

I. MILLS.

Railway-Rail Joint Protector.

No. 160,940.

Patented March 16, 1875.

Fig. 1.

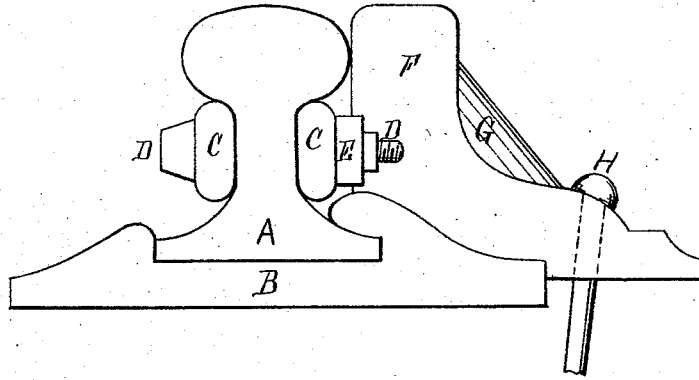
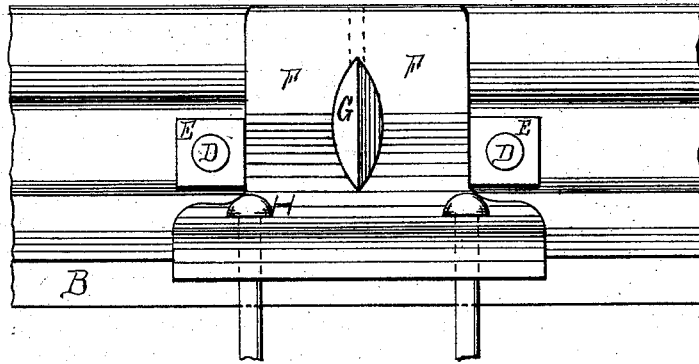


Fig. 2.



Witnesses.  
Edwin James  
K. D. Gordon

Inventor:  
Isaac Mills,  
per J. E. F. Holmead,  
Associate Attorney

# UNITED STATES PATENT OFFICE.

ISAAC MILLS, OF HAMILTON, CANADA.

## IMPROVEMENT IN RAILWAY-RAIL-JOINT PROTECTORS.

Specification forming part of Letters Patent No. **160,940**, dated March 16, 1875; application filed August 31, 1874.

*To all whom it may concern:*

Be it known that I, ISAAC MILLS, of Hamilton, Province of Ontario, Canada, have invented an Improvement in Railway-Rail-Joint Protectors, of which the following is a specification:

The nature of my invention consists in connecting the adjoining rails at the point at which they meet by the ordinary fish-plate, the same being fastened by bolts and nuts in the usual manner; and, further, in protecting the rail-joint and securing said fish-plate by means of a protector so constructed and arranged in connection with the outer surface of the rail that it shall enter and fit snugly between the nuts that fasten the rail, securely locking the same, while its upper surface extends up flush with the rail-joint. I am aware that railroad-chairs have been so formed, or, in connection with the chair, a wedge or protector has been used, the upper surface of which was flush with the rail-joint, and which received the tread of the wheel of the passing train, as contemplated in my improvement; but in no instance have the chairs been so formed as to possess the additional function of securely locking the nuts on the bolts that fasten the fish-plate; and it is this double function—that is, of locking the nuts with its upper section extending up flush with the rail-joint, so as to receive the tread of the wheel—which distinguishes my improvement from previous inventions of this character, and which constitutes the value and importance of the same.

The construction and operation of my invention are as follows: A A are ordinary T-

shaped rails, and B the chair, all formed and secured in the usual manner. C C are fish-plates, and are also secured in the usual manner by bolts D D and nuts E E. F is the joint-protector, and may be made of any suitable material. I usually cast it in a single piece, weighing, say, about nine and a half pounds, and which renders it exceedingly cheap. The form of the joint-protector is clearly shown in the drawing. It fits closely against the fish-plate, securely locking the nuts E E, while its upper surface, extending up flush with the rails, insures the keeping of the track in line and in surface, securely guarding and protecting the joints or end sections of the rail from all undue wear. The protector fits snugly down over the lip of the chair and its entire outer surface, and is secured to the sleeper by spikes H H. If desired, the joint-protector F may be cast with a brace, G, and which will insure of its possessing, under all circumstances, the requisite degree of strength.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

The rails A A, fish-plates C C, secured by bolts D D and nuts E E, and the joint-protector F, the latter being secured in the manner shown, to act as a locking device for the nuts, the whole being combined and arranged to operate as and for the purpose specified.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ISAAC MILLS.

Witnesses:

GEORGE HOLGATE,  
ELON TUPPER.