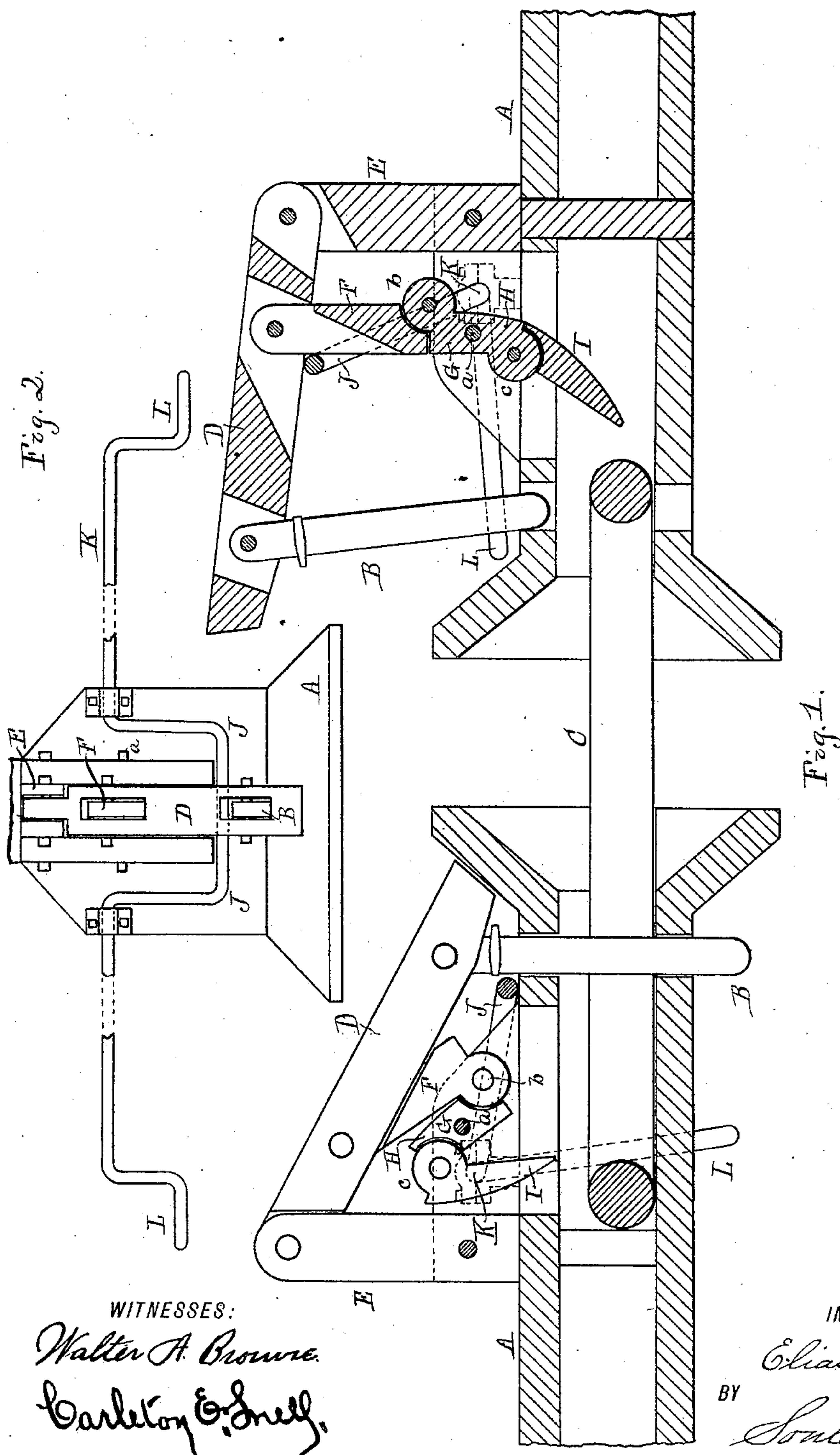


(No Model.)

E. FRANTZ.
CAR COUPLING.

No. 453,978.

Patented June 9, 1891.



WITNESSES:
Walter A. Browne.
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UNITED STATES PATENT OFFICE.

ELIAS FRANTZ, OF ALLENTOWN, ASSIGNOR OF ONE-HALF TO LEWIS GUTTENTAG, OF COPLAY, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 453,978, dated June 9, 1891.

Application filed February 26 1891. Serial No. 382,945. (No model.)

To all whom it may concern:

Be it known that I, ELIAS FRANTZ, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

The present invention consists in improvements applicable to existing railway-cars having pin-and-link couplings, whereby the same are rendered automatic in coupling, and may be uncoupled without necessitating a train-man passing between adjacent cars.

The present improvements are illustrated in the accompanying drawings, wherein—

Figure 1 shows in longitudinal vertical section two adjacent draw-heads, the coupling-pin of one being shown elevated and that of the other lowered; and Fig. 2 shows a plan view of one of the draw-heads.

In the drawings, A A are chambered draw-heads of two adjacent and approaching railway-cars.

B B are the coupling-pins thereof, and C is a coupling-link.

Each pin B is pivotally connected at its upper end to the front end of a bar D, the rear end of which is pivoted to a stationary vertical bracket E, fixed to the draw-head. When the bar D is raised, the pin B is out of connection with the link C, and when lowered the pin enters the link and so couples the cars. The bar D is maintained in its elevated position by a toggle-joint, the upper member F of which is pivoted to the bar D, and the lower member G of which is pivoted at *a* to the draw-head or a fixed part thereof. The two members F G of the toggle-joint are connected by a knuckle-joint *b*. By bending or breaking the joint between the two toggle members F G, the bar D, and with it the coupling-pin B, will drop. This is automatically effected by the entrance of the coupling-link C into the draw-head, having its coupling-pin elevated. The lower toggle member G constitutes in itself a lever, since it is provided with a downwardly-extending extension or tail H below its pivot. To this extension is pivoted and suspended by a knuckle-joint *c* a pawl I. This pawl I is free at all times to

swing forward on its pivot, but cannot swing on its pivot backward beyond a vertical plane when the bar D is raised. When the coupling-link C enters the draw-head, it encounters the pawl I, which is then located within the chamber of the draw-head, thus forcing the pawl I and the lower toggle member C to swing backward on the pivot *a*, and consequently breaking the joint between the two toggle members and allowing the coupling-pin to drop into the link. In order to uncouple it, it is only necessary to lift the bar D. This can conveniently be done by a bail J, extending beneath the bar D, said bail being carried by a rotary shaft K, extending to the sides of the car and having operating-handles L. If when the uncoupling is effected the pawl I comes in front of the end of the link, it will not interfere with the withdrawal of the link, since the pawl will swing forward out of the way.

I claim as my invention.

1. In a car-coupling, in combination with the draw-head, the bar D, pivoted thereto, and at its front end the coupling-pin, and toggle-joint F G, pivoted at opposite ends to the said bar D and draw-head, substantially as described.

2. In a car-coupling, in combination, the draw-head, bar D, toggle-joint F G, pivoted at opposite ends to the said bar and draw-head, and the swinging pawl I, connected to the said toggle-joint and adapted to be engaged by the coupling-link to trip the coupling-pin, substantially as described.

3. In a car-coupling, in combination with the bar D, pivoted to the draw-head, having the coupling-pin pivoted thereto, and toggle-joint composed of the members F G H, the bail J, extending beneath the bar D, and having crank-shaft K L, substantially as described.

4. A chambered draw-head, a coupling-pin, a bar pivoted at opposite ends to said draw-head and pin, and a toggle-joint consisting of two members connected together by a knuckle-joint, the upper of said toggle members being pivoted to said bar, and the lower of said toggle members being pivoted to the

draw-head and having a portion extending
below said pivot, in combination with a pawl
connected by a knuckle-joint to said down-
wardly-extending portion of said lower toggle
5 member, said pawl hanging within the cham-
ber of the draw-head when said bar is raised,
substantially as set forth.

In witness whereof I have hereunto signed
my name in the presence of two subscribing
witnesses.

ELIAS FRANTZ.

Witnesses:

LEWIS GUTTENTAG,
JAMES F. KRESSLER.