J. D. JONES & J. GAPE.

MACHINE FOR GALVANIZING TERNE-PLATES.

No. 185,034. Patented Dec. 5, 1876.

Fig. 1

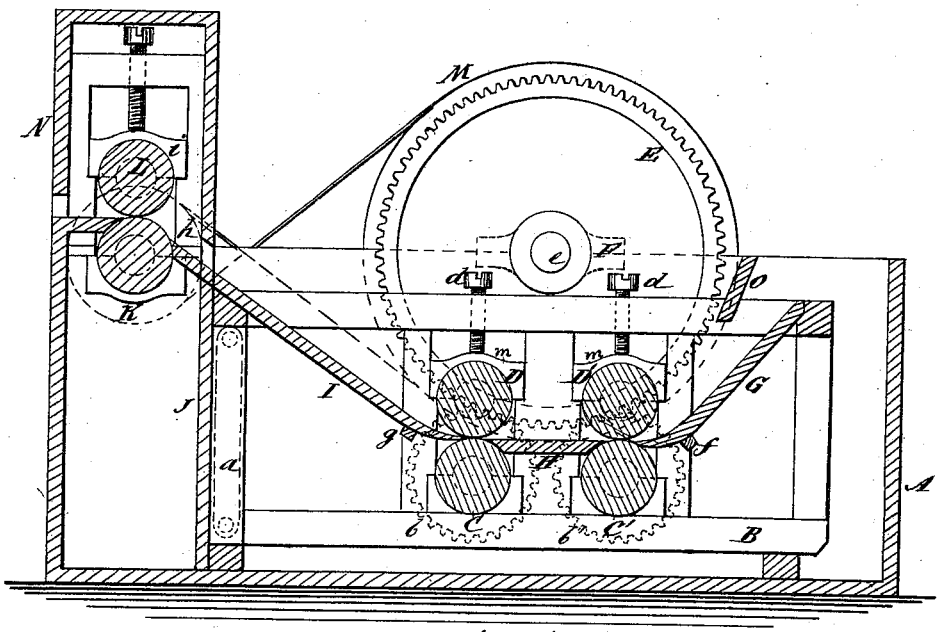
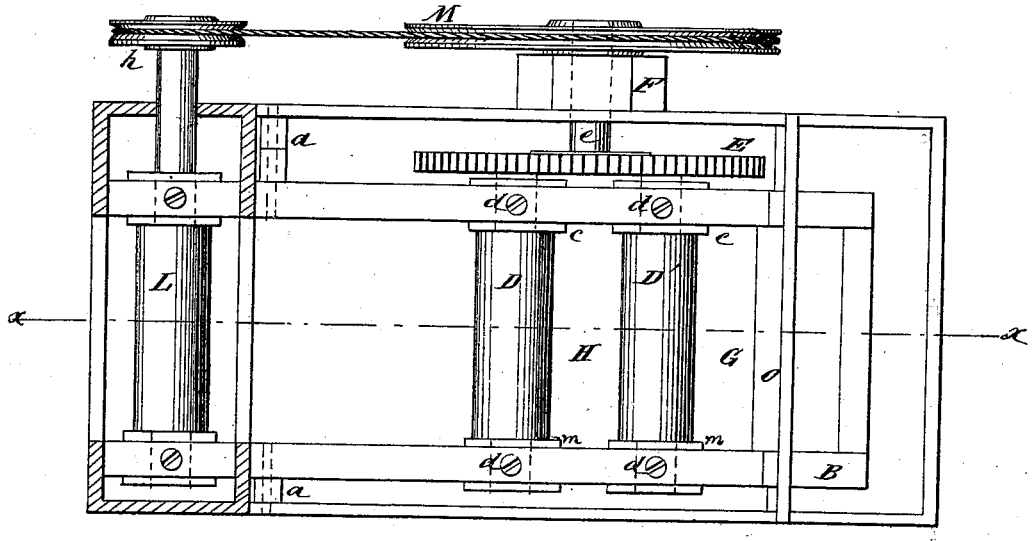


Fig. 2



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JOHN D. JONES AND JOHN GAPE, OF AUDENRIED, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR GALVANIZING TERNE PLATES.

Specification forming part of Letters Patent No. **185,034**, dated December 5, 1876; application filed September 9, 1876.

To all whom it may concern:

Be it known that we, JOHN D. JONES and JOHN GAPE, of Audenried, in the county of Carbon and State of Pennsylvania, have invented a new and Improved Machine for Galvanizing Iron Plates and Hoops, of which the following is a specification:

Figure 1 is a side elevation in section, taken on line *x x* in Fig. 2. Fig. 2 is a top view.

Similar letters of reference indicate corresponding parts.

Our invention relates to that class of machines which are used in coating or galvanizing sheet-iron; and it consists of an iron receptacle for the melted metal, in which two sets of rollers are placed, which are actuated by a spur-wheel, which meshes into pinions on the roller-shafts. An inclined guide-plate extends down to the rollers; this, together with a table between the sets of rollers, and an inclined guide-plate beyond, forms a way on which the plates or hoops move into and out of the melted metal. Another pair of rollers is placed at the end of the last-mentioned plate, to remove the superfluous metal.

A is a receptacle for the melted metal, in which a frame, B, is hinged on swinging bars *a a*, so that it may be raised up out of the receptacle by swinging it on the bars. C C′ are rollers, having fixed journal-boxes in the frame A, and provided with spur-pinions *b b′*. D D′ are rollers, which are placed above the rollers C C′, and rest upon them, and are provided with adjustable journal-boxes *m*, that slide in ways in the frame B, and are regulated by the screws *d*. E is a spur-wheel, that is attached to the shaft *e*, having the journal-box F on the side of the receptacle A. The wheel E meshes into the pinions *b b′*. G is an inclined guide-plate, which extends from the upper part of the frame B nearly to the point of contact between the rollers C′ and D′. This plate is provided with ears *f*, which drop into notches in the frame B. The upper end of the plate rests against the rear end of the frame B. H is a table, which is coved at each edge to conform to the rollers C C′, and rests on a projection on the frame B. I is a guide-plate supported by the ears *g*, which rest in notches in the frame B. It also rests on the partition J, which runs across the end of the receptacle A. K L are rollers, which are supported on the receptacle A in such a position that their point of contact will be nearly in line with the upper surface of the guide-plate I.

A pulley, *h*, is placed on the shaft which supports the roller K, and is driven by a belt that passes around a wheel, M, which is attached to the shaft *e*. The roller L is provided with adjustable journal-boxes *i*, similar to those on the journals of the rollers D D′. A cover, N, is placed over the rollers K and L, to prevent the escape of heat. The frame B is retained in place by the cross-bar O, which is let into the sides of the receptacle A, and notched to embrace the frame.

The operation of our invention may be described as follows: The receptacle is placed over a suitable fire, and a temperature maintained which is sufficient to keep the metal placed therein in a melted state. A quantity of metal is placed in the receptacle which will partly or wholly cover the rollers D D′. Chloride of zinc is placed on the surface of the metal, so that as the sheet is immersed in the metal it receives a coating of flux. As the rollers C C′ and D D′ are revolved the sheet is carried through the metal by them and delivered to the rollers K L, which, being hot, remove the superfluous metal and deliver the sheets in a finished condition. The shaft *e* is capable of sliding, so as to disengage the wheel E from the pinions *b b′*, when the frame B can be raised out of the receptacle A, and the various parts can be removed for cleaning or other purposes.

The advantages claimed for our invention are that it effects a great saving in time and material, and consequently reduces the expense of manufacture.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination of two sets of rollers partly or wholly immersed in melted metal, with guide-plates leading to and from the said rollers, the whole supported on a removable frame placed in a receptacle for the melted metal, as shown and described.

2. The combination of the wheel E, pinions *b b'*, rollers C C' and D D', guide-plates G and I, table H, removable frame B, and receptacle A, substantially as specified.

3. The combination of the rollers K L, pulleys *h* and M, guide-plate J, receptacle A, and cover N, as shown and described.

4. The combination of the sliding shaft *e*, receptacle A, frame B, and bars *a a*, as shown and described.

5. The combination of the adjustable journal-boxes *m* and *i*, rollers D, D', and L, and frame B, substantially as specified.

6. The combination of the receptacle A, frame B, bars *a*, and cross-bar O, substantially as specified.

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Witnesses:
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