C. A. WOLFE.

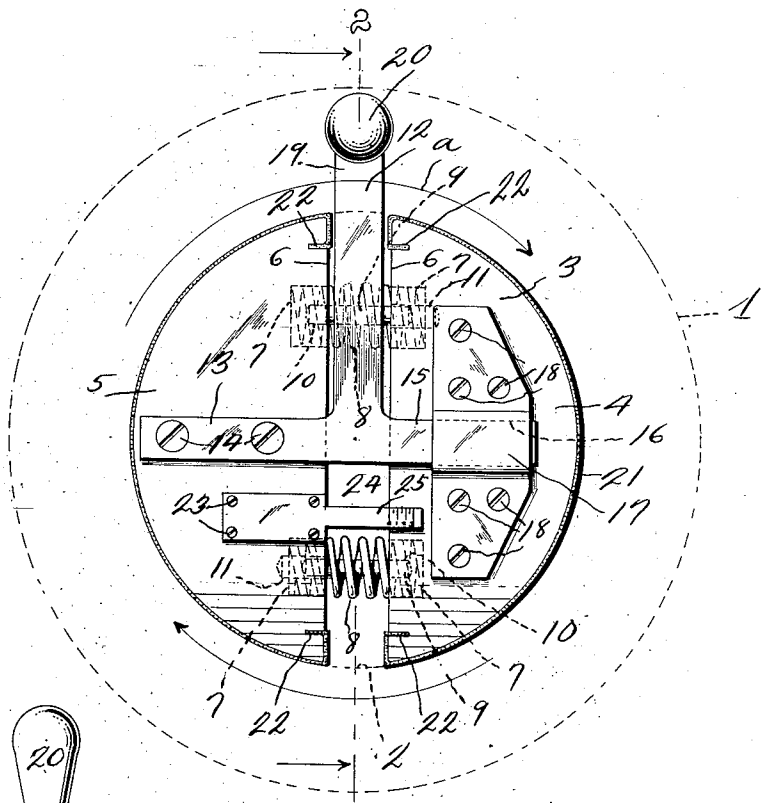
GRINDER FOR CYLINDERS.

APPLICATION FILED OCT. 31, 1919.

1,354,866.

Patented Oct. 5, 1920.

Fig. 1



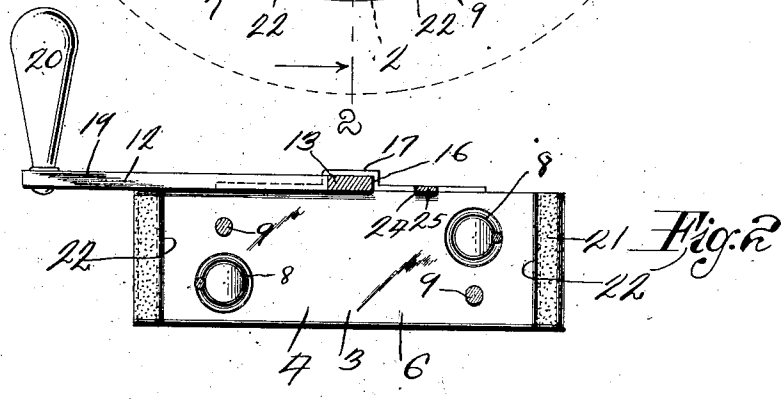


Fig. 2

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UNITED STATES PATENT OFFICE.

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GRINDER FOR CYLINDERS.

1,354,866. Specification of Letters Patent. Patented Oct. 5, 1920.

Application filed October , 1919. Serial No. 334,697.

To all whom it may concern:

Be it known that I, CHARLES A. WOLFE, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented a new and useful Grinder for Cylinders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to a manually operated grinder for cylinders, preferably of the type used in air brake systems, however the device may be used for grinding any type of cylinder, for instance cylinders of internal combustion engines on motor driven vehicles.

A further object is to provide a cylinder grinder comprising a pair of segmental members normally spaced apart and held spaced by means of coil springs disposed between said members, the peripheries of said segmental sections being provided with an abrasive material, such for instance as emery cloth. Also to provide means for guiding the segmental sections relative to each other when they are moved apart by the coil springs. A further object is to provide a handle member T-shaped in form, one arm of said handle member being secured to one of the segmental sections, the opposite arm of said handle member being slidably mounted in a bearing of the other segmental section so that the segmental sections will be additionally guided as they are forced outwardly from each other. Also to provide means whereby the amount of cut taken from the wall of the cylinder may be easily ascertained.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawings, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a plan view of the cylinder grinder, showing the same applied to a cylinder.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Referring to the drawings, the numeral 1 designates a cylinder and 2 the bore thereof. The grinder 3 is formed from a pair of segmental sections 4 and 5, said sections having their peripheries of standard curvatures according to standard sizes of cylinder bores. Disposed between the inner sides 6 of the segmental sections and in recesses 7 thereof are the ends of coil springs 8, which coil springs are adapted to exert an outward pressure upon the segmental sections 4 and 5, so that their outer curved surfaces will frictionally engage within the bore 2 of the cylinder. Springs 8 also allow the placing of the grinder as a whole within the cylinder 4 when the segmental sections are forced together and the springs compressed. During the outward and inward movement of the segmental sections 4 and 5, said sections are maintained in the proper relation to each other by means of pins 9, one end of said pins being secured as at 10 in one of the segmental sections, the other ends of said pins being slidably mounted in apertures 11 of the other segmental sections. These pins prevent the wabbling of the segmental sections in relation to each other and insure a uniform grinding of the bore 2 as the grinder is revolved.

The grinder is rotated in the direction of the arrow *a* by means of a T-shaped handle 12, the arm 13 of which is secured to the segmental section 5 by means of screws 14. The opposite arm 15 to the arm 13 is slidably mounted in a bearing 16, which is radially disposed in relation to the center of the grinder and is formed by an arching plate 17 which arches over the arm 15 and is secured by means of screws 18 to the segmental section 3. Arm 9 of the handle 12 is provided with a right angled gripping member 20 which is adapted to be gripped by the hand of the operator so that the grinder as a whole may be rotated for taking a cut from the bore of a cylinder. The outer curved edges of the segmental sections 3 and 4 are provided with emery cloth 21, which cloth may be of different degrees of fineness, according to the nature of the work. However it is to be understood that files may be secured to the segmental sections and used in place thereof. Where emery cloth is used the ends of the emery cloth are disposed in notches 22 in the edges 6 of the segmental sections. Secured as at 23 to one of the segmental sections is a plate 24, the end 25 of which is provided with a scale which will indicate the amount of cut that has been taken from the

bore of the cylinder, said scale being read in conjunction with one edge 6 of one of the segmental sections.

The invention having been set forth what is claimed as new and useful is:—

A cylinder grinder comprising a pair of segmental sections having their curved sides outwardly disposed and adapted to engage the bore of a cylinder, coil springs disposed between the inner adjacent edges of the segmental sections and having their ends disposed in recesses, said coil springs forming means for forcing the curved surfaces of the segmental sections into frictional engagement with the bore of the cylinder, abrasive material carried by the curved surfaces of the sections, guide pins disposed between the inner edges of the sections, a handle member secured to one of said sections and provided with an arm overlying the other section, said overlying arm being slidably mounted in a bearing carried by said section, and means carried by one of the sections and overlying the other section whereby the amount of cut taken from the bore of a cylinder will be indicated.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES A. WOLFE.

Witnesses:
J. C. JAEHNS,
ANTHONY CICHORACKI.