(No Model.)

# O. BANGS.

## CAR COUPLING.

No. 318,228. Patented May 19, 1885.

Fig. 1.

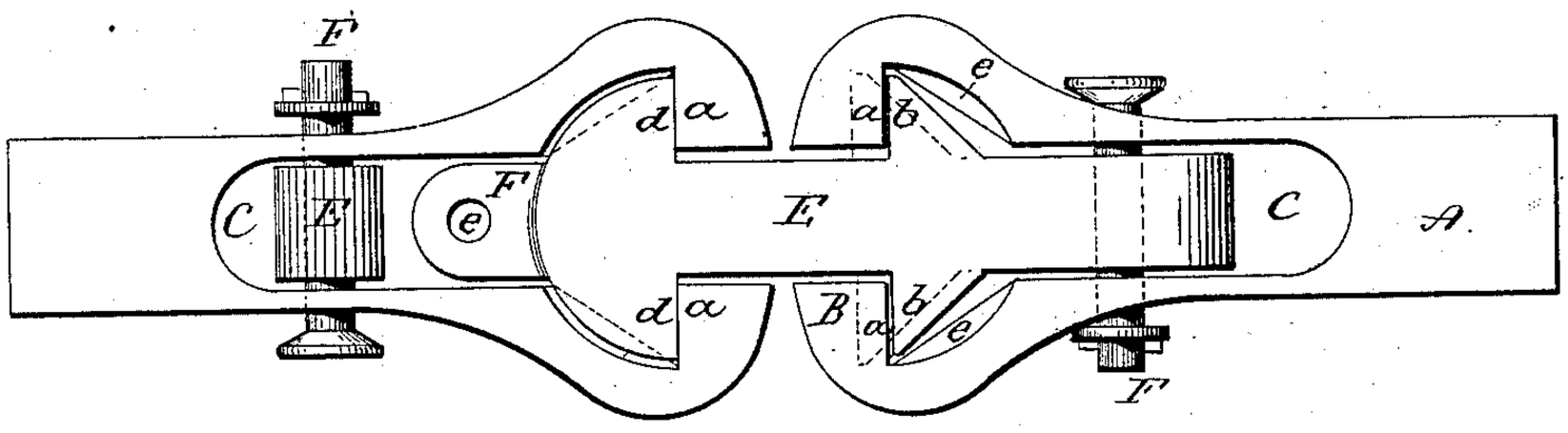



Fig. 2.

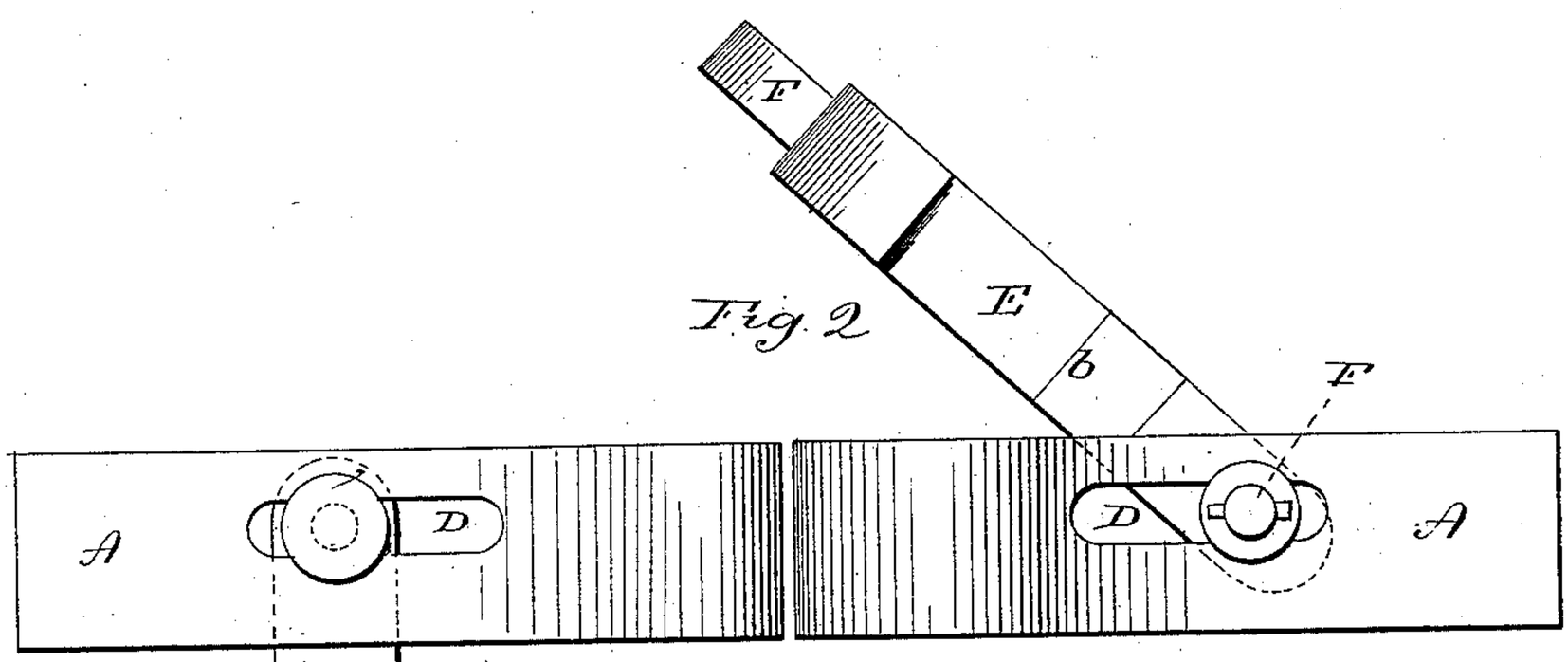



Fig. 3.




Fig. 4.

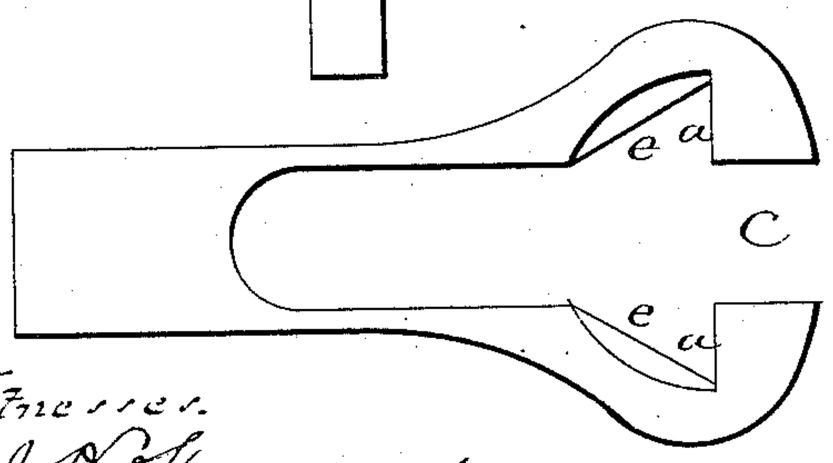
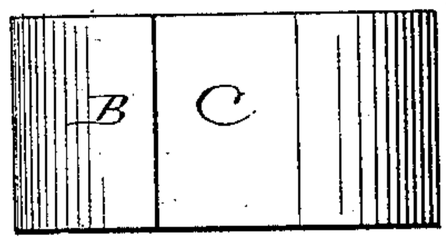



Fig. 5.

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# UNITED STATES PATENT OFFICE.

OLIVER BANGS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO WILLIAM H. ANDREWS, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 318,228, dated May 19, 1885.

Application filed April 13, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, OLIVER BANGS, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Car-Couplings; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a top or plan view of two couplers one engaged with the other; Fig. 2, a side view of the two couplers, the one at the right showing the link as raised preparatory to engagement, the one at the left showing the link as hanging free; Fig. 3, a side view of one coupler with a central section through the other, showing the link as engaged and supported on the stop or rest therein; Fig. 4, a top view of one of the couplers with the link removed; Fig. 5, a front end view of the same.

This invention relates to an improvement in devices for connecting railway-cars, commonly called "car-couplings," the object of the invention being the construction of a coupling which may be automatic in its engagement and adapted to great range of elevation, and also adapted to use in connection with cars which happen to have the common link-coupler; and the invention consists in the construction of the coupler, as hereinafter described, and more particularly recited in the claims.

A represents the bar, and B the head, of one coupler. Vertically through the head is an opening, C, which opening extends into the bar, and in the opening near the face or outer end of the head a recess is made, so as to form a shoulder, *a*, upon each side. Transversely through the bar and near the inner end of the opening is a slot, D, in a plane at right angles to the opening C. In this slot the link E is hung upon a pintle, F, and so that the link may swing up and down through the opening, as from the position at the right in Fig. 2 to that at the left in same figure. The slot D permits considerable extent of longitudinal movement of the link. The link is constructed with a shoulder, *b*, upon each side corresponding to the shoulders *a* in the head, and so that when the link is drawn forward, as seen in Fig. 1, the shoulders *b* of the link may come to a bearing against the shoulders *a* in the head, and so as to support the link against the drawing-strain. The end of the link is of substantially T shape, or so as to from a transversely-projecting shoulder, *d*, upon each side, the shape of the T or shoulders being such that they readily enter the recesses in the head with which they are to be coupled, and so as to take against the shoulders *a*, as seen in Fig. 1. The recesses in rear of the shoulders are constructed with an inwardly-projecting flange or stop, *e*, upon which the head or end of the link may rest when dropped therein, as seen in Figs. 1 and 3. When the two heads are connected, as seen in Fig. 1, by the link E, they are in condition for work. The slot D allows all the longitudinal play necessary in the running of the cars, and the up-and-down opening through the head permits the requisite change of elevation, and also permits transverse play. The shoulders *a* on the one head take a bearing against the corresponding shoulders, *b*, on the link, and the shoulders *d* of the link take their bearing against the shoulders *a* on the other head. Only the link of one head is engaged at the same time. While that is engaged the other hangs down out of the way, as represented at the left in Fig. 2.

To automatically engage the coupling of one car with that of the next, suppose in Fig. 2 the coupling at the right to be that upon the stationary car, the link is turned upward, and the projections which form the shoulders *b* are permitted to rest upon the upper side of the head near the recesses in the sides of the opening, and as indicated in broken lines, Fig. 1, and so that the link will remain in that position until some force be applied to throw it forward. Suppose then the coupling at the left to be a car which is moving toward the before-mentioned stationary car. So soon as the two couplers come together the jar will throw the link forward and away from its support upon its own head. Then it falls toward the other coupler, the T-end into the recess in that coupler, so as to en-

gage the shoulders therein, as indicated in Fig. 1; or if the link on the moving car be raised and held in its up position instead of on the stationary car the result will be the same. When the two couplers come together, the link will fall to engage them, as described.

It is desirable in any coupler that it shall be so constructed as to enable its engagement with the common link-coupler. To this end I construct the link with a projection, F, at its forward end adapted to enter such coupling. This projection has an opening, *e*, vertically through it, so as to receive the pin, in the usual manner for link-couplers. By this construction of coupler it may all be made from cast metal, there being but two pieces in each coupler aside from the pintle on which the link swings. The construction is exceedingly cheap, no considerable amount of mechanical labor being required in fitting the parts. The coupler-bar is the same as that in the common link-couplers, and the head is of substantially the same extent and shape.

The coupler readily adapts itself to all conditions required for car-couplers, is automatic in its action, thereby avoiding the necessity of passing between the cars to engage the coupler of one car with that of the next, and is no more liable to get out of order than the common link-coupler.

I claim—

1. The herein-described car-coupling, consisting of the bar A, terminating in the head B, the said head having an opening vertically through it, the opening extending rearward into the bar, and with the shoulder *a* in each side of said opening combined with the tongue E, hung in and so as to swing up and down through said opening, the link constructed with a shoulder, *b*, upon each side adapted to engage the corresponding shoulder, *a*, in the head, and with a T-shaped outer end to form laterally-projecting shoulders *d*, and so as to engage the corresponding shoulders of a like head, B, substantially as described.

2. The combination of the bar A, terminating in the head B, with an opening vertically through the head, extending rearward into the bar, with a recess in each side of said opening to form shoulders *a*, and also constructed with a longitudinal slot, D, through the said bar at right angles to the opening in the bar, the tongue E, hung in said slot and adapted to swing up and down through the opening in the head, said link constructed with shoulders *b*, corresponding to the shoulders *a* in the head, and also constructed with laterally-projecting shoulders *d* near its outer end adapted to engage corresponding shoulders in the other head, substantially as described.

3. The combination of the bar A, terminating in the head B, and constructed with a vertical opening through the head, the said opening extending rearward into the bar, and also constructed with recesses in each side of said opening to form shoulders *a*, with a flange or stop, *e*, in said recesses, with a link, E, hung in said opening, and so as to swing up and down through the head, and constructed with shoulders *b*, corresponding to the shoulders *a* in the head, with shoulders *d* near its outer end adapted to engage corresponding shoulders in the other head, substantially as described.

4. The herein-described car-coupling, consisting of the bar A, terminating in the head B, the said head having an opening vertically through it, the opening extending rearward into the bar, and with the shoulder *a* in each side of said opening combined with the tongue E, hung in and so as to swing up and down through said opening, the link constructed with a shoulder, *b*, upon each side adapted to engage the corresponding shoulder, *a*, in the head, and with a T-shaped outer end to form laterally-projecting shoulders *d*, and so as to engage the corresponding shoulders of a like head, the said link also constructed with an extension at its outer end having an opening vertically through it, substantially as described.

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