Nov. 14, 1961 C. E. LAY 3,008,166

MOP HAVING A DETACHABLE HEAD

Filed Feb. 2, 1960

FIG. 1

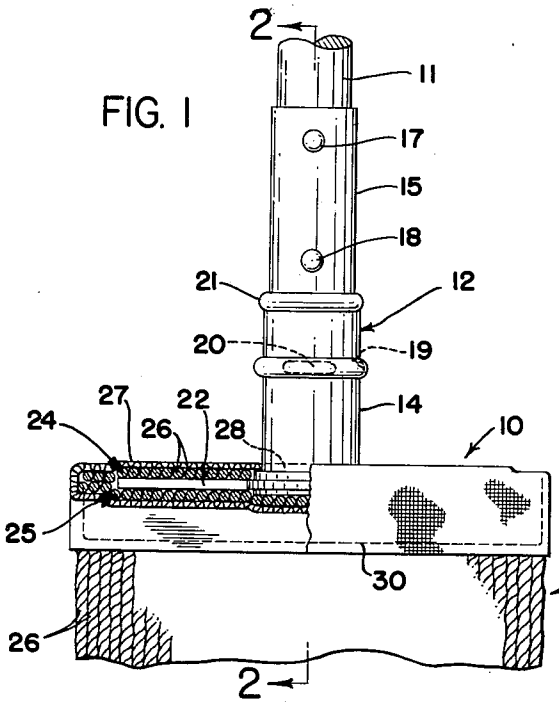
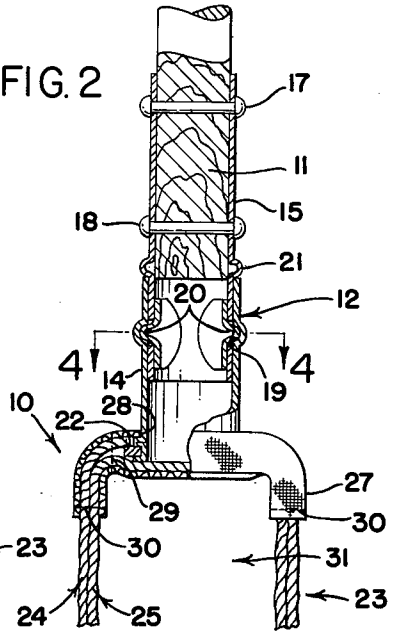


FIG. 2



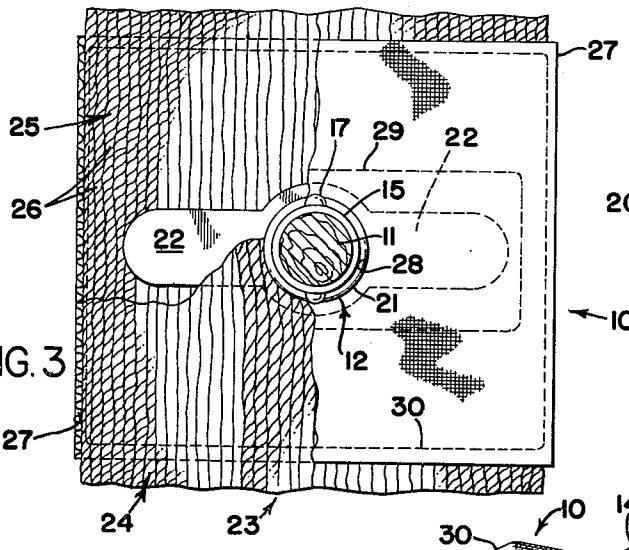


FIG. 3

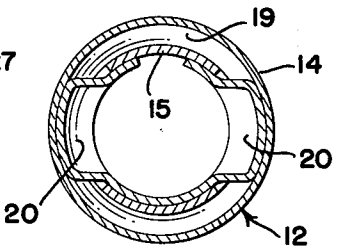
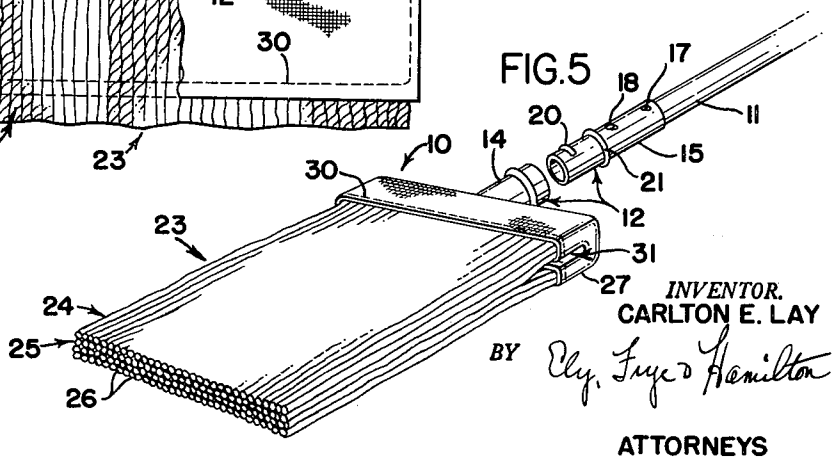


FIG. 4

FIG. 5



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MOP HAVING A DETACHABLE HEAD

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4 Claims. (Cl. 15—229)

The present invention relates to an improved implement for brushing, scrubbing and general cleaning. More particularly, the invention relates to a floor mop having a detachable handle.

The general object of the present invention is to provide a low cost, convenient and reliable construction for a floor mop. Specifically, it is an object to provide a floor mop having a construction such that after repeated use and wearing of the mop strands, the mop can be readily removed and thrown away. Further, it is an object to provide a mop construction so adapted that several mops, for example, a "wet" mop for scrubbing and a clean or "rinse" mop can be used interchangeably with the same handle. Further objects of the invention as well as the advantages thereof will be apparent in view of the following detailed description and the attached drawings.

In the drawings:

FIG. 1 is an elevation, broken away at the left corner to show details, of a mop head and handle;

FIG. 2 is a side view taken substantially as indicated on line 2—2 of FIG. 1;

FIG. 3 is a fragmentary plan view, showing the mop head with strands extended in opposite directions;

FIG. 4 is an enlarged detail section taken substantially as indicated on line 4—4 of FIG. 2; and

FIG. 5 is a small scale perspective view showing detachment of the mop handle.

A mop according to the invention includes a head portion indicated generally by the numeral **10** and a handle **11**. The mop head **10** and handle **11** are selectively joined by a fast-make coupling indicated generally by the numeral **12** and having interconnecting elements. The coupling **12** preferably comprises a socket element **14** permanently attached to the mop head **10** and a preferably tubular connective insert element **15** permanently attached to handle **11** as by rivets **17** and **18**. The annular recess **19** on the interior of socket **14** is adapted to be engaged as by wrinkle detents **20** operatively mounted within insert **15** to selectively interconnect a head **10** to a handle **11**. The preferably annular corrugation **21** on insert **15** acts as a stop to prevent the insert **15** from being forced too far into socket **14**, both when the handle **11** is being connected to a head **10** or during the actual use of the mop.

Attached perpendicularly to the base of socket **14** and extending in opposite directions is a preferably metallic shoe plate **22** which serves as a support, spacer and frame for the mopping portion **23** of head **10**. The mopping portion **23** is preferably comprised of two warps, indicated at **24** and **25**, of individual strands. The warps are stacked with the individual strands in parallel disposition. The shoe plate **22** is interposed between the warps **24** and **25** transversely of the strands and is preferably placed approximately medially the longitudinal dimension of the stacked warps. The tubular body of socket **14**, therefore, passes through the warp **24**, and, as best shown in FIG. 3, the strands are spread apart at that point by the insertion of the socket **14** through warp **24**.

A binder cloth **27** encompasses the assembly of stacked warps **24** and **25** and interposed shoe **22** at this medial portion. A circular opening **28** permits the tubular socket **12** to protrude therethrough and permits the assembled parts to be fastened or firmly pressed together and united, as by stitchings **29** and **30**. Stitching is in close

proximity to the outline of shoe **22** and thereby prevents rotation thereof in relation to the strands **26** of the warps **24** and **25**. Additional durability and strength is added to the mop by stitching **30** along the periphery of binder cloth **27**.

A mop of the configuration herein disclosed provides many advantages. Not only is the thus formed head **10** disposable and easily attachable and detachable to the handle **11**, but the mop has an advantageous stability. That is, the use of the shoe **22** offers a rigid frame transversely to the axis of the handle thereby assuring a permanent effective width for the mop itself.

Similarly, the dimension of the shoe **22** transverse the longitudinal dimension thereof provides a spacer effect. As is accentuated in FIG. 2 and represented more to scale in FIG. 5, the individual strands of the warps **24** and **25** on opposite sides of shoe **22** are not permitted to bunch together immediately in the area adjacent the shoe, but are separated by a meniscus gap **31**.

The width of meniscus gap **31** is of such a dimension that it increases the liquid holding capacity of the mopping portion **23**, over the usual cumulative holding or absorbent capacity of the individual strands, by allowing a meniscus to form which forms between the parallel strands on either side of the shoe.

What is claimed is:

1. A detachable mop head having a coupling element for selective interconnection with a handle, comprising, two warps of mopping strands, said warps stacked so that said strands are parallel, a shoe on the base of said coupling coupling element, said shoe being of greater longitudinal dimension than of transverse dimension, said shoe interposed between said warps transversely of said strands and medially the longitudinal dimension thereof, the transverse dimension of said shoe so constructed and arranged as to provide a meniscus gap between the strands transversely of said shoe, a binder cloth encompassing said warps also medially the longitudinal dimension thereof, a hole in said binder cloth, said coupling element protruding through the hole in said binder cloth, and fastening means through said binder cloth and said warps on each side of said shoe.

2. A detachable mop head having a coupling element for selective interconnection with a handle, comprising, two warps of mopping strands, said warps stacked so that said strands are parallel, a shoe on the base of said coupling element, said shoe being of greater longitudinal dimension than of transverse dimension, said shoe interposed between said warps transversely of said strands and medially the longitudinal dimension thereof, the transverse dimension of said shoe so constructed and arranged as to provide a meniscus gap between the strands transversely of said shoe, a binder cloth encompassing said warps also medially the longitudinal dimension thereof, a hole in said binder cloth, said coupling element protruding through the hole in said binder cloth, and stitching through said binder cloth hand warps on each side of said shoe adapted to secure the position of said shoe, warps and binder cloth.

3. A mop having a handle and a detachable mop head comprising, a handle mounting socket, two warps of mopping strands, said warps stacked so that said strands are parallel, a shoe on the base of said socket, said shoe being of greater longitudinal dimension than of transverse dimension, said shoe interposed between said warps with the longitudinal dimension transversely of said strands and medially the longitudinal dimension thereof, the transverse dimension of said shoe being so constructed and arranged as to provide a meniscus gap between the strands transversely of said shoe, a binder cloth encompassing said warps also medially the longitudinal dimension thereof, a hole in said binder cloth, said

socket protruding through the hole in said binder cloth, fastening means through said binder cloth and said warps on each side of said shoe, a recess on the interior of said socket, an insert attached to said handle, and a detent in said insert adapted to interact with the recess in said socket as a fast-make coupling.

4. A mop having a handle and a detachable mop head comprising, a handle mounting socket, two warps of mopping strands, said warps stacked so that said strands are parallel, a shoe on the base of said socket, said shoe being of greater longitudinal dimension that of transverse dimension, said shoe interposed between said warps with the longitudinal dimension transversely of said strands and medially the longitudinal dimension thereof, the transverse dimension of said shoe being so constructed and arranged as to provide a meniscus gap between the strands transversely of said shoe, a binder cloth encompassing said warps also medially the longitudinal

dimension thereof, a hole in said binder cloth, said socket protruding through the hole in said binder cloth, stitching through said binder cloth and warps on each side of said shoe adapted to secure the position of said shoe, warps and binder cloth, a recess on the interior of said socket, an insert attached to said handle, and a detent in said insert adapted to interact with the recess in said socket as a fast-make coupling.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,008,166

November 14, 1961

Carlton E. Lay

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 1, line 72, after "Stitching" insert -- 29 --; column 2, line 24, strike out "which forms"; line 31, strike out "coupling", first occurrence; same column 2, line 58, for "hand" read -- and --; column 3, line 11, for "that" read -- than --.

Signed and sealed this 15th day of May 1962.

(SEAL)

Attest:

ERNEST W. SWIDER

Attesting Officer

DAVID L. LADD

Commissioner of Patents