

W. D. NASH.
ECCENTRIC.

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1,014,896.

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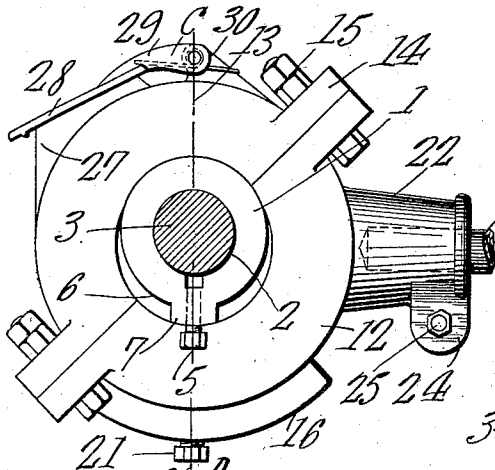


Fig. 1.

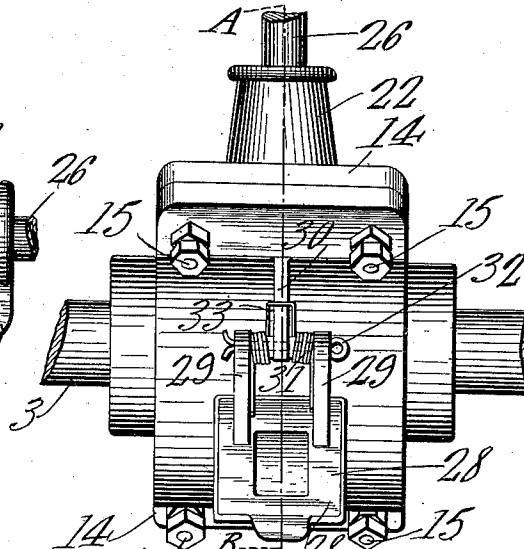


Fig. 2.

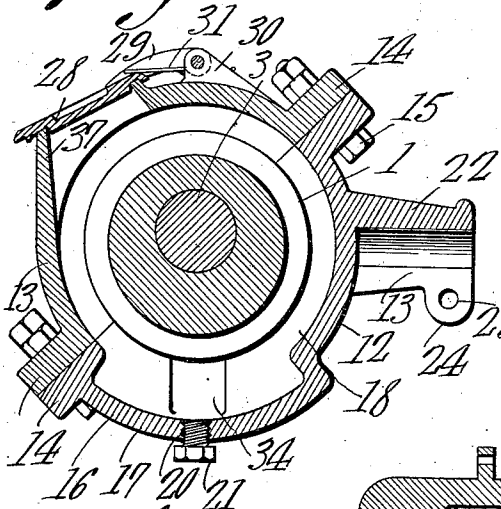


Fig. 3.

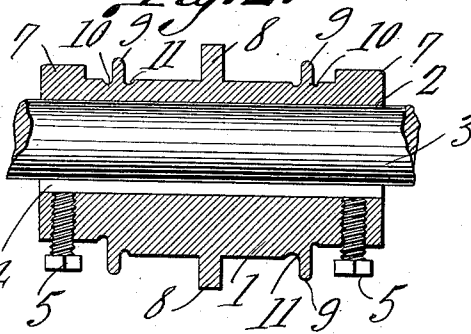


Fig. 4.

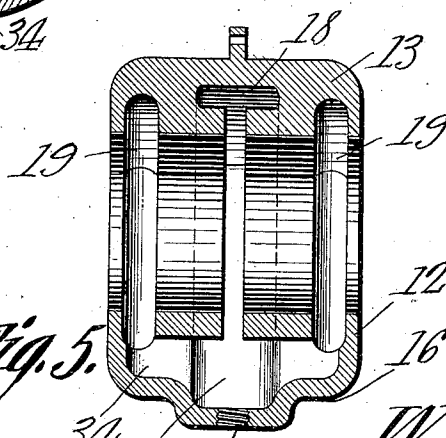


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

WALTER DEVEREUX NASH, OF ATLANTA, GEORGIA, ASSIGNOR TO ATLANTA UTILITY WORKS, OF EAST POINT, GEORGIA.

ECCENTRIC.

1,014,896.

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To all whom it may concern:

Be it known that I, WALTER DEVEREUX NASH, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful Eccentric, of which the following is a specification.

This invention relates to eccentrics for use in actuating fertilizer shakers and other devices to be given a rectilinear motion.

The principal object of the invention is to provide a self oiling eccentric having means whereby dust is prevented from lodging between the working faces of the eccentric block and strap and the use of Bab-bitt or other soft metal such as commonly employed, is rendered unnecessary.

A further object is to provide means for preventing the waste of lubricant.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is an end elevation of the eccentric block and strap, a portion of a connecting rod being shown attached to the strap. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a section on line A—B Fig. 2. Fig. 4 is a central longitudinal section through the eccentric block and showing a shaft therein. Fig. 5 is a central longitudinal section through the eccentric strap, said section being taken on the line C—D Fig. 1.

Referring to the figures by characters of reference 1 designates a cylindrical eccentric block having an eccentric bore 2 extending longitudinally therethrough for the reception of a shaft 3. This shaft is keyed to the eccentric block, as indicated at 4 and a set screw extends into either or both ends of the block, as indicated at 5 for the purpose of holding the key against longitudinal displacement. Each end portion of the block is formed concentric with the bore as indicated at 6 there being an enlargement

upon each of these concentric portions and in which the set screw is mounted, said enlargement being indicated at 7.

An annular flange 8 is formed on or secured to the middle portion of the block and annular ribs 9 are also formed on the block adjacent the ends thereof and formed in the block close to the outer face of each rib is a dust collecting groove 10 extending around the block while an oil returning groove or channel 11 is formed within the block adjacent the inner face of each rib, these grooves 11 also extending entirely around the block.

The eccentric strap, which has been shown in detail in Figs. 1, 2, 3 and 5, is made up of an arcuate lower section and an arcuate cap or upper section, these sections being indicated at 12 and 13 respectively. The two sections are provided, along their meeting faces, with outstanding flanges 14 for the reception of securing bolts 15 or the like whereby the sections may be securely fastened together to form a continuous ring surrounding the eccentric block. The lower section 12 has an enlargement 16 at the bottom thereof and in which is formed a lubricant chamber 17 communicating with the lowermost portion of an interior annular groove 18 substantially T-shaped in transverse contour, the narrow or innermost portion of the groove being sufficiently wide to receive the flange 8 hereinbefore referred to. It is of course to be understood that the groove 18 is formed within both of the sections of the strap and extends continuously therein. The strap 13 is designed to fit snugly on the block 1 and interior annular grooves 19 are formed within the strap adjacent its ends and opposite grooves 11 and the ribs 9. A drain opening 20 is formed in the bottom of the chamber 17 and is normally closed by means of a screw plug 21.

A tubular extension 22 projects radially from the strap, this extension being preferably integral with the lower section 12 of the strap. Said extension has a longitudinal slot 23 from the sides of which project ears 24 for the reception of a bolt 25. A connecting rod 26 is to be inserted into the extension 22 and, by tightening the bolt 25, said extension can be contracted about the rod so as to tightly bind upon it and thus hold the rod properly connected to the ec-

centric strap. The top section or cap 13 of the strap has an inlet extension 27 normally closed by means of a plate 28 from which extends spaced arms 29. These arms are 5 pivotally connected to an ear 30 outstanding from the strap section 13. A spring 31 is coiled about the pivot pin 32 at opposite sides of the ear 31 and the terminals of the spring bear downwardly on the plate 28 10 while an intermediate U-shaped portion 33 of the spring bears downwardly on the ear 30. It will be apparent, therefore, that this spring serves to hold the plate normally in closed position so as to prevent the lubricant from splashing out of the strap during 15 the operation of the eccentric.

When it is desired to place a lubricant within the eccentric strap, the plate 28 is swung to open position and the lubricant is 20 poured through the inlet extension 27, said extension, as shown in Fig. 3, communicating with the groove 18. The lubricant will therefore flow into this groove and downwardly into the chamber 17 where it will be 25 retained. When the eccentric block is rotated within the strap, the flange 8 will carry a portion of the lubricant upwardly within the groove 18 and the lubricant will be discharged through the groove and be- 30 tween the meeting surfaces of the block and eccentric strap. This lubricant will gradually work toward the grooves 11 and will be returned by said grooves to the chamber 17, this being permissible in view of the fact 35 that the lower portions of the grooves 19 open into laterally extending passages 34 extending from the chamber 17, as shown in Fig. 5. As the ribs 9 project into the grooves 19, dust is prevented from working 40 between the eccentric block and strap and the admission of dust is further prevented by the groove 10. It will be apparent that, by using an eccentric strap such as described, none of the lubricant will become 45 wasted because any of it which may be directed to the ends of the eccentric strap will be returned to the lubricant chamber 17 by way of the grooves 11.

By providing an interior annular groove 50 which is T-shaped in transverse contour a considerable body of lubricant can be

caused to circulate within the eccentric strap when the flange 8 is rotated.

As has heretofore been stated the eccentric is particularly designed for use in connection with fertilizer shakers but it is to be understood that the same may be employed wherever it may be desired to convert curvilinear motion into rectilinear motion. 60

What is claimed is:—

1. A device of the class described including an eccentric strap having a lubricant compartment in the lower portion thereof and an interior annular groove opening into 65 the compartment, said groove being substantially T-shaped in transverse contour, the narrow portion of the groove being innermost, and an eccentric block mounted for rotation within the strap and having an annular outstanding flange revoluble within 70 the narrow portion of the groove and constituting means for setting up a circulation of lubricant through the wide portion of the groove from and to the lubricant cham- 75 ber.

2. In a device of the class described, an eccentric strap having a lubricant chamber in the lower portion thereof and an annular interior groove opening into said chamber 80 and substantially T-shaped in cross section, the wide portion of the groove being outermost, interior annular grooves within the end portions of the strap, return passages extending from the lower portions of said 85 grooves to the lubricant chamber, and an eccentric mounted for rotation within the strap and having an annular flange projecting into the T-shaped groove and constituting means for setting up a circulation of 90 lubricant from and to the chamber and within the outer or wide portion of the groove, there being annular ribs upon the eccentric and revoluble within the grooves in the end portions of the strap. 95

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WALTER DEVEREUX NASH.

Witnesses:

HERBERT B. DAVIS,
J. WAYNE MOORE.