding bumpers H. These are pivoted at their rear ends to the downwardly-extending arms *n*, extend forward, and project on each side of the bell-mouth beyond its front wall. K indicates a rod, passing transversely through the pivotal points of the arms *n*, and extending through curved slots *r'* in the sides of the bed-frame. L indicates a lever, pivoted to the side of the frame, and connected with the rod K by means of the bar *s*.

The operation of this car-coupling is as follows: If the coupling-pin is down, the slotted tongue entering the bell-mouth will carry the lower portion of the pin backward on the pivot at its upper end, until it is sufficiently raised to drop into the slot of the tongue. This coupling-action is automatic. If the pin is raised, it may be depressed into the slot of the tongue by means of the lever L, or direct pressure on the end of the arm *m;* or the pin will be automatically depressed by the backward pressure of the sliding bumpers H, as the cars come together. The pin is raised or uncoupled by means of the lever L, at the side of the track, or by lifting it directly from the platform, a ring or handle, *z*, being provided at the end of the arm *m* for this purpose.

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

1. The combination, with the rock-shaft E, arms *m n*, coupling-pin and sliding bumpers H, of the transverse rod K, lever L, and connecting-bar *s*, substantially as specified.

2. The rock-shaft E, having the jointed arm *m*, in combination with the pin F, substantially as and for the purpose described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JACOB E. SMITH.

Witnesses:
PHIL. C. MASI,
GEORGE E. UPHAM.