Aug. 7, 1928. 1,679,425

W. F. HOUSTON

ECCENTER

Filed Nov. 21, 1924

Fig. 1

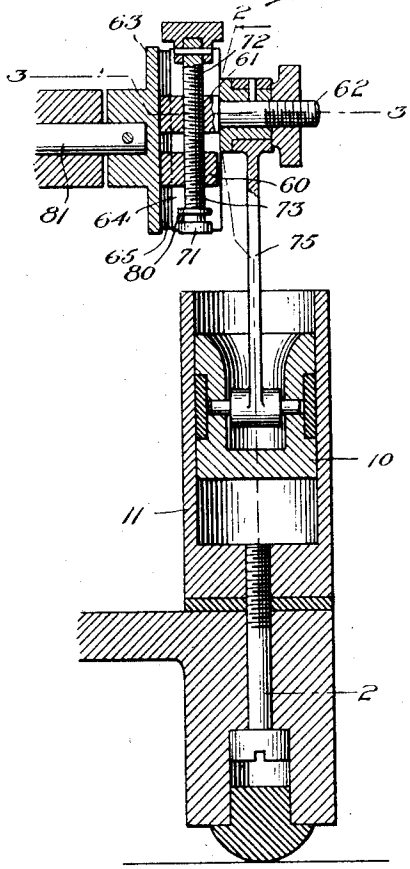


Fig. 2

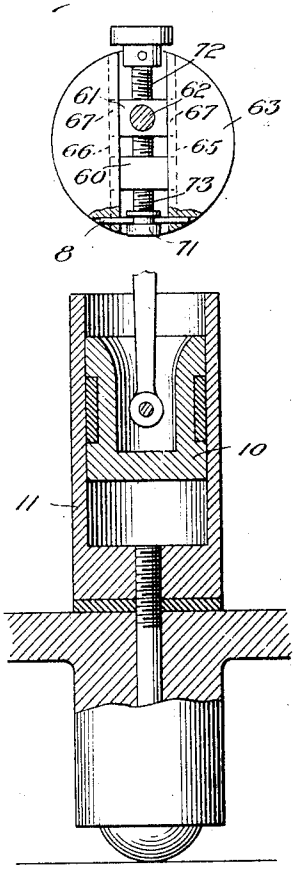
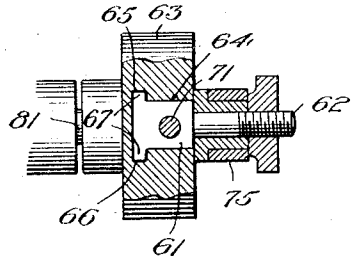


Fig. 3



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UNITED STATES PATENT OFFICE.

WILLIAM F. HOUSTON, OF WASHINGTON, DISTRICT OF COLUMBIA.

ECCENTER.

Application filed November 21, 1924. Serial No. 751,307.

This invention relates to improvements in eccentrics, an object of the invention being to provide an eccentric particularly adapted for use in pulsators designed for treating deafness by creating rapid and repeated concussions on the ear drum.

More particularly, the invention contemplates an eccentric having an adjustable counterbalance to compensate for adjustments which might be made for varying the throw or travel of the eccentric.

With these and other objects in view the invention consists in certain novel details of construction and combinations and arrangements of parts, all as will hereinafter be more fully described and the novel features thereof particularly pointed out in the appended claims.

In the accompanying drawings,—

Figure 1 is a sectional view of an eccentric embodying the present invention;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1; and

Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

In the present invention, the piston 10 in cylinder 11, has a connecting rod 75 journaled on a shaft 62, said shaft having a head or enlargement 61 slidably mounted in an eccenter disk 63. Preferably disk 63 has a slot 64 extending entirely thereacross, said slot being formed at its rear with extension grooves 65, 66 in which flanges or projections 67 on head 61 engage. Secured in disk 63 and extending longitudinally of slot 64 is a screw 71, said screw being held against longitudinal movement by a pin 80 but free to be rotated in said disk. Screw 71 is formed with oppositely disposed screw threads 72, 73, one set of threads being engaged by head 61 of shaft 62 and the other by a counterweight 60. Counterweight 60 is also provided with flanges, similar to flange 67 on head 61, for engagement in grooves 65, 66. Disk 63 is mounted on a shaft 81, rotatable by any suitable driving means, (not shown).

To adjust or vary the stroke of piston 10, it is only necessary to turn screw 71 in disk 63 to increase or decrease the distance between the axes of shaft 81 and shaft 62. It will be apparent that the provision of the two sets of threads 72, 73 for the shaft head 61 and counterweight 60 will result in said counterweight being adjusted with respect to the center of shaft 81 simultaneously with any adjustments made in shaft 62. In this way equalization of the weight of the parts relatively to the center of disk 63 and shaft 81 is quickly obtained, thereby avoiding vibration of the machine and creeping of the machine in consequence of such vibration.

From practical tests it has been found that without the equalizing counterweight 60, the vibrations set up are so great, when the machine is in operation, that the whole machine is caused to creep along its supporting surface. Often-times it will creep to the edge of the table and fall therefrom when not being carefully noticed, for instance, when the apparatus is being used as an air pump for exercising ear drums and the operator must give his individual attention to his patient.

Having described my invention, that which I claim to be new and desire to procure by Letters Patent is:

1. An eccenter embracing a disk having a slot therein, a shaft pin having a head movably mounted in said slot, a counterbalance for said head, and a screw upon which said head and counterbalance are carried.

2. An eccenter embracing a disk having a slot therein, a shaft pin having a head movably mounted in said slot, a counterbalance for said head, and a screw upon which said head is carried, in one direction and upon which said counterbalance is carried in an opposing direction.

In testimony whereof I affix my signature.

WILLIAM F. HOUSTON.