(No Model.)

2 Sheets—Sheet 1.

G. G. McMURTRY.

GALVANIZING APPARATUS.

No. 530,491. Patented Dec. 4, 1894.

FIG. 2.

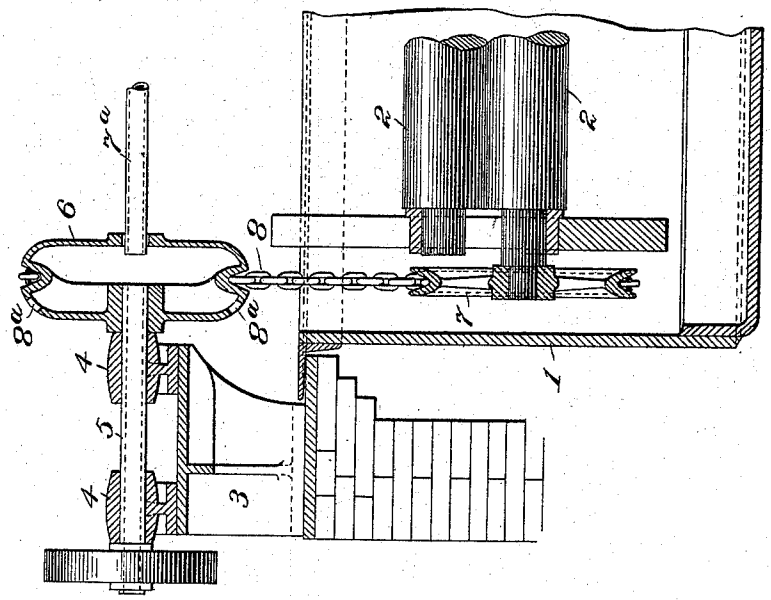
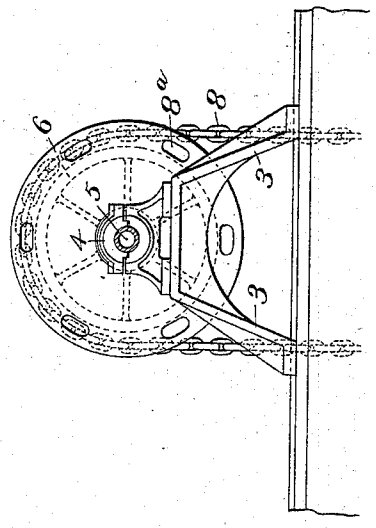


FIG. 1.



WITNESSES:

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INVENTOR,

George G. McMurtry

by George N. Christy

Atty.

(No Model.) 2 Sheets—Sheet 2.

G. G. McMURTRY.

GALVANIZING APPARATUS.

No. 530,491. Patented Dec. 4, 1894.

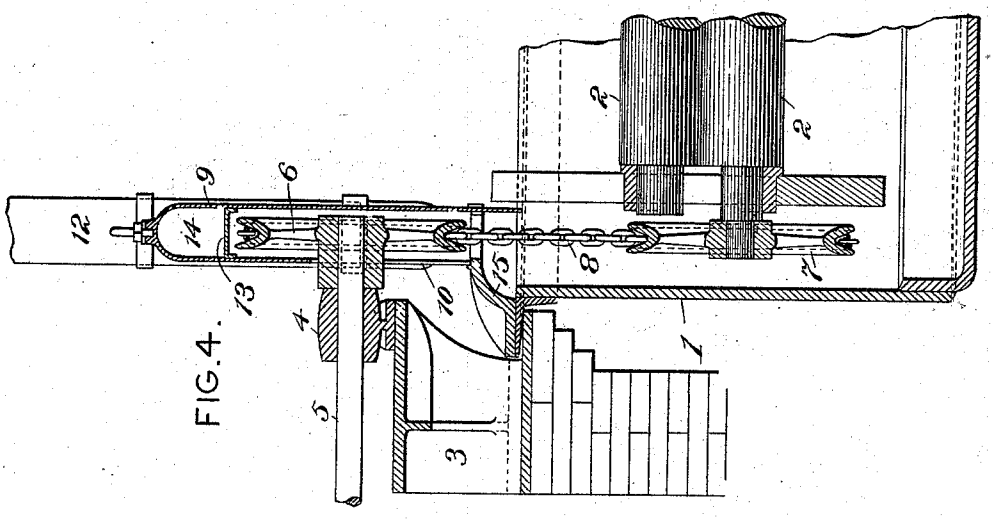

FIG. 4.

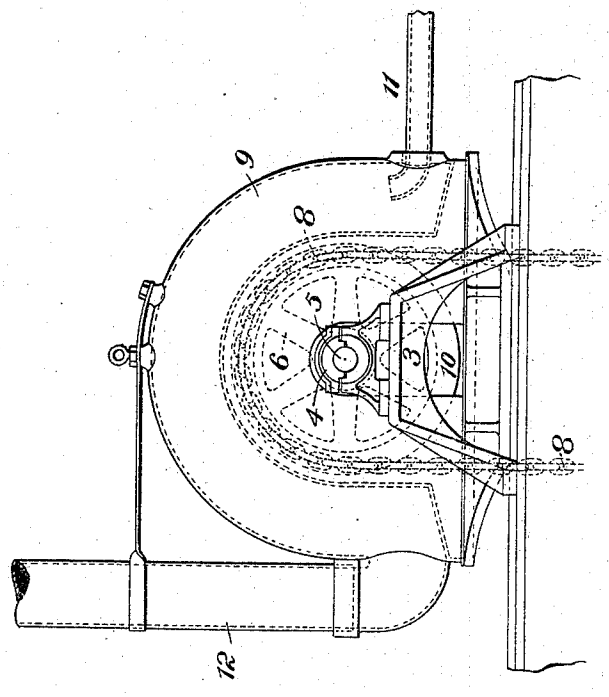

FIG. 3.

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UNITED STATES PATENT OFFICE.

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GALVANIZING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 530,491, dated December 4, 1894.

Application filed May 2, 1894. Serial No. 509,803. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. McMURTRY, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Galvanizing Apparatus, of which improvements the following is a specification.

The invention described herein relates to certain improvements in apparatus for galvanizing or coating sheets, and has for its object a construction of mechanism for driving the rolls in the galvanizing pot, whereby excessive agitation of the metal therein is avoided and also in certain additional improvements whereby a clogging of the driving mechanism is avoided.

In general terms the invention consists in the construction and combination substantially as hereinafter more fully described and particularly claimed.

In the accompanying drawings forming a part of this specification, Figure 1 is a sectional elevation of a portion of a galvanizing apparatus, showing my improved means for transmitting motion to the feed rolls in the pot. Fig. 2 is an end elevation of the driving mechanism. Fig. 3 is a view similar to Fig. 1, showing a modification in the means for heating the driving mechanism; and Fig. 4 is a side elevation of the same.

In the practice of my invention, the galvanizing apparatus consisting of the pot 1 and feed rolls 2 are constructed and arranged in relation to each other in the usual or any suitable manner. On the wall supporting the pot is secured the bracket 3 carrying the bearings 4 for the driving shaft 5, and on the end of the shaft overhanging the pot is secured the grooved pulley 6. Around this pulley 6 and a grooved pulley 7 keyed to the journal of one of the rolls 2, is passed a band 8 formed of either chain or wire rope.

By the employment of a connection from the driving mechanism to the feed rolls, moving in straight lines as it enters and emerges from the molten metal and without any material lateral movement at such points, the surface agitation of the metal is reduced to a minimum, with a proportional reduction of oxidation of the metal.

Considerable difficulty is encountered in operating a galvanizing apparatus by reason of the transmitting mechanism, whether of the gearing type heretofore used, or the band shown in the drawings, carrying up small quantities of the metal from the bath. As the metal thus carried up is in a finely divided state it chills rapidly and soon clogs the driving and transmitting mechanism. In order to avoid this difficulty I provide for heating and maintaining in a heated condition the transmitting mechanism and such parts of the driving mechanism as come into contact with the transmitting mechanism. When using a band for transmitting movement to the rolls, the pulley 6 is made hollow, as shown in Fig. 1, and a gas pipe 7 is connected with the interior of the pulley, said pipe either passing through the driving shaft or being inserted through the opposite wall of the pulley at the center thereof, as shown in Fig. 1. Suitable openings 8^a are formed in the side walls of the pulley, preferably near the perimeter thereof, for the escape of products of combustion.

In lieu of heating the pulley 6 by the combustion of gas within it, the portion of the sheet feeding mechanism outside of the pot may be heated by burning gas within a hood 9, placed over it, as shown in Figs. 3 and 4. The hood is made a little wider than the pulley 6 and is provided with a slot 10, in one side, for the passage of the driving shaft 5. Gas is introduced at one end by a pipe 11 and the products of combustion escape through a short stack 12 at the opposite side. While not necessary, it is preferred to arrange a partition 13 in the hood, thereby forming a passage 14 around the pulley, so as to insure the heating of all parts thereof, and also to prevent the escape of products of combustion from the open lower end of the hood. The gas pipe 11 enters one end of the passage and the stack 12 is connected with the opposite end thereof. The lower end of the hood rests upon a bracket 15 secured to one side of the pot, or can be supported in any other suitable man-

ner. This construction is especially applicable where a train of gearing is employed for transmitting motion to the feed rolls in the bath.

I claim herein as my invention—

1. In an apparatus for coating sheets, &c., the combination of a pot, feed mechanism arranged within the pot, mechanism for driving the feed mechanism arranged partly within and partly without the pot, and means for preventing the solidification of the molten metal on the portions of the feed mechanism without the pot, substantially as set forth.

2. In an apparatus for coating sheets, &c., the combination of a pot, feed rolls arranged within the pot, a hollow driving wheel, means for transmitting motion from said wheel to the feed rolls, and a gas pipe entering the driving wheel, substantially as set forth.

In testimony whereof I have hereunto set my hand.

GEORGE G. McMURTRY.

Witnesses:
DARWIN S. WOLCOTT,
F. E. GAITHER.