(No Model.)

# A. G. EDMONDSON.

## RAILWAY RAIL JOINT.

No. 464,699. Patented Dec. 8, 1891.

Fig. 1.

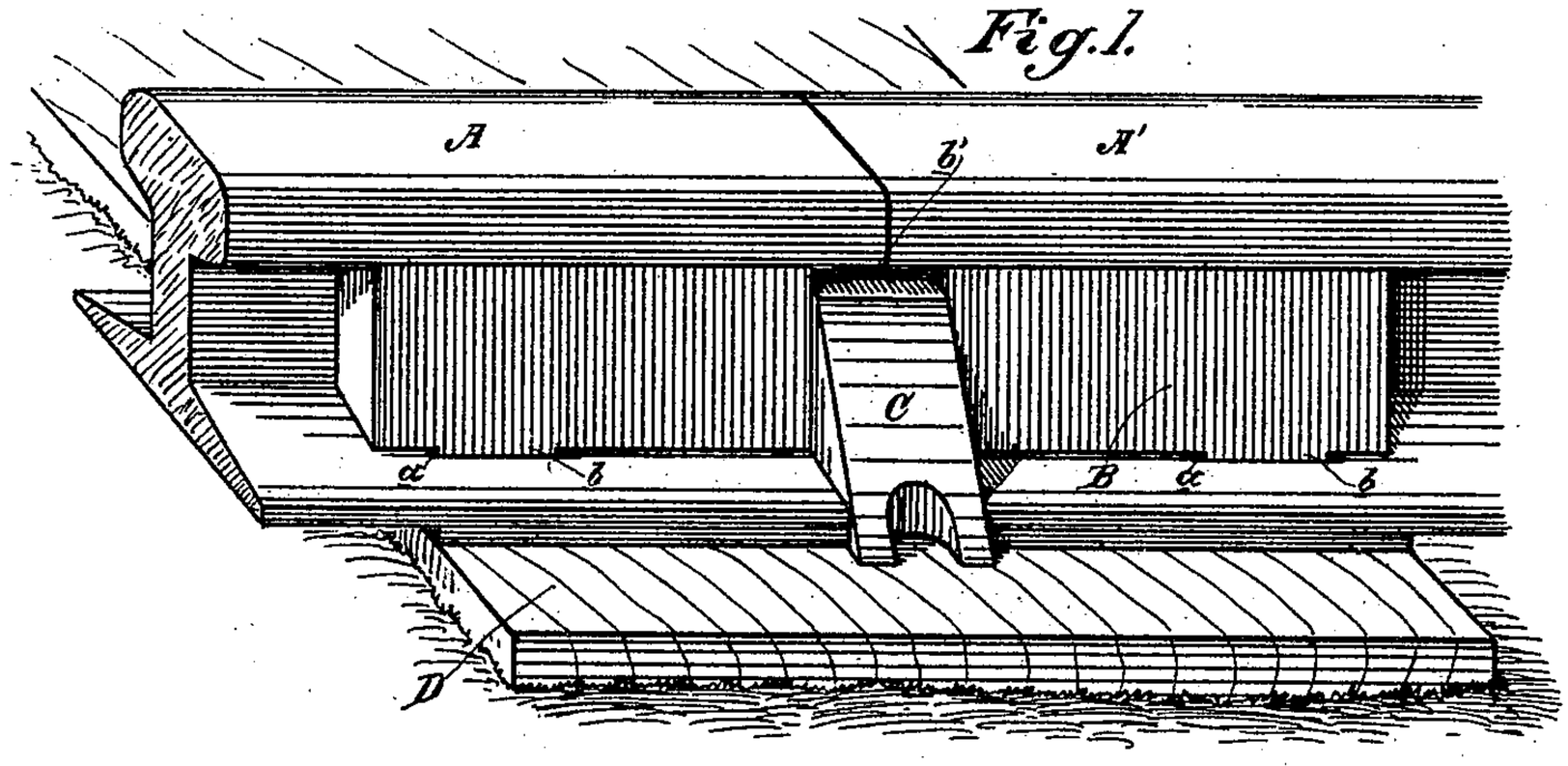



Fig. 2.

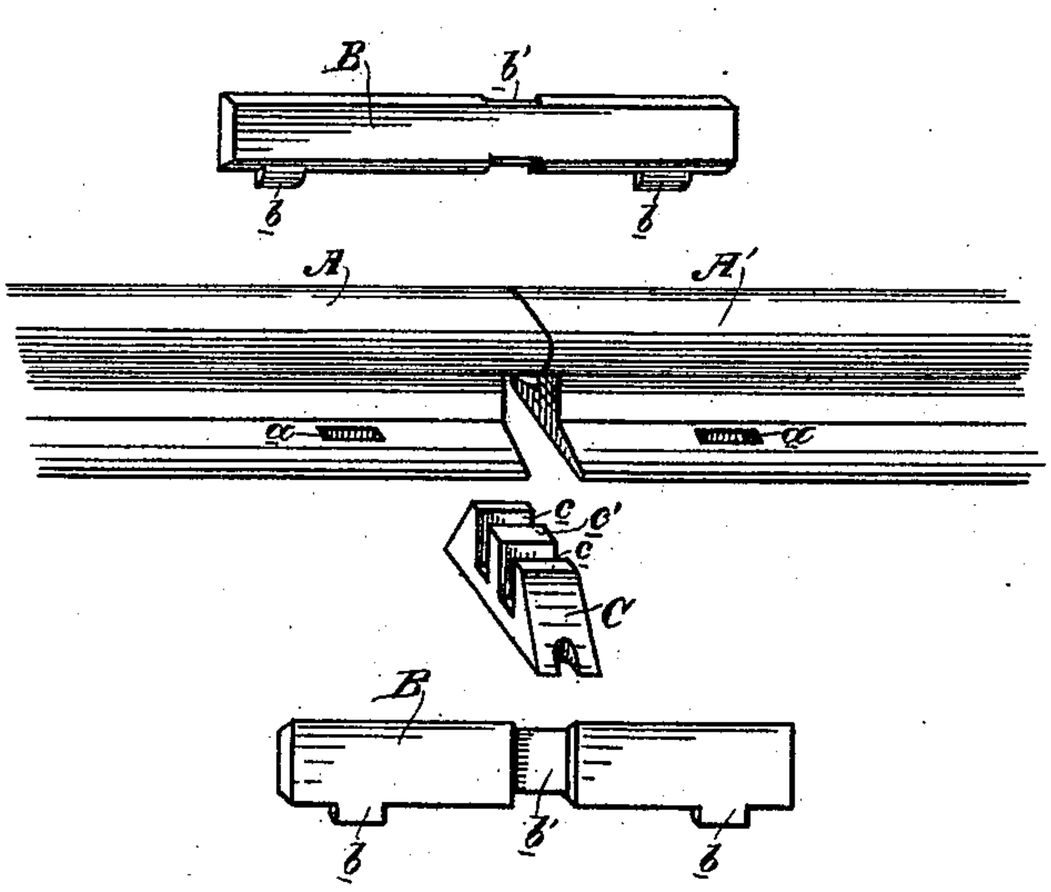
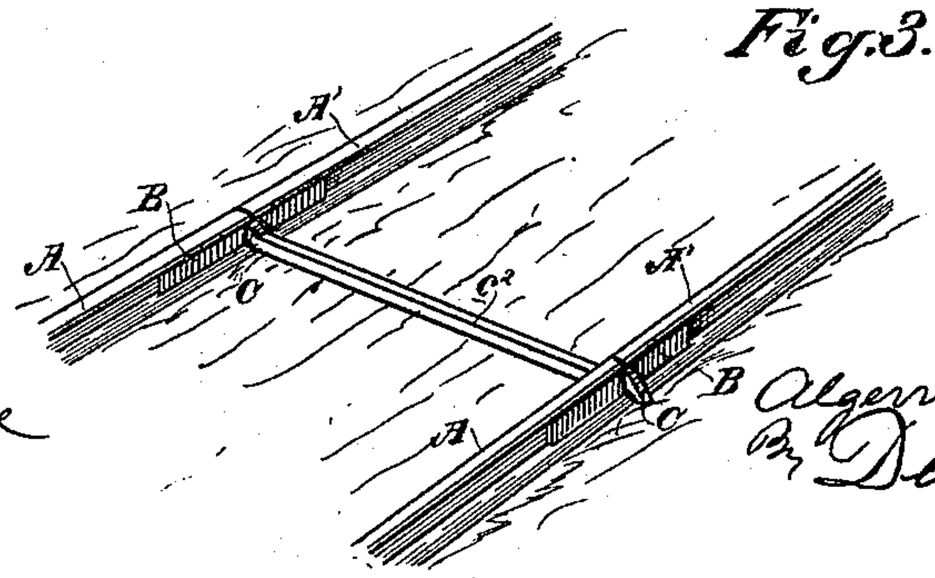



Fig. 3.




Witnesses,
L. Stowe
H. F. Ascheck

Inventor,
Algernon G. Edmondson
By Dewey & Co
Atty.

# UNITED STATES PATENT OFFICE.

ALGERNON GRIGGS EDMONDSON, OF SAN BUENAVENTURA, CALIFORNIA.

## RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 464,699, dated December 8, 1891.

Application filed March 20, 1891. Serial No. 385,819. (No model.)

*To all whom it may concern:*

Be it known that I, ALGERNON GRIGGS EDMONDSON, a citizen of the United States, residing at San Buenaventura, Ventura county, State of California, have invented an Improvement in Railway-Rail Joints; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of joints for the meeting ends of railway-rails.

It consists in the novel construction and arrangement of parts hereinafter fully described, and specifically pointed out in the claims.

The object of my invention is to provide a simple and effective connection for the meeting-ends of rails, wholly dispensing with the use of pins, bolts, or wedges.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my railway-rail joint. Fig. 2 is a view showing the parts separated. Fig. 3 is a view showing the double bridge or stay.

A is one rail, and A′ is the other rail. The web and foot of the end of each rail terminate short of the end of the head of the rail, said head therefore projecting beyond the web and foot and a space being thus left between the adjacent ends of the webs and feet of the two rails.

B are the fish-plates—one on each side. These are formed with the proper bevel to suit the rail intended, and they fit, as usual, against the web of the rail and between the head and foot thereof. They have no bolt-holes, however, in them, and they extend across the line of the joint of the rail. On their lower edges they have lugs *b*, which pass down into and engage slots *a* made in the foot of the rail on each side of the web, said slots being wider than the lugs are thick, whereby they enter and engage said slots readily, and, being longer than the lugs, to provide for the movement in the rails due to expansion and contraction. These lugs serve to connect the fish-plates with the rails.

C is the stay or bridge. This consists of a heavy plate, the ends of which are preferably made upwardly tapering. It has extending downwardly from its top two slots *c*, which form between them a tongue *c′*. The stay or bridge occupies a position in line with the joint of the meeting rails, its central tongue fitting up into the space which is bounded on each end by the web and foot of the rails, and on each side by the two fish-plates, while its slots pass up on each side of the fish-plates, and said plates are provided with grooves *b′*, into which the ends of the stay or bridge fit. This connection of the stay or bridge and the fish-plates prevents the latter from moving endwise, and the stay or bridge bearing on the sides of the fish-plates firmly and securely holds them tightly to their seats on each side of the rails. The base of the stay or bridge rests upon the tie D. Its outer end is made heavier than its inner end, as most of the strain comes on this side. This completes the joint, and it will be seen that it is formed without any pins or bolts or wedges.

The only way in which the joint can be released is to move the tie D endwise, thereby removing the support from under the stay-bridge. The latter may then be dropped, thereby releasing the fish-plates, and by a tilting action of the latter they may be removed, whereupon the joint is completely relieved and the rails may be separated.

This joint is strong, simple, and cheap in construction. It is all straight work and can be made either of wrought-iron or steel or of malleable cast-iron. It is easy to apply and is easy to take apart, yet when attached it will not give way nor get loose unless it is broken or the tie on which it rests is removed from under it. The upward tendency to movement of the rails simply tightens the connection.

The fish-plates that are now in use can be adapted for the bridge, which can be cut to fit the single ones, and the double ones can be cut to fit it.

The stay or bridge C can be a double one, as shown in Fig. 3—that is, the one on one side of the track connected with the other on the other side of the track. In this case it will be a single bar, the ends of which are joined by a central portion $c^2$. This double stay or bridge serves not only the purpose of completing the joint, but also as a tie to connect the rails on each side of the track and keep them in proper relative position, preventing any spreading or sagging.

Having thus described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

1. A railway-rail joint consisting of the fish-plates fitted to the sides of the rails and crossing the line of their meeting ends, said plates having lugs on their lower edges fitting in slots in the foot of the rails on each side of the web, and a cross stay or bridge fitting the joint of the rails from below and bearing on the sides of the fish-plates, whereby said fish-plates are held, substantially as herein described.

2. A railway-rail joint consisting of the fish-plates fitted to the sides of the rails and crossing the line of their meeting ends, said plates having the lugs on their lower edges fitting in slots in the foot of the rails on each side of the web, and a transverse stay or bridge fitting the joint of the rails from below and having its ends grooved into the sides of the fish-plates, whereby said plates are held in place and are prevented from moving endwise, substantially as herein described.

3. A railway-rail joint consisting of the fish-plates fitting the sides of the rails and crossing the line of their meeting ends, said plates having the lugs on their lower edges fitting in slots in the foot of the rails on each side of the web, and the transverse stay or bridge having the central tongue fitting up into a space formed by the adjacent ends of the foot and web of the rails and the fish-plates and its ends bearing on the outer sides of the fish-plates, substantially as herein described.

4. A railway-rail joint consisting of the fish-plates fitting the sides of the rails and crossing the line of their meeting ends, said plates having the lugs on their lower edges fitting in slots in the foot of the rails on each side of the web, and the transverse stay or bridge having the central tongue fitting up into a space formed by the adjacent ends of the foot and web of the rails and the fish-plates and its ends grooved into the sides of the fish-plates, whereby they are held in place and are prevented from moving endwise, substantially as herein described.

5. A railway-rail joint consisting of the fish-plates fitted to the sides of the rails and having lugs engaging slots in the foot of the rails and the double-ended bridge or stay fitting the joints of the meeting rails from below and bearing on the fish-plates, said bridge or stay extending across the track and engaging the joints on each side, substantially as herein described.

6. A railway-rail joint consisting of the fish-plates fitted to the sides of the rails and having lugs engaging slots in the foot of the rails, and the bridge or stay extending across the track and having slotted ends fitting up from below into the joints of the rails and bearing on and holding the fish-plates, substantially as herein described.

In witness whereof I have hereunto set my hand.

ALGERNON GRIGGS EDMONDSON.

Witnesses:

W. S. CHAFFEE,

C. N. WHITNEY.