R. Watson.

Railroad Rail.

No. 1,317.
32,321.

Patented May 14, 1861.

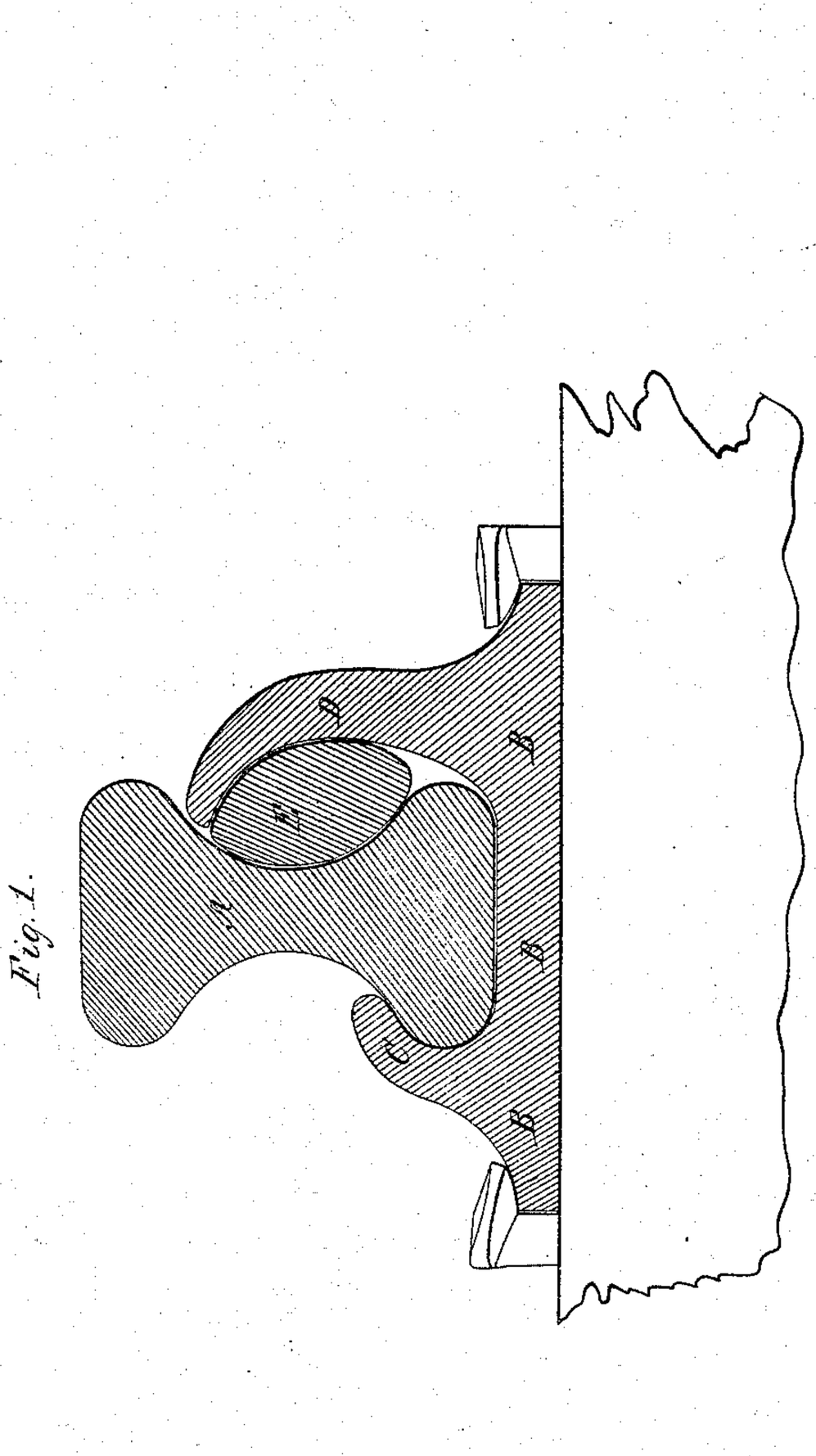

Fig. 1.

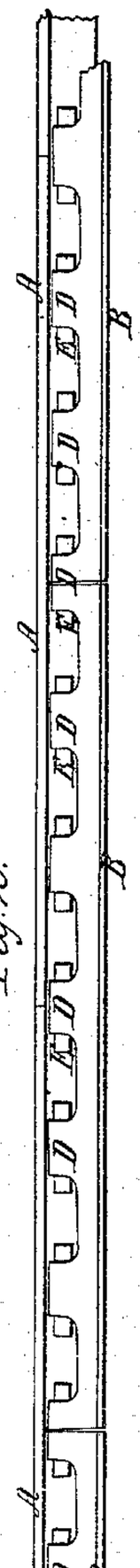

Fig. 2.

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UNITED STATES PATENT OFFICE.

ROBERT WATSON, OF CHATHAM, ILLINOIS.

PERMANENT RAILWAY.

Specification of Letters Patent No. 32,321, dated May 14, 1861.

To all whom it may concern:

Be it known that I, ROBERT WATSON, of Chatham, in the county of Sangamon and State of Illinois, have invented a new and Improved Permanent Railway; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a transverse vertical section taken through a reversible or H-rail, showing the same secured down to my improved continuous compound bracket and foot bearing, and this bearing piece secured down to the sleeper or cross-tie by two hold-down spikes placed at the edge of each projecting lip of the base of said bearing piece. Fig. 2 represents two sections of rail and a side view, outside of the track, showing the continuous brackets and foot bearing pieces spiked down in line with the rail sections, locked to the same so that their joints will come intermediately between the bracket's joints, or so that the rail sections will break joints with the bracket sections. The sleepers or cross-ties are not shown in this figure.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention and improvement in permanent railway is to secure a more permanent and durable support for the rails known as the reversible H-rail, which have two rolling tables or surfaces that can be used alternately as one surface wears down. Such rails require chairs or analogous devices to hold the rails down to the track and to give to them a substantial and established footing which is found in the single T-rail, to be a part cast with it. These reversible H-rails not only require supplemental attachments at their joints, but frequent intermediate braces and supports are necessary to keep the rail in its place, and prevent any lateral thrust in consequence of the jar and concussion of the passing and repassing trains over the rails, for the reversible H-rails have no rail base,—as a base,—but both surfaces will serve as a rolling surface, as they are made double headed, or each head is made in accordance with the periphery or treading surface of the wheels. My invention is intended to obviate objections to the present mode of securing rails of the H-form down to the cross-ties, both at the rail joints and at points intermediate between the joints.

This present invention will not lessen the cost of laying down a permanent way but in point of durability the present improvement will be cheaper, the road will require very little attention as regards the loosening and starting of spikes, springing of rails at the joints, repairing of joints, and many other attentions which are highly important in the present hold-down arrangement for railway rails.

To enable those skilled in the art to fully understand my invention I will proceed to describe its construction and operation.

In the rail section, Fig. 1, the shape of the rail is clearly represented and from this view the double head H-rail is clearly shown, each head being either a table or base with a thin web or neck connecting them. This rail is very similar to the present H-rail, but it may not be quite so high nor have so long a neck in proportion to its height as the present H-rail. These rails A, are made in sections of any suitable length and secured down to form a permanent way as follows:

B represents the base of a chair that is made of the same length as the rail sections, the form of which is clearly shown by the two figures of the drawings.

C is a lip near the inside edge of the rail base, B, which curves over so as to form a concavity of the same shape and size as the lips of the rail's head or foot into which the rail fits, with one of its rolling surfaces resting on a corresponding surface of the base B.

D is a portion extending up from the outside edge of the base B, and which is curved over inward, or toward the lip C, sufficiently far to admit the rail between its edge and that of the portion D. This portion extends up sufficiently high to fit closely up against the outside of the rail, and underside of the rail table so that to a certain extent it forms a support for the table but its most important object is to receive key wedges E, of some hard wood which are driven in, in one direction all along the side (the outside) of the rail through spaces left between each lip or bracket, as represented by Fig. 2. These wedges being of wood serve to secure the rail rigidly within the chair, at the same time prevent the fastening from getting loose in consequence of the jar and concussions of passing trains.

The wedges can be driven out and the rail reversed and keyed up again.

The chair, which is continuous, is first gaged and spiked to the cross-tie by hold-down spikes placed inside and outside, and having the heads of the spikes recessed into the chair's edges if found necessary. The expansion and contraction is suitably provided for so as not to affect the fastenings. The base portion of the chair can be made sufficiently wide to give a firm footing on the cross-ties, and these chairs may be put down in a permanent and established manner as it will not be necessary to disturb them in removing the rail, it having an independent attachment.

The lips C, may be continuous, but the bracket bearing portions should be slightly shorter than the wedges used and between each portion there should be a space slightly longer than the wedges, so that they may be inserted between brackets D, and the rail after the rails are laid down. These brackets, on account of their peculiar shape, give to the wedges a downward bearing on the outer lip of the rail base, and a slight lateral pressure against the rail neck, which combined hold the rail's base down on the chair base and under the curved lip C, on the inside of the rail, while the wedge is securely held in place by the bracket D. These fastenings being placed along the entire line of road, with the chairs and rails so placed as to break joints, and the whole keyed up and spiked down to the cross-ties, a very durable road will be made which will be free from the objections attending permanent ways of the present construction.

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

The employment in connection with the rails, of wrought iron chairs of the same length as the rails, constructed and arranged in the manner described, so as to form a continuous bed or groove for the reception and support of the rails, all as set forth.

ROBERT WATSON.

Witnesses:

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