

P. McCARTY.

Railway Rail Joint Fastenings.

No. 158,645.

Patented Jan. 12, 1875.

Fig. 1.

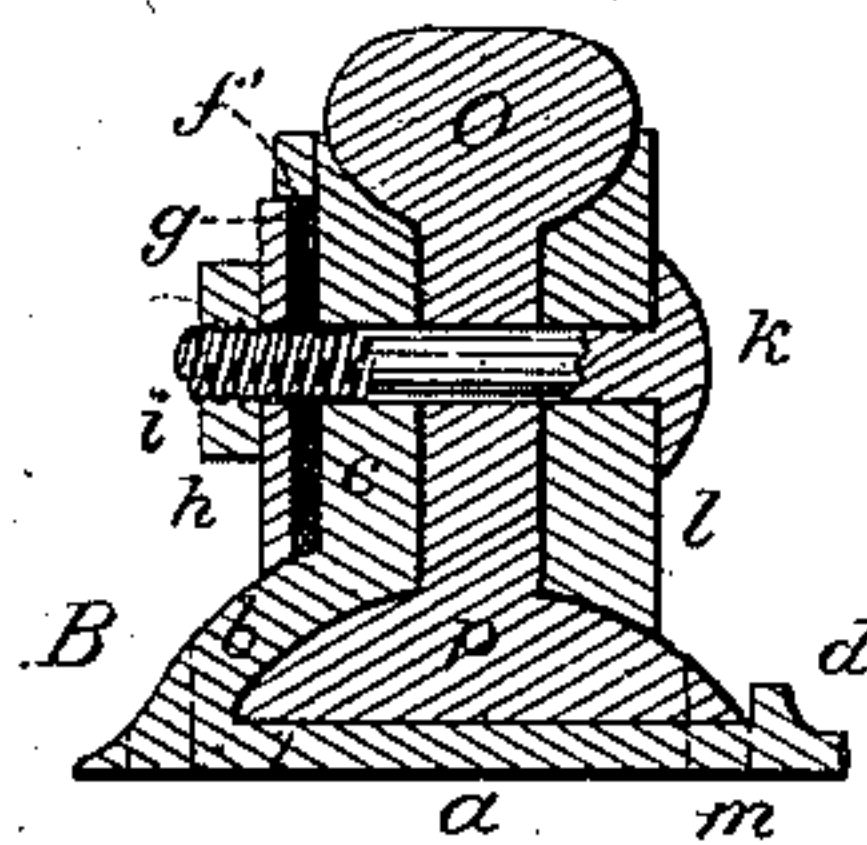


Fig. 2.

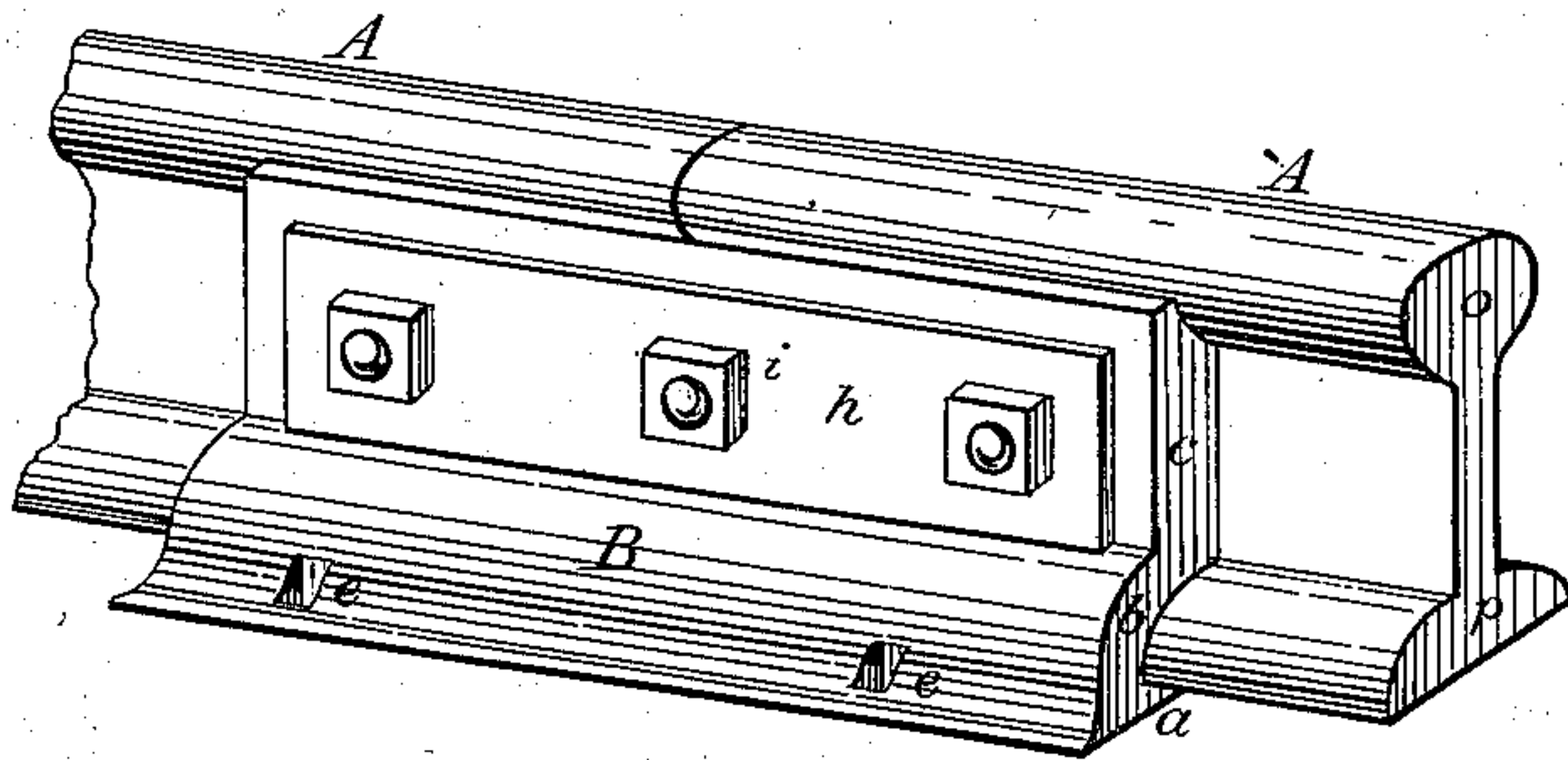


Fig. 3.

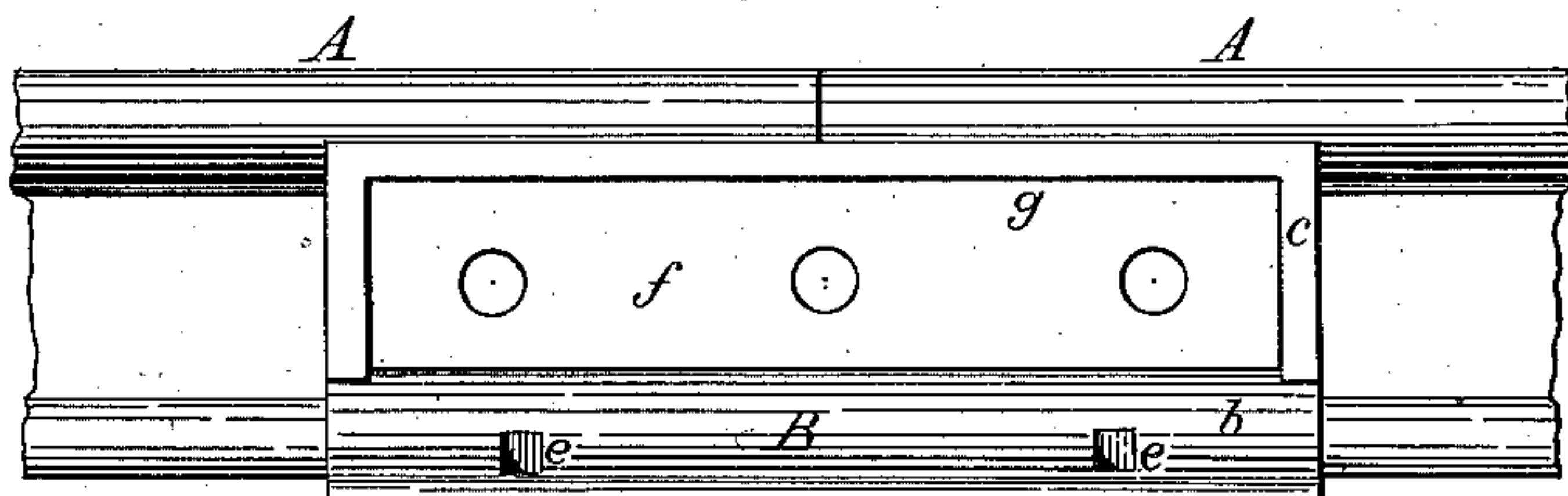
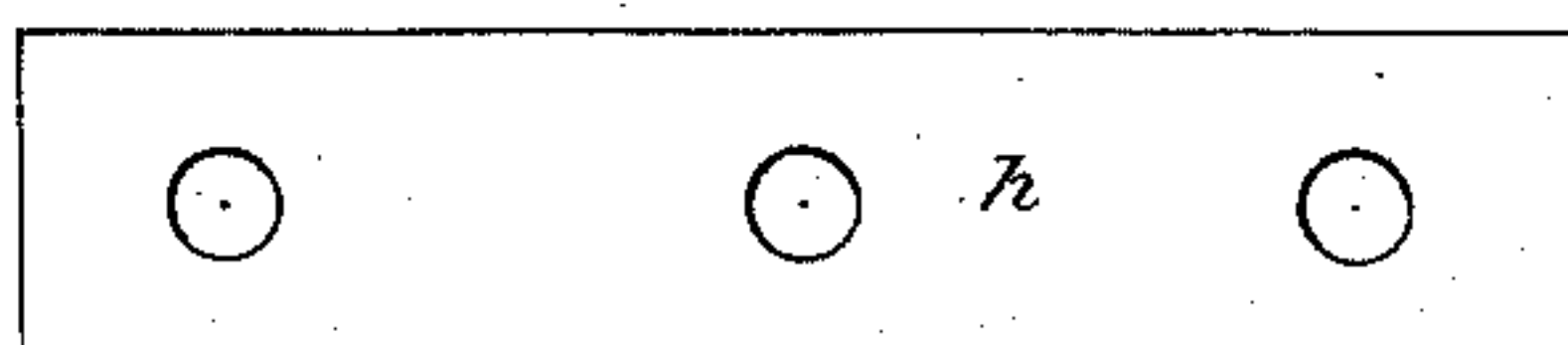


Fig. 4.



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PETER McCARTY, OF FAIRFIELD, IOWA.

IMPROVEMENT IN RAILWAY-RAIL-JOINT FASTENINGS.

Specification forming part of Letters Patent No. 158,645, dated January 12, 1875; application filed November 2, 1874.

To all whom it may concern:

Be it known that I, PETER McCARTY, of Fairfield, in the county of Jefferson and State of Iowa, have invented certain new and useful Improvements in Railway-Rail-Joint Fastening; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to furnish a joint-fastening which will support both the base and head of the rail, hold the rails firm and flush at the joint, prevent creeping, compensate for expansion and contraction by heat and cold, and strain and concussion of moving trains, maintain the tension of the bolts, and hold the joint-fastenings tight to the rails, and prevent the cross tie or ties from shifting under the joint, or from each side of the joint, when used on two ties.

In the drawings, Figure 1 is a cross vertical section, and Fig. 2 is a side elevation, of a rail with my improvements attached; and Figs. 3 and 4 are detail views of the same.

A A are two rails, to be secured together, each being pierced by the desired number of holes, for reception of the bolts which are to hold the fastenings or couplings. B is a fastening or coupling device. It is formed in the peculiar shape shown, corresponding to the configuration of the foot and side of the rail, being composed of the three parts *a b c*. The base *a* has the flange *d*, which holds the foot *p* from moving sidewise off the base. The curved part *b* extends up over the foot *p*. The rail rests on the base *a*, and fits neatly between said part *b* and flange *d*. The part *c* extends to, and has its upper edge beveled to conform to the shape of, the head *o*, which rests on and is supported by said bevel. It is pierced by suitable holes for bolts. *e m* are mortises for spikes, to secure the coupling to the ties. The mortises *m* are placed under the side of the foot *p*, the latter being provided with a half mortise or notch, so that when the spike is inserted it will hold the foot of the rail firmly in the coupling. *f* is a rectangular recess formed in the part *c*, and of such dimensions as to extend around each of the bolt-holes. Its depth is about one-fourth

the thickness of said part *c*. Its object is to hold and protect from injury the elastic cushion hereinafter described. *g* is a thin cushion of gum or other elastic material, fitted into the recess *f* and around the bolt-holes. Its thickness is slightly less than the depth of said recess. *h* is a metallic washer, placed over the elastic cushion *g*, and fitted into the recess *f*, but free from contact with the surrounding metal. It protects the elastic cushion from injury from any cause, and furnishes a firm surface, against which the nuts *i* on bolts *k* may be tightened. *l* is a fish-bar. It corresponds in size and form to the part *c*, and, resting on the base and head of the rail, makes, in connection with the coupling B, a firm support for the head *o*, and prevents crushing and mashing down of the ends of the rails.

The rails being secured by the couplings, the passage of trains will not break the bolts *k*, nor cause the nuts *i* to work off. The elasticity of the cushion *g* will permit of sufficient spring to relieve the strain and concussion on the bolts, and will prevent the vibration of the washer *h*.

By constructing the fish-bar and chair in one piece, as described, the rails will be held with greater firmness. All "see-saw" movements, common to rails secured with the ordinary couplings, are prevented. The tops of the abutting rails will always be flush with each other, and that crushing, the result of the depression of the top of the rail, on which is the greater weight, below the top of the abutting rail, so that the upward-projecting point of the latter is struck by the car-wheel, is entirely prevented.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

A railway-rail-joint coupling, consisting of the combined chair and fish-bar B, constructed in one piece, as described, and recessed at *f*, elastic cushion *g*, washer *h*, and fish-bar *l*, arranged to operate as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

PETER McCARTY.

Witnesses:

JAMES SLAGLE, Jr.,
L. W. PRINGLE.