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A. M. GOODLOE ET AL  
SCOURING DEVICE

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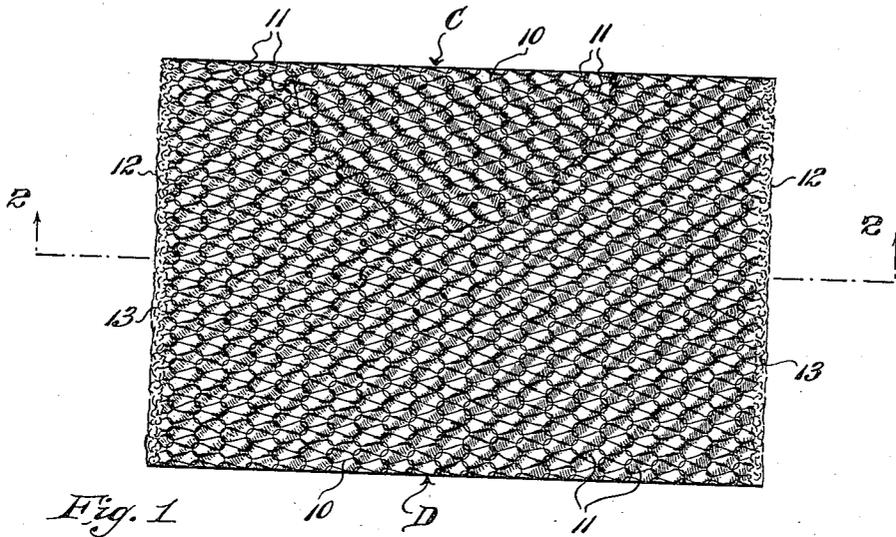


Fig. 1

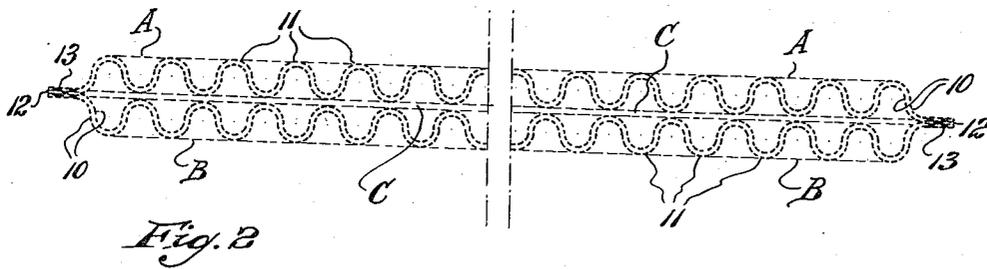


Fig. B

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# UNITED STATES PATENT OFFICE

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## SCOURING DEVICE

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2 Claims. (Cl. 15—209)

This invention relates generally, to an improved scouring device; and the invention has reference, more particularly, to a novel form and construction of scouring device made of knitted metallic mesh material.

Scouring devices for use as pot scrapers and cleaners and for similar cleaning and polishing services have heretofore been formed from knitted metallic mesh material, and have comprised more or less resilient bodies formed of such material, usually by enclosing a wadded mass of the same within covering layers thereof, or by enclosing in layers of the mesh material, a filler or cushioning mass of separate material, whereby a scouring body of sufficiently resilient character is obtained to assure that it will conform to and effectively engage a surface desired to be cleaned when pressed against and rubbed over the latter. Scouring devices of this type, while effective so far as scraping action is concerned, by reason of the interior mass of enclosed stuffing or cushioning material to which cleansing and rinsing water cannot be efficiently applied tends to quickly accumulate grease and other soil, which, not being thoroughly washed away in rinsing, soon developed a sour, dirty and unsanitary condition which induced the user to discard the same long before their otherwise useful life was ended. Furthermore, once the outer covering layers of mesh became unduly worn or frayed the utility of the device ended.

Having the above objections to the heretofore known metallic mesh scouring devices in mind, it is an object of the instant invention to provide a novel form and construction of metallic mesh scouring body which, while providing that desired resilient characteristic whereby the same can readily be conformed to surfaces desired to be scoured therewith, is nevertheless so made that the same can be opened up, after use for efficient application to all parts thereof of cleaning and rinsing water, to the end that it may be kept sweet and clean throughout a long period of useful life.

Another object of this invention is to provide a scouring device made of knitted metallic mesh in a novel body form, whereby it can be folded upon itself to provide a desired body mass, and can also be turned inside out in such manner that various parts thereof may be, optionally, outwardly disposed for direct application to a surface desired to be scoured therewith, thus providing a device adapted for a comparatively long useful life.

Other objects of this invention, not at this

time more particularly enumerated, will be understood from the following detailed description of the same.

An illustrative embodiment of this invention is shown in the accompanying drawing, in which:

Fig. 1 is a face view of the novel scouring device according to this invention, with parts broken away to show underlying portions thereof; and Fig. 2 is an enlarged transverse sectional view, taken on line 2—2 in Fig. 1, but shown schematically.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

The novel scouring device according to this invention is preferably made from a tubular knit seamless metallic fabric, but may also be made, if desired, from layers of single ply or warp knit metallic fabric. The fabric may be all metal, that is one knit entirely from metallic material, preferably of a non-corrosive metal such as Monel metal, although brass, bronze, steel, copper or other metal can, of course, be used; and preferably from a ribbon-like or flat wire, although wire of other cross sectional shapes may be utilized; or the fabric may be knit from textile or vegetable fiber yarn and metallic wire in any suitable manner to produce an abrasive fabric of composite character.

To illustrate a preferred embodiment of the invention, the same is shown as made from a tubular knit metallic fabric. Such tubular knit metallic fabric is first flattened down to form a two ply sheet 10 of desired area, and then such flat two ply sheet is subjected to suitable means whereby the same is wrought into corrugate form, the resulting corrugations 11 preferably, but not necessarily, running obliquely between the fold edges of the sheet. A two ply sheet thus formed is folded lengthwise upon itself so as to superpose sections A and B thereof, in such manner that the corrugations of one section cross those of the other (see Fig. 1). If desired, instead of folding a single length of the two ply sheet to obtain the superposed sections, separate lengths thereof may be provided and superposed. In either case the raw or cut end edges 12 of the superposed sections will be brought into register, and then the bordering marginal portions thereof suitably secured together, as by stitching, stapling, but preferably, and especially when an all metal fabric is employed, by welding, as indicated at 13 in Figs. 1 and 2 of the drawing. The superposed sections, when thus assembled,

will provide a scouring body of rectangular shape having closed margins along two opposite sides, and open margins C and D along the other opposite sides. Owing to this arrangement, the scouring body itself is of a flattened, open ended tubular form, and consequently may be turned inside out with advantages to be hereinafter more particularly noted. While the scouring device in the form above described comprises but two superposed sections A and B, it will be obvious that more than two sections may be employed. It will also be understood, that the scouring body may be formed of superposed layers of single ply warp knit fabric, which may be associated together in a manner similar to that above described, and so as to provide the flexible flat open ended body which is the preferred form of the scouring device.

When the superposed sections of which the body is formed are provided with the corrugations 11, so relatively disposed that those of one section cross those of the other, and consequently do not nest together, the body is thereby given a resilient springy characteristic, whereby the same is more or less elastically compressible so that it will readily conform itself to and efficiently contact a surface desired to be cleaned when pressed against and rubbed thereover. Another advantage of the corrugate form of the sections is that it operates to set the edges of knitted loops of the fabric, especially when knit from flat or ribbon-like wire, at more or less acute angles relative to the face plane of the body, whereby the abrasive or scraping function thereof is efficiently increased.

The novel scouring body of this invention, being initially flat and flexible, may be easily folded upon itself into various forms of greater or less effective mass best adapted for given scraping and cleaning applications thereof to utensil or other surfaces desired to be treated therewith. After use, however, the body may be quickly unfolded and opened up for quick and thorough rinsing out, and in this connection, may also be easily turned inside out so as to more efficiently apply rinsing effect to interior as well as all other parts thereof.

Another advantage of the ability to turn the

body inside out is that, by so doing, fresh and intact interior surfaces may be outwardly presented for use when the initial outer surfaces have become worn or frayed, thus greatly extending the useful life of the device, and permitting effective use of the whole structure for its primary purpose as an abrasive agent without waste.

A somewhat simpler form of the device may be provided by omitting the corrugations from the sections thereof, desired resiliency being obtained by folding the body on itself. Such simplified form of scouring body will, however, retain all the advantages of easy and thorough rinsing, as well as accessibility of all parts thereof for use due to its reversibility or ability to be quickly and easily turned inside out.

Having now described our invention, we claim:

1. A scouring device comprising, superposed sections formed from flexible sheets of knit metallic fabric, said fabric having transverse corrugations impressed therein, the corrugations of contiguous sheets being disposed in angular crossing relation, said superposed sections being secured together along certain opposite side marginal portions thereof so as to leave their remaining opposite side marginal portions disconnected, thereby to provide an endwise open initially flat body capable of being turned inside out at will, and said body being adapted to be temporarily variously folded upon itself in use.

2. A scouring device comprising, sections of tubular knit fabric flattened into sheet-like form and overlaid one upon another, said flattened tubular fabric having transverse corrugations impressed therein, the fabric corrugations of contiguous sections being disposed in angular crossing relation, registered end marginal portions of the superposed sections being secured together with the registered side marginal portions thereof remaining disconnected, thereby to provide an endwise open initially flat flexible body capable of being turned inside out at will, and said body being adapted to be temporarily variously folded upon itself in use.

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