

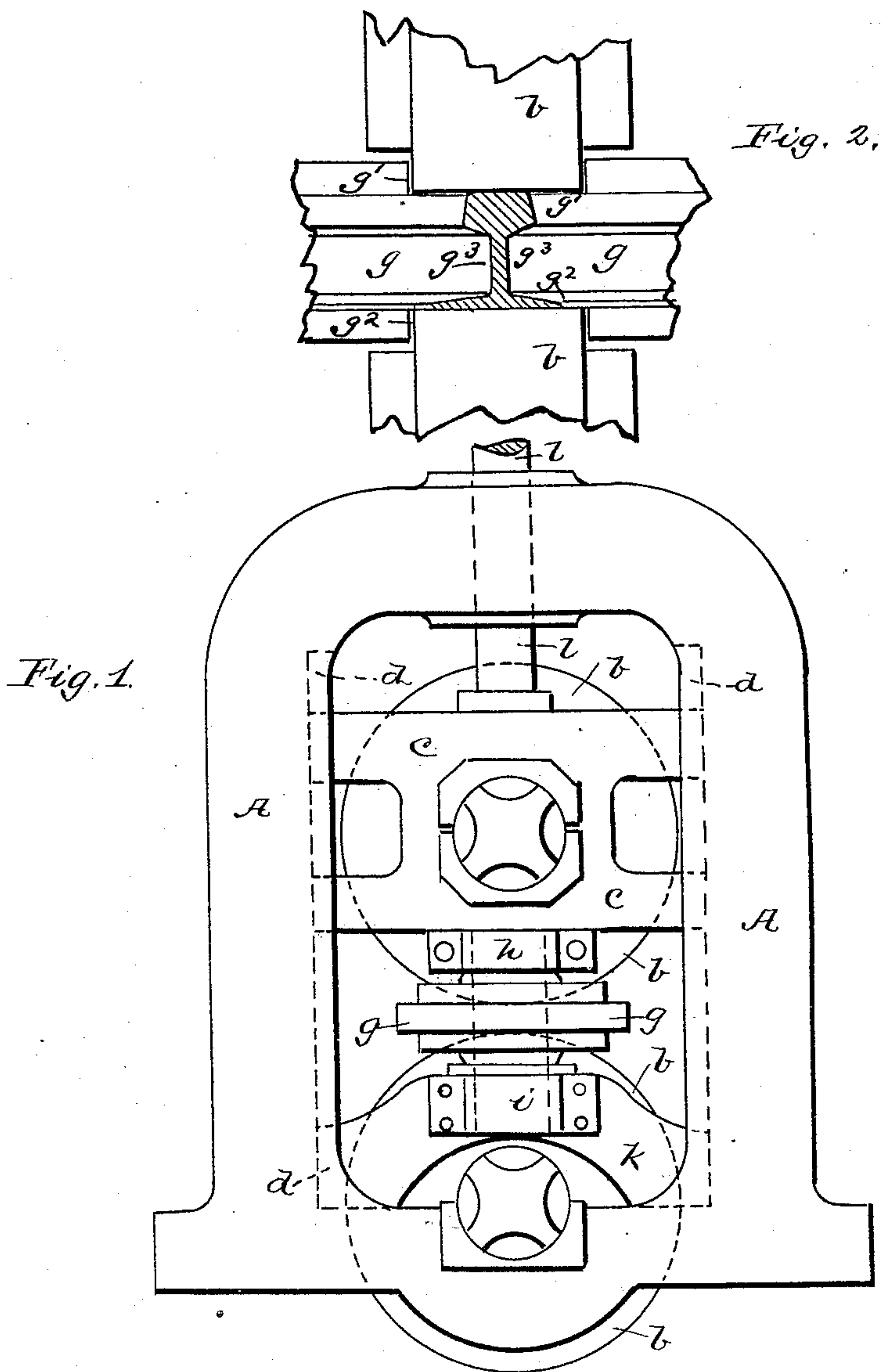
(No Model.)

C. R. BRYSON.

ROLLS FOR REDUCING OLD RAILWAY RAILS.

No. 452,095.

Patented May 12, 1891.



Witnesses:  
M. E. Harrison.  
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# UNITED STATES PATENT OFFICE.

CHARLES RICHARD BRYSON, OF PITTSBURG, PENNSYLVANIA.

## ROLLS FOR REDUCING OLD RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 452,095, dated May 12, 1891.

Application filed February 18, 1889. Serial No. 300,387. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES RICHARD BRYSON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rolls for Reducing Old Railway-Rails; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The present improvement relates to rolls for reducing old worn railway-rails to smaller sizes; and it consists of two vertical reducing plain-faced rolls having their smooth peripheries parallel with each other, and two horizontal rolls situated on opposite sides of the vertical rolls in a horizontal plane between the contiguous surfaces thereof, and having their peripheries grooved to correspond to the contour of the sides or faces of the rail, whereby the two vertical rolls are adapted to bear on the plain top and bottom faces of the rail to compress and reduce the same vertically while the horizontal grooved rolls support the rail to obviate warping or buckling thereof.

In the accompanying drawings, Figure 1 is an end elevation of my improved rolls, constructed in accordance with my invention. Fig. 2 is an enlarged detail view showing the position occupied by the rail while reducing the same.

To put my invention into practice I provide a housing A and mount therein two rolls *b*, the top roll of which is secured in sliding frames *c* in a manner that will admit of the same being adjusted vertically. The vertical reduction-rolls *b b* are provided with smooth plain peripheries, which are arranged in parallel planes to take firm bearing against the top and bottom of the rail to be reduced, and the horizontal rolls *g g* have their surfaces grooved to conform in cross-section to the side faces of the rail, the two side portions of each roll having the grooves *g' g<sup>2</sup>* and the intermediate annular projection *g<sup>3</sup>*. (See Fig. 2.) The grooves *g' g<sup>2</sup>* conform, respectively, to the head and foot of the rail, and the projection *g<sup>3</sup>* is plain or smooth to

conform to the shape of the web, whereby the horizontal rolls closely embrace the sides of the rail to prevent warping or buckling of the rail while it is being reduced vertically. These frames *c* are secured in grooves *d*, formed in the housing A. The set of smaller rolls *g* are secured in a horizontal position at either side of the first-described rolls *b*. These small rolls *g* are mounted on short shafts having bearings *h i* in the frames *c* at the top and small bridges *k* at the base.

In operation the top roll *b* is allowed to elevate itself while the rail is making its first pass. This is accomplished by releasing the pressure of the screw *l* from the top of the frame *c*. This screw *l* is gradually worked down in the same manner as in ordinary rolls, reducing the rail vertically and at the same time elongating the same. The side rolls *g* serve to support the web of the rail and prevent the same from warping.

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

The rolls herein shown and described for reducing old railway-rails, the same comprising the frame or housing, the lower and upper vertical rolls *b b*, having the plain smooth peripheries arranged in parallel planes with each other, the upper roll being journaled in vertically-movable bearings, the two horizontal rolls *g g*, having the grooved peripheries which conform to the contour of the sides or faces of the rails and are arranged in the same horizontal plane to extend between the plain parallel surfaces of the reducing-rolls, stationary bearings in which the horizontal rolls are journaled, and a screw for positively depressing the upper vertical roll, whereby the vertical rolls are adapted to reduce the cross-sectional area of an old railway-rail and the horizontal rolls take bearing against the sides of the rail to obviate warping or buckling thereof, as herein shown and described.

In testimony that I claim the foregoing I hereunto affix my signature this 11th day of December, A. D. 1888.

CHARLES RICHARD BRYSON.

In presence of—

C. C. LEE,  
M. E. HARRISON.