

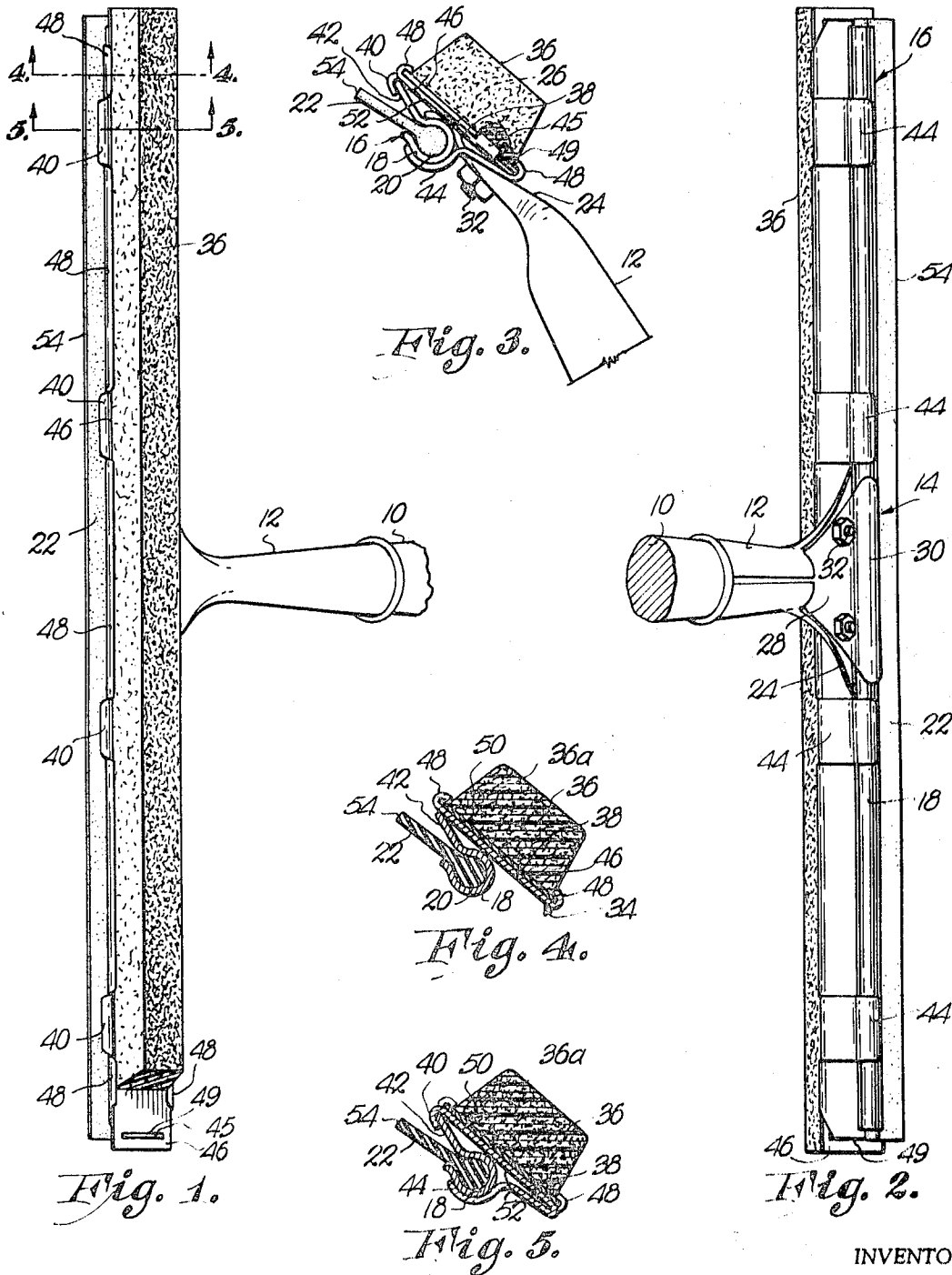
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SQUEEGEE MOP

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SQUEEGEE MOP

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ABSTRACT OF THE DISCLOSURE

A squeegee is provided with a liquid absorbent applicator in order to provide a combination washing and wiping device for use in the cleaning of vertical surfaces. The squeegee blade is held by a split tube which is secured to a holder for the liquid applicator, the holder being arranged such that the plane of the liquid applying surface of the applicator and the plane of the squeegee blade are in substantial parallelism. The holder is attached to the split tube by opposed clips and hooks and includes a plate having opposed, bent-over lips defining a channel into which the applicator is inserted and held.

In the washing of windows and other vertical surfaces time is lost when utilizing a conventional squeegee in that a brush is normally first employed to moisten and scrub the surface prior to utilizing the squeegee to wipe the surface clean and dry. Manifestly, this requires two separate operations to achieve both washing and wiping of the surface to be cleaned, and necessitates that the window cleaner handle and manipulate two implements alternately.

It is, therefore, the primary object of this invention to provide a cleaning device of the squeegee type which not only wipes the surface dry, but is also utilized to apply the liquid cleaning solution to the surface.

As a corollary to the foregoing object, it is an important aim of the instant invention to provide a combination squeegee and cleaning solution applicator of improved design which is easy to handle and operate, and wherein the applicator of the device may be quickly replaced when required and yet, when in use, a structurally strong unit is provided that is capable of withstanding the abuse to which implements of this type are subject.

A further and important object of the invention is to provide a holder which may be secured to a squeegee to form a composite unit of simple and stable design, wherein the holder is employed to retain an applicator of liquid absorbent material on the squeegee in a position to permit the unit to be readily and efficiently utilized to both wash and wipe a vertical surface in a single, substantially uninterrupted operation.

In the drawing:

FIGURE 1 is a bottom view of the device of the instant invention;

FIG. 2 is a top view thereof;

FIG. 3 is an end view of the elongated blade and applicator and associated components;

FIG. 4 is a cross-sectional view taken along line 4—4 of FIG. 1; and

FIG. 5 is a cross-sectional view taken along line 5—5 of FIG. 1.

The upper extremity of a handle or pole 10 (shown fragmentarily) is received within a ferrule 12 provided with a clamp 14 which secures ferrule 12 to an elongated gripper 16 extending at right angles to the axis of the handle. The gripper 16 includes a split tube 18 which receives the inner edge portion 20 of an elongated, flexible squeegee blade 22. It may be noted that the inner edge 20 is in the form of a substantially cylindrical rib and is clamped within the tube 18 to hold blade 22 securely at its inner edge 20.

As is clear in FIGS. 2 and 3, the clamp 14 comprises a wing 24 integral with ferrule 12, the wing 24 being provided with an arcuate clamping jaw 26 which overlies split tube 18 at the center portion thereof. The other half of clamp 14 is formed by a plate 28 which presents an arcuate, lower clamping jaw 30 engaging the underside of tube 18, the wing 24 and the plate 28 being drawn together by a pair of nut and bolt fasteners 32.

A holder broadly designated 34 is employed to secure an elongated applicator 36 to the blade gripper 16, the applicator 36 being of suitable liquid absorbent material such as synthetic sponge. The holder 34 includes an elongated plate 38 provided with a series of clips 40 at its normally uppermost margin which are spaced apart longitudinally of plate 38 and hook over an outermost longitudinal edge of an elongated flange 42 integral with the upper portion of split tube 18. A series of hooks 44 project from the normally lowermost longitudinal edge of plate 38 and engage the lower portion of split tube 18 at spaced longitudinal intervals therealong, as is clear in FIGS. 2 and 5. The end edges of the plate 38 are bent up as illustrated at 45.

The absorbent material of applicator 36 is cemented or otherwise suitably secured to an elongated, plastic backing strip 46, the width of the strip 46 being somewhat greater than the width of the absorbent material of applicator 36 and the length of the strip 46 being slightly greater than the length of the plate 38. Each longitudinal edge of plate 38 is provided with a number of upwardly extending, bent-over lips 48, the corresponding lips on the longitudinal edges of plate 38 being disposed in opposed relationship to each other to define a longitudinal channel into which the backing strip 46 is slipped to secure applicator 36 to holder 34. To prevent possible longitudinal displacement of strip 46 within the channel, the strip 46 is provided with a pair of transversely extending slots 49 adjacent respective ends thereof which receive the bent-up edges 45 of plate 38.

From the foregoing, it may be appreciated that the longitudinal axes of applicator 36 and plate 38 are disposed in parallelism by virtue of the attachment of applicator 36 to the inner face 50 of plate 38 provided by the opposed lips 48. Furthermore, the clips 40 and hooks 44 of holder 34 secure the latter to the elongated gripper 16 in a manner to also dispose the longitudinal axes of blade 22 and plate 38 in substantial parallelism. The flange 42 of the gripper 16 converges with plate 38 as the upper margin of the latter is approached to thereby space the blade 22 from the outer face 52 of plate 38 and provide the necessary freedom for blade 22 to flex during wiping. In this respect, it may be noted that the outer longitudinal edge 54 of blade 22 terminates beyond the upper longitudinal margin of plate 38 to provide sufficient clearance for edge 54 during the wiping operation. The ends of the applicator 36 extending beyond the end edges 45 of plate 38 serve as bumpers to prevent the plate 38 from scratching window frames, etc. during use.

Through the arrangement provided by the instant invention, the transverse axis of blade 22 is in spaced, substantially parallel relationship to the transverse axis of the plate 38 of holder 34 with only sufficient convergence of the plane of the blade 22 and the outer face 52 of plate 38 to dispose blade 22 at an optimum wiping angle; therefore, the plane defined by the liquid applying surface 36a of applicator 36 and the plane of blade 22 are substantially parallel. In use, this arrangement permits the operator to immerse applicator 36 in the cleaning solution and then utilize the device as a mop to apply the solution to the surface to be cleaned, whereupon the device is instantly reversed by simply rotating handle 10 180° to bring the wiping edge 54 of blade 22 into

contact with the surface for the wiping phase of the cleaning operation. It may be appreciated that increased pressure is applied during the wiping phase and, in this respect, the jaw 26 of wing 24, being rigid with ferrule 12 and interposed between split tube 18 and the outer face 52 of plate 38, serves to support the plate 38 when pressure is applied to blade 22 in the event that the clamp 14 is not drawn tightly against tube 18.

When replacement of applicator 36 is required, the applicator 36 may be readily removed from holder 34 by sliding the same longitudinally of plate 38 until the longitudinal margins of the backing strip 46 clear the lips 48. Insertion of a new applicator 36 is then readily accomplished by slipping the same into the open channel which remains between the lips 48. However, during use of the device it is apparent that the applicator 36 is securely held in place on plate 38 by the frictional inter-engagement of the lips 48 and the longitudinal margins of the backing strip 46, and by the locking elements formed by the bent up edges 45 received within the slots 49.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a squeegee mop:

a holder having an elongated plate provided with an inner and outer face;

an elongated applicator of liquid absorbent material; means attaching the applicator to said holder on said inner face of the plate with the longitudinal axes of the plate and the applicator in parallelism;

an elongated wiper blade of flexible material; and means securing the blade to the holder along said outer face of the plate with the longitudinal axes of the plate and of the blade in parallelism, and with the transverse axis of the blade in spaced, substantially parallel relationship to the transverse axis of the plate,

said blade having an inner and an outer longitudinal edge,

the inner edge of the blade extending along the longitudinal axis of the plate,

the outer edge of the blade terminating beyond the proximal longitudinal margin of the plate,

said blade having gripper means mounted thereon and extending along said inner edge thereof,

said securing means including a number of clips and a plurality of hooks in opposed relationship on the plate engaging the gripper means.

2. The invention of claim 1, said applicator having a backing strip, said attaching means including opposed longitudinal lips on the plate engaging said strip.

3. The invention of claim 1, the blade and said outer face of the plate converging as said inner edge of the blade is approached.

4. The invention of claim 1, said gripper means having a longitudinal flange extending toward said margin of the plate and engaging said outer face of the plate at said margin with the flange converging with the plate as said margin is approached.

5. The invention of claim 4, said clips being hooked over the outermost longitudinal edge of the flange.

6. The invention of claim 4, said blade having a rib along said inner edge thereof, said gripper means having a split tube integral with the flange and clamping the rib therewithin, said hooks engaging the tube.

7. In a squeegee mop:

a holder having an elongated plate provided with an inner and outer face;

an elongated applicator of liquid absorbent material; means attaching the applicator to said holder on said inner face of the plate with the longitudinal axes of the plate and the applicator in parallelism;

an elongated wiper blade of flexible material; means securing the blade to the holder along said outer face of the plate with the longitudinal axes of the plate and of the blade in parallelism, and with the transverse axis of the blade in spaced, substantially parallel relationship to the transverse axis of the plate,

said blade having an inner and an outer longitudinal edge,

the inner edge of the blade extending along the longitudinal axis of the plate,

the outer edge of the blade terminating beyond the proximal longitudinal margin of the plate,

said blade having gripper means mounted thereon and extending along said inner edge thereof;

a handle-receiving ferrule; and means mounting the ferrule on said gripper means.

8. The invention of claim 7,

said mounting means including a clamp having a pair of jaws and fastening means clamping the jaws on the gripper means,

one of said jaws being rigid to the ferrule and interposed between the gripper means and said outer face of the plate, whereby to support the plate when pressure is applied to the blade.

9. The invention of claim 1,

said applicator being longer than said plate and having opposed ends extending beyond respective ends of the plate.

10. The invention of claim 1,

said applicator including a backing strip having a pair of slots therein adjacent respective ends thereof, said attaching means including opposed longitudinal lips on the plate engaging said strip, and a pair of spaced locking elements projecting from said plate and received in corresponding slots.

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