March 17, 1953 R. F. SEELENBINDER 2,631,323

BRUSH AND METHOD OF MAKING SAME

Filed April 21, 1948

Fig.-1

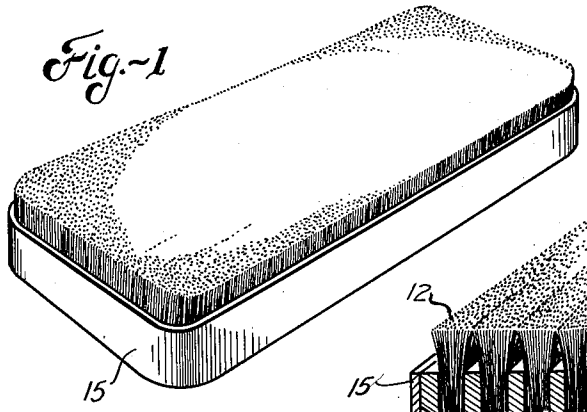


Fig.-2

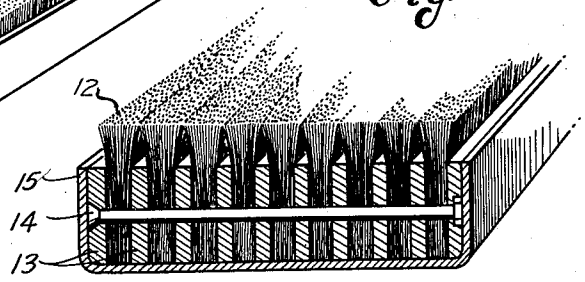


Fig.-3

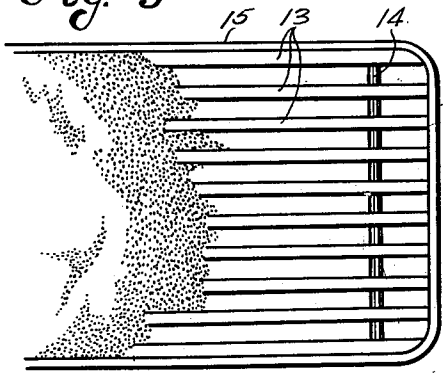
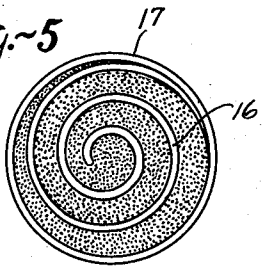


Fig.-5



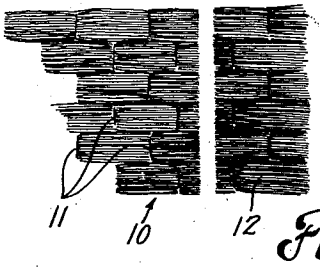


Fig.-4

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Patented Mar. 17, 1953

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UNITED STATES PATENT OFFICE

2,631,323

BRUSH AND METHOD OF MAKING SAME

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Application April 21, 1948, Serial No. 22,370

2 Claims. (Cl. 15—209)

1

This invention relates to metallic wool brushes, and particularly to methods of making such articles.

The invention has particular application to household and industrial scrubbing brushes designed to be applied to the work by hand or by machine. Presently known brushes, whether they be for manual or machine operation, embody a construction in which the metallic wool filaments are disposed in parallel relation with the surface being treated. In comparison therewith, the instant brush embodies metallic wool filaments disposed at right angles to the surface being treated, thereby providing a more abrasive surface which has been found to be more efficient in use and of longer life.

The object of the invention is to simplify the construction as well as the method of manufacture of metal wool brushes whereby such brushes may not only be economically manufactured, but will be more efficient and satisfactory in use, adaptable to a wide variety of uses, and having a relatively long, useful life.

Another object of the invention is to obtain an inexpensive metal wool brush capable of good scrubbing action and having long wearing characteristics.

Another object of the invention is to improve the scrubbing action and to add to the useful life of brushes of the present class by mounting the metal wool in the brush in such way as to present the ends of the individual strands thereof for contact with the work.

A further object of the invention is to obtain a novel method of manufacturing the metal wool brush of the invention.

Still another object of the invention is to utilize in the manufacture of the brushes strips of metal wool which in at least some instances represents heretofore discarded trimmings from a metal wool fabric.

A further object of the invention is to provide a brush possessing the advantageous features, the inherent meritorious characteristics and the method of manufacture herein mentioned.

With the above primary and other incidental objects in view as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the method of assembly, or their equivalents, as hereinafter described or illustrated in the accompanying drawing.

While for the sake of uniformity and definiteness the expression "steel" wool is used herein, it should be understood that such expression includes not only steel wool but other kinds of metallic wool, such as bronze, copper, brass, aluminum and the like.

2

Referring to the accompanying drawing, wherein is shown the preferred but obviously not the only embodiment of the invention,

Fig. 1 is a perspective view of a steel wool brush embodying the present invention;

Fig. 2 is a fragmentary cross-sectional perspective view of the brush of Fig. 1;

Fig. 3 is a fragmentary plan view of the brush of Fig. 1 with parts of the steel wool removed;

Fig. 4 is a view of steel wool fabric showing how strips may be cut therefrom in making steel wool brushes according to the present invention;

Fig. 5 is a plan view of a modified form of steel wool brush constructed in accordance with the present invention.

Like parts are indicated by similar characters of reference throughout the several views.

In the forms of the invention shown in Figs. 1, 2, 3 and 5, strips of steel wool are used which are cut from a steel wool fabric mat, a fragment of which is indicated at 10 in Fig. 4. The fabric mat 10 is comprised of many strands of steel wool fibre arranged in close parallel relation, there being cross-woven therein wires 11 to give the fabric strength and body.

The fibre strands running lengthwise of the fabric project as a fringe from the edges thereof. In manufacturing steel wool mats useful on pressing machines or the like, this fringe is severed from the mat, as indicated in Fig. 5, the severed portion being represented as a strip 12. It is contemplated, according to this invention, to make use of the heretofore discarded strips 12 in making an improved steel wool brush. Also, the mats 10 may be especially woven for the making of strips 12, in which case transverse cuts are made therein at positions leaving a projecting fringe of steel wool along one edge of each strip.

The steel wool strips 12 may also be formed by gathering together miscellaneous trimmings of steel wool rovings or filaments, and arranging such trimmings in contacting aligned relation to form the strips 12. Such use of normally waste steel wool has been found to be not only advantageous in materially reducing the amount of scrap material, but most efficient in the present assembly. A very satisfactory brush is produced by using such scrap wool and such brushes have been widely accepted in the trade.

In producing the brush shown in Figs. 1, 2, 3 and 5, the strips 12 of steel wool, whether they be cut from the mat 10 or formed by a collection

of individual filaments, are interleaved with somewhat narrower spacer or separator strips 13. Thus, a number of the strips 13, which are elongated members made of plastic or some other water resistant material, are arranged in spaced side by side relation. The strips 12 then are placed within the spaces between the strips 13, the steel wool strips being inserted with one longitudinal edge thereof downward so that the opposite fringed ends of the strips project above the separator strips 13. The projecting strands may be frayed out or separated if necessary. The arrangement is such that the strands of steel wool extend in a direction at right angles to the longitudinal axis of the separator strips 13 in such way that ends of the strands are presented for contact with the work. At spaced points along the lengths of the separator strips 13, openings are formed through which tie members 14 may be passed. The tie members 14 are then tightened to compress the separator strips and the steel wool strips. The confined portions of the steel wool strips, accordingly, are squeezed between the separator strips while the outer projecting portions are free to expand in a fan-like shape into contact with adjacent portions.

The assembly of parts comprising steel wool strips 12, separator strips 13 and tie members 14 is pressed into place within a case or holder 15. The holder 15 preferably is made of a water resistant, light weight, material, for example, a metal such as aluminum.

As shown in Fig. 5, one or more of the steel wool strips 12 or a longer embodiment thereof, may be placed in side by side contacting relation to a filler or spacer strip 16. The strip 16 is a flexible material, and in conjunction with the steel wool strip, is coiled to the volute form shown in Fig. 5 and inserted into a case or holder 17. In this form of the invention, as in that first described, the steel wool strip 12 stands on end with the ends of the strands perpendicular to the holder and to the surface of the work.

From the above description it will be apparent that there is thus provided a method of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principal involved or sacrificing any of its advantages.

While in order to comply with the statute the invention has been described in language more or

less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. A metal wool brush, comprising a holder having a substantially flat bottom and upstanding side walls, longitudinal separator strips in said holder defining channels therebetween, a cohesive strip of metal wool, the strands of said strip of metal wool being arranged in parallel relation and being cross woven, said strip of metal wool being arranged in each said channel and projecting above the upper edges of said separator strips and the side wall of the holder, the projecting strands extending in a direction perpendicular to the bottom of the holder, and tie members passing transversely through said separator strips and said metal wool strips and connecting said parts into a unitary assembly.

2. A method of making a steel wool brush, comprising the steps of forming a steel wool fabric wherein the strands of steel wool are arranged in parallel relation and wherein cohesive strand material is cross woven with the aforementioned parallel strands, making strips from said fabric by cutting along lines transversely of the longitudinal axis of the steel wool strands and parallel to said cohesive strand material, said material holding the cut steel wool in strip form, interleaving said strips with filler or spacer strips, said steel wool strips being placed on end between said spacer strips in such wise as to present the ends of the steel wool strands for contact with the work, and interconnecting said steel wool strips and said spacer strips.

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