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KNIFE SHARPENER

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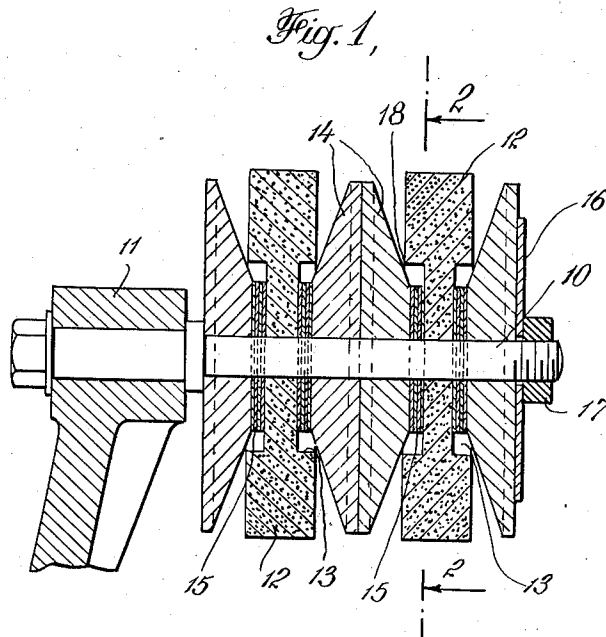
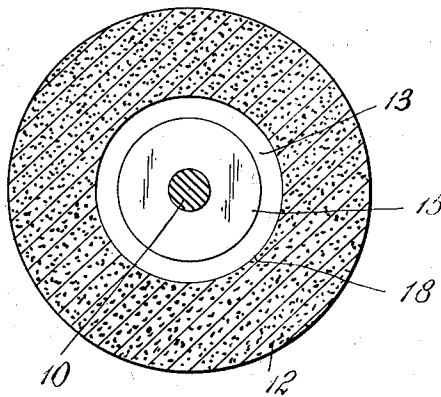


Fig. 2.



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KNIFE SHARPENER

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2 Claims. (Cl. 51—210)

This invention relates to sharpeners for cutlery and is more particularly concerned with a knife sharpener for use in kitchens and shops.

The sharpener which is the subject of this invention is provided with a grinding wheel of an abrasive material having a recess in its face and a conical guide member extending within the recess of the grinding wheel, both mounted for rotation about a common axis, and being so spaced that the side of the guide member adjacent the grinding wheel is spaced away from the outer edge of the recess of the grinding wheel.

In the past, many different types of knife sharpeners have been made but it was found that many of these sharpeners after a short period of use, dulled rather than sharpened the knives. One of the objects of the present invention is to provide a cheap and simply operated knife sharpener, which will continue to sharpen cutlery after a period of use, and which may be adjusted accurately in accordance with the type of cutlery to be sharpened, and in accordance with the type of edge desired.

For a better understanding of the invention reference may be made to the accompanying drawing, in which—

Figure 1 is a side elevational view partly in section and

Figure 2 is a sectional view on the line 2—2 of my new knife sharpener.

In the accompanying drawing which illustrates a preferred form of my new device, 10 represents a shaft, which is held in place and supported for rotation by a bracket 11, which may be of any type or form to hold the device upon a wall or supporting surface such as a table or a counter. Mounted on the shaft are a series of grinding wheels 12, each having a central recess 13 on each face. Frusto-conical guide members 14 each having a convex guiding surface extending within the adjacent recess are also mounted on the shaft 10. The guide members 14 and the grinding wheels 12 are spaced apart the desired distance by a number of thin washers 15 mounted on the shaft. A washer 16 and a nut 17 tightened on the threaded portion of the shaft 10 holds the guiding wheels and guides in place and in the desired position. In the spacing of the grinding wheel and the guides, it has been found that when the guide member is so disposed that a space of not more than .040 nor less than .005 of an inch is maintained between the guide member and the outer edge of the recess 13 in the grinding wheel the best results are obtained with

the minimum of wear on the blade to be sharpened.

In the operation of this device, the blade of a knife is placed against the guide member 14 until it comes into contact with the grinding wheel 12. The knife blade is then drawn back and forth, to contact with the grinding wheel. Due to the fact that the grinding wheel and the guide members are spaced apart by the washers 15, it is possible when the grinding wheel becomes worn by use, to remove one or more of the washers which separate the grinding wheel and the guide members, and thus maintain the proper spacing between them. In the same way by the adjustment of the distance between the grinding wheels and the guide members, different types of blades may be accommodated and different types of edges on cutlery may be obtained.

In the sharpener, subject of this invention, the illustrated shape of the grinding wheels has been found advantageous. It has been noted that in the usual sharpener in which the guide member and the grinding wheel converge, the efficiency is reduced as the grinding wheel wears down, and in many cases the knife is dulled rather than sharpened. In some devices of the prior art it has been found that bits of the grinding wheel lodge in the vortex of the angle where the grinding wheel and guide members converge, and the bits of the grinding wheel thus dull and ruin the edge of the blade, rather than sharpen it. In the present device, any abrasive particles resulting from the wearing away of the grinding wheel will fall into the space formed by the recess in the grinding wheel.

I claim:

1. In a sharpening device, the combination of a shaft, a wheel mounted on said shaft, at least one face of said wheel being a grinding face, said wheel having a central recess extending inwardly from said grinding face, a guide member mounted on said shaft and having a conical face opposite the grinding face of said wheel extending into said recess, the conical face of said guide member being slightly spaced from but sufficiently close to the inner edge of the face defining said recess that an article to be sharpened, when placed in the space between the grinding face of said wheel and the guide member, will lie substantially continuously in contact with the grinding face of said wheel, and adjustable means providing for adjustment of said guide member towards said wheel as the grinding face of said wheel wears, whereby the relative spacing of the conical face of said guide member to the edge of the grinding

face defining said recess substantially may be maintained.

2. In a sharpening device, the combination of a shaft, a wheel mounted on said shaft, at least one face of said wheel being a grinding face, said wheel having a central recess extending inwardly from said grinding face, a guide member mounted on said shaft and having a conical face opposite the grinding face of said wheel extending into said recess, the conical face of said guide member being between about .005 and .040 inch from the inner edge of the face defining said recess so that abrasive particles resulting from the wearing away of the grinding wheel may fall

into said recess, but an article to be sharpened, when placed in the space between the grinding face of said wheel and the guide member, will lie substantially continuously in contact with the grinding face of said wheel, and a series of thin washers or shims positioned in said recess and between the grinding wheel and the guide member, whereby, as the grinding face of said wheel wears, the relative spacing of the conical face of said guide member to the edge of the grinding face defining said recess substantially may be maintained by progressively removing said thin washers or shims.

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