

Feb. 22, 1938.

L. M. HAGUE

2,108,985

FIBROUS BUFF

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Fig. 1.

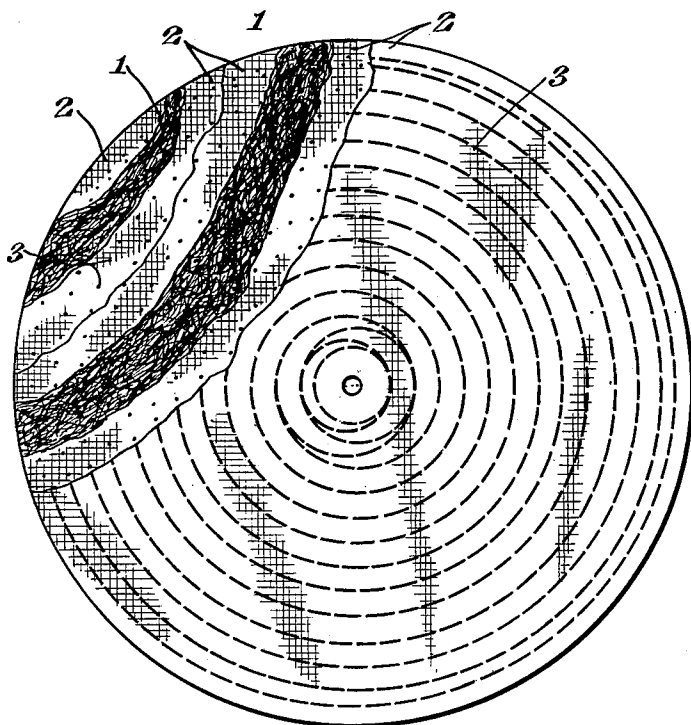


Fig. 2.

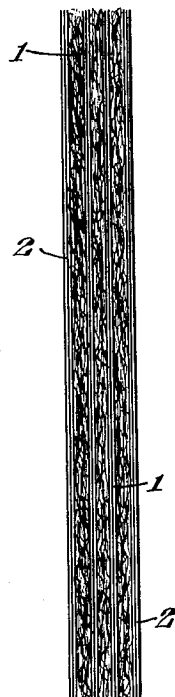


Fig. 3.

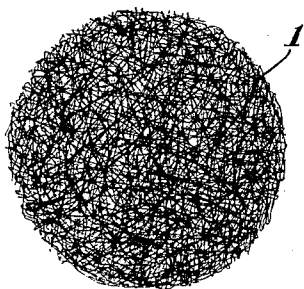
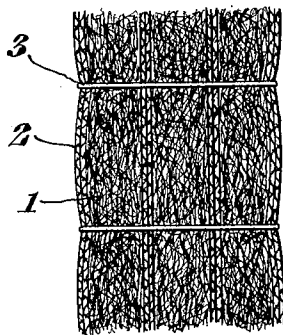


Fig. 4.



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FIBROUS BUFF

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1 Claim. (Cl. 51—193)

This invention relates to buffing wheels. The primary purpose of this wheel is to speed up cutting-down operations, but other uses for it will be readily suggested to those skilled in the art.

There have been attempts heretofore to make wheels capable of cutting-down rapidly, by embodying in the wheels stiff fibers, such as tampico, in combination with cloth. So far as I am aware these attempts have not succeeded, due to the fact that the fibers were not of the proper character to cooperate with the cloth, were radially arranged so as to present ends at the periphery of the wheel, like a brush, and the stiff ends alternating with the soft fabric caused ridging or grooving of the surface of the work.

A wheel made in accordance with my invention secures the advantage of rapid cutting-down without the danger of ridging or grooving. This result is accomplished by making up the wheel of alternate layers of cloth, such as muslin, and a mat composed of highly flexible, felted, woody fibers heterogeneously arranged. The best results have been obtained by combining with the cloth layers a mat made by applying heavy pressure to a tangled mass of sisal fibers. These fibers are long and very tough, they are springy without being too harsh or stiff to properly cooperate with the cloth and the polishing composition, and they form a firmly knitted mat which holds together well. The composite body made up of alternate layers of fiber mat and cloth is stitched together in sections by any desired form of stitching, and these sections can be assembled in groups to form a wheel of suitable width. The cloth being stitched to the fibrous mat prevents the mat from flying apart or getting out of center by centrifugal action and limits distortion of the wheel caused by the pressure of the article being buffed.

I believe the superior action of my wheel over fiber and cloth wheels previously tried is due to a number of causes. In the first place it does not present to the work only rows of fiber ends separated by soft cloth layers, which are apt to track and groove the surface. It presents springy masses of fibers contacting the surface with ends and sides following each other at all conceivable angles and each having a somewhat different action from the others. In the second place the mat of sisal fibers is of just the right consistency to cooperate with the intermediate cloth layers and is incapable of grooving the surface instantly, as stiff tampico fibers can. In the third place, due to the springiness of the fiber mat, the paths of the alternate layers of fiber and cloth are constantly shifting and replacing each other, so that there is no tendency for the fiber to wear down

one place faster than another. In the fourth place, the reticulations of the mat provide an excellent receptacle for buffing composition.

Among the special uses of this wheel may be mentioned those operations formerly taken care of by a scratch brush, such as removal of scale and sand, and production of a satin finish.

One embodiment of the invention is shown in the drawing by way of example.

In the drawing

Fig. 1 is a side elevation, partly in section, of a section of a buff made in accordance with this invention;

Fig. 2 is an edge view of the same buff section;

Fig. 3 is a fragmentary view intended to represent the nature of the fiber mat; and

Fig. 4 is a fragmentary cross-section of a buff section.

The buffing wheel is made up of sections, each composed of alternate layers of the fibrous mat previously described, represented at 1, and suitable cloth facings 2, for instance, of muslin. The cloth facing disks may be made in any number of layers and the fibrous mat may be of any suitable thickness. I have found a very satisfactory mat for the purpose to be one composed of a tangled mass of sisal fibers compressed by high pressure to a thickness of approximately three sixteenths of an inch, but this is more a matter of convenience of production of the mat than limitation based on the use of the buff. Various thicknesses of mat, as well as various types of stitching, will produce different degrees of softness of the buffing wheel. The drawing shows the common form of spiral stitching 3, but any other form of stitching may be employed.

It will be noted by reference to Fig. 3, which represents a mat composed of felted sisal fibers, suitable for this invention, that the fibers are long and intricately tangled, which accounts in part for the ruggedness of this mat in a buffing wheel and the absence of harshness in action. The natural toughness of sisal fibers is also an important quality for the purpose of this invention.

The invention is not limited to the use of sisal fibers, but my present experience indicates that this kind of fibers is superior to any other as a material to be incorporated in a rapid cutting buff, provided it is in the form of a tangled felted mass of springy texture.

Having described my invention, I claim:—

A buffing wheel composed of alternating layers of cloth and mats of felted sisal fibers stitched together, the sisal fibers being bound only by the cloth and stitches and their felted arrangement.

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