

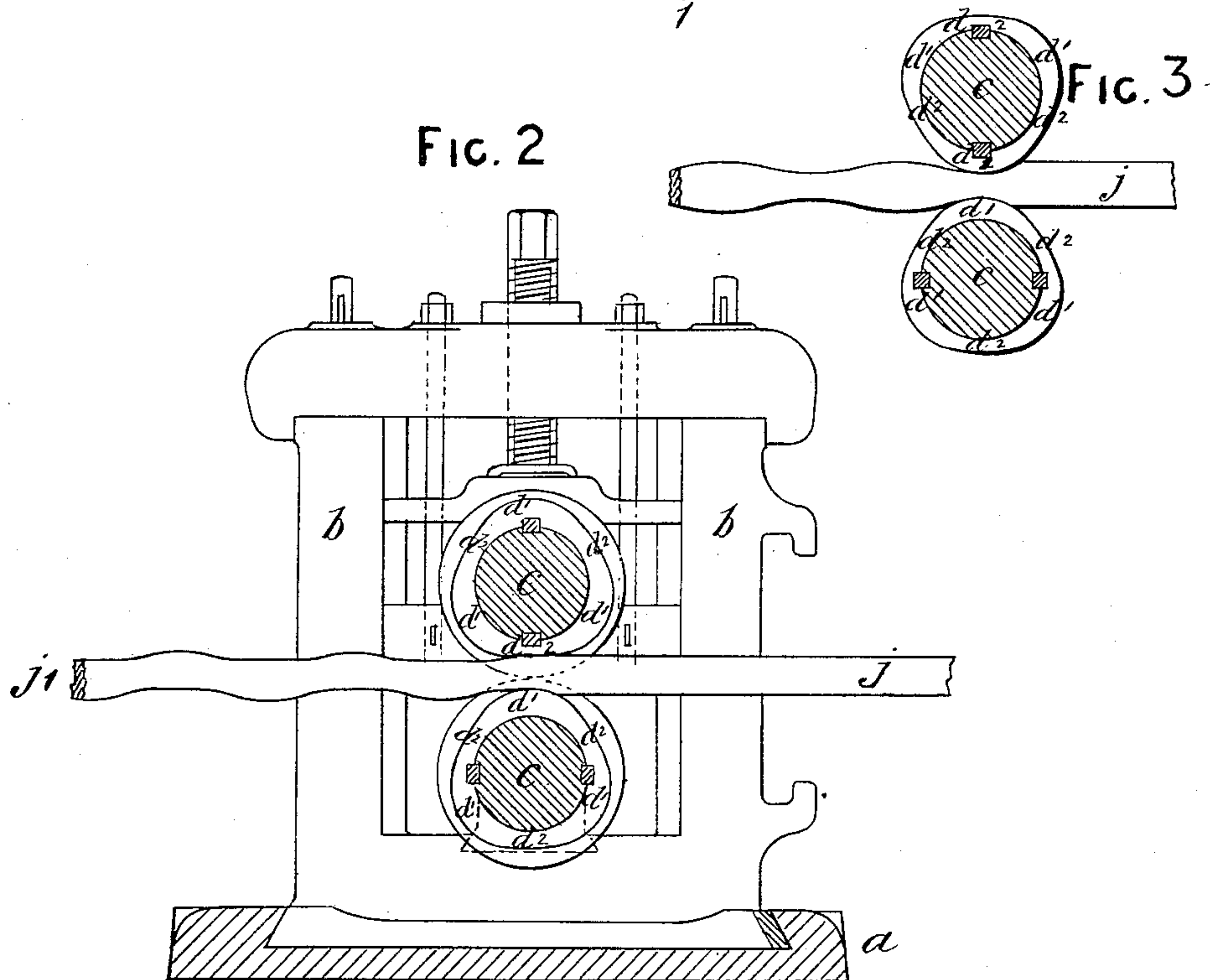
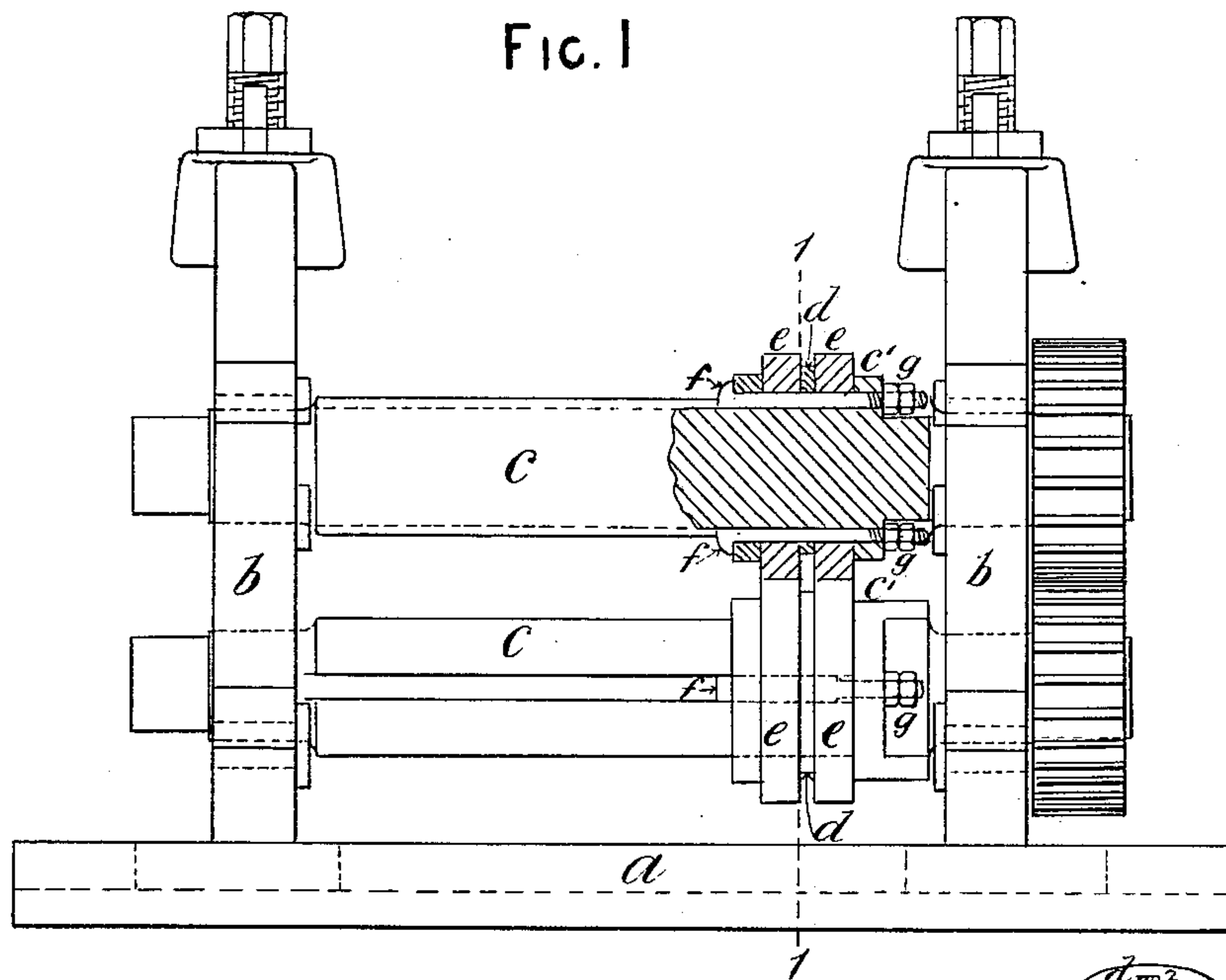
(No Model.)

W. FOX.

ROLLS FOR ROLLING WHEEL TIRE BARS.

No. 366,390.

Patented July 12, 1887.



Witnesses.
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ROLLS FOR ROLLING WHEEL-TIRE BARS.

SPECIFICATION forming part of Letters Patent No. 366,390, dated July 12, 1887.

Application filed March 23, 1887. Serial No. 232,696. (No model.) Patented in Belgium March 18, 1887, No. 76,745.

To all whom it may concern:

Be it known that I, WILLIAM FOX, a subject of the Queen of Great Britain and Ireland, residing at Leeds, in the county of York, Kingdom of Great Britain and Ireland, have invented new and useful Improvements in the Manufacture of Wheel-Tire Bars and Apparatus therefor, (which has been patented to me in Belgium March 18, 1887, No. 76,745, of which the following is a specification.)

My invention has for its object the production, by rolling, of a wheel-tire bar having at both sides or edges thereof lateral projections and undulations, such as referred to in the specification of my application for Letters Patent of the United States, dated the 13th day of April, 1886. For this purpose I provide a short roll or plate upon each of two roll-axes of cam-like configuration, and so mounted that when the tire bar is to have a serpentine configuration the longer radii of one roll will as the rolls are rotated come opposite to the shorter radii of the other roll of the pair, and at the respective ends of these short rolls guides are provided, which, according to one arrangement, are in the form of disks of larger diameter than the roll located between them, and are adjustable as to their distance apart; but in some cases it may be found desirable to make such guides, or one of them, and the roll in one piece. The arrangement is such that a strip of metal of suitable width and thickness for the production of the required tire-bar will, by being caused to pass between the rolls and guides while at a sufficiently high temperature, be converted into a developed tire-bar of the required shape and thickness.

The rolls or cam-like rolling-plates are changeable to suit various breadths and thicknesses of tire-bars required to be produced, and any convenient number of them with guides may be used in a single mill. They may either be placed between a pair of housings of the mill or be arranged to overhang, as may be the more convenient.

Referring to the accompanying drawings, Figure 1 illustrates in front elevation (partly in section) the application of my invention to a rolling-mill in other respects of ordinary type. Fig. 2 is a transverse vertical section at line 1 1 of Fig. 1, showing in face view a

pair of cam-like rolls and two guide-disks, and illustrates the action of said rolls upon a plain bar in producing my improved corrugated tire-bar.

a is the foundation or harness plate. $b b$ are the housings; $c c$, the roll-axes, each shown with a collar at $c' c'$, against which the guide-disks and rolls are secured; $d d$, the short cam-like rolls between the guide-disks $e e$. Said rolls are made with parts d' of greater radius, so that their peripheries are of suitable configuration for producing the required form of tire-bar, the parts d' of one roll being caused to travel opposite the parts d'' of the other.

For securing the respective rolls $d d$ and guide-disks e upon their axes in such manner that they may be readily changed to suit different tire-bars to be produced, the following arrangement is adopted in the examples illustrated: The roll-axes c are each provided with two key-grooves, and the guide-disks and rolls with corresponding grooves. Into these are inserted gib-ended keys f , which not only serve for driving the disks and rolls, but being furnished with nuts g draw each set of disks and rolls into close contact with each other, and also against the collars c' on the respective axes, and determine their relative positions with each other.

Fig. 3 shows the relative positions of the cam-like rolls $d d$ when it is required to produce a tire-bar with projections on one side opposite projections on the other, the parts d' of one roll being caused to travel opposite the parts d'' of the other. When it is required to change said disks and rolls, the nuts g are unturned, the gib-keys taken out, and the disks and rolls taken off and replaced by others.

j is the bar of metal under treatment.

What I claim is—

1. In apparatus for rolling wheel-tire bars with lateral projections and indentations at the edges, a roll of cam-like configuration, with parts d' of greater radius than other parts d'' , said roll being mounted upon an axle, c , in combination with guides or disks e , between which a strip or bar of metal can enter so as to have produced at its edge by the operation of said roll an undulated form, substantially as hereinabove described.

2. In apparatus for rolling wheel-tire bars

with lateral projections and indentations at both edges, the combination of two axles, means for rotating same, and on each axle a cam-like roll about equal in length to the thickness of tire-bar to be rolled, and having parts d' of greater radius than other parts d^2 , a pair of guides or disks, ee , one at each side of said roll, and means for securing said guides or disks and rolls together and upon their axles, substantially as described, for the purpose specified.

3. In apparatus for rolling wheel-tire bars with lateral projections and indentations at

both edges, the combination of a rolling-mill of ordinary type, with double-grooved roll-axes cc , with collars c' , the cam-like rolls d , guide disks ee , gib-ended key-bolts f , and nuts g , all substantially as described, for the purpose specified.

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