(No Model.) 2 Sheets—Sheet 1

W. BROWN.

CAR COUPLING.

No. 456,474. Patented July 21, 1891.

Fig. 1.

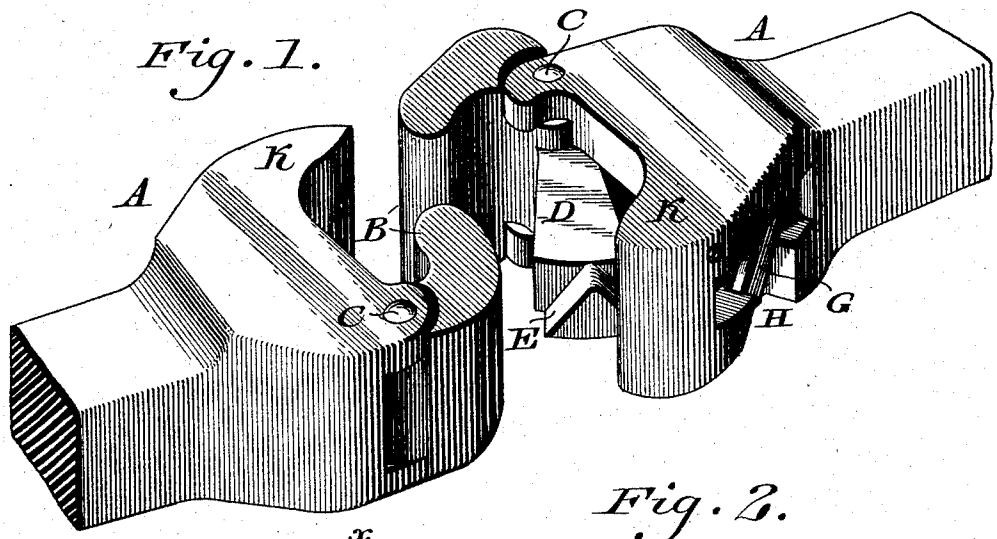


Fig. 2.

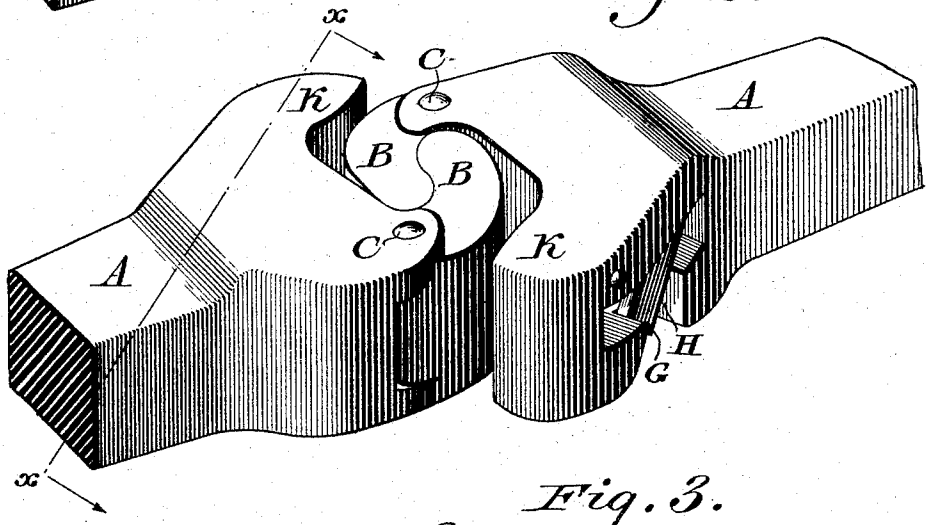
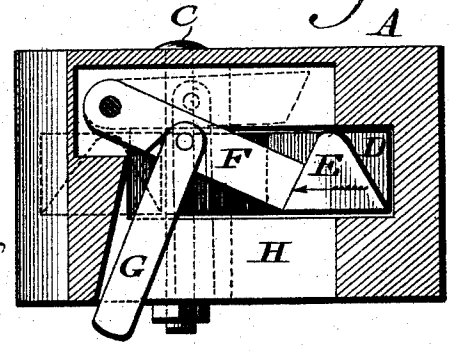


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

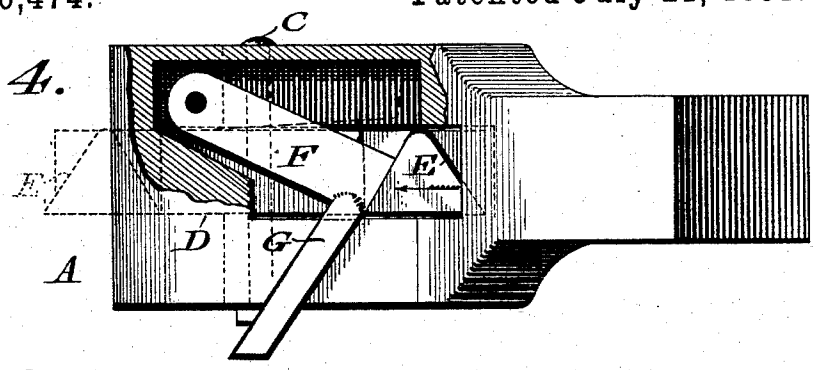


Fig. 5.

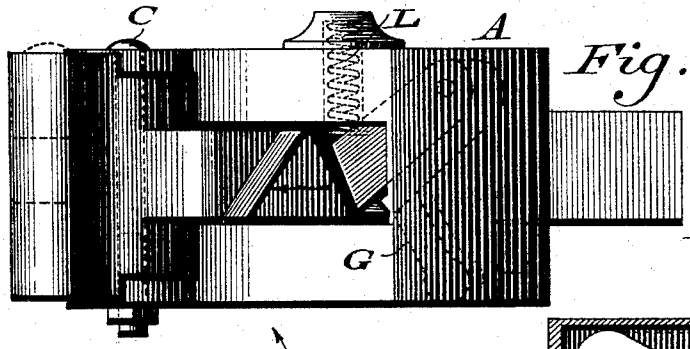


Fig. 6.

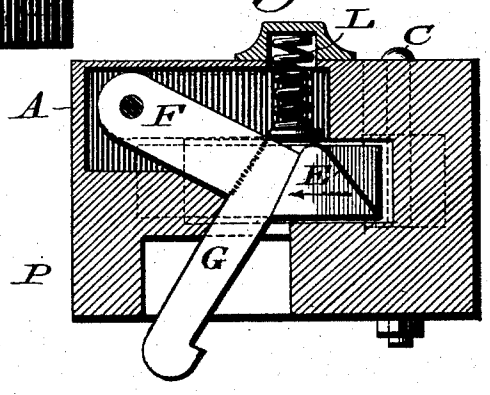


Fig. 8.

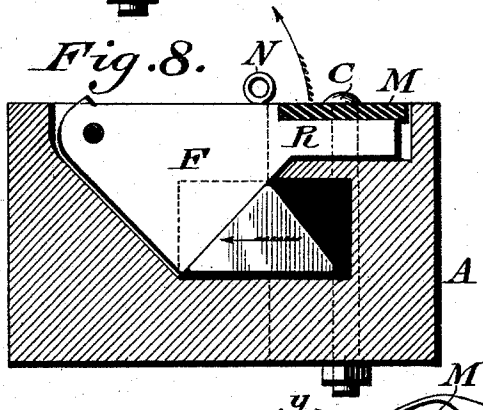
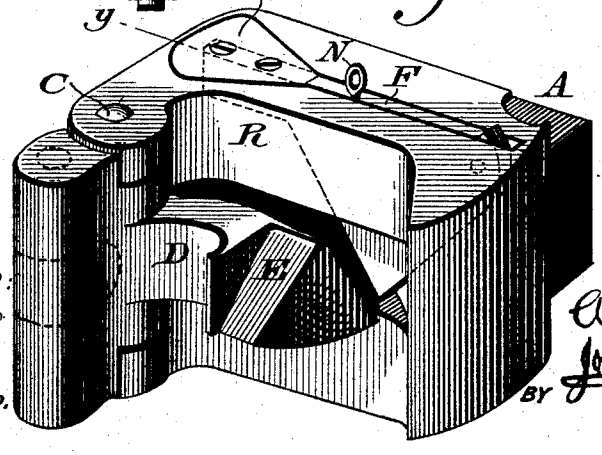


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILSON BROWN, OF LAMBERTVILLE, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 456,474, dated July 21, 1891.

Application filed January 27, 1891. Serial No. 379,232. (No model.)

To all whom it may concern:

Be it known that I, WILSON BROWN, a citizen of the United States, residing at Lambertville, in the county of Huntingdon, State of New Jersey, have invented a new and useful Improvement in Car-Couplings, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a car-coupling constructed of parts as hereinafter described and claimed.

Figure 1 represents a perspective view of a car-coupling embodying my invention, the parts being uncoupled. Fig. 2 represents a perspective view of the same parts when coupled. Fig. 3 represents a section on line *x x*, Fig. 2. Fig. 4 represents a perspective view, partly broken away, of one of the heads shown in Figs. 1 and 2. Fig. 5 represents a perspective view of a modification. Fig. 6 represents a transverse vertical section of the modification shown in Fig. 5. Fig. 7 represents a perspective view of another modification, showing a weighted dog. Fig. 8 represents a vertical section on line *y y*, Fig. 7.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates two draw-heads, each of which is provided with an oscillating hook or jaw B, having its pivotal bolt C at one side of the draw-head, and also provided with a tongue D, projecting at an angle from the said jaw, so that when the jaw is swung outward, or is open, as in Fig. 1, the said jaw is on one side of the head and the said tongue projects outward from the body of the said head. The end of said tongue is cut away on its upper face on both sides, forming a projection or shoulder E, with a double-inclined top thereon, so that the gravity dog or lock F, which is pivoted in the head, may ride upward on one side of the said top when the said tongue D is pushed in the head and ride down the other side of the said pathway in falling, so that when the said tongue has reached its inmost position in the head the lock abuts against the end of the tongue, the hook being then closed. Attached to the dog F is an arm G, which is located in the slot H in the head A, and is adapted to raise the dog from off the shoulder E, so as to permit the uncoupling of the hooks.

The operation of coupling is as follows: Each of the jaws, being in the position shown in Fig. 1, bears, as the heads come in contact, against the tongue portion of the opposite hook, forcing the same into the body of the head and moving the jaw so as to bring each of the jaws thereof between the body of the head and the jaw of the other head. During the inward movement of the tongue D the dog F, which normally is suspended so that its lower edge is above the plane of the lower point of the rear incline of the top of the shoulder E, is raised by contact with the said tongue, so as to ride upward on said rear incline portion of the said top, so that it is removed out of the way of the tongue. When the tongues D are pushed in to their farthest extent, the said dogs F will fall and their free ends ride upon and engage with the front incline of the projection E, thereby locking the jaws in place, so that the coupling is completed. A stationary jaw or projection K on one side of the front of the head prevents the sidewise displacement or release of the hooks when the latter are locked by the pawls.

The hooks B are uncoupled by raising the dogs F by means of the arms G, when the heads can be drawn apart, the hooks being free to swing outward, thus releasing the heads.

In Figs. 5 and 6 is shown a modification having a spring L, which is adapted to force the dog downward so as to insure the locking of the jaw. The head A is cut away on the under side, forming an opening P, and the arm G of the dog projects through said opening for operating purposes.

In Figs. 7 and 8 is shown another modification, wherein the dog or lock F is weighted, as at M, and is adapted to be raised at the top of the head, a ring N or other suitable device being employed for lifting purposes. The upper portion of the dog is provided with a projecting portion R, adapted to rest on a shoulder of the head, so as to limit the extent of its downward movement.

Either two of the forms shown in Figs. 3,

4, 6, and 7 can be used together, or the same form can be employed for both heads in the same coupler. The operation of coupling is the same in each case, the dog or lock being forced upward and out of the way of the tongue when the latter is pushed in the body of the head, and falling when it has passed above the apex of the double incline on the projection E in the end of the said tongue. Owing to the rounded or curved outer edges of the hook and the curved contact portion of the stationary jaw of the head, a hook, when it strikes the opposite head, is thrown to the one side, so that when it has forced the tongue into the head its own end will contact with the curved inner edge of the edge of the head opposite the stationary jaw, so that the two hooks will come in contact with each other.

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

1. A car-coupling consisting of heads having swinging hooks, each of the latter having a tongue at an angle thereto, the upper face of one end of said tongue being cut away, forming a double incline, a gravity-dog adapted to ride on said incline, and an arm connected with said dog, said parts being combined substantially as described.

2. A car-coupling consisting of draw-heads having swinging hooks with vertical pivots at one side of the draw-heads and provided with tongues projecting at an angle from said jaws and having their ends cut away on their upper faces, thereby forming a shoulder with a double-inclined top, a gravity-dog pivoted in each of the heads and adapted to ride first upward and then downward against the end of the shoulders when the tongues are pushed in, and an arm attached to each of the said dogs and projecting through a slot in the respective draw-heads, said parts being combined substantially as described.

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