

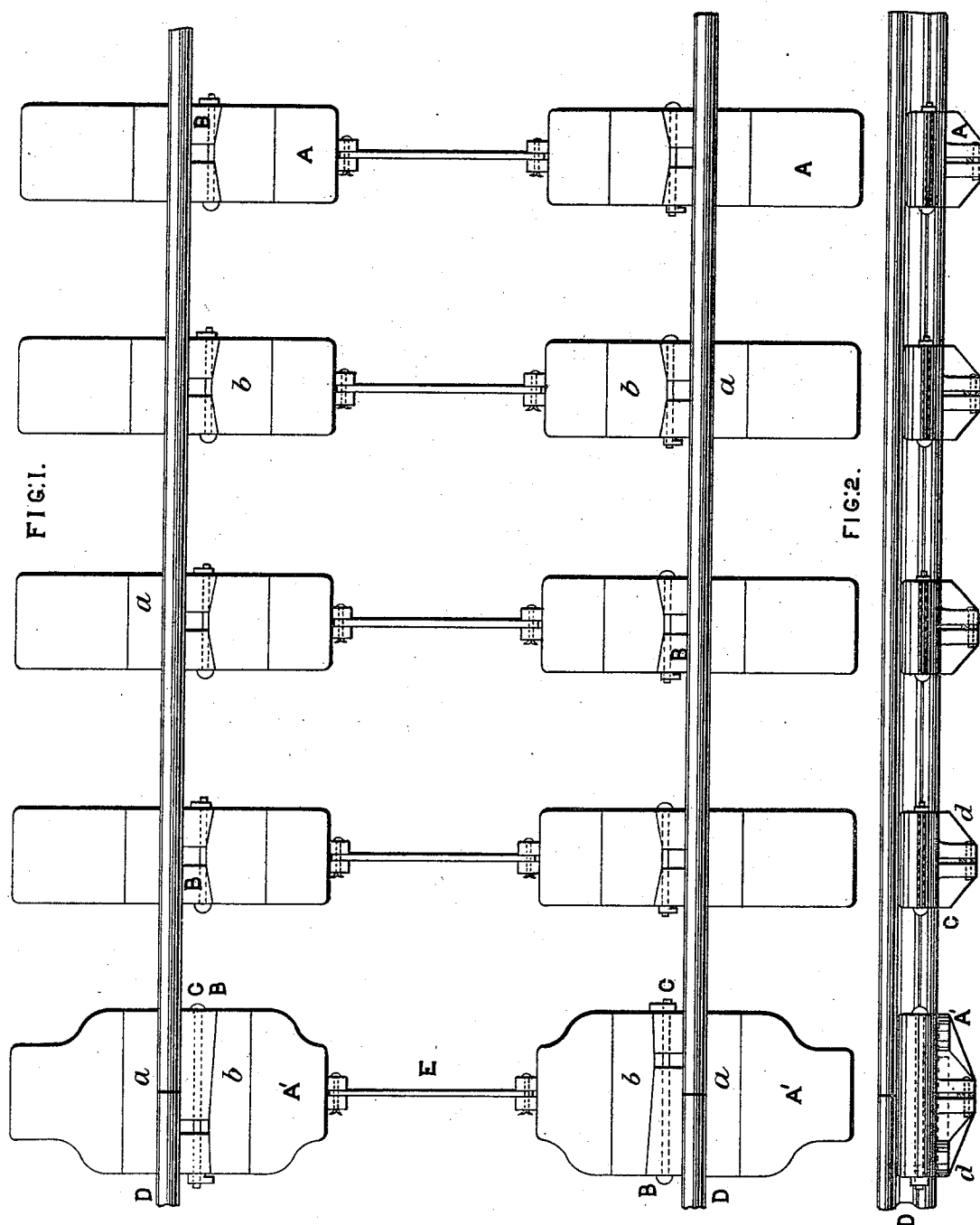
(No Model.)

2 Sheets—Sheet 1.

S. RIDEAL.
PERMANENT WAY FOR RAILWAYS.

No. 510,295.

Patented Dec. 5, 1893.



WITNESSES

William H. Taylor
Chas. Wendell.

INVENTOR

by S. Rideal
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attys.

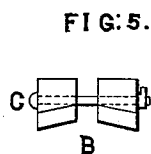
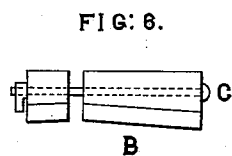
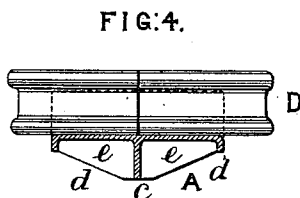
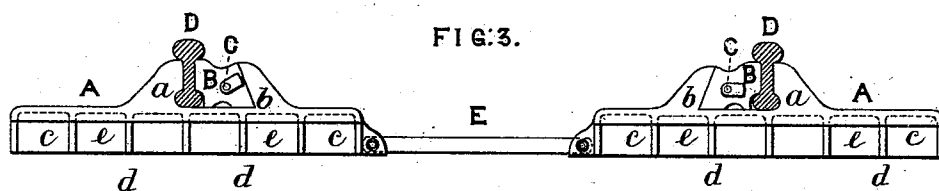
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2 Sheets—Sheet 2.

S. RIDEAL.
PERMANENT WAY FOR RAILWAYS.

No. 510,295.

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WITNESSES

William H. Taylor.
Chas. Osendale.

INVENTOR

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UNITED STATES PATENT OFFICE.

SAMUEL RIDEAL, OF MANCHESTER, ASSIGNOR TO THE SAMPAN PATENT RAILWAY SLEEPER AND STEEL PLANT SYNDICATE, LIMITED, OF STALYBRIDGE, ENGLAND.

PERMANENT WAY FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 510,295, dated December 5, 1893.

Application filed June 27, 1891. Serial No. 397,745. (No model.) Patented in England March 25, 1885, No. 3,821.

To all whom it may concern:

Be it known that I, SAMUEL RIDEAL, engineer, of Manchester, in the county of Lancaster, England, have invented certain new and useful Improvements in Permanent Ways for Railways, (for which I have obtained Letters Patent in England, No. 3,821, bearing date March 25, 1885,) of which the following is a specification.

This invention relates to that class of sleepers and chairs which sustain and keep in position the rails of permanent ways for railways in which the sleeper and chair are formed combined in one piece and is designed with the object of producing a sleeper capable of holding the rails with greater security than at present and which shall be inexpensive, portable and easily handled and when in use will require a minimum of attention. The sleeper is preferably formed of mild cast steel and is constructed with two fixed jaws rigidly connected to the body of the sleeper. The two jaws form a chair to receive the rail and a loose jaw or wedge by which the rail is made fast in the chair the loose jaw or wedge being formed in two parts and drawn tightly together and secured by a bolt or screw passing through them.

The invention will be fully described by reference to the accompanying drawings.

Figure 1 is a plan view of a permanent way for railways with chairs and sleepers constructed in accordance with my invention; Fig. 2, a side elevation of same; Fig. 3, a transverse section through the rails showing a side elevation of the sleeper; Fig. 4, a side elevation of rail with transverse section through sleeper; Fig. 5, a plan of sliding jaws or wedges for the intermediate sleepers; Fig. 6, a plan of sliding jaws or wedges for the joint sleepers.

The sleepers A A' are each preferably made of cast steel with fast jaws *a* and *b* formed upon the upper or top side. The jaw *a* corresponds in contour with the shape of the rail and one side of the rail lies directly against it. The face of the jaw *b* is formed to engage with a sliding wedge and is preferably inclined inward as shown from top to bottom and it is also inclined from both sides to the center to receive the two conical movable

jaws or wedges B. Each of the jaws or wedges B is shaped on one side to fit against the rail and on the other side to fit against the doubly inclined face of the jaw *b*. Longitudinally through the wedges B I insert a bolt C by which they are drawn together and by the pressure against the inclined surface of the jaw *b* the wedges are tightly forced against the rail D by which means the rail is securely held in position. A locknut of any suitable form or construction may be employed upon the end of the bolt C.

The sleeper A' is a joint sleeper and differs only from the sleeper A in being made about double the width so as to give sufficient support and security to the rail ends which meet therein. In this case one of the wedges B is made longer than the other so as to overlap the joint of the two rail ends.

The foundation part of the sleepers A A' on the underneath side is by means of longitudinal ribs *c* and transverse ribs *d* formed into a series of cells *e* into which the ballast upon which the sleeper is laid is rammed until tightly packed therein. The transverse ribs *d* are preferably formed of the shape shown in Fig. 4.

The sleepers are preferably formed so that each supports or comes in contact with but one rail and are connected together in pairs by a metal tie bar E which is hinged or jointed at the two ends to the sleepers. The tie bar E may however be dispensed with and each sleeper made with two chairs and of sufficient length to engage with two rails.

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

1. A metal sleeper for the permanent way of railways, comprising a foundation-plate having on its upper side integral holding-jaws adapted to receive the rail between them and extending up along the web to give lateral support thereto, and having on the underside longitudinal and transverse ribs and a surrounding flange depending vertically from the edges, the whole forming a cellular structure, as and for the purpose described.

2. A metal sleeper for the permanent way of railways, comprising a foundation-plate having on its upper surface integral jaws to hold

the rail, and on its under surface a depend-
ing rim or flange around the edge, a central
rib running in one direction and extending
below the flange, and a series of transverse
5 ribs running from the edge flange to the
lower edge of said central flange, the whole
forming a cellular structure, as and for the
purpose described.

In testimony whereof I have signed my
name to this specification, in the presence of 10
two subscribing witnesses, this 8th day of
January, 1891.

SAML. RIDEAL.

Witnesses:

I. OWDEN O'BRIEN,
WILLIAM H. TAYLOR.