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G. W. DONNELLY

1,472,295

METHOD OF TREATING PISTON AND CYLINDER SURFACES

Filed Sept. 30, 1922

Fig. 1.

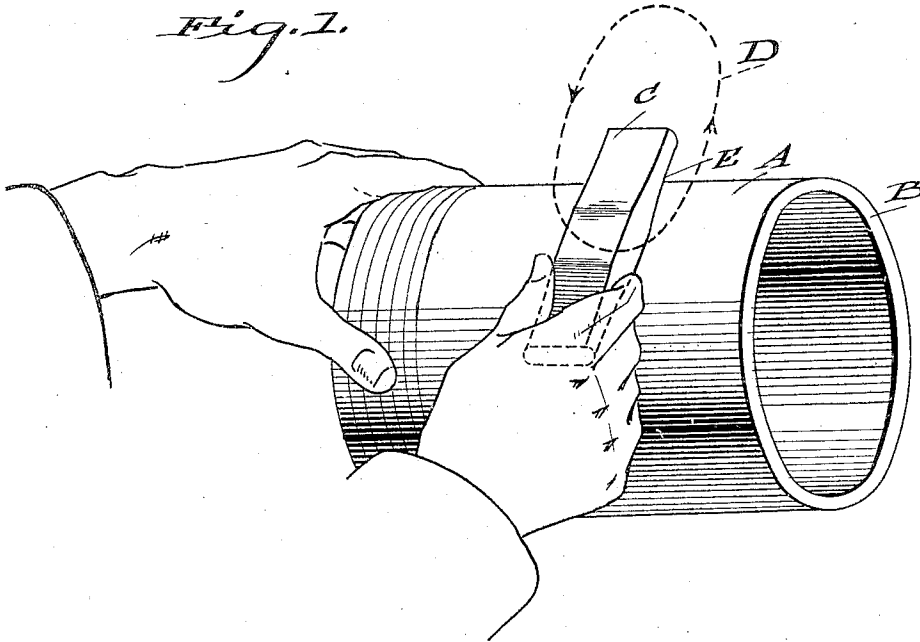


Fig. 2.

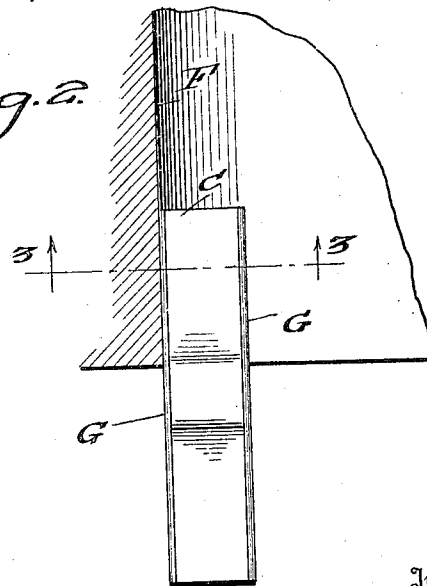
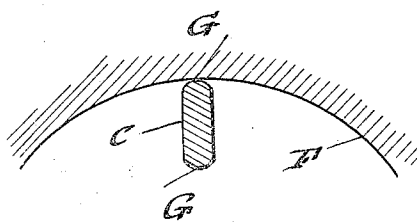


Fig. 3.



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METHOD OF TREATING PISTON AND CYLINDER SURFACES.

Application filed September 30, 1922. Serial No. 591,586.

To all whom it may concern:

Be it known that I, GEORGE W. DONNELLY, a citizen of the United States, residing at Rouzerville, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Methods of Treating Piston and Cylinder Surfaces, of which the following is a specification.

The present invention relates to methods of dressing or putting a final finish upon the coating surfaces of engine pistons and cylinders so as to produce faces that will effectively retain a film of oil, thereby sealing the joint and insuring the same against leakage with consequent loss of power.

In the accompanying drawings:—

Figure 1 is a perspective view indicating a simple means for carrying out the method in treating the piston surface,

Figure 2 is a view illustrating the means that may be employed for operating on the cylinder in which said piston is placed,

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

In carrying out the invention the surface A of a piston designated B is lightly honed. This may be accomplished by any suitable means, and in the present disclosure a hone C is shown as being manually operated. This manipulation preferably is in a generally gyratory course as indicated by the dotted line D. The hone may also be slightly concaved, as illustrated at E. This hone is of a fine texture, such as is used in the honing of razors or other sharp-edged instruments.

It is applied by a light pressure and the entire surface gone over. The same can be accomplished with great expedition manually as indicated in Figure 1 of the drawing.

The coating surface of the cylinder, which is indicated at F in Figures 2 and 3, is similarly treated, the edges G of the hone being preferably convexed so as to provide a rounded surface that will act upon the surface of the cylinder.

Actual experience has demonstrated that this dressing or treatment provides coating surfaces of a character that will effectively hold a film of oil between them and thus seal the joint. In the case of internal combustion engines, it results in a high degree of compression, in that it eliminates leakage. Indeed it has been found that this is true, even with worn pistons, and that it is unnecessary to have tight fitting rings therein.

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

The method of finishing the coating surfaces of the cylinders and pistons of engines, which consists in completely honing said coating surfaces with a light pressure and a generally gyratory motion.

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

GEORGE W. DONNELLY.

Witnesses:

ROY E. FRIEDLY,
JOHN A. POTTER.