

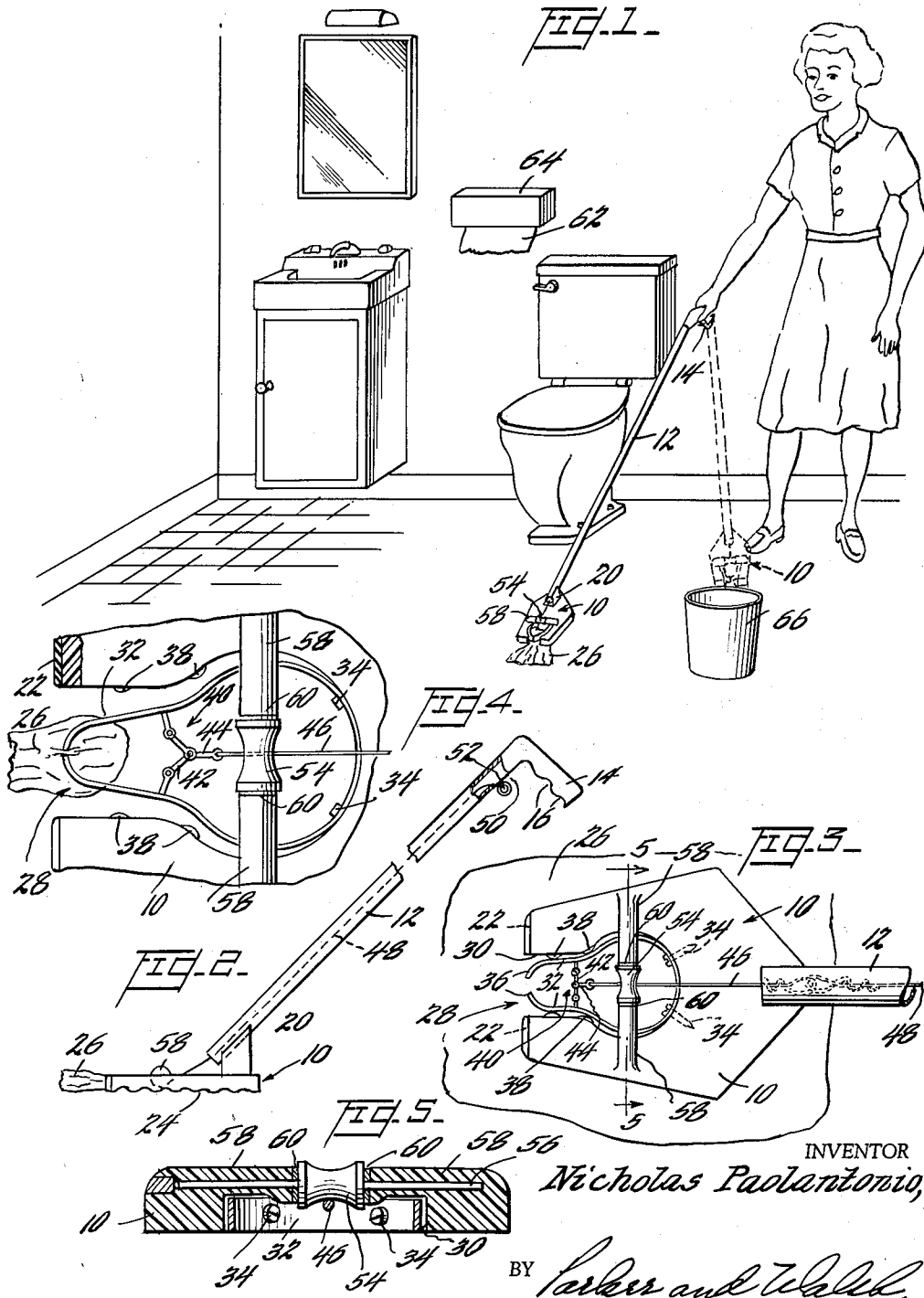
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MOPPING DEVICE HAVING GRAPPLE MEANS FOR DISPOSAL OF SWAB

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**MOPPING DEVICE HAVING GRAPPLE MEANS FOR DISPOSAL OF SWAB**

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This invention relates to a mop device for cleaning bathroom floors and the like, and in particular to a device adapted to employ readily available material, such as paper towels from dispensing rolls, as swabs, without necessity for attachment, and adapted to pick up the material after use, for disposal, without contact by the human hand.

Even the best-kept bathrooms have a constant tendency toward untidiness, and without frequent attention will lapse into conditions which are below the normal standards of sanitation and hygiene. In coping with this problem, the housewife, or other attendant finds little merit in conventional mops with reusable swabs, not only because these require unusual care in the matter of cleaning and disinfecting, but also because these chores are objectionable from the standpoint of delicacy.

It is therefore a prime object of the invention to provide a mop which employs readily available material for swabs, so as to warrant disposal after each use.

A further object is to avoid contact of the swabs by the hands of the operator.

More particularly, it is an object to provide a mop head which is adapted to operate by superposition over a swab of disposable material, and which comprises a claw mechanism which substitutes for the fingers of the operator, in the pick-up and disposal function.

A still further object is to provide for changing the swab to present different working surfaces, and thus fully utilize the material, without the need for detachment in the process.

Related objects, in addition, are to simplify cleaning, reduce the labor and the physical strain on the operator, and improve sanitation.

Other objects include the provision of a device which is simple in structure, yet sturdy and efficient in operation, and which is easy of manufacture and low in cost.

These and other ends, which will be apparent, are attained by the present invention, a preferred form of which is described in the following specification, as illustrated in the drawing, in which:

FIGURE 1 is a perspective view of the mop in use, in the act of picking up a used swab, a subsequent position of the mop being shown in dash lines.

FIGURE 2 is a side elevational view of the device, with the head dwelling upon a floor, the spring fingers being adjusted to the pick-up position.

FIGURE 3 is a top plan view of the mop head, superimposed on a free pad or swab, and enlarged in scale over the head in FIGURE 2.

FIGURE 4 is a view similar to FIGURE 3, showing a fragment thereof enlarged, and with the spring fingers adjusted to pick-up position, and

FIGURE 5 is a sectional view taken on the line 5—5 of FIGURE 3, and enlarged in scale thereover.

Referring to the drawing by characters of reference, there is shown a mop having a head 10 of pentagonal shape, and an elongate, tubular shaft 12 with a transversely extending handle 14 at its upper end. The handle 14 preferably has finger grips 16. The head 10 is flat on its upper and lower surfaces, and carries a pedestal 20 on its upper side, on which the handle 12 is mounted at a suitable angle, being secured thereto by any suitable means, such as bolts, screws, glue or welding. The head 10, which may be formed from any suitable material, such as wood, plastic or aluminum, is provided, on its forward

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edge with cushion elements 22, of soft rubber or the like.

The head 10 has corrugations 24 on its under side, for tractively engaging the wad or sheet of paper 26, to move it about on the floor, and while these corrugations are indicated as parallel, they may be arranged, in groups, at different angles. Thus, it is not necessary to clasp the swab during cleaning.

For pickup of the swab, after use, the head is provided with spring finger claws 28, mounted in a large slot 30, of keyhole shape with an enlarged inner portion, opening through the forward edge of the head. The spring-finger unit 32 is of generally the same shape and size as the slot 30, and is mounted in nested relation therein, being suitably secured, as by screws 34. As seen in FIGURE 3, when the spring clamp is in its normal position of rest, its inwardly curved, free ends 36, adjacent the forward edge of the head, are spaced apart. A series of buttons 38 in the edge of slot 30, serve to space the spring leaves from the slot, and thus facilitate cleaning or rinsing, and prevent the accumulation of dirt or other foreign matter.

The jaws of the spring 32 are brought together, to clampingly engage the swab, by means of an operating linkage 40, operable from the vicinity of the handle 14. The linkage 40, as shown, comprises a cross chain 42, with ends attached to the respective spring leaves, and a chain link 44 secured at one end to chain 42 at its mid portion. A flexible cord 46, secured to transverse chain link 44, passes into the tubular shaft 12, where it is joined to a relatively rigid, slide wire 48, which in turn passes out through an opening 50 in tube 12, near handle 14, and is there provided with a looped end 52, adapted to be engaged by a finger of the user, to overcome spring 32, and close the clamping jaws, or pincers 36. A guide means for cord 46 is provided in a spool 54, rotatably mounted on a shaft 56, carried in a pair of aligned support members 58, integral with the head 10, and extending over the bulbous portion of slot 30. Preferably the shaft will carry washers 60. Spool 54 is concavely arcuate in cross-section, and the cord is kept in constant alignment with the axis of tube 12, by being trained on the under side of the spool. Also, the cord may be trained at least once around the spool to further guarantee its retention in proper position. While the rigid wire 48 represents a preferred form, it is also possible to run cord 46 through the tube 12, thus dispensing with the wire.

From the foregoing, the operation will be obvious. Confronted with a messy condition of the bathroom floor, the attendant will secure sections of paper towel 62 from a convenient source, such as a wall rack 64, and place them judiciously about on the floor to accomplish a preliminary blotting operation. Thereafter, the mop head 10 is placed over one of the towel sections, or swabs, such as 26, which is then moved about over the floor by manipulation of handle 14, the wad being carried about by the uneven surface of the bottom of head 10. In these movements, there will be a tendency for the wad to move upward within the keyhole slot in the head, which positions it advantageously for grasping by the leaf-spring jaws. After the wad has mopped to its capacity, in its initial setting, it may be gripped by the spring fingers, by pull on the loop or ring 52, and turned over to provide further workable surface, after which it may be released and further moved about with the head. When the swab is used up to its capacity, the spring fingers are again actuated to clutch the swab, and the mop head is carried to a position over a convenient disposal receptacle 66, as shown in dash lines in FIGURE 1, where the swab is dropped by release of ring 52 and separation of the jaws. The process is repeated until all of the wads or swabs which were placed about have been utilized, and disposed of.

It will thus be seen that the objects aforesaid have been attained in ample measure. While a preferred embodi-

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ment has been shown and described, various modifications will be apparent in the light of this disclosure, and the invention should not, therefore, be deemed as limited, except insofar as shall appear from the spirit and scope of the appended claims.

I claim:

1. A mop for utilizing disposable swabs of paper or the like, comprising a working head of polygonal form having a corrugated under surface and a keyhole form slot with an enlarged inner portion, and a restricted portion opening through a leading edge, cushion means on said leading edge, on both sides of said slot, a shaft mounted on the upper side of said head and spanning said enlarged inner portion, a spool rotatably mounted on said shaft, a hollow tube mounted on the upper side of said head, at an angle thereto, on the rear portion of said head, and lying generally in the plane of symmetry of said slot, and having an opening near its outer end, a handle extending transversely of said hollow tube, outwardly of and adjacent said opening, a shield carried by said hollow tube, in covering relation to said handle, a leaf spring of size and shape similar to said slot, secured therein in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, means holding said arcuate ends in spaced relation to said slot in said normal position of rest, flexible tie means connecting said arcuate ends for moving said ends toward each other against the bias of said leaf spring, a cord connected to said tie means, medially thereof, trained under said spool and into said hollow tube, a rigid wire in said hollow tube, connected to said cord and passing out through said opening, and a loop on the outer end of said wire, adjacent said opening.

2. A mop for utilizing disposable swabs of paper or the like, comprising a working head of polygonal form having a corrugated under surface and a keyhole form slot with an enlarged inner portion, and a restricted portion opening through a leading edge, cushion means on said leading edge, on both sides of said slot, a shaft mounted on the upper side of said head and spanning said enlarged inner portion, a spool rotatably mounted on said shaft, a hollow tube mounted on the upper side of said head, at an angle thereto, on the rear portion of said head, and lying generally in the plane of symmetry of said slot, and having an opening near its outer end, a handle extending transversely of said hollow tube, outwardly of and adjacent said opening, a leaf spring of size and shape similar to said slot, secured therein in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, means holding said arcuate ends in spaced relation to said slot in said normal position of rest, flexible tie means connecting said arcuate ends for moving said ends toward each other against the bias of said leaf spring, a cord connected to said tie means, medially thereof, trained under said spool and into said hollow tube, a rigid wire in said hollow tube, connected to said cord and passing out through said opening, and a loop on the outer end of said wire, adjacent said opening.

3. A mop for utilizing disposable swabs of paper or the like, comprising a working head of polygonal form having a corrugated under surface and a keyhole form slot with an enlarged inner portion, and a restricted portion opening through a leading edge, cushion means on said leading edge, on both sides of said slot, a shaft mounted on the upper side of said head and spanning said enlarged inner portion, a spool rotatably mounted on said shaft, a hollow tube mounted on the upper side of said head, at an angle thereto, on the rear portion of said head, and lying generally in the plane of symmetry of said slot, and having an opening near its outer end, a handle extending transversely of said hollow tube, outwardly of and adjacent said opening, a leaf spring of size and shape similar to said slot, secured therein in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, flexible tie means connecting said arcuate ends for moving said ends toward

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each other against the bias of said leaf spring, a cord connected to said tie means, medially thereof, trained under said spool and into said hollow tube, a rigid wire in said hollow tube, connected to said cord and passing out through said opening, and a loop on the outer end of said wire, adjacent said opening.

4. A mop for utilizing disposable swabs of paper or the like, comprising a working head having a corrugated under surface and a keyhole form slot with an enlarged inner portion, and a restricted portion opening through a leading edge, a shaft mounted on the upper side of said head and spanning said enlarged inner portion, a spool rotatably mounted on said shaft, a hollow tube mounted on the upper side of said head, at an angle thereto, on the rear portion of said head, and lying generally in the plane of symmetry of said slot, and having an opening near its outer end, a handle extending transversely of said hollow tube, outwardly of and adjacent said opening, a leaf spring of size and shape similar to said slot, secured therein in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, flexible tie means connecting said arcuate ends, for moving said ends toward each other against the bias of said leaf spring, a cord connected to said tie means, medially thereof, trained under said spool and into said hollow tube, a rigid wire in said hollow tube, connected to said cord and passing out through said opening, and a loop on the outer end of said wire, adjacent said opening.

5. A mop for utilizing disposable swabs of paper or the like, comprising a working head having a corrugated under surface and a keyhole form slot with an enlarged inner portion, and a restricted portion opening through a leading edge, a spool rotatably mounted on said head, above said enlarged inner portion, a hollow tube mounted on the upper side of said head, at an angle thereto, on the rear portion of said head, and lying generally in the plane of symmetry of said slot, and having an opening near its outer end, a handle extending transversely of said hollow tube, outwardly of and adjacent said opening, a leaf spring of size and shape similar to said slot, secured therein in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, flexible tie means connecting said arcuate ends for moving said ends toward each other against the bias of said leaf spring, a cord connected to said tie means, medially thereof, trained under said spool and into said hollow tube, a rigid wire in said hollow tube, connected to said cord and passing out through said opening, and a loop on the outer end of said wire, adjacent said opening.

6. A mop for utilizing disposable swabs of paper or the like, comprising a working head having a corrugated under surface and a keyhole form slot with an enlarged inner portion, and a restricted portion opening through a leading edge, a spool rotatably mounted on said head, above said enlarged inner portion, a hollow tube mounted on the upper side of said head, and having an opening near its outer end, a handle extending transversely of said hollow tube, outwardly of and adjacent said opening, a leaf spring of size and shape similar to said slot, secured therein in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, flexible tie means connecting said arcuate ends for moving said ends toward each other against the bias of said leaf spring, a cord connected to said tie means, medially thereof, trained under said spool and into said hollow tube, a rigid wire in said hollow tube, connected to said cord and passing out through said opening, and a loop on the outer end of said wire, adjacent said opening.

7. A mop for utilizing disposable swabs of paper or the like, comprising a working head having a corrugated under surface and a keyhole form slot with an enlarged inner portion, and a restricted portion opening through a leading edge, a spool rotatably mounted on said head,

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above said enlarged inner portion, a hollow tube mounted on the upper side of said head, and having an opening near its outer end, a handle extending transversely of said hollow tube, outwardly of and adjacent said opening, a leaf spring of size and shape similar to said slot, secured therein in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, flexible tie means connecting said arcuate ends for moving said ends toward each other against the bias of said leaf spring, a cord connected to said tie means, medially thereof, trained under said spool, through said hollow tube, and out said opening, and means for manual engagement on the outer end of said cord.

8. A mop for utilizing disposable swabs of paper or the like, comprising a working head having an irregular under surface and a keyhole form slot with an enlarged inner portion, and a restricted portion opening through a leading edge, a spool rotatably mounted on said head, above said enlarged inner portion, a hollow tube mounted on the upper side of said head, and having an opening near its outer end, a handle extending transversely of said hollow tube, outwardly of and adjacent said opening, a leaf spring of size and shape similar to said slot, secured therein in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, flexible tie means connecting said arcuate ends for moving said ends toward each other against the bias of said leaf spring, a cord connected to said tie means, medially thereof, trained under said spool, through said hollow tube, and out said opening, and means for manual engagement on the outer end of said cord.

9. A mop for utilizing disposable swabs of paper or the like, comprising a working head having an irregular under surface and a keyhole slot, with an enlarged inner portion, and a restricted portion opening through an edge of the head, a spool rotatably mounted on said head, at said enlarged inner portion, a hollow tube mounted on the upper side of said head, a handle extending transversely of said tube, a leaf spring of size and shape similar to said slot, and secured therein, in nested relation, and having terminal, inwardly directed, arcuate ends, spaced apart in their normal position of rest, flexible tie means connecting said arcuate ends for moving said ends toward each other against the bias of said leaf spring, a cable attached to said tie means and passing under and guided by said spool and through said tube, and a finger grasp on said cable, adjacent said handle.

10. A mop for utilizing disposable swabs of paper or the like comprising a working head having an irregular under surface and a keyhole slot, with an enlarged inner portion, and a restricted portion opening through an edge of the head, a spool rotatably mounted on said head, at said enlarged inner portion, a hollow tube mounted on the upper side of said head, a handle extending transversely of said tube, a leaf spring secured in said slot, and having terminal, inwardly directed ends, spaced apart in their normal position of rest, flexible tie means connecting said ends for moving said ends toward each other against the bias of said leaf spring, a cable attached to said tie means and passing under and guided by said spool and through said tube, and a finger grasp on said cable, adjacent said handle.

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11. A mop for utilizing disposable swabs of paper or the like, comprising a working head having an irregular, under surface and a keyhole slot, with an enlarged inner portion, opening through an edge of the head, a spool rotatably mounted on said head, at said enlarged inner portion, a hollow tube mounted on the upper side of said head, a handle extending transversely of said tube, a leaf spring secured in said slot, and having terminal, inwardly directed ends, spaced apart in their normal position of rest, flexible tie means connecting said ends for moving said ends toward each other against the bias of said leaf spring, a cable attached to said tie means and passing under and guided by said spool and through said tube, and a finger grasp on said cable, adjacent said handle.

12. A mop for utilizing disposable swabs of paper or the like, comprising a working head having an irregular, under surface and a slot, with an enlarged inner portion, opening through an edge of the head, a spool rotatably mounted on said head, at said enlarged inner portion, a hollow tube mounted on the upper side of said head, a handle extending transversely of said tube, a leaf spring secured in said slot, and having terminal, inwardly directed ends, spaced apart in their normal position of rest, flexible tie means connecting said ends for moving said ends toward each other against the bias of said leaf spring, a cable attached to said tie means and passing under and guided by said spool and through said tube, and a finger grasp on said cable, adjacent said handle.

13. A mop for utilizing disposable swabs of paper or the like, comprising a working head having a slot, with an enlarged inner portion, opening through an edge of the head, a spool rotatably mounted on said head, at said enlarged inner portion, a hollow tube mounted on the upper side of said head, a handle extending transversely of said tube, a leaf spring secured in said slot and having terminal, inwardly directed ends, spaced apart in their normal position of rest, flexible tie means connecting said ends for moving said ends toward each other against the bias of said leaf spring, a cable attached to said tie means and passing under and guided by said spool and through said tube, and a finger grasp on said cable, adjacent said handle.

14. A mop for utilizing disposable swabs of paper or the like, comprising a working head having a slot, with an enlarged inner portion, opening through an edge of the head, a hollow tube mounted on the upper side of said head, a handle extending transversely of said tube, a leaf spring secured in said slot, and having terminal, inwardly directed ends, spaced apart in their normal position of rest, flexible tie means connecting said ends for moving said ends toward each other against the bias of said leaf spring, a cable attached to said tie means and passing through said tube, and a finger grasp on said cable, adjacent said handle.

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