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(54) **DISPOSABLE SEALED HYGIENIC PAD ELEMENTS WITH FLOOR MOP HEAD**

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(57) **ABSTRACT**

Embodiments of the present invention are directed to devices and methods for cleaning, dusting or applying disinfectants to a surface. The device features a sheath having a first surface and a second surface. The sheath is capable of assuming two positions. In said first position the first surface faces inward toward itself defining a first opening and a first chamber. In the second position the second surfaces faces inward towards itself defining a second opening and a second chamber and the first surfaces faces outward. At least one pad element is affixed to the first surface for cleaning, dusting or applying disinfectants as said sheath assumes the second position. A seal is associated with at least one of the first and second surfaces to close said first chamber for storing the pad element before use and after use.

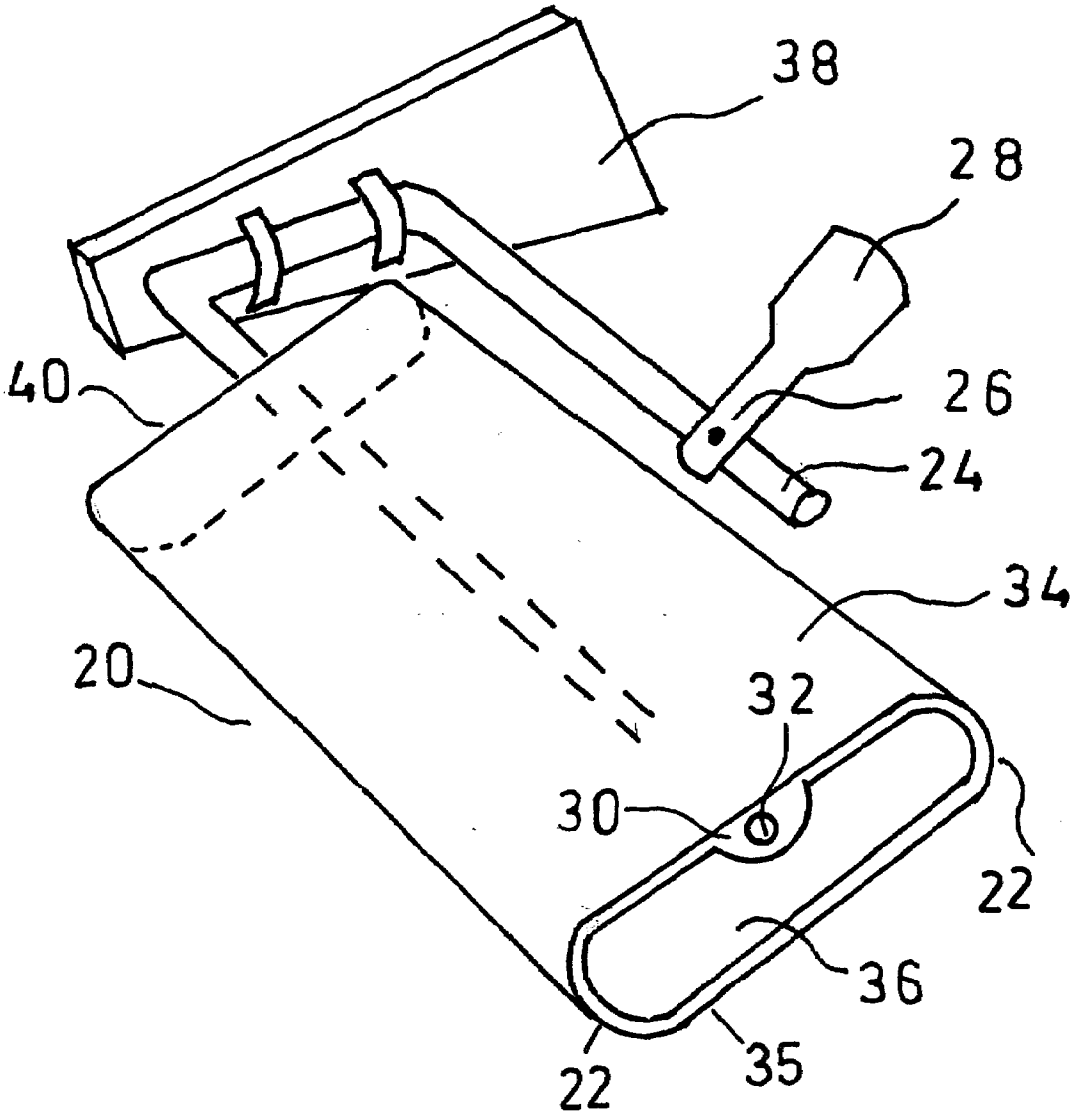

FIG. 1

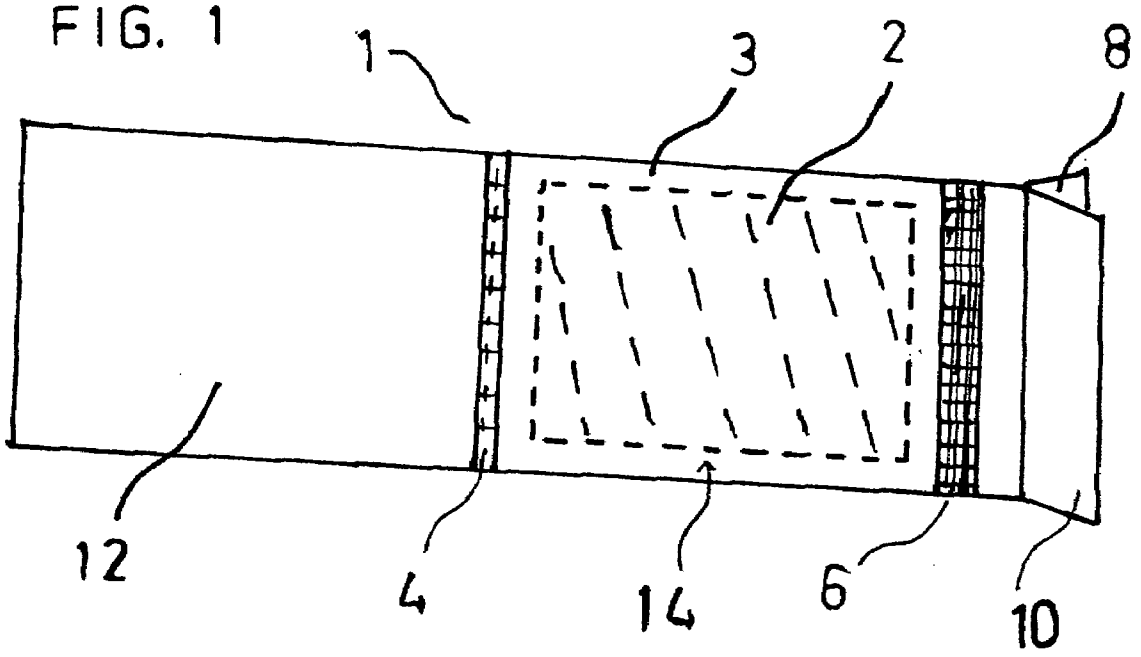

FIG. 2

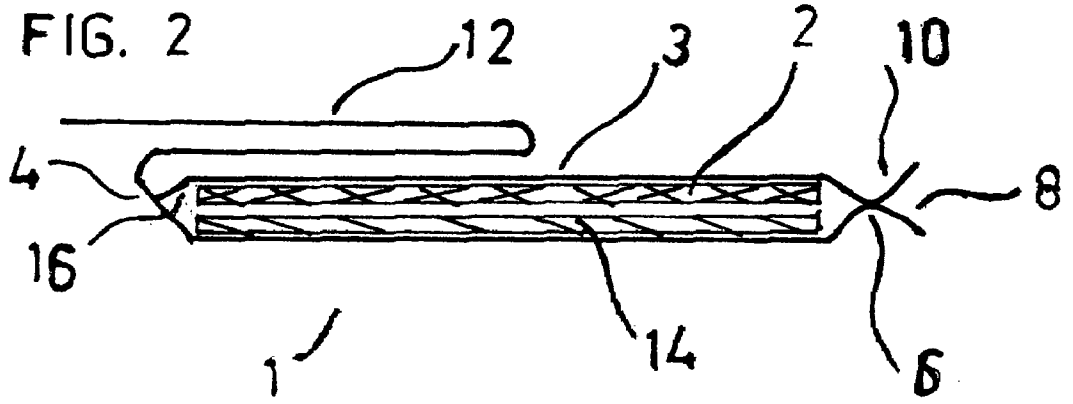

FIG. 3

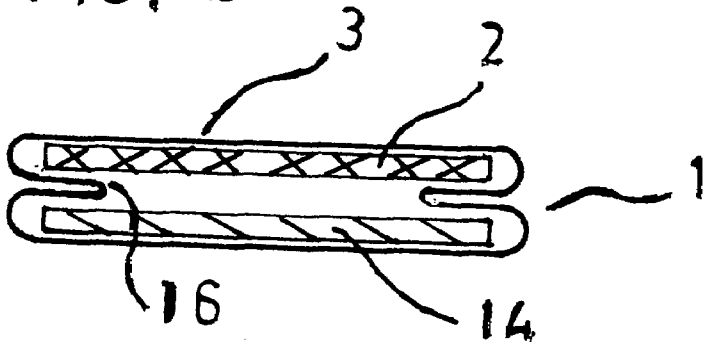

FIG. 4

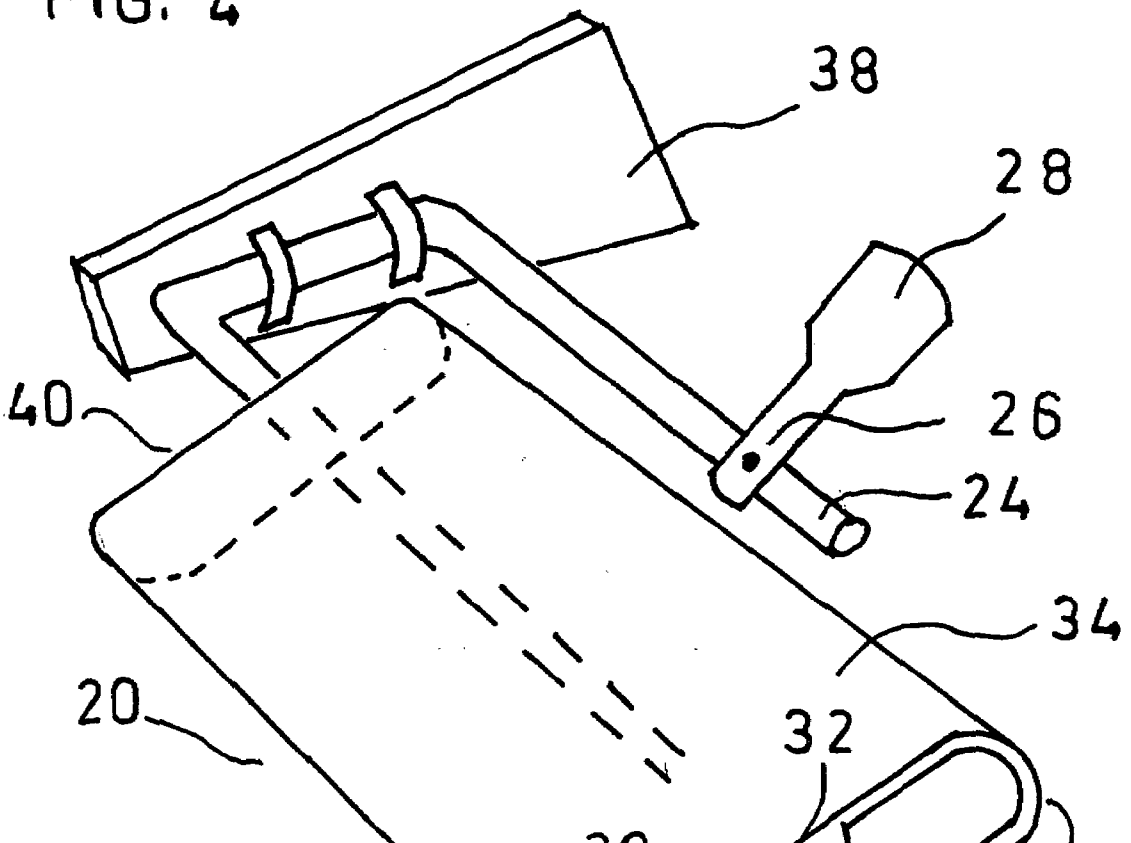

FIG. 5

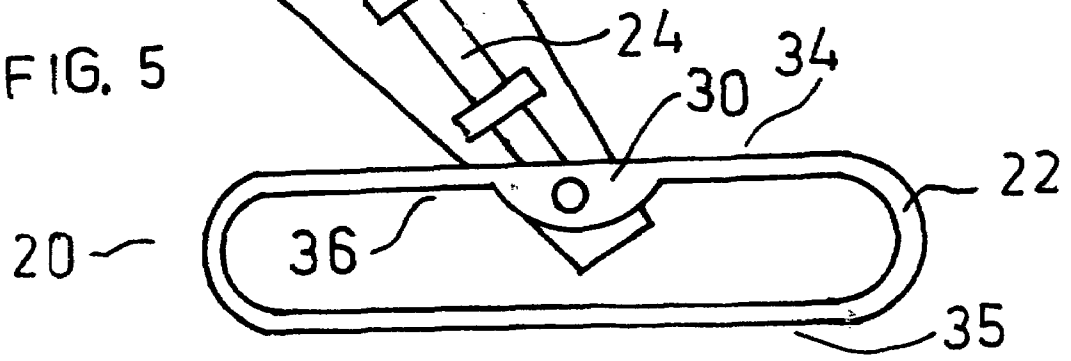

FIG. 6

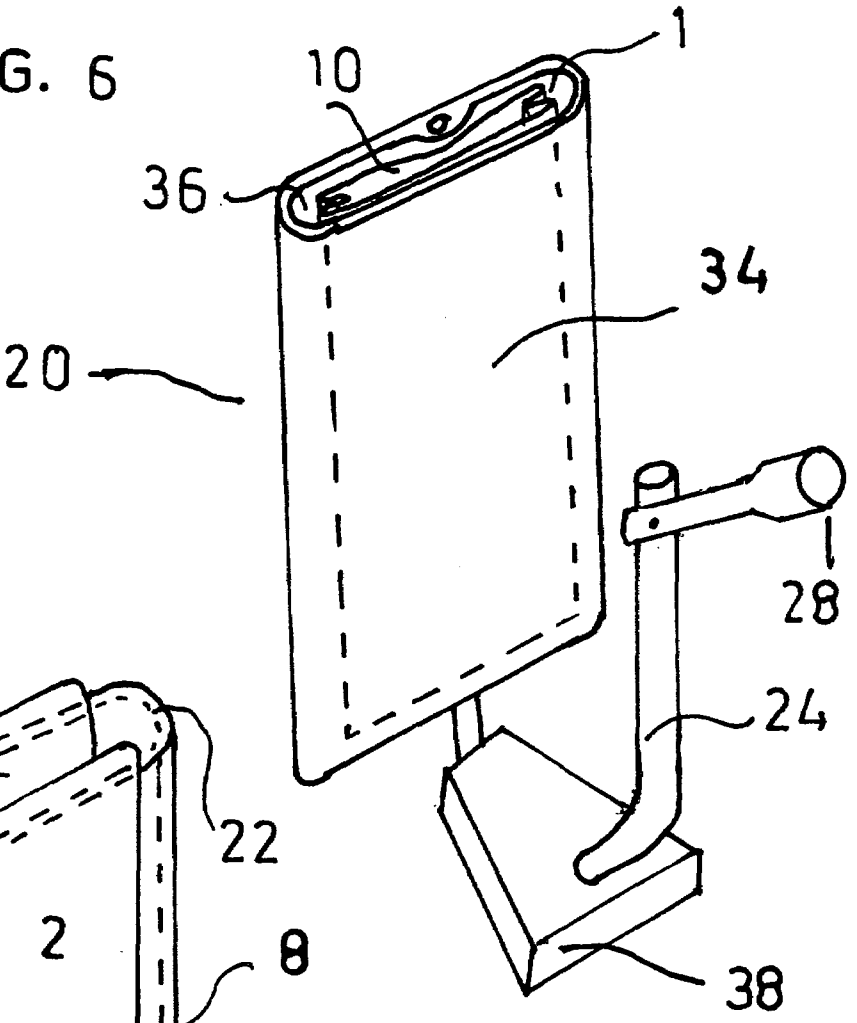

FIG. 7

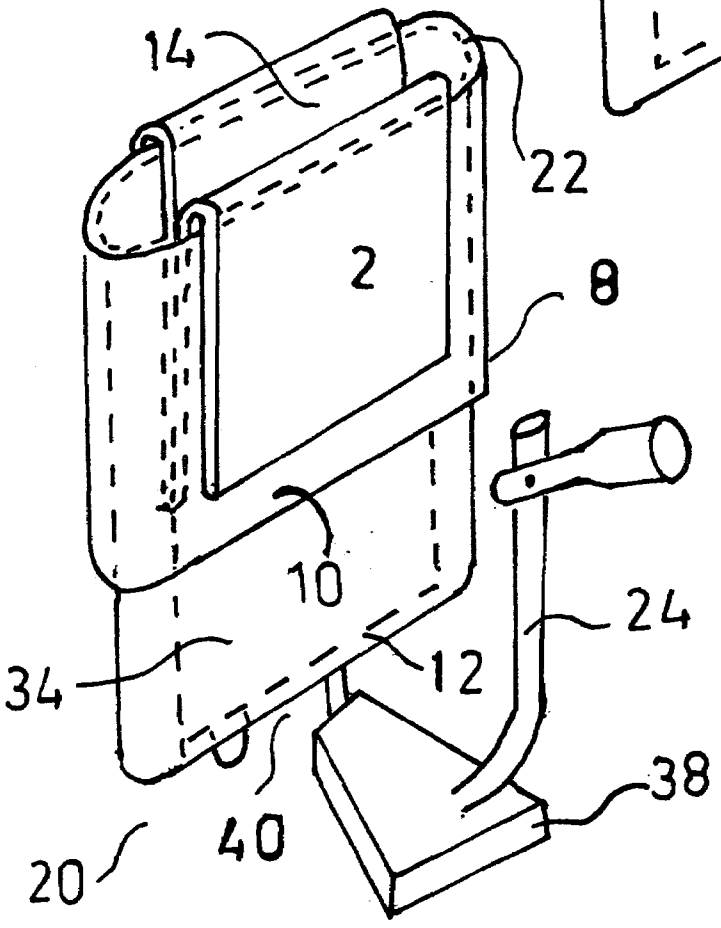

FIG. 8

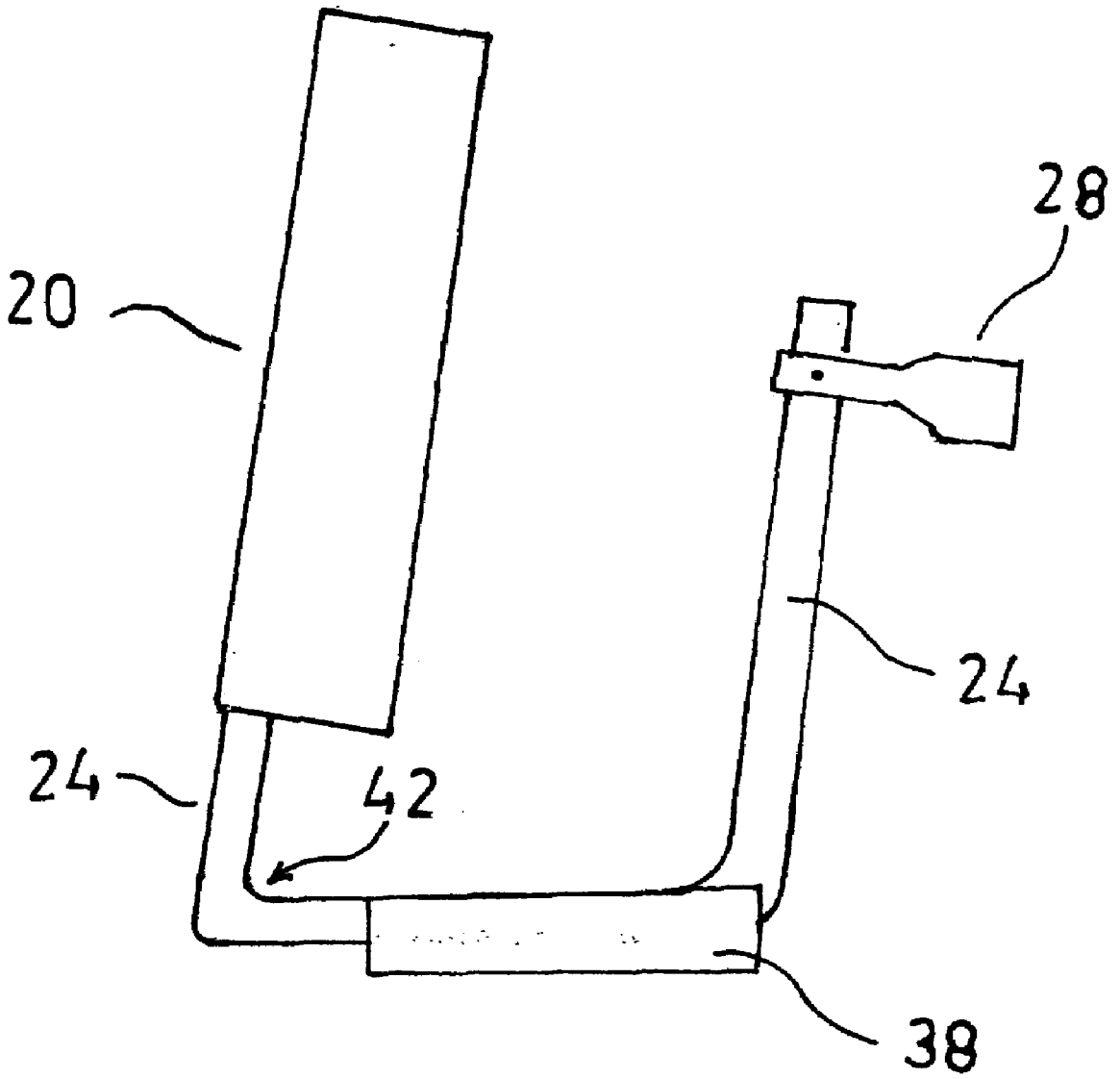

FIG. 9

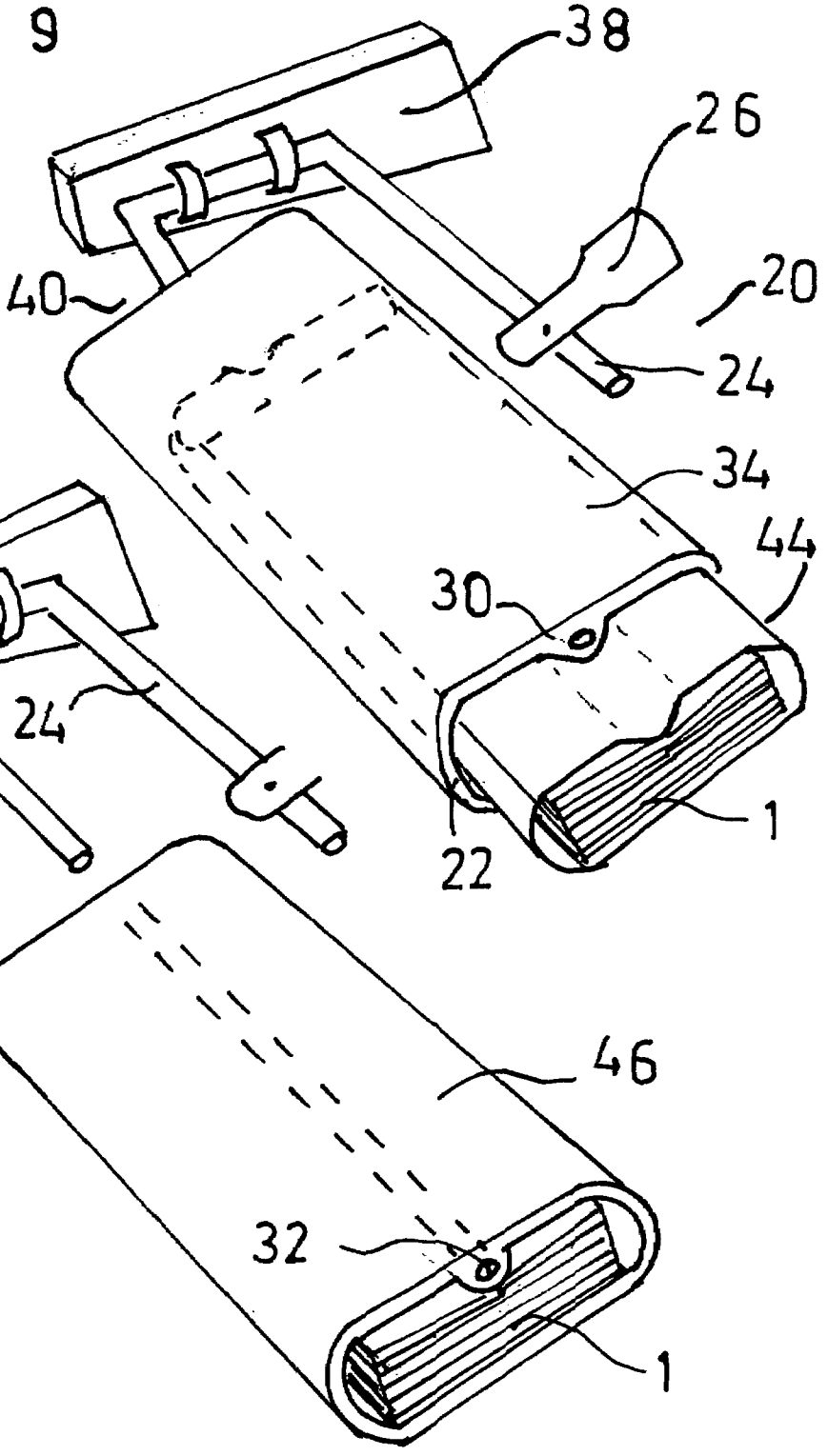

FIG. 10

DISPOSABLE SEALED HYGIENIC PAD ELEMENTS WITH FLOOR MOP HEAD

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not applicable.

STATEMENT REGARDING FEDERAL SPONSORSHIP

[0002] The present invention was not made or developed with Federal sponsorship.

BACKGROUND OF THE INVENTION

[0003] This invention relates to a disposable sheath with hygienic cleaning pad elements to be used in conjunction with specially designed floor mop heads.

BACKGROUND-DESCRIPTION OF PRIOR ART

[0004] Numerous tools have been developed to clean floors and other surfaces of dirt, debris and other contaminants. Traditional mops with strands of yarn or rope can be effective in cleaning a floor but must be wetted by water in a container and then cleaned and rinsed afterwards by hand or by a squeeze mechanism typically located within a mop bucket.

[0005] Cleaning floors in hospitals presents even more of a challenge. Not only do re-usable mops need to be laundered between use in some areas of a hospital, such an in operating rooms, they present a health hazard to the janitorial staff when being removed from the mop head and transported to the laundry. Mops are not even supposed to be returned to the bucket following cleaning of operating room floors, such is the need to avoid cross-contamination of different rooms.

[0006] The need to improve the sanitary handling and ease of use of mops has led to such innovations as disposable cleaning elements that are simply discarded after use. Cleaning elements comprised of disposable pad elements or wipes eliminate the need to wash and rinse the mop itself. For example, U.S. Pat. No. 6,651,290 B2 describes an implement with a cleaning head to receive and retain a disposable pad element. An attachment mechanism is designed to hold the pad element securely in place as it is wrapped around the mop head. Likewise, U.S. Pat. No. 6,298,517 B1 describes a disposable series of pad elements that are attached to a mop head. These and other similar mop configurations benefit from having disposable pad elements that negate the need to clean the mop after use. However, many of these mops suffer from several serious drawbacks:

[0007] (a) One of the most serious drawbacks is the need for the user to touch the pad elements during installation and removal. Consumers who abandoned traditional wet mops because they didn't want to clean the mop head of dirt and grime must still get their hand wet while attaching or detaching a disposable pad element. The need to touch the disposable pad element precludes the use of stronger cleaning chemicals than would otherwise be the case. In some environments, detaching soiled pad elements from a mop head represents a health hazard. For example, in hospitals there are large numbers of microorganisms that cause infections. It would not be safe for a maintenance worker to touch a soiled pad element directly with a bare hand after mopping a hospital room floor. With prior art disposable pad elements, a protective glove would have to be worn before detaching the soiled pad element. Once removed, prior art disposable pad elements can still represent a source of contamination, as the pad is not necessarily isolated.

[0008] (b) Chemicals to enhance the cleaning, dusting or disinfecting action of a floor mop or a dust mop are common. Disposable pad elements moistened with such chemicals are desirable but difficult to handle. A consumer may not want to touch a pad element moistened with a strong cleaning chemical because of potential irritation to the skin. This represents a paradox for the buyer of disposable cleaning pad elements: the more effective the chemically-treated pad elements are at cleaning dirty floors, the less willing the user is to handle the pad elements while directly attaching them and detaching them from the mop head. This leads manufacturers to use milder cleaning solutions than they otherwise would choose if the user did not have to touch the disposable pad elements. This is a particularly important issue for use of disposable pad elements in hospitals or other high-risk environments. Extra strong cleaning chemicals can help prevent the spread of nosocomial infections by reducing the general bacterial load on floor surfaces. However, with prior art devices, there has been a limitation on strength of such chemicals used to soak disposable pad elements unless users also wore gloves to protect themselves from the harsh effects of such chemicals during installation and removal of the pad elements from the mop head.

[0009] (c) Pre-moistened disposable pad elements have a propensity to dry out before use. While pad elements can be stored in a sealable, waterproof container, such pad elements can and do dry out if stored for long periods of time between use. A wet mop with a disposable pad element is of little benefit to the consumer once the pre-moistened pad elements have dried out. Even if the pad elements don't dry out, the container in which the pad elements are stored must be placed in a flat position on the floor, on a shelf or on a counter top, thus wasting valuable storage space.

[0010] (d) Current disposable pad elements have to resist tearing across their entire surface when placed on a mop head because they are most commonly attached to the mop head only at the four corners. This tear resistance across the entire mop head surface can lead to higher manufacturing costs compared to pad elements that can be attached to the mop head at multiple sites on the face of the mop head.

[0011] (e) Current disposable pad elements can be difficult to attach to the mop head. The element must be positioned centrally on the mop head while each of the four corners is tucked around to the opposite face and inserted into the attachment mechanism. The disposable pad element can dislodge during the installation procedure, making it difficult to line up the corners of the pad with the attachment mechanisms.

[0012] (f) Current disposable pad elements are stored separate from the mop head, sometimes getting lost in the clutter of objects stored in the cleaning closet or under the sink.

BRIEF SUMMARY OF THE INVENTION

[0013] This invention is based on the novel and surprising concept of using a disposable sheath with a first surface and

a second surface to attach one or more pad elements to a specially designed mop head. In the first position, one or more pad elements attached to the first surface face inward, either for storage prior to initial use or for touch-free disposal following use. In the second position, one or more pads attached to the first surface face outward and can be used to apply a cleaning, dusting or disinfecting solution to a floor surface. The disposable sheath is placed into each of the two positions by means of moving the sheath over a specially designed mop head that inverts the sheath as it moves from the first position, in which it is initially stored, to the second position where it is used on a floor surface and then back to the first position where it can be disposed of in a sanitary fashion.

[0014] In one embodiment the mop head takes the shape of a partially flattened cylinder with an interior surface and an exterior surface. A disposable sheath in the first position, with one or more pad elements facing inward, is placed inside the hollow mop head. The one or more pad elements attached to the first surface of sheath in the first position can be wetted with a cleaning, dusting or disinfecting solution and sealed within a first chamber to prevent evaporation of the solution during storage. Upon opening of the first chamber, one end of disposable sheath is pulled out and over the edge of the mop head, inverting the sheath in the process. Following complete inversion of the sheath as it is drawn down the length of the mop head, the one or more moistened pad elements attached to the first surface are now located in the second position with the pad elements facing outward. When the disposable sheath is in the second position, the second surface of the disposable sheath faces inward and contacts the mop head on its exterior surface.

[0015] In the preferred embodiment, a tether element is attached to one end of the disposable sheath. After the one or more moistened pad elements in the second position have been used to clean, dust or disinfect a floor surface, the tether element attached to the interior surface of the mop head can be pulled out from the interior of the mop head, returning the pad elements to the first position facing inward where they can then be discarded. Returning the soiled pad elements to the first position without the user having to touch the contaminated surface leads to easy disposal of the sheath and is one of the many novel aspects of this invention.

[0016] In the preferred embodiment the mop head and attachment rod are configured to facilitate the easy placement of the disposable sheath on the mop head. The mop head can be placed in a mostly vertical position by resting the entire mop head assembly on a loading plate attached to a rod, with the rod angled to place the mop head directly over the loading plate. The stand provided by means of the loading plate makes both hands of the user available to invert the sheath over the mop head.

[0017] In another embodiment, multiple disposable sheaths are placed in a storage cartridge that can be easily loaded into the mop head. In yet another embodiment, multiple disposable sheaths can be stored in a disposable mop head that can be discarded after all the individual sheaths have been used.

Objects and Advantages

[0018] Accordingly, several objects and advantages of the present invention are:

[0019] (a) to provide a disposable sheath with at least one pad element moistened with cleaning, dusting or disinfecting solution sealed in chamber one. The placement and inversion of the disposable sheath upon the mop head can be achieved without the user ever directly contacting the moistened pad elements;

[0020] (b) to provide a means of safely using stronger cleaning, dusting or disinfecting chemicals to treat the pad elements for enhanced efficacy in removing debris and grime from the floor surface without endangering the user;

[0021] (c) to provide a packaging system that prevents the moistened or treated pad elements from drying out before use;

[0022] (d) to provide the means of cleaning twice the floor surface area with the installation of a single disposable sheath by positioning moistened or chemically treated pad elements simultaneously to both the top and bottom surfaces of a mop head in one operation, which surfaces can be interchanged during the mopping operation;

[0023] (e) to provide a means of easily flipping the mop head over to facilitate the use of cleaning pad elements located on both outside surfaces of the mop head;

[0024] (f) to provide a means of easily loading the disposable sheath onto the mop head;

[0025] (g) to provide a means of firmly attaching the disposable sheath to the mop head so that the cleaning pads are held firmly in place and don't become loosened with vigorous cleaning action on the floor surface;

[0026] (h) to provide a means to easily and quickly remove the disposable sheath with the attached cleaning pad elements from the mop head and dispose of them without the user ever having to touch a dirty, wet or chemically treated pad element surface;

[0027] (i) to provide a means for isolating the dirty surfaces of cleaning pad elements to be disposed of after use;

[0028] (j) to provide a convenient storage location for multiple disposable sheaths with attached pad elements inside the mop head itself;

[0029] (k) to provide a convenient cartridge containing multiple disposable sheaths that can be loaded easily and quickly into the mop head;

[0030] (l) to provide a disposable mop head that contains multiple disposable sheaths.

[0031] (m) to provide a means to easily place the disposable sheath on the mop head by positioning the mop head at an angle approximately **15** degrees off vertical as it rests on a loading plate attached to the rod; and

[0032] (n) to provide a means to use lower cost raw materials in manufacturing the pad elements and packaging.

[0033] Further objects and advantages of my invention will become apparent from a consideration of the drawings and ensuing descriptions.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0034] While the specification concludes with claims particularly pointing out and distinctly claiming the invention, it is believed that the present invention will be better understood from the following description taken in conjunction with the accompanying drawings in which:

[0035] FIG. **1** is a perspective view of the disposable sheath with attached cleaning pad elements and a tether that

is fully extended. The extended tether is for illustration purposes. In its original storage position the tether is folded as shown in FIG. **2**.

[0036] FIG. **2** is a cross section side view of the disposable sheath with attached pad elements facing inward, with a folded tether attached to the distal end.

[0037] FIG. **3** is a cross section end view of the disposable sheath with attached moistened cleaning d elements facing inward.

[0038] FIG. **4** is a perspective view of one embodiment of the mop head and handle according to the present invention.

[0039] FIG. **5** a cross section end view of the mop head and handle of FIG. **4**.

[0040] FIG. **6** is a perspective view of the mop head and handle of FIG. **4** standing upright on its loading plate with the disposable sheath from FIG. **1** located in the interior of the mop head.

[0041] FIG. **7** is a perspective view of the disposable sheath of FIG. **6** partially inverted over the mop head of FIG. **6**.

[0042] FIG. **8** is a cross section side view of the mop head in a mostly vertical loading position attached to a rod resting on a loading plate.

[0043] FIG. **9** is a perspective view of a cartridge containing multiple disposable sheaths partially loaded into the mop head.

[0044] FIG. **10** is a perspective view of a disposable mop head containing multiple disposable sheaths and a separate attachment rod.

REFERENCE NUMBERS IN DRAWINGS

[0045] **1** Disposable sheath with pad elements.

[0046] **2** Upper pad element attached to the first surface of the disposable sheath.

[0047] **3** Second surface of disposable sheath.

[0048] **4** Permanent seal at distal end of first storage chamber of disposable sheath.

[0049] **6** Temporary seal at proximal end of first storage chamber of disposable sheath.

[0050] **8** Lower tab at proximal end of disposable sheath that is drawn out and over the mop head to invert the disposable sheath.

[0051] **10** Upper tab at proximal end of disposable sheath that is drawn out and over the mop head to invert the disposable sheath.

[0052] **12** Tether attached to the distal end of the disposable sheath.

[0053] **14** Lower pad element attached to the first surface of the disposable sheath.

[0054] **16** First surface of the disposable sheath.

[0055] **20** Flattened cylinder shape mop head with an interior and an exterior surface.

[0056] **22** Rounded end edge of the mop head.

[0057] **24** Rod which attaches mop head to connector.

[0058] **26** Hinge joint at which connector is attached to rod.

[0059] **28** Connector used to attach rod to a mop handle.

[0060] **30** Molded section where rod attaches to mop head.

[0061] **32** Cavity or hole into which rod is placed, connecting rod to mop head.

[0062] **34** Flat upper exterior surface of mop head.

[0063] **35** Flat lower exterior surface of mop head.

[0064] **36** Interior surface of mop head.

[0065] **38** Loading plate attached to rod which is used to support mop head in a substantially vertical position during inverting of the disposable sheath.

[0066] **40** Distal end of mop head.

[0067] **42** Bent rod with an angle of approximately **75** degrees.

[0068] **44** Disposable loading cartridge containing multiple disposable sheaths.

[0069] **46** Disposable mop head containing multiple disposable sheaths

DETAILED DESCRIPTION OF THE INVENTION

[0070] FIG. **1** shows a perspective view of disposable sheath **1**. Disposable sheath **1** can be fabricated from plastic, metal foil or any other pliable material that is impervious to penetration by water, cleaning solution or chemical that may be used for cleaning, dusting or disinfecting. Disposable sheath I is sealed with a temporary seal **6** to form a closed first chamber with moistened pad elements on the inside that won't dry out or release chemicals before use. Sealing of individual moistened pad elements **2** and **14** helps prevent the drying out of other pad elements, a major drawback to other mop systems that include disposable moistened pad elements packaged in bulk. Tab **10** corresponds to the upper portion of disposable sheath I while tab **8** corresponds to the lower portion of the sheath. Permanent seal **4** is provided at the distal end of the first sealed chamber of disposable sheath **1**. This permanent seal **4** and the temporary seal **6** provide an enclosed first chamber to prevent the moistened pad elements **2** and **14** from drying out. Tether **12** which extends past permanent seal **4** is used to move disposable sheath **1** from the second position to the first position, or turning it outside in once cleaning, dusting or disinfecting operations have been completed and disposable sheath **1** is ready to be discarded.

[0071] FIG. **2** shows a cross section side view of disposable sheath **1**. Second surface **3** faces outward. First surface **16** faces inward. Pad elements **2** and **14** are attached to first surface **16** and face each other. Temporary seal **6** connects the top and bottom first surfaces of sheath **1**. Tabs **8** and **10** extend past temporary seal **6**. Tether **12** is folded in half to contact a portion of the upper second surface **3** of disposable sheath **1**.

[0072] FIG. **3** shows a cross section end view of disposable sheath I with second surface **3** facing outward when disposable sheath I is in the first position. Pad elements **2** and **14** are attached to first surface **16** and face inward when in the first position, as configured when being stored inside the mop head prior to use. Pad elements **2** and **14** can be provided in the form of woven or non-woven natural or synthetic material or from a paper towel-like material. Sponge-like materials are also possible. Pad elements **2** and **14** are attached to the first surface **16** of disposable sheath I by means of adhesive, heat sealing, sonicating or any other method that will ensure sufficient strength of attachment. The method is not as important as simply binding pad elements **2** and **14** to the first surface **16** of disposable sheath I so that said pad elements stay in place while a floor or other surface is vigorously cleaned, dusted or disinfected. The folding of the wall of disposable sheath **1** between pad elements **2** and **14** on both sides provides the necessary additional circumference to the sheath to be drawn out and over a mop head that effects a change in position of the pad

elements from the first position where they face inward to the second position where they face outward. The folding configuration of disposable sheath **1** and pad elements **2** and **14** facilitate the placement and storage of disposable sheath **1** inside a mop head prior to use.

[0073] FIG. **4** shows a preferred embodiment of the mop head **20**. Mop head **20** is shaped like a partially flattened cylinder having a flat upper exterior surface **34** and a flat lower exterior surface **35** on the opposite side of the mop head **20**. Two rounded sides **22** connect top surface **34** to bottom surface **35** of mop head **20**. Mop head **20** may be fabricated from plastic, metal or any other suitable material that can be formed into the preferred shape of a flattened cylinder. While the flattened cylindrical shape is the preferred shape, other shapes, such as a head with non-parallel upper and lower surfaces, non-flat surfaces, a triangular shape, non-parallel sides or even curved sides may be used. The essential requirement is that mop head **20** provide a stabilizing base to which second surface **3** of disposable sheath **1** can contact and be held in place.

[0074] A mop handle is attached to the mop head at connector **28**. Connector **28** is attached to rod **24** at pivot joint **26**. Rod **24** is bent at several locations and is attached to the inside of mop head **20** through hole **32** in molded section **30**. Rod **24** is similar in shape to the rod portion of a paint roller except that connector **28** is attached to rod **24** at hinge **26**. Rod **24** is secured to mop head **20** along the length of molded section **30**, providing a pivot point between the mop head **20** and rod **24**. This allows mop head **20** to remain flat on the floor or other surface as the mop handle attached at connector **28** is raised or lowered and so that upper surface **34** can be flipped to exchange position with lower surface **35** of mop head **20**. This provides the means for both exterior surfaces of mop head **20** to contact the floor once disposable sheath **1** is attached and the mopping operation is commenced. Rod **24** is placed in hole or cavity **32** of molded section **30** at distal end **40** of mop head **20**.

[0075] Loading plate **38** is attached to rod **24** to provide a means upon which mop head **20** can be placed in a vertical position to easily effect a change of disposable sheath **1** from the first position with pad elements facing inward to the second position with pad elements facing outward.

[0076] The dimensions of mop head **20** depend on the intended use. For typical consumer use, the upper surface **34** of mop head **20** would preferably be ten inches in length and five inches in width. The distance between the upper exterior surface **34** and the lower exterior surface **35** could be as little as a half inch or as much as several inches. The preferred depth of the interior chamber of the mop head is such as to allow storage of the desired number of disposable sheaths **1** in the interior space. This is preferably ten or more. Mop head **20** designed for commercial applications may have larger dimensions to facilitate coverage of larger floor surface areas in less time. The wall thickness of mop head **20** should be adequate to provide structural stability during use and to facilitate the process of inverting disposable sheath **1** from the first position to the second position for cleaning and back to the first position for disposal. The wall thickness is preferably **1/4** inch.

[0077] FIG. **5** shows a cross section end view of mop head **20**, rod **24**, loading plate **38**, molded section **30** and connector **28**. Rod **24** is attached to the interior surface of mop head **20** by molded section **30**. The end view of the mop head **20** illustrates the upper exterior surface **34** and bottom exterior surface **35** of mop head **20**. Mop head **20** pivots around the axis formed by rod **24** where attached through cavity **32** by molded section **30**.

[0078] FIG. **6** illustrates storage of disposable sheath **1** inside mop head **20** as it is placed in a vertical position that facilitates the movement of disposable sheath from the first position to the second position, or in other words, the movement of pad elements facing inward toward each other to where the pad elements face outward.

[0079] FIG. **7** shows the process of turning disposable sheath **1** inside out by moving the disposable sheath **1** from the first position to the second position. Tabs **8** and **10** are used to pull disposable sheath **1** out and over proximal end **22** of mop head **20**. This effects a change of disposable sheath **1** from the first position to the second position. As disposable sheath **1** is everted, temporary seal **6** is broken, facilitating the movement of disposable sheath **1** from the first position to the second position along the length of mop head **20**. Tab **8** is drawn out, over and back along lower exterior surface **35** of mop head **20** while tab **10** is drawn out, over and back along upper exterior surface **34**. The circumference of disposable sheath **1** is slightly larger than the circumference of the exterior surface of mop head **20**, providing a tight fit between disposable sheath **1** and mop head **20**. Pad elements **2** and **14** must be pliable enough to be drawn out and over rounded proximal end **22** of mop head **20**. Tabs **8** and **10** are drawn down the length of mop head **20** until they reach distal end **40**. Disposable sheath **1** can only be inverted to the point where permanent seal **4** is pulled even with proximal end **22** of mop head **20**. Permanent seal **4** also maintains disposable sheath **1** in place around mop head **20**. Without permanent seal **4**, disposable sheath **1** could slide freely around mop head **20**. However permanent seal **4** prevents the movement of sheath **1** around the mop head **20**. Tether **12** is slightly longer than the length of mop head **20**. When disposable sheath **1** is turned completely inside out into the second position over mop head **20**, tether **12** should still be in a position to be grasped inside distal end **40** of mop head **20**. After the floor is cleaned, dusted or disinfected by passing the moistened pad elements over it, mop head **20** is rotated **180** degrees around the axis formed by hole **32** where rod **24** is inserted. The pad element on the opposite outside surface of the mop head is then available for use. The simple step of installing one disposable sheath **1** onto mop head **20** by turning it inside out provides for two moistened pad elements **2** and **14** to be used to treat double the floor surface area.

[0080] Upon completion of the cleaning, dusting or disinfecting operation, after both moistened pad elements **2** and **14** are dirtied, tether **12** is grasped from within distal end **40** of mop head **20** and pulled out and away from mop head **20**. This reverses the earlier process of placing disposable sheath **1** on the exterior surface of mop head **20**. It moves the disposable sheath from the second position where pads **2** and **14** face outward back to the first position where the pads **2** and **14** face inward. Tether **12** is then used to pull the disposable sheath in the first position from inside mop head **20** for disposal. The simple operations of installing and removing disposable sheath **1** without ever having to touch a wet surface with ones hands accomplishes two of the main objectives of the invention. This makes it possible to moisten pad elements **2** and **14** with stronger chemical cleaners than would otherwise be the case if the user were required to touch the wet surface of pad elements **2** and **14**

with his or her fingers. In addition, the disposal operation is not only safer for the consumer it is more hygienic because the user never has to touch the soiled pad elements **2** and **14**. They are isolated in the first position within the disposable sheath that has been turned outside in.

[0081] FIG. **8** shows mop head **20** inclined approximately **15** degrees from the vertical plane as it is attached to rod **24**. The fixed open angle in the bend of rod **24** is approximately **75** degrees in the bend nearest to the mop head **20** and **105** degrees in the bend away from the mop head **20**. This places the center of gravity of the proximal end of mop head **20** directly over loading plate **38**. The free-standing mop head **20** positioned over loading plate **38** frees both hands of the user to invert disposable sheath **1** over mop head **20**.

[0082] FIG. **9** shows the mop head **20** being loaded with a disposable cartridge **44** in which multiple disposable sheaths I are stored. The disposable cartridge **44** is the purchasing unit pre-loaded with multiple disposable sheaths **1**. Disposable cartridge **44** can be easily and quickly loaded into mop head **20**, providing a handy storage space for the disposable sheaths **1**.

[0083] FIG. **10** shows multiple disposable sheaths **1** loaded into a disposable mop head **46**. The disposable mop head **46** becomes the purchasing unit and storage unit for the multiple sheaths **1** before being attached to attachment rod **24**. After attachment rod **24** is inserted into hole **32** of disposable mop head **46**, disposable mop head **46** functions in the same manner as mop head **20** that can be used to clean floors and other surface.

[0084] Combining two chemicals, such as an activator and a base solution, and applying it to the disposable mop head just before use can lead to enhanced microbicidal activity. Another embodiment of this invention would be to apply the base chemical to the pad elements at time of manufacture and store the activator in the tether. Just before use, the activator could be transferred, all under a closed system, from the tether through a breakable seal to compartment one containing the pad elements where it could activate the base chemical for maximum disinfecting power. This extreme design feature would likely only be required in hospital applications where germicidal activity in cleaning floors is of the utmost importance.

[0085] The foregoing description of the preferred embodiments of the invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Modifications or variations are possible and contemplated in light of the above teachings by those skilled in the art, and the embodiments discussed were chosen and described in order to best illustrate the principles of the invention and its practical application. It is intended that the scope of the invention be defined by the claims appended hereto.

What is claimed is:

1. A device for cleaning, dusting or applying disinfectants to a surface comprising:

a.) a sheath having a first surface and a second surface, said sheath capable of assuming two positions, in said first position said first surface faces inward defining a first opening and a first chamber, and said second surface faces outward defining a second opening and a second chamber;

b.) at least one pad element affixed to said first surface for cleaning, dusting or applying disinfectants as said sheath assumes said second position;

c.) seal means associated with at least one of said first and second surfaces to close said first chamber for storing said pad element before use or after use.

2. The device of claim **1** wherein said at least one pad element is loaded with a solution for effecting at least one of the group of tasks consisting of cleaning, dusting or disinfecting.

3. The device of claim **2** wherein said at least one pad is stored in said first position with said first chamber closed with seal means to prevent said solution from evaporating.

4. The device of claim **1** wherein said at least one pad element is used in said second position and upon exhaustion of the pad element, said sheath is capable of being returned to said first position and said seal means sealed to contain said pad element.

5. The device of claim **1** wherein said second chamber receives a hand or a cleaning implement.

6. The device of claim **2** wherein said second chamber receives an implement head.

7. The device of claim **1** further comprising a tether element projecting from said second surface to facilitate moving said sheath from said second position to said first position.

8. The device of claim **7** wherein said sheath cooperates with an implement head having an exterior surface and an interior surface, said sheath assuming said second position with said implement head occupying said second chamber and said second surface abutting said exterior surface.

9. The device of claim **8** wherein said implement has at least one interior surface defining a passage, said sheath received in said passage in said first position and assuming said second position as said second surface is drawn over in abutting relationship with said exterior surface of said implement head.

10. The device of claim **8** wherein said sheath has a tether element projecting from said second surface, said tether element occupying said passage when said sheath is in said second position and capable of drawing said sheath into said first position in cooperation with said implement head as said tether element is withdrawn from said passage.

11. The device of claim **1** wherein said seal means is selected from the group of closures comprising adhesive, interfitting flange and groove, and heat seal.

12. The device of claim **1** wherein said sheath is comprised of one or more materials selected from the group consisting of metal foils, polyfoils or plastic.

13. The device of claim **6** further comprising an implement head.

14. The device of claim **13** wherein said implement head has as interior surface and an exterior surface, said interior surface defining a passage for receiving said sheath in a first position said exterior surface for receiving said sheath in said second position.

15. The device of claim **14** wherein said implement head holds a plurality of sheaths in a first position for storage until placed in said second position.

16. The device of claim **15** wherein said implement head is capable of attachment and removal from an implement handle to allow an implement head with an exhausted supply of sheaths to be replaced.

17. The device of claim **16** further comprising a handle element wherein at least one of said handle element and said implement head has one or more loading surfaces, said loading surfaces cooperate with a flat surface to hold said

implement head substantially vertical, to facilitate moving said sheath to a second position.

18. A method of cleaning or disinfecting a surface comprising the steps of

a.) providing a device having a sheath, at least one pad element and seal means, said sheath having a first surface and a second surface, said sheath capable of assuming two positions, in said first position said first surface faces inward toward itself defining a first opening and a first chamber and said second surface faces outward; said at least one pad element affixed to said first surface for cleaning, dusting or applying disinfectants as said sheath assumes said second position; said seal means associated with at least one of said first and second surfaces to close said first chamber for storing said pad element before use or after use; and

b.) opening said at least one seal means at said first opening and manipulating said sheath into said second position;

c.) using said at least one pad to clean, dust or apply disinfecting agents; and,

d.) manipulating said sheath back into said first position for disposal.

19. The method of claim **18** further comprising the step of closing said at least one seal means to contain said at least one pad.

20. The method of claim **18** wherein said sheath cooperates with an implement head having an exterior surface and an interior surface, said sheath assuming said second position with said implement head occupying said second chamber and said second surface abutting said exterior surface and said sheath is drawn over said implement head as said sheath assumes said second position.

21. The method of claim **20** wherein said implement has at least one interior surface defining a passage, said sheath received in said passage in said first position and assuming said second position as said second surface is drawn over in abutting relationship with said exterior surface of said implement head.

22. The method of claim **21** wherein said sheath has a tether element projecting from said second surface, said tether element occupying said passage when said sheath is in said second position and capable of drawing said sheath into said first position in cooperation with said implement head as said tether element is withdrawn from said passage said method further comprising the step of withdrawing said tether element to place said pad element in said first chamber.

23. The method of claim **22** wherein said first chamber is sealed with said seal means.

24. The method of claim **20** wherein said implement head has as interior surface and an exterior surface, said interior surface defining a passage for receiving said sheath in a first position said exterior surface for receiving said sheath in said second position, said method further comprising the step of storing at least one sheath in said passage.

25. The method of claim **24** wherein said implement head holds a plurality of sheaths in a first position for storage until placed in said second position.

26. The method of claim **25** wherein said implement head is capable of attachment and removal from an implement handle to allow an implement head with an exhausted supply of sheaths to be replaced, said method further comprising the step of replacing said implement head upon exhaustion of the supply of sheaths.

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