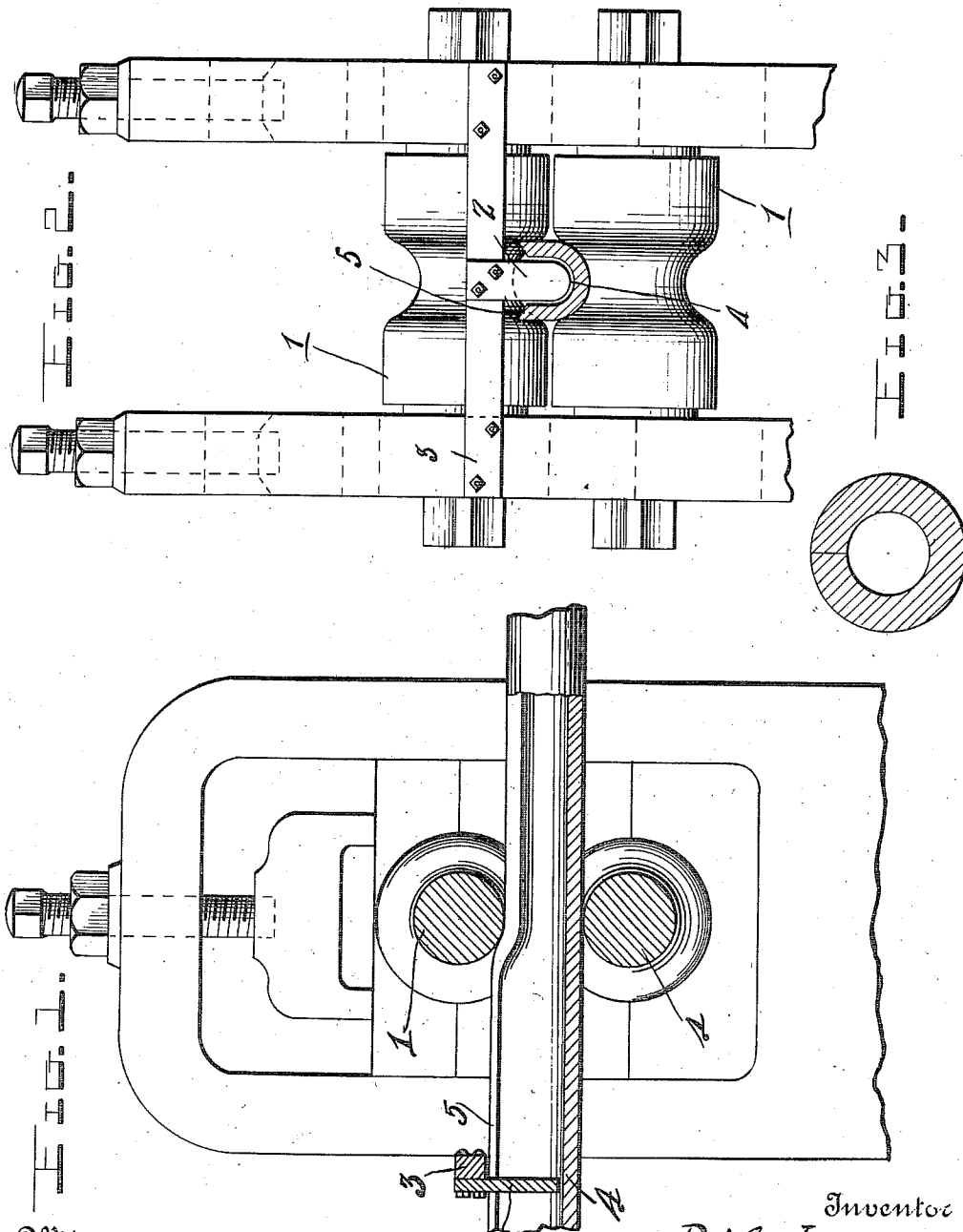


P. M. JOYCE.
 BAR RETAINING MEANS FOR TUBE FORMING MACHINES.
 APPLICATION FILED NOV. 23, 1908.

1,018,621.

Patented Feb. 27, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

PETER M. JOYCE, OF CLEVELAND, OHIO.

BAR-RETAINING MEANS FOR TUBE-FORMING MACHINES.

1,018,621.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed November 23, 1908. Serial No. 464,047.

To all whom it may concern:

Be it known that I, PETER M. JOYCE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Bar-Retaining Means for Tube-Forming Machines; and I do 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.

This invention relates to improvements in bar retaining means for a machine for making a single weld skelp for making hollow stay bolts or for other purposes.

It has for its object to insure an effective single weld joint action in order to eliminate danger from bad welds, as has heretofore been experienced, and to carry out said purpose in a simple, economical and expeditious manner.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings illustrating the preferred embodiment of my invention, Figure 1 is a longitudinal central sectional view taken on the line 1—1 of Fig. 2; Fig. 2 is a view at right angles to the aforesaid view, Fig. 3 is a view showing the product of the invention.

In carrying out this invention, I employ in connection with suitably supported and actuated grooved rollers 1 of required curved outline a flat retaining or guiding bar 2 suitably fixed at one end to a cross beam 3 of the supporting frame and depending therefrom. The rollers 1 preferably have their ends reduced and rotatably secured in the supporting frame by clamping bars adapted to be engaged by clamping screws extending vertically through said frame. This bar 2 is removably secured to the cross beam 3 to adapt it to be readily removed when desired and it depends to a point sufficient to space its lower free end just above the upper surface of the U-shaped bar of metal fed to the rollers, said end being preferably rounded as shown at 4 to initially conform to said surface of the U-shaped bar, the edges of said member 2 being ar-

ranged to engage the inner faces of the side walls of the U-shaped bar to hold said bar against lateral movement to effect the retention of the bar in upright position while passing between the rollers. The wide flat face of said bar 2 is arranged opposite the grooves in the rollers, as shown clearly in Fig. 2.

The bar of metal, which has initially a U-shape, previous to being fed as above stated, has the terminals of its vertical portions sloped or beveled inwardly as at 5 to provide, after properly heating said bar and as it is subjected to the action of the rollers, for suitably bringing together said terminals as in effecting the welding action at that point. The purpose of the retaining bar 2, it will be understood, is primarily to effect the retention of the U-shaped bar of metal in upright position as the latter is being fed to and between the rolls, to prevent said U-shaped bar from turning and in bringing the terminals of said bar together, preliminary to later performing the welding operation, which it is not considered necessary to describe herein, for obvious reasons.

From the foregoing it will be noted that a single-joint welded hollow or tubular bar is formed or provided thereby obviating a double welding action, as heretofore practiced for securing a like product, and whereby a more effective joint and certainty of welding action are obtained than by the latter. Also it is observed that by suitably subjecting the thus formed tubular or hollow bar to a series of subsequent "passes," in connection with suitably graduated mandrels inserted therein, the diameter or size of the hole or bore of the tube or bar may be varied or graduated as required, while the required outside diameter of the latter may be obtained in the usual way of "rolling" hand-rounds as understood by those familiar with this art.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claim.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

5 In combination with a tube forming machine having a pair of corresponding upper and lower rollers formed with registering grooves arranged around the periphery thereof to provide a passage between them to receive a bar U-shaped in cross section to
10 be operated on, a transverse supporting bar mounted in a plane parallel with and in advance of the upper roller, of a flat retaining bar secured at one end to and depending from said transverse supporting bar with
15 its wide face arranged opposite the grooves in said rollers and with the edges thereof disposed to engage the inner faces of the side walls of the U-shaped bar to be guided, the lower free end of said retaining bar

being rounded and disposed in alinement 20 with the passage between the grooved portions of the rollers with its free end spaced a sufficient distance above the plane of the grooved face of the lower roller to permit the insertion between it and said roller of 25 the bar to be guided thereby, said retaining bar being operable to hold the U-shaped bar against lateral movement to effect the retention of said bar in upright position while passing between said rollers. 30

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

PETER M. JOYCE.

Witnesses:

RETUS SETHMAN,
CLARENCE H. RANDALL.