(No Model.)

P. C. BROWN.

CAR COUPLING.

No. 494,246. Patented Mar. 28, 1893.

FIG. 1.

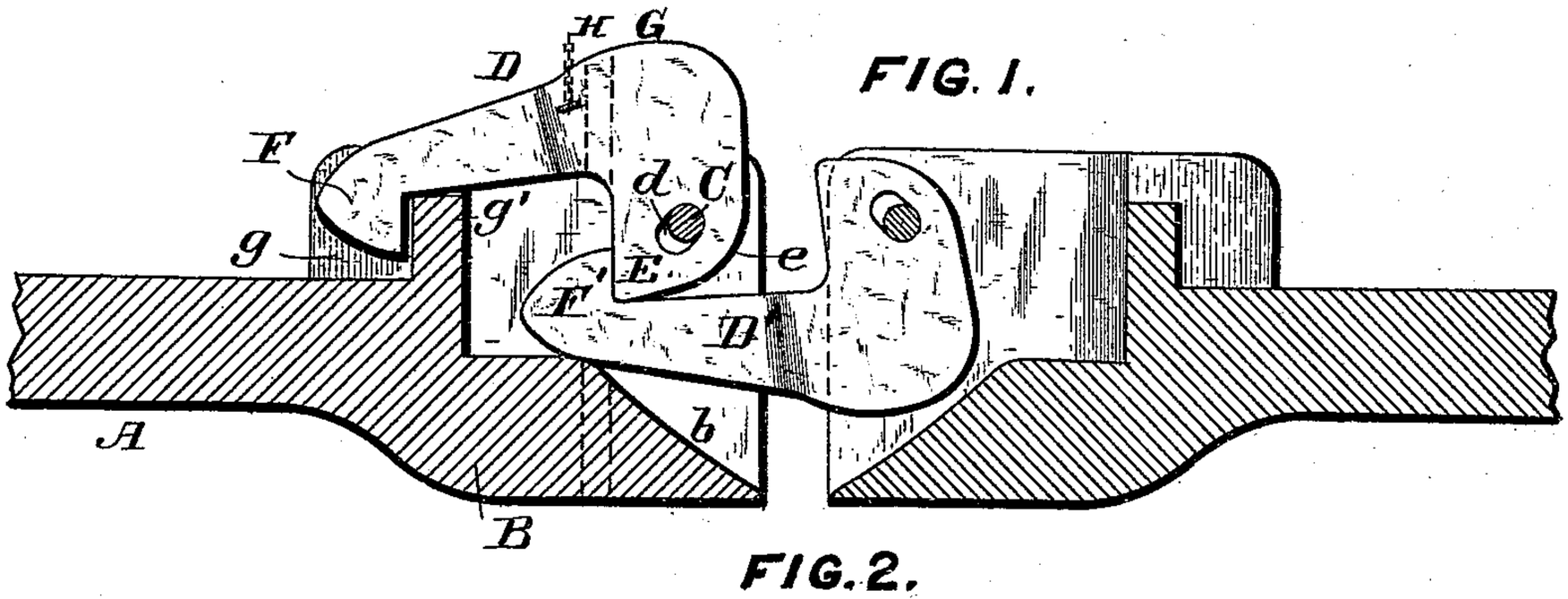


FIG. 2.

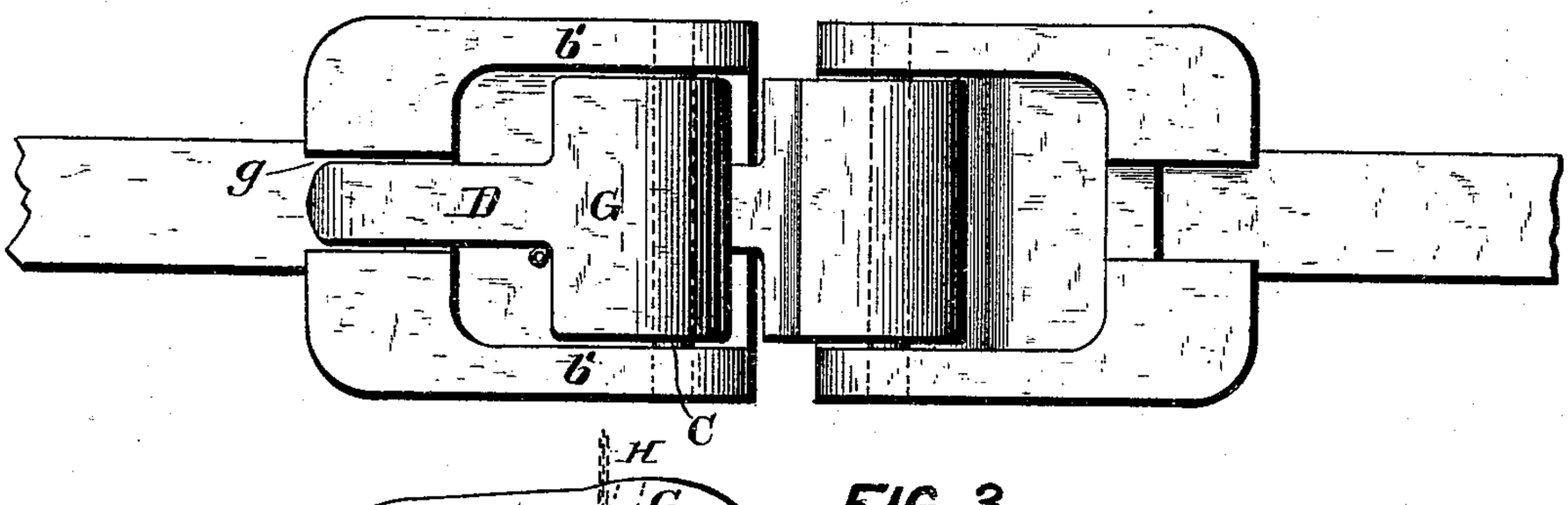


FIG. 3.

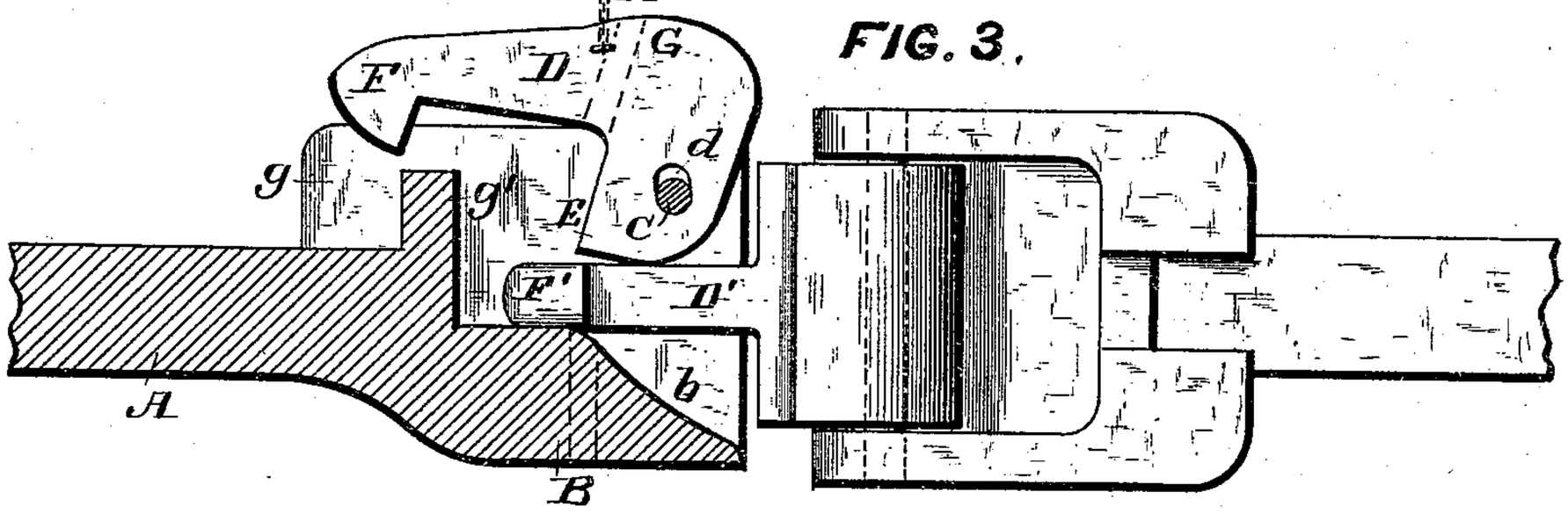
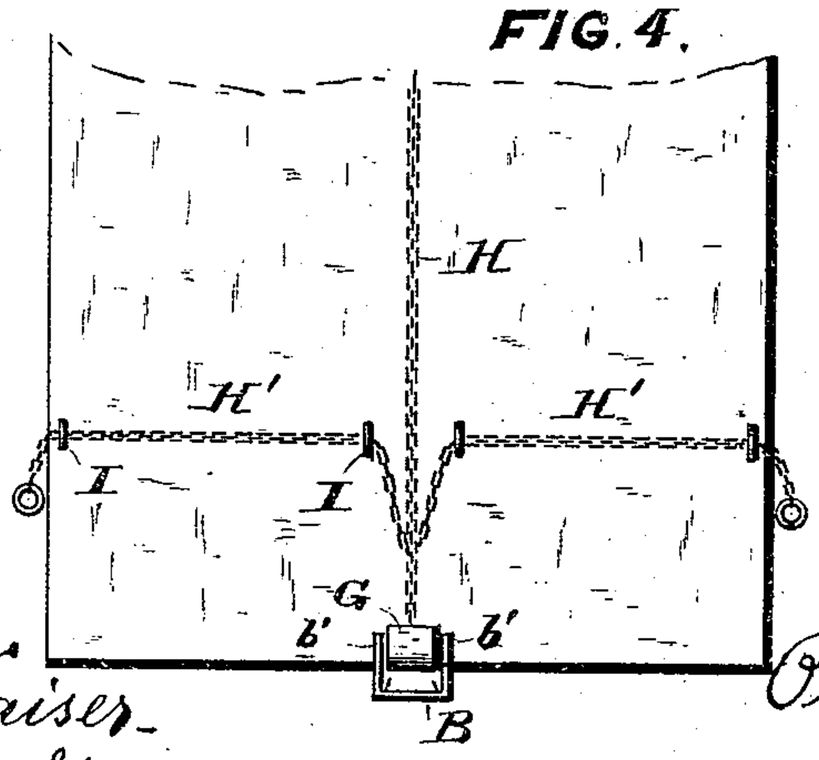


FIG. 4.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 494,246, dated March 28, 1893.

Application filed August 2, 1892. Serial No. 441,948. (No model.)

To all whom it may concern:

Be it known that I, PHILIP C. BROWN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in car couplings, and has for its object to produce a simple and inexpensive coupling that will automatically couple without the aid of a brakeman or attendant, and that can be coupled upon a grade or curve, and when coupled will automatically uncouple in the event of one or both of the cars being derailed, and to these ends my invention consists in the novel construction and arrangement of parts hereinafter fully described and afterward definitely pointed out in the claims, due reference being had to the accompanying drawings forming a part of this specification, wherein—

Figure 1 is a vertical, longitudinal central section of my improved coupling in a coupled position; Fig. 2, a top plan view thereof. Fig. 3 is a side elevation, partly in section, showing the manner in which the cars are uncoupled when one of them is derailed; and Fig. 4, an end view of a car showing the means for operating the coupling.

In describing the construction of the coupling, one member thereof need only be described, both members being identical, and for the sake of clearness the member shown upon the left hand of Fig. 1 will be selected.

Referring to the drawings, the letter A indicates the draw-bar constructed and fitted to the car in the usual manner. Cast integral with the draw-bar A is the draw-head B, open upon its upper side and having its under forward portion made flaring, as at *b*.

D indicates a hooked catch pivoted between the side walls *b'*, *b'*, of the draw-head B by means of a bolt C. The forward end of the hooked catch D is provided with a downwardly projecting lip E, constituting a catch, said lip being beveled upon its forward or front end as at *e*, for the purpose hereinafter made apparent. The rear portion of the hooked catch D is reduced in width, its end terminating in a downwardly projecting hook F. The hooked catch D near its forward end is provided with an elongated aperture or slot *d* which is inclined upwardly and forwardly and through which passes the bolt C, by means of which it is pivoted between the side walls *b'*, *b'*, of the draw-head B. The rear portion of the head G of the hooked catch D is recessed, as at *g*, forming a shoulder *g'* over which the hooked end F falls and by which the said hooked catch is held.

To the rear of the head G of the hooked catch D is secured one end of a chain H, the other end of said chain extending to the top of the car, and connected with the chain H are two chains H', H', which pass over suitable guides I, I, and extend to each side of the car.

The operation of my improved coupling is as follows: When two cars are to be coupled together, one of the hooked catches, as D, is swung by means of the chain H or H' into the position shown in Fig. 1, the other hooked catch D' being swung into position, so that the hooked end F' projects forwardly from the car in a horizontal position, being held in such position by the head G of the hooked catch D abutting against the bottom wall of the draw-head B. As the cars are caused to approach each other, the hooked end F' of the hooked catch D' strikes against the beveled portion *e* of the lip E on the hooked catch D and causes said hooked catch to swing upon the bolt C and permit the hooked end F' to pass beneath and behind the lip E, as shown in Fig. 1. The bolt-hole *e* being made elongated and inclined, as shown, the hooked catch D, in coupling, is caused to slightly rise and move forward, which does away with any lost motion, thus requiring that the hooked end need only be pushed in the draw-head sufficiently far to pass the point at which the rear of the lip E will rest when the coupling has been permitted. After the hooked end F' has passed behind the lip E, the hooked catch will drop down and back by gravity, insuring the immediate coupling of the cars. At the same time the hooked end F of the hooked catch D drops into the recess *g* and behind the shoulder *g'*. When the cars are in motion, the hooked end F fitting behind the

shoulder g' bears all the strain of the draft and relieving the bolt C of the same. In coupling, when the hooked end F′ passes behind the lip E the weight of the hooked end F will cause the hooked catch D to drop into position, but in order to insure a positive coupling under all conditions the parts are so proportioned that when the hooked end F′ has passed under and behind the lip E the forward end of the head G of the hooked catch D strikes against the lip E′ of the hooked catch D′, thus throwing the hooked end F backward over the shoulder g' and forcing the lip E down into engagement with the hooked end F′. By recessing the rear portion g of the head G, the hooked end F is prevented from being disengaged from the shoulder g' when the draw-bars are forced in under the cars, as for instance, when the brakes are applied or in going down a steep grade, because the said hooked end rests within the slot g, and is protected thereby so that it cannot come in contact with any portion of the end of the car. In the act of coupling the forward ends of the draw-heads B abut against each other at the moment the coupling has been effected, and act as bumpers.

It will be noticed that the hooked end F′ is of a thickness to entirely occupy the space between the bottom of the lip E, and the bottom wall of the draw-head B, which tends to prevent accidental uncoupling of the cars. Should one of the cars be derailed, and turned over, it will be automatically uncoupled, as will be readily understood upon reference to Fig. 3. In such event, the sides of the hooked end F′ being perfectly plain and smooth said hooked end will slip from out the draw-head B, there being nothing for the lip E of the hooked catch D to engage.

By the use of my improved coupling, it is entirely unnecessary for the brakemen to go between the cars, for by means of the chains H and H′ the hooked catch can be thrown into either position to couple or uncouple from either the top or either side of the car. The cars may also be coupled upon curves or grades, and the two cars need not be of the same height.

In order to enable the ordinary link and pin to be used with one of my improved couplings, I provide the head G of the hooked catch and the bottom wall of the draw-head with pin holes for the reception of the coupling pin, the coupling being effected in the usual manner.

It will be manifest that the couplings may be turned so that they will be at right angles to the position shown in the drawings, that is to say, so that the sides of the draw-heads will then constitute the top and bottom, and will still accomplish the objects sought to be obtained.

What I claim is—

1. In a car coupling, the combination with the draw-bar and draw-head, of the pivoted hooked catch D provided at one end with a downwardly projecting lip E and at its other end with a hooked end F, and adapted to be reversed, substantially as described and for the purpose specified.

2. In a car coupling, the combination with the draw-bar and draw-head, of the hooked catch D provided at one end with the downwardly projecting lip E and at its other end with a hooked end F, said hooked catch being provided with an elongated slot inclined as shown, and a pivot bolt passing through the draw-head and said slot, substantially as described and for the purpose specified.

3. In a car coupling, the combination with the draw-bar and draw-head, of the pivoted hooked catch D provided at one end with a downwardly projecting lip E and at its other end with a hooked end F, and the shoulder g' on the draw-head adapted to be engaged by the hooked end F, substantially as described and for the purpose specified.

4. In a car coupling, the combination with the draw-bar and draw-head, of the pivoted hooked catch provided at one end with a downwardly projecting lip E and at its other end with a hooked end F, the draw-head being recessed as at g, forming a shoulder g', and adapted to receive and be engaged by the hooked end F, substantially as described and for the purpose specified.

5. In a car coupling, the combination with the draw-bar and draw-head, of the hooked catch provided at opposite extremities with hooked ends and near one end with an elongated slot inclined as shown, the pivot bolt passing through said slot and through the sides of the draw-head, said draw-head being provided at its rear with a shoulder g', and a chain connected to said hooked catch for reversing the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIP C. BROWN.

Witnesses:

J. HENRY KAISER,

VERLING STANLEY.