

March 13, 1934.

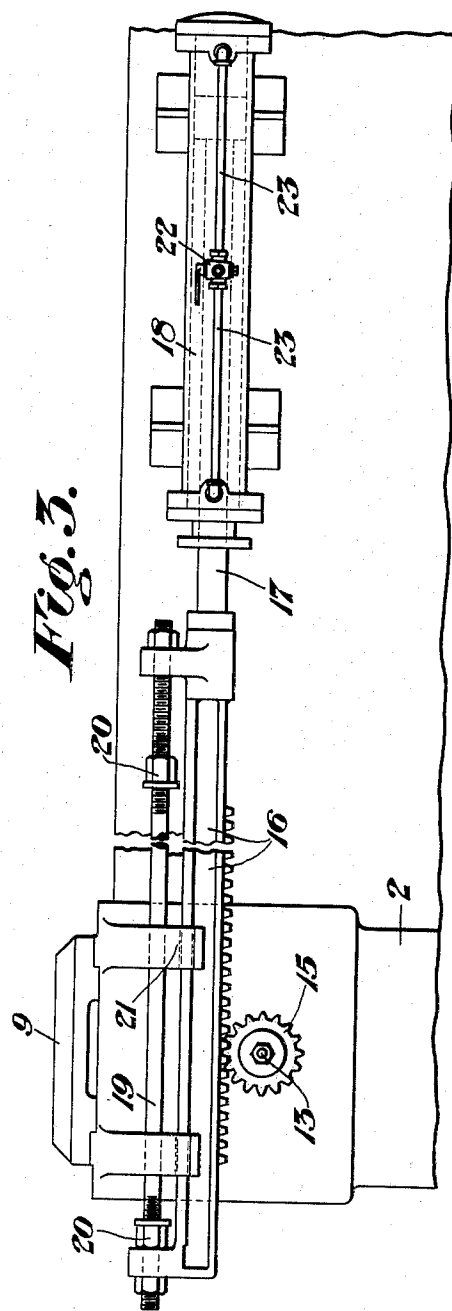
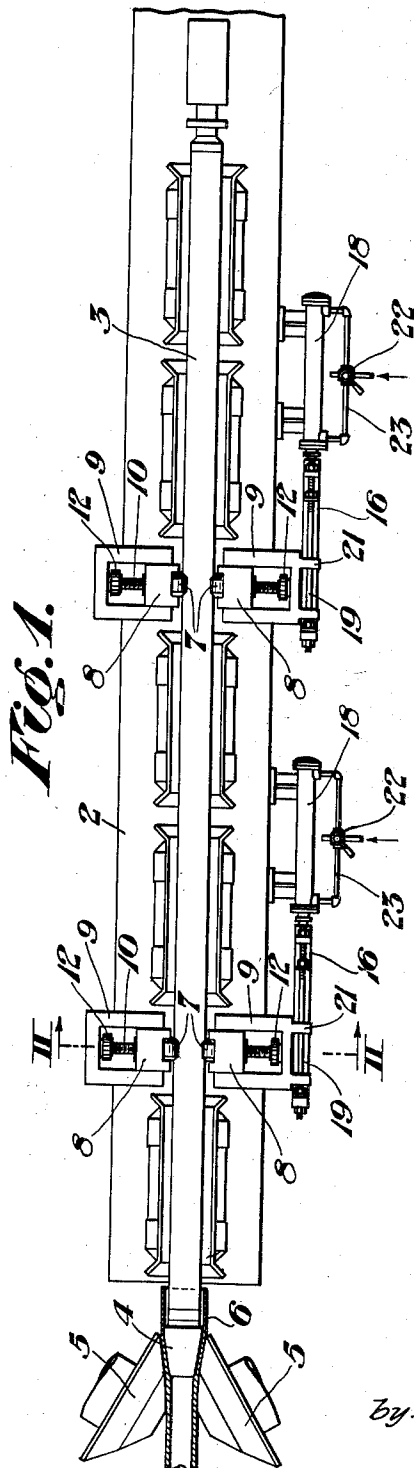
O. F. OLSON

1,950,929

MANDREL ROD SUPPORTS

Filed Aug. 28, 1931

2 Sheets-Sheet 1



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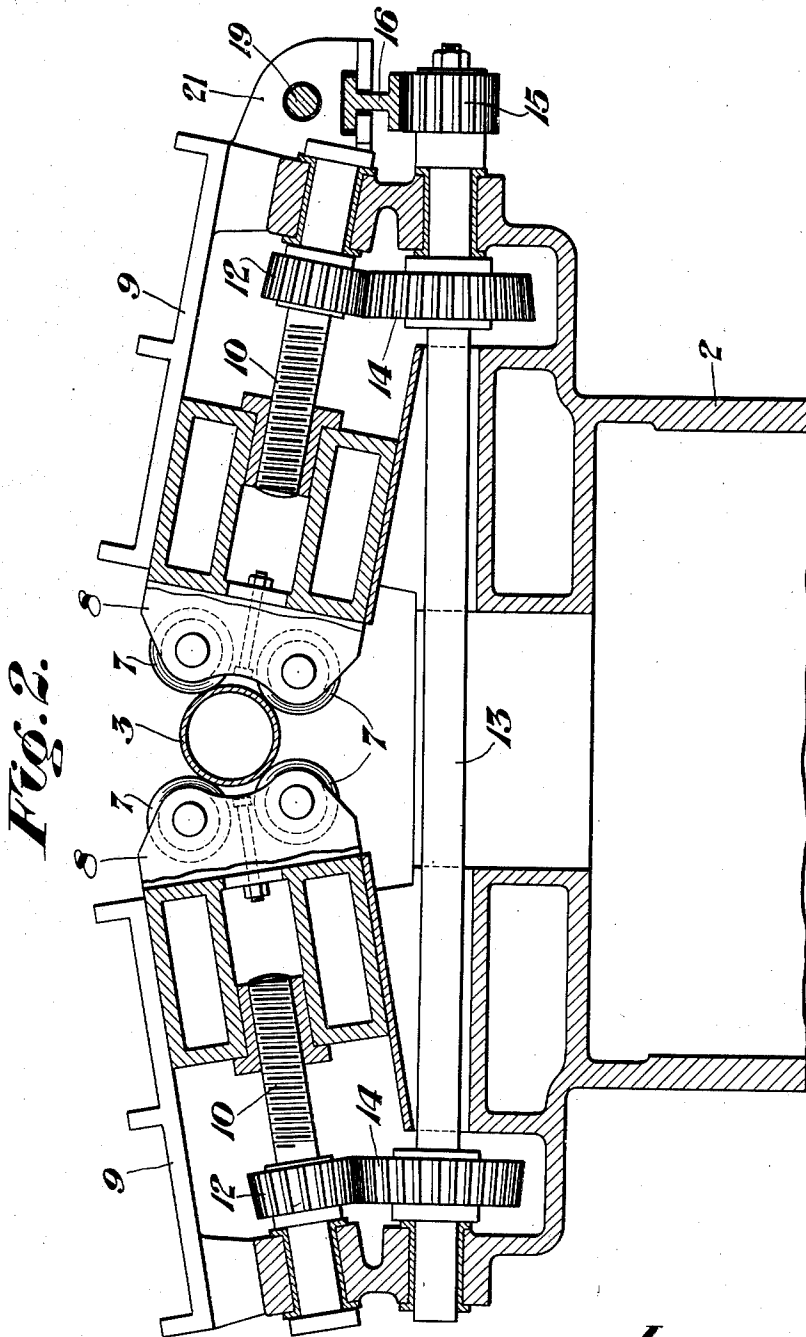
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UNITED STATES PATENT OFFICE

1,950,929

MANDREL ROD SUPPORTS

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Application August 28, 1931, Serial No. 560,002

1 Claim. (Cl. 80—11)

This invention relates to supports for mandrel bars of seamless tube mills, one of the objects being to provide a support which may be quickly removed from the path of the on-coming tube being formed in the mill. Other objects may later become apparent.

In the drawings:

Figure 1 is a top plan view showing one example of this invention in use.

Figure 2 is an enlarged cross-section on the line II—II of Figure 1.

Figure 3 is an enlarged side view of the example of the invention shown in Figure 1.

Having reference to the drawings, there is shown a seamless tube mill 2 having a mandrel bar 3 carrying a mandrel 4 which cooperates with rollers 5 to shape a tube 6. Because of the length of this bar 3 it is necessary that it be steadied at spaced points, yet because of the fact that the tube 6 will ultimately travel over the major portion of this bar such steadying means must be readily removable.

This invention consists of a number of rollers 7 normally contacting the bar 3. A pair of frames 8 carry these rollers and are themselves reciprocally mounted in housings 9. Each of the frames 8 is in screw threaded engagement with a shaft 10 carrying a gear 12, a driving shaft 13 being longitudinally positioned beneath each of these shafts and geared thereto, through gears 14, for simultaneous rotation thereof. The end of the shaft 13 carries a pinion 15 which is engaged by a reciprocable rack 16 which is connected to a piston 17 carried by a cylinder 18. The rack 16 carries a rod 19 having adjustment nuts 20 screwed near its ends for butting against a stop 21 to limit the travel of this rack. Air may be admitted to either end of the cylinder 18 by means

of a four-way valve 22 and through piping 23, this valve preferably being positioned for working by the operator of the machine.

In use, the various parts are normally positioned as is shown in the drawings. When the tube 6, being formed by the machine, reaches the first set of steadying rollers 7 the machine operator works the valve 22 to admit air to the cylinder 18 so that the piston 17 moves the rack 16 to rotate the pinion 15. This pinion rotates the drive shaft 13 which, in turn, drives the shafts 10 so that the frames 8 will be moved away from the bar 3 a distance substantially equal to the wall thickness of the tube 6, thus permitting passage of the tube 6 and at the same time supporting it. The various parts are simple and strong and are capable of withstanding the heat and rough usage to which such apparatus must necessarily be subjected in use.

A specific form of the invention has been illustrated in accordance with the patent statutes but it is not intended to limit the scope of this invention exactly thereto, except as is defined in the appended claim.

I claim:

In combination with a seamless tube mill mandrel rod, supporting rollers for said rod, reciprocable frames carrying said rollers, rotatable shafts in screw threaded engagement with said frames, a drive shaft geared to said shafts for simultaneous rotation, a pinion on said drive shaft, a rack engaging said pinion, means for adjustably limiting the movement of said rack, a double-acting fluid motor arranged to reciprocate said rack and a manually operable control valve operatively associated with said motor.

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