(No Model.)

E. S. CLARK.

CAR COUPLING.

No. 299,201. Patented May 27, 1884.

Fig. 1.

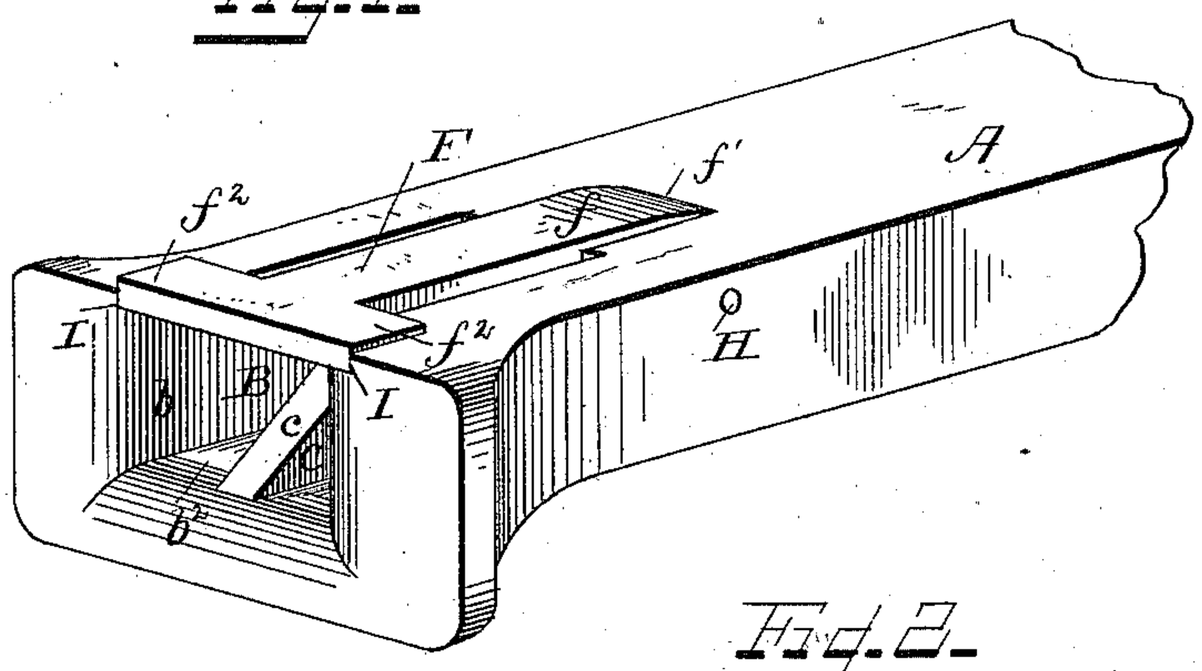


Fig. 2.

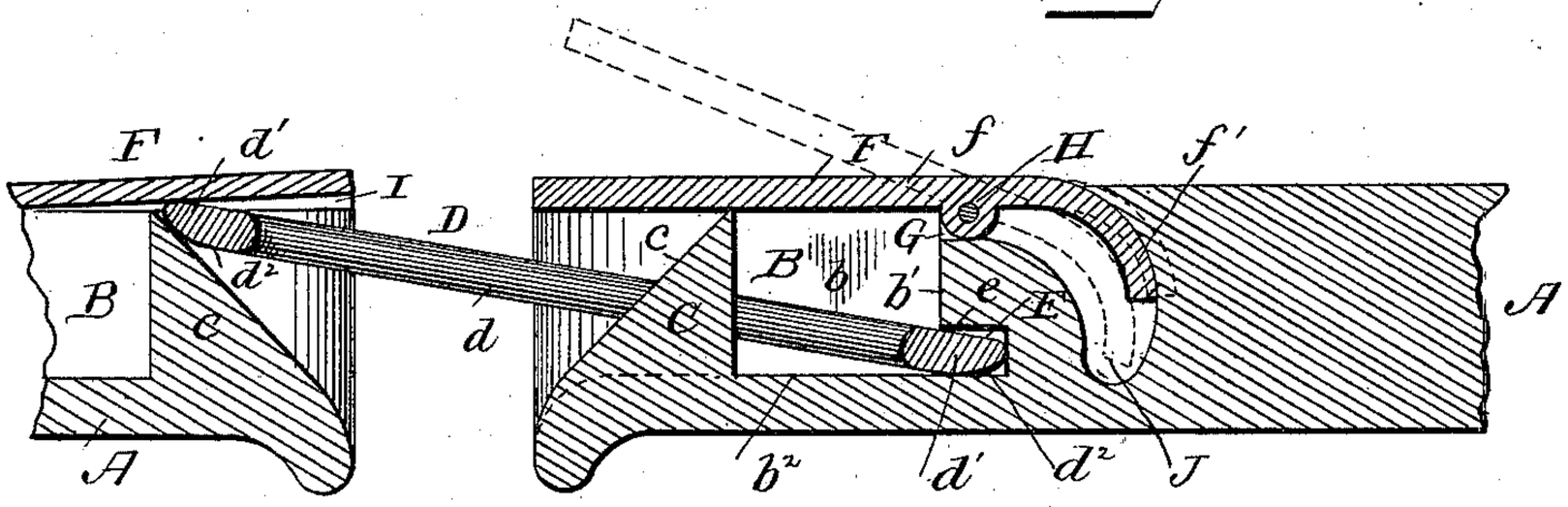


Fig. 3.

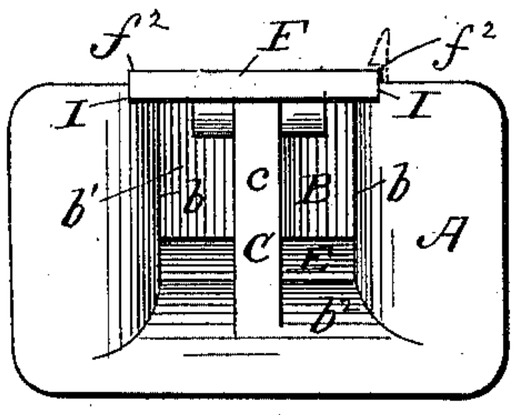


Fig. 4.

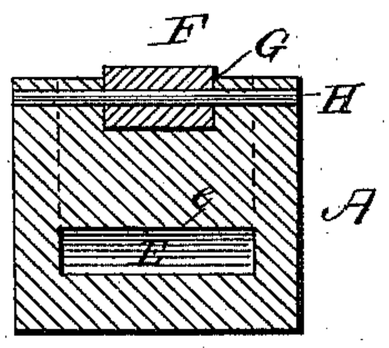


Fig. 5.

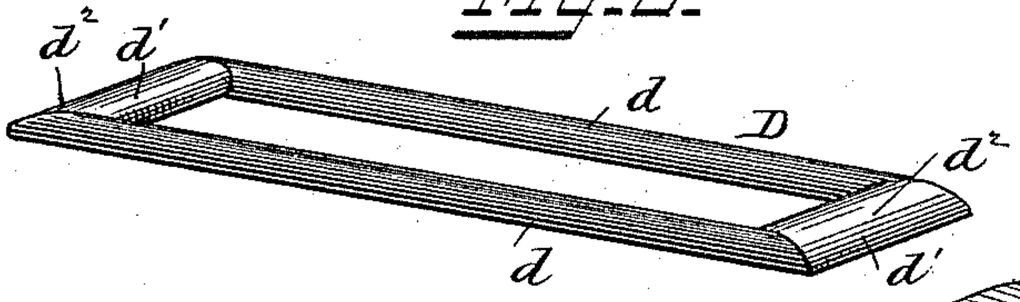
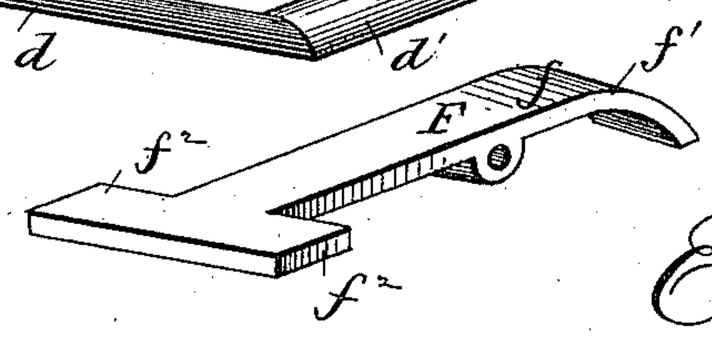


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWIN S. CLARK, OF THE PLAINS, VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 299,201, dated May 27, 1884.

Application filed February 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWIN S. CLARK, a citizen of the United States, residing at The Plains, in the county of Fauquier and State of Virginia, have invented certain new and useful Improvements in Car-Couplings; 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.

This invention relates to that class of car-couplings in which the link is adapted to automatically engage over a hook or projection on the draw-head, and thereby obviate the necessity of an operator going between the cars, so that all danger of mashing hands or otherwise injuring the operator is overcome.

The object of my invention is to provide an improved coupling of this class possessing advantages in point of simplicity, inexpensiveness, durability, and general efficiency, and in which the link will be held elevated to the proper plane, so that a coupling will be automatically effected.

In the drawings, Figure 1 is a perspective view of a car-coupling illustrating my invention. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is a front end view of the draw-head. Fig. 4 is a vertical transverse sectional view of the same. Fig. 5 is a detail perspective view of the coupling-link. Fig. 6 is a detail perspective view of the guard-spring detached.

Corresponding parts in the figures are denoted by the same letters of reference.

Referring to the drawings, A designates the draw-head, which is preferably cast with its parts integral, and may be connected to the car in any suitable manner. In the front portion of the draw-head is formed a recess, B, which is preferably rectangular, and comprises side walls, *b b*, a rear wall, *b'*, and a horizontal bottom, b^2, the said recess being open at the top and front end of the draw-head, as shown. At the front end of the recess B is provided a perpendicular projection, C, which is centrally disposed between the sides *b b* and extends from the bottom b^2. The front edge, *c*, of this projection C is beveled rearwardly to facilitate the automatic engagement of the coupling-link.

D designates the coupling-link, which comprises the longitudinal bars *d d* and transverse end portions, *d' d'*, having their under edge beveled, as shown at d^2, to facilitate their engagement with the projections C. When this link is engaged over the projection C of one draw-head, and is carried thereby, it will engage with the beveled edge of the projection of the adjoining draw-head, and, as the draw-heads come together, will slide up this edge automatically and fall behind the projection by its own gravity, thus effecting the coupling.

In the rear wall, *b'*, of the recess B, and at the bottom of the same, is formed a transversely-disposed auxiliary recess, E, having a horizontal top, *e*. This recess E receives the end of the coupling-link, and serves to retain the same elevated to the necessary horizontal plane to automatically engage the projection of the adjoining draw-head as the cars come together. When the link is held thus elevated, it rests upon the bottom b^2, and its end projects against the top *e*.

F designates a spring-plate, having a flat front main portion, *f*, and a downwardly-curved or segmental rear end, *f'*. This plate is fulcrumed in a recess, G, formed in the draw-head at the top of the wall *b'* by means of a cross-pin, H, and its front end is formed with flanges or extensions f^2 f^2, projecting laterally at each side, and received by corresponding recesses, I I, formed at the top of the front end of the walls *b b*. These recesses serve to retain the plate against lateral strain upon its fulcrum or other accidental displacement. When the plate is down in its normal position, as shown in Fig. 1 of the drawings, it is in near proximity to the projection C, and serves to retain the coupling-link from accidentally slipping up and over the said projection by the movement of the cars or any other causes. The segmental curved end *f'* of the plate is received by a segmental recess, J, formed in the draw-head in rear of the recess B, and having its rear wall preferably of a lesser curve and greater depth than the end of the plate which it receives. The normal curve of this end *f'* is illustrated by the dotted lines in Fig. 2, and the said end is compressed, when in the recess, to the position shown in full lines, so that its spring-tension is exerted to retain its front

end down in its normal position. In coupling, however, the link overcomes this tension and lifts the plate, so that it can pass over the projection C when the plate again resumes its normal position. When desired, the spring-plate may be elevated to the position shown by dotted lines L, Fig. 2.

The operation and advantages of my invention will be readily understood by those skilled in the art to which it appertains. The coupling is simple and efficient, and the strain resulting from the lateral movement of the cars while under draft is received against the side walls, *b b*, and does not come upon the projection C. By this construction great durability and strength are secured.

I claim as my invention—

1. The herein-described improved draw-head, provided at its front end with the recess comprising the side and rear walls and the horizontal bottom, and having the auxiliary recess formed in the rear wall at its bottom and extending transversely between the said walls, the auxiliary recess being adapted to receive the corresponding end of the coupling-link to retain the same elevated and from displacement, substantially as set forth.

2. As an improvement in car-couplings, the combination, with the draw-head provided at its front end with the recess comprising the side and rear walls, the auxiliary recess formed in the rear wall at its bottom and extending transversely between said side walls, and of the central projection extending up between the said side walls, of the coupling-link beveled across one side of its ends, substantially as set forth.

3. The combination, with the draw-head comprising the open recess at its front portion, the projection extending from the bottom of this recess, and provided with a segmental or curved recess formed in its top in rear of the link-recess, of a spring-plate having a curved or segmental rear end seated in the curved recess and fulcrumed to the draw-head in front of this curved end, substantially as and for the purpose set forth.

4. The combination, with the draw-head having the open recess at its front portion, the projection extending from the bottom of this recess, the recesses I I, and the curved recess formed in its top in rear of the link-recess, of the spring-plate comprising the flat main portion having the lateral extensions at its front end, and formed with the curved or segmental rear end, the said plate being fulcrumed to the top of the draw-head at the rear wall of the link-recess, substantially as set forth.

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

E. S. CLARK.

Witnesses:

J. R. LITTELL,

C. A. NEALE.