APPARATUS AND SYSTEM FOR IMPROVING ACCESSIBILITY OF TOILET PAPER HOLDERS

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Filed: Sep. 25, 2013

Related U.S. Application Data
Provisional application No. 61/705,170, filed on Sep. 25, 2012.

Publication Classification
Int. Cl. A47K 10/40 (2006.01)
US Cl.
CPC A47K 10/40 (2013.01)
USPC 242/598.5

ABSTRACT
Method and apparatus are disclosed for mounting a roll of toilet paper to a support mechanism, and mounting the support mechanism to a surface such as the side of a vanity so that the toilet paper may be moved between two positions—a “retracted” position which stores the toilet paper out of the way, and an “extended” position which presents the toilet paper in a more accessible way comfortable to a user. The support mechanism may include one or more drawer sliders to facilitate movement between the “retracted” and “extended” positions.
FIG. 1

toilet paper holder

FIG. 2

support mechanism

sliding member
base member
FIG. 3A
“retracted” position

FIG. 3B
“extended” position

FIG. 4A
mounted to side of a vanity

FIG. 4B
recessed mounting
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CROSS-REFERENCE TO RELATED APPLICATION(S)


TECHNICAL FIELD

[0002] The invention relates to toilet paper holders, including consumer and commercial toilet paper holders and dispensers.

BACKGROUND

[0003] Conventional toilet paper holders and dispensers are typically affixed to an immovable vanity or wall surface next to the toilet. Some toilets are located in small, tight spaces with the toilet paper holder/dispenser affixed to the vanity or wall surface directly beside or slightly behind the seated user.

[0004] At times, the seated user may be elderly, suffering from a back injury, recovering from a surgery, or have some other temporary or permanent condition that limits his mobility and ability to twist his body to reach the toilet paper holder/dispenser that is affixed to the vanity or wall surface beside or slightly behind him in the small toilet area. The seated user must expend significant effort and endure discomfort in reaching and utilizing the toilet paper holder/ dispensor.

SUMMARY

[0005] It is an object of the invention to provide apparatus and method for holding and dispensing toilet paper in a way that improves accessibility and convenience for a user.

[0006] It should be understood that the terms “holder” and “dispenser” may be used interchangeably herein due to the common understanding that a paper roll holder is designed to facilitate dispensing of the paper on the roll being held.

[0007] Generally according to the present invention, a toilet paper holder is attached to a rigid base that is fitted with a system of sliding rails that facilitate movement (and subsequent relocation) of the toilet paper holder/ dispensers (and the roll of toilet paper) from one spot (position) to another position.

[0008] Method and apparatus are disclosed for mounting a roll of toilet paper to a support mechanism, and mounting the support mechanism to a surface such as the side of a vanity so that the toilet paper may be moved between two positions—a "retracted" position which stores the toilet paper out of the way (out of sight), and an "extended" position which presents the toilet paper in a way that is more accessible and comfortable when dispensing the toilet paper. The support mechanism may include drawer sliders to facilitate movement between the "retracted" and "extended" positions.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] Reference may be made to embodiments of the invention, non-limiting examples of which may be illustrated in the accompanying drawings (Figs.). Some elements in the figures may be exaggerated, others may be omitted, for illustrative clarity. Similar elements in various figures may be similarly numbered, such as element 215 being similar to element 115, the most significant digit(s) of the reference numeral may correspond to the figure number (such as FIG. “2”). Terms of orientation such as “top”, “bottom”, “left”, “right”, “front”, “back”, and the like may be used to indicate relative positions of elements with respect to one another, or portions of a given element with respect to one another.

[0010] FIG. 1 is a diagram, in perspective view, of a toilet paper holder and a roll of toilet paper.

[0011] FIG. 2 is a diagram, in side view, of a support mechanism for holding toilet paper, according to an exemplary embodiment of the invention.

[0012] FIGS. 3A, 3B are diagrams, in side view, of a support mechanism for holding toilet paper, such as shown in FIG. 2, according to an exemplary embodiment of the invention. In FIG. 3A, the support mechanism is shown in a “retracted” position. In FIG. 3B, the support mechanism is shown in an “extended” position.

[0013] FIGS. 4A, 4B are diagrams, in front view, of a support mechanism for holding toilet paper, such as shown in FIG. 2, according to some exemplary embodiments of the invention.

DETAILED DESCRIPTION

[0014] Various embodiments will be described to illustrate teachings of the invention(s), and should be construed as illustrative rather than limiting. Although the invention may be described in the context of various exemplary embodiments, it should be understood that it is not intended to limit the invention to these particular embodiments, and individual features of various embodiments may be combined with one another.

[0015] Referring to FIG. 1, a typical roll of toilet paper 110 may comprise a long strip of toilet paper wound around a cardboard core 112. Some exemplary dimensions may be:

[0016] diameter of the core, approximately 2 inches (5 cm)

[0017] diameter of the roll (full with toilet paper), approximately 4 inches (10 cm)

[0018] length of both the core and the roll, approximately 4 inches (10 cm)

[0019] A conventional toilet paper holder (or dispenser) 120 may comprise a base member 122 which is capable of being fixedly mounted to a surface such as a wall or the side of a vanity, and which typically has two arms 124 extending from the base 124, and a spindle extending between the two arms (or stubs at the ends of the arms) for supporting opposite ends of the toilet paper roll. The two arms 124 may extend outward from the base member 122 a distance slightly greater than half the diameter of the toilet paper roll 110, for example approximately 2 inches (5 cm), and may be spaced apart from each other a distance slightly greater than the length of the roll, for example approximately 4 inches (10 cm).

[0020] FIG. 1 shows a roll of toilet paper 110 which is generally cylindrical, being held in a toilet paper holder 120. The toilet paper holder 120 comprises an elongate base 122 having two ends, and an arm 124 extending from each end of the base 122 to a core 112 of the toilet paper roll 110.

[0021] According to the invention, generally, a support mechanism is provided, to which a roll of toilet paper may be mounted, either directly or indirectly through the intermediate of a conventional toilet paper holder.

[0022] The support mechanism may be mounted to a surface such as, for example, a wall, or the side of a bathroom vanity—typically, in close proximity with a toilet—and may
comprise a stationary part (a fixed member) for fixedly mounting to the surface, such as with screws or adhesive strips, and a movable part (or member) upon which the roll of toilet paper may be supported (directly, or via a toilet paper holder mounted thereto).

[0023] In use, the movable part of the support mechanism, with the roll of toilet paper mounted thereto, may be moved to reposition the roll of toilet paper from a first “retracted” (or “starting”) position which may be inconvenient for a user to grasp the toilet paper to a second “extended” (or displaced) position which is more convenient for a user to grasp the toilet paper.

[0024] The support mechanism may comprise:

[0025] a rigid member to which the toilet paper is mounted (directly, or via a toilet paper holder mounted thereto), and constituting the movable part of the support mechanism,

[0026] a fixed part mounted that may be mounted to a surface such as a wall, or vanity, and

[0027] means for allowing the movable part (and toilet paper roll supported thereupon) to be displaced from a first, “starting” or “retracted” position to a second “extended” position.

[0028] The means for allowing movement of the movable part between the first and second positions may comprise one or more drawer slide mechanisms. A typical drawer slider mechanism has a first elongated rail (or track) attached to a cabinet (or vanity), and a second elongated rail attached to the drawer. Typically there is one drawer slide mechanism for each of two sides of the drawer. The rails may interlock (engage one another so that one may slide and be guided by the other) in a manner that allows for the second rail to slide longitudinally with respect to the first rail (telescoping), and the rails may be provided with ball bearings to facilitate movement.

[0029] Alternatively, the means for allowing movement of the movable part between the first and second positions may comprise a pantograph-type support that allows one “movable” end to be moved with respect to another “fixed” end. Such a pantograph may be mounted so as to pivot, providing a range of “extended” positions. Pantograph-type support mechanisms, generally, are well known, and are not illustrated herein.

[0030] The support mechanism and its means for allowing movement may be spring-loaded, so that the support mechanism may extend itself when a user manipulates the support mechanism (such as by pulling on it, or by pressing a button). After use, the user may move the support mechanism to its “starting” (“retracted”) position (or configuration), which may store energy in a spring for the next use.

[0031] Some embodiments (examples) of a support mechanism for allowing a toilet paper holder (and the toilet paper roll) to be positioned between “retracted” position and an “extended” position, and its use will now be described. It should however be appreciated that the support mechanism can be positioned at other intermediary positions between the “retracted” and “extended” positions.

[0032] In the main hereinafter, a support mechanism for holding toilet paper will be described. It should however be understood that the support mechanism may be used to hold similar items, such as a roll of paper towels (kitchen towels).

[0033] In the main hereinafter, examples of mounting the support mechanism to a bathroom vanity will be described. It should however be understood that the support mechanism may be mounted to surfaces other than a bathroom vanity, such as to walls, stall partitions, and the like.

[0034] FIG. 2 illustrates an exemplary, non-limiting embodiment of a support mechanism 200 for supporting a roll of toilet paper (or the like) 110 in a manner that allows the roll of toilet paper 110 to be moved between a first, “retracted” position and a second “extended” position.

[0035] The support mechanism 200 comprises a rigid, substantially planar base member 210 which may be attached (fixed) in any suitable manner, such as by screws 202, to a surface (indicated by diagonal lines) 204 such as the side of a bathroom vanity, a wall, or the like.

[0036] The base member 210 may be made of wood, or any other sufficiently rigid and strong material such as high-strength plastic, metal, and the like.

[0037] In some embodiments, a base member 210 may be omitted—i.e., a sliding member (220, discussed below) may be movably mounted to the surface 204 via means for allowing the sliding member and toilet paper 110 to be moved and repositioned, as discussed above.

[0038] The support mechanism 200 further comprises a rigid, substantially planar sliding member 220, which may be referred to as a movable member 220 because means of movement other than literally “sliding” are within the scope of this invention and therefor generally encompassed by the term sliding. A toilet paper holder (TPH) such as the toilet paper holder 120 shown in FIG. 1 may be attached in any suitable manner to the sliding member 220. In this manner, a roll of toilet paper (such as 110; FIG. 1) may be mounted to the support mechanism 200. Alternatively, the sliding member 220 may be provided with arms (compare FIG. 1 or other suitable means for supporting the roll of toilet paper 110 directly, rather than indirectly (via the intermediary of the toilet paper holder 120).

[0039] Means are provided for allowing (permitting) the sliding member 220 to be moved, or repositioned with respect to the base member 210. For purposes of this discussion, the base member 210 may be considered to be “fixed”, while the sliding member 220 may be considered to be “movable”.

[0040] Movement of the sliding member 220 with respect to the base member 210 may be provided between at least two positions, such as a first “retracted” position as shown in FIG. 3A (and as shown, partially in dashed lines, in FIG. 2), and a second “extended” position as shown in FIG. 3B (and as shown in full, with solid lines, in FIG. 2).

[0041] A suitable mechanism (or “means”) for allowing movement of the sliding member 220 with respect to the base member 210 may comprise one or more drawer sliders (or tracks) which generally comprises two slidingly connected “rails”, each of which may comprise a first rail part (or fixed member, or fixed rail member) 232 mounted to the base member 210 and a second rail part (or movable member, or movable rail member) 234 which is mounted to the sliding member 220 on a side of the sliding member 220 opposite to the side to which the toilet paper holder 120 is mounted. Alternatively, the fixed member 232 may be directly mounted to the surface 204, without the intermediary of the base member 210; and the rail part (e.g., toilet paper 110) may be mounted to the movable rail member 234 without the intermediary of the sliding member 220.

[0042] The drawer slider with telescoping rails (or tracks) 232 and 234, which may generally be referred to as a drawer slider 230, allow the sliding member 220 to be moved from its “retracted” (starting) position to its “extended” position by
sliding. The drawer sliders 230 may be made of metal, and may have simple interlocking sliding surfaces sliding over one another. Ball bearings may be provided in the drawer sliders 230 to facilitate their telescoping action.

[0043] An exemplary embodiment of an apparatus or system 200 for improving accessibility of toilet paper 110 to users has been described. In use, the user would manipulate the sliding member 220, such as by exerting a force on the toilet paper holder (TPH) 120, or a tab (not shown) on the sliding member 220, to move the sliding member 220 between the “retracted” and “extended” positions (including positions therebetween). Detents may be provided at the various positions to retain the support mechanism 200 in a given position.

[0044] FIGS. 3A and 3B illustrate the support mechanism 200 mounted to a side surface 304 of a bathroom vanity 302. The support mechanism 200 is shown only generally, and without the roll of toilet paper mounted thereto, for illustrative clarity. It is within the scope of the invention that the base member 210 and/or the sliding member 220 can be eliminated, and the fixed rail member 232 is directly mounted to the side surface 304 of the vanity 302, and the toilet paper holder 120 is directly mounted to the sliding rail member 234.
In effect, the fixed rail member 232 and the sliding rail member 234 of the drawer slider 230 become the “fixed member” (210) and the “movable member” (220), respectively, of the support mechanism 200.

[0045] As best viewed in FIG. 3A, in the “retracted” position, the toilet paper holder 120 (i.e., the toilet paper) is located on a side 304 of the vanity 302, without sticking out from its front surface (left, as viewed), within the “boundaries” of the vanity 302. This may be desirable to keep the toilet paper out of sight or out of the way of people walking nearby when not in use.

[0046] As best viewed in FIG. 3B, in the “extended” position, the toilet paper holder 120 (i.e., the toilet paper) extends beyond the “boundaries” of the vanity 302, sticking out from its front surface. This may be desirable to have the toilet paper in a more convenient position (accessible) for use.

[0047] When the support mechanism 200 is in its “retracted” position (FIG. 3A), it has a length. When the support mechanism 200 is in its “extended” position (FIG. 3B), it has a length which is substantially, such as 4-12 inches (5-30 cm) longer than in its “retracted” position (configuration).

[0048] FIGS. 4A and 4B show some embodiments of the support mechanism 200 with toilet paper holder 120 and toilet paper 110 mounted to the side 304 of a vanity 402 (compare 302).

[0049] In FIG. 4A, the base member 210 of the support mechanism 200 is mounted to the side 304 of the vanity 402, and sticks out by the thickness of the base member 210, which for example may be approximately 1-1½ inches (2.5-4.0 cm). This may be preferable for retrofitting the support mechanism 200 to an existing vanity 402 or other support surface (e.g., 204), without modifying the vanity or support surface. The support mechanism 200 preferably has a sliding member 220 that fully covers the fixed rail member 232 and/or the base 210 (if present) when in the “retracted” position, however this is mainly just a design choice affecting appearance. It is within the scope of the present invention for the sliding member 220 to have a length that is unrelated to the length of the track member(s) 230 and/or the base 210, being either longer or shorter (which is shown in FIG. 2).

[0050] In FIG. 4B, the side 304 of the vanity 402, representative of any support surface 204, is modified to have a trench or recess 420 for accepting at least the base member 210 of the support mechanism 200. The base member 210 is shown “exploded” out to the right (as viewed), for illustrative clarity. This illustrates a “built-in” version of the invention which may present a nicer appearance while providing substantially the same functionality.

[0051] Some advantages of the invention, may include, without limitation, that it makes a toilet paper holder, that was initially inaccessible for a seated user, temporarily to be moved to a location (position) that is more accessible and useful for the user. It is easy to extend the support mechanism from its “retracted” starting position to its “extended” position by sliding it along the path of the telescoping drawer rails. Further, after the toilet paper holder has been used while in its “extended” position, it can easily be moved back to its “retracted” position by sliding it back along the path of the telescoping drawer rails. As a result, individual users who have limited mobility or that experience difficulty when twisting and turning, will be able to access and utilize the toilet paper roll and holder more easily. The apparatus can be installed on a variety of vanity, bathroom stall partitions, walls, or other wall-like surfaces 204.

[0052] While the invention has been described with respect to a limited number of embodiments, these should not be construed as limitations on the scope of the invention, but rather as examples of some of the embodiments. Those skilled in the art may envision other possible variations, modifications, and implementations that are also within the scope of the invention, based on the disclosure(s) set forth herein.

What is claimed is:
1. Apparatus for mounting a roll of paper to a surface comprising:
   a sliding member;
   means for supporting the roll of paper on the sliding member; and
   means for allowing movement of the sliding member between at least two positions relative to the surface, one of which is a retracted position, and another of which is an extended position.
2. The apparatus of claim 1, wherein:
   the paper comprises toilet paper.
3. The apparatus of claim 1, wherein:
   the surface is a side of a vanity having boundaries;
   the retracted position is within the boundaries of the vanity; and
   the extended position is without the boundaries of the vanity.
4. The apparatus of claim 1, wherein:
   the means for supporting the roll of paper comprises a toilet paper holder.
5. The apparatus of claim 1, wherein:
   the means for allowing movement comprises a drawer slider.
6. The apparatus of claim 1, wherein:
   the means for allowing movement comprises a fixed member attached to the surface and a movable member attached to the sliding member.
7. The apparatus of claim 1, wherein:
   the fixed member further comprises a base member;
   the base member is attached to the surface; and
   the movable member is the sliding member.
8. The apparatus of claim 1, wherein:
the sliding member hides from view the means for allowing
movement when the sliding member is in the retracted
position.
9. The apparatus of claim 1, wherein:
the retracted position places the roll of paper in a location
considered difficult to access by a user of it; and
the extended position places the roll of paper in a location
considered to be accessible by a user of it.
10. Method of supporting a roll of paper comprising:
mounting the roll of paper to a support mechanism that is
movable between at least two positions, one of which is
a retracted position, and another of which is an extended
position.
11. The method of claim 10, further comprising:
directly mounting the roll of paper to the support mecha-
nism.
12. The method of claim 10, further comprising:
indirectly mounting the roll of paper to the support mecha-
nism, via the intermediary of a paper holder.
13. The method of claim 10, further comprising:
mounting the support mechanism to a surface.
14. The method of claim 10, further comprising:
mounting the support mechanism to a side of a vanity
having boundaries; such that:
the retracted position is within the boundaries of the vanity;
and
the extended position is without the boundaries of the
vanity.
15. The method of claim 14, further comprising:
providing a recess in the side of the vanity for accepting the
support mechanism.
16. The method of claim 10, wherein:
the roll of paper comprises toilet paper.
17. The method of claim 10, further comprising:
mounting the support mechanism to a surface in proximity
to a user of the roll of paper, and positioning the support
mechanism such that:
the retracted position places the roll of paper in a location
considered to be less accessible by a user of it; and
the extended position places the roll of paper in a location
considered to be more accessible by a user of it.
18. The method of claim 10, further comprising:
providing a detent position between the retracted position
and the extended position.