Sept. 18, 1951 A. J. RUBISCH 2,568,413

FILTER PAD DISPENSER

Filed Feb. 11, 1949

FIG. 1.

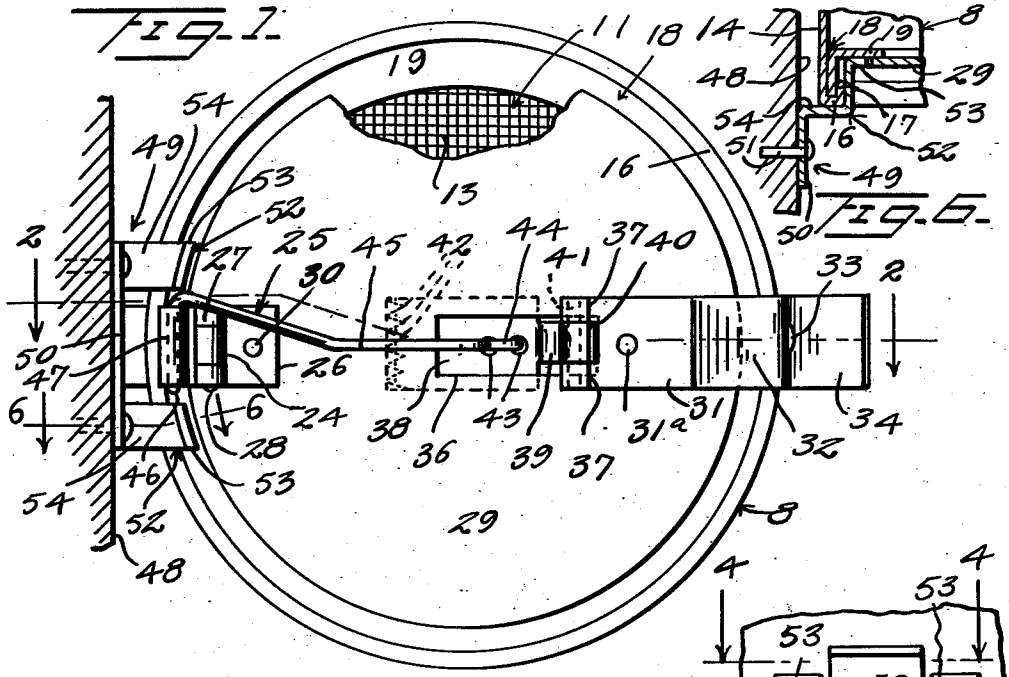


FIG. 6.

FIG. 3.

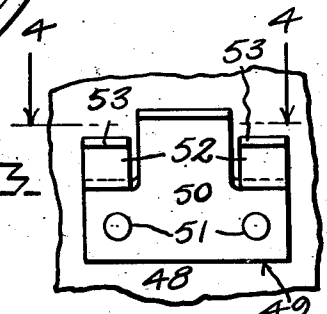


FIG. 2.

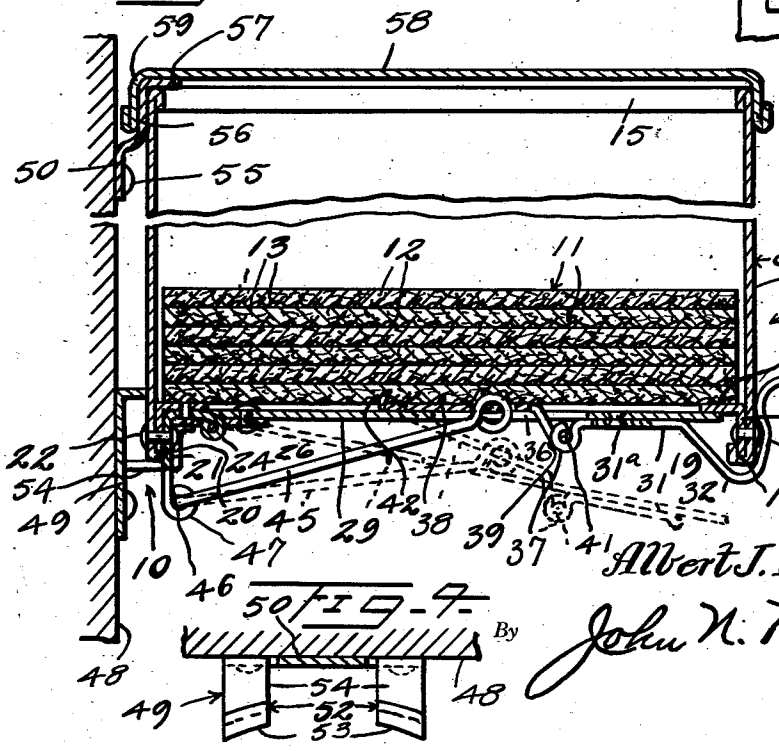


FIG. 5.

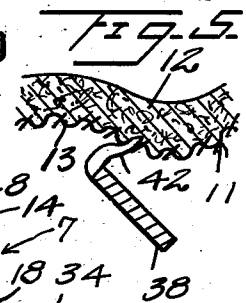


FIG. 4.

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FILTER PAD DISPENSER

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7 Claims. (Cl. 312—51)

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This invention relates to a novel dispenser for holding a plurality of cloth pads or the like and more especially filter pads and provided with dispensing mechanism for dispensing the pads one by one.

More particularly, it is an aim of the present invention to provide a novel container for holding a stack of pads and having manually operative dispensing means for extracting the bottommost pad from the container.

A further object of the invention is to provide a novel means of extremely simple construction for performing the dispensing operation when a hinged bottom portion of the container is swung downwardly and toward an open position.

Another and important object of the invention is to provide a quick demountable bracket support for the container to enable the container to be readily demounted from the support for refilling the container and be readily repositioned on the support and in substantially an upright position.

Still a further object of the invention is to provide a dispenser having a novel pivoted hook structure for engaging and extracting a filter cloth or pad from the bottom of the stack contained in the receptacle.

Still another object of the invention is to provide a receptacle having novel means to maintain the pads or filter cloths in a dry condition when the exterior of the container or receptacle is rendered moist by sweating or humidity.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a bottom plan view of the receptacle and dispenser;

Figure 2 is a fragmentary vertical sectional view thereof taken substantially along a plane as indicated by the line 2—2 of Figure 1;

Figure 3 is a front elevational view of the bottom section of the receptacle supporting bracket and with the receptacle removed therefrom;

Figure 4 is a horizontal sectional view thereof taken substantially along a plane as indicated by the line 4—4 of Figure 3;

Figure 5 is a fragmentary sectional view showing a fabric pad or filter cloth engaged by the hook structure of the dispensing apparatus and as it will appear while being removed from the bottom portion of the receptacle, and

Figure 6 is a fragmentary vertical sectional

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view taken substantially along a plane as indicated by the line 6—6 of Figure 1.

Referring more specifically to the drawing, the cloth dispenser in its entirety and comprising the invention is designated generally 7 and includes a container or receptacle, designated generally 8, a dispensing apparatus, designated generally 9 and constituting a swingably mounted part of the bottom of the container 8 and a mounting bracket 10 for the container 8.

The cloth or pad dispenser 7 has been illustrated in the drawing and will be described in connection with conventional fabric pads or filter cloths such as are employed in stables for filtering milk being poured into cans, not shown, in which the milk is transported to dairies. Such filter cloths or pads, a plurality of which are illustrated in Figure 2 and each designated generally 11, ordinarily include a multiplicity of plies including a number of upper plies of cotton 12 and a bottom ply of an open mesh fabric 13 such as cheesecloth. As said filter cloths or pads 11 are generally disk-shaped to fit the bottom of a milk strainer for filtering the milk as it is poured into the milk can, the cloths or pads 11 have been so illustrated in the drawing and the container or receptacle 8 has been illustrated as being circular in cross section; however, as the description proceeds it will be readily apparent that the pads or cloths 11 could be of various shapes and that the container 8 could be of various shapes in cross section to accommodate it to the shape of the cloths or pads. It will also become apparent as the description proceeds that the container and dispenser unit 7 could equally well be employed for holding other pieces of fabric to be dispensed singularly from the bottom thereof.

As previously stated, the receptable or container 8 is shown provided with a cylindrical wall 14 having an upper edge turned inwardly and back upon itself to provide an internal bead 15 and a lower edge which is likewise turned inwardly and back upon itself but which has the turned back portion inwardly spaced to provide an upwardly opening channel 16 for receiving the depending annular flange 17 of a ring, designated generally 18 which is supported therein and which likewise includes an annular inwardly extending flange 19 which forms a part of the bottom of the container 8 and which provides a relatively large opening in the bottom portion of said container. As previously stated, the filter cloths or pads 11 are stacked in the container 8 and are applied thereto through the

open top thereof and will be supported therein by engagement of the outer part of the lowermost pad 11 on the inwardly extending annular flange or bottom portion 19.

As seen in Figure 2, a portion of the channel 16 is cut away as indicated at 20 to accommodate a portion of a bar 21 which is fastened to a portion of the depending flange 17 by a rivet or other fastening 22 which also extends through the cylindrical wall 14. The bar 21 has an inturned portion fastened to the underside of a portion of the inwardly extending flange 19 by another rivet or fastening 23. Said last mentioned portion of the bar 21 terminates in a restricted downturned rolled portion forming a hinged barrel 24 which forms one leaf of a hinge, designated generally 25 and which also includes a leaf 26 having spaced barrels 27 between which the hinged barrel 24 is disposed and which barrels accommodate a hinge pin 28. The leaf 26 is secured to the underside of a disk 29 by a fastening 30; said disk 29 being of a size to completely cover the opening in the bottom of the container 8 as defined by the annular flange 19 and having its outer portion normally disposed against the underside of said flange 19.

An elongated strip 31, preferably formed of a relatively resilient metal, is secured to the under side of the disk 29 by a rivet or other fastening 31*a* at a point remote to the hinge leaf 26 and substantially in diametrical alignment therewith. The strip 31 is provided with an elongated free end portion which extends outwardly with respect to the periphery of the disk 29 and which is provided with a downwardly offset portion 32 which extends around a portion of the channel 16, an upwardly extending portion 33 which is disposed externally of a part of the cylindrical wall 14 and an outwardly and downwardly curved terminal portion forming a handle 34. A rivet 35 connects a portion of the wall 14 to a portion of the flange 17 and has a headed outer end which is engaged by an outwardly bowed part of the portion 33 to combine therewith to form a spring latch for releasably retaining the disk 29 against the underside of the flange 19, as illustrated in Figure 2 and it will be readily apparent that the handle 34 can be grasped and pulled outwardly to disengage the portion 33 from the rivet head and so that the disk 29 can be swung downwardly with respect to the bottom of the container 8 to and beyond its dotted line position of Figure 2. It will likewise be readily apparent that the handle 34 can be grasped for returning the disk or hinged bottom 29 to its full line position of Figure 2 and that the portion 33 as it reaches its position of Figure 2 will snap into engagement with the rivet head for automatically latching said disk or bottom 29 in a position for closing the open bottom of the container 8.

As best illustrated in Figure 1, the disk 29 is provided with an elongated opening 36 which is disposed in alignment with the hinge leaf 26 and strip 30. The opposite, inner end of the strip 30 is bifurcated and the furcations thereof are turned to provide aligned, spaced hinge barrels 37 which are disposed beneath one end of the opening 36. An elongated plate or strip 38 is disposed normally against a portion of the upper surface of the disk 29 over a portion of the opening 36 and is preferably of a width greater than the width of said opening. Said plate 38 has a restricted extension or shank 39 at one end thereof which extends downwardly

through the opening 36 and which terminates in a hinge barrel 40, as best seen in Figure 1, which is disposed between the barrel portions 37 for receiving a hinge pin 41. The opposite end of the plate 38, which extends in a direction toward the hinge 25 is notched to provide a plurality of laterally spaced tapered prongs 42 which are curved upwardly and backwardly and which combine to form a multi-pronged hook or claw.

Said plate or strip 38, adjacent the end thereof from which the shank 39 projects, is provided with two longitudinally spaced openings 43 which are loosely engaged by an eye or loop 44 formed on one end of a rod 45 which end extends outwardly and upwardly through the opening 36. Said rod 45 is provided with a laterally turned opposite end 46 which is journaled in a sleeve 47 formed by looping the depending, first mentioned end of the strip 21.

The container or receptacle 8 is adapted to be demountably supported in an upright position on a vertical wall surface 48 and which is accomplished by the bracket 10 which includes a bottom bracket section, designated generally 49 and a top bracket section, designated generally 50. The bracket section 49, as best illustrated in Figures 3 and 4, includes a plate which is secured by fastenings 51 to the surface 48 and which is provided with laterally spaced corresponding supporting arms 52 which form integral portions of the plate and which extend outwardly therefrom in a direction away from the wall 48 and which have upwardly extending outwardly offset portions which terminate in outturned shoulders 53. The arms 52 are spaced a sufficient distance apart to straddle the downwardly extending portion of the strip 21 and portions of channel 16 rest on the lower outwardly extending portions 54 of said arms. The upwardly extending portions of the arms 52 engage the inner side of the channel 16 and the shoulders 53 thereof bear against portions of the underside of the flange 19. The upper bracket 50 comprises a plate having a lower portion which is disposed against the wall surface 48 and secured thereto by fastenings 55. Said plate is provided with an outwardly offset intermediate portion 56 which engages against a portion of the outer side of the cylinder 14 adjacent its upper edge and which is bowed to fit substantially flush thereagainst and has an inwardly extending upper edge portion 57 which overlies a portion of the bead 15 and which extends inwardly with respect thereto.

The receptacle or container 8 is provided with a flanged closure 58 for the open top thereof and which is provided with an outwardly offset peripheral portion 59 which fits around the outer side of the plate portion 56 to retain the receptacle 8 in engagement with the upper bracket section 50 when the cover 58 is applied and which likewise functions to retain the receptacle in engagement with the lower bracket section 49.

It will be readily apparent that the receptacle 8 can be refilled conveniently by removing it from its position on the upright surface 48 and which is accomplished by removing the cover 58 after which the receptacle 8 can be swung outwardly and downwardly away from the bracket section 50 and thereafter lifted off of the bracket section 49. After refilling the container 8 the aforementioned operation is reversed for reapplying the receptacle to the supporting bracket 10 and said receptacle is detachably

secured in position thereon by the final operation of reapplying the cover **58**, as previously described.

It will be readily apparent that when one or more of the filter cloths or pads **11** are contained in the receptacle **8**, as illustrated in Figure 2, that the bottommost filter cloth or pad may be extracted from the opening defined by the flange **19** by grasping the handle **34** to swing the disk or bottom **29** downwardly on the hinge **25**, as previously described. When this occurs, and as illustrated in Figure 2, the rod **45** will prevent the plate **38** from swinging downwardly with the disk **29** during its initial movement and instead will cause the plate **38** to assume its dotted line position of Figure 2 and to continue to swing in a clockwise direction relatively to the pivot pin **41** so that the prongs or claw **42** which engages the bottommost pad **11** to extract said pad downwardly through the opening defined by the flange **19** and will move said pad outwardly with respect to the receptacle **8** or in a direction from left to right of Figure 2. It will thus be readily apparent that the dispensing apparatus **9** will function each time that the disk or bottom **29** is swung downwardly from its full line position of Figure 2 to extract the bottommost cloth or pad **11** from the receptacle **8** and deliver it outwardly so that it can be readily grasped. As the bottom **29** is returned to its normal, closed full line position of Figure 2 the prongs or claw **42** will penetrate the next pad or cloth which is then disposed in a bottommost position preparatory to extracting said pad the next time that the bottom is swung downwardly.

The annular portion of the container **8** disposed below the level of the flange **19** will function in combination with the cover **58** to keep the pads or cloths **11** in a dry and sanitary condition and to prevent moisture caused by humidity within a barn or stable and which collect on the exterior of the receptacle **8** from reaching the pads **11**.

Various modifications and changes are contemplated and may obviously be resorted to, without departing from the spirit or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A cloth or fabric pad dispenser comprising a receptacle, means supporting said receptacle in substantially an upright position, said receptacle being provided with a flange defining an opening in the bottom thereof and adapted to provide a support for a stack of cloth pieces or fabric pads contained within said receptacle, a plate hingedly connected adjacent an edge portion thereof to the receptacle for normally closing the opening defined by said flange and constituting a movable bottom section of the receptacle mounted for downward swinging movement to an open position, a claw mounted on the upper side of said plate adapted to engage the bottommost cloth or pad, said claw being pivotally connected to the plate and extending from its pivot toward the hinged edge portion of the plate, and means pivotally connected at one end thereof to said claw between its free end and pivoted end and having an opposite end pivotally supported on a fixed portion of the receptacle beneath and adjacent the hinge connection of the plate to the receptacle for causing the claw to swing upwardly and away from the plate when the latter is swung downwardly to an open position whereby the free end of the claw will be swung into engagement with the bottommost cloth or pad for extracting said pad from the receptacle and for delivering it outwardly and in a direction away from the hinged part of said plate.

2. A dispenser as in claim 1, a handle carried by said plate and disposed outwardly of the receptacle and adapted to be manually engaged for swinging the plate on its pivot, a spring latch element associated with said handle, and a fixed detent carried by the receptacle and disposed to be engaged by said spring latch element for releasably retaining the plate in a position for closing the opening defined by said flange.

3. A dispenser as in claim 1, said receptacle having a surrounding flange portion depending below said bottom flange and to below the level of said plate when the latter is in engagement with the bottom flange.

4. A cloth or fabric pad dispenser comprising a substantially upright receptacle having a restricted opening in the bottom thereof and adapted to contain a plurality of fabric pads or cloths in a stacked position therein, said bottom opening being smaller than the pads or cloths, a plate hingedly connected adjacent an edge thereof to the receptacle for normally closing the open bottom thereof and mounted for downward swinging movement to an open position, a claw disposed on the upper side of said plate and pivotally connected thereto for engagement with the bottommost pad or cloth, said claw being pivoted at one of its ends and extending toward the hinged edge of the plate from its pivoted end, and a rigid link pivotally connected to the claw and to a stationary portion of the receptacle beneath and adjacent the point where the plate is hinged to the receptacle for causing the claw to swing upwardly and away from the plate when the latter is swung downwardly to an open position for extracting the bottommost cloth or pad from the stack and for delivering it downwardly and outwardly with respect to the receptacle in a direction away from the hinged portion of the plate.

5. A dispenser as in claim 4, and spring latch means releasably retaining said plate in a position for closing the open bottom of the receptacle.

6. A dispenser as in claim 4, and spring latch means releasably retaining said plate in a position for closing the open bottom of the receptacle and including a handle normally disposed outwardly of the receptacle.

7. A cloth or fabric pad dispenser comprising a substantially upright receptacle having a bottom provided with a restricted opening, said receptacle being adapted to contain a plurality of fabric or cloth pads stacked therein and supported on the receptacle bottom around the opening thereof, a closure for the opening of the receptacle bottom, means swingably connecting said closure adjacent an edge thereof to the receptacle adjacent a portion of the bottom opening, said closure having a slot extending toward and away from its swingably connected part, an elongated strip disposed on the upper side of said closure having a claw at its free end adapted to engage the bottommost pad, said strip being pivotally connected at its opposite end to the closure and having a portion extending through said slot, said strip extending from its pivoted end in a direction toward the swingably connected part of the closure, and a rigid link pivotally mounted at one end on the receptacle beneath the swingably mounted end of the closure and having its opposite end pivotally connected

to an intermediate portion of said strip and extending through the closure slot for causing the free end or claw of the strip to swing upwardly and away from the closure when the latter is swung downwardly to an open position whereby said claw will engage the bottommost pad for extracting it from the stack through the open bottom of the receptacle and for delivering it downwardly and outwardly relatively to the receptacle and away from the swingably mounted portion of the closure.

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The following references are of record in the file of this patent:

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