Dec. 25, 1934. P. B. ABRAMSEN 1,985,757

TUBE CLAMPING AND CARRYING DEVICE

Original Filed March 5, 1930

Fig. 1.

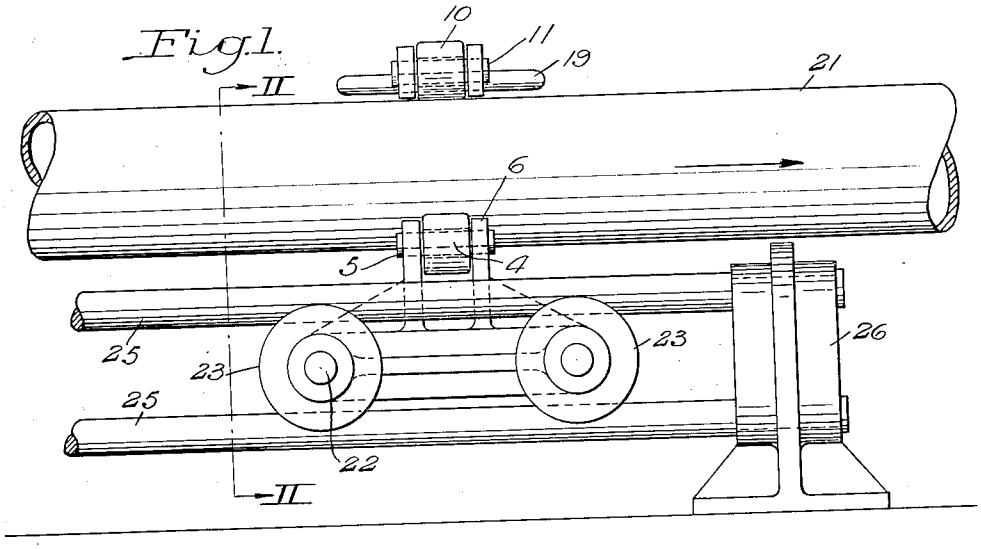


Fig. 2.

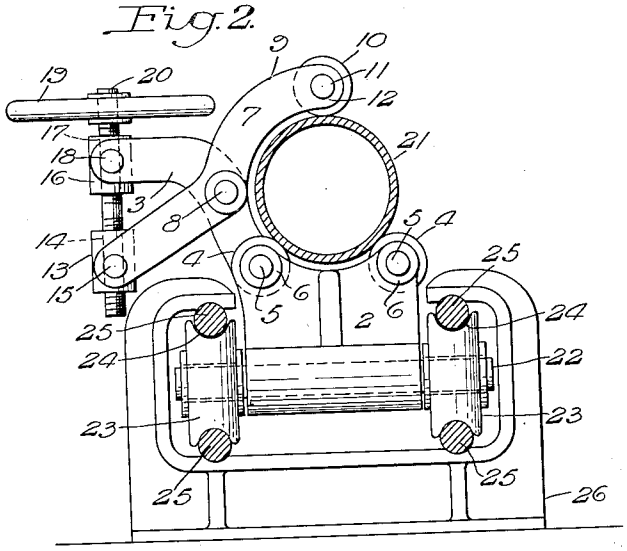
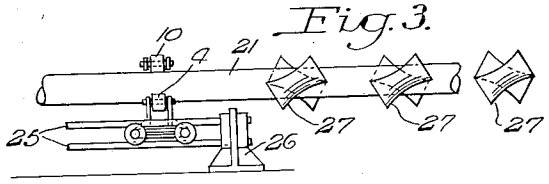


Fig. 3.



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TUBE CLAMPING AND CARRYING DEVICE

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7 Claims. (Cl. 80—43)

The present invention relates to a tube clamping and carrying device and to its adaptation to and use in the art of cross rolling and straightening of tubes or rounds.

In the art of cross rolling and straightening of tubes, unless proper tube clamping means is provided offset portions are formed in the tubes being rolled. This is due to the fact that where no such means is provided the tube entering the mill is free to swing sidewise or vertically and is not confined to axial movement. It is the object of my invention to provide means whereby the tube upon entering the mill is restrained from movement other than axial movement, thereby preventing the formation of offset portions in the tube being rolled.

In the accompanying drawing there is shown for purposes of illustration only a preferred embodiment of my invention.

In the drawing:

Figure 1 is a side elevational view of the tube clamping and carrying device which I provide.

Figure 2 is a sectional view taken along the line II—II of Figure 1.

Figure 3 is a diagrammatic sketch showing the tube clamping and carrying device which I provide in connection with cross rolls.

In the embodiment of my invention illustrated in the drawing there is shown a main body 2, having an integral upwardly and sidewise extending arm 3.

The body 2 has spatially located bearings 6 therein by which shafts 5 are supported, and on these shafts are mounted rollers 4, which are adapted to support the tube 21.

An arm 7 is pivotally attached by means of the pivot 8 to the arm 3 at a point intermediate the ends of each of these arms. The arm 7 has a curved portion 9. The roller 10 is located on a shaft 11 resting in bearings 12 on the arm 7. On the other end of the arm 7 is located a sleeve 13 having a threaded opening 14 therethrough. This threaded sleeve is attached to the arm 8 by means of pivots 15.

On the upper end of the integral arm 3 is located a sleeve 16 similar to the sleeve 13 and having a threaded opening 17 therethrough. This sleeve is attached to the arm 3 by means of pivots 18. A wheel or disc 19, having a threaded shaft 20 thereon, is provided and adapted to cooperate with the threaded openings of the cylindrical sections 13 and 16. The shaft 20 has two separate threaded sections thereon, these sections being threaded oppositely. When the wheel 19 is rotated, the arm 7 and the roller 10 thereon are caused to be raised or lowered and brought into or out of clamping relationship with the rollers 4.

The body 2 is mounted for movement along rails, it being provided with shafts 22 having wheels 23 thereon, these wheels having concave rims 24 thereon. Rails or rounds 25 are provided on which the concave rims of the wheels engage, thus providing a guideway along which the body 2 may be moved. The rails are supported at each end by means of standards 26. Four rails 25 instead of only two are provided in order to prevent tipping of the clamping and carrying means when it has a tube thereon.

The clamping and carrying device which I have heretofore described can be used to carry the tube to be rolled up to the cross rolls 27 and after the tube has engaged the rolls it will permit axial movement of the tube, but will restrain it against any other movement. Due to this restraint placed upon the tube after it has been engaged by the cross rolls, proper alignment of the tube is always maintained and the formation of offset portions in the tube thereby prevented.

While I have described a preferred embodiment of my invention, it is not limited thereto, as changes in constructional characteristics can be made without departure from the spirit thereof.

I claim:

1. A clamping and carrying device comprising a movable body having an upwardly and sidewise extending arm thereon, rotatable means on said body for supporting a tube or round, a second arm pivotally mounted on the first recited arm and having rotatable means attached on one end thereof and means carried by said arms for moving said pivotally attached arm and the rotatable means thereon into and out of clamping relationship relative to said supporting means.

2. A clamping and carrying device comprising a movable body having an upwardly and sidewise extending arm thereon, rotatable means on the body for supporting a tube or round, a second arm pivotally mounted on the first recited arm and having a roller attached on one end thereof, and rotatable means mounted on said arms for bringing said pivotally attached arm and the roller thereon into clamping relationship with said supporting means.

3. A clamping and carrying device comprising a movable body having an upwardly and sidewise extending arm thereon having a threaded sleeve pivotally attached to the end thereof, rotatable means on the body for supporting a tube or round, a second arm pivotally attached intermediate the

ends thereof to the first recited arm and having rotatable means attached on one end thereof, a pivotally attached threaded sleeve on the other end of said arm and a disc or wheel having a threaded shaft thereon adapted to cooperate with the pivotally mounted threaded sleeves whereby the pivotally attached arm and the rotatable means thereon are brought into clamping relationship with the supporting means.

4. The combination with a cross rolling mill of a clamping and carrying device comprising a movable body having an upwardly and sidewise extending arm thereon, rollers attached to said body and spaced relative to each other for supporting a tube or round, a second arm pivotally mounted on the first mentioned arm and having a roller attached on one end thereof and means for bringing said pivotally attached arm and the roller thereon into clamping relationship with the said supporting means whereby all but axial movement and axial rotation of the tube or round is prevented.

5. In combination with a cross rolling mill, a clamping and carrying device comprising a movable body having an upwardly and sidewise extending arm thereon, rollers on said body and spaced relative to each other, a second arm pivotally mounted on the first mentioned arm and having a roller on one end thereof, and rotatable means carried by said arms adapted to move said arm and the roller thereon into clamping relationship with the rollers on said body.

6. In combination with a cross rolling mill, a clamping and carrying device comprising a movable body, a plurality of rollers mounted on said body spaced relatively to each other, a pivotally mounted arm having a roller on one end thereof, and means for moving the rollers into clamping relationship for restraining a tube or round placed on said body against all but axial movement and axial rotation.

7. In combination, a cross rolling mill having a plurality of cross rolls, a guideway, a carriage mounted on said guideway and adapted for movement thereon, rollers on said carriage for supporting a tube or round, and means including a roller for engaging and clamping the tube or round on the carriage and against all but axial movement and axial rotation as it enters the mill.

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