Aug. 23, 1932. C. S. NELSON 1,872,791

MOP

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Fig. 1.

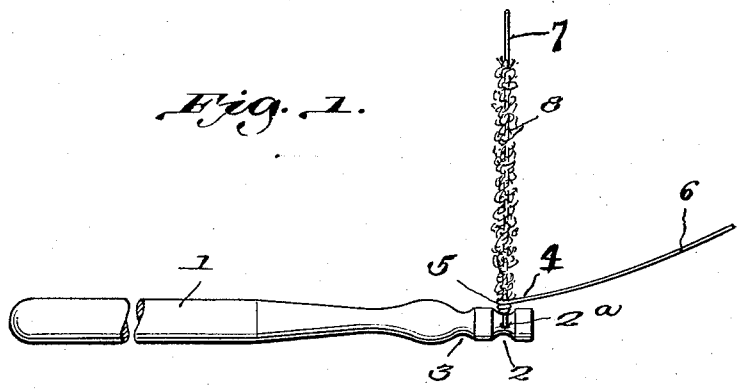


Fig. 2.

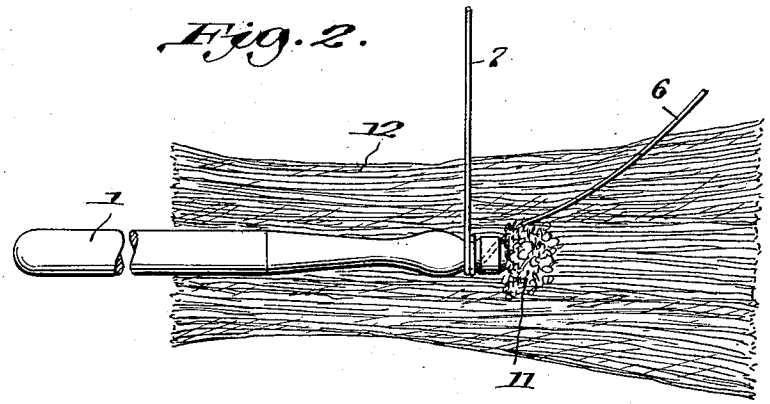
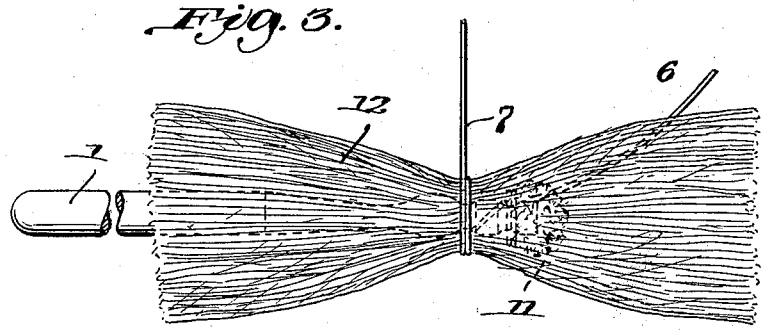


Fig. 3.



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Fig. 4.

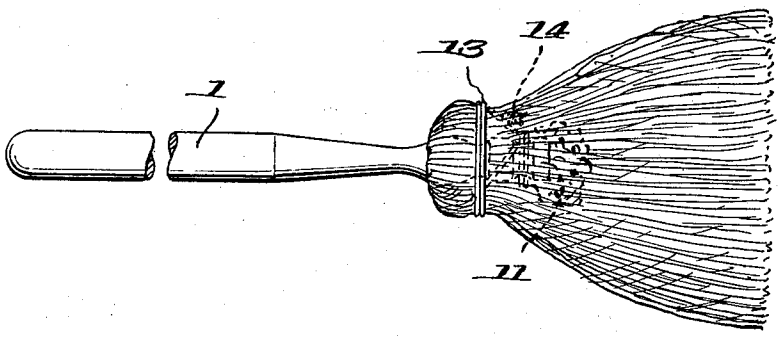


Fig. 5.

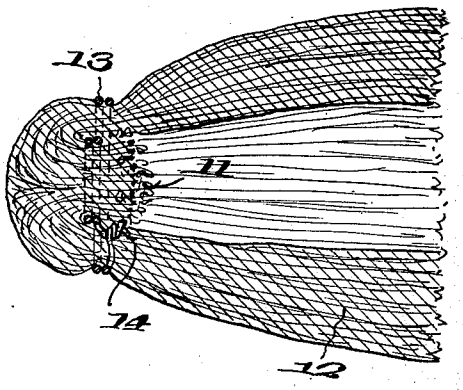
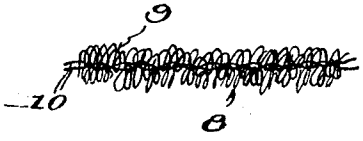


Fig. 6.



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UNITED STATES PATENT OFFICE

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MOP

Application filed December 22, 1930. Serial No. 504,115.

My invention relates to mops, particularly dish mops.

My invention comprises, essentially the combination in a mop head of strands of different physical characteristics. More specifically the novel mop structure contemplated by my present invention in one form of embodiment includes the use in a mop head of wire elements with fibrous yarn elements, both adapted during use of the mop to contact simultaneously with the surface to be cleaned and both cooperating in the cleaning operation.

It is an object of my present invention to provide a mop of the character indicated which includes a head made of elements securely united together. In one form of embodiment the head elements are carried by a handle, and by reason of a novel disposition of a binding wire, presently to be described, the elements of the composite mop structure are securely held against disorganization.

A further object is to provide a mop which will be simple, efficient and durable, and which may be produced by relatively unskilled labor without the use of machinery.

With these and other objects in view, which will sufficiently appear as the description proceeds, my invention consists in the novel article of manufacture which forms the subject of the appended claims and the description hereinafter, and which is shown in the accompanying drawings.

In the drawings which form part of this application for Letters Patent and in which the same reference character designates the same part in the several views.

Figure 1 is a top plan view of a mop handle, abrading wire and binding wire, associated in an initial step of the manufacturing method contemplated by my invention;

Fig. 2 is a similar view illustrating the parts of Fig. 1 in a succeeding step;

Fig. 3 is a similar view illustrating a still further advanced step;

Fig. 4 is a side elevational view of a completed mop made according to the method illustrated in Figs. 1, 2 and 3;

Fig. 5 is a longitudinal sectional view of a modified form of mop; and

Fig. 6 is a relatively enlarged view of the tinsel or abrading wire which forms one element of the mop.

Referring now to the drawings, and first to Fig. 1, the reference character 1 designates a mop handle, which may be of any suitable material, dimensions and contour. I prefer to form the handle of wood, and to provide near the end which is to receive the mop head a pair of spaced circumferential grooves 2 and 3. Through the mop handle in the endmost groove 2 I provide a hole 2*a*, and through this hole, in the initial method step, is passed a binding wire 4, which may be of indefinite length, and is preferably of moderately great tensile strength and pliability.

The binding wire 4, after being passed through the hole 2*a* in the handle, is twisted on itself close to the handle as shown at 5 leaving a relatively short length 6 and a longer length 7 extending from and secured to the handle. It will be evident that if desired two separate wires 6 and 7 may be employed, but I find it convenient to use a single wire, after the manner just explained.

Spirally around that portion of the length 6 which is closest to the handle I wind a length of material 8 known to the trade as tinsel and referred to in the appended claims as abrading wire. This tinsel 8 consists, in a preferred form, of a mass of narrow metallic ribbon 9 looped back and forth in a more or less irregular manner upon itself, the several loops being conveniently held in place with respect to each other by a pair of twisted foundation wires 10, as more particularly shown in Fig. 6.

The length 7 of the binding wire with the length of tinsel 8 wound thereabout is next coiled in the endmost groove 2 of the handle, so that the mass of looped tinsel more or less completely covers the butt end of the handle as shown at 11 in Fig. 2. The free end of the length 6 of the binding wire is directed off at an angle from the mass of abrading wire 11 and temporarily left in this condition. The portion of the length 7 of the binding wire beyond the portion covered with the tinsel

is now carried into the groove 3 of the handle, coiled once or twice therein, as shown in Fig. 2, and then directed tangentially away from the handle, its free end being preferably secured to a support and held under tension. A mass of flexible strands 12 is next applied to the mop handle preferably in two semicylindrical groups, each group being laid on an opposite side of the tangential portion 7 of the binding wire, so that the length 7 of the binding wire crosses these groups at substantially their transverse mid-portion. The physical characteristics of the strands 12 are different from those of the abrading wire 8. I prefer to use strands 12 of fibrous material, specifically relatively soft cotton yarn. It is to be noted that Fig. 2 shows only one of the semicylindrical groups of flexible strands 12, and that an exact counterpart of this group is associated therewith in the next step in my method, completely to enclose the handle and mass of abrading wire 11, as shown in Fig. 3.

The tangential length 7 of the binding wire 4 is next wound circumferentially around substantially the mid-portion of the strands 12 to compress this mid-portion more or less firmly in the groove 3 of the handle, as shown in Fig. 3. Preferably the portion 7 of the binding wire is coiled two or three times about groove 3 of the handle, and this operation may be conveniently practiced by having the free end of the portion 7 secured to a fixed support and by rolling the assembly shown in Fig. 2 on the wire 7, which is meanwhile held under slight tension.

As shown in Fig. 3 the structure produced by the method steps as thus far explained includes a handle 1 surrounded at one end by a tubular mass of flexible strands 12 constricted at substantially their mid-portion and flaring outwardly therefrom. The upper flaring portion of the mass 12, i. e., that portion farthest removed from the mass of abrading wire 11, is next folded down over the coiled portion of the length 7 of the binding wire so that this coiled portion is completely covered and hidden from view and the folded-down portion of the mass of flexible strands 12 is disposed adjacent to and around the endmost mass of flaring strands 12, to form the final contour of the completed mop head shown in Fig. 4. The extending length 7 of the binding wire is finally wound tightly about the turned-down mass, substantially in groove 3 of the handle, to form the final binding coil 13 shown in Fig. 4. In order to complete the mop structure it is now only necessary to secure the two free ends of the binding wire 4, and this is conveniently accomplished by twisting these two ends together, as shown at 14 in Fig. 4. The twisted ends 14 are cut close to the twist, and are then pushed inwardly close to the handle 1 and preferably concealed in or about groove 2 thereof.

The modified form of mop shown in Fig. 5 differs from the preferred form which has been described in that it lacks a handle 1. It is formed by twisting initially a length of tinsel 8 about one portion of a binding wire 4, coiling the tinseled portion of the binding wire about the mid-portion of a cylindrical mass of flexible strands 12, leading out from this mass the other end of the binding wire, then turning downwardly the flaring portion of the mass of flexible strands more remote from the tinsel, and causing this turned-down mass of flexible strands to lie adjacent to and surround its companion portion of flexible strands. The untinseled portion of this length of binding wire is next coiled tightly around the turned-down mass of flexible strands and then the free end of this portion of the binding wire is directed inwardly into the mass and twisted with the free end of the other length, as shown at 14 in Fig. 5. The inner core of flexible strands 12 proceeding from the center of the surrounding mass of tinsel 11 is next cut out, so that the completed mop of Fig. 5 contains a flaring hollow mass of flexible strands 12 surrounding a central mass of tinsel 11.

The use and advantages of the mops whose manufacture has been explained hereinabove are believed to be obvious, and to reside principally in the novel intimate association in a single mop head of a central and concealed mass of abrading wire with a surrounding mass of flexible strands. When used, for example, in washing dishes, the composite mop head is first made thoroughly wet, and then rubbed with moderate force over the surface to be cleaned. The intermingling tinsel and yarn function in a highly efficient and successful manner to loosen and remove foreign bodies tenaciously adhering to the surface to be cleaned and simultaneously brushing and polishing the same. All tendency to scratch or mar the surface to be cleaned is eliminated.

It will be understood that I have hereinabove shown and described my present invention in certain preferred forms of embodiment only, merely for purposes of exemplification. The invention is capable of embodiment in other and further modifications, and all such modified embodiments, to the extent that they exemplify the principles of the invention as pointed out in the appended claims, are to be deemed within the scope and purview thereof.

Having thus described my invention what I claim and desire to secure by Letters Patent is:

1. A mop comprising a binding wire, a mass of abrading wire twisted around one portion of the binding wire and extending therefrom, and a mass of soft, flexible strands

collectively surrounding the mass of abrading wire and secured thereto by another portion of the binding wire.

2. A mop comprising a handle, a binding wire secured thereto, an abrading wire twisted around a portion of the binding wire having looped portions extending therefrom and disposed in a relatively compact mass over the end of the handle, and a mass of soft, flexible strands collectively surrounding the abrading wire and the end of the handle and secured thereto by another portion of the binding wire.

In testimony whereof I affix my signature.

CHARLES S. NELSON.