

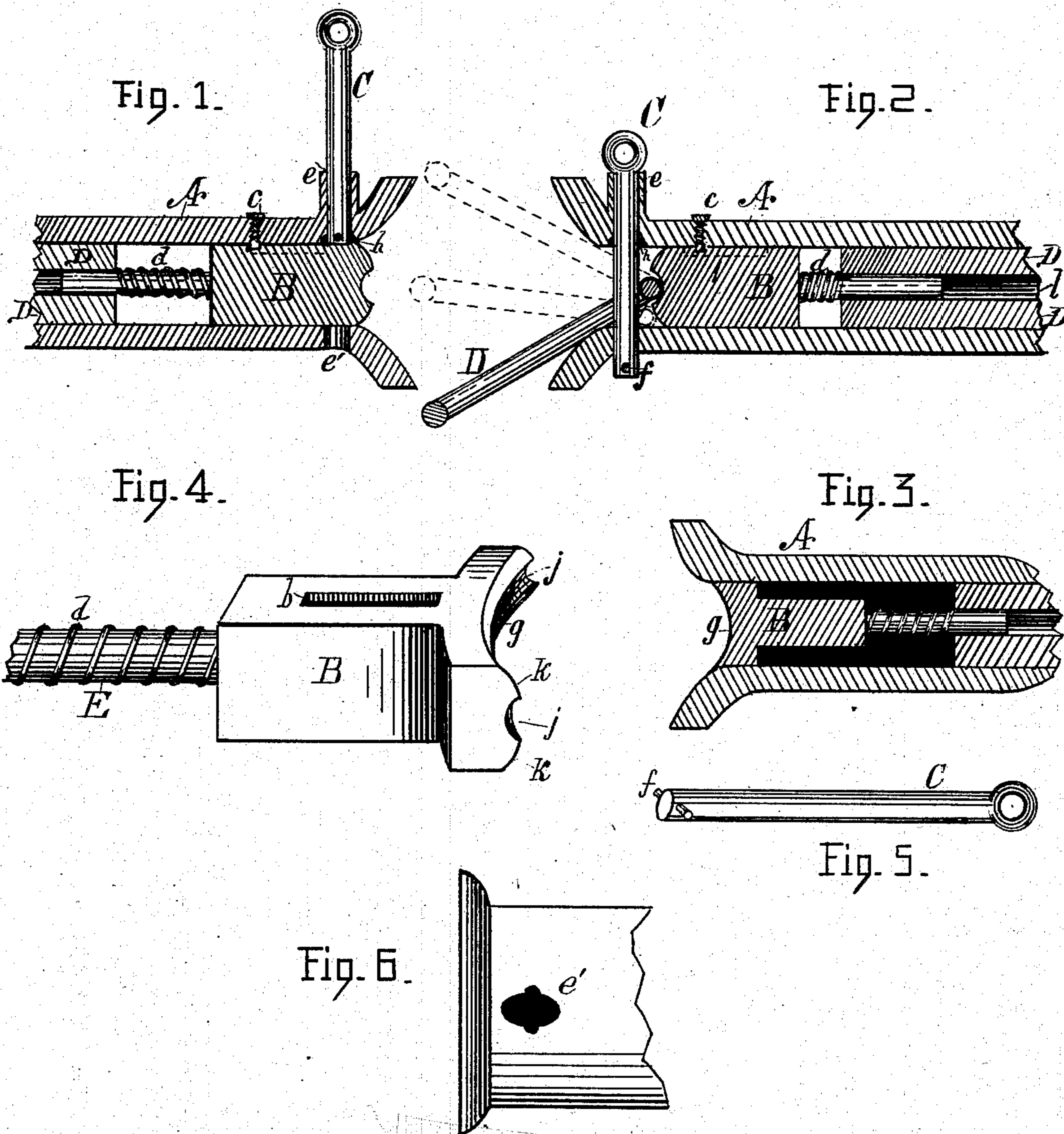
(No Model.)

D. E. MORGAN.

CAR COUPLING.

No. 291,385.

Patented Jan. 1, 1884.



Witnesses.

John D. Bayfield,
Joseph P. Whittemore.

Inventor.

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UNITED STATES PATENT OFFICE.

DAVID E. MORGAN, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 291,385, dated January 1, 1884.

Application filed October 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, DAVID E. MORGAN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention relates to that class of car-couplings which are designed to be self-acting, and intended to prevent the dangers which are always imminent when the person coupling is compelled to be between the colliding cars. I attain this object by the device illustrated in the following drawings, in which—

Figures 1, 2, and 3 show vertical longitudinal sections through the center of the draw-head, Fig. 1 showing the pin ready to engage the link, and Fig. 2 showing the pin engaged with the link and the different positions at which the link can be held by the pin and dog preparatory to coupling. Fig. 4 is a perspective view of the spring-dog which holds the coupling pin and link in desired positions. Fig. 5 is a separate view of the coupling-pin in its most desirable form. Fig. 6 shows a section of the under side of the draw-head with the slot for the coupling-pin.

Similar letters refer to similar parts in the several views.

A is an ordinary shaped draw-head, having a guide, *e*, cast around the coupling-pin hole or slot on the top of the same, and of sufficient height to keep the coupling-pin in a perpendicular position when drawn up. The coupling-pin should be, by preference, of oval shape in its cross-section, with the transverse diameter placed to receive the strain when drawing. At its lower end is a hole through its cross-diameter, which receives a small cross-pin, *f*, after it has been passed through the upper slot at *e*, and which is intended to prevent the coupling-pin from being drawn up higher than is necessary to allow it to rest on the spring-dog B, a seat or recess, *h*, being left around the coupling-pin hole in the socket of the draw-head for that purpose.

B is a spring-dog, which fits into the socket of the draw-head, its face or outer end, *g*, freely filling up the mouth of the socket inside the flare. The face of the dog is curved inwardly on its horizontal line to coincide with the flare of the entrance to the socket of the draw-head,

as shown in Figs. 3 and 4, the object of this curve being to compel the link to seek the center of the draw-head when about to couple, so that the coupling-pin has the greatest possible certainty of engaging it. The vertical section of this dog-face has three curves, or perhaps, rather, it is formed of one general outward curve, with a concave groove cut through its center, dividing it into two (*k k*) convex sections next the walls of the socket, and one (*j*) concave section in the center, the special object of which is to hold the coupling-link in any desired position, as shown in Fig. 2, so that a coupling may be made with a car higher or lower with as much certainty as when level. This is accomplished by the pressure of the spring-dog holding the coupling-link tightly between its face and the coupling-pin. Another and primary object of this dog is to allow the coupling-pin to rest on its upper side, when set for coupling, as shown in Fig. 1. This dog is made and secured in its place as follows: The face which fills the socket of the draw-head is made of sufficient depth only to secure sufficient strength. The rest of the body of the dog is of uniform height with the face, and only a little longer than the requirements of slot *b*, or its necessary movement in coupling. All unnecessary material is removed from the body of the dog equally each side of the slot *b*, and it is extended by a round post, *E*, from its center of about the same length as the body. This post is fitted to move freely in the hole *l*, cast in the block *D* at its center, and is surrounded by a spiral spring, *d*, which presses the dog outward from the end of said block until held in its proper place for coupling by the screw-pin *c* impinging against the end of the slot *b*, holding the face of the dog in the proper position to receive the link, and allowing the coupling-pin to rest on its top, ready for a self-connection. This screw-pin *c* is tapped through the top of the draw-head, just over the inner end of the slot *b*, when the dog is set for coupling, and extends into said slot sufficient for the object intended. It is not designed to impinge against the other end of its slot, for the dog's movement at that end should be limited by the body of the dog, the spring *d*, and the block *D*.

The slot *e'* on the bottom of the draw-head need not be shaped as shown in Fig. 6. Any

slot allowing the pin to pass freely will answer.

The working of this device is sufficiently evident from the foregoing.

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

In a car-coupling, the combination, with the ordinary-shaped draw-head having an open socket with flaring entrance, of the spring-dog B, having a concave face on its horizontal plane, 10 and a convex face with a groove across its cen-

ter on its vertical plane, slot *b*, stop-pin *c*, cylindrical extension E, spiral spring *d*, block D, oval coupling-pin C, provided with a stop-pin, *f*, seat or recess *h*, coupling-pin guide *e*, and the ordinary coupling-link, all substantially as 15 described, and for the purposes set forth.

DAVID E. MORGAN.

Witnesses:

PATRICK T. HYLAND,
THOMAS KISSURE.