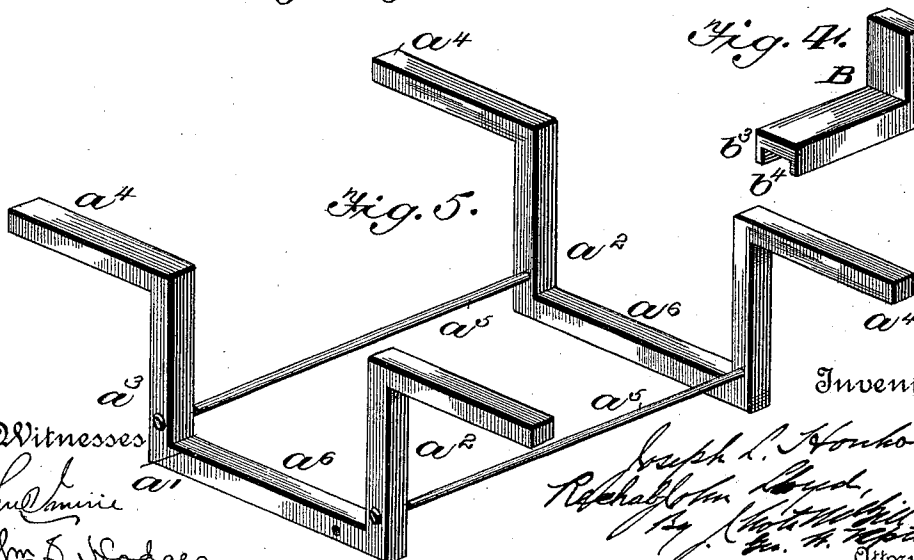
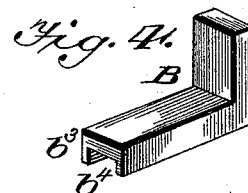
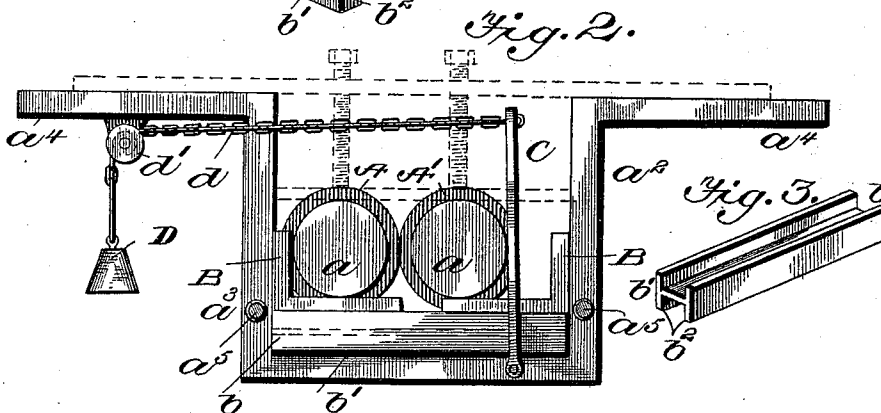
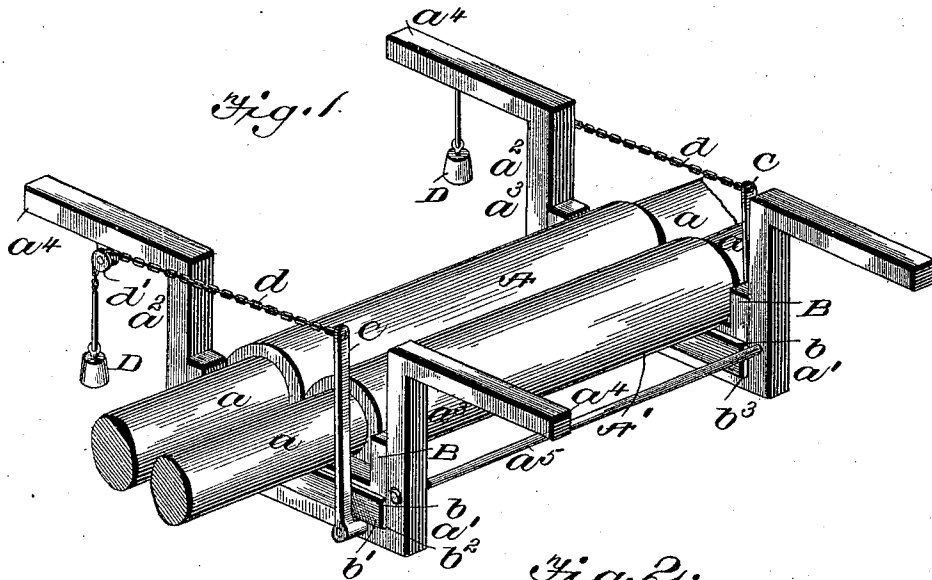


(No Model.)

J. L. HONHORST & R. J. LLOYD.
GALVANIZING MACHINE.

No. 581,421.

Patented Apr. 27, 1897.



Witnesses

John L. ...
Wm. D. Hodges

Inventors

Joseph L. Honhorst,
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By [Signature] Attorney.

UNITED STATES PATENT OFFICE.

JOSEPH L. HONHORST AND RECHAB JOHN LLOYD, OF NILES, OHIO.

GALVANIZING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,421, dated April 27, 1897.

Application filed February 26, 1896. Serial No. 580,894. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH L. HONHORST and RECHAB JOHN LLOYD, residing at Niles, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Galvanizing-Machines; and we 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 appertains to make and use the same.

This invention contemplates certain new and useful improvements in metal-coating machines.

It is well known that sheets of metal which are subjected to galvanizing processes are not of uniform thicknesses, and in consequence the action of the pressure-rolls between which the sheets pass as they emerge from the bath of molten metal is not the same on all sheets. Hence uniformity in results is rendered impossible and as heretofore practiced much loss is occasioned by imperfect treatment of some sheets of metal. The pressure-rolls through which these sheets are passed as they emerge from the bath are usually adjusted to accommodate as near as possible the average thickness of the metal sheets. In consequence plates of minimum thickness are not properly treated, while those of maximum thickness serve to wear out the rolls.

The object of our invention is to obviate these difficulties and provide simple and highly efficient means for effectively acting on all sheets of metal alike, resulting in uniformity of results.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a portion of a galvanizing-machine provided with our improvements. Fig. 2 is an end view of two pressure-rolls showing our improvements. Fig. 3 is a detail. Fig. 4 is a view in perspective of a slight modification. Fig. 5 is a view of the hanger-frame with rollers removed.

Referring to the drawings, A A' designate two pressure-rolls of a galvanizing-machine, the contacting faces of which are about on line with the surface of the molten metal employed in the galvanizing or tinning process.

These rolls are on the same horizontal plane and their journals *a* are supported by hanger-bars *a'* *a'* of a frame *a*². Each of these hanger-bars is of U form, having a central depending portion *a*³ and upper lateral extensions *a*⁴. The two hanger-bars are connected together and held in fixed relation by parallel cross-rods *a*⁵, which prevents any movement of one hanger-bar independent of the other. Ordinarily the journals of the rolls bear directly upon the horizontal member *a*⁶ of the depending portion *a*³ of the hanger-bars, but as wear occurs, resulting in unevenness of operation, we provide removable bearing-blocks B. Each block is of L shape and the lower horizontal portion fits snug between upper parallel flanges *b* of a removable bar *b'*, which latter also has lower flanges *b*², which hug the sides of member *a*⁶. In this way the blocks B can be readily replaced when worn and no injury is occasioned to the hanger-bars. In lieu of employing the double-flanged bar *b'* each block may have its lower horizontal portion *b*³ provided with depending parallel flanges *b*⁴ for fitting against the sides of member *a*⁶. (See Fig. 4.) The space between the vertical portions of the bearing-blocks is greater than the joint diameters of the journals of the two rolls. This is so in order to allow of horizontal adjustment of the rolls. To provide for an automatic adjustment of these rolls, so as to cause them to always bear with equal pressure against all plates or sheets that may be subjected to their action, we employ upright arms C, pivoted at their lower ends to members *a*⁶ and normally held firm against the journal of the roll A' by means of weights D, which are connected by chains *d* to the upper ends of these arms. These chains are passed over small pulleys *d'*. In this way the weights exert a constant pull on the upper ends of the pivoted arms, holding the two rolls in close contact with each other and yet allowing one of them, A', to separate from the other, A, sufficient in each instance for the passage of the metal sheets. Any variation in the thicknesses of the latter does not affect the results, since all sheets are subjected to equal roll-pressure.

We claim as our invention—

1. The combination with the frame and the

two pressure-rolls, of the arms pivoted at their lower ends to said frames adjacent to one of said rolls, chains, or the like, connected to the upper free ends of said arms, pulleys for said chains, and weights on the ends of the latter, substantially as set forth.

2. The combination with the hanger-bars having vertical and horizontal portions, and rolls having their journals supported by said hanger-bars, of right-angular bearing-blocks removably supported by said hanger-bars and interposed between the horizontal and vertical portions of the latter and said journals, as set forth.

3. The combination with the hanger-bars having vertical and horizontal portions and rolls having their journals supported by said hanger-bars of bearing-blocks extending over portions of the horizontal and vertical portions of said hanger-bars, and flanges holding said bearing-blocks on said horizontal portions of said hanger-bars, substantially as set forth.

4. The combination with the hanger-bars

having horizontal and vertical portions and rolls having their journals supported by said horizontal portions, of bearing-blocks and flanged plates supported by said horizontal portions of hanger-bars said plates holding said bearing-blocks in position thereon, substantially as set forth.

5. The combination with the hanger-bars, and the pressure-rolls, of the double-flanged bars supported by said hanger-bars, the bearing-blocks held by said flanged bars, the arms pivoted at their lower ends to said hanger-bars and bearing against one of said rolls, and the weighted chains connected to the upper ends of said arms, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JOSEPH L. HONHORST.
R. JOHN LLOYD.

Witnesses:

GEO. W. UPTON,
ROBT. E. GORTON.