(No Model.)

J. W. WATSON.

GUIDE FOR ROLLING MILLS.

No. 457,685. Patented Aug. 11, 1891.

Fig. 1.

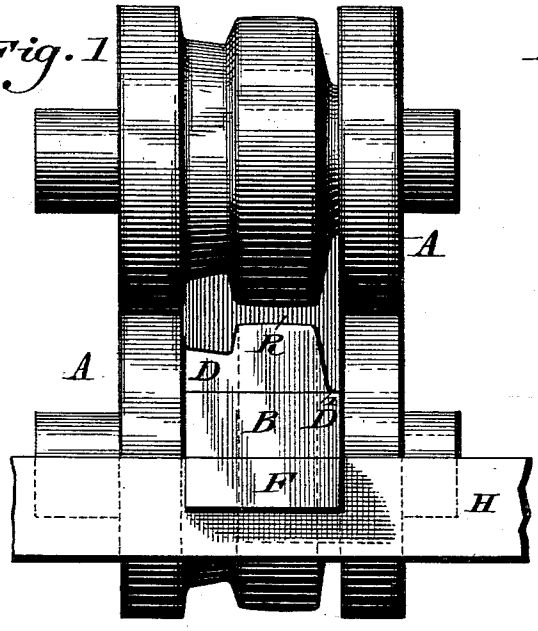


Fig. 2.

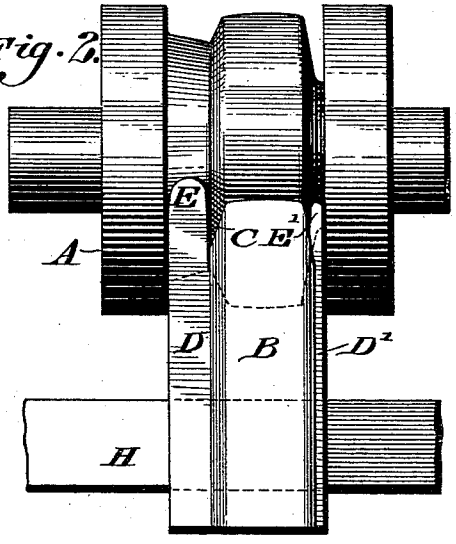


Fig. 3.

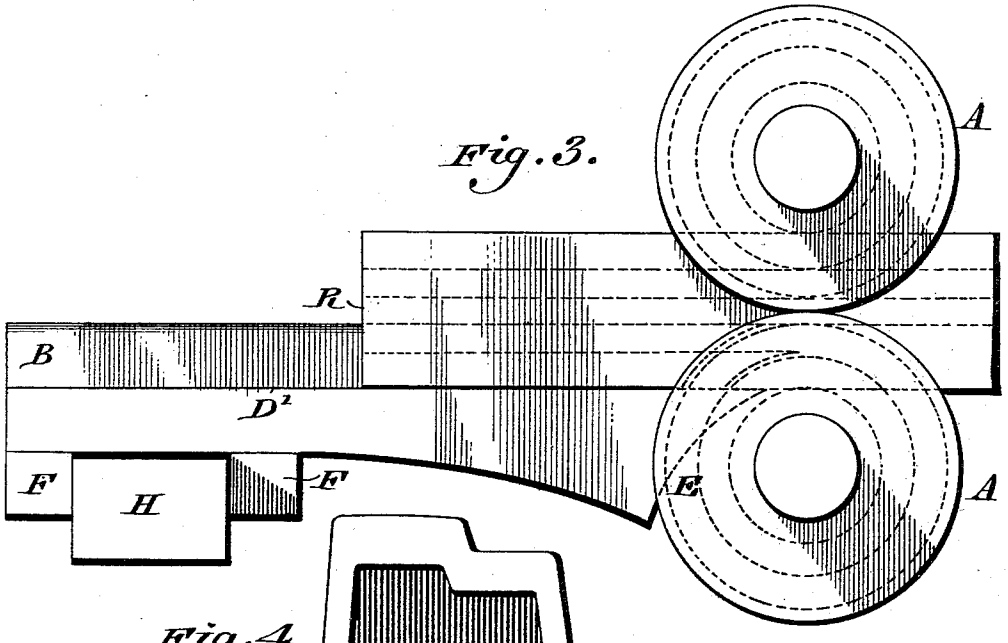
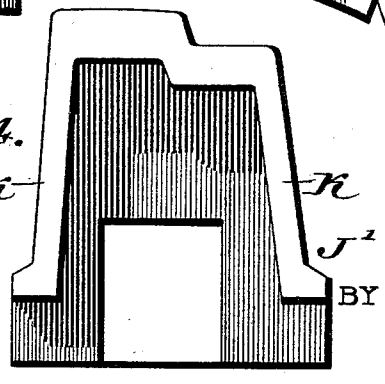


Fig. 4.



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GUIDE FOR ROLLING-MILLS.

SPECIFICATION forming part of Letters Patent No. 457,685, dated August 11, 1891.

Application filed October 15, 1890. Serial No. 368,178. (No model.)

To all whom it may concern:

Be it known that I, JAMES WESLEY WATSON, a citizen of the United States, residing at Chester, in the county of Delaware and State of Pennsylvania, have invented a new and useful Improvement in Guides for Rolling-Mills, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a guide for rolling-mills for manufacturing railway-rails, the same being adapted to support the web, the head, and the flange or base portions of the rails.

Figure 1 represents a front view of milling-rolls, with an end view of a guide embodying my invention, the rail thereon being shown in section. Fig. 2 represents a top view of the lower roll and guide shown in Fig. 1. Fig. 3 represents a side view of two milling-rolls with a guide and support therefor, said guide having a portion of a rail thereon. Fig. 4 represents a sectional view of a modified form of guide and rail.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates rolls for forming a railway-rail, and B a guide on which the rail is supported as it is passed between said rolls. The said rolls are provided with any suitable journal-bearings and have connecting gearing and operating mechanism, so as to be rotated together; but as the said gearing and mechanism may be and is of any usual and well-known character and is not claimed *per se* herein the same is not shown nor further described. The guide B, which is preferably located at right angles to the rolls, has its end adjacent to the rolls formed with a curved edge C, corresponding in shape to the periphery of the roll, and the sides of the same are provided with projecting portions, forming the shoulders D and D′, on which the head and base, respectively, of the rail are guided. The said shoulders extend beyond the end of the guide adjacent to the rolls and have curved ends E and E′, respectively coinciding with the adjacent rolls. The said guide is provided on the under side with the flanges F, extending across the same and forming between them a recess, whereby the said guide may be reliably secured to a suitable cross-bar or support H, inserted in said recess. The guide B is secured in place with its curved ends adjacent to the rolls, (see Fig. 2,) so that the rail R as it leaves the rolls will come in contact with and be guided thereon, the web of the rail resting on the main portion of the guide and the head and base on the shoulders. It will be seen that in case of the breaking of the curved ends E of the shoulders the curved ends C of the body of the guide serve to sustain and guide the rolls.

The guides may be formed either of cast or wrought iron or of steel, if so desired. By forming a guide of a central portion with shoulders having curved ends fitting to the rolls, as described, great strength and wear are obtained, and also a saving of the rolls from being cut by projecting portions of the guide. The rails can also be readily handled on the said guides, and the latter, owing to their simplicity of construction, are kept in proper condition for service.

In the modification shown in Fig. 4, which is for guiding a street-rail from the rolls, the shoulders J and J′ thereof are of equal height, so that the flanges K of the rail will be guided thereon, the web or main portion of the rail resting on the main or central portion of the guide.

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

1. A guide for a rolling-mill, having parts adapted to sustain the head-flange or base and web of a rail while being rolled, substantially as described.

2. A guide for a rolling-mill, having a body portion and side flanges, said parts forming supports for the head-flange and web of a rail while being rolled, substantially as described.

3. A guide for a rolling-mill, having a curved end coinciding with the periphery of a roll adjacent thereto, substantially as described.

4. A guide for a rolling-mill, having a body portion with a curved end coinciding with the periphery of an adjacent roll and provided on

its under face with means for securing the same to a suitable support, said parts being combined substantially as described.

5. A guide for a rolling-mill, having its body portion adapted to support the web of a rail and its front end coinciding with the contour of the adjacent roll, substantially as described.

6. A guide for a rolling-mill, having a main portion with side shoulders, said shoulders having curved ends coinciding with the contour of the adjacent roll, substantially as described.

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Witnesses:

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