Feb. 18, 1958 A. R. MEADORS, JR 2,823,408

MACHINE FOR SUPPORTING AND ROTATING RINGS

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FIG. 1.

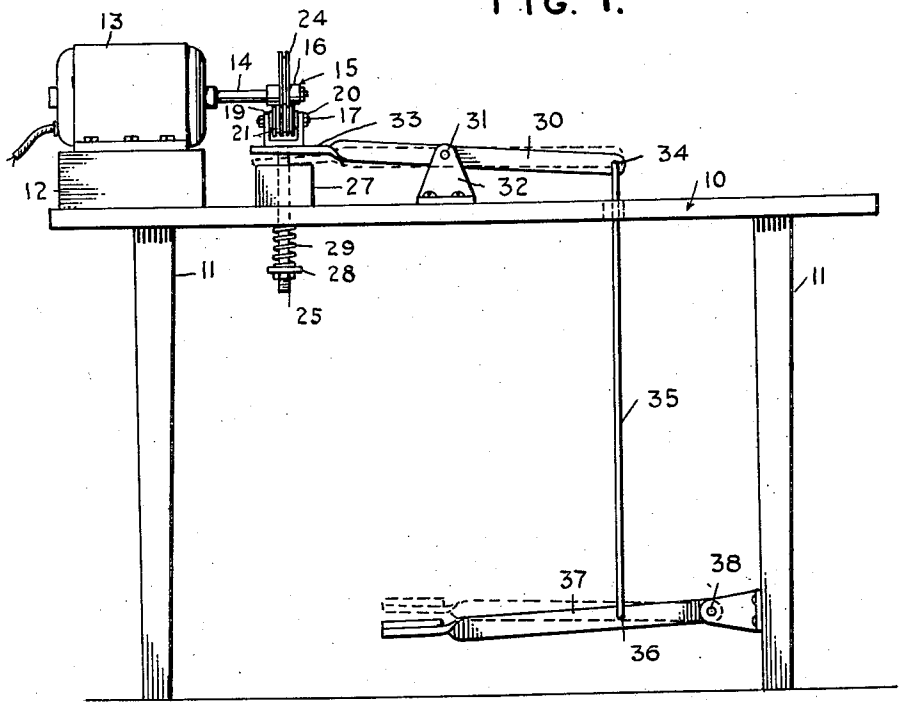
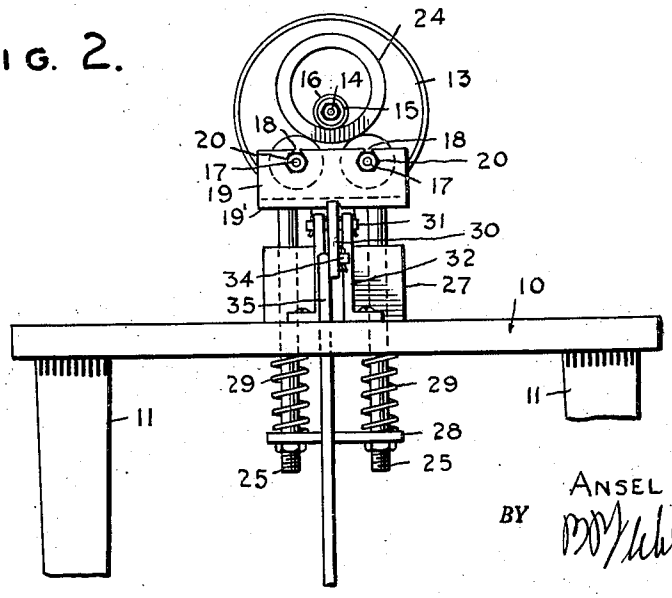


FIG. 2.



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FIG. 3.

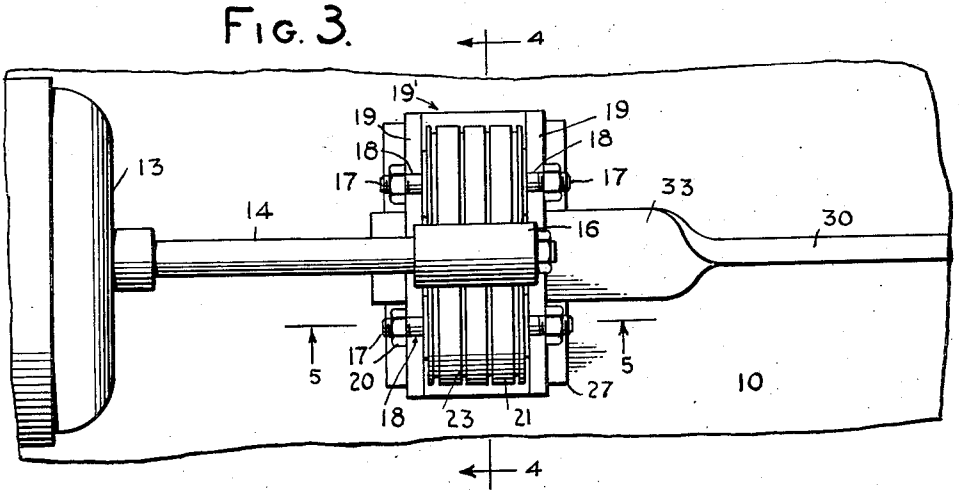


FIG. 4.

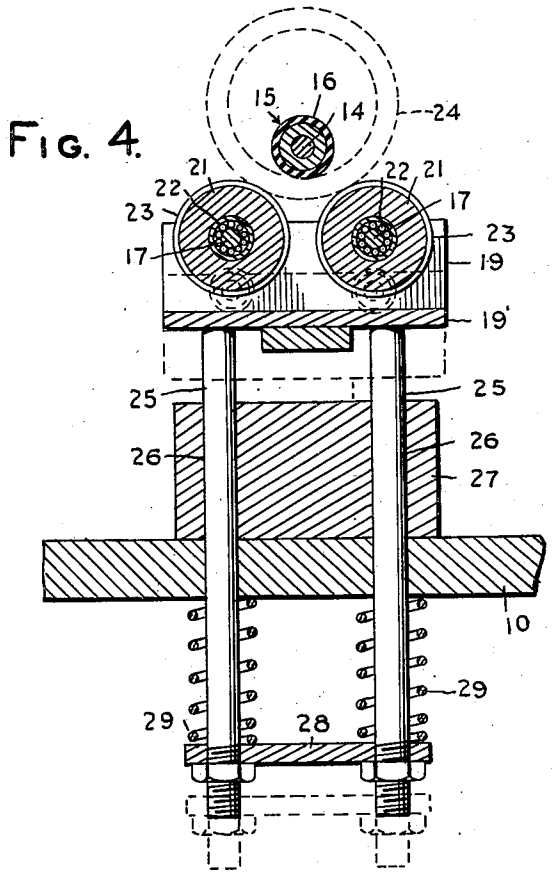
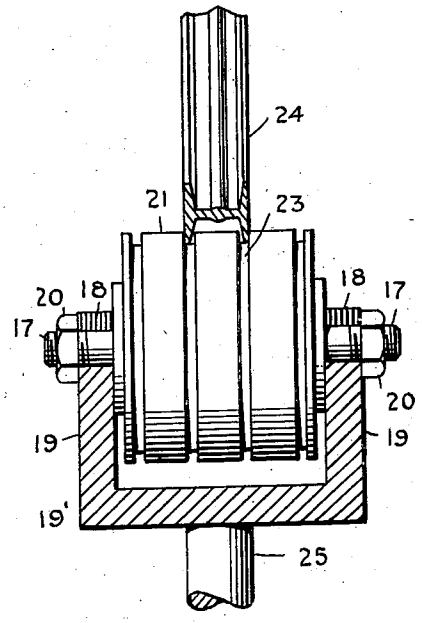


FIG. 5.



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MACHINE FOR SUPPORTING AND ROTATING RINGS

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Application August 3, 1954, Serial No. 447,602

1 Claim. (Cl. 15—268)

My invention relates to a machine for supporting and rotating rings, such as spinning rings.

An important object of the invention is to provide means for holding and engaging the ring at a position eccentric with respect to the ring, leaving the major portion of the ring, internally and externally, freely accessible for cleaning or polishing.

A further object of the invention is to provide a machine of the above-mentioned character which will permit of the quick and convenient handling of the ring.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application and in which like numerals are employed to designate like parts throughout same,

Figure 1 is a side elevation of a machine embodying my invention,

Figure 2 is an end elevation of the same,

Figure 3 is a plan view of the same, parts broken away,

Figure 4 is a transverse vertical section taken on line 4—4 of Figure 3,

Figure 5 is a longitudinal vertical section taken on line 5—5 of Figure 3, parts omitted, and the spinning ring in place upon the lower roller.

In the drawings, where for the purpose of illustration is shown a preferred embodiment of my invention, the numeral **10** designates a table top supported by legs **11**.

Rigidly mounted upon the table top **10**, near one end thereof is a block **12** having a motor **13** rigidly mounted thereon, including a horizontal armature or drive shaft **14**. The armature shaft has a roller **15** rigidly mounted thereon, and this roller is preferably provided with a resilient sleeve or covering **16**, formed of rubber or the like. The shaft **14** is rotated and held fixed against vertical and horizontal movements.

Arranged beneath the shaft **14** and upon opposite sides of the same, are horizontal shafts **17**, the ends of which are arranged within notches **18** formed in the sides **19** of a support, casing or carrier **19'**. The ends of the shafts **17** are screw-threaded for receiving nuts **20**, which clamp the shafts **17** to the sides **19**. The shafts **17** do not rotate with respect to the casing and rollers **21** are rotatable upon the shafts **17**, and ball bearings **22** are preferably arranged between the rollers and the shafts **17**. The rollers are preferably provided upon their peripheries with annular grooves **23** spaced a suitable distance for receiving the flanges of a spinning ring **24**, which is H-shaped in cross section.

Vertical rods **25** are rigidly secured to the bottom of the casing or carrier **19'**, and are slidable within vertical openings **26**, formed in a block **27** rigidly secured to the table top **10**. A cross-head **28** is connected with the lower ends of the rods **25** and arranged beneath the table top, and engages compressible coil springs **29**, which engage the table top **10** and these springs bias the casing **19'** downwardly.

Manually operated means are provided to move the casing **19'** and lower rollers **21** upwardly, including a

vertically swinging lever **30**, arranged above the table top and pivotally mounted between its ends at **31**, upon a bracket **32**, which is fixed upon the table top. The lever **30** is formed from a bar arranged vertically on edge, and this bar carries a forward extension **33**, arranged horizontally on edge, and formed by twisting the lever bar. The extension is arranged between the bottom of the casing **19'** and the guide block **27**, and there is sufficient space between the extension **33** and guide block **27**. Pivotally connected with the opposite end of the lever **30** at **34**, is a link **35**, extending through a suitable opening in the table top **10**, and pivoted at **36** to a treadle **37**, pivoted at **38**, to swing vertically.

The operation of the machine is as follows:

Before the treadle **37** is depressed by the operator, the springs **29** move the casing **19'** and rollers **21** to the lowered position, and there is ample space between the roller **15** and the rollers **21** for the operator to insert the lower portion of the spinning ring between these rollers. The spinning ring is vertically arranged and its flanges will enter the grooves **23**. The operator now depresses the treadle **37** and shifts it to the lowered position, Figure 1, and the lever **30** and associated elements raise the casing **19'** and press the lower portion of the ring into engagement with the continuously rotating roller **15**. The resilient covering **16** of the roller **15** provides a yielding pressure upon the ring. This pressure may be regulated by the amount of downward pressure that the operator applies to the treadle. The rollers **15** and **21** hold the spinning ring **24** vertical and the roller **15** rotates the spinning ring. The rollers **15** and **21** engage the lower portion of the spinning ring, and are eccentric with the spinning ring, leaving the major portion of the spinning ring, internally and externally uncovered and readily accessible to be acted upon by a cleaning element or tool in the cleaning or polishing operation. When the cleaning and polishing has been completed, the treadle **37** is released and the springs **29** shift the rollers **21** from the roller **15** and the operator suitably engages the ring by the hand and removes it from between the rings **15** and **21**.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size, and arrangement of parts may be resorted to, without departing from the spirit of my invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

A machine for supporting and rotating a spinning ring or the like having outwardly extending flanges to clean or polish the same, comprising a support having a pair of substantially vertical spaced guide openings, a pair of spaced substantially vertical guide rods slidably mounted within said openings, a crosshead arranged beneath said support and spaced from the same and secured to the lower ends of the substantially vertical guide rods, compressible coil springs surrounding the guide rods between the support and crosshead and urging the crosshead downwardly, an elongated carrier which is substantially U-shaped in cross section and includes sides, said carrier being arranged above the support and secured near its ends to the upper ends of the spaced substantially vertical guide rods, spaced substantially horizontal shafts mounted upon the sides of the U-shaped carrier, said substantially horizontal shafts being arranged in substantially the same horizontal plane and disposed near and above the substantially vertical guide rods, a pair of rotatable grooved rollers having substantially the same diameters arranged within said carrier and mounted upon the substantially horizontal shafts and held thereby in spaced relation and substantially horizontal, a substan-

tially horizontal drive shaft arranged near and above and between said rollers and substantially equidistantly spaced from the same, means to mount the substantially horizontal drive shaft upon the support and to operate the same, a spinning ring being adapted to be arranged upon the upper portions of said rollers to have its grooves and its flanges engaging within the grooves of such rollers, a friction drive roller arranged within the spinning ring and engaging the lowermost portion of the spinning ring when the spinning ring is mounted upon said rollers, the friction drive roller being mounted upon the drive shaft to be driven thereby and held against vertical movement, all of said rollers being arranged in a triangular group and the lower grooved rollers being disposed adjacent to the ends of the base of the triangular group and the friction drive roller being disposed at the upper apex of the triangular group, the grooved rollers being shiftable vertically with the carrier member toward and from the drive roller, a generally horizontal vertically swinging lever pivotally mounted upon the support and engaging beneath the carrier member and between the guide rods to raise the carrier member, a pivotally mounted vertically swinging treadle arranged beneath the support, and an element connecting the treadle and lever, the springs serving to raise the treadle.

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