

1,021,449.

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UNITED STATES PATENT OFFICE.

JAMES FILLMORE COX, OF BAYONNE, NEW JERSEY, ASSIGNOR OF ONE-HALF TO
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PIPE OR TUBE BENDING MACHINE.

1,021,449.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES FILLMORE COX, a citizen of the United States, residing at Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Pipe or Tube Bending Machines, of which the following is a specification.

My invention relates to improvements in pipe bending machines generally, more especially that type for forming the same into coils.

It has for its object to effect that end in an expeditious, simple, inexpensive and effective manner as will fully appear from the subjoined description and illustration.

The nature of the invention consists of certain features, including the combination of parts and their construction substantially as hereinafter fully disclosed and defined by the claim.

In the accompanying drawings illustrating the preferred embodiment of my invention: Figure 1 is a perspective view of the invention. Fig. 2 is a broken partly sectional, and partly side view thereof. Fig. 3 is a transverse section produced through the upper-roller carrying bracket. Fig. 4 is a detached broken plan view of the yoke carrying screw-threaded member and adjunctive parts. Fig. 5 is a reduced perspective showing more especially the arrangement of the pitch-roll 195 with respect to the rest of the bending apparatus.

In carrying out my invention, I provide a suitable frame 102, and upon said frame is suitably secured a cap or casting 182, said cap or casting being preferably provided with an upstanding internally screw-threaded boss, within which works a hand-wheel equipped screw 104, the hand-wheel being designated as 96. The lower end of the screw 104 is suitably connected to a preferably right angled bracket 188 to permit of the independent turning of said screw therein and yet allow of the vertical movement or adjustment of the bracket by the actuation of said screw. Such connection is preferably effected by providing said end of the screw with an enlargement 194, let into a recess in the bracket, and securing to the

bracket, around the unthreaded lower portion of the screw, a collar or ring 187 as will be readily understood from Figs. 1 and 2. The right-angled arm of the bracket 188 forms a bearing for a shaft 198, suitably held thereto by a knurled nut 189 screwed upon said shaft, said shaft carrying a peripherally grooved roller 200 forming the upper of the feed-rollers.

Lower feed rollers 103 and 199 are suitably mounted, in position below the feed-roller 200, in the main casting or support 102, so that the upper roller will be intermediate thereof, as clearly seen in Fig. 1. The shafts 196 and 197 of these lower rollers, suitably held in against casual endwise displacement by knurled nuts 190 and 191 screwed thereon are provided with gear wheels or pinions 184 and 186, respectively, meshing with pinions 183 and 185 respectively, in turn geared or meshing with a gear wheel or pinion 105 common to both of the pinions 183 and 185, for suitably actuating or rotating these rollers. In determining the radius of the bend given the pipe as it is fed between the feed rolls, the upper feed-roller is requisitely screwed downwardly by suitably grasping and turning the hand-wheel of the screw, as is apparent.

For determining the pitch or differences in space of the bend given the pipe, it is caused to pass over a roller 195, disclosed by Figs. 1 and 4, said roller being carried by a yoke 98 having a screw-threaded member or stem 101 extending centrally therefrom and received by, and adjustable in an arcuate slot 100* suitably formed in an extension of the casting or support 102. The axis of roller 195 is arranged in a plane at right angles to the axis of the feed-rollers above described, and to the screw-threaded member or stem 101 are applied suitable jam-nuts 99 and 100 adapted to engage or be screwed tightly against the opposite sides of the extension of the casting or support 102 for suitably holding said screw-threaded member, with the roller carried by its yoke, in fixed position thereon.

I claim—

A machine of the character described including a plurality of feed-rolls, a bending

roll superposed with respect to said feed-rolls, a support for said rolls, having an arcuate slot, a screw-threaded member received by said slot and equipped upon opposite sides of said support with retaining
5 nuts, said screw-threaded member being provided with a yoke carrying a pitch determining roll, the axis of which is arranged

in a plane at right angles to the axes of the aforesaid rolls.

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In testimony whereof I affix my signature in presence of two witnesses.

JAMES FILLMORE COX.

Witnesses:

JOHN J. RYAN,

MATTHEW T. CRONIN.