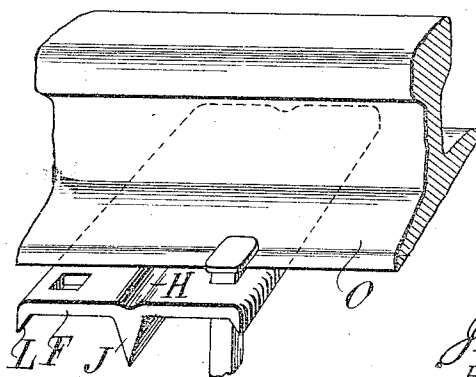
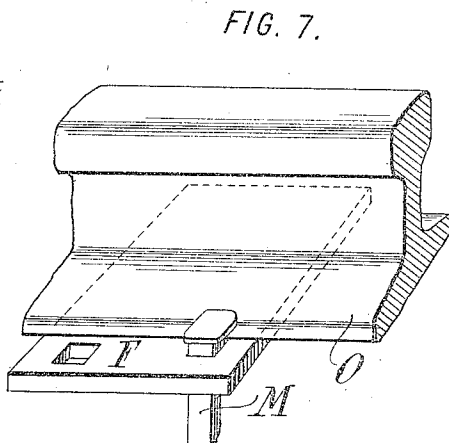
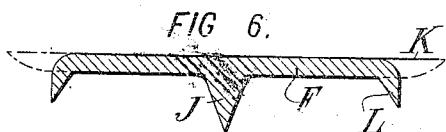
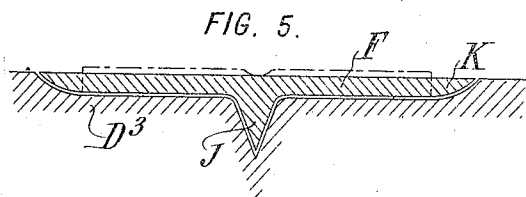
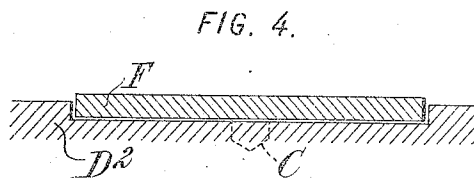
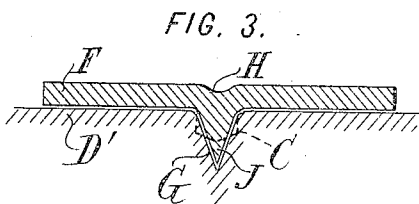
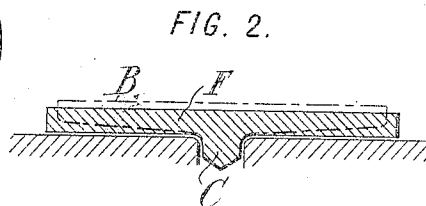
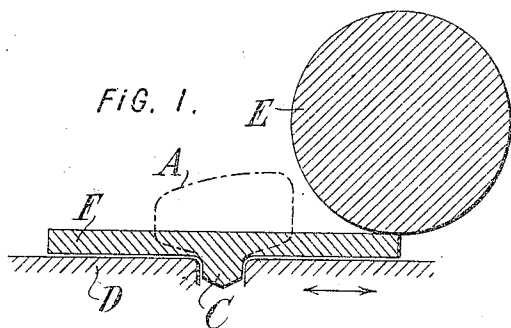


J. E. YORK,
MANUFACTURE OF TIE PLATES OR THE LIKE.
APPLICATION FILED OCT. 27, 1904.

961,666.

Patented June 14, 1910.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

FIG. 9.

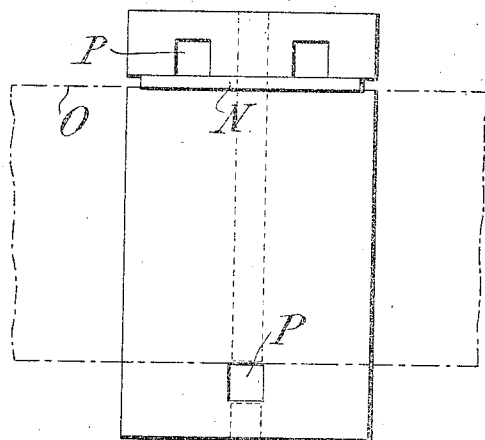


FIG. 10.

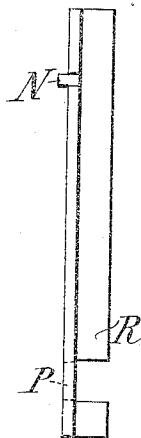


FIG. 11.

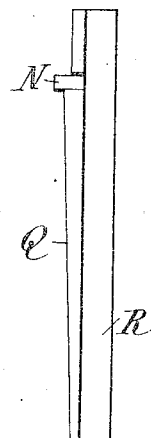


FIG. 12.

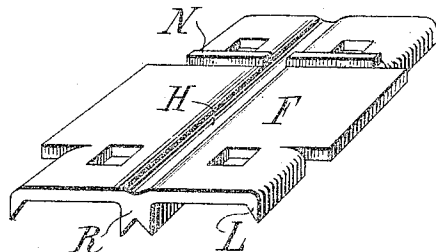


FIG. 16.

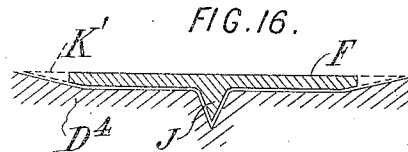


FIG. 13.

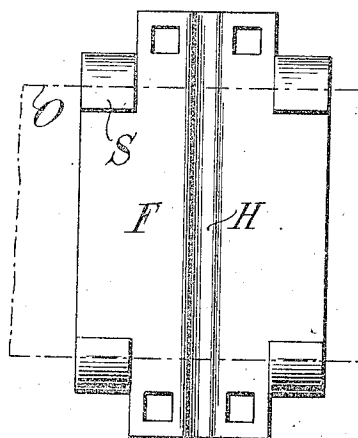


FIG. 14.

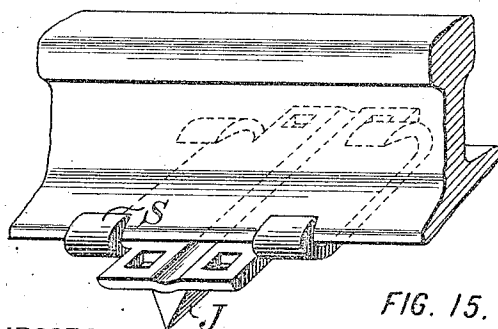
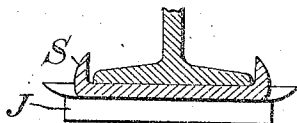


FIG. 15.



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MANUFACTURE OF TIE-PLATES OR THE LIKE

961,666.

Specification of Letters Patent. Patented June 14, 1910.

Application filed October 27, 1904. Serial No. 230,277.

To all whom it may concern:

Be it known that I, JAMES E. YORK, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in the Manufacture of Tie-Plates or the Like, of which the following is a specification.

This invention aims to provide an improved process for the manufacture of tie plates or similar articles from old rails, beams or other shapes having an enlargement at one or both ends. The process is also applicable in connection with similar narrow elongated shapes of new steel, but is of especial value because of its economical reutilization of old shapes.

In the application of the process to the making of tie plates, chairs or the like the head or base of the rail or other shape is severed with or without a portion of the web, and is then rolled laterally or transversely so that after a suitable number of passes it is reduced to a comparatively thin, wide plate. In the same rolling operation the portion of the web which is cut off with the head or base may be upset to form a substantially wedge-shaped rib, at the same time forming a groove in the top of the plate opposite said rib. The edges of the plate are preferably flanged, either throughout its length or not, by tapering the edges in the laterally rolling preparatory and subsequent operations. The flanges may be present on the plate in any desired combination in longitudinal direction and in both ends of a drum or vessel, as is the case with the hexagonal.

[illegible][illegible]

Referring specifically to the embodiment illustrated, the worn head of an old rail is indicated at A, and the base at B, each of these parts being cut off with a portion C of the web. The head or base of the rail is placed on a table D which has a groove for receiving the portion C of the web and which reciprocates so as to carry the rail back and forth under one or more rolls E which are gradually lowered to decrease the thickness of the section and increase its width. The lateral widening of the base B will not generally be necessary, but it may be rolled to reduce it to uniform thickness.

The result of the operations indicated in Figs. 1 and 2 is a plate F of desired width and thickness and having a projection C extending longitudinally on its under side. The plate F may then be placed on another bed D with a rib C projecting into a tapering groove G. A roll is then run over the plate laterally, which roll has a longitudinal rib which presses the plate down at the center to form a groove H and which at the same time upsets the rib on the under side to convert it into a tapering rib J. Or, if a flat plate is to be formed without a rib on the under side, it may be rolled upon a bed D² (Fig. 4) which gradually spreads the material of the rib C into the plate F. If the plate is to be formed with downward ribs at its edges

[illegible][illegible][illegible]

base, which is indicated in dotted lines at O. In this plate two spike holes P are preferably arranged at the outer edge of the rib N, and one at the opposite side of the plate. It is possible also with the lateral rolling system described to make a plate according to Fig. 11 which is especially useful on curves, being formed of gradually increasing thickness in longitudinal section, so as to give it a taper Q upon its upper face either with or without a rib N. In this case the thin end, having the same quantity of metal would be wider than the thick end, or the excess might be sheared off, if desired. The shapes shown in Figs. 9 to 11 can be very simply formed by suitably tapering or grooving the roll which accomplishes the lateral spreading of the metal, or the bed may be so formed as to effect this result. Fig. 12 illustrates a modified form in which the downwardly bent rib L do not extend throughout the length of the edges, but only at the two end portions, the center of the plate being flat to give a wider bearing to the rail. Another suitable style of rib, R, which is merely cleft in the middle, is illustrated in this figure. The rib N is divided in the middle to permit the passage of the groove H. The principle of tapering and bending a portion of an edge of the plate is applied somewhat differently in Figs. 13 to 15. Here the ends of the plate are tapered by a process similar to that indicated in Fig. 5, and the plate is split and the ends S bent up to a vertical position as indicated in Fig. 15. They may then serve in the same manner as the rib N of the previously described constructions to resist side thrust, being reversible for this purpose. Or they may be spiked or bolted directly to the tie, and the bent-up ends S may be bent inward with a hammer to engage and hold the base of the rail O, as indicated in Figs. 12 and 13. The turned-up flanges S may be formed on a plate F similar to those previously described or on various other styles of plates. This plate may also be used as a chair with chocks or wedges driven between the flanges S and the base or web of the rail to hold the latter in position. The length of the rib N may be consider-

ably varied, and instead of one rib there may be two, one for each side of the base of the rail. The bending of the flanges L and S, and other of the operations described, may be performed by presses instead of rolls, the prime function of the rolls being to spread the material in the manner indicated in Figs. 1 and 2. The process obviously may be carried out upon plates, slabs, ingots, billets or bars directly instead of upon worn rails or other sections. The combination of the lateral rolling and the press will obtain the most complicated forms with very few operations and with consequent rapidity and cheapness. The rolling operation permits of the forming of projections and recesses of practically any form and either on the under side or top of the plate. For example, a lateral groove may be formed across the top of the plate exactly fitting the rail base.

I do not in this application claim the product of my described process, the right being reserved to claim the same in a separate application. The illustrations of the various modifications of the plates, however, serve to explain variations which may be effected in the process.

Though I have described with great particularity of detail certain embodiments of the invention, yet it is not to be understood therefrom that the invention is limited to the specific embodiments disclosed. Various modifications thereof in detail and in the arrangement and combination of the parts may be made by those skilled in the art without departure from the invention.

What I claim is:—

In manufacturing a tie plate from a narrow elongated shape having a projecting rib, the process which consists in rolling it laterally and in a plane transverse to said rib, with said rib located in a groove in one of the members between which the shape is rolled.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES E. YORK.

Witnesses:

THEODORE T. SNELL,
EUGENE G. MEYERS.