G. HABIG.

ROLLER BEARING DRIVE.

APPLICATION FILED JUNE 13, 1910.

1,044,379.

Patented Nov. 12, 1912.

2 SHEETS—SHEET 1.

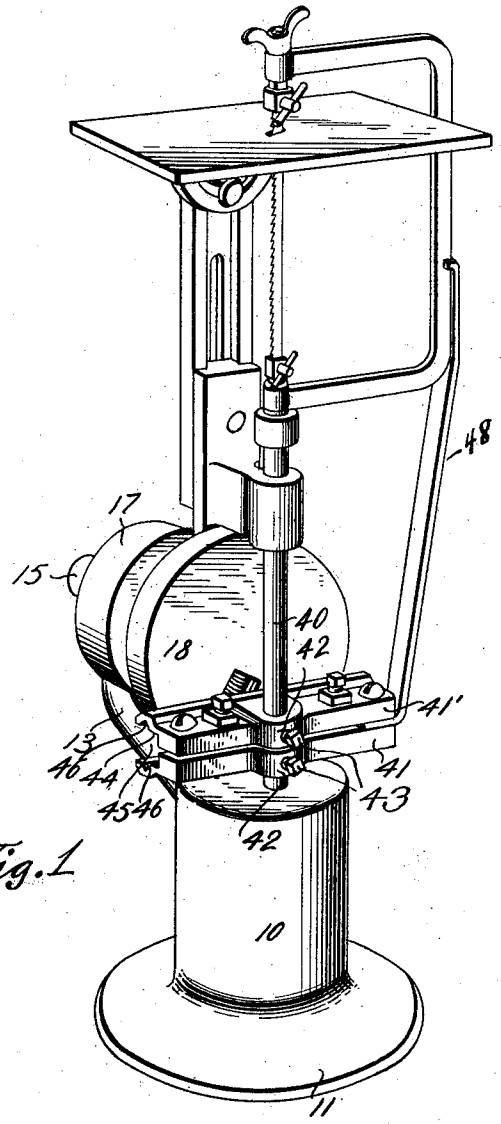

Fig. 1

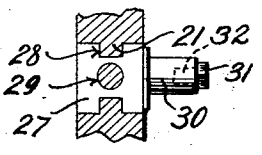

Fig. 7

Witnesses

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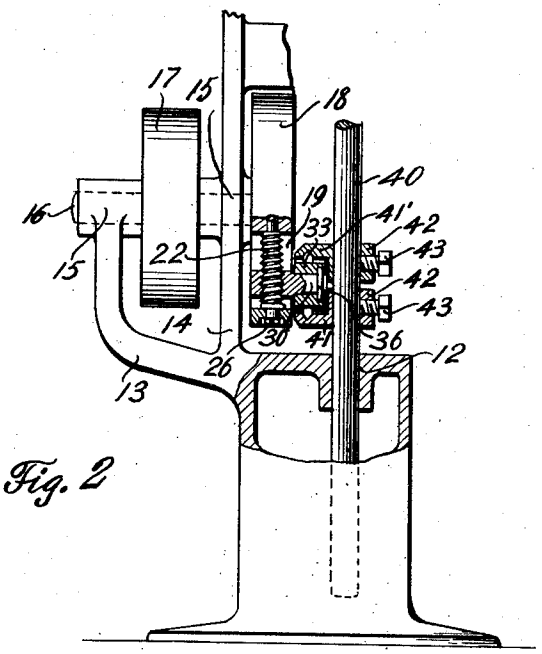

Fig. 2

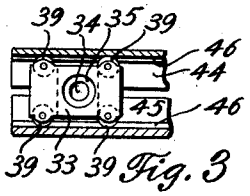

Fig. 3

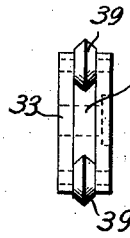

Fig. 4

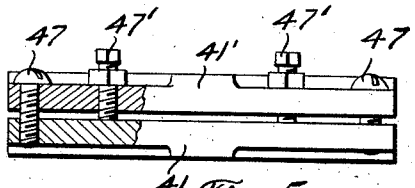

Fig. 5

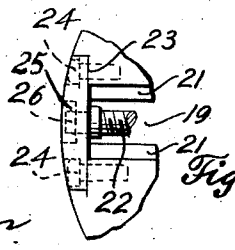

Fig. 6

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE HABIG, OF LOS ANGELES, CALIFORNIA.

ROLLER-BEARING DRIVE.

1,044,379. Specification of Letters Patent. Patented Nov. 12, 1912.

Application filed June 13, 1910. Serial No. 566,623.

To all whom it may concern:

Be it known that I, GEORGE HABIG, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Roller-Bearing Drives, of which the following is a specification.

This invention has reference to mechanical improvements, and particularly to roller bearing drives adapted for use in pumps, engines, filing and cutting machines, and the like.

The drive set forth in the accompanying drawings is particularly adapted for filing and cutting machines and contemplates the provision of a means whereby the stroke of the cutting or filing element may be adjusted.

A further object is to provide a means whereby friction may be greatly reduced and the strength and accuracy of the device be increased.

With the above and other objects in view this invention consists in the construction, combination, and arrangement of parts, all as hereinafter more fully described, claimed and illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of a filing and cutting machine provided with the roller drive constituting the present invention; Fig. 2 is a side elevation of the base, partly in section; Fig. 3 is a fragmentary longitudinal section of the bearing bar showing the bearing in elevation; Fig. 4 is an end elevation of the bearing; Fig. 5 is a detail view of the bearing bar; Fig. 6 is a fragmentary elevation of the driving disk; Fig. 7 is a partial transverse section through the driving disk.

The present invention resides in the provision of a base having a pair of brackets or mountings formed thereon, said mounting having journaled thereon a shaft, said shaft carrying a driven pulley, and a driving disk. A vertical shaft or rod reciprocates vertically in the base and is connected to the driving disk by an adjustable roller bearing.

Referring more particularly to the drawings 10 indicates a cylindrical base provided with the transverse outwardly extending retaining flange 11 and the vertical opening 12. An off-set bracket 13 is formed or secured to one side of the base 10 and coöperates with a similar bracket 14 formed on the upper end of the base 10, each of said brackets having at their upper extremities the journal boxes 15, in which is rotatably mounted the shaft 16. A pulley 17 is mounted on the shaft 16 adjacent to the off-set bracket 13 and transmits power to said shaft. A driving disk 18 is similarly secured to the shaft 16 adjacent to the bracket 14 and is superposed above the base 10. A passage 19 extends from the center of the disk radially to the periphery thereof, and is provided with the centrally located shoulders 21, said passage being provided at its outer extremity with a shoulder 23 on which is secured by the screws 24 a block 25, said block providing a removable extremity to the slot permitting the adjustable driving block to be placed therein. A rotatable threaded shaft 22 is swiveled in the passage 19 and is provided with the squared head 26 which rests flush with the block 24 and is operated therefrom.

A rectangular driving block 27 is slidably mounted in the passage 19 through the instrumentality of the channels or grooves 28 formed in the oppositely disposed sides thereof which engage the shoulders or ribs 20 located on each side of the passage 19. The screw 22 passes through a threaded opening 29 in the block 27 and provides a means whereby said block may be positioned as desired along the passage 19. This block is also provided with a stud 30 which projects laterally therefrom, said stud having a squared head 31 at its outer extremity, through which extends a threaded orifice 32.

A block 33 forms the connection between the bearing bars carried by the driving rod and is provided with a centrally disposed transverse opening 34 which is rotatably mounted on the stud 30, said opening being provided with an enlarged counter-sink 35 in which is received the washer 36, said washer being provided with a squared opening which receives the faced head 31 of the stud 30. A screw is then inserted in the opening 32 of the faced head 31 of the stud and firmly, but rotatably mounts the block 33 on the stud. A vertical channel 38 is provided at each end of the block 33 and has rotatably mounted at each extremity thereof the rollers 39, said rollers projecting vertically from the channel and being tapered toward the periphery thereof.

A vertical driving rod 40 is mounted in the opening 12 and carries thereon the bearing plates 41 and 41′ which are superposed above each other and form in combination a grooved slot wherein the block 33 reciprocates. Each of these plates comprises a bar having centrally disposed on the rear face thereof the eye or sleeve 42, through which the shaft or rod 40 extends and is rigidly secured by a set screw 43. An offset portion 44 in each bar forms in combination a channel 45 in which the block 33 reciprocates, said channel being provided with the grooves 46 to receive the rollers 43. The superposed plates 41 and 41′, constituting the double bearing bar, are clamped together by means of screws or bolts 47, while the adjusting screws 47′ permit said plates to be properly adjusted to receive the bearing block 33 and also allow any wear caused by continued use to be taken up.

From the foregoing it will be readily seen that the stroke of the rod or shaft 40 is directly proportional to the position of the block 27 in the passage 19. It will also be seen that the block 33 will rotate on the stud 30 and reciprocate in the passage or channel 45. A brace 48 is secured between the terminals of the bearing plates 41 and 41′ and extends upwardly, and has slidable engagement with the saw or tool operated by a rod 40. This construction insures the positive engagement between the saw and the material operated upon, and prevents the saw or tool from springing away from the material.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

In combination, a roller bearing drive comprising a driven rod, a bearing bar consisting of superposed plates having longitudinal grooves formed in their opposing faces, said bar being adjustably mounted on the driven rod, a driving shaft mounted adjacent to the driven rod, a disk mounted on said shaft, a driving stud carried by the disk, a bearing block arranged for movement between the plates aforesaid and having an opening therethrough to receive the stud, rollers mounted on the bearing block contacting with the grooves of the bar plates, means for adjusting the driving stud to regulate the length of stroke of the driven rod, clamping bolts to secure the plates aforesaid together, adjusting screws mounted in the bar to permit relative adjustment of the plates, a device to be reciprocated carried by the upper extremity of the driven rod, and a brace having one end received and clamped between the plates and the other end slidably engaging the said device.

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

GEORGE HABIG.

Witnesses:

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MAYBELLE E. BURKE.