

(No Model.)

J. A. CARR.

MACHINE FOR SHAPING SHEET METAL PIPES.

No. 402,140.

Patented Apr. 30, 1889.

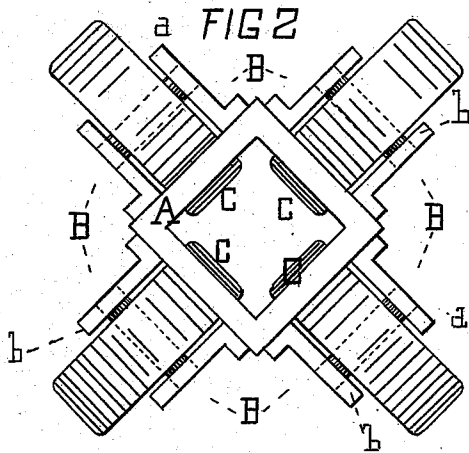


FIG 3

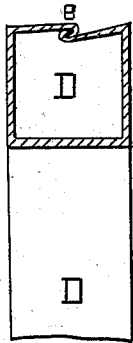
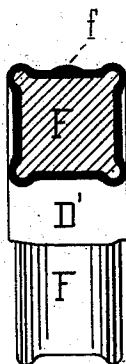
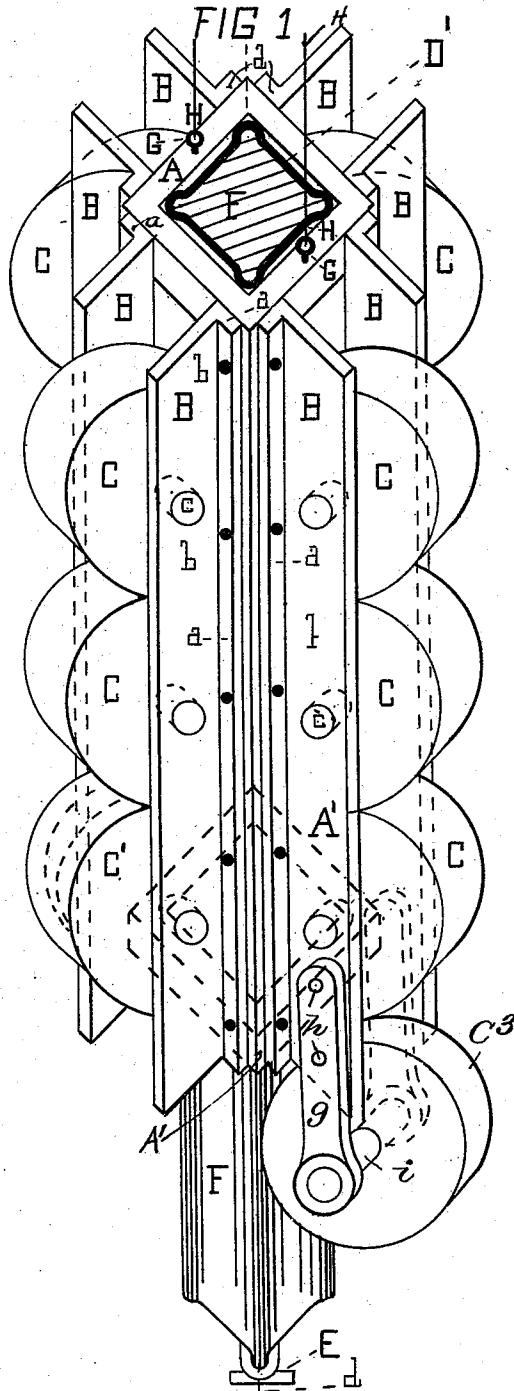


FIG 4



WITNESSES,
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JAMES A. CARR, OF WOODBURY, NEW JERSEY.

MACHINE FOR SHAPING SHEET-METAL PIPES.

SPECIFICATION forming part of Letters Patent No. 402,140, dated April 30, 1889.

Application filed May 17, 1888. Serial No. 274,175. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. CARR, a citizen of the United States, residing at Woodbury, in the county of Gloucester and State of New Jersey, have invented a new and useful Machine for Forming Sheet-Metal Pipes, of which the following is a specification.

My invention consists in the combination, in a traveling frame, of shaping-rollers suitably arranged around a stationary mandrel. A skelp or pipe which previously has been shaped and joined together in the usual manner is slipped over a mandrel and the frame rolled over it. The rolls act on all sides of the pipe simultaneously and thoroughly conform it to the contour of the mandrel.

On reference to the accompanying sheet of drawings, making part of this specification, Figure 1 is a vertical and isometrical view of my invention. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a view of a skelp or unfinished pipe, showing the interlocked ends preliminary to passing it over the mandrel and rolling it into shape; and Fig. 4 is a view of a pipe in connection with a mandrel after rolling.

Similar letters refer to similar parts in the several views.

A A' are open center, top, and bottom bolting-pieces of the frame of the machine. (The letter A' is partially shown in dotted lines.)

B are vertical roll-carriers, each of which is composed of a bolting-plate, *a*, and an outwardly-projecting journal-plate, *b*, in openings of which turn the axes *c* of the forming-rolls C C' C², arranged at the requisite distances apart. If desired, they can be so adjusted with respect to the center line of the frame as to cause a gradually-increasing pressure from end to end of the machine. The skelp or unrolled pipe D is in this instance rectangular, with the ends bent and locked together, as shown at *e*, Fig. 3. This locking of the ends *e* is for holding them together preliminary to passing the skelp over the mandrel and rolling it into shape, after which the said ends take the form shown at *f*, Fig. 4, for which one roller, C², can be grooved. Centrally and vertically within the frame and carried by a shoe, E, is a mandrel, F, of the exact shape into which it is required to roll the skelp D. The shoe E can be of

any construction that will support the weight of the mandrel and the skelp being operated upon. The top end of the mandrel being unsupported, the bottom end of it fits loosely into a slight hollow in the top of the shoe merely to hold it from slipping out of place. At two opposite sides and in braces *g*, secured by bolts *h* to the bottom of the frame, are rolls C³ on shafts *i*, which can be optionally used for rolling and guiding or be detached. G are eyebolts at the top of the machine for attaching a cord, H, which passes an overhead pulley to a drum of a windlass for raising and lowering the frame.

The operation of my invention is as follows: A skelp, D, is passed over the mandrel F and the windlass or other suitable operating device started. As the frame passes over the skelp from end to end the opposing rolls act on all sides of it simultaneously. The mandrel F is continuously between the points of impact of the opposing rolls, by which the skelp is brought down to the shape of it and a continuous form and regularity is retained the entire length of the pipe.

I have illustrated and described a frame for forming rectangular pipe. The shape of the frame and its mandrel must conform to that of the required finished pipe D'. Should, for instance, a triangular finish be wanted, the frame and mandrel must be triangular and the rolls must be arranged to operate on three sides only and be in harmony with the mandrel. The roll-carriers B, instead of being one continuous bearing, can, if required, be divided to form separate boxes or bearings for separate rolls.

I claim—

The combination, in a pipe-shaping machine, of open top and bottom bolting-pieces, A A', roll-carriers B, shaping-rolls C, stationary mandrel F, and suitable mechanism for operating the same, for the purpose shown and described.

In testimony whereof I hereunto sign my name in presence of two subscribing witnesses.

JAMES A. CARR.

Witnesses:

SAMUEL T. DAVISON,
FRANCIS D. PASTORIUS.