

G. P. Rose,

Rail Joint.

No. 102043.

Patented Apr. 19. 1870.

Figure 2—

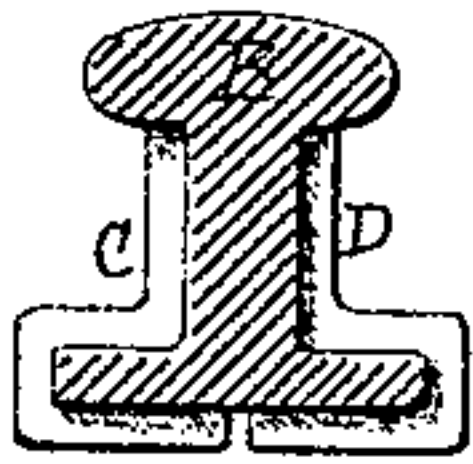


Figure 3—

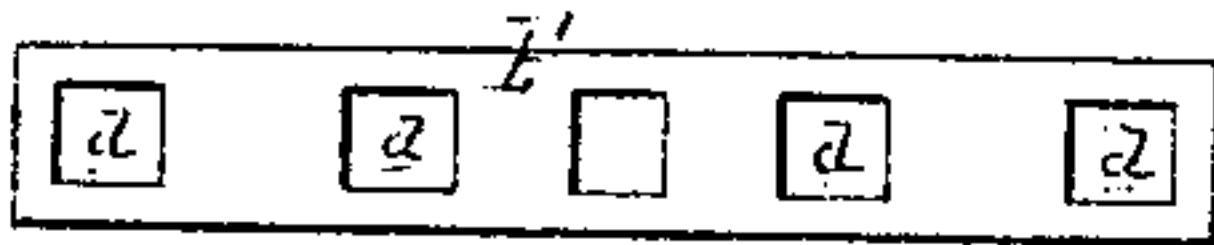
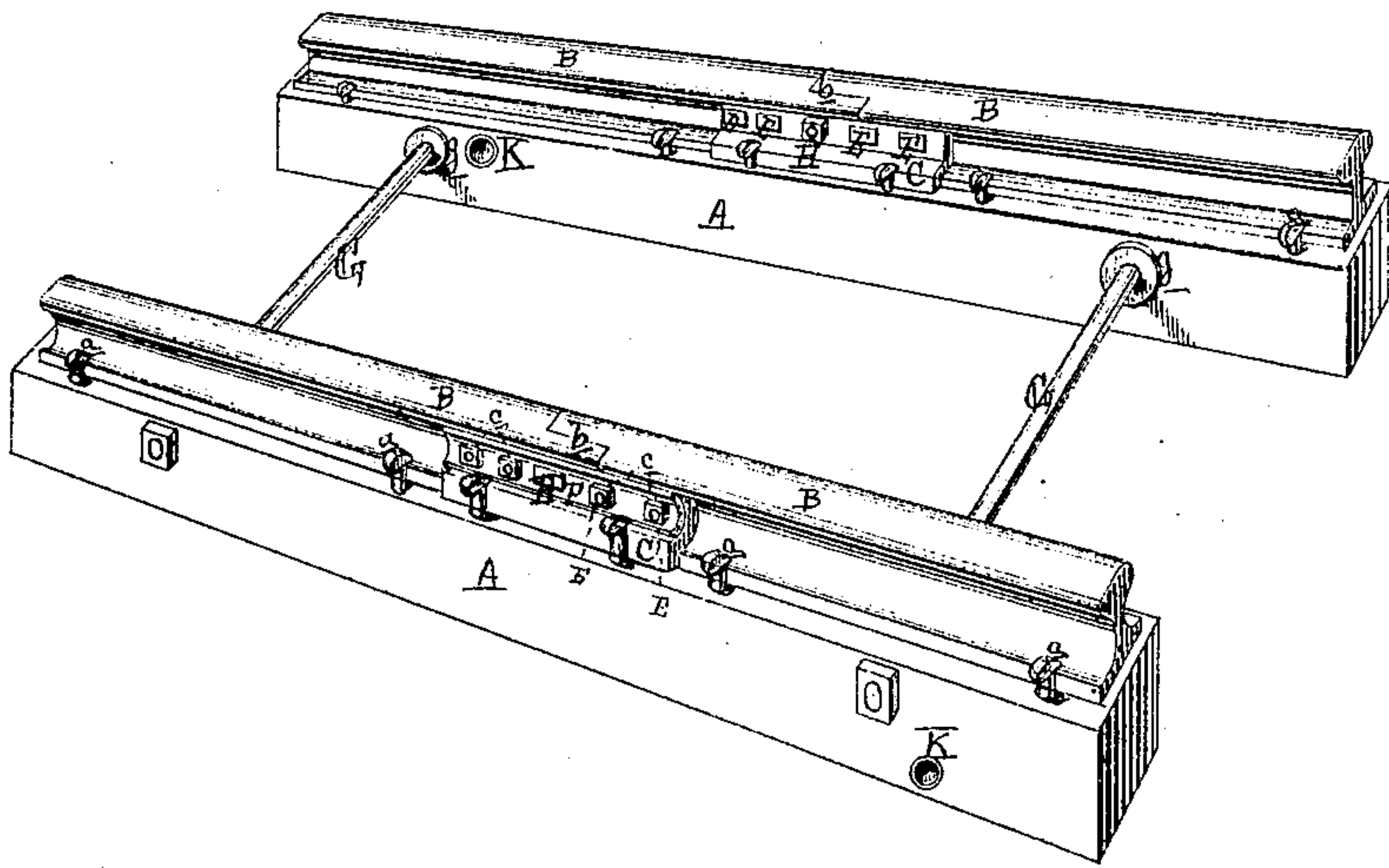


Figure 1—



ATTEST

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GEORGE P. ROSE, OF ELMIRA, NEW YORK.

IMPROVED RAILWAY-RAIL SPLICE.

Specification forming part of Letters Patent No. 102,043, dated April 19, 1870.

To all whom it may concern:

Be it known that I, GEORGE P. ROSE, of Elmira, in the county of Chemung and State of New York, have invented a new and useful Improvement in Railway-Bar Joints; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon and being a part of this specification.

Figure 1 is a perspective view of a section of track at the point where adjoining rails meet. Fig. 2 is a sectional end view of my fish-plate. Fig. 3 is a plan view of my nut-lock.

Like letters indicate like parts in each figure.

My invention consists in rails provided with offsets and shoulders upon their ends, so as to fit together, and with rectangular holes through the web for the reception of bolts, in combination with a fish-plate and chair combined, and a locking-plate.

In the drawings, A represents the wooden stringers or timbers, which, in practice, will rest upon suitable ties, and upon which the rails B are secured by wood-screws *a*, with elongated heads, the widths of which are equal to the body of the screw, while the projecting heads upon opposite sides, acting as flanges, will allow them to grasp and hold the foot of the rail to the stringer. When it is required to release the rail from the stringer, it may be done by giving the screws a quarter of a turn, thereby disengaging the head from the rail-foot. The ends of these rails are halved together, as shown at *b*—or, in other words, are provided with an offset and shoulder, as shown, the one lapping by and abutting against the other. A chair and fish-plate combined, made in two sections, C and D, receive the foot of the rail, and are fitted to the flat or concave sides of the web of the rail, in reference to which they are so situated that the overlapping ends of the rail will be about the center of the length of the chair and fish-plate.

Equidistant from each other through the ends of the rail, and correspondingly through the fish-plate, are punched as many rectangular holes as it is designed to use bolts to

connect the rails and fish-plates together. It is not necessary that these holes should be equidistant from each other, although it is preferable, in order to secure greater uniformity in the work. It is, however, essential that in their vertical section they should correspond with the size of the bolts, while it is equally essential that in their horizontal section they should be longer than the width of the bolts, in order to allow for the contraction and expansion of the rails under varying temperatures. The bolts E, which are shown in a separate figure, are rectangular in shape, the end, of course, being drawn down and rounded to receive the thread with which the nut *c* engages.

The vibration caused by passing trains, concussion, or accident frequently causes the nuts to loosen and fall off, which are usually employed in securing fish-plates to the rails. To remedy this evil, I employ a plate, F, with four holes, *d*, punched thereon, of suitable size to fit the nuts *c*. This plate is placed against the fish-plate in such a manner that the nuts *c* will protrude through the holes *d*, and is held in position by another rectangular-shaped bolt, H, passing through corresponding holes of corresponding shape in the plate, fish-plate, and rail. Through the end of this bolt there is drilled a small hole to receive the pin *e*, which engages with a slot in the outer face of the nut *f*, and effectually prevents it from turning or becoming loosened.

The holes through which all the bolts E and H pass in the fish-plates and locking-plate should be of a size to fit the bolts; but the corresponding holes through the rails should be elongated, as and for the purpose hereinbefore described.

Suitable bolts G, which, as they are underground, should be galvanized to prevent corrosion, are employed to hold the stringers in their relative positions and prevent their spreading or drawing together. These bolts should be provided with shoulders *g*, against which the inner faces of the stringers rest, and nuts *h* upon the ends, which pass through the stringers.

Proper tubes or openings, K, laterally and downward through the stringers, will allow

the water, which would otherwise settle there, to pass off from between the two legs of the track.

What I claim as my invention, and desire to secure by Letters Patent, is—

The rails B, provided with overlapping offsets and shoulders, and with rectangular holes through the web for the reception of the bolts

E and H, in combination with the fish-plate and chair combined, C and D, and the locking-plate F, substantially as and for the purpose specified.

GEO. P. ROSE.

Witnesses:

JAS. I. DAY,
H. F. EBERTS.