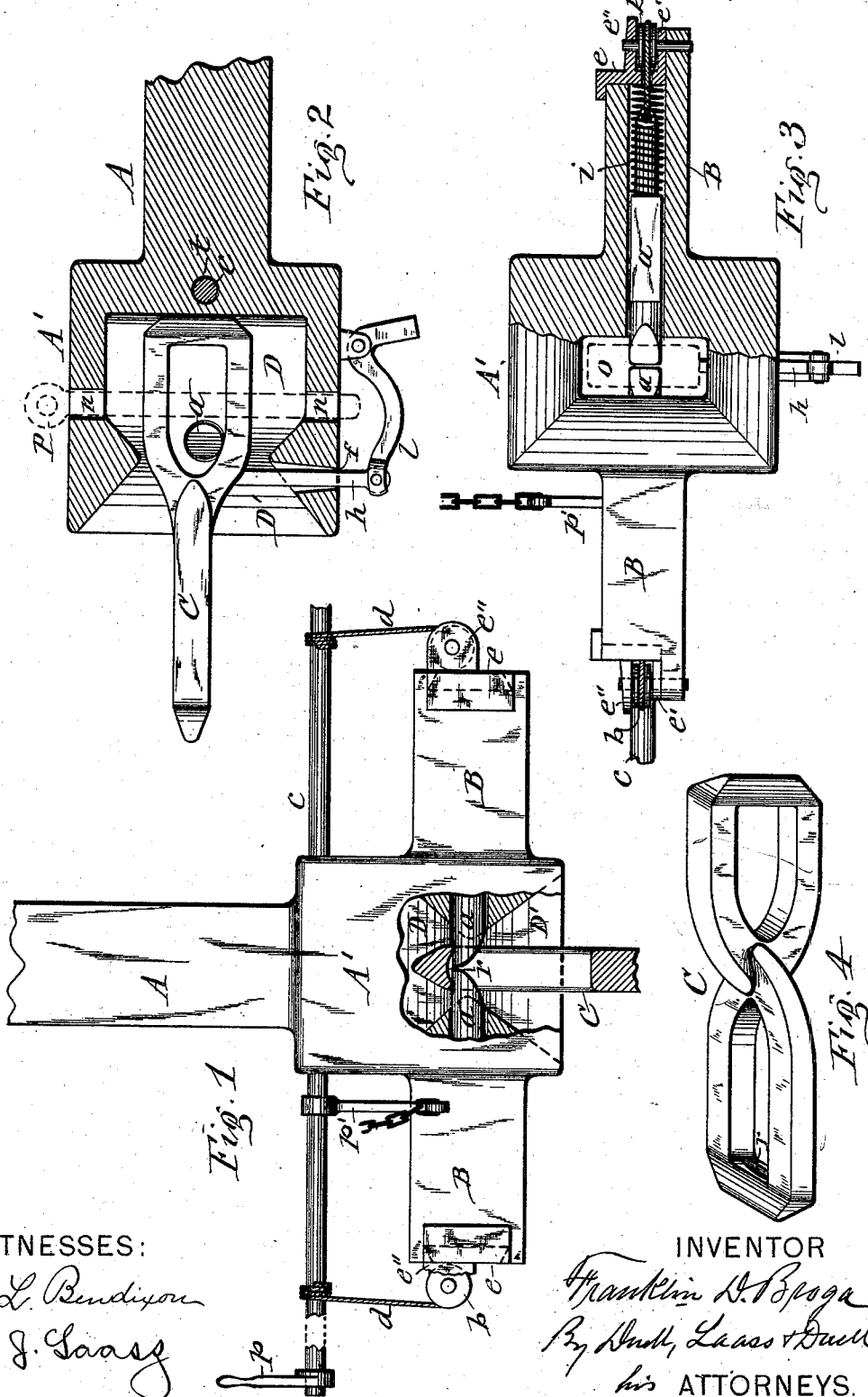


(No Model.)

F. D. BROGA.
CAR COUPLING.

No. 470,616.

Patented Mar. 8, 1892.



WITNESSES:

C. L. Bendixon
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UNITED STATES PATENT OFFICE.

FRANKLIN D. BROGA, OF NORTH BAY, NEW YORK, ASSIGNOR OF ONE-FOURTH TO ALBERT S. ANNIS, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 470,616, dated March 8, 1892.

Application filed June 10, 1881. Serial No. 395,742. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN D. BROGA, of North Bay, in the county of Oneida, in the State of New York, have invented new and useful Improvements in Car-Couplings, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of car-couplers in which two coupling-pins are arranged horizontally at opposite sides of the draw-head and forced into the draw-head and into their coupling positions by means of spiral springs connected to said parts.

My present invention consists in an improved construction and combination of parts constituting a car-coupling especially designed for the use of coupling-links, and which has the draw-head adapted to couple with other draw-heads of the ordinary bell-mouthed shape and possesses great stability and is very convenient and safe in its operation, all as hereinafter fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a top plan view of a car-coupling embodying my improvements, a portion of the draw-head being broken away to better illustrate the operation of the coupling. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is partly a front view and partly a transverse sectional view of the draw-head and its appurtenances, and Fig. 4 is a detached perspective view of a coupling-link adapted to be used in connection with my improved car-coupling and with draw-heads of the ordinary form.

Similar letters of reference indicate corresponding parts.

A represents the draw-bar and A' the draw-head, which latter has the hollow arms B B extending from opposite sides thereof. All of said parts are cast in one piece of iron or steel, and thus possess the utmost stability. The draw-head is formed with the cavity D and flaring mouth D', as shown in Fig. 2 of the drawings.

a a denote the coupling-pins, which are seated longitudinally, movable in the arms B B, and are automatically forced toward the

cavity of the draw-head and into a locking position by means of the usual spiral springs *z*, which surround the stems or outer end portions of the coupling-pins and bear with one end against a shoulder on the coupling-pin and with the opposite end against the caps *e*, which are attached to the free ends of the arms B B and close the channels in which the coupling-pins are inserted. Each of these caps is formed with a bottom flange *e'* and a shield *e''* over said flange, and between said flange and shield and pivoted thereto is the sheave *b*, over the periphery of which passes the cable or chain *d*, which is at one end connected to the outer end of the coupling-pin and at its opposite end to a shaft *c*, which is parallel with the coupling-pins and pivoted to the draw-head preferably by passing said shaft through an orifice *t*, extending transversely through the rear portion of the draw-head, as shown in Figs. 1 and 2 of the drawings. The shaft is thus provided with a most substantial support, which effectually sustains the shaft in parallelism with the coupling-pins and in proper position to operate the said pins simultaneously. Said shaft is extended to opposite sides of the car and provided thereat with suitable handles or cranks *p*, by which to turn the shaft and wind thereon the cables or chains *d d*, which draw the coupling-pins out of their coupling position. Another arm *p'* may be attached to the shaft *c* and have connected to it either a cable or chain or rod, which is extended to the top of the car to operate thereat the shaft *c*, as aforesaid.

By means of the shield *e''* the sheave *b* is protected from snow and ice, and thus the liability of the coupling devices becoming clogged is obviated.

The inner ends of the coupling-pins are beveled at the front to allow the two pins to be pressed apart by the link C entering the draw-head, said pins springing automatically inward and into the link after the same has entered the draw-head. The draw-head is formed with a narrow throat *o* at the entrance of the coupling-pins *a a*, so as to properly support the inner ends of said pins, and in order to cause the link C to bear on the coup-

ling-pins at or near the sides of the throat I form the inner side of the end of the link with a recess *r*.

The link C shown in the annexed drawings is of the form required to allow my improved car-coupler to couple with a draw-head of ordinary construction. When both of the cars to be coupled are provided with my car-couplers, the two ends of the link are in the same plane instead of at right angles to each other, as shown in the drawings.

To allow the link to be guided into the approaching draw-head without compelling the attendant to take hold of the link, I employ the lever *l*, pivoted to the under side of the draw-head and having connected to it the push-bar *h*, which passes up through an opening *f* in the bottom of the draw-head and bears on the under side of the link in front of the coupling-pins *a a*, as shown in Fig. 2 of the drawings.

To allow the draw-head A' to be coupled to a draw-head of the ordinary form by means of the common coupling-link, which has both ends in the same plane, I provide the draw-head A' with the vertical holes *n* for the reception of the common coupling-pin P, as illustrated in Fig. 2 of the drawings.

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

1. The draw-bar A, formed with the hollow draw-head A', having its cavity adapted to receive one end of the coupling-link, and hol-

low arms B B, extending from opposite sides of the draw-head, all cast in one piece of iron or steel, in combination with the spring-actuated coupling-pins *a a* seated in the arms B B, sheaves *b b*, pivoted to the ends of said arms, shaft *c*, pivoted to the draw-head parallel with the coupling-pins, and chains or cables *d d*, passing over the sheaves and connected at opposite ends to the coupling-pins and aforesaid shaft, substantially in the manner set forth and shown.

2. In combination with the draw-head A', provided with the hollow arms B B, spring-actuated coupling-pins *a a* in said arms, and shaft *c* parallel with said pins, the caps *e e*, removably connected to the free ends of said arms and provided with the bottom flanges *e'* and shields *e''*, the sheaves *b b*, inserted between said flanges and shields and pivoted thereto, and the cables or chains *d d*, running on the sheaves and connecting the coupling-pins to the shaft *c*, substantially as described and shown.

3. In combination with the draw-head A' and spring-actuated coupling-pins *a a*, the link C, formed with the recess *r* in the inner face of its ends, as and for the purpose set forth.

In testimony whereof I have hereunto signed my name this 3d day of June, 1891.

FRANKLIN D. BROGA. [L. s.]

Witnesses:

J. H. BROWN,
MYRON H. MASON.