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ABRASIVE MATERIAL FOR POLISHING

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Fig 1

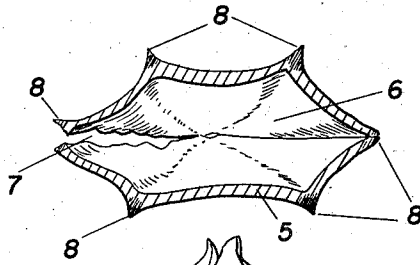


Fig 2

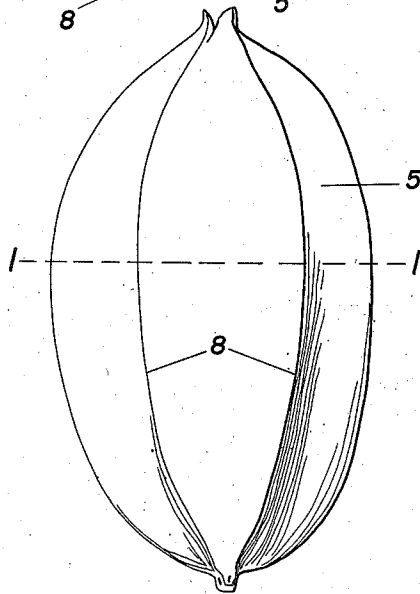
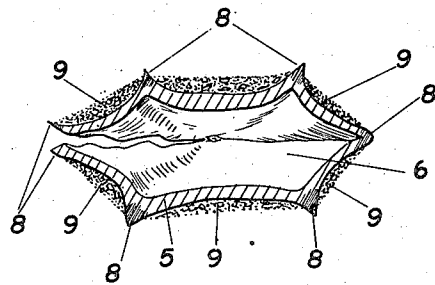


Fig 3



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## ABRASIVE MATERIAL FOR POLISHING

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1 Claim. (Cl. 51-164.5)

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This invention relates to polishing materials and particularly to abrasives for use in tumbling operations where tumbling barrels are used.

The principal object of this invention is to produce a material which may be placed in the tumbling barrel, together with the parts to be tumbled, which material will have both a cushioning effect and also an abrasive affect.

A further object is to produce a material which is economical to manufacture and one wherein the various ingredients to be used therein may be readily obtained.

A further object is to provide a material which is not only speedy in its polishing action, but also one which may be readily separated from the parts upon the completion of the tumbling or polishing operation.

A further object is to produce a material which is absorptive and, therefore, practically dustless as compared with other materials now being used.

A further object is to produce a material which can be used with standard tumbling equipment, obviating all alterations in the same.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a cross-sectional view of a rice hull, greatly enlarged, and taken on the line 1-1 of Fig. 2.

Fig. 2 is a side elevation of a rice hull, and

Fig. 3 is a cross-sectional view similar to Fig. 1, showing the manner in which the oil, dust and abrasive material accumulates on the outer surface of the rice hull during the use thereof.

In polishing small parts it is common practice to employ the process known as tumbling. This consists of placing within a barrel a number of parts to be deburred or polished together with abrasive compound; then the barrel is rotated so that the various parts fall over each other and thereby burnish each other and effect a polishing operation for the removal of burs.

It also has been common practice to place the parts in a barrel and merely tumble them. This has proved to be objectionable inasmuch as the parts are apt to become scratched in the tumbling operation and the scratches will not polish out; also, considerable breakage is liable to occur. In some cases an abrasive material is placed in the barrel in order to speed up polishing action, thus

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causing dust to form and hence the parts had to be cleaned after the tumbling process.

Up to the present time the different materials have been very expensive; therefore, applicant has endeavored to produce an agent which will be most economical to buy and use; also one, containing ingredients readily procured.

Applicant has produced a new polishing material in which the ingredients not only perform the polishing function, but also are of such an elastic nature that when the parts fall upon each other there is produced a cushioning effect, thus preventing scratching of the parts.

Applicant's material is also of such a nature that it will scour and polish through its own abrasive effect, also acting to hold other added abrasives to assist in the polishing operation. Due to the absorptive nature of the material it is capable of gathering and holding the dust particles.

Applicant's material is also such that it does not adhere to the parts being polished and can, therefore, be easily removed by shaking or brushing the article, or by the use of air.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates a rice hull as a whole.

By viewing Figs. 1 and 3, it will be noted that the hull is hollow, as shown at 6; the opening 7 being that caused during the threshing operation at which time the grain of rice within the hull was removed.

Rice hulls are formed with ridges, as shown at 8, which ridges are practically pure silica at the tip of each ridge; therefore representing a good abrasive characteristic. The fact that the hull is hollow assures adequate cushioning, for the reason that when the two halves are pressed together a spring action between the two parts of the hull results; therefore, as the parts are tumbled together, this spring action cushions the action of the parts in tumbling.

In Fig. 3 it will be noted that the space between the ridges 8 forms a channel in which dirt and dust can accumulate, as shown at 9 and will be later described.

By using my polishing material rice hulls may be used either alone or with a mixture of one or more parts of cracked or ground-up apricot-pits, walnut shells, or abrasive material such as pumice or emery and oil. The addition of such materials assists in the cutting operation. The addition of oil assists in the collection of dust and dirt, causing it to adhere to the channels 9 of the rice hulls which are somewhat absorptive and will prevent

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the dirt and dust from reaching the parts being tumbled and fastening onto the same.

A typical mixture to be used for the tumbling of brass, bronze, copper, die-cast and plastics, is shown herewith:

Rice hulls.....	cubic feet..	2
Crushed walnut shells.....	do.....	1/4
Crushed apricot pits.....	do.....	1/4
Powdered pumice (150 mesh).....	quarts..	2
Light oil.....	do.....	1

If the mixture is to be used for harder material, then an abrasive which is also harder should be used to speed the action.

Having thus described my invention, I claim:

A polishing compound consisting of an admixture comprising two (2) cubic feet of rice hulls, one-fourth (1/4) cubic foot of crushed walnut

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shells, one-fourth cubic foot of crushed apricot pits, to which is added two (2) quarts of powdered pumice and one (1) quart of light oil, all mixed to form a homogeneous mass.

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