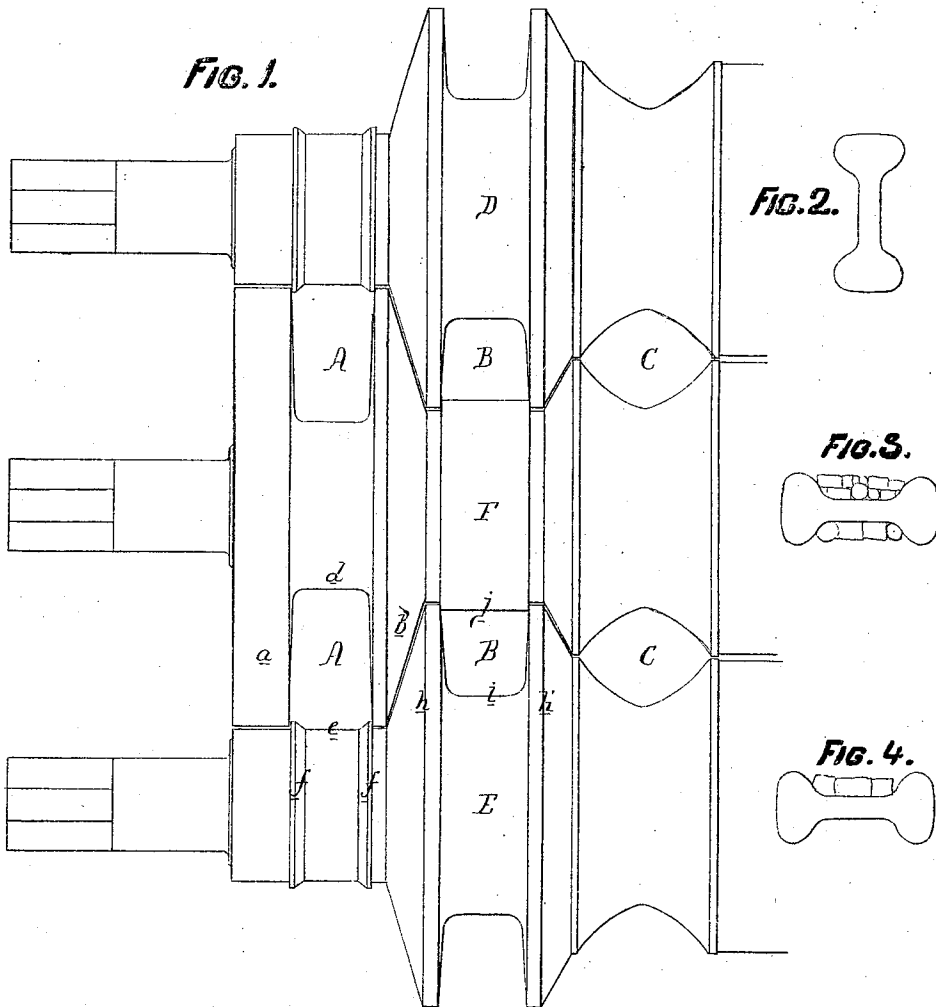


D. Eynon,

Roughing Roll.

No. 102670.

Patented May 3, 1870.



Witnesses *Wm. Allen*
John Parker

David Eynon
by his Atty
Houston and Son.

UNITED STATES PATENT OFFICE.

DAVID EYNON, OF RICHMOND, VIRGINIA, ASSIGNOR TO TREDEGAR COMPANY, OF SAME PLACE.

IMPROVED ROUGHING-ROLL.

Specification forming part of Letters Patent No. 102,670, dated May 3, 1870.

I, DAVID EYNON, (assignor to the TREDEGAR COMPANY,) of Richmond, county of Henrico, State of Virginia, have invented Improved Roughing-Rolls, of which the following is a specification:

Nature and Object of the Invention.

My invention consists of certain improved roughing-rolls, constructed as fully described hereafter, so that old double-headed rails, or iron of approximate form, or piles, may be so rapidly converted into billets that the latter can at once, and without reheating, be converted by ordinary rolls into merchantable bars.

Description of the Accompanying Drawing.

Figure 1 is a side view of my improved rolls. Fig. 2 represents a section of a double-headed rail which may be converted rapidly into a billet by means of the rolls; and Figs. 3 and 4 are sections of piles, each composed of a double-headed rail with other scrap-iron, the said piles being arranged to be acted on by the improved rolls.

General Description.

The highest roll, D, and lowest roll, E, are precisely alike, and are provided with such grooves and flanges in relation to those of the intermediate roll, F, that open spaces A, B, and C are presented, through which the rail or pile can be passed for conversion into billets, the latter to be converted by ordinary rolls into merchantable iron without reheating. Each space A approximates an oblong in form, and is bounded laterally by the deep flanges *a* and *b* of the intermediate roll, and vertically in one direction by the bottom, *d*, of the groove of the intermediate roll and by

the portion *e* of the lower roll, and it will be observed that this portion of the lower roll has slight flanges *f f*, overlapping the said flanges *a* and *b* of the middle roll. The adjacent space B, almost square, is shorter and wider than the space A, and is bounded laterally by the deep flanges *h* and *h'* of the lower roll, and vertically by the bottom, *i*, of the groove in said roll and by the portion *j* of the middle roll, the said flanges *h* and *h'* penetrating a short distance into the grooves of the intermediate roll. The sides of the deep flanges are inclined, the bottoms of the spaces are rounded, and the edges of the fillets or shallow flanges *f* are beveled, as shown in the drawing. The next space, C, is diamond-shaped, and is formed by suitable grooves in the lower and intermediate rolls.

Hitherto I have referred to the lower spaces only as being formed by a combination of grooves and flanges. In the lower and middle rolls, however, the upper spaces are formed by a precisely similar combination.

The groove C and the remainder of the grooves in the rolls are successively reduced in size, so as to draw the billet formed in the grooves A and B into merchantable bars in the ordinary manner.

Claim.

The three-high rolls constructed, as set forth, with grooves A, B, and C, of the forms herein shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID EYNON.

Witnesses:

J. E. TANNER,
H. W. LYON.