

(No Model.)

2 Sheets—Sheet 1.

S. H. HARRINGTON & J. HANNAN.

CAR COUPLING.

No. 376,714.

Patented Jan. 17, 1888.

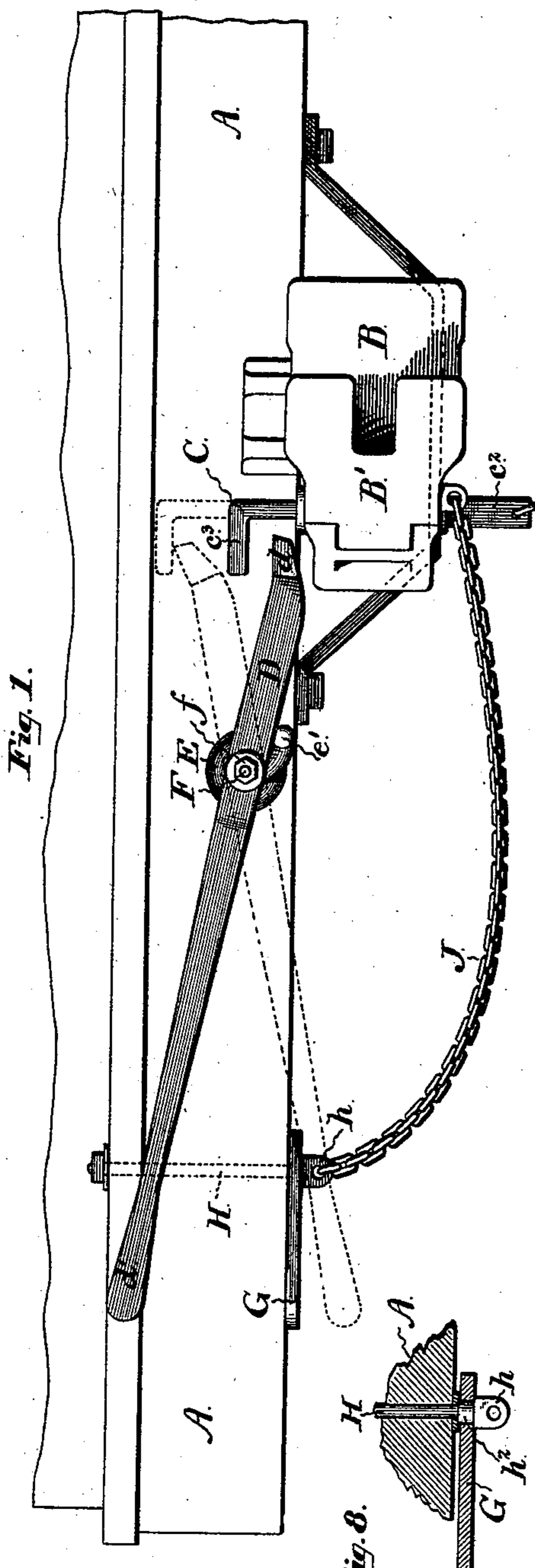


Fig. 1.

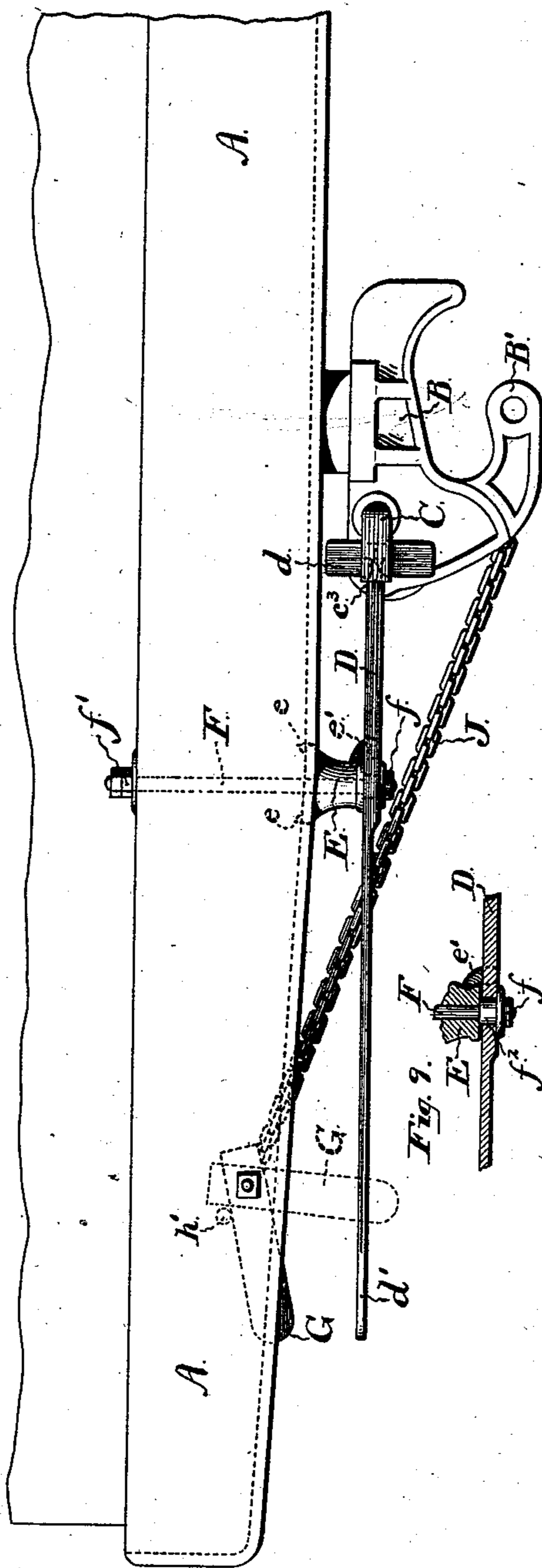


Fig. 2.

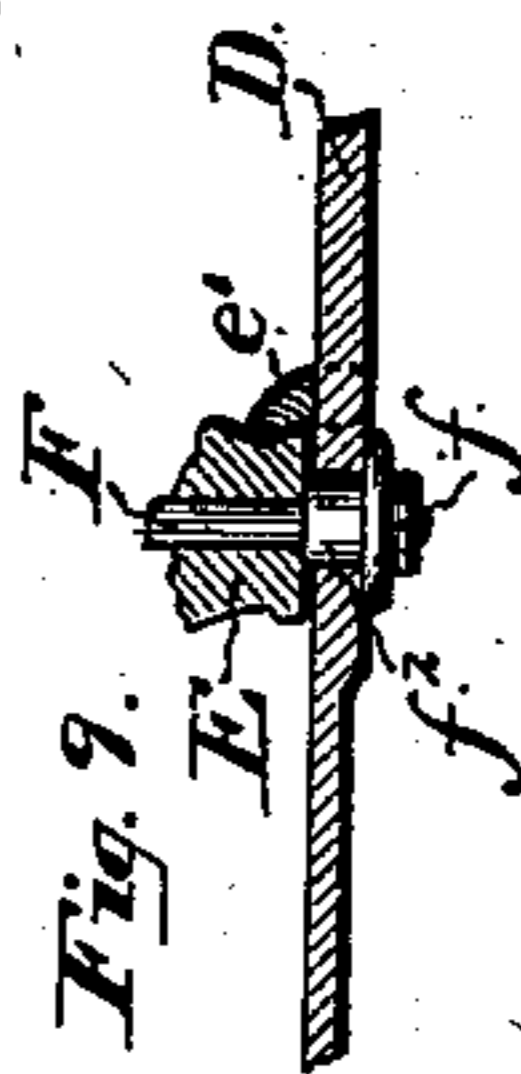


Fig. 9.

WITNESSES:

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Francis F. Castack, Jr.
Joshua M. Castack, Jr.

INVENTORS

INVENTORS
Samuel H. Harrington
James H. Harnan
by their attorney
Francis T. Chambers

(No Model.)

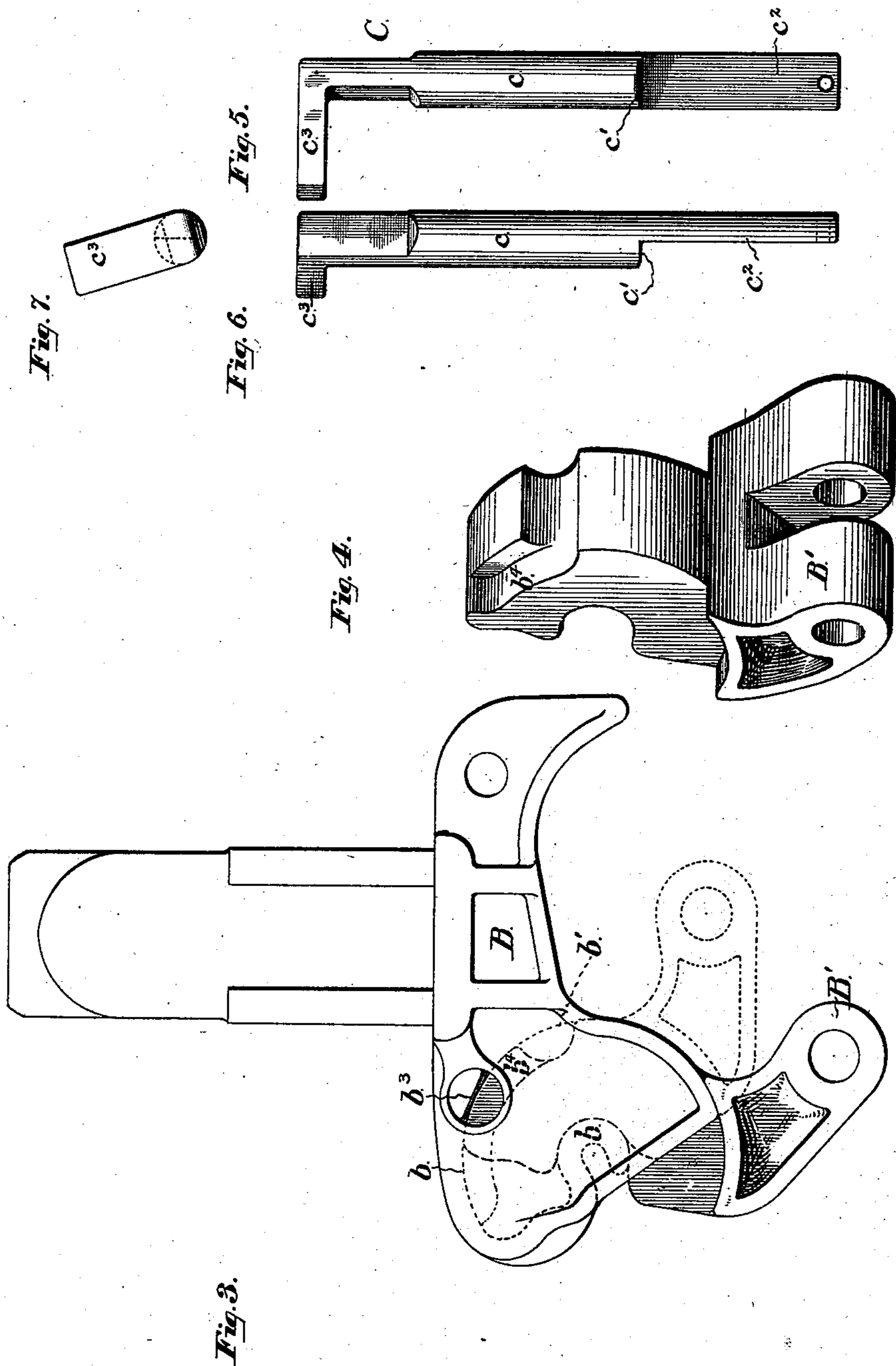
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Francis P. Castlack Jr.
Joshua Matlack, Jr.

INVENTORS

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James Hannan
by their attorney
James T. Chambers

UNITED STATES PATENT OFFICE.

SAMUEL H. HARRINGTON AND JAMES HANNAN, OF COLUMBUS, OHIO,
ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE CONSOLIDATED COUPLING
COMPANY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 376,714, dated January 17, 1888.

Application filed June 21, 1887. Serial No. 241,966. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL H. HARRINGTON and JAMES HANNAN, both of Columbus, county of Franklin, State of Ohio, have invented a new and useful Improvement in Car-Couplers, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to the construction of car-couplers of the kind known as "vertical" couplers, and especially to what is generally known as the "Dowling" coupler, our object being to provide improved devices for unlatching the coupler and for preventing the coupling of cars where it is undesirable; and our invention consists of the devices and combinations of devices hereinafter fully described, and which are illustrated in the drawings, in which—

Figure 1 is a front view of the end of a freight-car having our improvements; Fig. 2, a plan view of the same; Fig. 3, a horizontal sectional view of the coupler-head, showing the movable jaw and latch-pin hole. Fig. 4 is a perspective view of the movable jaw, showing the grooves where the latch-pin is engaged. Fig. 5 is a front view of our improved latch-pin in the position it occupies in the coupler; Fig. 6, a side view of the same pin; Fig. 7, a plan view of the pin. Fig. 8 is an enlarged view of the bottom of the eyebolt, and Fig. 9 an enlarged view of the end of the pivot-bolt F.

A is the end sill or platform of the car; B, the coupler-head; B', the movable jaw. This jaw is recessed at the back to correspond with and fit upon the semi-cylindrical bearing *b* of the coupler-head, which serves as a hinge, and in front is curved to correspond with the curved surface *b'* of the head, which is concentric with the hinge-cylinder *b*. A latch-pin hole is formed in the casting B, centered in or nearly in the curve *b'*. The upper portion of this pin-hole is cylindrical and should be of about the size of an ordinary coupler-pin. At the bottom of the casting B, however, this hole is contracted to conform to the shape of the bottom portion of the pin, hereinafter described, and is confined to the inside of the curve *b'*, being preferably bounded on

the outside by the straight line *b³*. (See Fig. 3.)

b⁴ is a groove formed in the upper part of the convexly-curved inner side of the jaw B'. It is about the breadth of the portion of the latch-pin which projects outside of the curve *b'*, and may be, for instance, of from one-third to one-half the depth of the casting. All these parts, with the exception of the shape of the bottom of the pin-hole, are old and well known, being fully described and shown in the patent granted to S. H. Harrington October 12, 1886, and numbered 350,486. It is therefore unnecessary to describe them in detail in this specification.

C is the latch-pin, which we provide with a flanged or L-shaped head, *c³*. The upper portion, *c*, of the pin is preferably round and of about the size of an ordinary standard link coupling-pin, and at a point, *c'*, a portion—say one-half—of the pin is cut away and the pin continued in a semi-cylindrical form, as shown at *c²*. The portion *c²* of the pin is made to correspond in shape to the hole in the bottom of the casting B, so that the shoulder at *c'* will rest upon the bottom of the casting when the jaw B' is latched. This particular form of the latch-pin possesses useful features which it is unnecessary to particularly describe, as, with the exception of the flanged head *c³*, it is the invention of Samuel H. Harrington, and will form the subject for an independent application. It is very desirable, however, that the pin C should be so constructed that it will not turn in its seat, as by this means a flange, *c³*, may be made to extend out parallel to the end of the car, while if the pin can turn it would be necessary to carry the flange *c³* all around its head to insure its being engaged by the lever, hereinafter described, and while, by using a pin of any irregular outline, this same object may be attained, we believe the plan shown to be the best.

D is a pivoted lever turning on a pivot formed by the casting E and bolt F, and having its handle *d'* extending out, so as to be easily actuated from the side of the car, while its short arm *d* extends under the flanged or L-shaped head *c³* of the latch-pin C. The end *d* is preferably made of the T shape shown to insure its engagement with the pin C in all po-

sitions which the bolt or lever is likely to assume. The casting E enables the lever to be pivoted at a point sufficiently close to the line of the latch-pin to enable it to engage it conveniently, and is provided with a rest or stop, *e'*, which passes under the lever D and prevents it from resting on the coupler-head B when not in use.

To secure the casting E in place and insure the correct position of the stop *e'*, points *e e* may be formed in the base of the casting, which points will sink into the wood of the end sill, A, when the bolt F is screwed tight by means of its nuts *f* or *f'*. The height of the stop *e'* can be readily adjusted to suit any coupler, for by loosening the nut on the bolt F the casting E can be turned so that the stop shall come to the desired position, and then the nut is again screwed up and the points *e e* pressed into the end sill, so that the casting cannot turn on the bolt. In order to prevent the lever D from being too tightly clamped between the washer under the nut *f* and the end of the casting E, we form on the end of the bolt F an enlarged bearing, *f²*, (see Fig. 9,) which forms a shoulder, between which and the end sill, A, the casting E is clamped, and upon this bearing the lever D turns freely, no matter how tight the nuts may be screwed.

H is an eyebolt passing vertically through the timbers A, and to which is secured the chain J, which chain, at its other end, is attached to the jaw B', and by which said jaw is opened. On this bolt, or rather upon an enlarged bearing, *h²*, formed upon the bolt above the eye (see Fig. 8) as a pivot, we secure a plate, G, which, when turned out, will extend across the line of the lever D, so that when the lever is depressed to raise the latch-pin, as is shown in dotted lines in Fig. 1, this plate can be moved out over the end *d'* of the lever and hold it down and the latch raised—an arrangement which saves much labor in drilling cars, for as long as the lever is thus locked down there is no danger of the cars coupling. A stop, *h'*, is preferably used to prevent the latch-plate G from turning entirely under the end sill and to prevent it from being thrown too far forward. (See Fig. 2.)

Of course the latch-plate G may be pivoted in any convenient way and the pivot of the lever D need not be of the exact construction shown, nor is it necessary that the stop *e'* should form a part of the pivot casting E, though it is far better and more convenient to make it as shown, the whole of the structure as illustrated being carefully adapted to the conditions of practical use.

It will be observed that the lever D and its connections are all secured to the car, and hence are not affected by the motions of the draw-head, which might even be broken off without injury to this part of the rigging. This is important; yet many of the advantages of our invention would be obtainable even if the end of lever D were actually engaged with the pin C—as by surrounding it below its

flanged head—and we do not wish to be understood as limiting ourselves to the details of construction above described, save where they are especially referred to in the claims.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with a car-coupler, substantially as described, the latch-pin C, having a flanged head, *c³*, and the pivoted lever D, secured to the end of the car and having one end, *d*, bent at right angles to the shaft of the lever, so as to extend beneath the flange *c³*, but not otherwise engage or surround the pin C, and its other end, *d'*, extending out toward the side of the car.

2. In combination with a car-coupler, substantially as described, the latch-pin C, of irregular outline to prevent its turning in its seat, and having a flanged head, *c³*, and a pivoted lever, D, secured upon the end sill, and having a flanged end arranged to extend under and engage the flange *c³*, substantially as and for the purpose described.

3. In combination with a car-coupler, substantially as described, the latch-pin C, having a flanged head, *c³*, the pivot-casting E, having a stop, *e'*, formed on it, and the lever D, pivoted on said casting and arranged to engage the flange *c³* of bolt C, substantially as shown and described.

4. In combination with a car-coupler, substantially as described, the latch-pin C, having a flanged head, *c³*, the pivot-casting E, having a stop, *e'*, formed on it and having projections *e e* formed on its base, the bolt F, and the lever D, pivoted on said casting and arranged to engage the flange *c³* of bolt C, substantially as shown and described.

5. In combination with a coupler, substantially as specified, the latch-pin C, having flanged head *c³*, the pivoted lever D, secured on the end of the car and having its end *d* passing under the flange *c³*, and the pivoted latch G, arranged to engage the end *d'* of lever D and hold it down when turned out.

6. In combination with a coupler, substantially as specified, the latch-pin C, having flanged head *c³*, the pivoted lever D, secured on the end of the car and having its end *d* passing under the flange *c³*, the pivoted latch G, arranged to engage the end *d'* of lever D and hold it down when turned out, and the stop *h'*, arranged to confine the motion of the latch, as and for the purpose specified.

7. In combination with a coupler, substantially as specified, the latch-pin C, having flanged head *c³*, the pivoted lever D, secured on the casting E, having stop *e'*, said lever having its end *d* passing under the flange *c³*, and the pivoted latch G, arranged to engage the end *d'* of lever D and hold it down when turned out.

8. In combination with a coupler, substantially as specified, the latch-pin C, having flanged head *c³*, the pivoted lever D, secured on the casting E, having stop *e'*, said lever

5 having its end d passing under the flange c^3 , the pivoted latch G, arranged to engage the end d' of lever D and hold it down when turned out, and the stop h' , arranged to confine the motion of the latch, as and for the purpose specified.

10 9. In combination with a coupler, substantially as specified, the latch-pin C, having flanged head c^3 , the pivoted lever D, secured on the casting E, having stop e' , said lever

having its end d passing under the flange c^3 , and the latch G, pivoted on the eyebolt H and arranged to engage the end d' of lever D and hold it down when turned out.

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JAMES HANNAN.

Witnesses:

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COPPA MOORE.