

E. M. BOYNTON.
TRACTION RAIL.
APPLICATION FILED MAY 31, 1910.

976,544.

Patented Nov. 22, 1910.

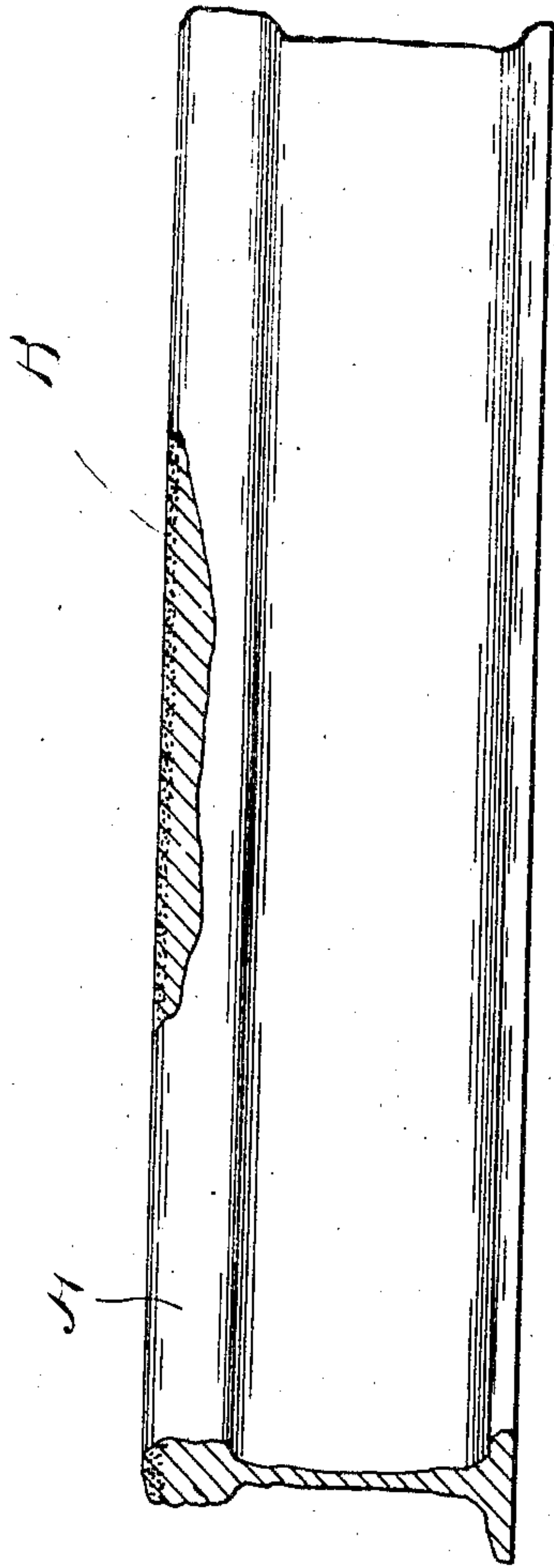


Fig. 1

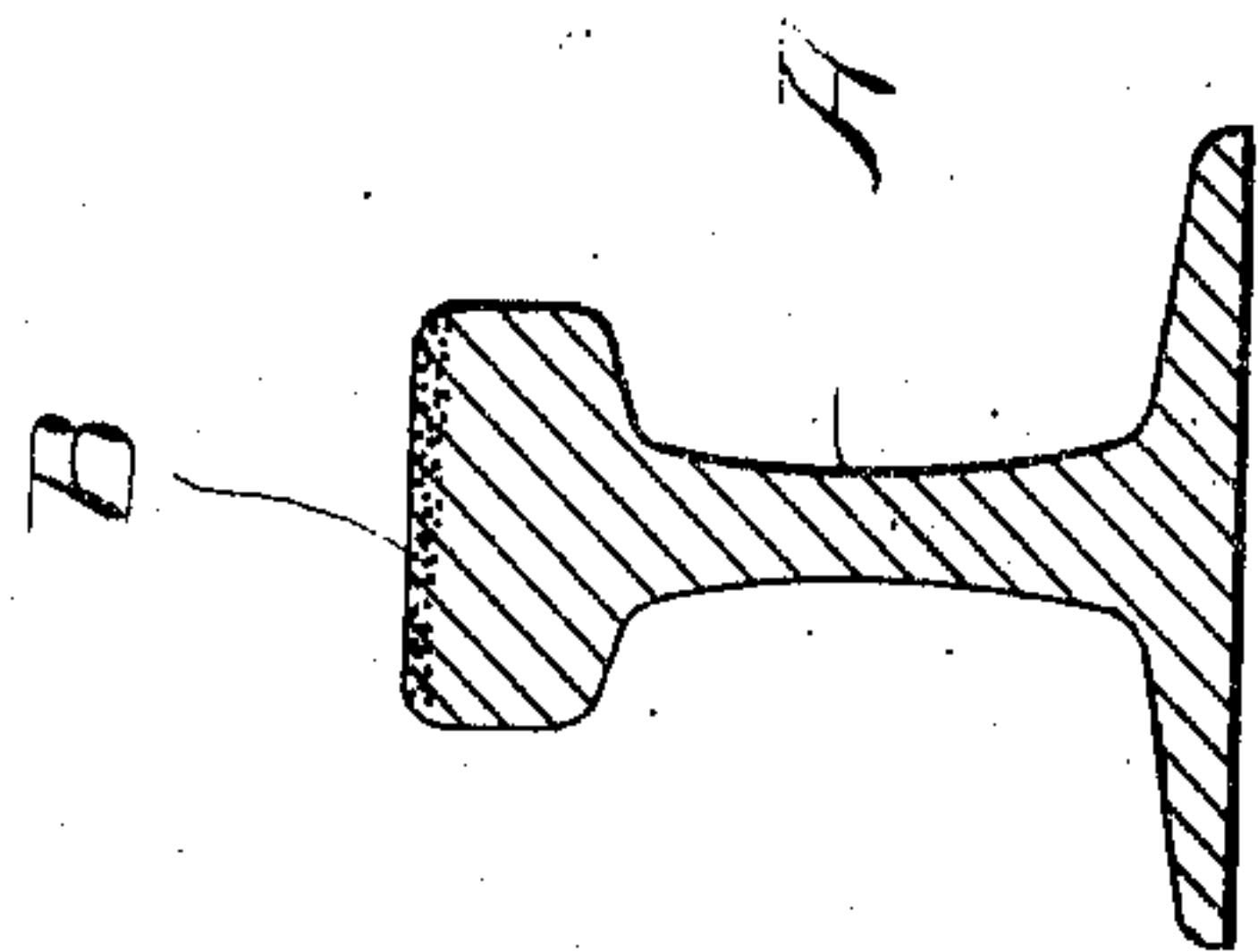


Fig. 2

WITNESSES:

E. Batchelder
Gertrude L. Johnson

INVENTOR:

E. M. Boynton

UNITED STATES PATENT OFFICE.

EBEN MOODY BOYNTON, OF WEST NEWBURY, MASSACHUSETTS.

TRACTION-RAIL.

976,544.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EBEN M. BOYNTON, of West Newbury, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Traction-Rails, of which the following is a specification.

This invention relates to traction rails for railway cars.

One object of the invention is to provide a rail of greater durability than those hitherto used, and another object is to provide a rail having a traction surface which will afford a greater tractive quality than those hitherto used.

The invention consists in a rail composed for the most part of relatively soft metal such as soft steel, in the traction surface of which are embedded particles or grains of relatively hard material such as carborundum or other equivalent material. The virtue of the relatively soft body or base is that it will not chip or be fractured by sudden shock, such as a shock received from a rolling wheel passing over a joint, frog or switch. The rail may be so soft as to be even slightly ductile, but of sufficient tenacity in its texture to withstand the load imposed upon it. A rail of this character is practically non-fracturable, and there is therefore little or no danger of breakage. The presence of a great number of small grains of extremely hard material embedded in the traction surface of the rail lends the requisite hardness to withstand the wear occasioned by the wheels, and these grains, moreover, increase the tractive quality of the rail by preventing to a large measure slipping of the driving wheels.

Of the accompanying drawings forming a part of this specification, Figure 1 represents a side elevation of a rail partly broken away, said rail having grains of relatively hard material embedded in its traction surface. Fig. 2 represents a cross section of the rail.

The same reference characters indicate the same parts wherever they occur.

The rail is indicated at A. It is composed of relatively soft but tough metal such as open-hearth steel. The proportions of the rail and its cross section may, of course, be suited to the particular use for which it is

intended. In the traction surface of the rail are embedded countless particles or grains B of relatively hard material such as carborundum. It is not intended to limit the invention to any specific hard material, since particles of analogous material may be embedded in substitution for carborundum.

It is obvious that the traction surface comprises soft and hard material, the hard material being adapted to withstand the wear of rolling wheels, and the soft material serving to maintain the hard material in position and support the load. The proportion of grains of the hard material will preferably predominate, so that the traction surface will consist mostly of relatively hard material, which, however, is non-fracturable for the reason that it is granular in form, the grains being confined in a mass by the soft material. The soft material is therefore subjected to no appreciable wear, and the duration of the rail is commensurate with the duration of the hard material.

Having thus explained the nature of my said invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, what I claim is:

1. A rail having a traction portion composed of relatively soft metal, and grains of relatively hard material embedded in said traction portion.

2. A rail composed of relatively soft metal, and grains of relatively hard material embedded in the traction portion of the rail.

3. A rail having a traction portion composed of grains of relatively hard material and a base of relatively soft metal, the traction surface of the rail consisting mostly of said hard material.

4. A rail having a relatively hard traction surface, and a non-fracturable base, said traction surface being afforded by relatively hard material in granular form embedded in said base.

In testimony whereof I have affixed my signature, in presence of two witnesses.

EBEN MOODY BOYNTON.

Witnesses:

HENRY O. CUSHMAN,
P. W. PEZZETTI.