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D. J. MAYER

METALLIC ABRADANT

Filed May 13, 1927

Fig. 1

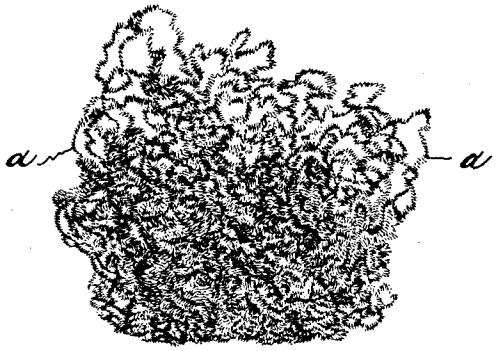


Fig. 2

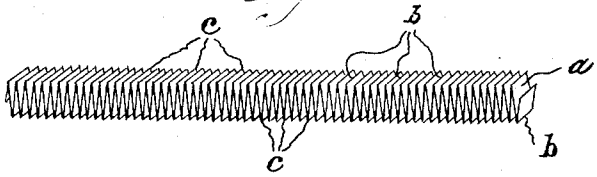
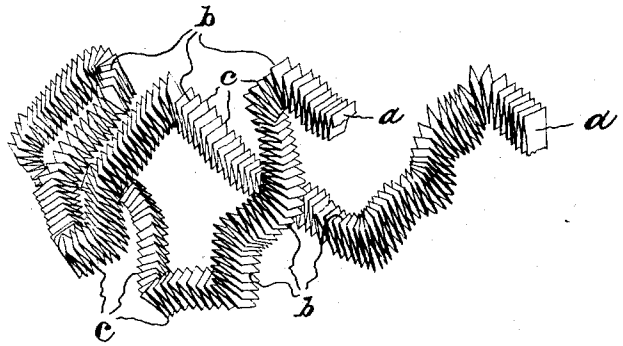


Fig. 3



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UNITED STATES PATENT OFFICE.

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METALLIC ABRADANT.

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This invention relates, generally, to a novel construction of metallic abradant which is suitable for use as a scouring, scraping and cleaning agent.

Heretofore a metallic material known as "steel wool" has been commonly used as an abradant, this material comprising a mass of comparatively fine steel filaments entangled together. This steel wool possesses but a limited efficiency as an abradant, since the steel filaments of which it is composed consist in relatively fine wirelike elements: furthermore, the metal steel easily corrodes or rusts, and when used will, in a very short time, break or splinter off, the resultant particles or splinters often penetrating the fingers to the great discomfort of the user, and being likely also to lodge in cooking utensils, to thence find their way into food so as to be likely to be taken into the human system at the risk of causing physical disturbances.

It is the principal object of this invention to provide a novel form of metallic abradant, which, due to its peculiar structural character, furnishes an improved abradant possessing great abrading and scraping efficiency; and, furthermore, when the novel form of abradant is made of copper or other non-rusting metal, obviates the above referred to objections incident to the ordinary steel wool abradant.

Other objects of this invention not at this time more particularly enumerated, will be clearly understood from the following detailed description of the same.

The present invention is illustrated in the accompanying drawings, in which:—

Figure 1 illustrates a mass of the novel abradant made according to and embodying the principles of this invention; Figure 2 shows in perspective on a large scale a metallic filament of the novel form and structure provided by this invention; and Figure 3 illustrates the manner in which the novel metallic filament is entangled when formed into a desired mass.

Referring to the drawings, the novel abradant comprises a flat ribbon-like metallic wire or strip *a*, with the body thereof transversely folded upon itself in zig-zag fashion to provide a multiplicity of comparatively sharp scraping edges *b* and angular abrading points or corners *c*, all as shown in Figure 2 of the drawings.

The wire or strip body thus formed provides throughout its length a multiplicity of comparatively sharp angular projections which furnish a high degree of scraping or abrading efficiency.

The wire or strip body having the described zigzag formation may be produced in a single continuous run of any desired length, and thereupon may be interfolded, looped and entangled upon itself to form an interentangled mass or a plurality of lengths of the so formed metallic wire or strip may be interlooped, intertwisted and entangled together to produce the desired more or less compacted mass or abradant body shown in Figure 1 of the drawings.

It will be at once apparent that an entangled mass of the zig-zag formed wires or strips when compacted together will form an abradant body furnishing literally hundreds of sharp abrading points and edges, which, by virtue of the tortuous intertwisting entanglement of the filaments, are presented or projected in all possible directions. As a consequence, when applying the thus formed mass of abradant against and rubbing the same upon a surface to be cleaned, scraping points will be effectively brought into play, no matter what the direction of movement imparted to the mass may be; and at the same time, by virtue of the great multiplicity of scraping edges and points, which are engaged with such surface, the abrading or scraping efficiency will be exceedingly high.

It will be understood that the flat or ribbon-like strip may be given formations other than the exact zig-zag formation shown, as long as the object of producing a multiplicity of scraping and abrading edges or points throughout the length thereof is attained.

I prefer to make my novel abradant material of copper or other non-rusting metal, since such metal is more sanitary, less likely to weaken and break or splinter off. It will be understood, however, that so far as the novel zig-zag formation of the filaments are concerned, that such formation would be equally efficient regardless of the particular kind of metal employed, hence, in the broader aspects of the invention I do not limit myself solely to the non-rusting metals. I may also employ a metal which can be more or less hardened or tempered, whereby the effectiveness of the scraping edges and abrading points is considerably increased, and less

tendency to deform out of desired zig-zag or equivalent normal shape is likely.

Having thus described my invention, I claim:—

1. A metallic abradant material comprising a flat ribbon-like body having deformations throughout its length formed by bending said body along lines extending transversely of its width, said deformations being adapted to provide a multiplicity of comparatively sharp scraping elements extending from said body.

2. An abradant material comprising flat ribbon-like metallic wire interfolded upon itself throughout its length along lines extending transversely of the width of said wire and arranged in substantially zig-zag formations to provide a multiplicity of comparatively sharp abrading projections.

3. An abradant material comprising flat ribbon-like metallic wire interfolded upon itself throughout its length along lines extending transversely of its width and arranged in substantially zig-zag formations to provide a multiplicity of comparatively sharp abrading projections, the thus formed wire being tortuously involved upon itself to provide an entangled mass from which said abrading projections variously extend in many directions.

4. An abradant material comprising a mass of intertangled ribbon-like copper wire, said wire being interfolded upon itself throughout its length along lines extending transversely of the width thereof and arranged to provide a multiplicity of variously projected comparatively sharp scraping elements coinciding with said transverse lines of bend.

5. An abradant material comprising a mass of interentangled ribbonlike copper wire, said wire being interfolded upon itself throughout its length in substantially zig-zag formations to provide a multiplicity of variously projected comparatively sharp abrading projections extending transversely of said wire and coinciding with said folds.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 6th day of May, 1927.

DANIEL J. MAYER.