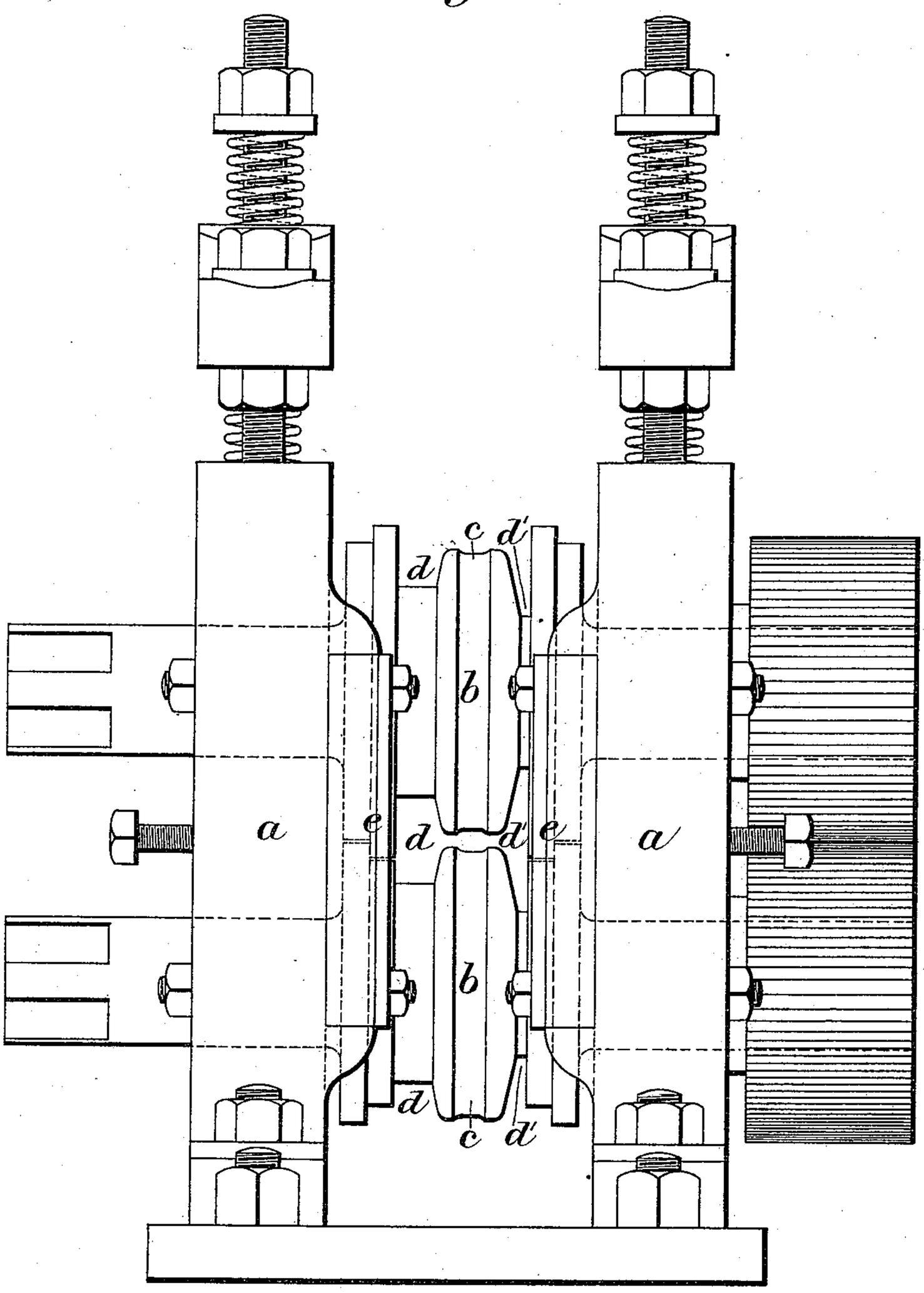
(No Model.) 2 Sheets—Sheet 1.

W. R. JONES.

ART OF MANUFACTURING RAILROAD RAILS.

No. 350,594. Patented Oct. 12, 1886.

Fig. 1.



Witnesses.
Harry L. Gill
W. B. Corwin

Inventor.
William R. Jones
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his Attorneys

(No Model.) 2 Sheets—Sheet 2.

W. R. JONES.

ART OF MANUFACTURING RAILROAD RAILS.

No. 350,594. Patented Oct. 12, 1886.

Fig. 2.

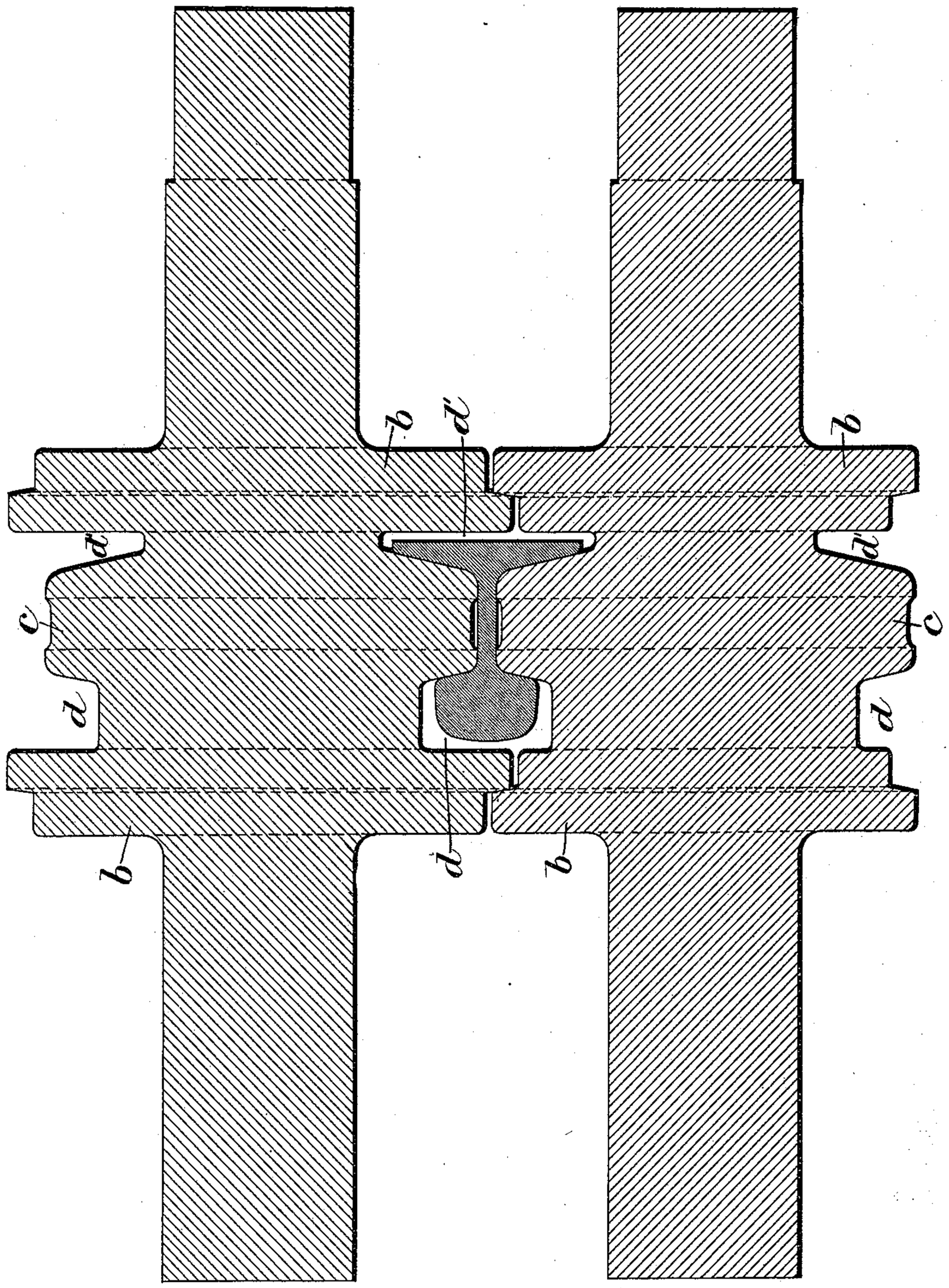
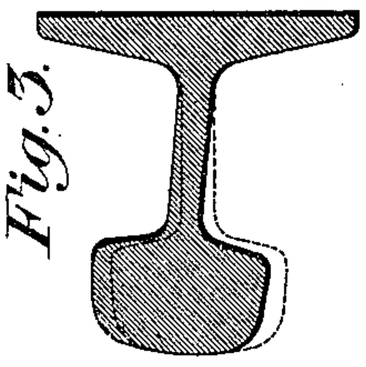


Fig. 3.



Witnesses.

Mary L. Gill

W. B. Corwin

Inventor.

William R. Jones

by Bakewell & Kerr

his Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM R. JONES, OF BRADDOCK, PENNSYLVANIA.

ART OF MANUFACTURING RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 350,594, dated October 12, 1886.

Application filed June 24, 1886. Serial No. 206,093. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. JONES, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in the Manufacture of Railroad-Rails; and I do hereby declare the following to be a full, clear, and exact description thereof.

In rolling railroad-rails it often happens that as the rail comes from the last or finishing pass its head will be bent or careened over to one side, so that the rail is lop-sided, and when laid and joined the fish-bars will not fit on both sides of the rail. The fish-bar may fit on one side against the web and fail to touch the head and flange, while on the other side it may fit tightly on the head and flange and lack one-sixteenth of an inch, or more, of touching the web. Rails of this sort make poor joints on the tracks, and because of their unfitness for use entail a heavy loss on the manufacturer. A cross-section of such a careened rail is shown in Fig. 3.

The object of my invention is to improve the manufacture of railroad-rails by providing a method for reducing them to symmetrical shape and making them uniform on both sides, which consists in passing them between rolls of peculiar construction.

I will describe my invention with reference to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of rolls adapted for carrying the invention into practice. Fig. 2 is an enlarged detached sectional view of the rolls, showing the rail in vertical cross-section. Fig. 3 is a vertical cross-section of a careened or lop-sided railroad-rail.

Like letters of reference indicate like parts in each.

In practice I run the rail as it leaves the finishing-rolls onto a table, where its ends are sawed off. It is then passed through the rolls shown in the drawings, where *a* represents the housings, and *b b* the rolls. These rolls are provided with tongues *c*, the shape and angles of each of which are substantially identical with the desired shape of the fish-plate space on one side of the rail—*i. e.*, the space included between the inner sides of the head and flange and defined by their inner angles of divergence from the web. At the sides of the tongues *c c* are grooves *d d'*, the grooves *d* forming an opening for the head of the rail, but of somewhat larger area than the cross-section of the head, while the grooves *d'* form an opening for the flange, though of larger area than the cross-section of the flange. As the rail is passed between the rolls the tongues *c* engage the inner sides of the head and flange, and if the rail is careened the tongues bend the head or flange, or both, so as to reduce the rail to a symmetrical shape, as will be understood, the enlarged spaces *d* and *d'* affording room for the flange or head to be straightened up the required degree. I have shown the spaces *d* and *d'* consisting of grooves inclosed by collars on their outer sides. These, however, while convenient, are not essential to my invention. In cases where the head of the rail is careened and the flange is properly at right angles to the web it is possible to employ a roll, wherein the space for the head is larger than its area in cross-section, so as to permit it to be straightened up, while the space for the flange is no larger than its area in cross-section. So, also, if the head be normal and the flange be careened, it is possible to make the space in the roll for the head of the same area as the area of the cross-section of the head.

The rolls are simple and easily operated, and practical experience has demonstrated them to be of great utility, and to be productive of very considerable saving of expense to the manufacturer. Their effect is not only to make the fish-bar spaces at the sides of any given rail the same, but to make each rail uniform with the others, and if the size of the fish-plates be constant there will be no difficulty in making perfect joints on the track. If desired, lateral guides *e*—such as shown in William Clark's patent, No. 258,376—may be used in connection with these rolls, in which case they will act not only to straighten the rail, as I have described, but will also serve as a cambering-machine to give the rails the proper curve to allow for contraction in cooling.

With proper modifications the rolls may be

adapted to use in straightening up heavy structural iron and steel shapes as well as railroad-rails.

I claim—

An improvement in the art of making railroad rails, which consists in straightening up careened rails by passing them between rolls having tongues which conform in shape to the desired shape of the sides of the rail, and are adapted to engage the inner opposite sides of the head and flange of the rail to be straightened, and having spaces at the sides of the tongue for the passage of the head and flange of the rail, one or both of which spaces is or are of larger area than the cross-section of the part or parts of the rail which passes therethrough, to permit straightening up of the rail without having formative action on the head or flange thereof, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 17th day of June, A. D. 1886.

WILLIAM R. JONES.

Witnesses:

W. B. CORWIN,

JNO. K. SMITH.