

(No Model.)

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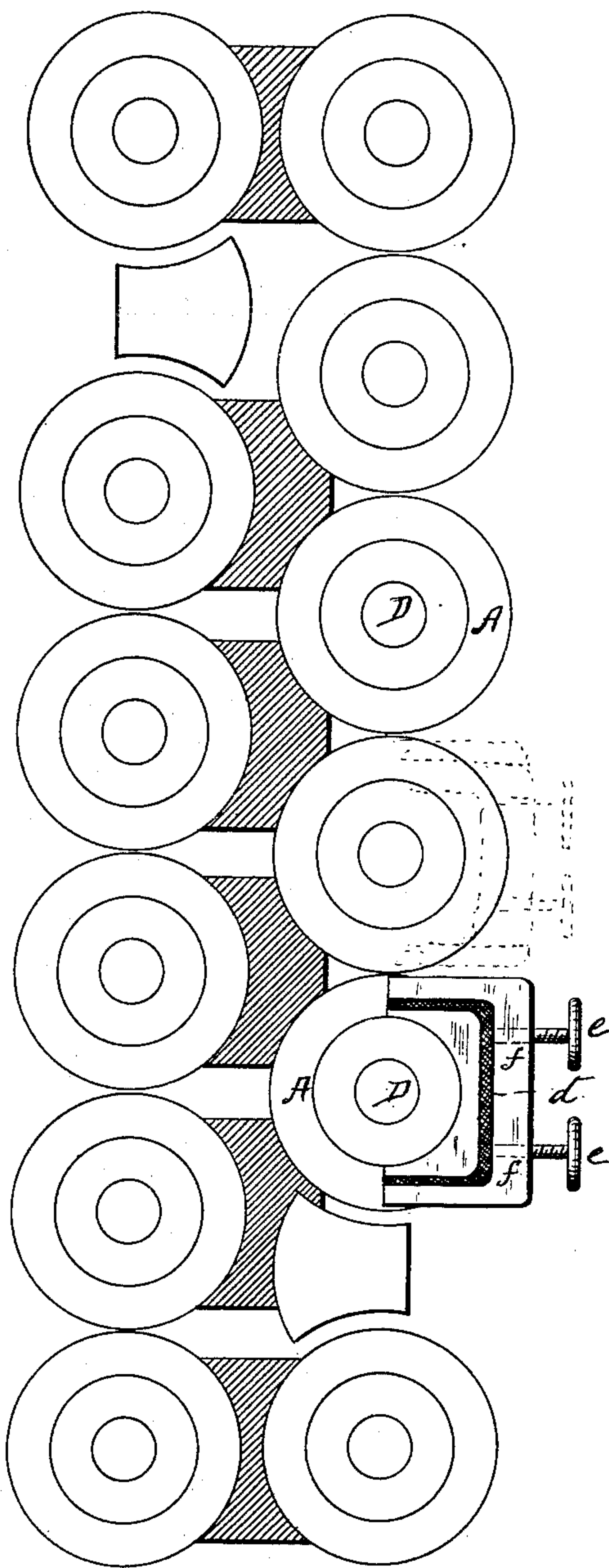
D. WALTERS.

MACHINE FOR STRAIGHTENING RAILS.

No. 318,061.

Patented May 19, 1885.

*Fig. 1.*



WITNESSES

*A. E. Bull.*  
*C. W. Collier*

*David Walters, INVENTOR*  
*By Geo. E. Tracy & Co.*

ATTORNEYS

(No Model.)

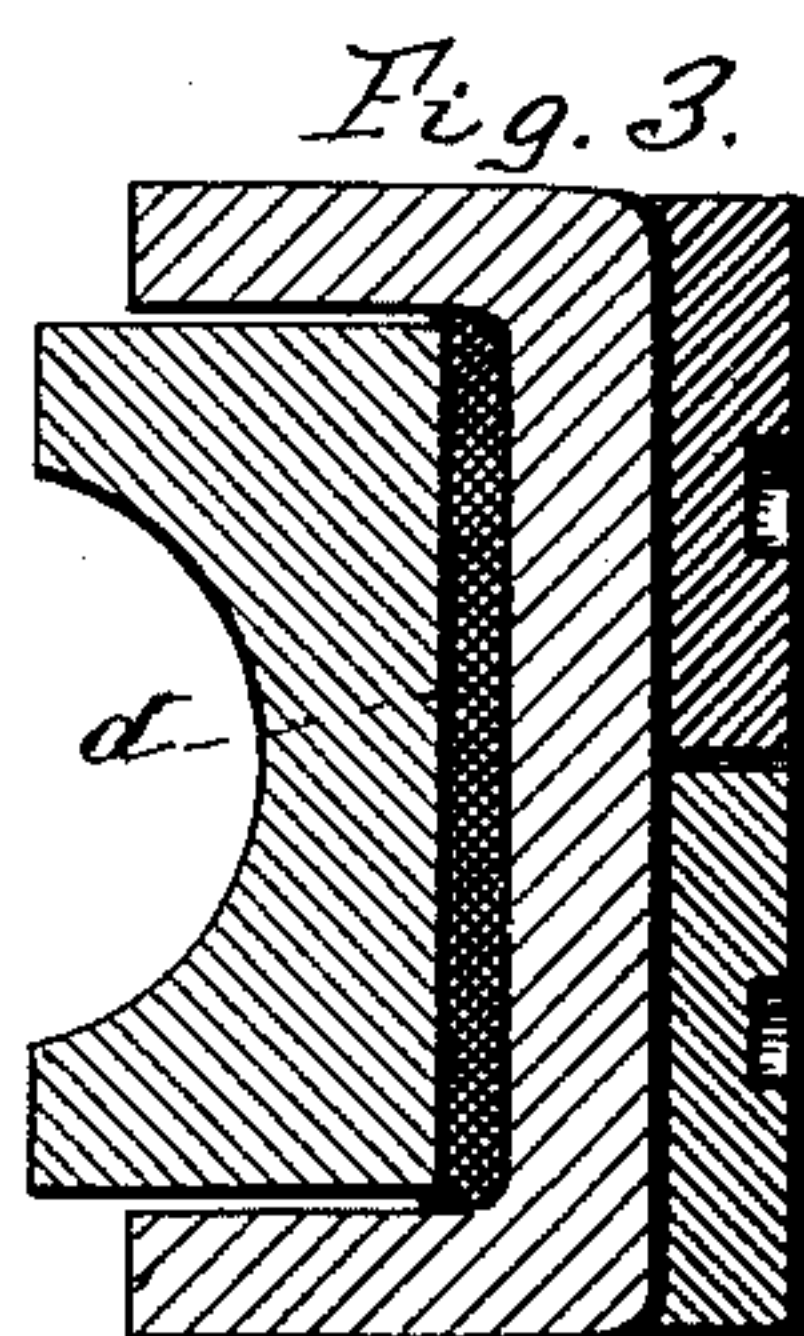
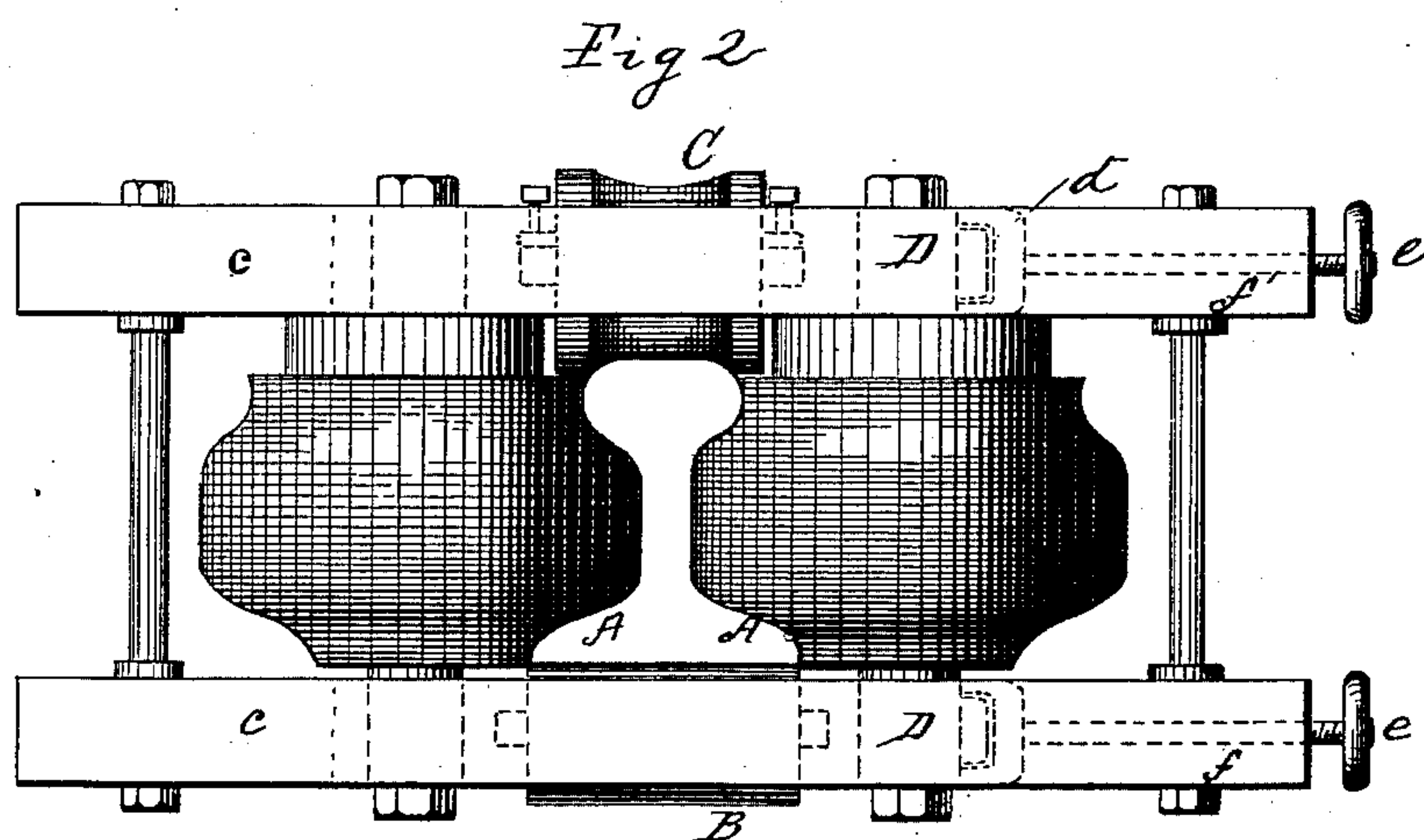
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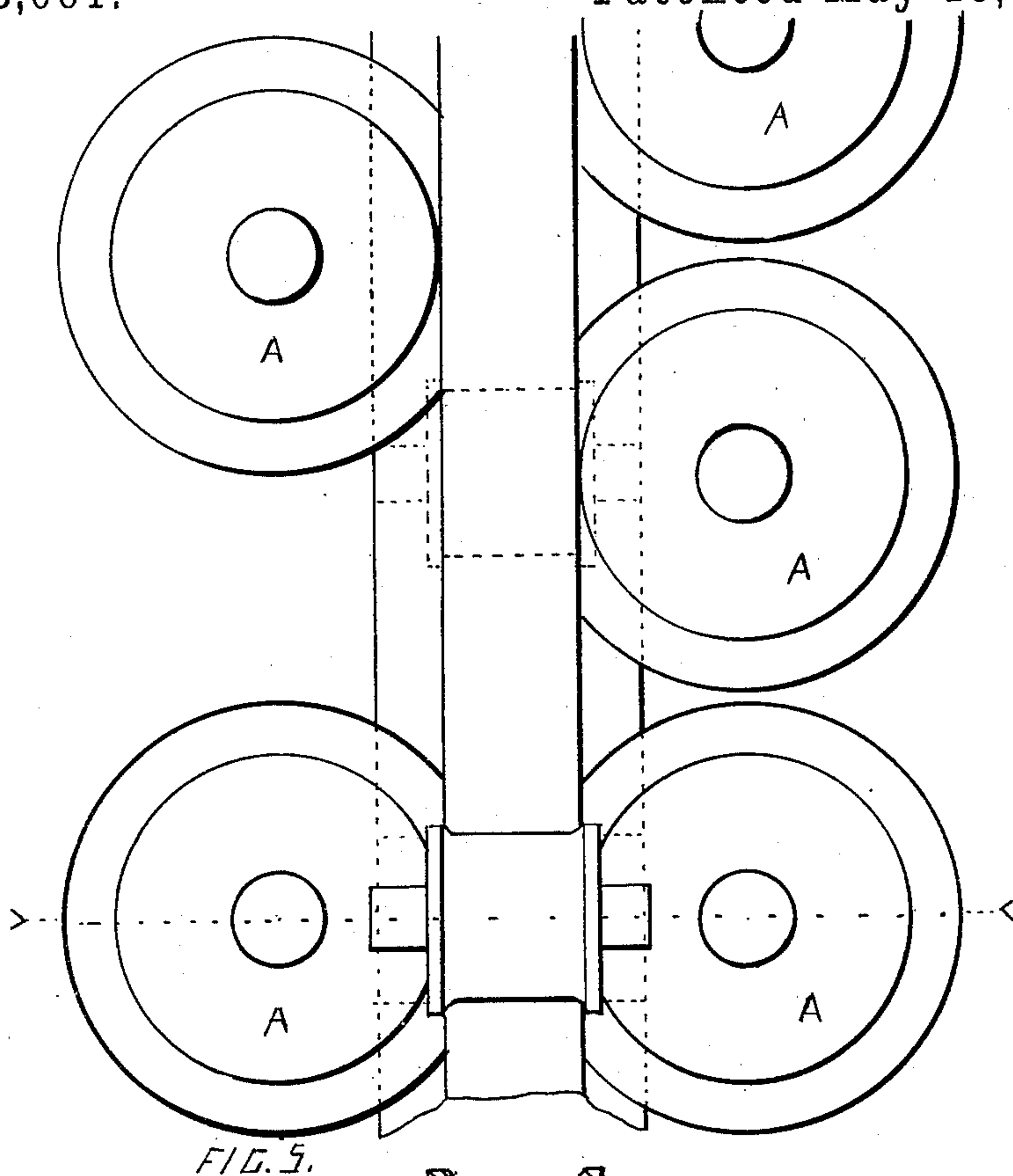


FIG. 5.

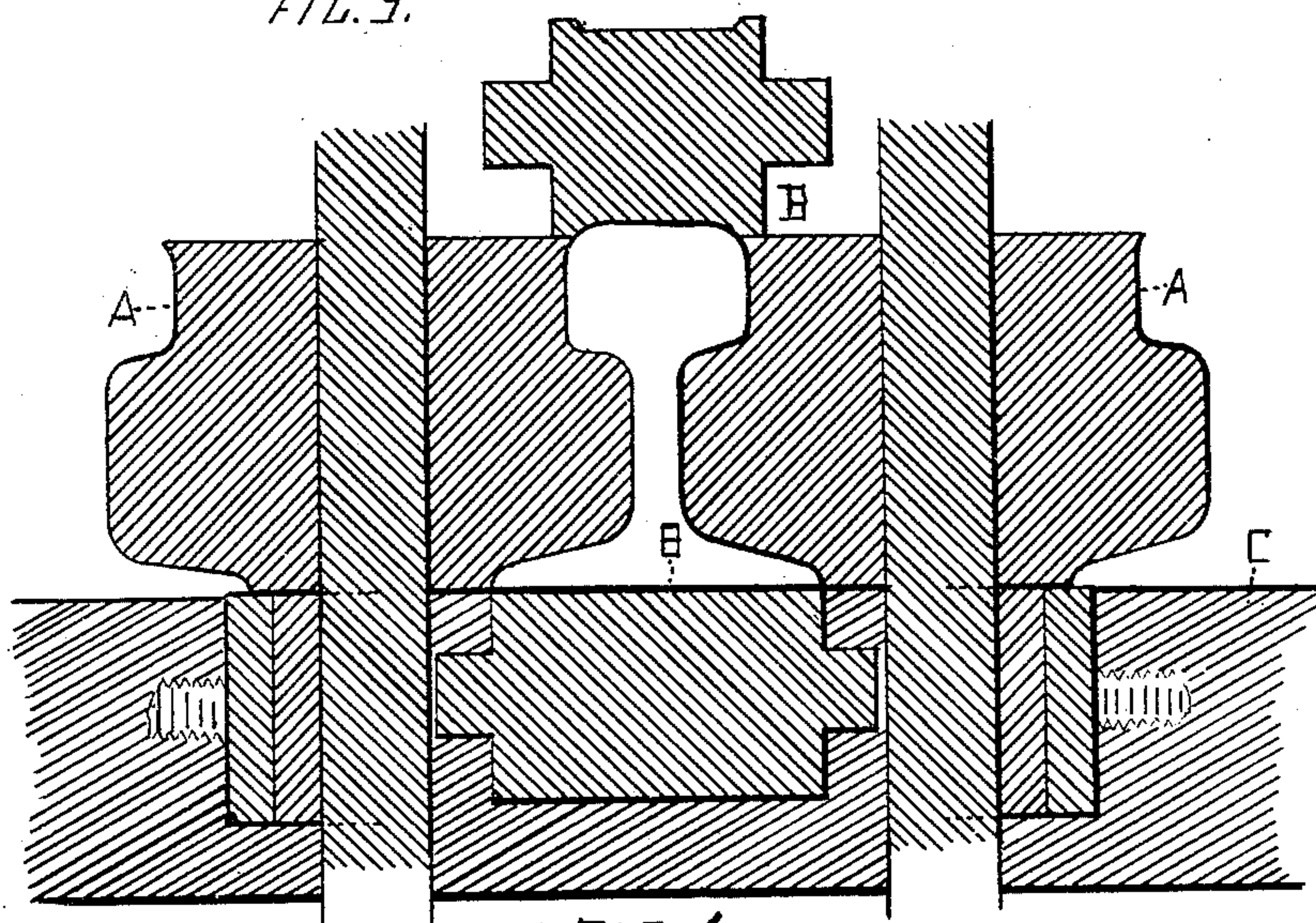


FIG. 4.

WITNESSES.

*Francis Lawson*

*James Peckham*

*David Walters* INVENTOR.

By

*Geo. L. Davies*

ATTORNEY



# UNITED STATES PATENT OFFICE.

DAVID WALTERS, OF CLEVELAND, OHIO.

## MACHINE FOR STRAIGHTENING RAILS.

SPECIFICATION forming part of Letters Patent No. 318,061, dated May 19, 1885.

Application filed September 1, 1883. Renewed December 1, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID WALTERS, of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in the Manufacture of Rails; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the accompanying drawings, and to letters of reference marked thereon.

This invention relates to certain new and useful improvements in devices for straightening rails of various forms by re-rolling them without reheating, the object of the invention being to provide a set of rolls mounted in suitable housings, so that a rail can be fed in at one end and come out at the other, with any bends or irregularities it may have possessed entirely removed. As iron or steel when cold will not yield readily to compression, it has been found difficult to straighten railway-rails that have become bent or twisted in a cold state by passing them through the ordinary contrivances for that purpose, which have rigid and unadjustable bearings, without serious injury to the apparatus; hence the necessity for a machine that will accomplish the purpose with facility and without injury to any of its parts. These results are sought to be accomplished by the device illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a set of rolls for that purpose. Fig. 2 is an end view of the same; Fig. 3, a sectional view of the box and cushions, hereinafter described; Fig. 4, an end sectional view through a set of rolls; and Fig. 5, a top view of a portion of the machine with the housings partly removed, showing the passage of a rail through the machine.

A A is a series or train of rolls of any desired number of pairs turning horizontally on vertical shafts, and operated from below by suitable bevel or miter gearing. The peripheries of these rolls are turned to conform to the shape of the sides of ordinary railroad-rails, as will be seen by referring to Figs. 2 and 4.

B B is a series of rolls turning vertically on

horizontal bearings, and forming the top and bottom of a passage-way for the rails to be straightened. The position and use of these rolls are more clearly shown in Figs. 4 and 5, where it will be seen that the rolls A A and B B, when in position, leave an open space between them resembling a cross-section of an ordinary T railroad-rail. Both sets of rolls A and B are mounted in the same frame or housing, and arranged in groups of four each, the first and last sets having their axes in the same plane, as is shown in Fig. 4, the intermediate set having the pairs arranged alternately. The first set of four act as draw-in or feed rolls, and the last as dischargers, the intermediates as straighteners. All the boxes or bearings for rolls A B are made adjustable by means of screws and hand-wheels, or other suitable contrivance, so as to be regulated to pass rails of any dimensions that may be required to be operated on. This adjustment is partly shown in Figs. 1 and 2, and each box of the series is backed up with a suitable rubber or other spring for the purpose of relieving any extra strain that may be caused by the passage of rails having an irregular or twisted outline, thus preventing any extra or dangerous strain on the driving-gears or other parts of the machine. A section of these boxes is shown in Fig. 3.

The operation of this machine will be readily understood. When a rail is placed between the first set of rolls when in motion, it will be drawn in and through the train, and finally discharged at the outer end by the agency of the last set, after having been so pressed on all sides, having bends or curves, by the intermediate rolls, an equidistant point between being a straight line, that it will leave the train quite straight and even throughout.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent, is—

In a machine for straightening railroad-rails, a roll-train of any desired number of rolls arranged in sets of four each, two revolving vertically and two horizontally, the first and last sets having each their axes in

the same plane, the intermediate sets having the pairs arranged alternately, the peripheries of said rolls when viewed from one end of the train showing a space between them  
5 corresponding with a cross-section of an ordinary T railroad-rail, as shown in Figs. 2 and 4, the boxes or bearings supporting said rolls being adjustable, the whole constructed

and arranged substantially as shown and described, and for the purpose stated. 10

This specification signed and witnessed this 10th day of May, 1883.

DAVID WALTERS.

Witnesses:

GEO. C. TRACY,  
A. E. BUELL.