(No Model.)

E. WEIDLING.

Car Coupling.

No. 237,648. **Patented Feb. 8, 1881.**

Fig: 1.

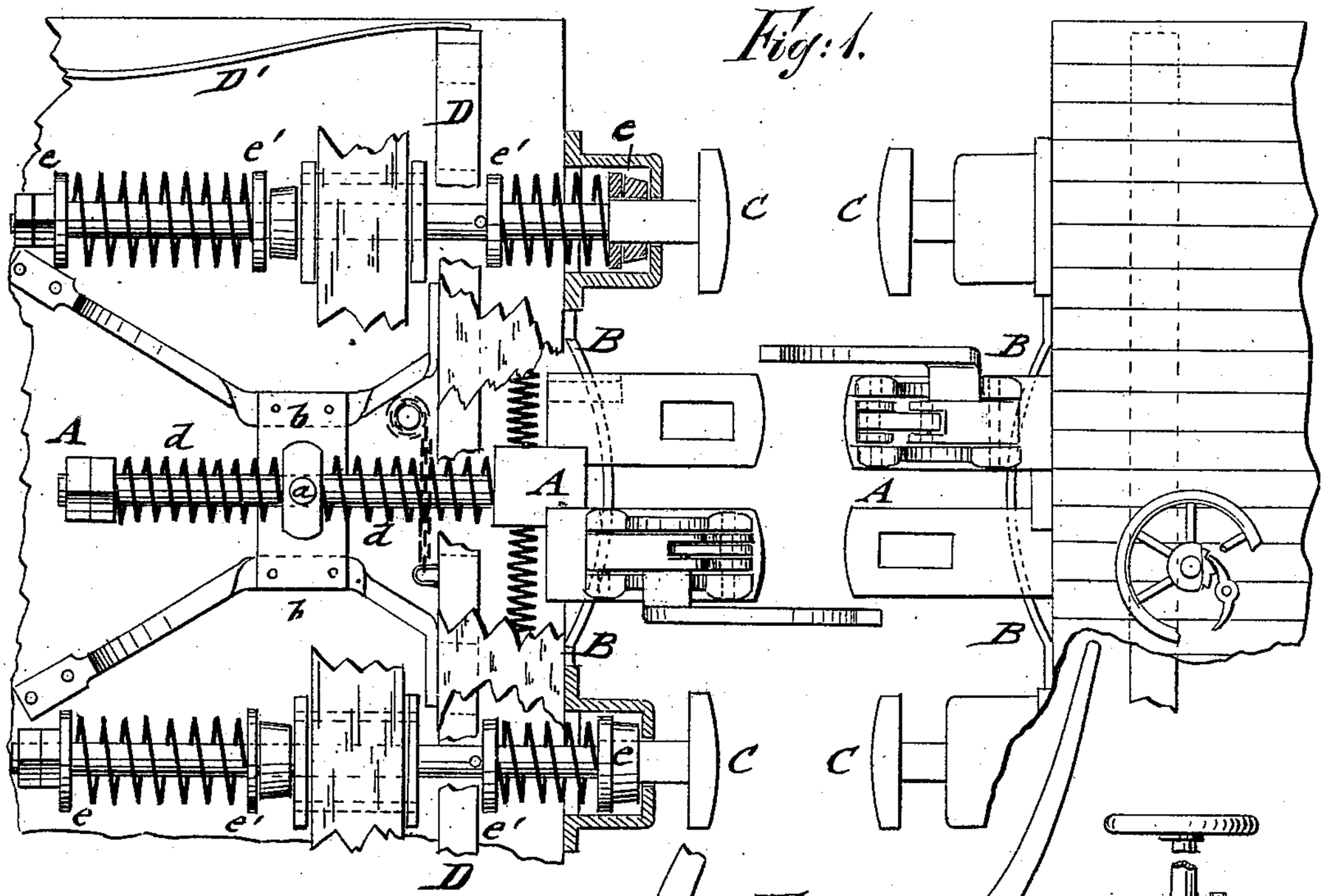


Fig: 2.

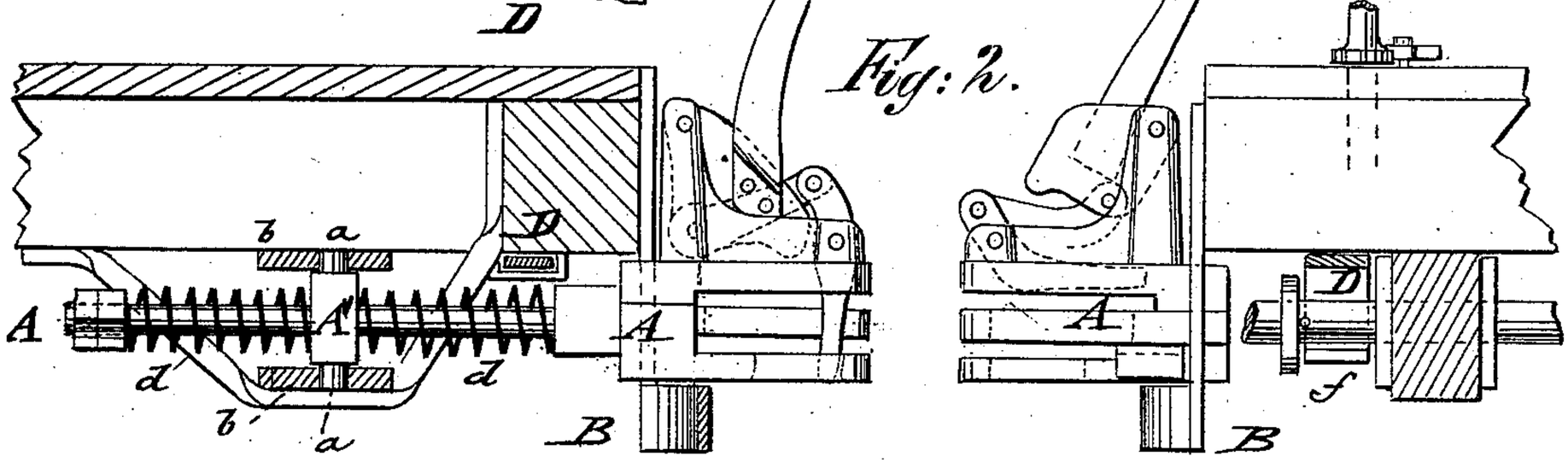
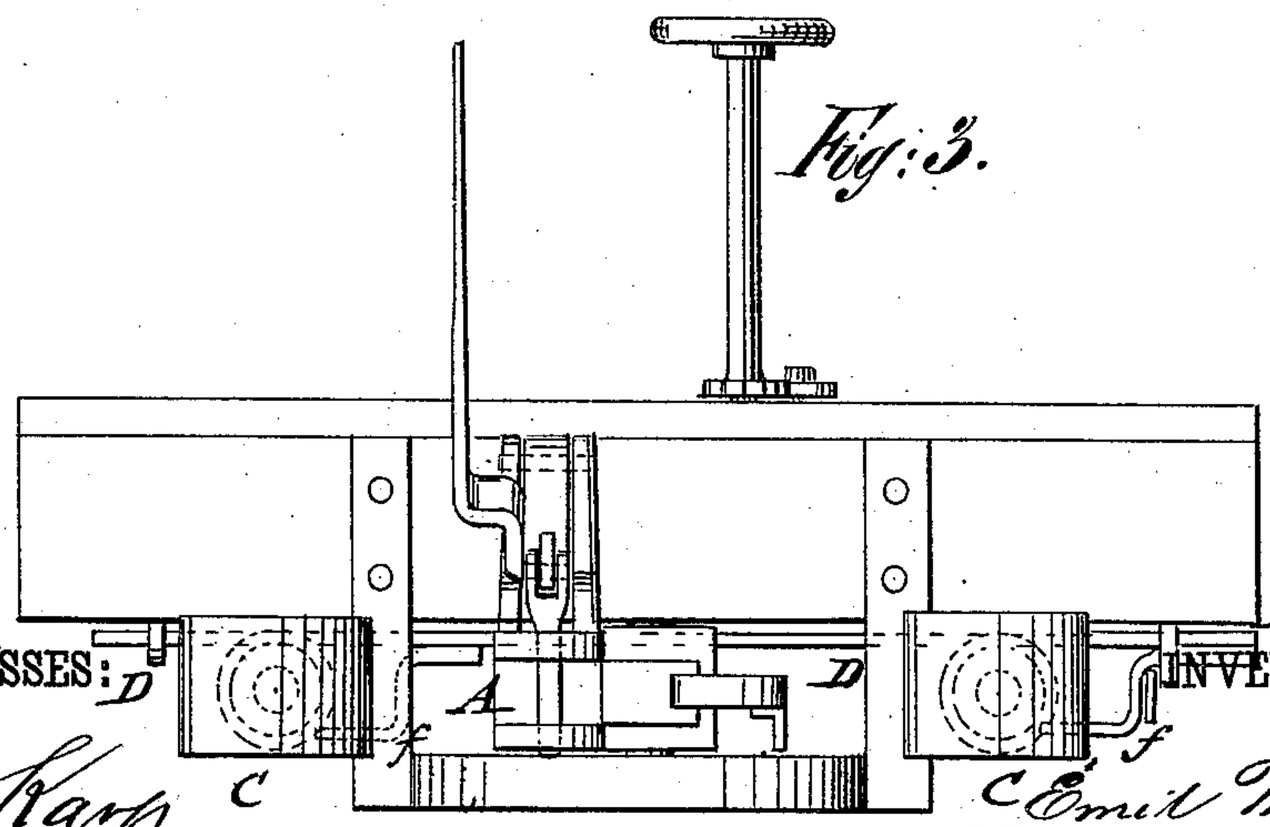


Fig: 3.



WITNESSES:

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 237,648, dated February 8, 1881.

Application filed July 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, EMIL WEIDLING, of the city, county, and State of New York, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to improvements in the car-coupling for which Letters Patent have been granted to Charles G. Weidling under date of January 20, 1880, and numbered 223,686, and by which greater facility in coupling is obtained, and also greater flexibility of the interlocking parts in rounding curves; and the invention consists, first, in arranging the draw-head and its coupling mechanism in such a manner that it is capable of moving in lateral direction on a pivot, being supported on an arc-shaped guide concentric to the pivot; and it consists, secondly, of arranging at each side of the draw-head spring-cushioned buffers, which, in coupling, recede sufficiently by withdrawing a transversely-sliding and spring-pressed bracket-bar, but which is thrown back of the buffers after coupling, so as to give less play to the same.

In the accompanying drawings, Figure 1 represents a sectional bottom view and a top view of my improved coupling and its buffers. Fig. 2 is a vertical longitudinal section and a side view, and Fig. 3 an end view of the same.

Similar letters of reference indicate corresponding parts.

A in the drawings represents a draw-bar, which consists of a draw-head that is open at the sides, and provided with slotted top and bottom plates, and of a fixed link arranged sidewise of the draw-head, and at a height midway between the top and bottom plates of the draw-heads, as appears more fully in the patent of Charles G. Weidling heretofore referred to. To the top plate of the draw-bar is pivoted a swinging coupling-pin, which, in in connection with a weighted coupling and uncoupling lever mechanism, admits the coupling and uncoupling of the link of the adjoining car, as shown clearly in Figs. 1 and 2. The rear portion of the draw-bar A passes through a guide-piece, A′, which is applied, by top and bottom pivots *a*, to transverse bearings *b* at the bottom of the car-frame, the lower bearing, *b*, being supported by bracket-rods attached to the bottom of the car-frame, as shown in Figs. 1 and 2. Intermediately between the guide-piece A′ and the enlarged front and rear ends of the draw-bar A are interposed strong spiral springs *d*, one of them serving as the cushioning-spring for the draw-bar, the other as the return-spring for the same when the draw-bar has been drawn out by the strain exerted thereon by the coupling.

At the front end of the car-frame, and below the draw-bar A, is arranged an arc-shaped supporting-plate, B, the ends of which are rigidly attached to the car-frame, and which serves for the purpose of guiding the draw-bar in its lateral motion around the pivots of the guide-piece A′ when following the motion of the car in passing curves. The arc-shaped support B is concentric to the pivoted guide-piece, and enables the coupling to move to either side as required by the motion of the cars without exerting any strain on the coupling mechanism itself. This pivot-connection and guide-support of the draw-bar removes the rigidity so common in car-couplings and imparts a certain flexibility thereto.

At each side of the draw-bar A is arranged a spring-cushioned buffer, C, which is guided in a suitable manner parallel to the longitudinal axis of the car at the under side of the car-frame. Each buffer C is provided with front and rear cushioning-springs, which are interposed between fixed and loose disks *e e′*, applied to the buffer-rods.

A transverse stop-bar, D, is supported in suitable guides at the bottom of the car-frame, and provided with brackets *f*, which extend back of the loose cushioning-disks *e′* of the front cushioning-springs of the buffer-rods, as shown clearly in Fig. 2, the bar being acted upon in one direction by a strong spring, D′, and moved in opposite direction by means of a chair and a vertical shaft with hand-wheel and pawl-and-ratchet device.

When it is desired to couple the cars, the stop-bar D is thrown, by the hand-wheel and connecting mechanism, to one side, so that its bracket-stops clear the disks of the front cushioning-springs, by which the play of the buffers is increased, and thereby the entrance of the fixed links into the draw-heads of each coupling facilitated, and the reliable dropping of

the coupling-pins secured. The uncoupling-lever mechanism, being applied to the draw-head, moves therewith, and is always ready to couple or uncouple, in whatever position the draw-heads may be toward each other, and on straight or curved parts of the track. As soon as the coupling is accomplished the pawl is withdrawn from the ratchet on the shaft of the transverse stop-bar D, and thereby the stop-brackets of the same thrown by its spring back of the loose front disks of the buffer-rod, after which the latter are prevented from moving with the same play as before, while they "give" sufficiently to facilitate the rounding of curves and to follow the lateral movements of the draw-bars.

For the purpose of keeping the draw-bars when at rest in line with the longitudinal axis of the car-frame, the draw-bar is acted upon by balancing-springs at each side, which springs return the draw-bar into a central position on the car-frame whenever it has been moved to either side thereof.

By this construction the coupling receives a high degree of flexibility and play to either side of the center line of the car, while at the same time the reliable coupling or uncoupling of the same is secured by the lateral stop-bar of the buffers. A main objection to the present styles of car-couplings is thereby overcome and the usefulness of the same enhanced.

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

1. In a car-coupling, the combination of a longitudinally and laterally spring-cushioned draw-bar, which carries the entire coupling mechanism at its front end, with a supporting arc-shaped front guide, and with a perforated guide-piece, through which the rear part of the draw-bar *f* is passed, said guide-piece being vertically pivoted to the car-frame and a supporting-bracket, substantially as set forth.

2. In a car-coupling, the combination of spring-cushioned buffers, arranged at each side of the draw-bar, with a transversely-movable stop-bar having fixed brackets, and with mechanism by which the brackets of the stop-bar are adapted to clear the buffer-disks or to be thrown back of the same, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 3d day of July, 1880.

EMIL WEIDLING.

Witnesses:

PAUL GOEPEL,

CARL KARP.