

W. J. LEWIS.

ROLLS FOR ROLLING BLANKS FOR POLE-CAPS.

No. 169,646.

Patented Nov. 9, 1875.

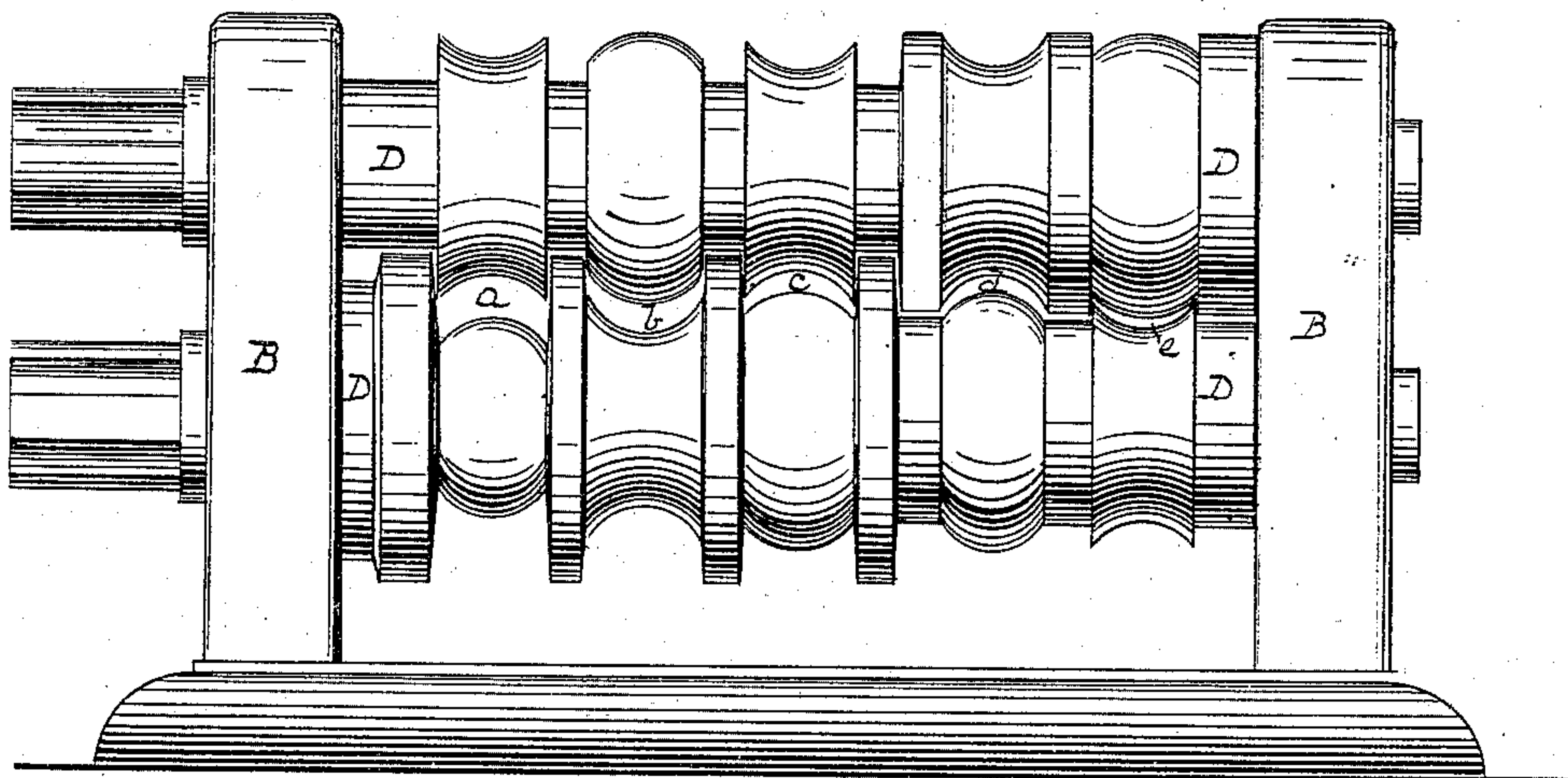


Fig. 1.

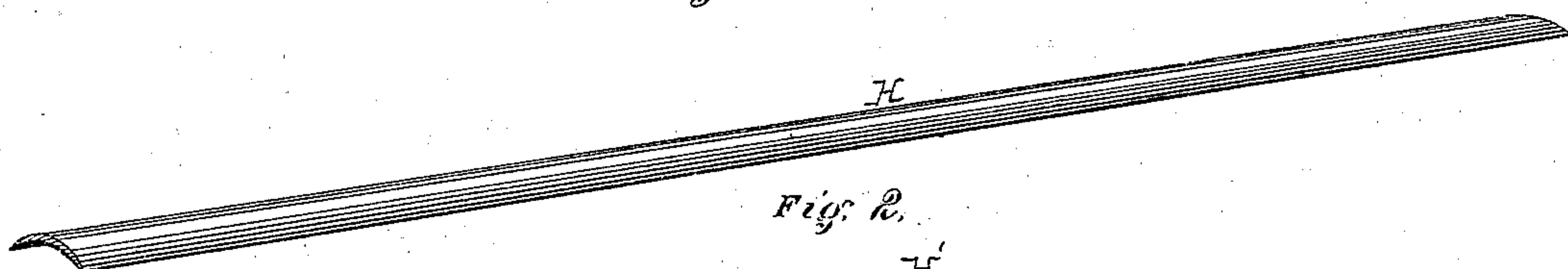


Fig. 2.



Fig. 3.

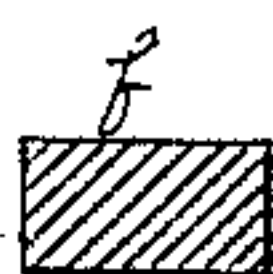


Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.

Witnesses: *Claudius Parker* Inventor: *William J. Lewis*  
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his Atty.

# UNITED STATES PATENT OFFICE.

WILLIAM J. LEWIS, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN ROLLS FOR ROLLING BLANKS FOR POLE-CAPS.

Specification forming part of Letters Patent No. **169,646**, dated November 9, 1875; application filed September 11, 1875.

*To all whom it may concern:*

Be it known that I, WILLIAM J. LEWIS, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Metal Rolls for Rolling Blanks for Pole-Caps; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a side elevation of a pair of my improved rolls. Fig. 2 is a perspective view of a bar as produced from the rolls of Fig. 1, and from which the blanks are to be cut. Fig. 3 is a like view of one of the blanks. Fig. 4 is a cross-section of the bar or billet employed in the operation, and Figs. 5 to 9 show like views of the bar at the successive passes or stages of the operation.

My invention relates to the manufacture of rolled-iron caps for the ends of wagon-tongues and carriage-poles. Two of such caps are commonly arranged to go on the end of the tongue or pole, one on the upper and one on the lower side, and the outer or forward ends are connected together by a U-shaped clip-connection, the ends of the U being welded to the ends of the caps.

The product of my rolls is sold in bar form as an article of manufacture and trade; or, in some cases, the bars are cut into blanks before leaving the manufacturer, and sold either welded up or unwelded, as the purchaser may prefer.

In the housings B, which are of any suitable form, I mount a pair of grooved cylindrical rolls, D, such rolls having a series of grooves and collars, substantially as shown, whereby a suitably-shaped billet, *f*, may be gradually reduced, drawn, and shaped by successive passes to the form of bar shown at H, crescent-shaped in cross-section. The number of

these passes, as well as the degree of curvature of the rolling-surfaces at each pass, may be varied somewhat within the knowledge of the skilled mechanic; but I deem the arrangement shown to be, perhaps, the best for the purpose, wherein, through the opening at *a*, the billet *f* (being first heated) is brought to a concave and convex form on its opposite faces, with a slight reduction, as shown at *a'*. In the succeeding passes through the openings *b c d e*, in any desired number, the drawing and reducing operations are continued, with the additional effect of increasing the convexity of the outer surface, (in cross-section,) as related to the concavity of the inner surface, the form the bar assumes after each such pass being substantially indicated at *b' c' d' e'*. The finished bar H, as produced at the last pass, is crescent-shaped in cross-section. This product of the rolls is sold in bars of this form as an article of trade, or is cut into blanks H' of the desired length, and thus sold, as may be ordered; or, when so preferred by the purchaser, the blanks may be welded up before shipment, so as to be at once ready for use. The same improvements may also be advantageously applied to the making of caps for neck-yokes, and such use is hereby included as within the scope of my invention.

The work of finishing the blanks, punching bolt-holes, &c., is to be done in the usual or other desired way.

I claim herein as my invention—

A pair of metal rolls having a series of grooves for the gradual reduction of a billet from a rectangular to a crescent shape in cross-section, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WM. J. LEWIS.

Witnesses:

HARRY J. SCHULTZ,  
CLAUDIUS L. PARKER.