

UNITED STATES PATENT OFFICE.

CHARLES C. BUTTENFIELD, OF PITTSBURGH, PENNSYLVANIA.

PISTON AND CYLINDER FITTING COMPOUND.

No Drawing.

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To all whom it may concern:

Be it known that I, CHARLES C. BUTTENFIELD, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Piston and Cylinder Fitting Compounds, of which the following is a specification.

My invention consists of an improvement in piston-and-cylinder-fitting compound, for eliminating scored walls or other roughness on the surfaces of either, or on the piston rings, to give a smooth glossy finish, with resulting perfect contact and compression. Its object is to act as a combination abrasive and lubricant, so that after having performed its abrading function, the abrasive elements will be broken down completely, rendering it unnecessary to remove or wash any part of the compound from the working parts, while continuing to function as a lubricant only.

In making my improved compound, I have utilized selected ingredients having the distinctive desirable characteristics, and these comprise a suitable abrasive in the form of commercial alundum, a plastic body or binder in the form of "white lead," and a further element acting in some degree as a binder and coloring material, with attendant qualities facilitating final polishing, in the form of graphite.

While variations within certain limits as to proportions of these may be made, I have secured excellent results from a composition made up as follows:

Alundum (200 mesh)-----	27.42%
Lead carbonate-----	31.70%
Graphite -----	40.88%

Alundum acts as an abrasive and can be used coarser or finer than 200 mesh according to the metal or alloy and the place and manner of use. The alundum is preferably substantially pure commercial alundum having the usual qualities as to sharp abrasive action and comparatively fine in grain, that

is to say, dependent upon the particular use to which the compound is to be put for its action on cylinder walls, pistons and piston rings or other parts.

The white lead or lead carbonate is the usual white lead of commerce and acts as a plastic body and binder for the contained ingredients. The lead serves as a vehicle for the abrasive and also acts to break down the abrasive as the work progresses.

The graphite is preferably of comparatively fine grade and small size so as to avoid the appearance of any particles of appreciable size. The graphite serves to some extent as a binder, to color the composition in strong contrast with the metallic body or surface under treatment and makes more evident to the eye the effect and progress of the work.

This compound is used as follows:—Use approximately one teaspoonful (more or less) for each cylinder. Mix this with lubricating oil to the thickness of paint. It is preferable to use a common paint brush so as to thoroughly coat each piston with this mixture just before assembling the cylinder block and pistons. In case the motor is revolved with external power with the crank case off, it will be necessary to add oil to the cylinders through the spark plug holes. In case the motor is completely assembled it is not necessary to add any oil, provided the crank case is well supplied. In no case is it necessary to remove any of the compound remaining in any part of the motor as it will have been completely broken down and will not do any harm to any part of the machinery in any manner, shape or form. After between one and two hours' running of the motor, either under its own power or under external power, the cylinder walls will have a perfect gloss, the pistons will be absolutely smooth, the rings will be seated perfectly, and thus perfect compression will result.

The advantages of the invention will be understood and appreciated by all those familiar with the use of internal combustion

and other engines. It is cheap and efficient in manufacture and use, and easily applied without previous experience or special skill.

What I claim is:

- 5 1. A piston and cylinder fitting compound composed of alundum, lead carbonate, and graphite, substantially as set forth.
2. A piston and cylinder fitting compound composed of 28 parts of alundum in finely
10 comminuted form, 32 parts of commercial

white lead, and 40 parts of graphite in finely divided form.

3. A piston and cylinder fitting compound composed of alundum, lead carbonate, and graphite in substantially the proportions set forth, mixed together with a suitable oil content, as described. 15

In testimony whereof I hereunto affix my signature.

CHARLES C. BUTTENFIELD.