June 24, 1930. F. M. STEINER ET AL 1,765,631

TOWEL CABINET

Filed April 2, 1928 2 Sheets-Sheet 1

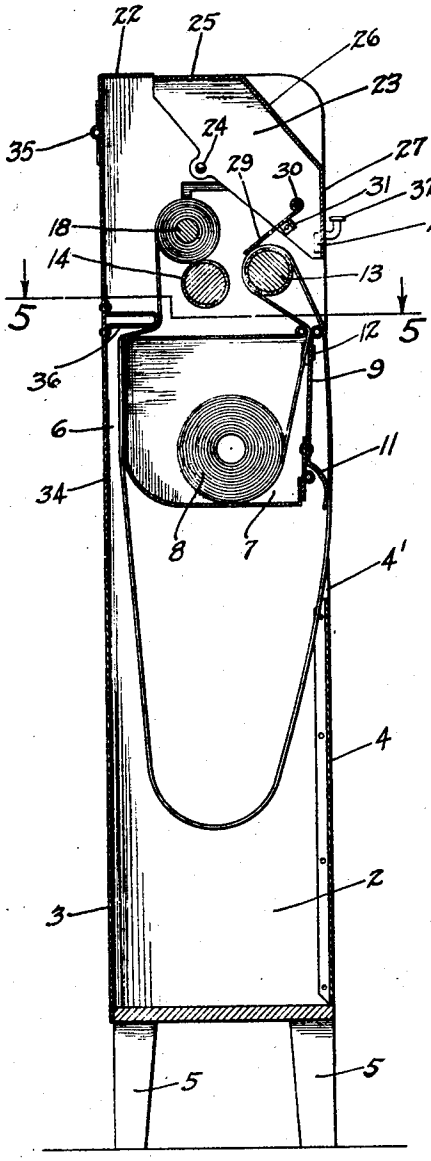


FIG. 1

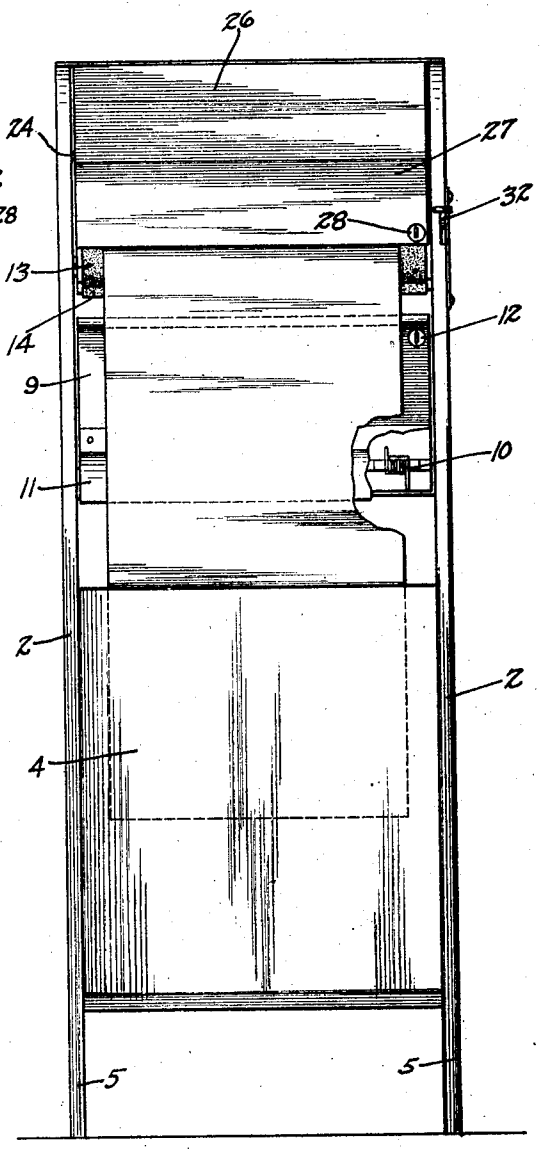


FIG. 2

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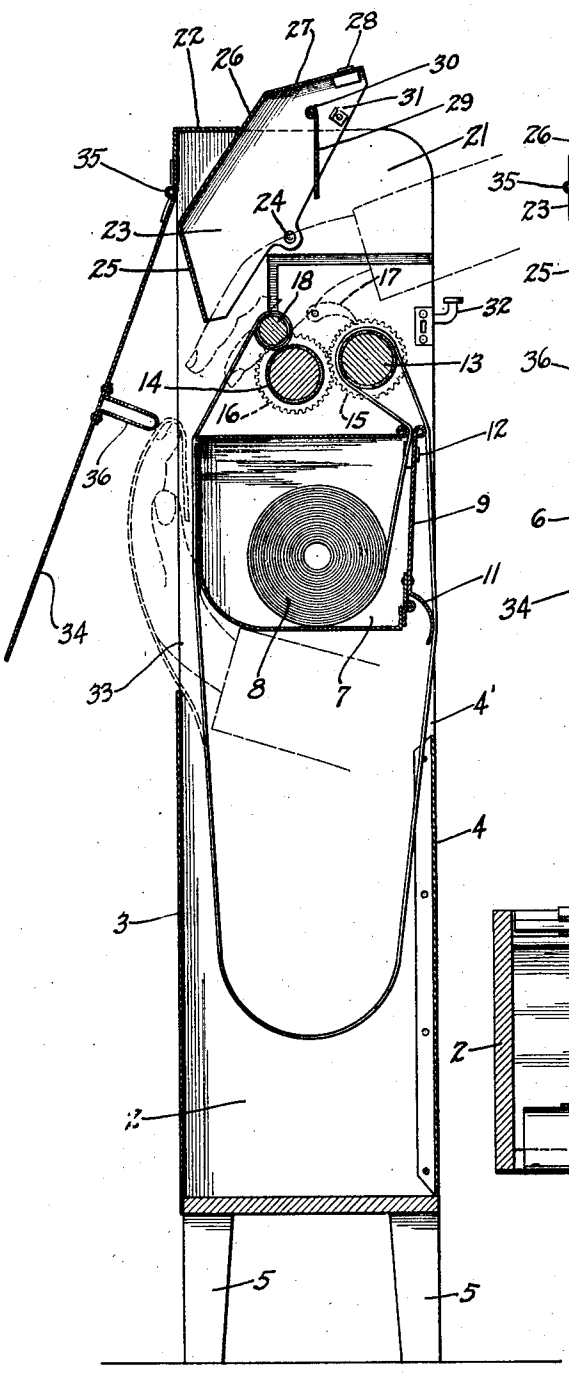


FIG. 3

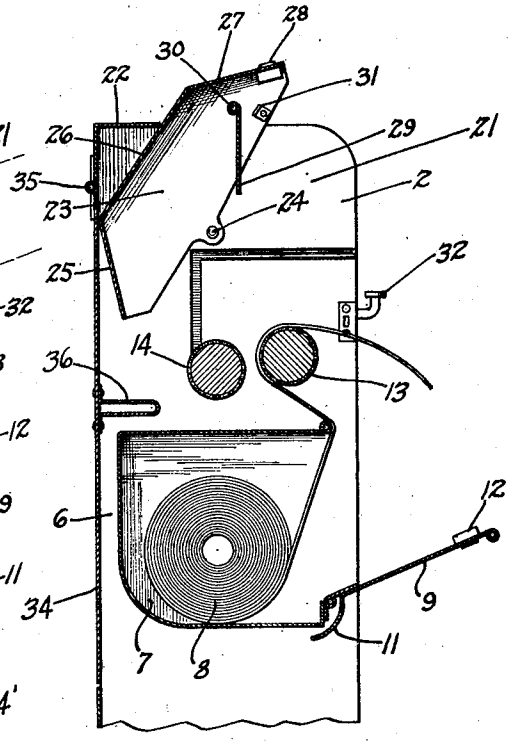


FIG. 4

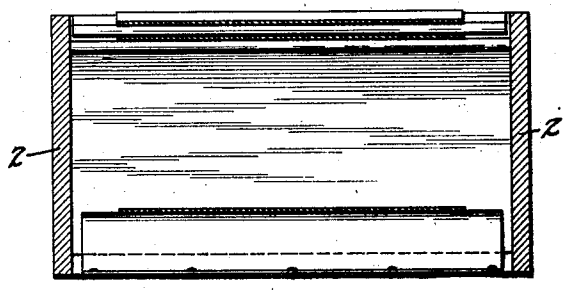


FIG. 5

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UNITED STATES PATENT OFFICE

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TOWEL CABINET

Application filed April 2, 1928. Serial No. 266,637.

Our invention relates to a stand or floor type of cabinet, that is, one that is adapted to rest upon the floor instead of being secured to a wall or other upright support as a wall cabinet usually is. Cabinets of the floor type are usually placed in a corner or angle of the wash room against the wall or in some position where they will not project in an objectionable manner into the room and still will be easily accessible and convenient for use. It has been necessary usually heretofore in removing the soiled towel from the cabinet and placing a clean supply therein, to remove the cabinet out away from the wall so that access might be had to the rear thereof, the attendant passing his hand through an opening in the rear wall and grasping the soiled towel web to stretch it to the take-up roll. This method of filling or loading the cabinet made it necessary to move the cabinet around to have access to the back and then replace it against the wall when the loading operation was completed. Attendants have found that considerable time was required to do this in addition to the labor involved, and one of the objects of this invention is to provide a cabinet of such construction that the clean towel could be inserted from the front of the cabinet and the soiled towel removed without the necessity of having access to the rear of the cabinet or moving it from its place against the wall.

A further object is to provide a cabinet of such construction that the clean web of towel can be easily and quickly placed in its feeding position over the delivery or feed roll.

A further object is to provide a cabinet of such construction that the web of towel will be prevented from bunching or wrinkling in passing from the clean supply to the take-up roll, and a still further object is to provide a cabinet of very simple construction involving only a few inexpensive parts, and one that will occupy comparatively little space in a toilet or washroom.

The invention consists generally of various constructions or combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification,

Figure 1 is a vertical sectional view through a towel cabinet embodying our invention;

Figure 2 is a front elevation of the upper portion of the cabinet;

Figure 3 is a vertical sectional view through the cabinet showing the top raised for access to the take-up roll and the feed rolls;

Figure 4 is a sectional view of the upper portion of the cabinet showing the manner of placing the clean supply of towel in the cabinet and stretching the clean web to its feed roll; and

Figure 5 is a sectional view on the line 5—5 of Figure 1.

In the drawing, 2 represents the side walls of the cabinet; 3 a rear wall; 4 a front panel below the opening; 5 are supporting legs whereby the cabinet is raised a suitable distance above the floor line.

This cabinet may be made entirely of sheet metal or any other suitable material as may be preferred.

Within the cabinet we provide a chamber 7 adapted to receive the supply of clean towel 8. This chamber made preferably by bending or folding a plate of sheet metal to the desired form, is open at the front, closed on the bottom, rear and top, and is separated from the closed rear wall of the cabinet by a shallow space or gap 6. A door 9, also preferably of sheet metal, is hinged to the lower forward portion of the chamber wall and is normally held in its upright closed position by suitable springs 10. This door closes the front of the clean towel chamber and normally conceals the clean towel from view. A curved guard 11 is preferably provided at the lower portion of this door and serves to throw the web of towel outwardly and protect the hand of the user from coming in contact with the hinges of the door. Suitable means such as a lock 12 may be provided on the door to prevent a malicious or unauthorized person from obtaining access to the clean towel chamber and the towel therein. When this door 9 is opened the attendant may easily and conveniently deposit a roll or bolt of clean towel within the chamber and as the user

pulls on the web the roll will move back and forth in the chamber and the clean towel will be unwound.

Above this clean towel chamber, we provide a delivery feed roll 13 having a suitable roughened or sanded surface and preferably positioned slightly in the rear of the forward wall of the clean towel chamber and in the rear of this feed roll on substantially the same level, we arrange a second feed roll 14 of substantially the same size as the roll 13, separated therefrom, as shown in Figure 1, by a gap or opening and having a driving connection with the roll 13 through gears 15 and 16, a dog 17 preventing backward movement of these gears. In loading the towel, the attendant standing in front of the cabinet, may grasp the loose end of the clean web and easily and quickly pass it up between the feed rolls as indicated in Figure 4, the clean web sliding on the rolled upper edge of the chamber wall and becoming smoothed and straightened by contact with this wall. The web is then drawn upwardly and forwardly and extended down below the clean towel chamber and through the opening 4', and from thence stretched upwardly through the gap 6 to a soiled towel take-up roll 18 that is mounted in guides in the side walls of the cabinet and adapted to rest by gravity upon the take-up feed roll 14 so that when the feed rolls are revolved by the pull of the user on the towel web, the rear roll 14 geared to the roll 15 will be revolved counter clockwise, and its engagement with the take-up roll will cause the soiled towel to be wound thereon synchronously with the feed of the clean towel over the delivery roll 13.

The top of the cabinet has an opening 21 extending from the front backwardly to a stationary panel 22 and for closing this opening we provide a coverlike door comprising side walls 23 pivoted at 24 to the side walls of the cabinet. A panel 25 connects these side walls 23 and when the door is in its closed position, the panel 25 will be substantially flush with the panel 22. A panel 26 forms an angled continuation of the panel 25 and extends forwardly and downwardly from the panel 25 when the door is closed, and a third panel 27 connects the forward ends of the wall 23 and depends in a vertical position between the side walls of the cabinet above and adjacent the delivery feed roll 13. A suitable mirror may be placed in the panel 26 and the door may be secured to prevent unauthorized persons from obtaining access to the top of the cabinet by suitable means such as a lock 28. A gravity plate 29 is preferably pivoted at 30 in the walls 23 and normally contacts with the clean towel web at the point where it passes over the upper portion of the feed roll 13, a suitable stop 31 preventing this plate from swinging forwardly when the door is moved to its open position.

The feed delivery device 32 is provided, which, when manipulated by the towel user will release the feed roll and allow a certain predetermined length to be delivered. When the door is in its closed position, the upper portion of the cabinet with the feed rolls and take-up roll therein will be concealed and protected and it will be practically impossible for anyone to obtain access to this part of the cabinet. As soon, however, as the door is unlocked and moved to the position indicated in Figure 3, the soiled towel take-up roll and the feed rolls will all be exposed to permit the convenient rapid loading of the cabinet. The attendant may then stretch the clean towel web up between the feed rolls and draw it forwardly and downwardly, raising the web sufficiently to be out of contact entirely with the feed roll 13 and hence it will not be necessary to release and manipulate this feed roll when the attendant wishes to form a clean towel loop at the front of the cabinet. When the door is closed, however, as indicated in Figure 1, the person using the cabinet cannot raise the clean towel web out of contact with the delivery roll and obtain an unauthorized feed or length of clean towel. He cannot drag the towel over the rough or sanded surface of the feed roll and hence will be obliged to manipulate the feed control device 32 and obtain only a predetermined length of towel each time the web is pulled. See the hinged door in the application of Frank M. Steiner and Walter S. Graves, filed June 5, 1922, #565,802. As soon as the clean towel is exhausted, however, the attendant or person in charge of the cabinet may unlock and raise the door in the top and have access for the removal of the soiled towel and at the same time easily and quickly stretch another web of clean towel over the feed roll. The door closing the top of the cabinet, which we have shown herein, may be easily pressed or formed from one piece of sheet metal by a suitable die and when mounted in the top of the cabinet will present a neat, ornamental appearance without adding materially to the cost of the cabinet.

The back of the cabinet is preferably provided with an opening 33, and a door 34 hinged at 35. This door normally is closed, as shown in Figure 1, and the wall of the clean towel supply chamber is extended backwardly to a point near this door, thus providing a considerable space nearly the full depth of the cabinet, for the insertion of the clean towel supply. The space between the chamber wall and the rear wall of the cabinet would be too narrow or limited for the convenient passing of the towel web upwardly if the rear wall be made rigid or immovable.

By providing the door in this wall, the attendant is able by the pressure of the back of his hand, as indicated by dotted lines in Figure 3, to push the door outwardly, making ample space between it and the clean towel chamber for the stretching of the towel web upwardly to a point where it can be grasped by the other hand of the attendant, inserted into the cabinet above the feed rolls, and when this has been done, the end of the web may be easily wound on the take-up roll and then the roll inserted into the guides to contact with the feed roll beneath. The door 34 may be equipped with spring hinges so that as soon as the attendant removes his hand, the door will automatically return to its closed position.

When the web is stretched through the gap in the rear of the clean towel chamber to the take-up roll 18 above, it will contact with the smooth rear wall of the chamber and be guided and straightened thereby, and preferably we mount a loop 36 in the form of a rib, having a smooth inner face that is adapted to contact with the towel web above the clean towel chamber and press it inwardly, putting the web under sufficient tension so that the takeup roll 18 will be held down against the feed roll and prevented from jumping up in the vertical guides, thereby insuring the corresponding winding of the towel web on the take-up roll as the clean web is withdrawn from the clean towel chamber.

In using the cabinet, the control device 32 will be manipulated, releasing delivery feed roll 13. The user will then pull the towel web and a predetermined length of clean towel will be delivered sufficient for wiping purposes. When the web is released, it will fall down within the cabinet as indicated in Figure 1, and as the delivery feed roll is operated to dispense a length of towel, the takeup roll will be correspondingly operated and the same length of soiled towel wound thereon, each delivery roll having the same peripheral speed and dispensing and winding up the corresponding length of the towel web with each operation. When the clean towel is exhausted it is only necessary for the attendant standing in one position in front of the cabinet, to open the door in the top, place a supply of clean towel in the chamber below, having previously opened the door of that chamber, then stretch the clean web over the delivery roll and thence downwardly and upwardly as described to the take-up roll, close the doors and the cabinet is ready for use.

We claim as our invention:

1. A towel cabinet having a delivery opening in its front and also having a compartment in rear of said opening adapted to hold a supply of clean towel said compartment being provided with a door opening outwardly through said opening, a delivery feed roll mounted in said cabinet and over which the clean towel web may be stretched to said delivery opening, a second feed roll in the rear of said first named roll and on substantially the same level, and having a driving connection therewith for simultaneous movement in opposite directions, a take-up roll whereon the web of soiled towel is wound for contact with said second feed roll, a door arranged to close the space above and in front of said feed rolls and pivotally supported intermediate to its ends in the side walls of said cabinet, the front portion of said door being adapted when released to move upwardly and expose said feed rolls and allow the clean towel web to be stretched to form a loop over said delivery feed roll without contacting therewith, and said door in its closed position preventing the towel web from being raised out of contact with said delivery feed roll.

2. A towel cabinet having a support therein for a supply of clean towel and provided with a towel delivery opening in the front thereof, a delivery feed roll mounted in said cabinet over which the clean towel web may be stretched to said delivery opening, a door above said feed roll and normally adjacent thereto, said door comprising side walls having pivotal connections with the walls of the cabinet and having a rear panel that is flush substantially with the top of the cabinet when the door is closed, said door also having an intermediate panel extending forwardly from said rear panel and a forward panel that forms a vertical continuation of said intermediate panel and is flush substantially with the front of the cabinet when closed, said door when in its closed position preventing the web of clean towel from being dragged over said delivery roll without turning the roll to obtain an unauthorized length of towel, and said door when raised to its open position, allowing the web of towel to be drawn upwardly and forwardly to form a loop therein without contacting with the said feed roll.

3. A towel cabinet having a support therein for a supply of clean towel and provided with a delivery opening in the front thereof, a delivery feed roll mounted in said cabinet and over which a clean towel web may be stretched to said delivery opening, a second feed roll in the rear of said first named roll and above the supply of clean towel, said rolls having a driving connection between them for simultaneous movement, a take-up roll whereon the web of soiled towel may be wound for contact with said second feed roll, the web of towel from the supply depending in the front of the cabinet into said opening and beneath the clean towel support, said support being spaced from the rear wall of the cabinet forming a gap through which the web of towel may be stretched to said take-up roll, and a door pivoted intermediate its ends in the upper part of the cabinet and carrying a device adapted to engage the web of towel

near said take-up roll when said door is closed and prevent said roll from jumping in its bearings and also preventing the formation of folds or wrinkles in the towel web during its passage to said take-up roll.

4. A towel cabinet having a receptacle therein for a supply of clean towel extending from near the front rearwardly to a point near the back of the cabinet to provide a comparatively large space for such supply, a pair of feed rolls above said receptacle intergeared for simultaneous operation, the front of the cabinet having an opening in front of said receptacle whereby a web of clean towel may be stretched from said supply upwardly to one of said feed rolls and thence downwardly between the front of said receptacle and the front of the cabinet, a take-up roll mounted in said cabinet for contact with the second feed roll to be operated thereby, the rear of said cabinet having a wall and an opening extending below said receptacle and a door for said opening cooperating with said wall to normally close the back of the cabinet, a gap being formed between the rear wall of said receptacle and said door through which the web of towel may be drawn upwardly to said take-up roll after passing around under the receptacle, said door being adapted to swing to an open position under pressure of the hand of the attendant, thereby providing ample room for the convenient stretching of the towel web to said take-up roll.

5. A towel cabinet having a receptacle therein for a supply of clean towel extending from near the front rearwardly to a point near the back of the cabinet to provide a comparatively large space for such supply, a pair of feed rolls above said receptacle intergeared for simultaneous operation, the front of the cabinet having an opening and the receptacle having a door hinged to open through said opening, a take-up roll mounted in said cabinet for contact with the second feed roll to be operated thereby, the rear of said cabinet having a wall and an opening extending below said receptacle and a rear door for said opening cooperating with said wall to normally close the back of the cabinet, a gap being formed between the rear wall of said receptacle and said door through which a web of towel may be drawn upwardly to said take-up roll, said rear door being adapted to swing to an open position under pressure of the hand of the attendant, thereby providing ample room for the convenient stretching of the towel web to said take-up roll, the rear wall of said receptacle projecting rearwardly of said take-up roll and forming a guide whereon the towel web is straightened and smoothed, and means mounted on said door to engage the towel web above said receptacle and exert a downward pull thereon to hold said take-up roll in engagement with its feed roll.

6. A towel cabinet having a towel delivery opening in the upper forward portion thereof, and provided with a compartment for a towel supply, said compartment being situated in the rear of said delivery opening, a pair of feed rolls mounted in adjacent relation above said towel compartment, said rolls having a driving connection between them for simultaneous movement and a take up roll adapted to contact with the rear feed roll to be driven thereby, and on which take up roll a web of towel may be wound synchronously with the feed of the clean towel over said delivery feed roll, and a door having a normally horizontal top portion and a front portion normally overhanging said feed rolls and extending in front of the same to prevent feed of the clean towel except by the revolution of said feed roll, said door being pivoted intermediate its ends whereby when raised it exposes said rolls and allows the clean web to be manually raised from said feed roll during the proper placement of the towel roll in the cabinet.

7. A towel cabinet comprising a casing having an opening in its front and provided with a clean towel compartment and a door therefor opposite said opening normally closing the front of said compartment, a feed roll mounted above said compartment and over which a web of clean towel may be stretched from said compartment and depend between the front of said compartment and the front of the casing and within the cabinet below said compartment, said door having a curved guard projecting outwardly into said opening whereby the web of towel as it depends in front of said door in position for use, may engage said guard and the soiled portion of the towel may be held out of contact with said door, for the purpose specified.

In witness whereof, we have hereunto set our hands this 29th day of March, 1928.

FRANK M. STEINER.
GOTTFRID OLSON.