

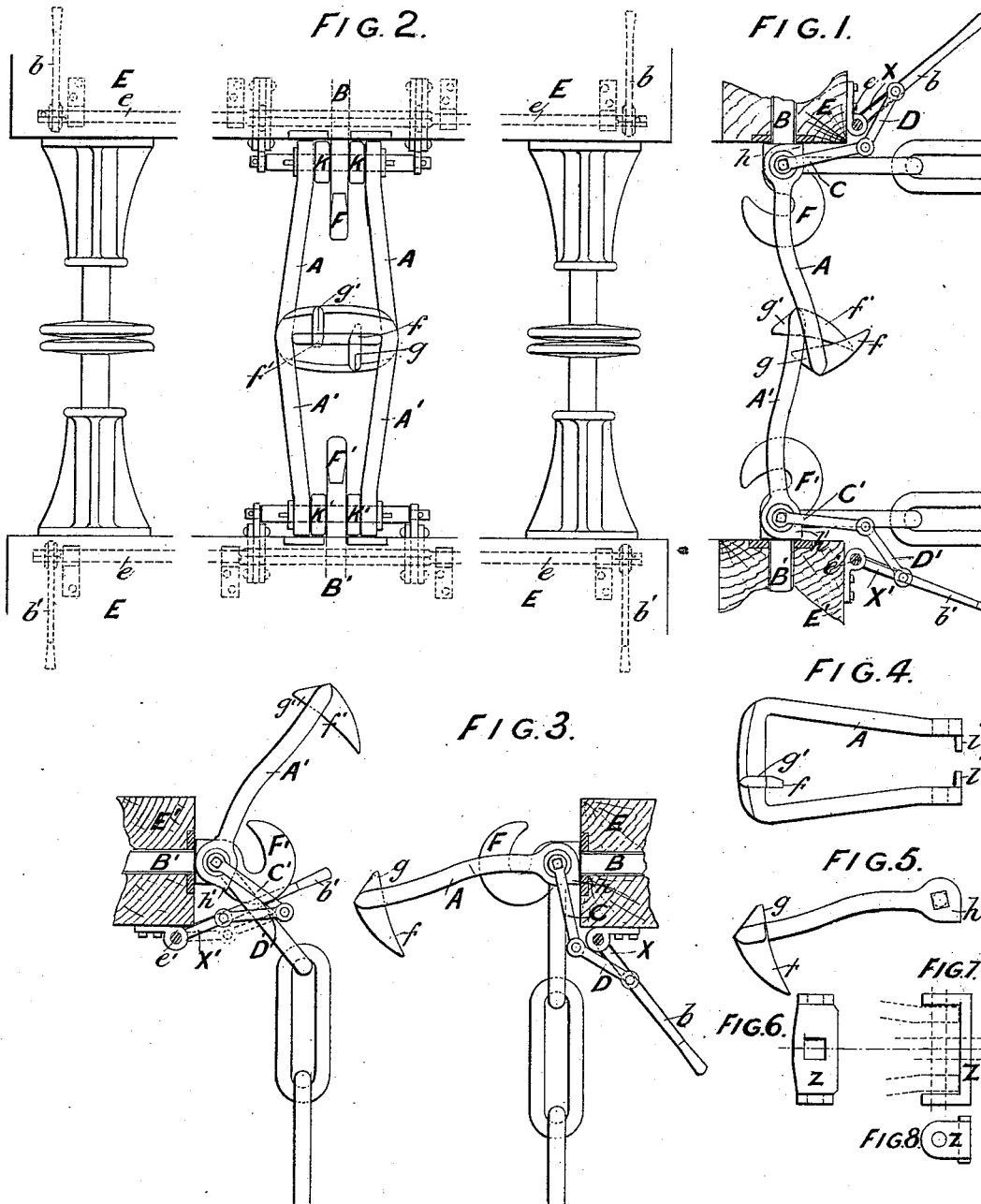
(No Model.)

H. S. S. COPLAND & J. C. GILMOUR.

CAR COUPLING.

No. 346,986.

Patented Aug. 10, 1886.



Witnesses.

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# UNITED STATES PATENT OFFICE.

HENRY S. S. COPLAND AND JAMES C. GILMOUR, OF LONDON, ENGLAND.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 346,986, dated August 10, 1886.

Application filed May 15, 1886. Serial No. 202,232. (No model.) Patented in England January 5, 1886, No. 169.

*To all whom it may concern:*

Be it known that we, HENRY SYED SMART COPLAND and JAMES CHARLES GILMOUR, of London, England, have invented a new and useful Improved Car-Coupling, (for which we have obtained patent—viz., on 5th of January, 1886, No. 169—in Great Britain,) of which the following is a specification.

Our invention relates to improvements in automatic car-couplings for use on railways, in which two corresponding shackles are hinged, one to each vehicle, so that one shackle may override and become attached to the other when the vehicles collide. We attain this object by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a side view of our improved coupling device, showing the two shackles engaged; Fig. 2, a plan view of the same from above, showing also the side of the vehicle for illustrating the position of the hand-levers; Fig. 3, a side view of the improved device with the shackles disengaged; Fig. 4, a plan view of our improved shackle; Fig. 5, a side elevation of the same; Figs. 6, 7, 8, respectively, front elevation, plan, and side elevation of a device to be used with rubber or weak draw-bar springs.

Similar letters of reference show similar parts throughout the figures.

The shackles A A' are hinged by means of a bolt to the draw-bars B B' of the vehicles. At the hinged end of each shackle hang one or two depending arms, C C', fixed firmly with regard to the shackles, and connected at their farther ends by the hinged links or levers D D' to subsidiary levers X X', fixed to rods e e', passing under the frame of the vehicle and terminating at each end in the hand-levers b b'. The outer looped end of each shackle is provided with one or more double spurs consisting of the upper short spur, g g', and the lower longer spur, f f'. These spurs are, as shown in Fig. 2, fixed to or formed on the loop of the shackle to one side of the center of the latter, so that the spurs of the two shackles may not touch each other. The curve of the inner side of the longer spurs, f f', is approximately an arc of a circle, the center of which is the hinge

of the shackle. The outer surfaces of the lower spurs are sufficiently curved to be thrown upward by the opposite shackle when met by the edge of the latter. The front end of the shackle is beveled off to enable the spurs to override the same more easily.

To adapt this improved coupling device to existing rolling stock, where the draw-bars are provided with hooks, F F', as shown in the drawings, and it is thought desirable to retain the chains, we use the existing coupling-chains, the eyes of which occupy the places of the distance-pieces K K', which we otherwise employ; and to further provide for the quicker fall of the shackles we allow the existing coupling-chains to impinge on the lugs i i, Fig. 4, and such chains are in the position shown on the left of Fig. 3, when the shackle is raised. Each shackle is provided with a projecting shoulder, h h', which prevents the shackle from falling farther down than is required, by said shoulder pressing against the draw-bar plate. When, however, the draw-bar is slightly withdrawn, this projection h h' would be inoperative, since it would then pass too far in front of the draw-bar plate. To obviate this, and when rubber or weak draw-bar springs are used, we introduce a plate, z, Figs. 6, 7, and 8, for the rear shoulder of the shackle to abut against, instead of the usual draw-bar plate.

When two vehicles are brought together for the purpose of coupling, the shackle which may happen to be the higher of the two impinges with its lower spur on the opposite shackle, and is lifted thereby until it passes over the opposite shackle and falls behind the same by its own weight. When the couplings are subsequently in tension, the spur f' or f catches behind the shackle A or A', and at the same time the upper spur, g or g', of the opposite shackle catches behind the first shackle, A' or A, thus giving a double hold.

For uncoupling, the hand-lever of the upper shackle must be lifted by hand, and the shackle can be secured in its disengaged position A', Fig. 3, by pressing up the hand-lever b', so as to reverse the joint of the lever D' with the subsidiary lever X', when the weight of the

shackle presses the lever against the frame of the vehicle, which holds the shackle A' in its upper position.

We claim in car-couplings—

- 5 1. The shackles A A', with their upper spurs, *g g'*, engagement spurs *f f'*, projecting shoulders *h h'*, and lugs *i*, substantially as set forth and illustrated.
- 10 2. The shackles A A', with their upper spurs, *g g'*, engagement spurs *f f'*, projecting shoulders *h h'*, and lugs *i*, combined with the shaft *e*, and uncoupling devices consisting of

the levers C C' D D' X X', and the operating-handles *b b'*, substantially as set forth and illustrated.

In testimony whereof we signed this specification in the presence of two subscribing witnesses. 15

HENRY S. S. COPLAND.  
JAS. C. GILMOUR.

Witnesses:

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R. HADDAN.