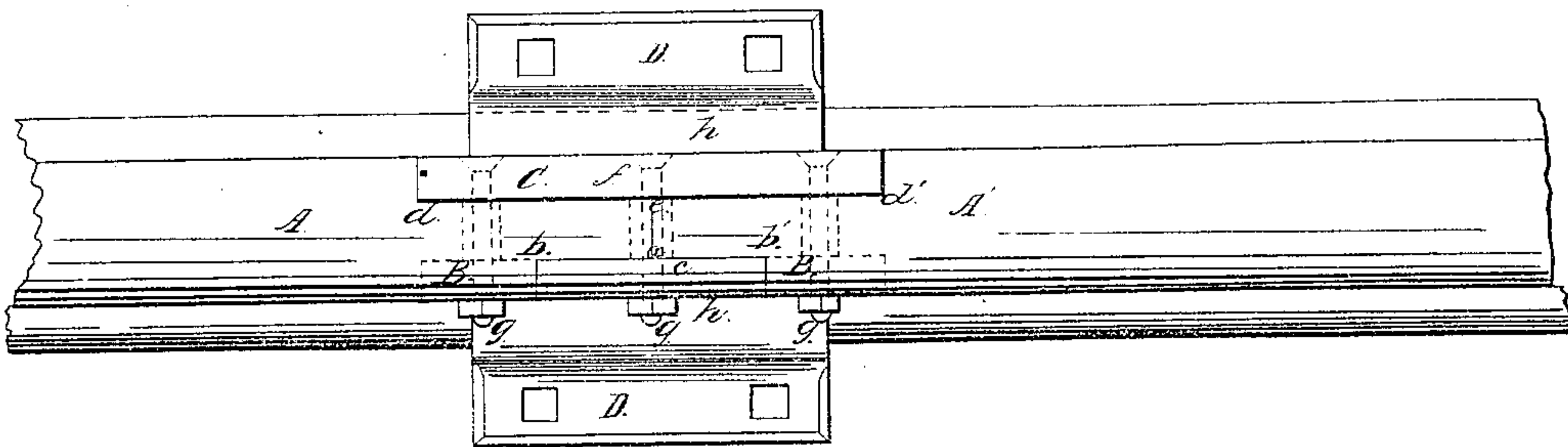


C. A. WAKEFIELD.  
RAILROAD TRACK.

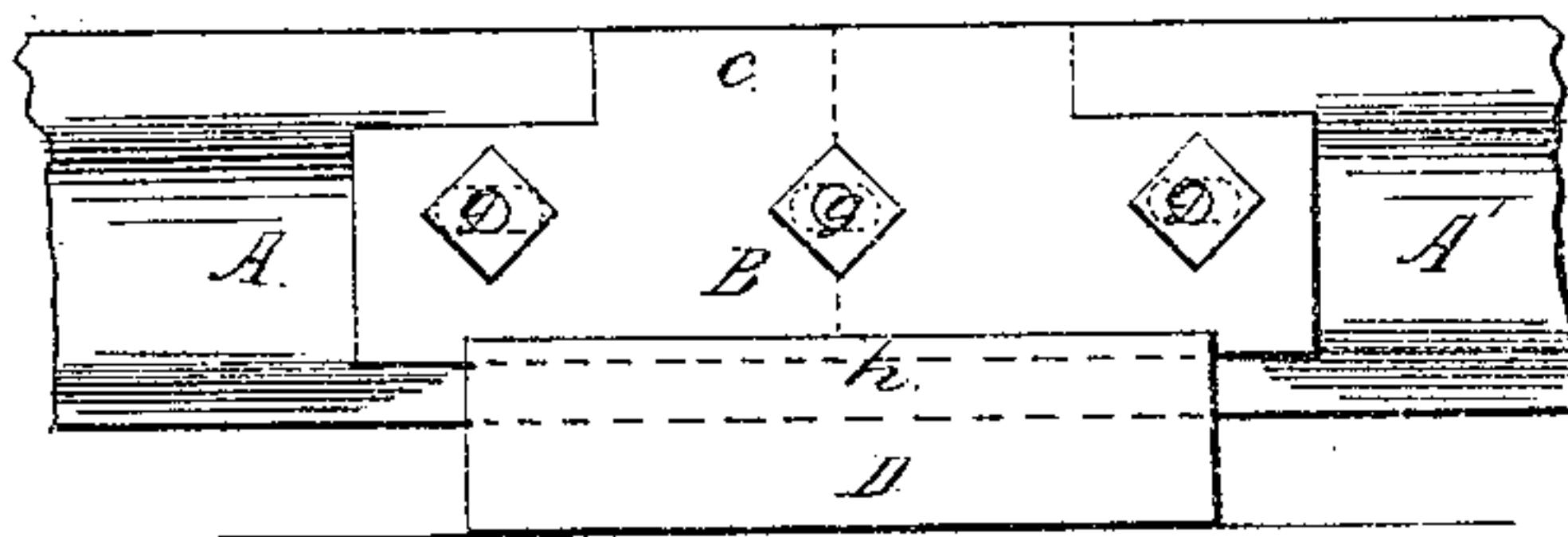
No. 19,165.

Patented Jan. 19, 1858.

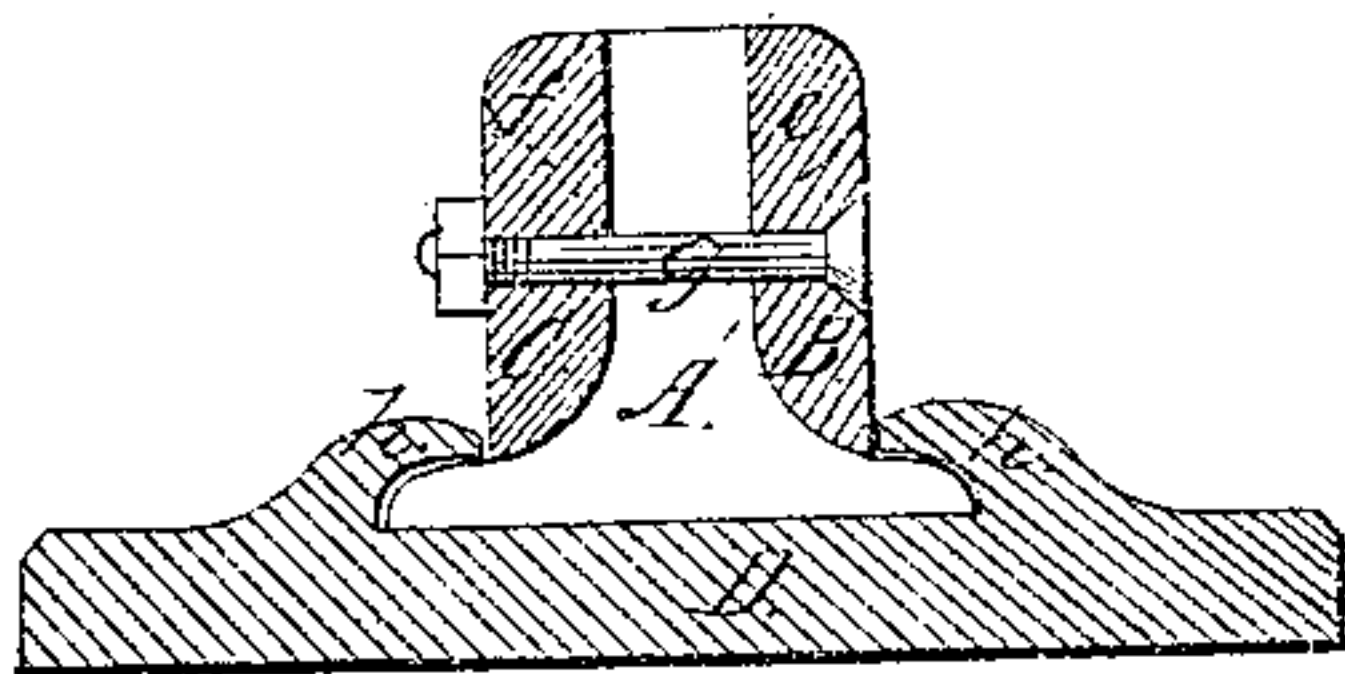
*Fig: 1.*



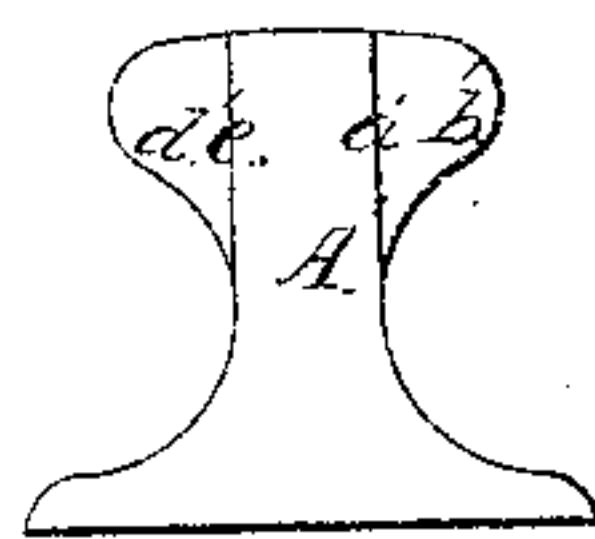
*Fig: 2.*



*Fig: 3.*



*Fig: 4.*



# UNITED STATES PATENT OFFICE.

CHAS. A. WAKEFIELD, OF NEW HAVEN, CONNECTICUT.

## JOINT OF RAILROAD-TRACKS.

Specification of Letters Patent No. 19,165, dated January 19, 1858.

*To all whom it may concern:*

Be it known that I, C. A. WAKEFIELD, of the city of New Haven, county of New Haven, and State of Connecticut, have invented a new and useful Improvement in the Joints of Railroad-Tracks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a plan of portions of two lengths of rail exhibiting my improvement in the joint. Fig. 2, is a side view of the same. Fig. 3, is a transverse vertical section of the joint taken between the ends of the two rails. Fig. 4, is an end view of one of the rails.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in forming cavities of unequal length in the opposite sides of the heads of the several lengths of the rail at the abutting ends thereof, and bolting to the sides of the rail two plates fitting snugly into the neck thereof with upward projections fitting into the aforesaid cavities so as to form continuations of the head, thus leaving only a partial break in the rail at the abutting ends of the several lengths, and in no place a transverse break in the rail extending more than one third of the way or thereabout across the same, and forming a rigid joint between every two lengths of the rail, which does not permit the sinking of either portion of the rail below the other.

To enable others skilled in the art to apply my invention, I will proceed to describe it with reference to the drawings.

A, A', are the two lengths of rail.  $a\ b$ ,  $a\ b'$ , Figs. 1, 2, and 4 represent two cavities cut in one side of the head of each of the said lengths to the width of that portion of the head which overhangs the neck of the rail, which is about one third of the thickness of the rail, thus forming a continuous cavity  $b\ a\ b'$ , half in each length of rail when the two lengths are together.

B, Figs. 1, 2 and 3 is a plate longer than the cavity  $b\ a\ b'$  fitting into the neck of the rail and close to the base and overhanging portion of the head thereof and having an upward projection  $c$ , filling up the cavity

$b\ a\ b'$  to form a continuation of the head of the rail.  $e\ d$  and  $e\ d'$ , are two cavities cut in the opposite side of the head of each length of rail, of the same width as the cavities  $a\ b$  and  $a\ b'$ , but longer, forming a cavity  $d\ e\ d'$ , half in each length of rail when the two lengths are together.

C, is a plate of the same length as B, fitting to that side of the rail in the same manner as B fits to the opposite side and having an upward projection  $f$ , filling up the cavity  $e\ d\ e'$ , to form a continuation of the head of the rail. This plate need not be any longer than the cavity  $d\ e\ d'$ , while the full length of the plate B, requires to be about equal to that of C.

$g, g, g$ , are screw bolts passing through the plates B, C, furnished with nuts to clamp the two plates firmly against the rail.

D is the joint chair having lips  $h, h$ , fitting over the base of the rail in the usual manner.

The two plates fitting into the necks of the rails and bolted in their places make the joint so secure that it is impossible that either rail can sink without the other even though the joint chair and tie be omitted, though I consider it better for the sake of greater security in case of the loosening of the bolts to employ the joint chair and tie. The two projections form continuations of the rail beyond the transverse break  $a\ e$ , between the abutting ends so that the said break extends only about one third of the way across the rail; and the transverse breaks at  $b\ b'$ , and  $d\ d'$  in like manner, extend only about one third across the rail, and as, owing to the unequal lengths of the cavities  $b\ a\ b'$ , and  $d\ e\ d'$ , the said breaks at  $b, b', d$  and  $d'$ , are not opposite each other, there is at no point in the length of the rail a transverse break greater than about one third of the whole width, which is a very important feature of my invention. The longitudinal expansion and contraction of the rail is provided for, by slightly elongating the holes in the rail through which the bolts  $g, g$ , pass.

I do not claim, broadly, the employment of splice pieces for the purpose of uniting the ends of rails. Nor do I claim the invention of chairs one portion whereof is so fastened as to form a false rail, said false



rail fitting into corresponding notches cut out of the ends of the true rails, as in Hawley & Forbush's rejected device, 1854; but

What I claim as my invention and desire to secure by Letters Patent, is—

Forming cavities of unequal length in the opposite sides of the heads of the two lengths of rail at the joint, and fitting to the sides of the neck of the rail two plates

with upward projections to fill the said cavities and form a continuation of the head of the rail substantially as and for the purpose herein set forth. 10

CHAS. A. WAKEFIELD.

Witnesses:

A. R. MESLIUME,  
SYLVANUS BUTLER.