

(No Model.)

N. MUSLAR.

CAR COUPLING.

No. 368,777.

Patented Aug. 23, 1887.

Fig. 1.

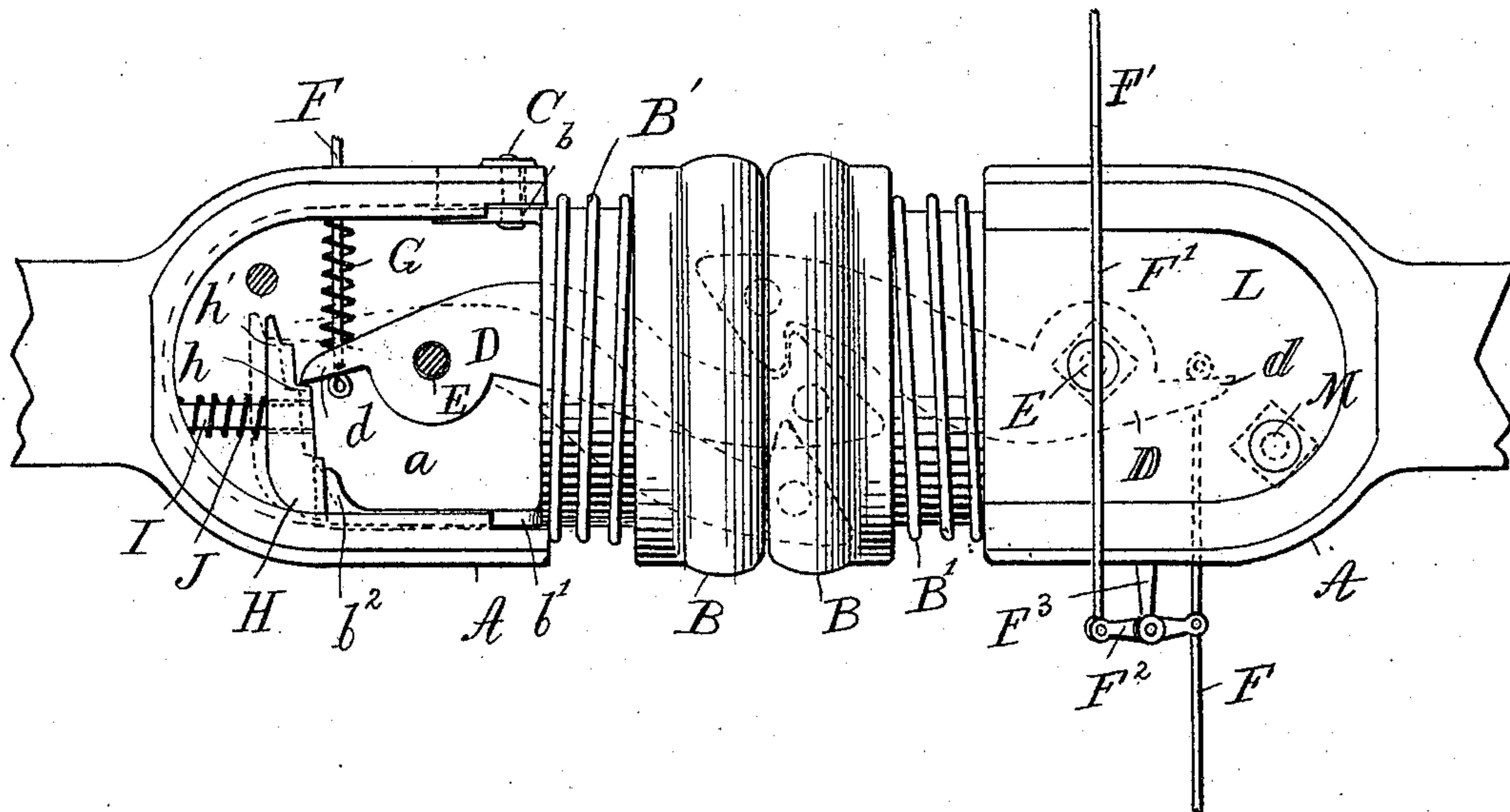


Fig. 2.

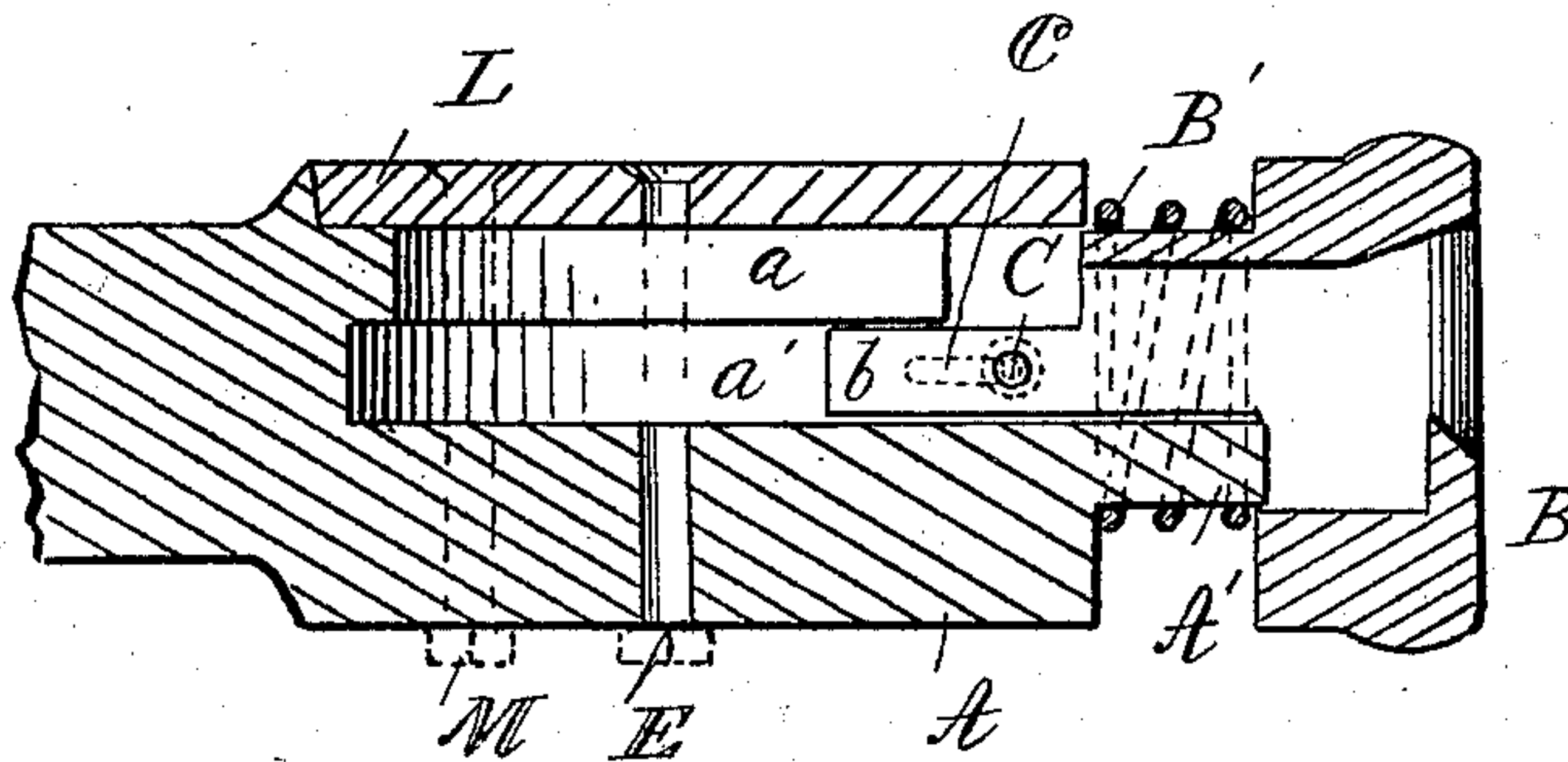
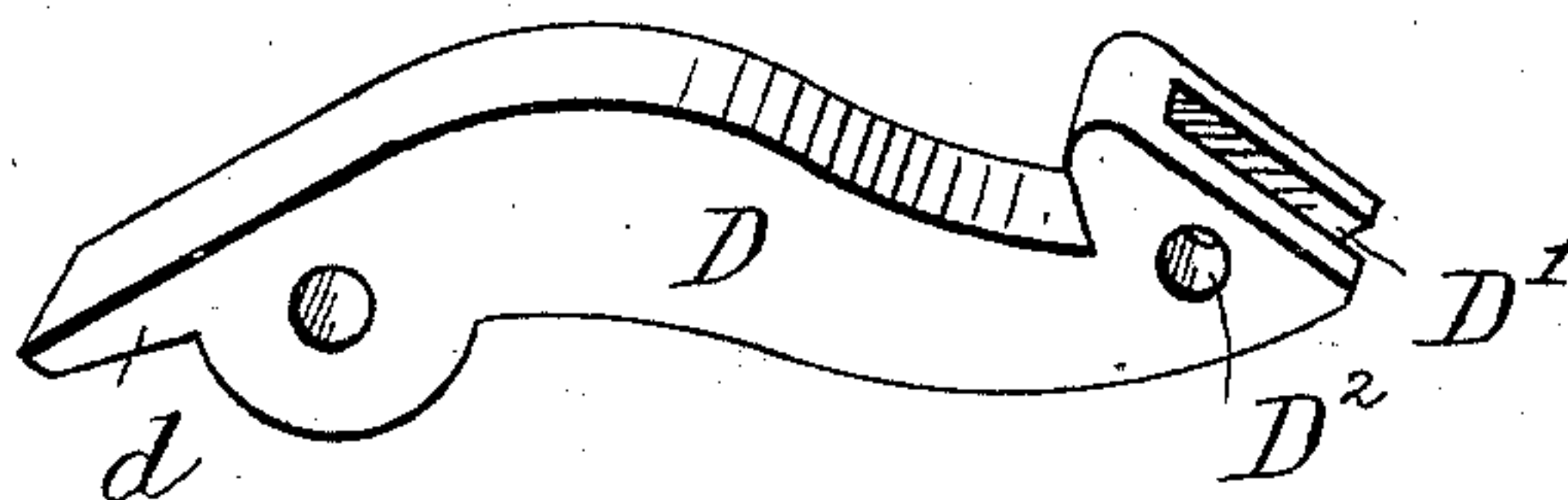


Fig. 3.



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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 368,777, dated August 23, 1887.

Application filed May 27, 1887. Serial No. 239,538. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON MUSLAR, of West Boylston, in the county of Worcester and State of Massachusetts, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The object of my invention is to construct an effective coupler for railroad-cars which may be quickly and conveniently operated; and to this end the invention consists in the construction and combination of parts, as hereinafter fully described and claimed.

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

Figure 1 is a plan view showing two of my improved couplers united, the cap-plate of one draw-head being removed to disclose the construction. Fig. 2 is a central longitudinal section through one draw-head and buffer, the operating devices being omitted; and Fig. 3 is a perspective view of one of the coupling-hooks.

The draw-heads A are each formed with recesses *a*, to receive the inner ends of the coupling-hooks and their operating devices, and each draw-head A is provided with a buffer, B, formed with rearwardly-extending guide-arms *b b'*, which work in a groove, *a'*, in the side walls of the recess *a*, at the bottom of said recess. A bolt, C, passes through the guide-arm *b* and outward through a longitudinal slot, *c*, in the side of the draw-head A, near the front end thereof; or, instead of the bolt C, a stud may be formed on the guide-arm *b* and project through the slot *c*. The other guide-arm, *b'*, is formed with a foot, *b<sup>2</sup>*, for a purpose hereinafter specified. A buffer-spring, B', surrounds the buffer B, behind the head thereof, the rear end of the said spring abutting the forward end of the draw-head A, the buffer B being thus held yieldingly in the draw-head.

At the lower side of the draw-head, at the front end, is formed an extension, A', which projects into the buffer B and limits the inward movement of the said buffer.

The coupling-hook D is pivoted in the recess *a* by a bolt, E, which passes through the draw-head A, and behind the pivot-point the coupling-hook is formed with a tongue or lug, *d*, to which lug is secured the inner end of the

trip or operating rod F of the coupler, the other end of said operating-rod extending outward through the draw-head to a point where it may be conveniently reached by the train-hands.

Surrounding the operating-rod F, within the draw-head A, is a spiral spring, G, which bears against the lug *d* of the coupling-hook D and against the side wall of the recess *a* of said draw-head, the tendency of the spring being to hold the coupling-hook in the locked position until uncoupled by the operating-rod F.

In order that the trip-rod F may be operated from either side of the car, a rod, F', extends from the side of the car opposite that on which the rod F is arranged and across the draw-head above the same, and is connected at its inner end with a lever, F<sup>2</sup>, that is pivoted on a stud pin or arm, F<sup>3</sup>, projecting from the side of the draw-head, the other end of the said lever F<sup>2</sup> being secured to the rod F, so that the coupling-hooks may be disengaged either by pulling directly on the rod F or by indirectly pulling on the said rod through the medium of the rod F' from the other side of the car.

In the recess *a*, in the rear of the coupling-hook, is placed a catch-block, H, formed with steps *h h'* and loosely held on a stem, I, which is surrounded by a spiral spring, J, the tendency of the said spring being to press the said catch-block outward against the lug *d* of coupling-hook D in the direction toward the foot *b<sup>2</sup>* of the guide-arm *b'* of the buffer B. In the coupled position the lug *d* of each coupling-hook is engaged by the step *h* of the stepped catch-block H, as shown in full lines, Fig. 1, while in the uncoupled position the said lug *d* is engaged by the step *h'* of said catch, as shown in dotted lines in the left of Fig. 1. With this construction, the coupling-hooks being in the uncoupled position, as two cars come together, the buffers B are forced inward, the guide-arms *b b'* sliding in the groove *a'* of the draw-head until the inner end or foot, *b<sup>2</sup>*, of the guide-arm *b'* strikes the catch-block H, tripping the said block and disengaging it from the coupling-hook, thus allowing the springs G to swing the said coupling-hooks and automatically couple the cars.

To uncouple the cars, the operating-rods F



are drawn outward, which swings the coupling-hooks on their pivots and disengages the hooked ends thereof. The coupling-hooks are held in the uncoupled position by being engaged by the step *h'* of the spring catch-block H, and will be retained in this position until the guide-arm *b'* of buffer B again releases the catch-block H upon the cars coming together.

With my improved coupler the cars are automatically coupled upon coming together, and the buffer-springs B' hold the two buffers B close together, so that no space remains between them wherein the foot of a person might be caught.

The form and arrangement of the springs shown, it will be understood, are merely the preferred construction, as it is evident they may be varied without departing from the spirit of my invention.

Each coupling-hook is formed with the lateral recess D' in its outer end, and with a hole, D<sup>2</sup>, at right angles thereto, so that a car provided with my improvement may be coupled onto a car having the ordinary link-and-pin coupler. The recess *a* is closed by means of a cap-plate, L, which is secured in place by the pivot-bolts E of the coupling-hooks and the additional bolt M. The opening in the buffer B is preferably made flaring, as shown in Fig. 2, so that when two cars of different heights come together the coupling-hooks will be guided into the buffers.

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

1. The recessed draw-head and a spring-buffer at the front end thereof, in combination with the coupling-hook, the operating-rod, and a catch-block for the inner end of the said hook, substantially as shown and described.

2. The combination, with the recessed draw-head A, of a buffer, B, at the front end thereof, provided with guide-arms *b b'*, the coupling-

hook D, and a spring catch-block, H, adapted to be tripped by one of the guide-arms of the buffer B, and the operating-rod F, substantially as shown and described.

3. The draw-head A, formed with recess *a* and groove *a'*, the buffer B, having guide-arms *b b'*, and the spring B', in combination with the coupling-hook D, formed with the lug or tongue *d*, the catch-block H, formed with steps *h h'*, and the operating-rod F and spring G, substantially as shown and described.

4. The draw-head A, formed with recess *a*, groove *a'*, and longitudinal slot *c*, the buffer B at the front end of said draw-head, formed with the guide-arms *b b'*, and the bolt C, passed through the guide-arm *b* and the slot *c*, in combination with the pivoted coupling-hook D, formed with tongue or lug *d*, the catch-block H, stem I, and spring J, and the operating-rod F and spring G, substantially as shown and described.

5. The combination, with the draw-head A, of the separate and independent sliding buffer in front and outside of the draw-head and a spring, B', between the buffer and head, substantially as set forth.

6. The draw-head A, formed with recess *a* and forward extension, A', in combination with buffer B and spring B'.

7. The combination, in a car-coupler and with the coupling-hook thereof, of the operating-rods F F', extending at opposite sides of the coupler and connected together by a link, F<sup>2</sup>, substantially as shown and described.

8. The coupling-hook D, formed with the rear lug, *d*, and formed at its front end with a slot, D', and with a hole, D<sup>2</sup>, running at right angles to the said slot, substantially as shown and described.

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Witnesses:

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