

No. 785,730.

PATENTED MAR. 28, 1905.

E. G. GRALAPP.
RAIL JOINT.

APPLICATION FILED JUNE 24, 1904.

Fig. 1.

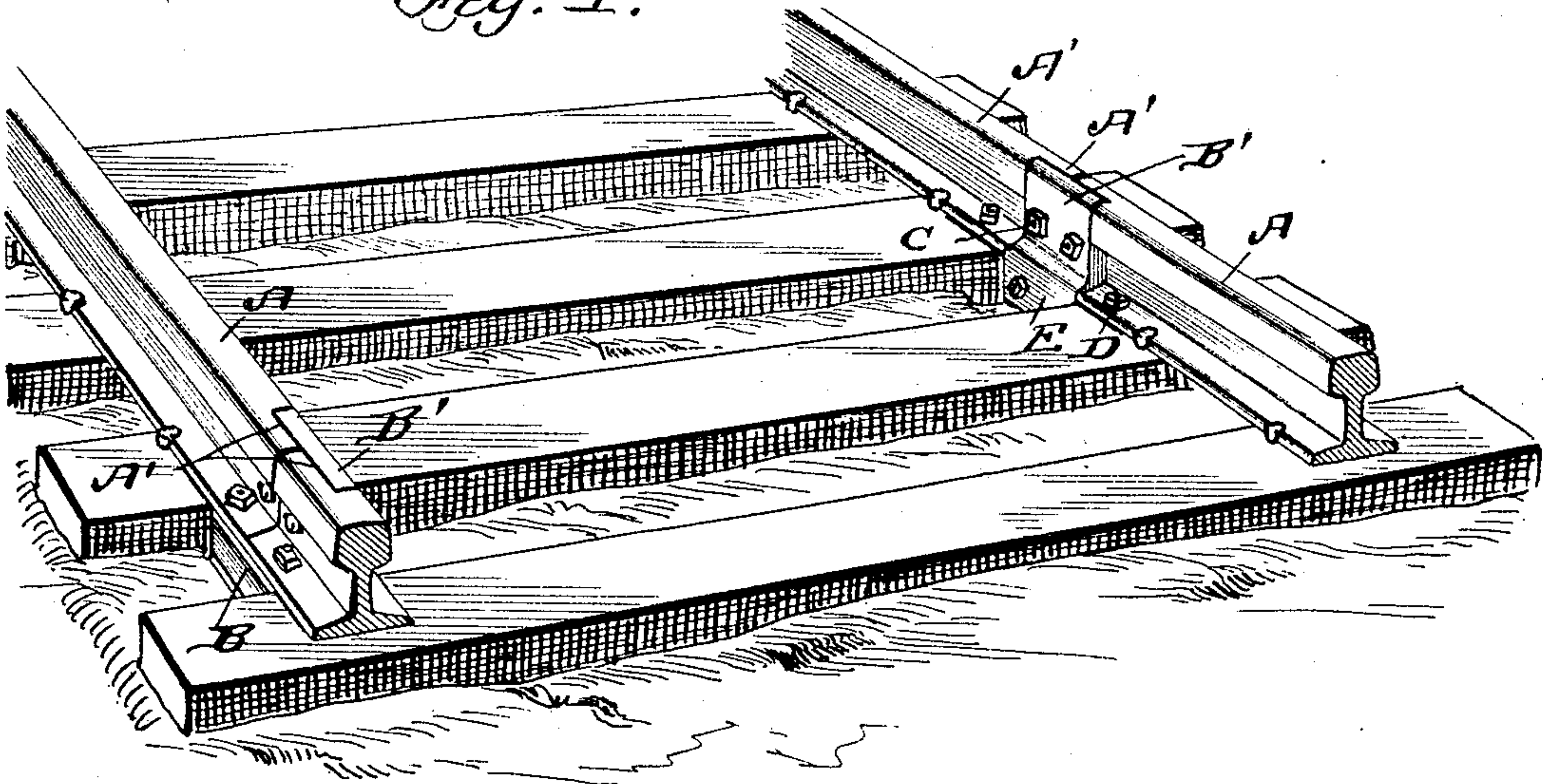


Fig. 2.

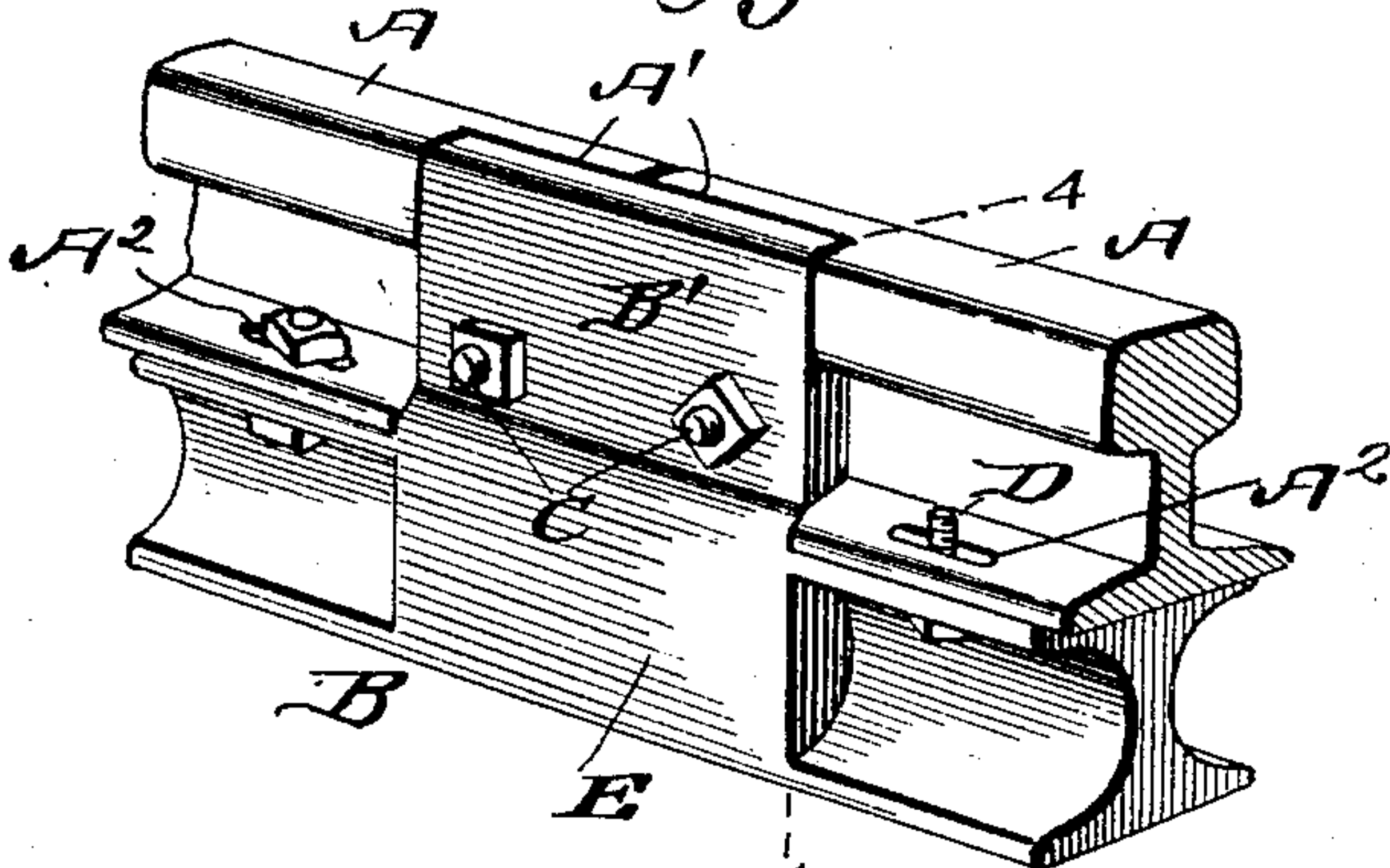


Fig. 4.

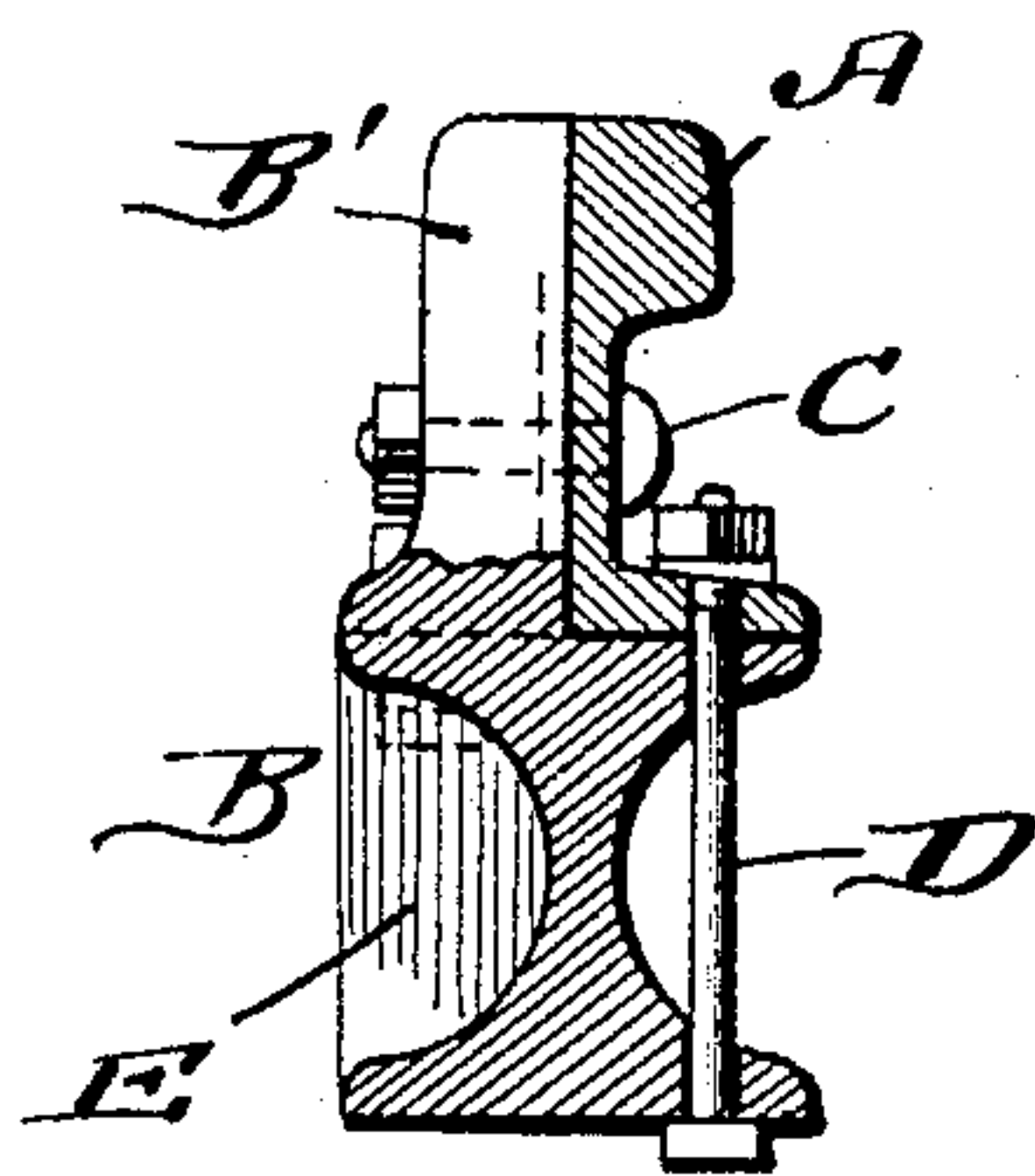
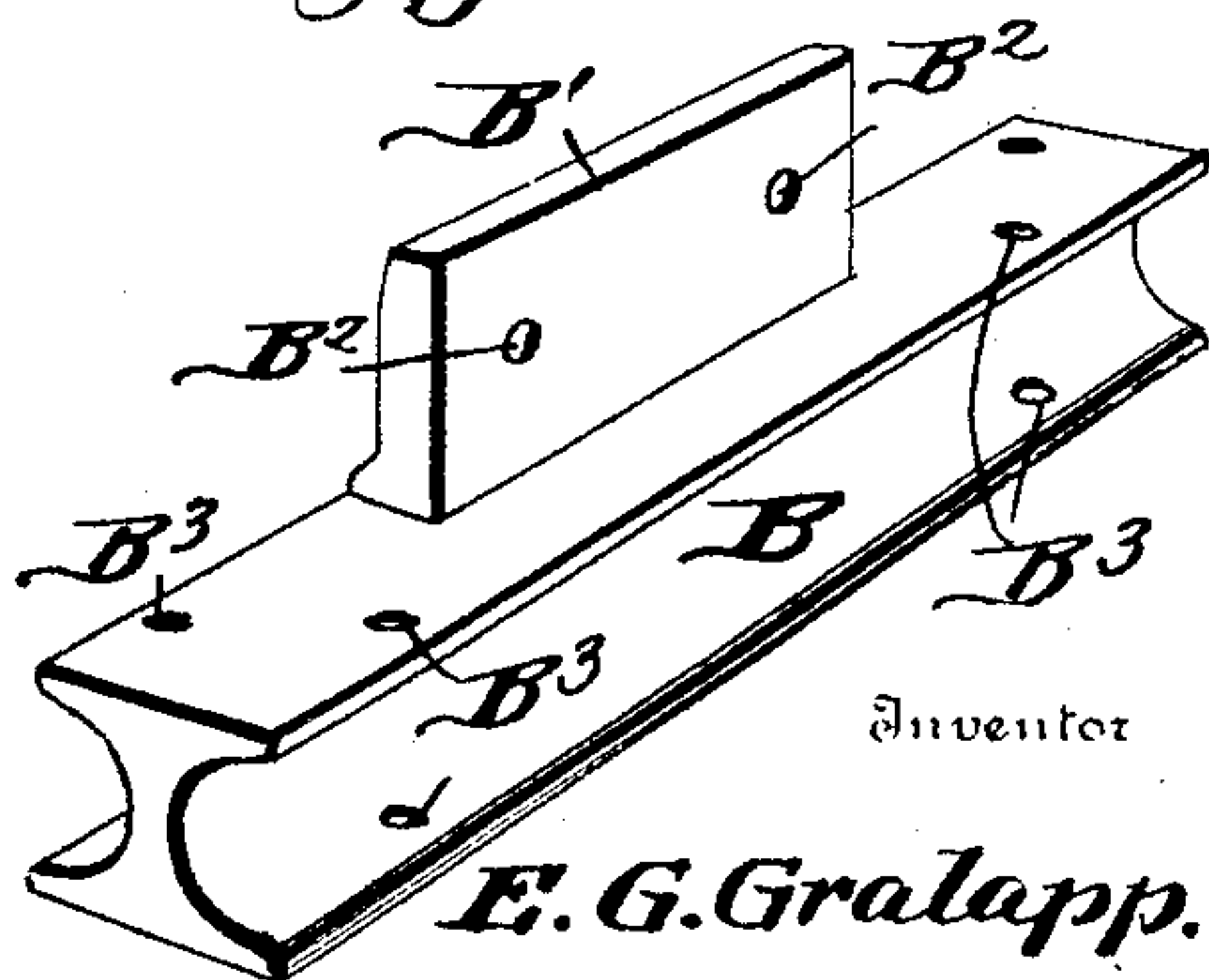


Fig. 5.



Witnesses

Wm. H. Housell,
E. B. McBeth.

By

Edward Brock
Attorney

E. G. Gralapp.

UNITED STATES PATENT OFFICE.

EARNEST G. GRALAPP, OF CLEVELAND, OHIO.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 785,730, dated March 28, 1905.

Application filed June 24, 1904. Serial No. 214,002.

To all whom it may concern:

Be it known that I, EARNEST G. GRALAPP, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Rail-Joints, of which the following is a specification.

This invention is an improved construction of rail-joint, the object being to provide an exceedingly strong and durable joint by means of which all jar of the wheel passing over said joint is entirely avoided.

Another object of the invention is to provide a joint which will accommodate itself to varying temperatures; and a still further object is to provide a joint of such character that the meeting ends of the rails are securely supported and prevented from dropping or sagging.

With these various objects in view my invention consists in the novel features of construction hereinafter fully described, and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a perspective view showing the practical application of my invention. Fig. 2 is a detail perspective view of the joint. Fig. 3 is a similar view taken from the opposite side. Fig. 4 is a section on the line 4-4 of Fig. 2. Fig. 5 is a detail perspective view of the combination rest and splice-bar.

Referring to the drawings, A indicates the meeting ends of the railroad-rails, which are recessed upon one side, as shown at A', said recesses extending through the head, web, and base of each rail. The recessed ends of the rails are arranged end to end upon a rest or splice-bar B, which is in the form of an I-beam and is provided with an upwardly-extending portion B' at one edge, which extending portion is adapted to snugly fit the recess formed at the side of the joint, and thereby provide a solid tread portion extending entirely across the joint and some distance to either side of the same. The recesses A' are produced upon the inner sides of the rails, and an extending portion B' is also arranged

upon the inner side of the rails, so that the tread of the wheel is bound to travel thereon in passing over the joint. The extension B' is provided with bolt-openings B², and the rails are provided with elongated bolt-openings A², through which the bolts C are adapted to pass, said elongated openings permitting the expansion or contraction of the rails due to changes in temperature. The top and bottom flanges of the beam B are provided with bolt-openings B³ and through which the bolts D pass, said bolts being passed upwardly through the bottom and top flange of the splice-bar B and up through the elongated openings A⁴ produced in the base-flanges of the rails, said openings being elongated to also permit the expansion and contraction of the rails, thereby completely relieving the bolts of strain.

In practice I prefer to form the splice-bar with a reinforced portion E coextensive with the upward extension B', thereby making an absolutely solid bearing for the wheel as it passes across the joint between the rails. The splice-bar B is seated in recesses cut in the ordinary cross-ties, and the upper face thereof is arranged flush with the upper face of said ties. By arranging the splice-bar in this manner a firm support is had, and inasmuch as the ends of the rails rest securely upon this splice-bar it will be impossible for the ends to yield or sag vertically during the passage of the train thereover.

It will thus be seen that I provide an exceedingly simple, strong, and durable form of rail-joint and one which will prevent a jar incidental to the ordinary form of rail-joint.

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

1. In a rail-joint the combination with the rails having their ends recessed as described, of the splice-bar upon which the ends of the rails rest, said splice-bar having an upward extension adapted to fit the recessed portions of the rails, said bar having a reinforcement below the extension for the purpose specified.

2. In a rail-joint the combination with the rails having recessed ends, the webs and base-flanges of said rails having elongated bolt-openings, of the splice-bar comprising the
5 top and bottom flanges provided with bolt-openings, the upward extension at one side also provided with bolt-openings and the re-

inforced portion below the extension and co-extensive therewith, all of said parts being arranged substantially as described.

EARNEST G. GRALAPP.

Witnesses:

FREDK. HARRIS,

A. F. CLARK.