J. B. TRACY.

Car-Couplings.

No. 143,429. Patented Oct. 7, 1873.

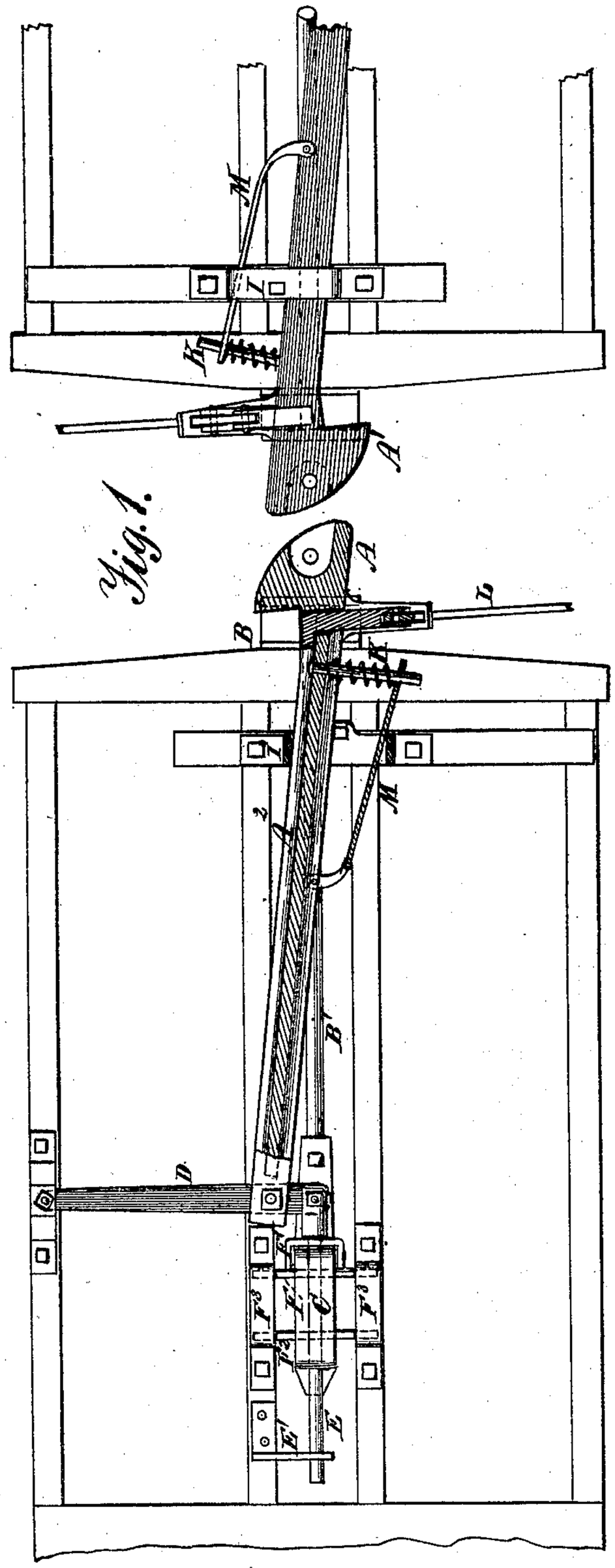

Fig. 1.

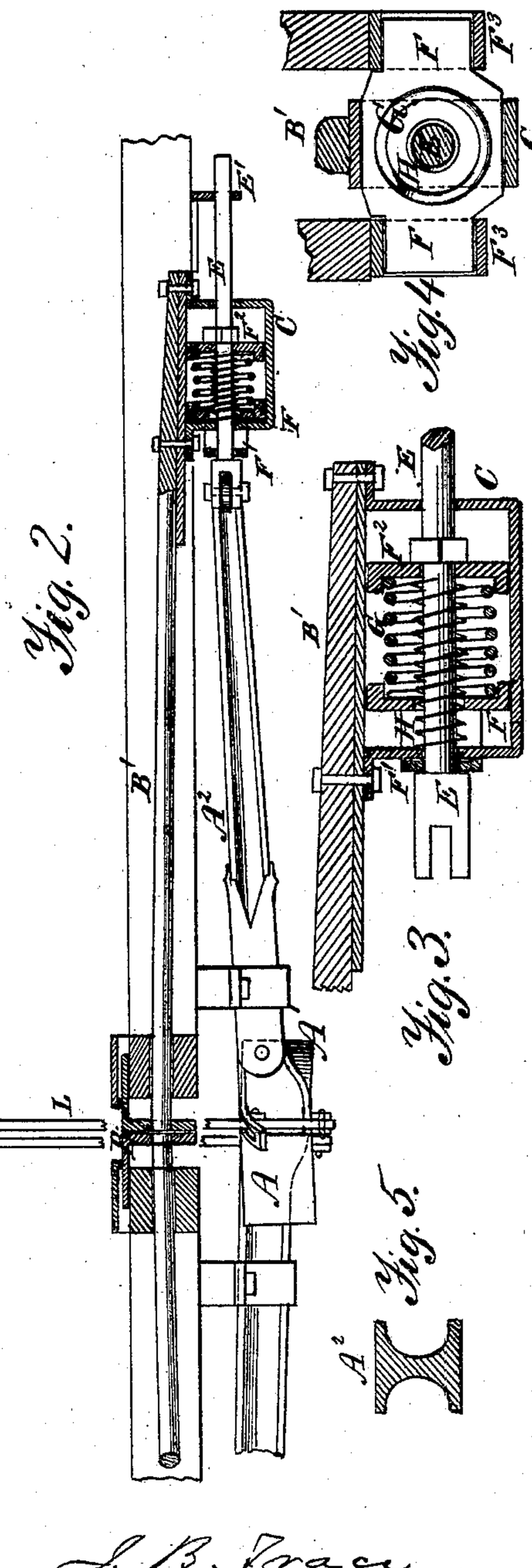

Fig. 2.

Fig. 4.

Fig. 3.

Fig. 5.

Witnesses.
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UNITED STATES PATENT OFFICE.

JOSEPH B. TRACY, OF LINCOLN, DELAWARE.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **143,429**, dated October 7, 1873; application filed May 3, 1873.

To all whom it may concern:

Be it known that I, JOSEPH B. TRACY, of Lincoln, in the county of Sussex and State of Delaware, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings making part of this specification, in which—

Figure 1 is a bottom view of the platforms of the cars. Fig. 2 is a longitudinal section of the same. Fig. 3 is a longitudinal vertical section, showing the springs and plates of the buffer and draw-bar. Fig. 4 is a transverse vertical section of the same, and Fig. 5 is a section, showing the form of the draw-bar.

The same letters are employed in all the figures in the designation of identical parts.

On the 12th day of December, A. D. 1871, I took out Letters Patent, No. 121,823, for improvements in car-couplings, upon which my present invention is a further improvement.

In the annexed drawings, A A^1 are the two hook-headed draw-bars, which, when separately coupled by links with the ordinary draw-bars, act also as buffer-heads; but when connected as shown in the drawings, the buffers B act, by the elasticity of their springs, not only as buffers, but also to hold the hooks together. This feature, being well known, need not be further explained. The draw-bars A^2 are pivoted on the opposite side of the central line of draft, which they cross diagonally to levers D, which are bolted at the end of the long arm to the side frame of the car. The bars B′ of the buffer-heads B are placed in the line of draft, and bolted to a frame, C, which slides freely on the rod E, to the forward end of which the short arm of lever D is bolted. A plate, F, is also fastened to the rod E, so as to move with it backward, and a stirrup-plate, F^1, fastened to plate F, passes around and incloses the end of frame C, so as to give to the latter an independent movement between F^1 and F, with the application to the buffer of force only sufficient to act upon the weaker spring H, but which, when the pressure on the buffer is increased, bearing against the plate F, would also compress the spring G, which is placed between the two plates F and F^2. These plates slide in stirrup or frame pieces F^3, (shown in Figs. 1 and 4,) so that pressure on the buffer or draw-bars shall act to push back the plate F, while draft on the draw-bar draws forward the plate F^2. The draw-bars are supported in stirrups I, which permit their lateral movement. They are pressed forward by springs K′ coiled around rods K, and are detached by the lever L. As all these parts are fully described in my said former Letters Patent it is unnecessary to further describe them. By pivoting the draw-bars on the opposite side of their line of draft from their heads, I secure the continued contact of the opposed faces of the hooks, while the cars remain upon the track, as the tendency of the draft is to hold them together. The intervention of the lever D enables me to secure this useful effect.

I am aware that one set of springs for the draw-bar and another for the buffer, but capable of being brought jointly into exercise by pressure on the buffer, have been used. By the concentric arrangement of the two springs, and the arrangement of the stirrups and plates, I obtain the combined strength of the two springs to resist excessive pressure on the buffer, while, when the cars are coupled, the weaker spring only exerts its tension against the buffers, while both unite to resist the strain of the draft.

When only one such car is used in connection with an ordinary draw-head and link, the draw-bar may be confined by passing a pin through the hole shown in the stirrup in Fig. 1 at I.

In addition to the features connected with the draw-bar contained in my said former Letters Patent, I have introduced the following improvements: The spring M is pivoted to the draw-bar, and passes through the stirrup I, and has a hole near the end for the rod K to pass through it, so that the spiral spring K′ may bear against the spring M, which accompanies the draw-bar in all of its movements, and permits the free movement thereof without affecting the action of the spring.

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

1. The hook-headed draw-bar, arranged diagonally across the central line of draft, so that the hook is on one side and the pivot on the other side thereof, substantially as set forth.

2. In combination with the draw-bar and spring to which the draft is applied, the intermediately-placed lever, with which both are connected, substantially as set forth.

3. In combination with the draw-bar and buffer-bar, the concentrically-arranged springs, sliding plates, and stirrups, arranged to operate substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH B. TRACY.

Witnesses:
WILMER BRADFORD,
A. RUPPERT.