

J. PEARCE.

Machines for Bending Sheet-Metal.

No. 135,150.

Patented Jan. 21, 1873.

Fig. h.

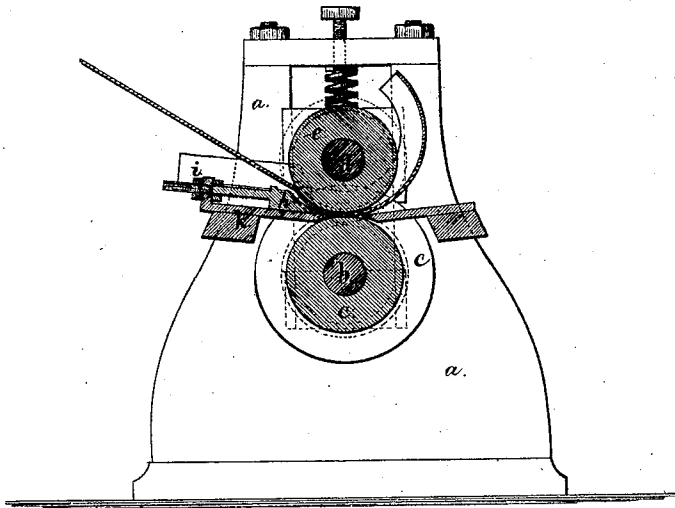
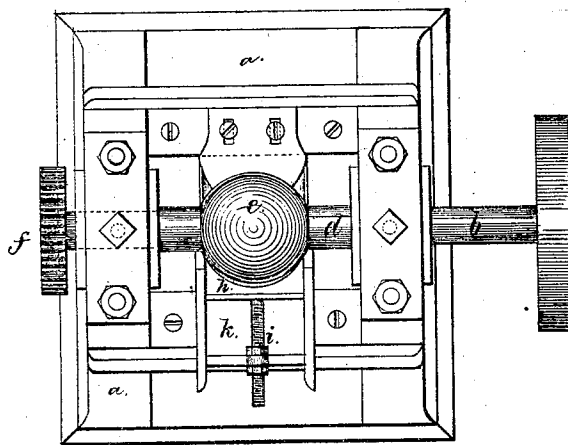


Fig. i.



Witnesses

Charles Smith
Geo. D. Halper.

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UNITED STATES PATENT OFFICE.

JOHN PEARCE, OF BROOKLYN, NEW YORK, ASSIGNOR TO MELVIN STEPHENS,
OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR BENDING SHEET METAL.

Specification forming part of Letters Patent No. 135,150, dated January 21, 1873.

To all whom it may concern:

Be it known that I, JOHN PEARCE, of Brooklyn, Kings county, New York, have invented an Improvement in Machine for Bending Sheet Metal, of which the following is a specification:

This machine is made for bending sheet metal into a trough or segmental shape, and rolling the same up into a hoop or band. These sheet-metal hoops or bands are especially intended for use in making cement joints of cement-lined pipes, such bands inclosing the cement.

In rolling a trough-shaped strip into a ring form the metal usually will bend into plaits and folds near the edges.

The present machine bends the metal and stretches one portion and compresses another portion of the metal strip, so as to give the same the proper shape without forming folds or plaits.

In the drawing, Figure 1 is a plan of the said machine; and Fig. 2 is a vertical section.

The frame *a* is of suitable size, and provided with bearings for the shaft *b* of the lower roller *c*. This shaft is revolved by suitable power, and drives the shaft *d* of the upper roller *e*, the gearing *f* being employed to connect the shafts. The shapes of the rollers *c* and *e* are such as to bend the sheet or strip of metal into the required trough or segmental form; and in order to roll up said strip into a hoop or band I employ the shoe *h*, that is concave, next to the roller *e*, and is supported in a bed, *k*, and adjustable by means of the screw and nuts *i*. When the strip of metal is entered,

as seen in Fig. 2, it is bent up to a trough-shape by the action of the shoe *h* and roller *e*, and the roller *c* bends the strip into the form of a hoop as the metal is drawn through between the rollers, the metal being so held, while bent, that there is no opportunity for the formation of plaits or folds; but it is stretched at the central portion of the strip and compressed toward the edges and rolled up into a regular and smooth concave band, and that with great rapidity. By adjusting the position of the shoe the diameter of the band will be varied.

A second shoe might be employed at the opposite side of the roller *e*.

If the sheet-metal ring is to be bent with the concave or trough upon the outside, the shoe *h* is to be positioned so as to roll up the ring around the concave roller *c* instead of the convex roller *e*.

This machine is adapted to bending up the end of a pipe so as to contract the said end by a taper or segmental curve, the shoe serving to prevent the formation of creases or folds, as aforesaid. The rollers in this case are most convenient when placed upon the ends of shafts projecting beyond the frames.

I claim as my invention—

The combination of a shoe with the convex roller *e*, and the concave roller *c*, in substantially the manner set forth, for bending a sheet-metal ring, substantially as set forth.

Signed by me this 21st day of October, 1872.
JOHN PEARCE.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.