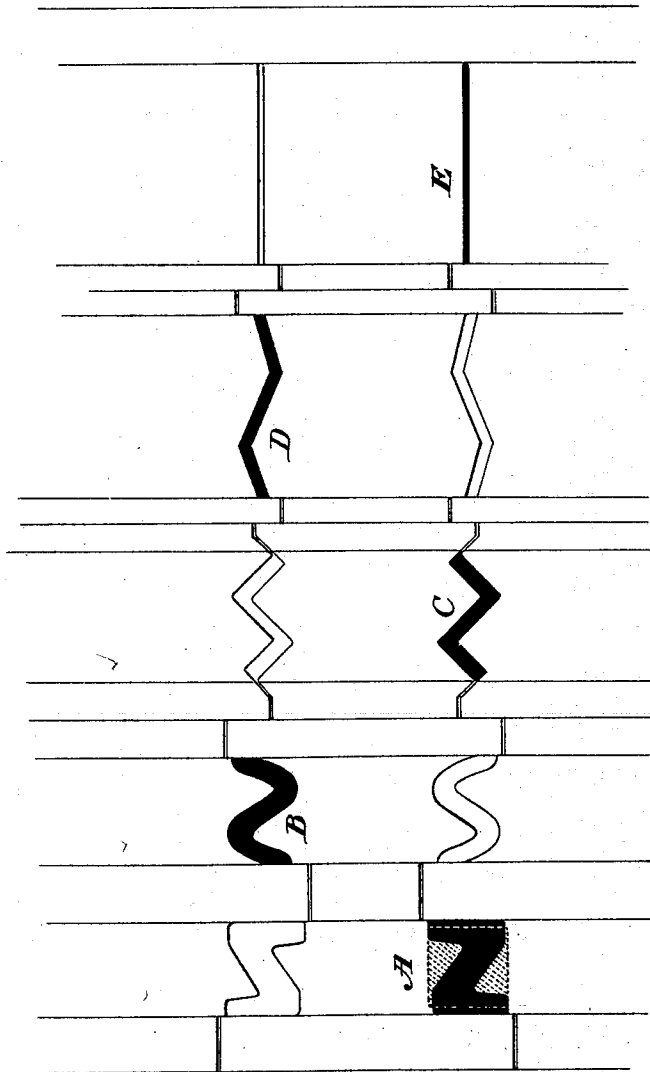


(No Model.)

J. GUEST.
ROLLS.

No. 596,403.

Patented Dec. 28, 1897.



WITNESSES

H. M. Corum
S. S. St. John

INVENTOR

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UNITED STATES PATENT OFFICE.

JOSEPH GUEST, OF HOMESTEAD, PENNSYLVANIA, ASSIGNOR TO THE CARNEGIE STEEL COMPANY, LIMITED, OF PITTSBURG, PENNSYLVANIA.

ROLLS.

SPECIFICATION forming part of Letters Patent No. 596,403, dated December 28, 1897.

Application filed April 27, 1897. Serial No. 634,088. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH GUEST, of Homestead, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Rolls, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, in which the figure is a diagrammatic view showing rolls provided with my improved set of passes for rolling flats from blooms or billets.

My invention relates to the rolling of flats, such as used in strips for pipes in tin plates, &c.; and it is designed to provide an improved series of passes in the rolls for this purpose whereby the reduction can be made more quickly and easily than with the passes formerly employed.

In the drawing, A, B, C, D, and E represent the successive passes within which the metal is rolled. The dotted figure at the first pass represents a substantially square or rectangular bloom or billet, which in this first pass is formed into an N, Z, or S shape, a pair of non-registering grooves being formed longitudinally in the opposite faces of the metal. The passes B, C, and D spread the metal still further laterally and lessen its thickness, and the pass E forms the flat sheet or plate.

The operation of rolling is the same as usual, the metal being passed successively through the five passes which form the flat sheet from the square billet.

The advantages of my invention result from the forming of the upper and lower longitudinal grooves in the metal and the general Z, S, or N shape of the intermediate passes.

The number of passes may be varied according to the size of the bars required, the angles may be sharp or rounded, and many other variations will suggest themselves to the skilled mechanic without departure from my invention.

What I claim is—

1. In apparatus for rolling flat sheets or bars, rolls having several passes and in which each of two adjoining rolls in the first pass is provided with a single annular projection arranged to form a longitudinal groove in the metal and succeeding passes having circumferential projections arranged to give an approximately Z, S or N shape to the metal.

2. In apparatus for rolling flat sheets or bars, a set of rolls in which the first pass is arranged with annular projections to form a single upper and lower longitudinal groove in the metal, intermediate passes of approximately Z, N or S shape, and a final pass arranged to flatten the Z, S or N shape.

3. In apparatus for rolling flat sheets or bars, rolls having at the first pass annular projections arranged to form non-registering single upper and lower longitudinal grooves in the metal, intermediate passes of Z, N or S shape, each successively flatter than the preceding one, and a flat pass arranged to flatten the metal into a sheet or bar.

In testimony whereof I have hereunto set my hand.

JOSEPH GUEST.

Witnesses:

H. M. CORWIN,
C. BYRNES.