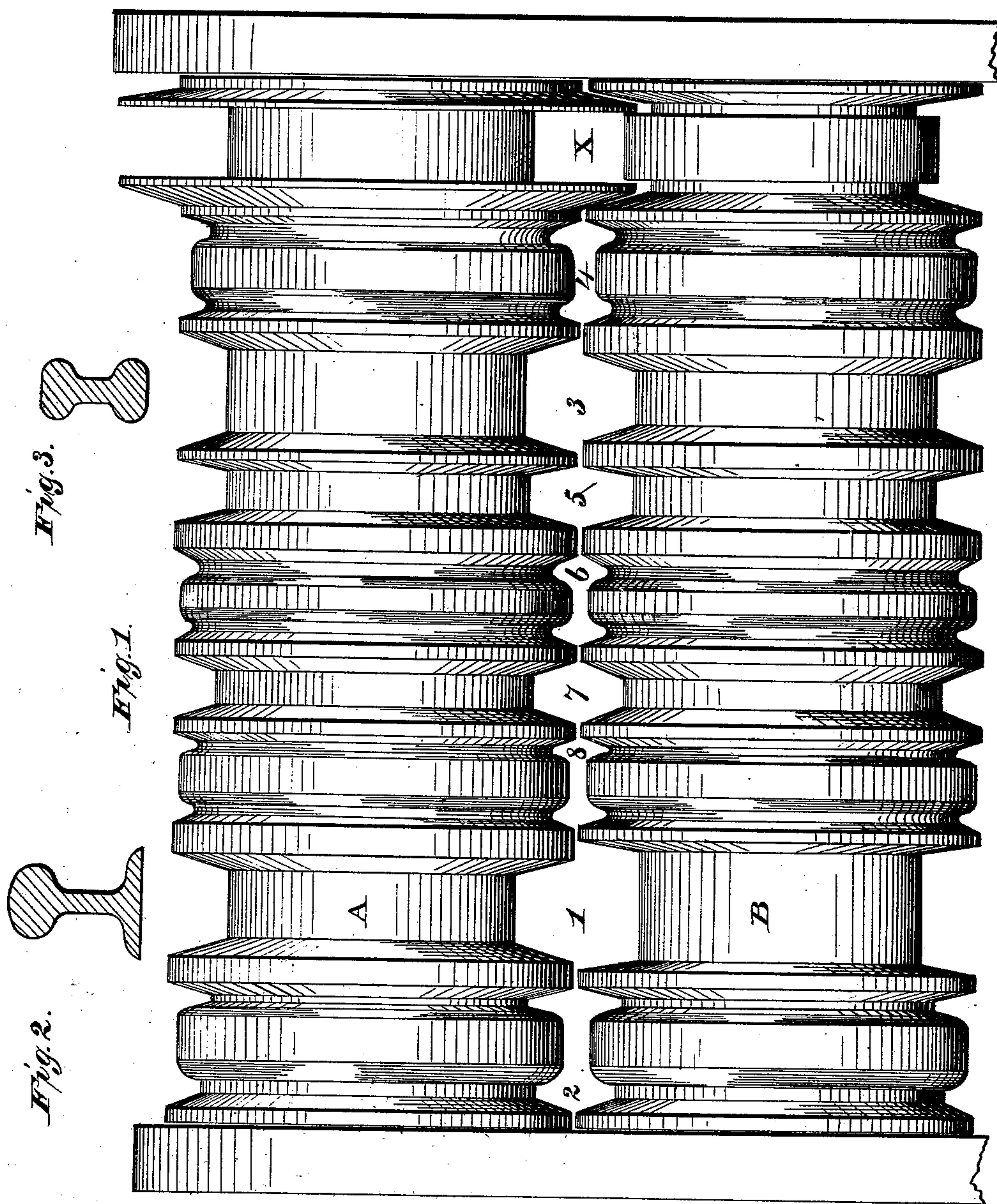


M. McDOWELL.  
Rolls for Utilizing the Fag Ends of Steel Railroad  
Rails.

No. 215,065.

Patented May 6, 1879.



Witnesses:  
H B Whitney  
A G Burton

Inventor:  
Mabel M McDowell



# UNITED STATES PATENT OFFICE.

MALCOLM McDOWELL, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ROLLS FOR UTILIZING THE FAG-ENDS OF STEEL RAILROAD-RAILS.

Specification forming part of Letters Patent No. **215,065**, dated May 6, 1879; application filed July 1, 1878.

*To all whom it may concern:*

Be it known that I, MALCOLM McDOWELL, of Chicago, Cook county, Illinois, have invented a new and useful Improvement in Rolls for Utilizing the Scrap or Fag Ends of new Steel Railroad-Rails or the Scrap of Old Steel Rails in the manufacture of double-flanged plow-beam shapes or billets, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

Referring to the drawings hereunto appended and making part hereof, A B, Figure 1, represent a pair of cast-iron rolls, having the usual housings, and to have the customary couplings and gearings to connect them with the motive power.

1, 2, 3, 4, 5, 6, 7, and 8 are the grooves or passes, through which, in the order named, and when the rolls are in suitable motion, the heated scrap or fag end of the steel rail or piece of scrap-rail is made to pass. These grooves or passes are of such form, dimensions, and proportions as, when the scrap-end is drawn through them, will upset and at the same time elongate the neck or web of the rail-end, compress and draw out the head and foot of it, and at the same time transfer a portion of the metal of the head and foot into the neck or web, concurrently with elongating and upsetting the latter, and all this in such wise as to transform the rail-end, as shown at Fig. 2, into a double-flanged plow-beam shape or billet of the desired dimensions and proportions, as shown at Fig. 3.

I am aware of the patent granted John P. Verree and William A. Mitchell, of Philadelphia, Pennsylvania, (No. 65,968, of June 18, 1867,) for improvement in rollers for rolling old rails, and of the patent granted Henry Chisholm, of Cleveland, Ohio, (No. 124,116, of February 27, 1872,) for improvement in rolls

for utilizing the fag-ends of railroad-rails. In each case the thing to be made is a bar or rod for general purposes—in the case of the former a bar or rod of iron made by lapping or folding inward the edges or sides of the flange (foot) of the rail, and in the latter a bar or rod made by compressing and rolling the head, neck, and foot (flange) of the rail-end, so as not to lap or fold into each other during the progress of conversion to a bar or rod, thus securing a uniform bar or rod without seams or flaws.

I disclaim both the foregoing, my object not being to produce a bar or rod, either a uniform one without seams or flaws, or otherwise, but to transform one irregular-shaped piece of steel into another irregular-shaped piece for a special purpose.

I do not confine myself to the exact outline or proportion of the grooves or passes, or the invariable succession in their use, as they may have to be varied to suit the different sizes and shapes of the fag or scrap ends; and as it may be desirable in certain cases to slit away a strip from each side of the foot, instead of compressing and drawing the whole of the metal of the foot into the required shape or billet, provision is made at X to pass the fag-end through a groove to cut off such portion of the sides or edges of the foot as may be found expedient.

I do not claim the mere form of the double-flanged shape, as shown at Fig. 3.

I claim—

The rolls A B, with their system of grooves or passes, of the form, proportion, and relation described and shown herein, substantially as and for the purpose set forth.

MALCOLM McDOWELL.

Witnesses:

H. G. HOWE,  
J. BUCKINGHAM.