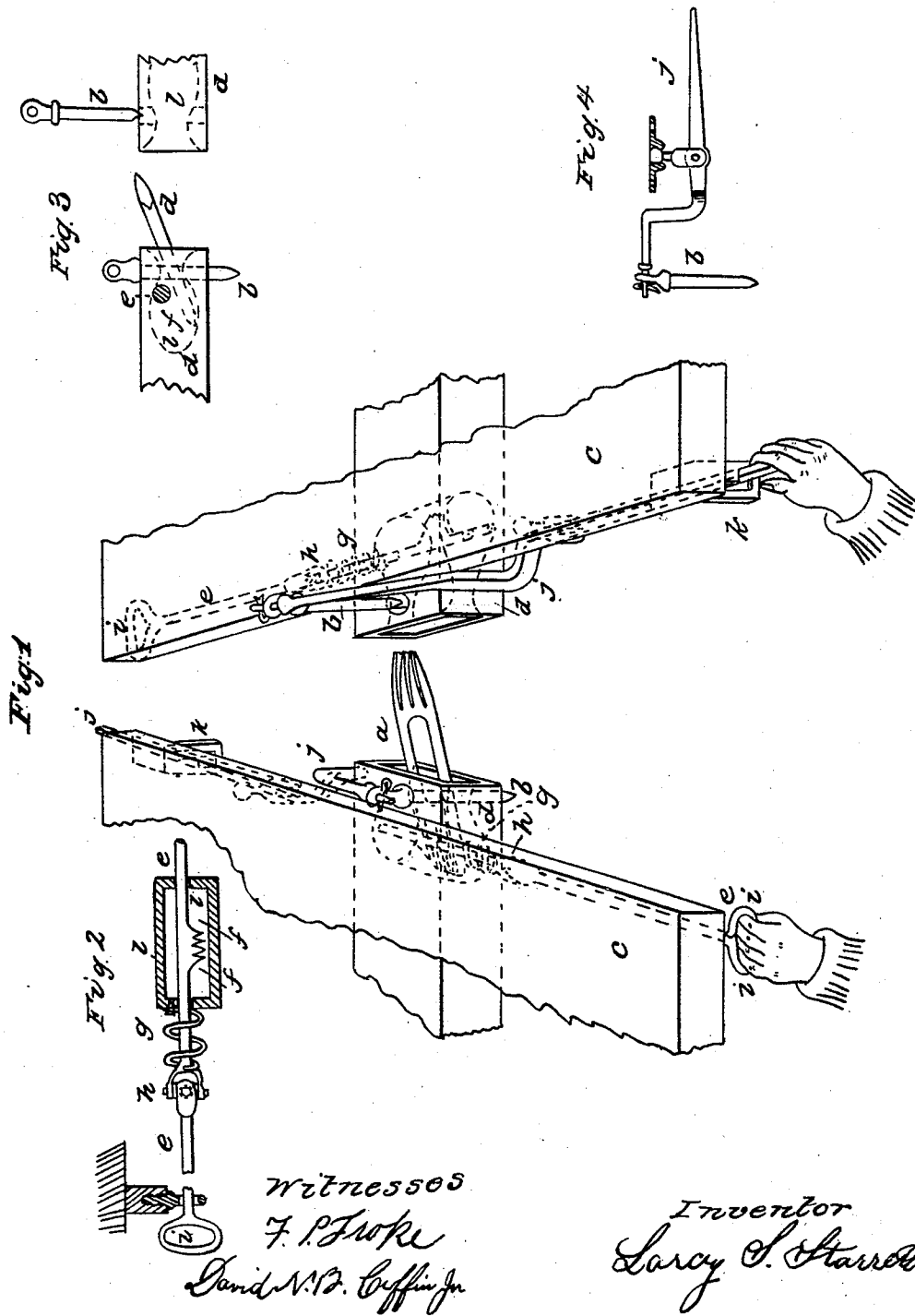


L. S. STARRETT.

Car Coupling.

No. 111,695.

Patented Feb 7, 1871.



UNITED STATES PATENT OFFICE.

LAROE S. STARRETT, OF ATHOL, MASSACHUSETTS.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **111,695**, dated February 7, 1871.

I, LAROE S. STARRETT, of Athol, county of Worcester, and State of Massachusetts, have invented an Improved Apparatus for Coupling and Uncoupling Cars.

Nature and Objects of the Invention.

The nature of the invention relates to certain devices adapted to use in operating and controlling the coupling links and pins, and to the construction of these parts, the draw-bar, &c., with reference thereto, all substantially as hereinafter more fully set forth.

The main object in view is the protection of the operator from danger, or rather to enable him to perform the necessary operations for coupling and uncoupling cars while occupying a position at the side, rather than be obliged to enter between the cars for this purpose, where he is so often crushed and otherwise injured.

Description of the Drawing Accompanying this Specification.

Figure 1 is designed to represent, in a perspective view, the adjacent ends of two cars, or their platforms, just approaching each other, showing or indicating the entire apparatus, with the two hands of the operator in the act of directing the movements of the coupling-link *a* and pin *b* for the purpose of coupling them together. Fig. 2 is a sectional view of the draw-bar *d*, and shows the apparatus for operating the coupling-link. Fig. 3 represents the two draw-bars *d*, link *a*, and pins *b*, &c., in a side elevation, the peculiarly-formed chamber for holding and operating the link being shown in dotted lines. Fig. 4 is an elevation of the apparatus for operating the coupling-pin *b*.

General Description.

The platform or extreme end portion of the car is represented at *c*. Just beneath this, as usually arranged, is shown the draw-bar or the coupling-head of the draw-bar *d*. This head is provided with a chamber having the usual bell-shaped mouth, with chamber enlarged back of the bell-shaped mouth. (See Figs. 1 and 3, dotted lines.) This enlarged chamber permits the link *a* to rest upon and within the throat of the chamber, near which the coupling-pin is passed through the head and link,

and to be operated about the pin and upon the throat-ridge as upon a fulcrum, the inner end having space to be moved about to the right, left, upward, and downward, so giving the corresponding reverse movements to the portion of the link projecting outward. These movements of the link *a* are effected for the purpose of directing it into the bell-mouth of the opposite draw-bar by means of the rod *e*, this rod *e* being provided with a fluted tongue or projecting arm, *f*, within the chamber, and being made both to turn and slide longitudinally in guides in the draw-bar for this purpose. A handle, *i*, is accessible at the side of the car. (See hand at the left in Fig. 1.) The rod *e* is further partially controlled in its movements by means of a spring, *g*, so that when left free it is always thrown to one and the same position, whereby the operator may always know what first movement is required to give the necessary movement to the link, the position of which he can see without having to find its position by an experimental movement of the handle *i*.

The rod *e* is provided with a universal joint at *h*, so as to provide for the varying position of the draw-bar relatively to the part of the car to which the handle *i* may be suspended. Under the opposite, which is the near, corner of the adjacent car to be coupled is arranged a lever, *j*. This lever is suspended by a free-jointed fulcrum or bearing, (see Fig. 4,) the inner end of the lever being jointed to the coupling-pin *b*, while the other end is accessible at the side of the car. (See hand at the right in Fig. 1.)

A lock-guide catch or holder, *k*, retains the lever *j* in position to sustain the coupling-pin *b* in a position with point entered ready to be dropped in its place for coupling, as occasion requires, or whenever the link is entered. A slight hand movement of the lever is sufficient for this purpose, and when left free the pin *b* is allowed to rest in its hole in the draw-bar, being always connected and ready to be raised instantly by applying the hand to lever *j*, as shown at the right in Fig. 1.

The link is constructed with extended and grooved or fluted ends, substantially as shown, so as to be readily operated upon by the serrated or fluted tongue *f* of rod *e*, to give it the proper oscillating or vibrating movement about

the pin *b*, and upon the throat-ridge to direct its entrance into the approaching mouth of the opposite draw-bar.

A sliding longitudinal movement of rod *e* gives the horizontal, and a rolling or rocking movement the vertical, vibration of the link. Pressing down the outer end of lever *j* lifts out pin *b* for uncoupling, where it is then held by catch *k*. Throwing the lever *j* out of the catch *k*, the pin falls in place for coupling.

It will be noticed that the arrangement is such that a lever, *j*, for operating a pin, *b*, and a handle, *i*, and rod *e*, for operating a link, are always within reach of the two hands of the operator, so that the entire operation of coupling or uncoupling is performed without having to go from one side to the other of the cars.

Claims.

I claim—

1. The combination of the link, constructed with fluted or serrated ends, with the fluted or serrated tongue or projection *f* upon rod *e*, for the purpose of giving lateral movement, as well as elevation, to the link, substantially as shown and described.

2. The spring *g*, in combination with the rod *e*, its fluted or serrated tongue or projection *f*, and the serrated or fluted link, substantially as described.

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Witnesses:

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