

(No Model.)

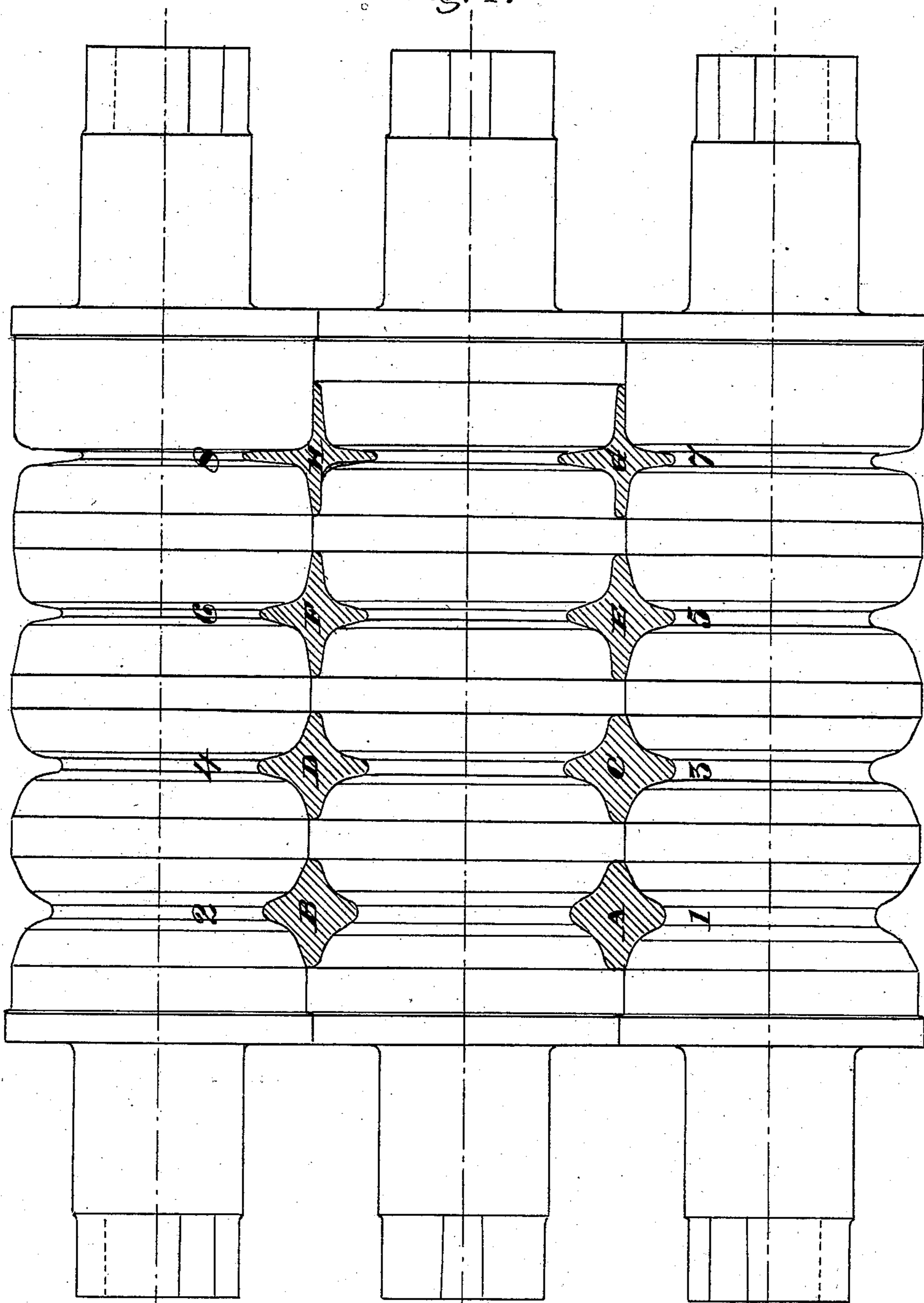
3 Sheets—Sheet 1.

F. X. GEORGET.
ROLLS FOR ROLLING RAILWAY TIES.

No. 364,642.

Patented June 14, 1887.

Fig. 1.



Witnesses:

J.W. Hoke.

B. B. Ray

Inventor:

Francois X. Georget
by C. Moody atty

(No Model.)

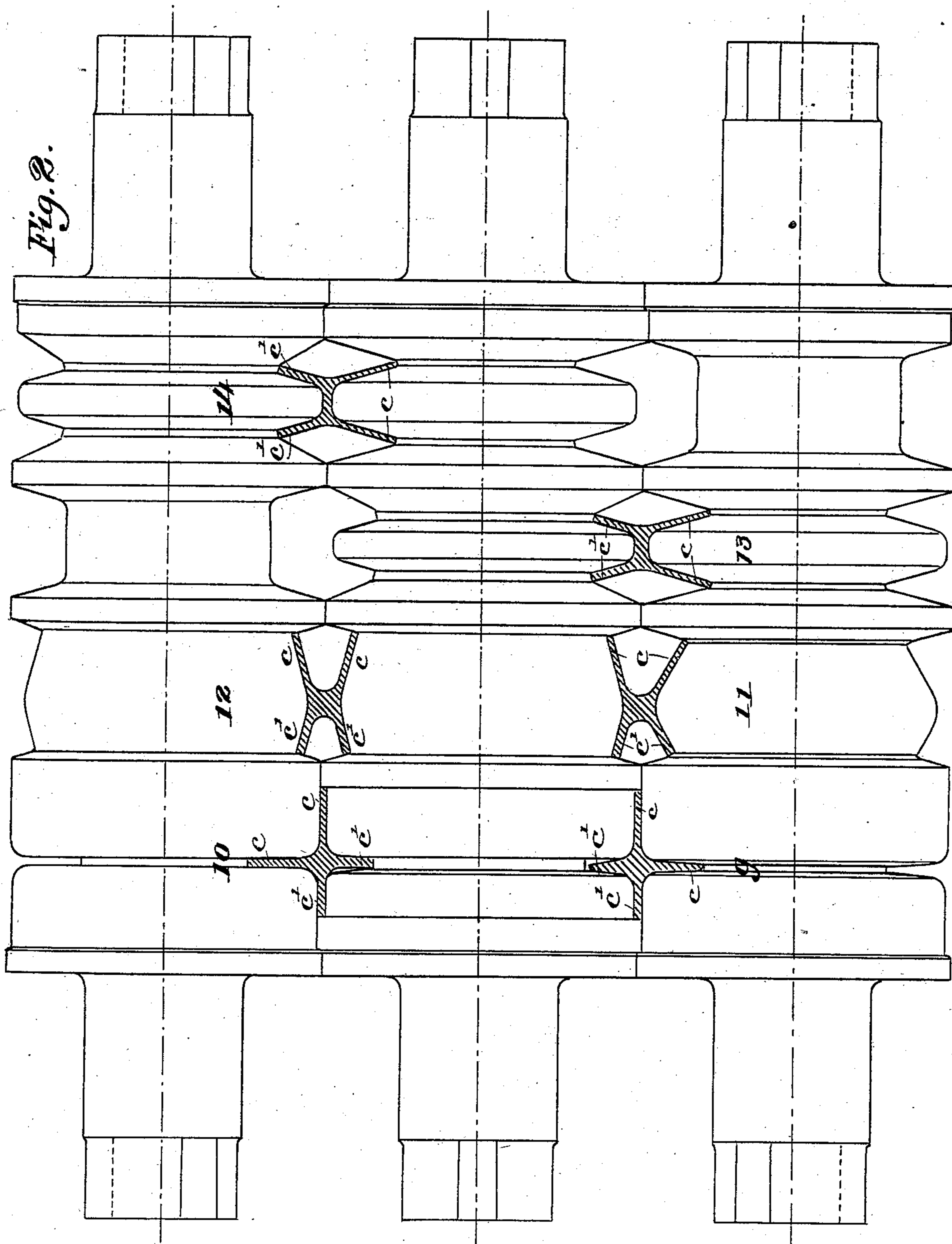
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ROLLS FOR ROLLING RAILWAY TIES.

No. 364,642.

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Witnesses :

JW Hoke.

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(No Model.)

3 Sheets—Sheet 3.

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Fig. 3"

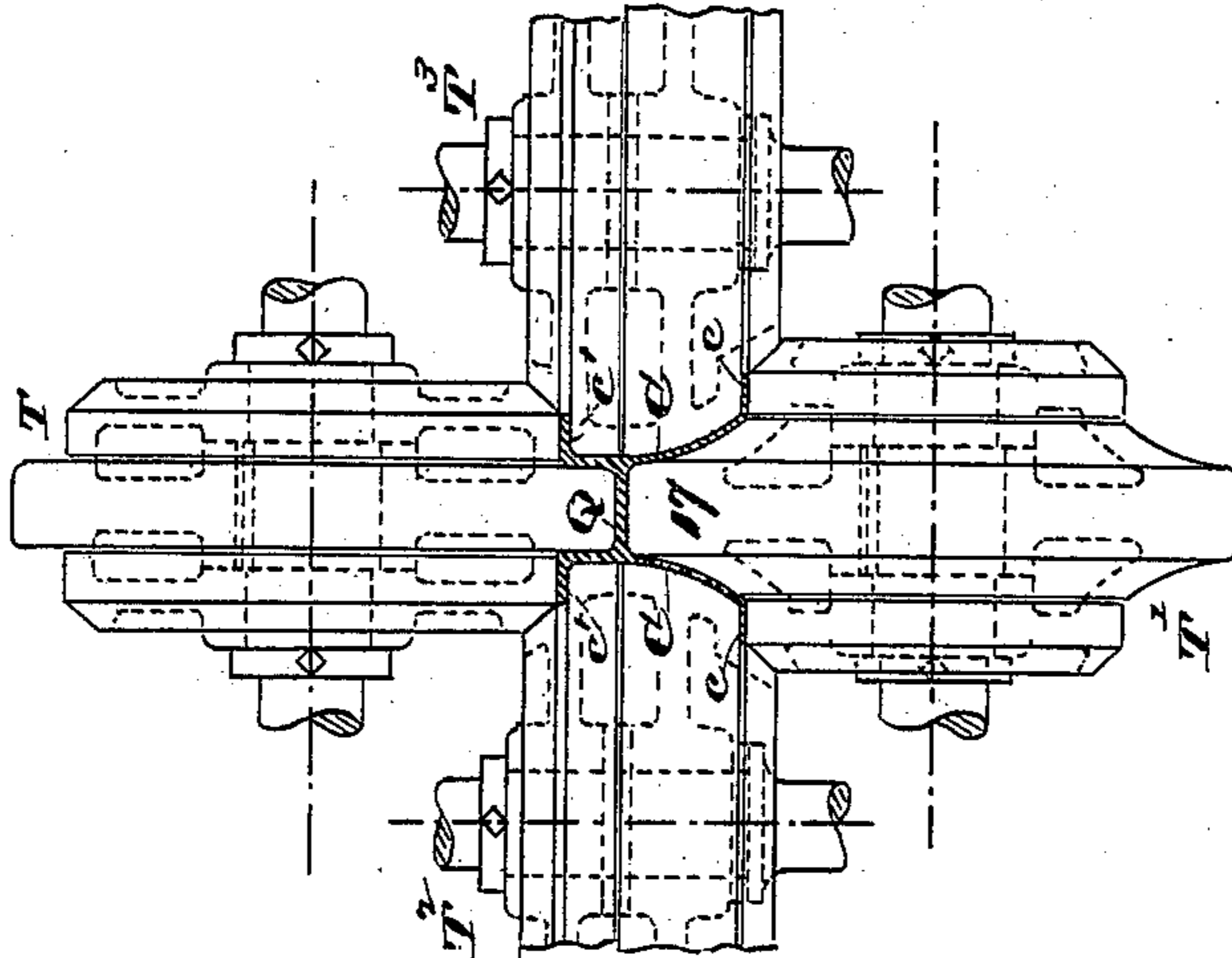


Fig. 3"

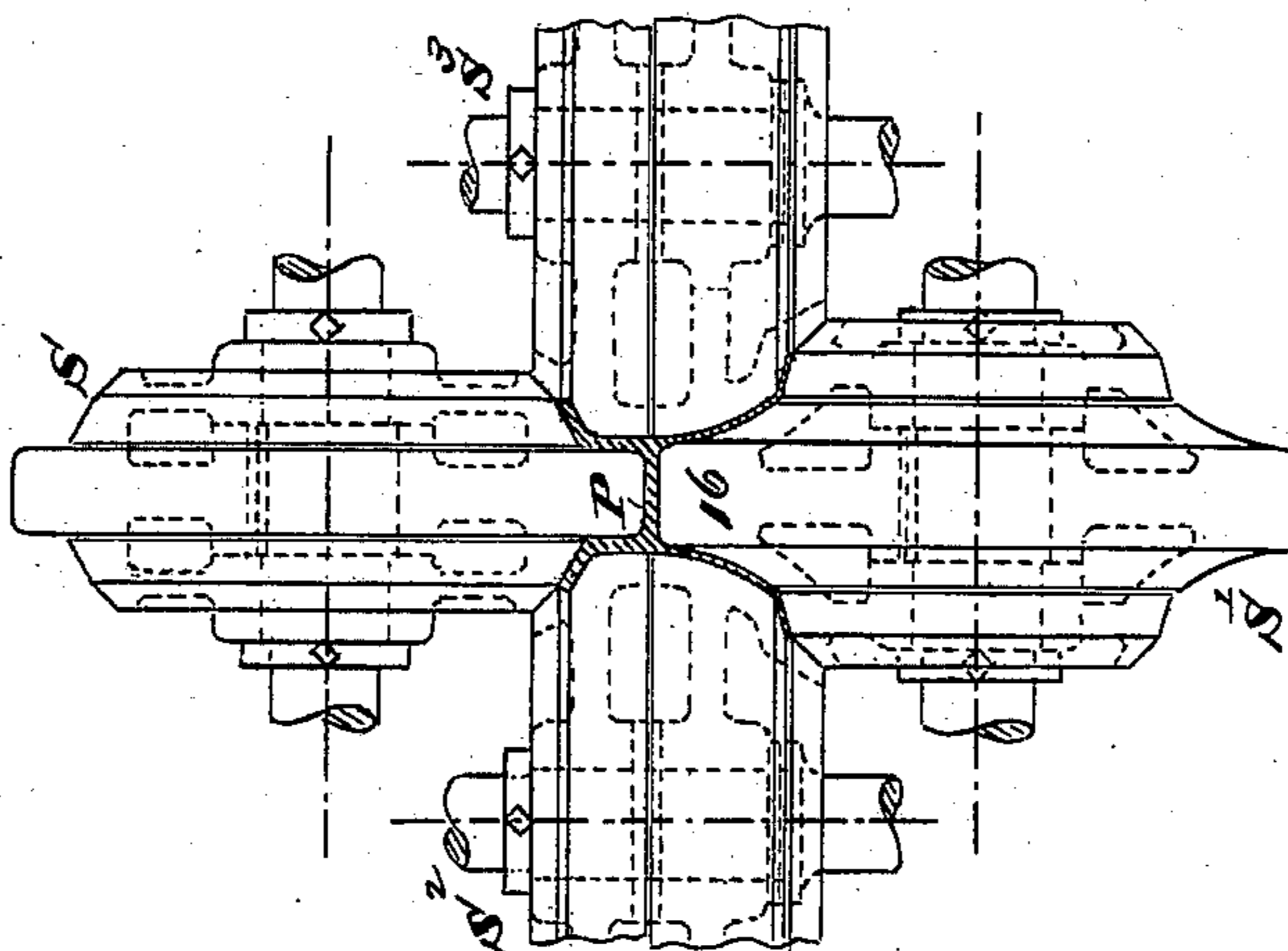
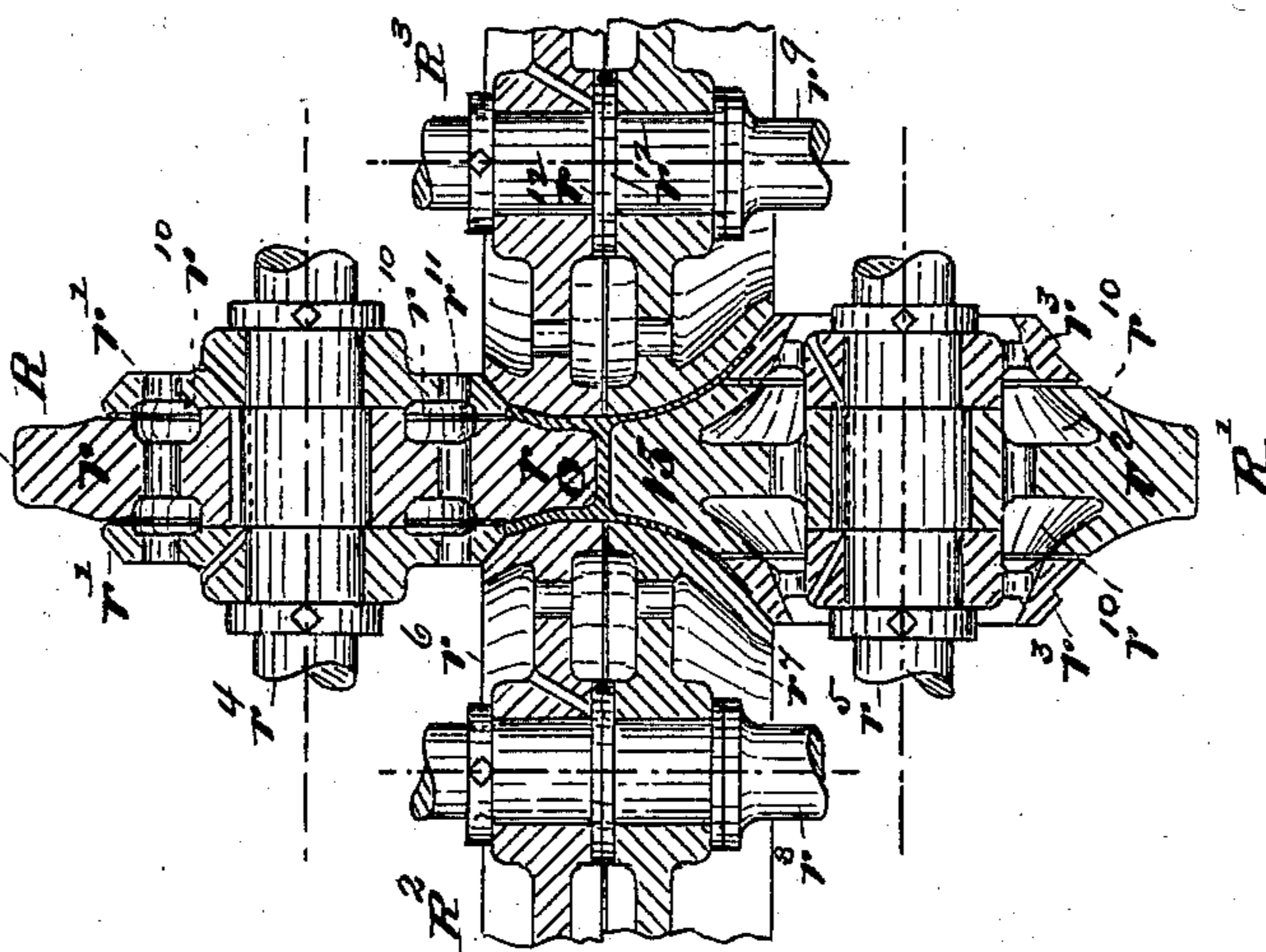


Fig. 3'



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

FRANÇOIS X. GEORGET, OF ST. LOUIS, MISSOURI.

ROLLS FOR ROLLING RAILWAY-TIES.

SPECIFICATION forming part of Letters Patent No. 364,642, dated June 14, 1887.

Application filed March 26, 1886. Serial No. 196,637. (No model.)

To all whom it may concern:

Be it known that I, FRANÇOIS X. GEORGET, of St. Louis, Missouri, have made a new and useful Improvement in Rolls for Rolling Railway-Ties, of which the following is a full, clear, and exact description.

The tie produced in part by the rolls in question is a special tie employed in an adjustable railway-bedding described in a pending application of mine for Letters Patent. The construction produced consists of two upright sides spaced apart, and between the bottom and the top of the tie united by a web, and at the bottom and at the top of the tie each having an outwardly-turned flange. The sides are preferably not strictly upright, but from the top, or thereabout, downward curve slightly apart, so as to cause the uprights to assume a bracing position and the tie to be more elastic. Three sets of rolls are employed—first, the roughing-rolls, then an intermediate set, and then the finishing-rolls. The first set consists of three horizontal rolls, the lower and upper rolls revolving in one direction and the middle roll revolving in the opposite direction. Eight passes are made on these rolls. The second set is also composed of three rolls similarly operated. Six passes are made on them. The finishing rolls consist of three sets of four rolls each. Two of the four rolls are horizontal and two of them are vertical, and they revolve in the same direction.

In the annexed drawings, making part of this specification, Figure 1 is a front elevation of the roughing-rolls. Fig. 2 is a front elevation of the intermediate rolls; and Figs. 3', 3'', 3''' exhibit, in front elevation, the finishing-rolls.

The same letters of reference denote the same parts.

The various passes are numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, respectively, and the shapes which the bar assumes successively as it advances through the passes are shown in cross-section. In the first pass the bar is shaped into the form A. Then, without turning it around, the bar is sent through the second pass and shaped into the form B. It is then turned one-quarter turn around, and by means of the third pass shaped into the form C; then, without turning it, into the form

D. The bar is then turned one-quarter turn around, and by means of the fifth pass made to assume the form E; then, without turning it, the form F. It is then turned one-quarter around, and by means of the seventh pass shaped into the form G. It is again turned, and by means of the eighth pass formed as shown at H; again turned, and by means of the ninth pass shaped into the form I; again turned, and in the tenth pass shaped into the form J; again turned one-eighth turn around, and by means of the eleventh pass shaped into the form K. The bar now begins to assume an H shape, and without turning it around is, in the twelfth pass, given the shape L. It is again turned, and in the thirteenth pass shaped as shown at M. The bar is sent through the remaining passes without turning it around, and assumes, successively, the shapes N O P, and finally the shape Q, consisting of the two uprights C C, Fig. 3''', united by the web C', and each having at the bottom the outwardly-turned flange *c*, and at the top the outwardly-turned flange *c'*. In the last three passes the flanges *c c'* are formed. The bar is fed by means of the vertical rolls, or rather by the middle sections, respectively, of the vertical rolls, the remaining sections of the vertical rolls and the horizontal rolls serving as bearings—that is, in forming the fifteenth pass the four rolls R R' R² R³ are employed. The upright rolls R R' are each composed of three sections—a middle section and two side sections—the roll R having the sections *r r' r'*, and the roll R' having the sections *r² r³ r³*, of which the sections *r r²* are fast on the roll-shafts *r⁴ r⁵*, respectively, and the sections *r' r'* and *r³ r³* loose thereon, respectively. The horizontal rolls R² R³ are each composed of two sections, *r⁶ r⁷*, and are supported upon the shafts *r⁸ r⁹*, respectively. The sections *r r²* act to feed the bar through the pass and to shape the principal portion of that part of the bar included between its upright parts. The upright rolls are also preferably constructed to form the chambers *r¹⁰*, wherein the scale that passes between the middle section and side sections may be collected, and thence removed laterally through the perforations *r¹¹*. There are washers *r¹²* preferably interposed between the sections *r⁶ r⁷* of the horizontal rolls; for, owing to the upright

rolls R R' acting to contract the bar upright upon the horizontal rolls R² R³, the last-named rolls bear against and wear upon each other, and to provide for this wear, and to enable
 5 that part of the construction to be readily renewed, the washers ¹² become of use. They receive the wear, and when worn they can be replaced.

By making the rolls R R' R² R³ sectional the
 10 strain upon the structure is greatly reduced, as the various sections can revolve at various rates, respectively, and according to the shapes of those portions of the bar against which the sections respectively bear.

5 The rolls S S' S² S³ and the rolls T T' T² T³ are constructed upon the same principle of the rolls R R' R² R³, but are modified in shape to conform to the sixteenth and seventeenth passes, respectively. The mechanism for driv-
 20 ing the rolls R, &c., S, &c., T, &c., being of the usual character, is not shown; nor is it thought necessary to exhibit that for operating the other rolls. Chambering out the rolls R R', &c., as at ¹⁰, also is of use, in that thereby
 25 the friction between the different sections of the roll is reduced, for it will be seen that its chamber extends into adjoining sections, or at

least from the interior of one section to the side of an adjoining section.

I claim—

1. A set of rolls for rolling railway-ties, with
 30 passes of the respective shapes shown in the accompanying drawings, and therein numbered from 1 to 17, inclusive, substantially as described.

2. The herein-described intermediate rolls
 35 with passes of the respective shapes shown in the accompanying drawings, and therein numbered from 9 to 14, inclusive, as described.

3. The herein-described finishing-rolls with
 40 passes of the respective shapes shown in the accompanying drawings, and therein numbered from 15 to 17, inclusive, as described.

4. A roll, R, for rolling iron, made in sections
 45 ¹¹ ^{11'} ^{11''}, and having the annular chambers ¹⁰, as described.

5. The rolls R R' R² R³, in combination, said rolls R² R³ being made in sections, and having one or more washers, ¹², interposed between the sections, as described.

FRANÇOIS X. GEORGET.

Witnesses:

J. W. HOKE,
 C. D. MOODY.