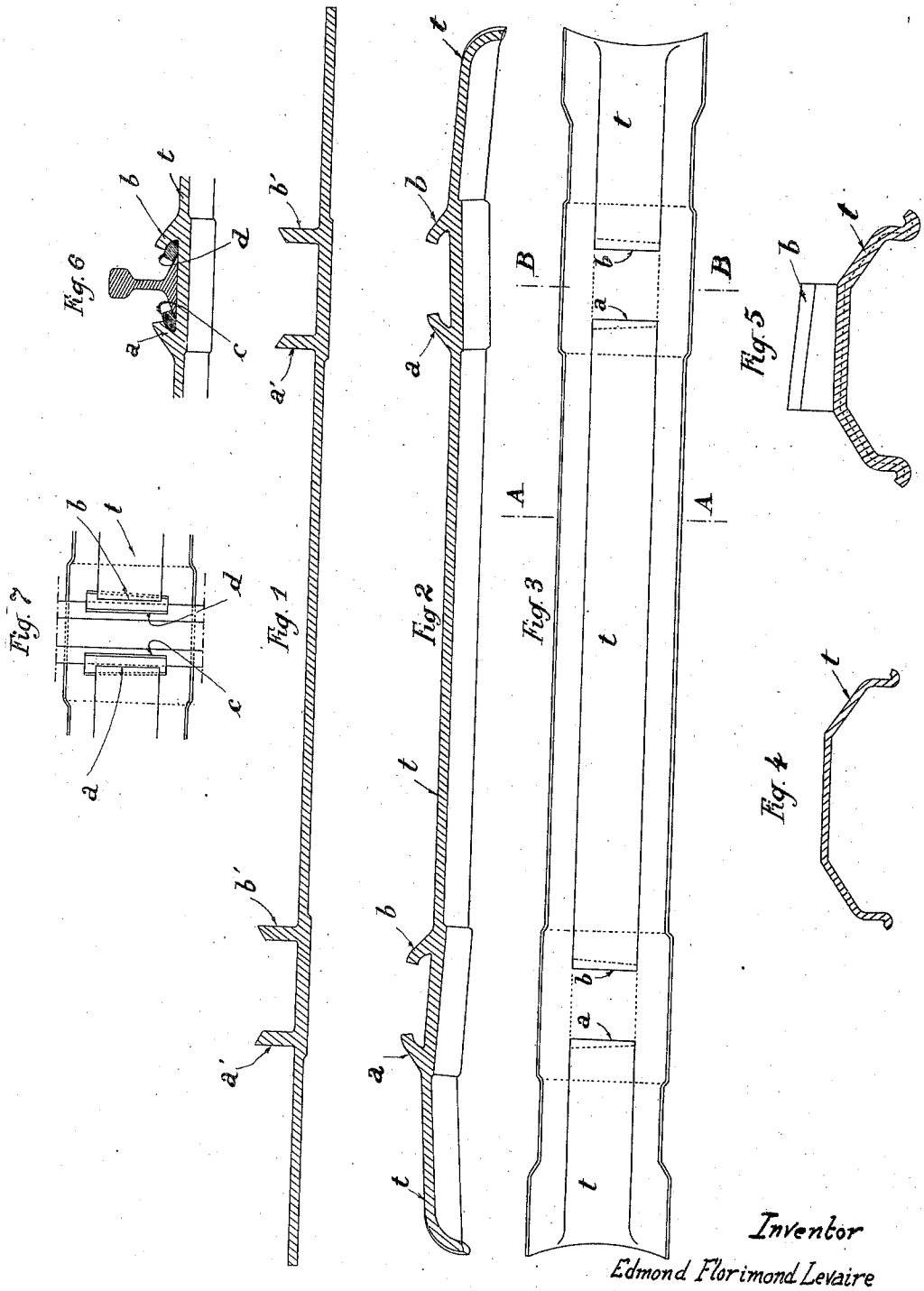
E. F. LEVAIRE.

PROCESS FOR THE MANUFACTURE OF METAL SLEEPERS FOR RAILWAYS.

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1,316,049.

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Inventor

Edmond Florimond Levaire

By his Attorney Laurence Langner

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDMOND FLORIMOND LEVAIRE, OF PARIS, FRANCE.

PROCESS FOR THE MANUFACTURE OF METAL SLEEPERS FOR RAILWAYS.

1,316,049. Specification of Letters Patent. Patented Sept. 16, 1919.

Application filed August 21, 1918. Serial No. 250,762.

To all whom it may concern:

Be it known that I, EDMOND FLORIMOND LEVAIRE, citizen of the Republic of France, residing at 20 Rue de Londres, Paris, in the Republic of France, have invented new and useful Improvements in Processes for the Manufacture of Metal Sleepers for Railways, of which the following is a specification.

This invention relates to a new process for rapidly and economically manufacturing metal railway sleepers of that type which carries projections formed integrally therewith whereby rails may be secured by means of wedges or keys without making use of either bolts or clips.

According to this new process a metal sheet is first rolled so as to present as it issues from the rolling mill four longitudinal ribs arranged in pairs at the parts where the rails have to rest upon the sleepers; the metal sheet is then cut transversely in order to form sleeper blanks when a portion of the ribs is removed by sawing so as to merely leave the blank with that part which is necessary to form the beaks required for the sleeper. At last the blank thus prepared is dished while the ribs are shaped by matrices at the same time so as to give the ribs and the sleeper their final shape.

As clearly explained the characteristic feature of the new process is the rolling of the sleeper in the sense of its width contrariwise to what has been hitherto done when the rolling of metal sleepers was effected in the sense of its length.

In the annexed drawings Figure 1 is a cross section of the rolled metal sheet as it issues from the finishing rollers that is to say after the four longitudinal ribs are formed.

Figs. 2 and 3 show respectively in longitudinal section and in plan the final form assumed by the sleeper after the dishing and shaping operations.

Figs. 4 and 5 are cross sections on an enlarged scale on lines A—A and B—B of Fig. 3.

Figs. 6 and 7 are a section and a plan showing the application of the sleeper made according to the above described process to the fixing of a "Vignoles" rail. The metal sleeper when finished is provided at a certain portion of the rail with two beaks *a* and *b* the length of which has been reduced by sawing and the shape and the slope of which have been obtained by stamping and dishing. The shape of these beaks depends upon the mode of fixing the rail whether by keys or wedges.

The chief advantage of such a shape for sleepers is that it dispenses with the usual fittings such as bolts and clips and that it does not require to be perforated.

Figs. 6 and 7 show the application to such a sleeper of the "Vignole" sleeper mode of fixing. The flange of the "Vignole" rails rests directly upon top of the metal sleeper at a point where it is strengthened with a proper slope for the rail, two metal wedges *c* and *d* are driven between the under part of the beaks and the top of the rail flange in order to insure proper locking the shape of the wedges thus preventing the displacement of the rail either in a longitudinal cross or vertical upward sense.

The interval between the top of the beaks *a* and *b* is equal to the width of the rail flange plus a certain amount of play allowing the easy insertion of the flange between the beaks while the bottoms of the beaks *a* and *b* are sufficiently apart to suit the various railway gages; these distances apart are obtained by similar wedges of corresponding width so that a single type of metal sleeper for a running track is sufficient for a given type of rail. Moreover the beaks *a* and *b* may be rolled with such a cross sectional shape as to be applicable to bull headed rails with the usual wedges or those aforesaid.

The new process may be carried into practice in the following manner:

When the metal sheet comes from the finishing cylinders, the sheet steel is provided with four ribs, which are destined to make the beaks which form the fixing chamber for the rail and it is sawn, if necessary, on each side to a breadth equal to that of the developed length of an imaginary finished sleeper. The sheet steel is then brought to saws, which do, on the one hand, the sawing of the whole length of the sheet steel into widths equal to the necessary developed width of a sleeper, and on the other hand the sawing of the ribs to cut off these parts which meet the ends of the sheet steel.

The sheets of steel are then placed if necessary in reheating ovens, then they are taken out of the oven, and put into the presses for shaping and cutting them off.

It should be remarked that the manufac-

ture of this sleeper requires only rolling, sawing and stamping, without any drilling, slotting, fitting or any other finishing work.

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

1. A process for the manufacture of metal railway sleepers according to which a metal sheet is rolled with a width corresponding approximately to the desired length of the sleepers and wherein four parallel ribs arranged in pairs where the rails have to rest on the sleepers are formed by such rolling, said metal sheet being then cut transversely to form sleeper blanks which are subsequently dished in order to receive their final shape.

2. A process for the manufacture of metal railway sleepers according to which a metal sheet is rolled with a width corresponding approximately to the desired length of the sleepers and wherein four parallel ribs arranged in pairs where the rails have to rest on the sleepers are formed by such rolling, said metal sheet being then cut transversely to form sleeper blanks, and the useless portions of the said ribs being sawn off after which the ribs are shaped into beak form, the sleeper being finally dished to impart thereto the usual hollow form.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDMOND FLORIMOND LEVAIRE.

Witnesses:
LOUIS MOSÈS,
JOHN F. SIMONS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."