No. 719,040. PATENTED JAN. 27, 1903.

Z. L. PIERCE.

RAILWAY RAIL.

APPLICATION FILED JUNE 4, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

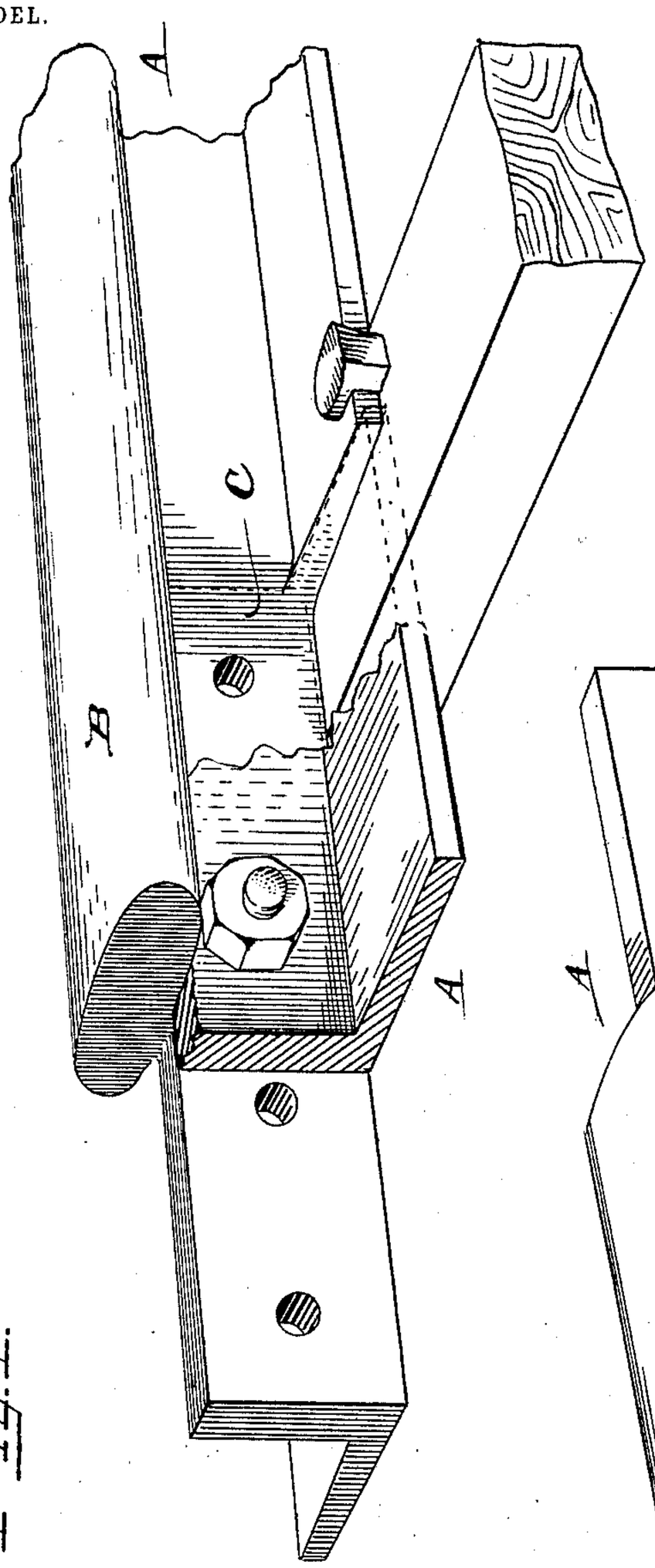

FIG. 1.

FIG. 2.

WITNESSES

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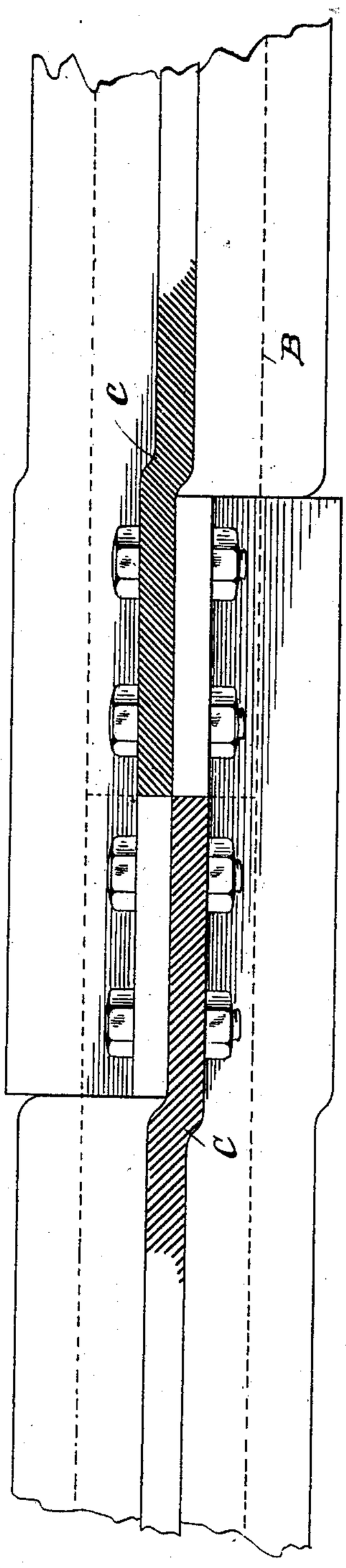

FIG. 3.

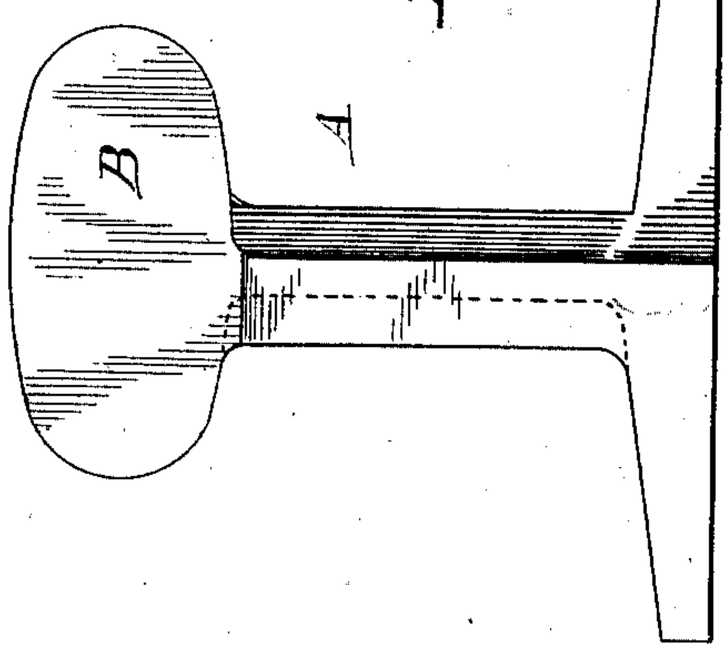

FIG. 4.

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ZACHARIAH L. PIERCE, OF HANNA CITY, ILLINOIS.

RAILWAY-RAIL.

SPECIFICATION forming part of Letters Patent No. 719,040, dated January 27, 1903.

Application filed June 4, 1902. Serial No. 110,240. (No model.)

To all whom it may concern:

Be it known that I, ZACHARIAH L. PIERCE, a citizen of the United States, residing at Hanna City, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Railway-Rails; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in railway-rails.

The object of the invention is to so form the ends of railway-rails that when a track is laid said ends may be overlapped and bolted together.

A further object of my invention is to provide a rail, which will require no fish-plates or devices of like nature to secure the sections together.

A further and important object is to use the ordinary form or forms of rail as now made and merely form the ends thereof whereby they may be clamped together.

My invention relates, further, to certain details of construction, which will be pointed out in the accompanying claims.

In the drawings herewith presented, Figure 1 is a perspective view of the end of a rail, showing its peculiar form and also showing a portion of the next rail bolted thereto. Fig. 2 is a perspective view of the end portion of a rail to be clamped to the rail portion shown in Fig. 1. Fig. 3 is a plan view of the assembled rails, showing parts in section where the head of the rails are cut off to show manner of attachment. Fig. 4 is an end elevation of the rail as I prefer to construct it.

A represents the rail of the ordinary form, having the head B, the supporting-web, and flange for securing the rail to the ties. Each end of the rail is formed with an offset, as shown in the several figures. Said offset is indicated by C, and it will be observed that the vertical web of the rail is centrally located beneath the head B, except at the ends where set over, as shown in Fig. 4. In this figure the broken lines show the position of the web behind the set-over portion. In forming the rail end I remove a portion of the head B, as shown in Figs. 1 and 2, by cutting it off just at the beginning of the vertical web. The amount removed would probably amount to, say, eight inches, and the remaining web portion, together with, say, eight inches thereof beneath the head, is set over half the thickness of the web itself, as clearly shown in Fig. 3, thus giving a set-over length of sixteen inches. It will be understood that in shaping the rail with this change the head of the rail is not moved out of its usual position. This might also be true of the foot or flange; but I show it also set over; but this of course is not necessary. At the point where the rail is bent the said flange is cut off, thus leaving the vertical set-over web portion and the other half of the flange to form an angle-bar. Now since both ends of the rail are treated in the same manner it will be readily understood that the track may be laid by merely pushing the ends together by carrying the webs beneath the heads, so that the angle portions will abut against the flanges, as shown in Fig. 3 and in dotted lines in Fig. 1. By providing a series of holes in each rail much in the same manner and position as in the ordinary rail the two rails may be bolted together firmly, and evidently a tight joint will be the result, and in this way no fish-plates or extra parts are necessary, and the bolts when tightened will not be as apt to jar loose as with the old forms of fastenings.

By running each end of the rail while still hot into a set of rollers the web may be easily and quickly set over but a quarter of an inch, or just half of whatever thickness the web may be, and then by cutting off one side of the flange, as above described, the rail is ready for use. The metal just beneath the head B is merely stretched this distance, and the structure of the steel is not materially injured. Much less expense will be attached to railway construction by reason of less work in building, the comparatively little time and labor necessary to maintain the same in good condition, and, last of all, the reduction in the amount of iron used.

It may be thought that the rail will be weakened by carrying the web away from beneath the weight of the train in setting it over; but when it is remembered that the web of the adjoining rail is pushed under the overhanging portion and that a double support is provided for each joint by the two

webs bolted firmly together the fear in this direction will be dispelled.

I do not design to limit myself to the particular construction shown and described, as other forms of the same principle may be used, so that I do not care to relinquish any right to the broad idea of thus joining railway-rails.

Having thus described my invention, I claim—

1. A railway-rail of the common form of cross-section having a portion of its vertical web bent over to one side at one end out of line with the central web, the head of said rail being removed from the web for substantially half the distance of the said set-over portion as described and shown, the opposite end of the rail also having its end formed in like manner but the web being set over at the opposite side to the end described for permitting two rail-sections being spliced and bolted together, the web of one rail passing under the head of the other as explained.

2. A railway-rail having the head B, the web for supporting it, and the flange at the bottom, the said web extending the full length of the rail centrally beneath the head except at the ends where it is bent or set over out of line with the main portion, the head of the rail being cut off for half the length of the set-over portion and the flange of one side of the rail being cut off the full length of the said set-over portion said flange being cut off at the side away from which the web is bent substantially as set forth and described.

In testimony whereof I affix my signature in presence of two witnesses.

ZACHARIAH L. PIERCE.

Witnesses:
L. M. THURLOW,
A. KEITHLEY.