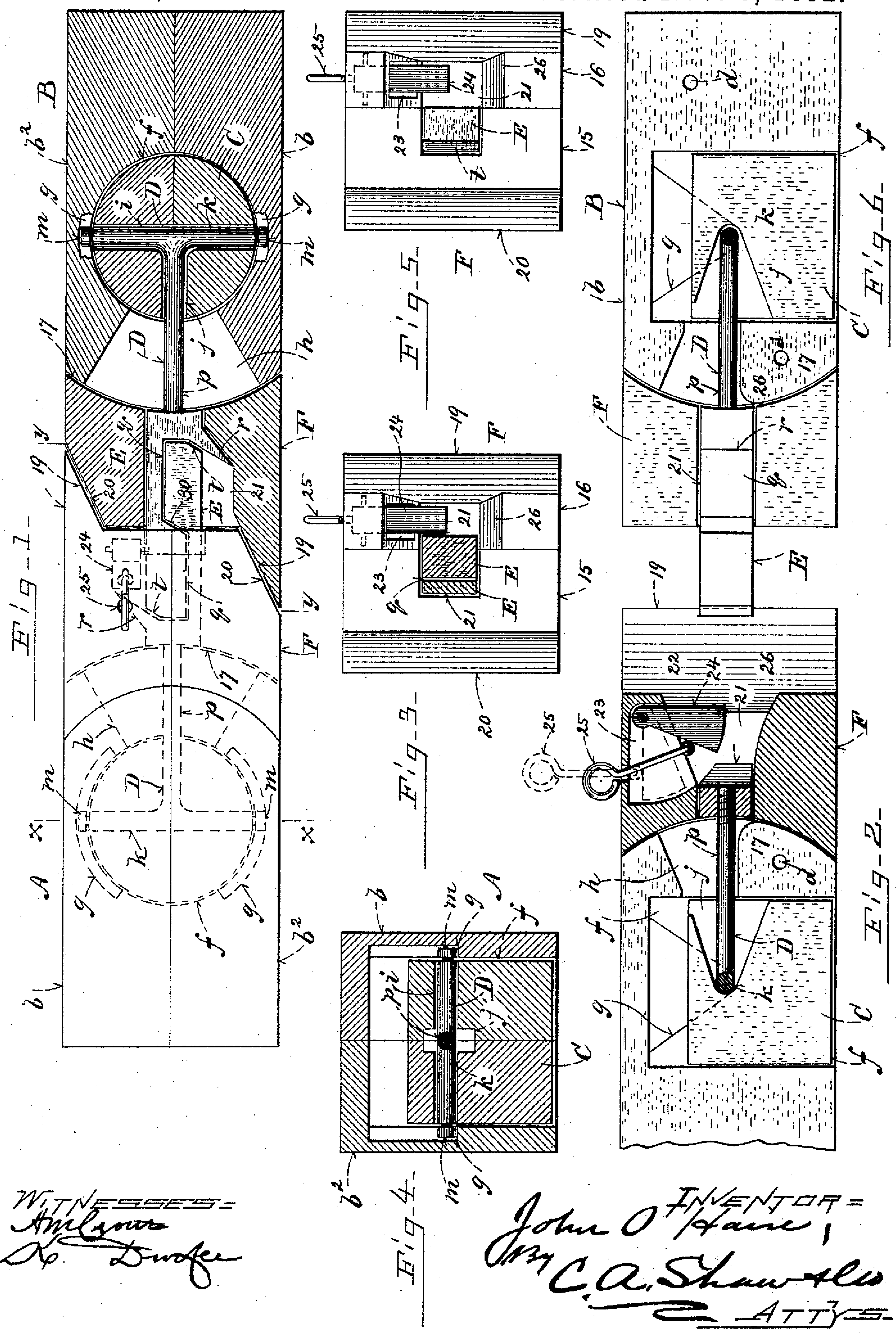
(No Model.)

J. O'HAIRE.

CAR COUPLING.

No. 485,878. Patented Nov. 8, 1892.



Witnesses=

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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 485,878, dated November 8, 1892.

Application filed May 23, 1892. Serial No. 434,049. (No model.)

To all whom it may concern:

Be it known that I, JOHN O'HAIRE, of Cambridge, in the county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Car-Couplers, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved car-coupler, one member thereof being shown in horizontal section; Fig. 2, a sectional view taken on line *z z* in Fig. 1; Fig. 3, a transverse section taken on line *y y* in Fig. 1; Fig. 4, a vertical transverse section taken on line *x x* in Fig. 1; Fig. 5, an end elevation of one of the coupling members; and Fig. 6, a side elevation, one of the retaining-blocks being removed.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to an automatic coupler for railway-cars; and it consists in certain novel features hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A B represent the coupler members. These members are designed to be secured rigidly to the draw-bars of the cars and are respectively constructed of two blocks *b* b^2, secured together by bolts passing through suitable openings *d*. (Shown in Figs. 2 and 6.) These blocks retain the coupling mechanism. The blocks are provided interiorly with a cylindrical chamber *f*, in which a circular block of iron C is fitted to rotate, said block being formed in two sections, as shown in Fig. 4, and secured together. The upper end of the chamber *f* is enlarged, and two segmental shoulders or ways *g* are formed therein. These ways are V-shaped in side elevation, as shown in Figs. 2 and 6. A passage *h* opens from the chamber *f* through the end of the bar. The block C is provided with an opening *j* in its forward end, which registers with the passage *h*. The inner end of said opening is transected by a lateral opening *i*. (Shown in Figs. 1 and 4.) In these openings the head and shank, respectively, of a T-shaped coupling-bar D are disposed. Each end of the head *k* of the T-shaped bar is provided with a roller *m*, which works in the segmental groove *g*. This arrangement permits of lateral and vertical movement to the shank *p* of the bar, while restraining it against longitudinal movement. On the outer end of the shank *p* of the bar D the coupling-head E is rigidly secured. Each head is hooked and provided near its inner end with a lateral depression *q* to receive the head of the companion coupling member, as best shown in Fig. 1. From the inner end of said depression a diagonally-projecting guide, stud, or wing *r* is formed. The outer end of the head proper is beveled on its outer edge at *t* to engage said guide and throw said head laterally inward, as hereinafter described. The shank or depressed portion *q* of the coupler-head E is inclosed in a movable block F. Said block is formed of two members 15 and 16, secured together in the same manner as the draw-bars or bodies A B. The outer ends of said bars A B are convex at 17 and the blocks F concaved to work thereon. The head proper E projects beyond said block. The outer end of each block F is provided with a beveled forwardly-projecting wing 19 at one edge and with a bevel 20 at the opposite edge registering with the wing of the companion member, the purpose of said wings being to impart the proper lateral movement to the draw-bar when the members meet and engage the coupler-heads E. The chamber 21 in the block F, in which the head E is disposed, is provided above its mouth 22 with a vertical chamber 23, (see Fig. 2,) in which a locking-lever 24 is pivoted. The handle 25 of said lever projects upward through the block F. Said lever 24 is arranged opposite the shank *q* of the head E, and the mouth of the chamber 21 is beveled or curved downward at 26 outside said shank.

In the use of my improvement, when the cars are run together the head of the coupler

E enters the mouth of the chamber 21, engaging the swinging lever 24, throwing it upward into its chamber 23, permitting said head to enter the chamber 21 of a block F. The bevel 20 on the block carrying said head, at the same time engaging the wing 19 on the companion-block, causes the parts to center and the heads of the couplers E to throw laterally and interlock. The pivot of the T-bar D permits lateral and vertical movement to enable the parts to thus center. As the couplers E E are thus thrown laterally to lock, a space in the chamber 21 (see Figs. 3 and 4) is afforded for the lever 24 to drop down, preventing the couplers E E from disengaging. To uncouple the cars, the lever 24 is elevated by means of its handle 25. The strain between the cars will cause the couplers E E to disconnect, their contacting-point at 30 being beveled.

By my improved coupler all lost motion between the cars is overcome, there being no slack to be effected. The blocks F being supported from the T-arm, pivoted to move universally as described, permit sufficient play to prevent straining of the parts in going around curves.

Having thus explained my invention, what I claim is—

1. In a car-coupler, the member B, provided with chamber *f* and ways *g*, in combination with the block C, the bar D, pivoted therein and working in said ways, and the head E on said bar, substantially as described.

2. The coupler member B, attached to the car draw-bar, in combination with the bar D, pivoted therein and provided with the head E, and the movable block F, inclosing said head and chambered to receive a companion head for engaging therewith.

3. The bar D, pivotally connected with the draw-bar, in combination with the head E thereon, the movable block F, supported thereby and chambered to receive a companion coupler-head, and mechanism for locking said heads in engagement.

4. In a car-coupler, the member B and pivoted bar D, provided with the head E, in combination with the movable block F, chambered at 21, and the locking-lever 24, pivoted to swing vertically in said chamber.

5. In a car-coupler, the member B, chambered at *f* and having ways *g*, in combination with the block C in said chamber, the T-bar D, pivoted in said block and projecting into said ways, and the coupler-head E on said bar, substantially as described.

6. The member B and pivoted bar D, having the head E, in combination with the movable block F, chambered at 21, and the locking-lever 24, pivoted to swing vertically in said chamber.

7. The bar D, pivotally connected with the draw-bar, in combination with the head E therein and the movable block F, chambered at 21 and having the wing 19 and bevel 20, substantially as described.

8. The bar D, pivotally connected with the draw-bar, in combination with the head E therein, the movable block F, chambered at 21 and having the wing 19 and bevel 20, and the locking-lever 24, pivoted in said chamber, substantially as described.

9. The member B and pivoted bar D, in combination with the head E on said bar, provided with the wing *r* and bevel *t*, substantially as described.

10. The member B and bar D, pivoted therein, in combination with the head E, secured to said bar and provided with the wing *r* and bevels *t* 30, the block F on said bar, provided with the chamber 21, wing 19, and bevel 20, and the locking-lever 24, pivoted to swing in said chamber.

11. In a car-coupler, a T-rod pivoted to swing vertically and laterally on the draw-bar, in combination with a coupling-head on said rod and mechanism for centering said head to throw it into engagement.

12. In a car-coupler, the members A B and pivoted T-rods therein, provided with coupling-heads E, in combination with the movable blocks F on said heads, chambered at 21, mechanism for directing said heads into the chamber of opposite blocks, and the locking-levers 24 for securing said heads therein, all being arranged to operate substantially as described.

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Witnesses:
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