

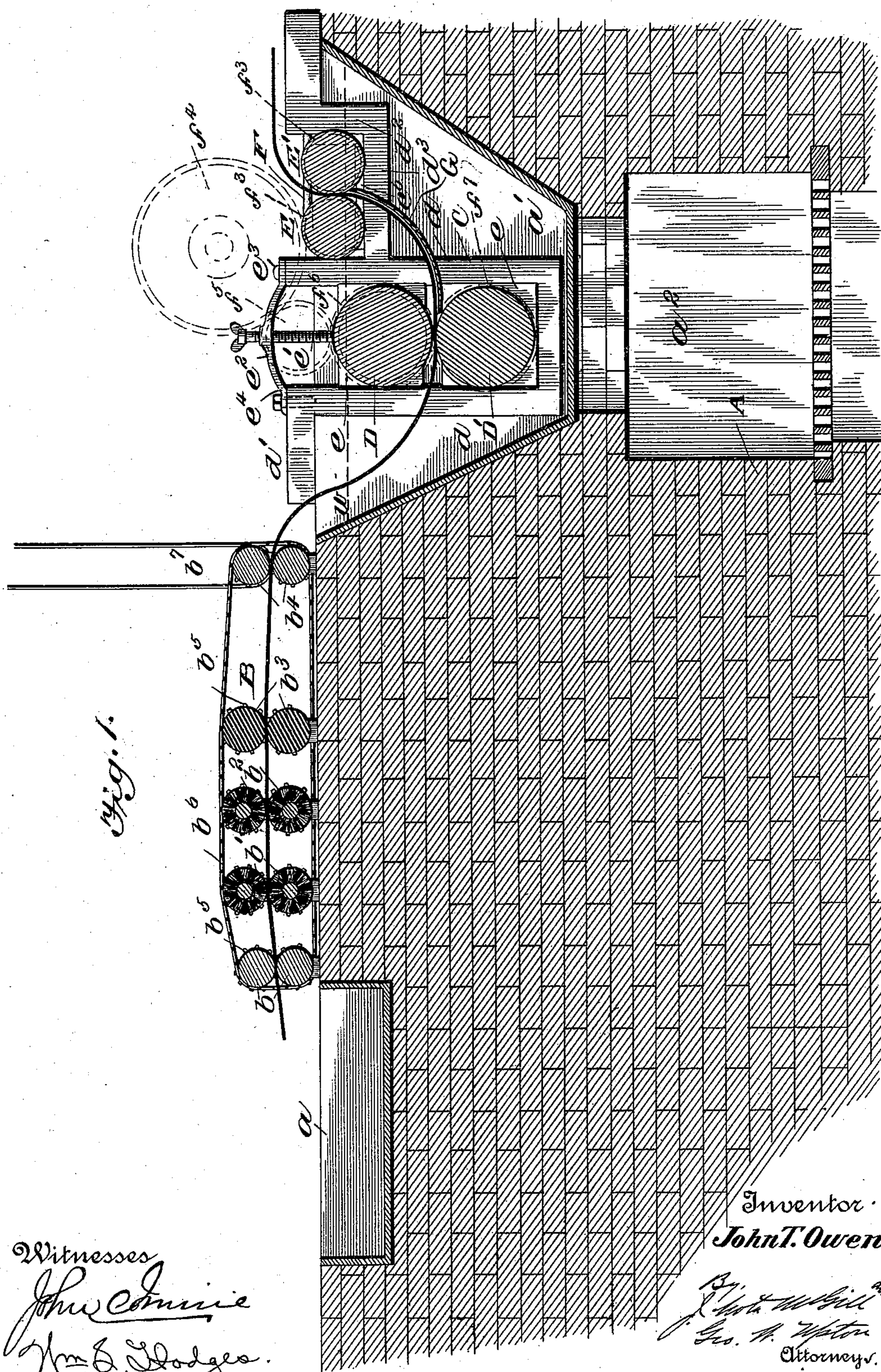
(No Model.)

2 Sheets—Sheet 1.

J. T. OWEN.
GALVANIZING MACHINE.

No. 556,204.

Patented Mar. 10, 1896.



Witnesses
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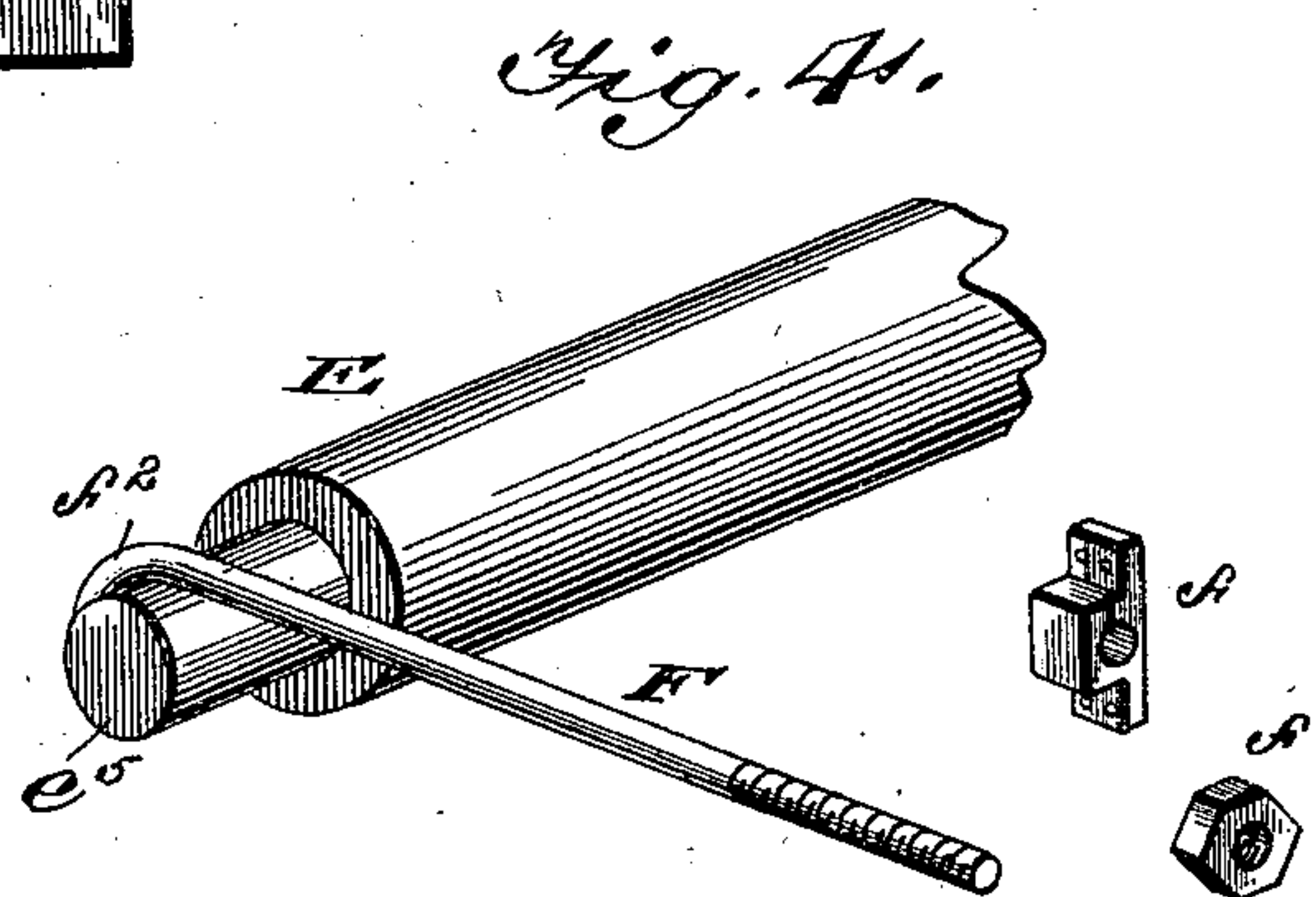
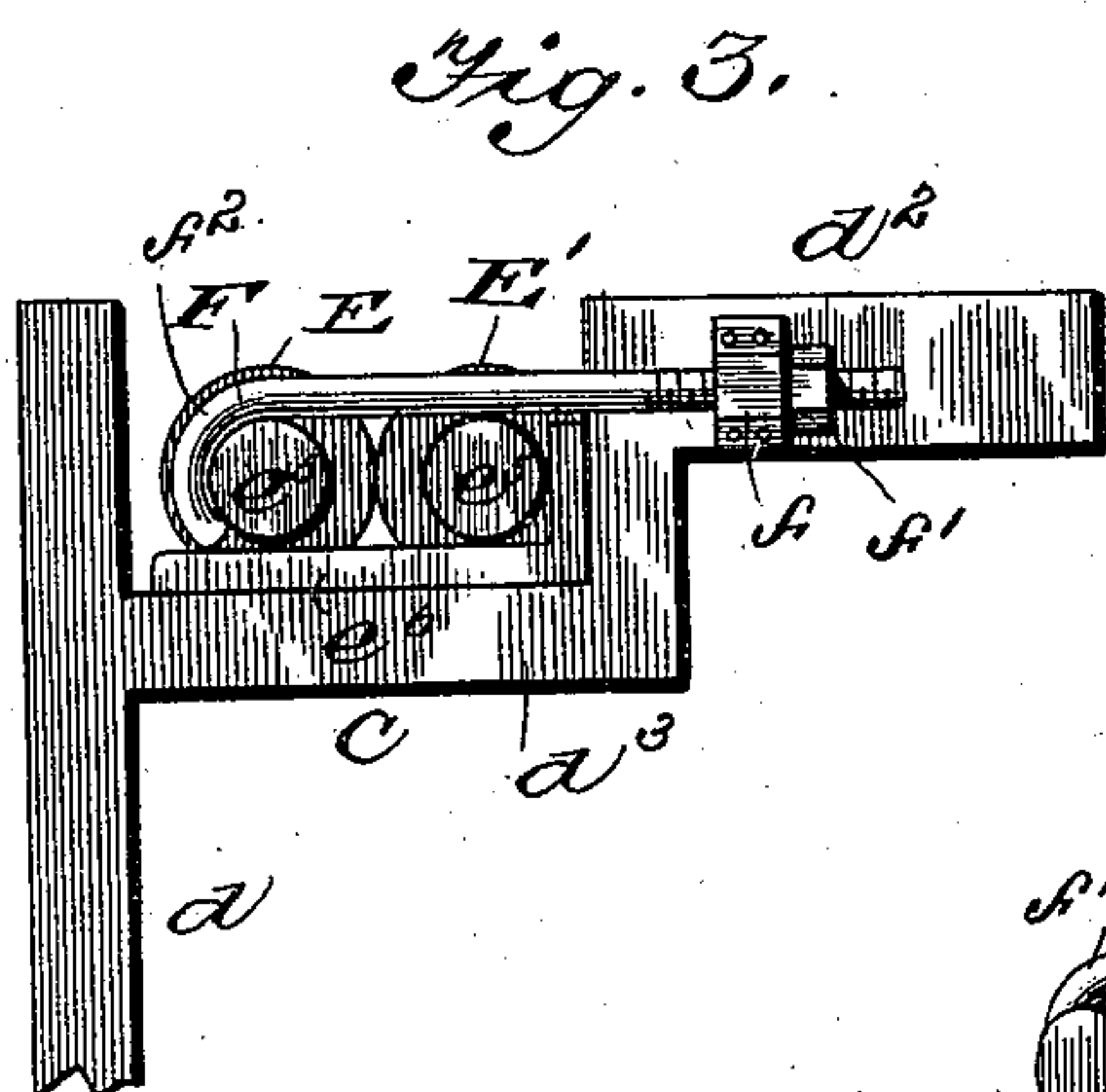
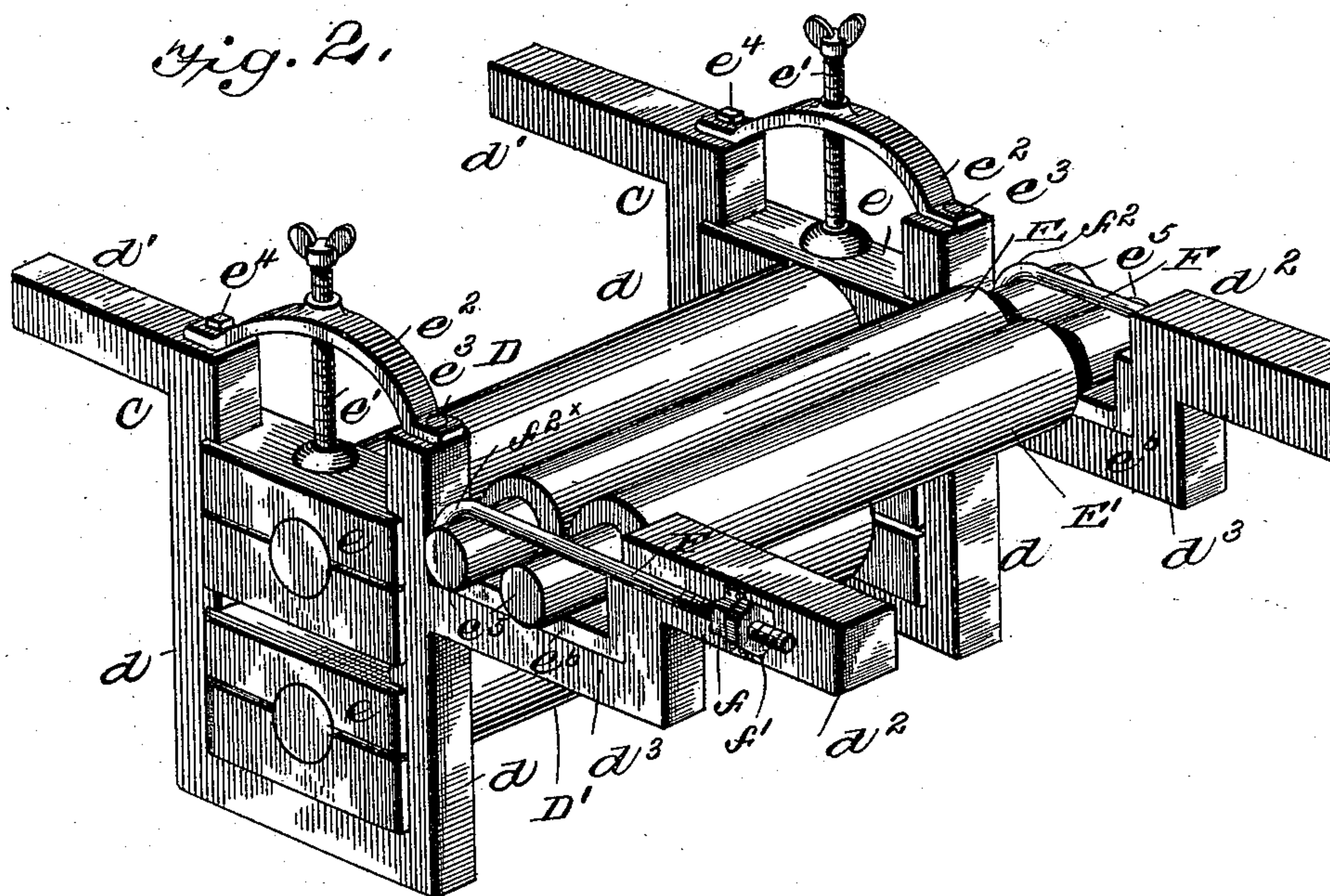
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2 Sheets—Sheet 2.

J. T. OWEN.
GALVANIZING MACHINE.

No. 556,204.

Patented Mar. 10, 1896.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN T. OWEN, OF SHARON, PENNSYLVANIA.

GALVANIZING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 556,204, dated March 10, 1896.

Application filed September 11, 1895. Serial No. 562,150. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. OWEN, of Sharon, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Galvanizing-Machines; and I 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.

10 This invention contemplates certain new and useful improvements in machines for galvanizing sheet metal.

The objects of the invention are, first, to provide for the thorough cleansing of the sheets during their passage from the water-tank to the galvanizing-bath, thereby removing all scruff; scum, loose particles, &c., and preventing the same from entering the bath; secondly, to simplify the arrangement of the pressure-rolls within the spelter-pot whereby the sheet of metal will be squarely guided between the rolls and the twisting or breaking off of the corners of the sheets is prevented, and, thirdly, to provide simple and highly-efficient means for effecting the adjustment of these rolls.

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

30 In the accompanying drawings, Figure 1 is a vertical sectional view illustrating a portion of a galvanizing-machine provided with my improvements. Figs. 2 and 3 are detail perspective views. Fig. 4 is an enlarged detail view.

Referring to the drawings, A designates a base of masonry forming part of a galvanizing-machine; a, a transversely-arranged water-tank in the top of said base, and a' a pot or tank for containing the galvanizing-bath of hot spelter, which is immediately above a fire-box a².

Extending transversely over the top of base A between water-tank a and the receiving end of the bath-pot a' are five pairs of rolls B. The rolls b of the first pair are of metal. The two adjoining pairs b' b² are brush-rolls or rotary brushes. The next pair b³ are of india-rubber, while the rolls composing the remaining pair b⁴ are of metal and are located at the receiving end of the bath-pot. With sprocket-wheels b⁵ on extended ends of jour-

nals of these rolls engages an endless sprocket-chain b⁶. A drive-belt b⁷ engaging one of the rolls of the pair b⁴ imparts a synchronous movement to all the rolls. A sheet of metal after being removed from the water-tank is caused to travel between the upper and lower rolls of these series and in its passage there-through all scruff, scum, loose particles and the like are thoroughly removed from the sheet. Thus the latter enters the bath-pot free from all foreign particles on its surface whereby the sheet can be readily galvanized throughout and the breaking off of portions of its surface is avoided.

C is a roller-carrying frame located within the bath-pot. It is approximately U-shape in cross-section—that is, it has depending parallel portions d and lateral extensions d' d², the extension d² being depressed or having lower portions d³.

D D' are two pressure-rolls, whose journal-boxes e fit between the parallel portions d. Upon the upper journal-boxes bear the lower ends of pressure-screws e', which work in arched bars e², pivoted each at one end, e³, and removably held at the other end, e⁴. By loosening this end of each bar e² the latter may be turned on their pivots out of the way.

E E' are two additional pressure-rolls whose line of contact is at right angles to that of the rolls D D'. The journals e⁵ of these rolls rest upon L-shape plates e⁶ supported by the depressed lateral extensions d³. These rolls E E' are held in position and capable of adjustment between their contiguous faces by means of rods F, each of which is passed through a keeper-plate f attached to extension d², a nut f' on the threaded portion of said rod permitting of the adjustment thereof. These rods are passed directly over the journals of said rolls, and their free ends f² are hooked to engage the journals of roll E. Thus these rods not only serve to hold the rolls in place, the journals being between said rods and the L-shaped plates e⁶, but by means thereof the rolls can be adjusted to control the passage between them of one or two sheets of metal or sheets of various thicknesses. On one end of the journals of these rolls E E' are intermeshing gear-wheels f³, with one of which engages a drive-wheel f⁴, which, through an intermediate gear-wheel f⁵, engages a wheel f⁶

on the journal of roll D, and said latter wheel meshing with a wheel f^7 of roll D'. All of the rolls are caused to revolve simultaneously under the agency of drive-wheel f^4 . The height of the bath in the pot a' is indicated by dotted line w . It will be seen that the lower pressure-rolls D D' are almost if not entirely submerged, while the rolls E E' are only partially so, one half being above said bath. A curved guide G extends from the lower to the upper rolls and serves to direct a metal sheet squarely between the upper rolls in such way that there will be no twisting or knocking off of the corners or edges.

The advantages of my invention are apparent to those skilled in the art, and it will be particularly noted that by effecting a thorough cleansing of the surfaces of the sheets before subjecting the latter to the galvanizing-bath superior results are obtained, since all scruff, &c., is removed and the hot spelter will readily adhere to all points throughout the surfaces of the sheets. The series of rolls, comprising rotary brushes and india-rubber rolls, effect a thorough cleansing of the sheets in the passage thereof to the bath-pot. The sheets of metal entering the latter thoroughly cleansed are acted upon by the bath and the two sets of rollers and pass from the machine in a thoroughly-completed state.

I claim as my invention—

1. In a galvanizing-machine, a frame having depending portions and upper lateral extensions, lower pressure-rolls having their journals fitted in said depending portions, upper pressure-rolls the journals of which are

supported by said lateral extensions, and horizontally - disposed adjustable rods extended over the journals of one of said upper rolls and engaging at their free ends the journals of the other one of said upper rolls, whereby said rolls can be relatively adjusted and said journals will be held down on said lateral extensions, substantially as set forth.

2. In a galvanizing-machine, a frame having depending portions and upper lateral extensions, lower pressure-rolls mounted in said depending portions, upper pressure-rolls supported by said lateral extensions, and rods adjustably connected to said extensions and extended over both journals of said upper pressure-rolls, said rods having hooked ends engaging the journals of the farther one of said rolls, substantially as set forth.

3. In a galvanizing-machine, a frame having lateral extensions, and lower pressure-rolls, L-shape plates fitted on said extensions, upper rolls having journals resting on said plates, keepers attached to said extensions, hooked rods having threaded portions and extended through said keepers, and nuts on said rods, said rods extending over the journals of both of said upper rolls and at their hooked ends engaging the journals of the farther one of said rolls, substantially as set forth.

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

JOHN T. OWEN.

Witnesses:

SID L. LACHMAN,
GEO. W. UPTON.