

J. M. SELLERS.

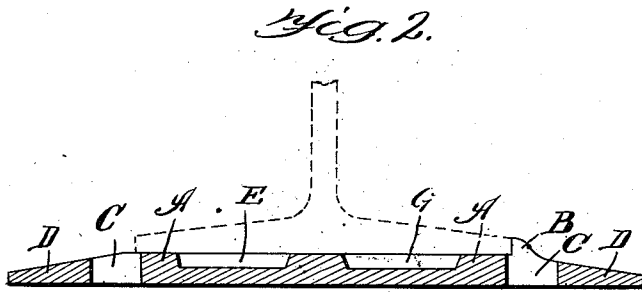
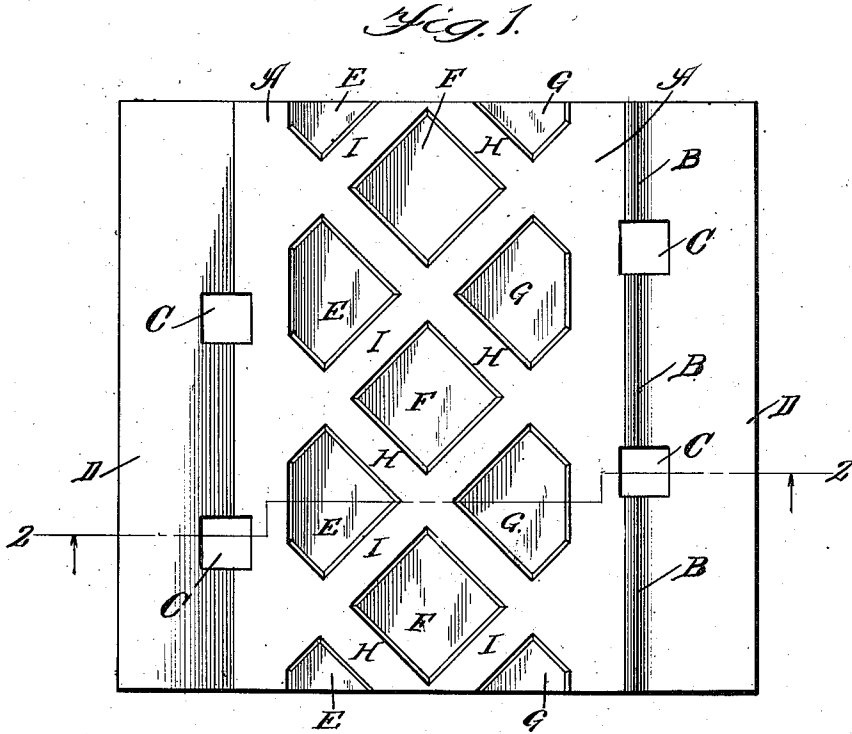
TIE PLATE.

APPLICATION FILED JUNE 8, 1911.

1,000,954.

Patented Aug. 15, 1911.

2 SHEETS—SHEET 1.



Witnesses:
Ed. D. Terry
Edwin H. Cherry

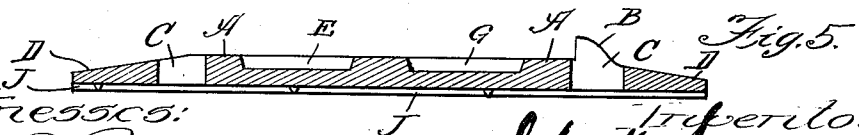
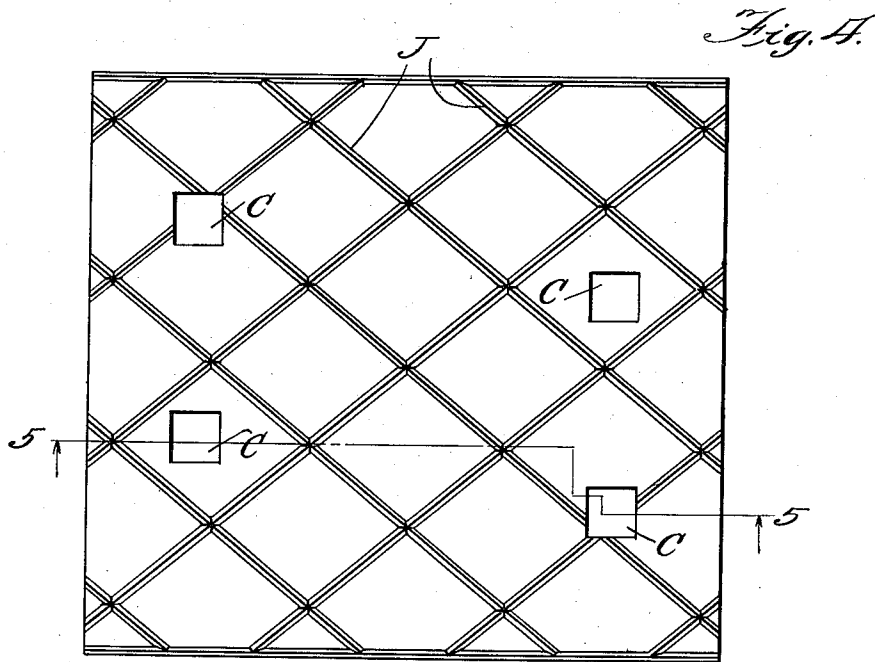
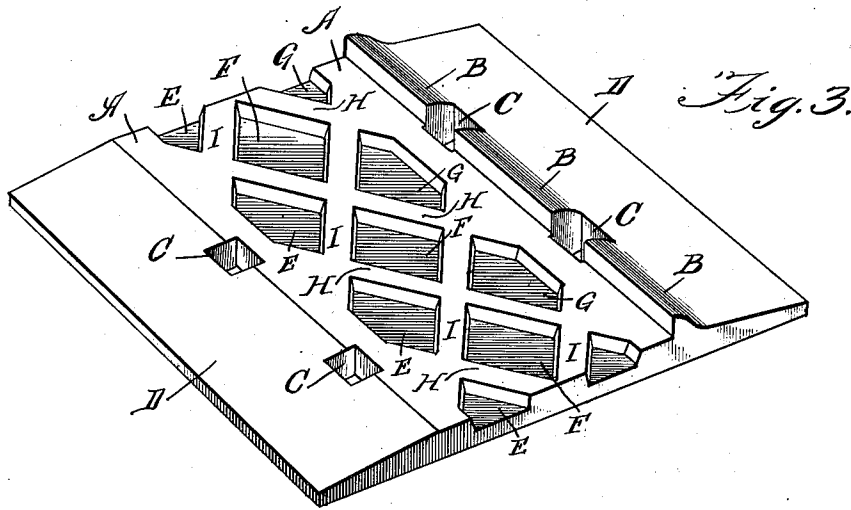
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John M. Sellers
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2 SHEETS—SHEET 2.



Witnesses:
D. P. Perry
Edward Sheehan

Inventor:
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UNITED STATES PATENT OFFICE.

JOHN M. SELLERS, OF CHICAGO, ILLINOIS, ASSIGNOR TO SELLERS MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

TIE-PLATE.

1,000,954.

Specification of Letters Patent. Patented Aug. 15, 1911.

Application filed June 8, 1911. Serial No. 631,943.

To all whom it may concern:

Be it known that I, JOHN M. SELLERS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tie-Plates, of which the following is a specification.

My invention relates to a railway tie or wear plate, and the invention has for its object to provide a novel and improved form of tie or wear plate which will economize metal without sacrificing strength and durability.

In articles like tie plates in which the cost of material forms a very considerable part of the manufacturing cost, and which are made and used in very large quantities, it is essential to commercial success that there should be the greatest possible economy of metal consistent with strength and durability; or to put it otherwise, that the configuration of the plates should be such that the metal used is disposed to the best advantage with regard to the conditions under which the plates are to be used. These considerations, important enough in any circumstances, are particularly important where the tie plates are for use under large heavy rails, because in the first place, the plates must then stand more than the ordinary stresses, and in the second place, the plates being larger, a design which is economical of metal makes a proportionally greater saving in manufacturing cost.

With the purpose of economizing metal in view, tie plates have been made with a ribbed configuration, the ribs being on the upper surface of the plate and extending in some cases lengthwise with respect to the rails, in others crosswise, and again obliquely. Experience has proved, however, that the ribbed or, to put it the other way, recessed plates which have been used heretofore are not well calculated to withstand the strains put upon them. Under the peculiar stresses and vibrations to which tie plates are subjected when in use, and with the rotting or wearing away of the ties, which always takes place to a certain extent, there is a tendency of the plates to bend up at the edges resulting eventually in making them useless with perhaps injury to the base flanges of the rail, which tendency is increased by weakening the plates at the center, as for example, when they are

formed with recesses running longitudinally, with respect to the rail, and extending across the plate. It is also objectionable to have the edges of the rail flange bear upon a ribbed formation, as in the case of the plates heretofore used which are formed with the transverse or oblique ribs, because the unequal stresses on the base flanges of the rail tend to break out pieces from the edges of such base flanges so as to necessitate the replacing of the rail.

In the tie plate of my invention a flat, that is non-recessed, footing of substantially maximum thickness is provided at each side of the plate on which the outer edges of the base flanges of the rail are designed to bear, while the center portion of the plate between these footings is recessed out in such a manner as to make a very considerable saving of metal without however impairing the strength of the plate.

The invention is illustrated, in a preferred embodiment, in the accompanying drawings, wherein—

Figure 1 is a plan view of the plate, Fig. 2, a sectional view taken on line 2—2 of Fig. 1, a portion of the rail being shown in dotted lines, Fig. 3, a view of the plate in perspective, and Figs. 4 and 5, an inverted plan and a sectional view, respectively, of a modified form of plate, Fig. 5 being taken on line 5—5 of Fig. 4.

Like characters of reference indicate like parts in the several figures of the drawings.

Referring to the drawings, A, A, designate the flat or non-recessed footings on which the outer edges of the rail flanges bear in the manner shown in Fig. 2.

B designates the usual shoulder at one side of the plate against which one edge of the rail base abuts, and C, the spike holes. Preferably the edges of the plate beyond the footings A are tapered off as shown at D. This is done for the purpose of saving metal. The middle portion of the plate is formed with a plurality of recesses. Preferably there are three rows of recesses designated in the drawings E, F and G and they are conformed and arranged so as to provide two sets of oblique ribs H and I which intersect at right angles and extend across the plate from one footing to the other. The configuration of the center part of the plate so as to provide a plurality of ribs which cross each other and which in

each case extend obliquely across the plate from one footing to the other gives a structure which is extremely strong and rigid while allowing a considerable economy of metal.

In Figs. 1 to 3 inclusive the under side of the plate is smooth. In Figs. 4 and 5 I have shown a plate similarly formed so far as the upper surface is concerned, but provided on the under surface with intersecting diagonal ribs J designed to give the plate a better grip on the tie.

I claim:

1. As a new article of manufacture, a tie plate provided with non-recessed footings for the opposite edges of the base flanges of the rail, the center portion of the plate between said footings being recessed on its upper surface so as to provide two sets of ribs, one set intersecting with and crossing over the other, which said ribs are oblique

with respect to the rail and extend in each case across said space from one of said footings to the other.

2. As a new article of manufacture, a tie plate formed on its upper surface under the base of the rail which it supports with two sets of ribs, one set of which intersects with and crosses over the other, which said ribs are oblique with respect to the rail.

3. As a new article of manufacture, a tie plate provided on its upper surface with continuous bearing surfaces for the opposite sides of the rail flange, said surfaces being connected by intersecting ribs providing further bearing surface for the rail and inclosing interrupted recesses in the tie plate.

JOHN M. SELLERS.

Witnesses:

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