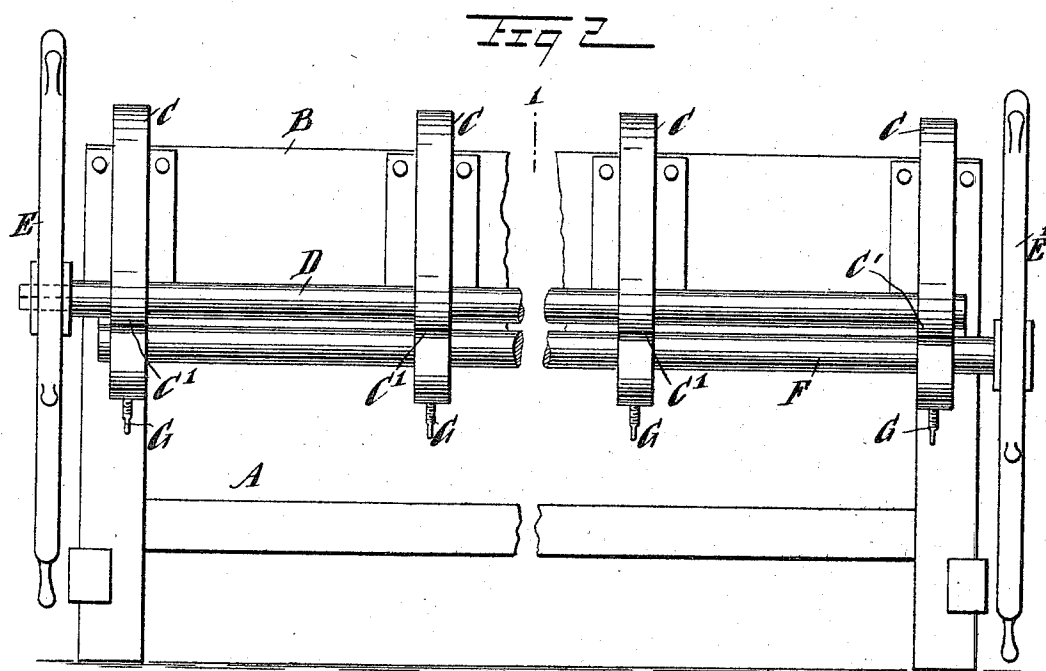
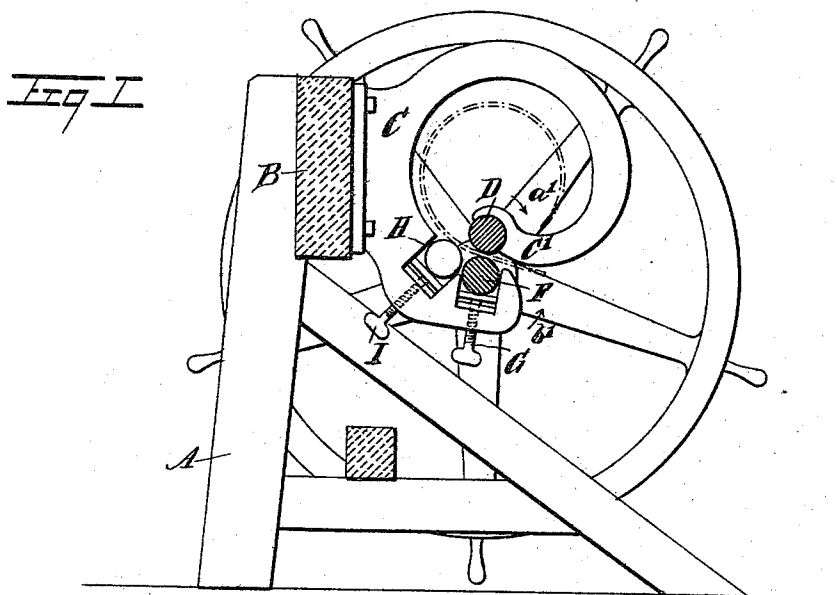


(No Model.)

H. RICHARDSON.
MACHINE FOR FORMING ORGAN PIPES.

No. 572,830.

Patented Dec. 8, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HERBERT RICHARDSON, OF LONDON, ENGLAND.

MACHINE FOR FORMING ORGAN-PIPES.

SPECIFICATION forming part of Letters Patent No. 572,830, dated December 8, 1896.

Application filed April 9, 1896. Serial No. 586,786. (No model.)

To all whom it may concern:

Be it known that I, HERBERT RICHARDSON, a subject of the Queen of Great Britain, residing at London, England, have invented a new and Improved Machine for Forming Organ-Pipes, of which the following is a full, clear, and exact description.

The invention relates to machines for rolling sheet metal into tubes; and its object is to provide a new and improved machine for forming organ-pipes of different sizes in a very simple and economical manner.

The invention consists principally of two rollers capable of rotating in opposite directions and an adjustable deflecting-roller in the rear of said revoluble rollers.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a cross-section of the improvement on the line 1 1 of Fig. 2, and Fig. 2 is a front elevation of the same.

The improved machine is provided with a suitably-constructed frame A, supporting on its upper end a longitudinally-extending beam B, on which are fastened a number of bearings C, made segmental in shape and in alignment one with the other, as plainly indicated in Fig. 2. The ends of each bearing C form an inlet opening or entrance C' for the single sheet to be rolled into a tube or organ-pipe, said ends of each bearing forming bearings for the oppositely-arranged rollers D F, of which the roller D is provided at one end with a hand-wheel E, and the roller F is provided with a hand-wheel E'. The roller D is non-adjustable, while the roller F is adapted to be adjusted toward and from the roller D to increase or diminish the distance between the two rollers, according to the thickness of the sheet metal to be rolled into a pipe.

The roller F is for this purpose adjusted by a set-screw G, screwing in the lower end of the bearing C, as plainly indicated in Fig. 1. Directly in the rear of the roller F, in each of the bearings C, is arranged a deflecting roller or wheel H, adjustably held in the lower part

of the bearing C by a set-screw I, similar to the screw G. It will be seen that this roller H serves to deflect the sheet metal passing between and through the rollers D and F, so that the sheet metal is bent to advance rearwardly to form a tube of the desired diameter.

It will be seen that when the roller H is moved upward toward the roller D then a tube of less diameter is formed, it being understood that the operator adjusts the roller H in each bearing C, so as to produce a tube of the desired diameter throughout its entire length.

In using the machine the operators turn the wheels E E' in opposite directions, so that the rollers D and F rotate in the directions of the arrows a' and b', respectively. The sheet metal passed into the entrance C' is taken hold of by the said rollers D and F and fed rearwardly and moved in contact with the roller H, which gives the desired curvature to the sheet metal to form the pipe. When the pipe has been formed, it can be removed longitudinally through the open bearings C by compressing the sheet metal until it is small enough to pass through the two spokes of the wheel E or E'.

It will be seen that the sheet metal rolled in the manner described will form a tube or pipe of uniform diameter, it being understood that the entrance side of the pipe abuts on the inside of the uppermost arm of the bearing C, and when the outer side has passed the rollers D and F and the tube or pipe is removed, then the two sides of the pipe will spring together to form a complete pipe.

The specific form of the bearings C is such as produces a central space by an upper and lower arm extending outwardly from the portion of the bearing which is secured to the longitudinal beam B, the lower arm being approximately downwardly and thence horizontally extended, while the upper arm is curved outwardly and thence downwardly to meet the outer end of the lower arm, the terminals of the two arms producing a space by which entrance may be had to the central space of the bearing.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a frame, of two

rollers, one end of each roller being extended beyond the adjacent end of the other roller, a hand-wheel fixed to each extended end whereby the rollers may be manually turned
5 in opposite directions, and a deflecting-roller capable of movement toward and from the space between the first rollers, substantially as described.

2. The combination with a frame, of two
10 rollers mounted therein, each roller having

one end extended beyond the adjacent end of the other roller, and a hand-wheel fixed to the extended end of each roller whereby the rollers may be manually turned in opposite directions, substantially as described.

HERBERT RICHARDSON.

Witnesses:

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HARVEY GEO. DAVIS.