

July 23, 1929.

G. A. STEINER

1,721,928

TOWEL CABINET

Original Filed Jan. 28, 1927 2 Sheets-Sheet 1

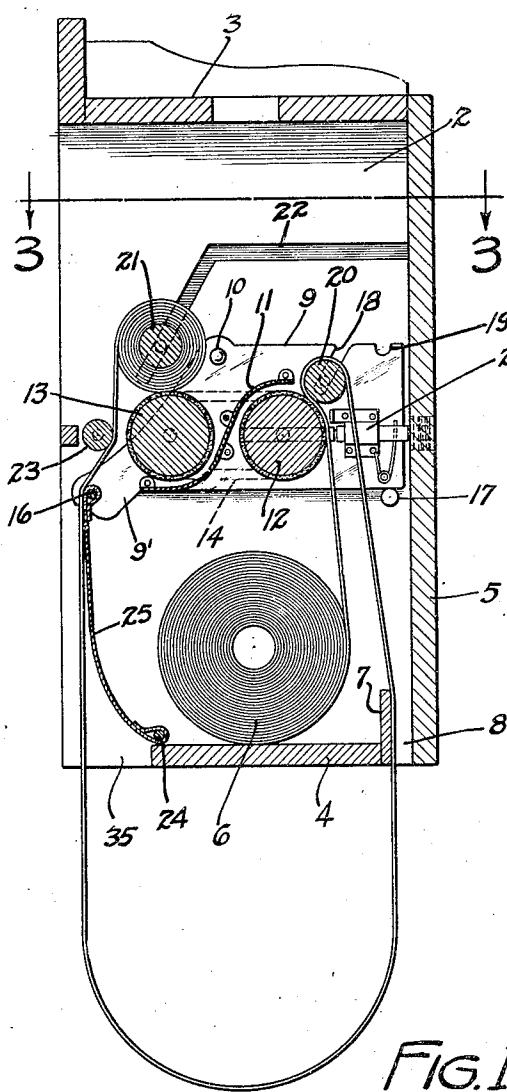


FIG. 1

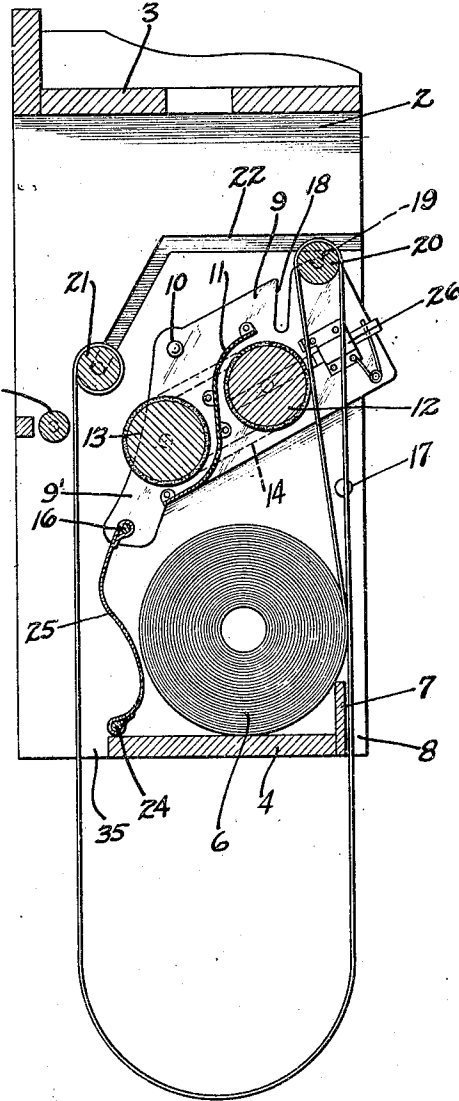


FIG. 2

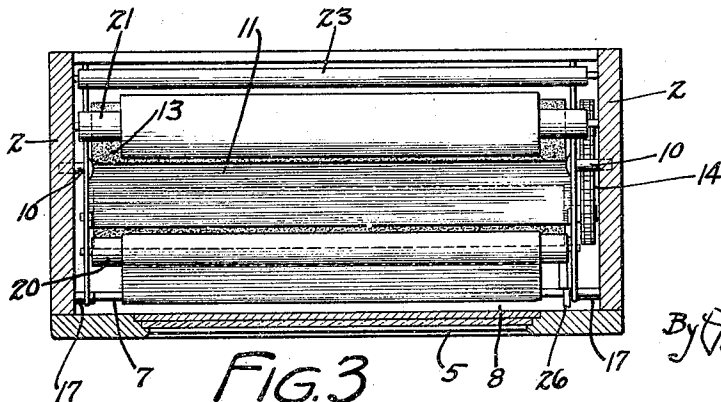


FIG. 3

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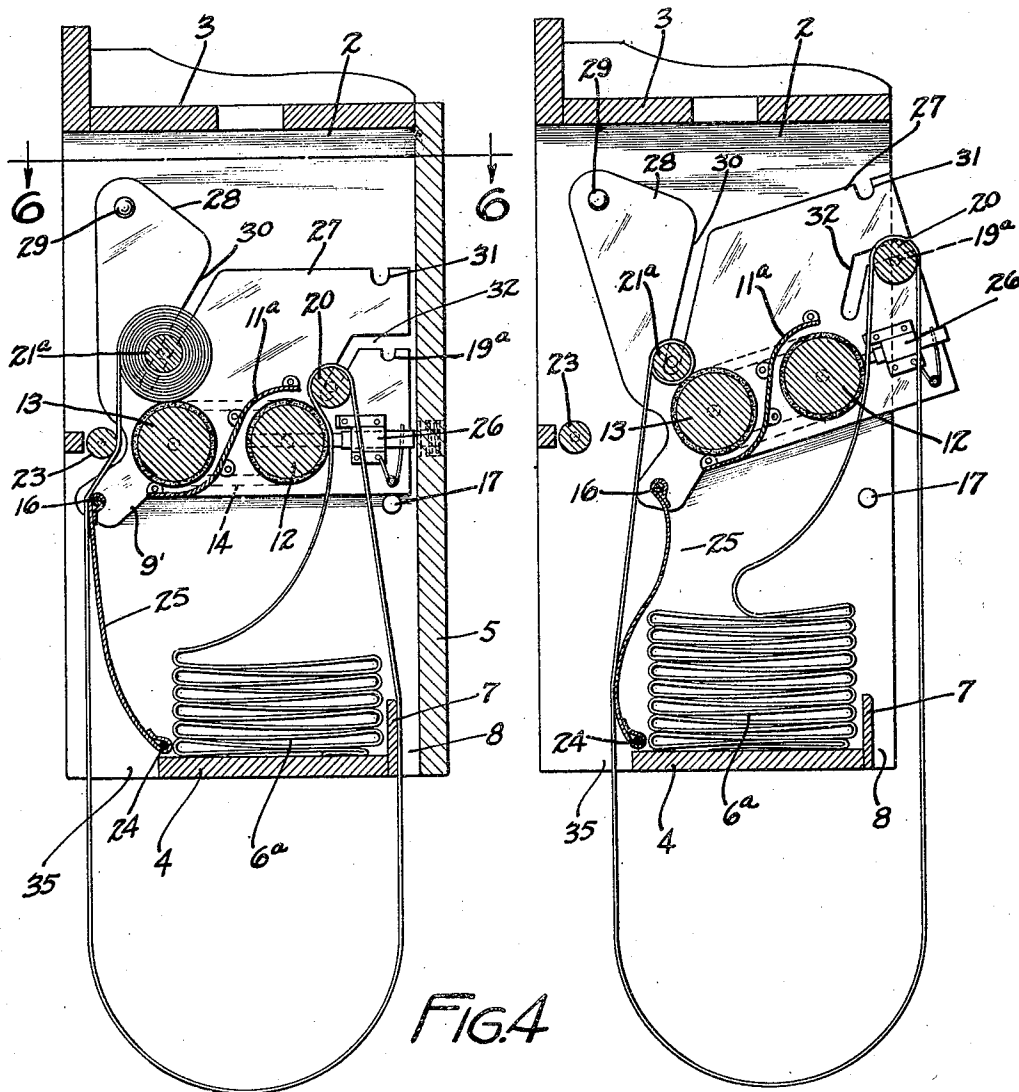


FIG. 4

FIG. 5

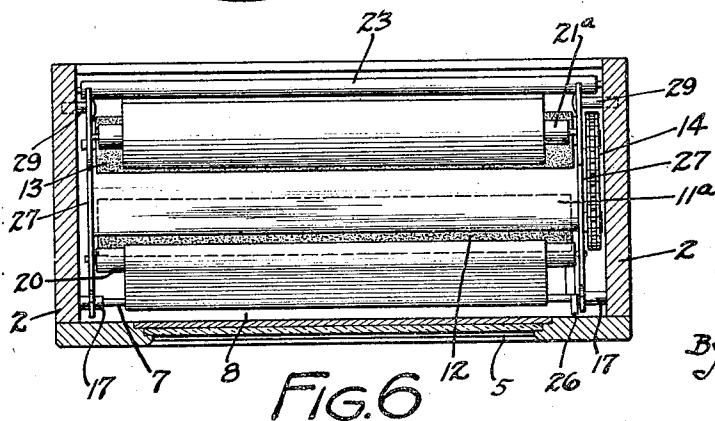


FIG. 6

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Patented July 23, 1929.

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UNITED STATES PATENT OFFICE.

GEORGE ADOLPH STEINER, OF SALT LAKE CITY, UTAH.

TOWEL CABINET.

Application filed January 28, 1927, Serial No. 164,277. Renewed June 7, 1929.

My invention relates to the type of cabinet that is fastened on the wall or other upright support and generally known as a wall cabinet, and may also be embodied in a cabinet of the floor or stand construction.

The object of the invention primarily is to simplify and improve the structure shown in the application of Frank G. Steiner, Case "A", #94,184, filed March 12, 1926, by reducing the amount of material used and consequently the expense of manufacture. The cabinet is also an improvement over the one shown in my Patent #1,596,125, August 17, 1926, by eliminating the stick for the clean towel roll and making provision for more conveniently filling or loading the cabinet.

A towel cabinet is filled or loaded, and the soiled towel removed, by an attendant in the building where the cabinet may be placed, or by a laundry employe, and hence, the cabinets in different buildings will be in the charge of different persons and as they are all for public use, persons with various degrees of mechanical knowledge and those in various walks of life will be daily using the apparatus; hence, the mechanism of a towel cabinet should be simple and easily understood and capable of convenient manipulation so that no time will be lost in filling a cabinet or placing a clean towel therein and removing the soiled one.

Furthermore, as these cabinets are merely an expense to the building owner and increase in the overhead, it is desirable to make the manufacture, installation and care of them as inexpensive as possible so that the owner can place the cabinets on the market at a comparatively small royalty fee.

Specifically, therefore, the objects of my invention are to make a cabinet of strong, durable construction, one which can be easily and quickly filled and the soiled towel removed and one not likely to be damaged or put out of order when used by an ignorant or maliciously inclined person. Incidentally, of course, all this should be accomplished with as little expense in manufacturing as will be consistent with good workmanship and neat and ornamental appearance of the cabinet in the washroom or wherever placed.

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

In the accompanying drawings forming a part of the specification,

Figure 1 is a vertical sectional view through a wall cabinet embodying my invention;

Figure 2 is a similar view showing the cabinet and its parts in position for loading; that is, stretching the web of towel to the soiled towel roll;

Figure 3 is a sectional view on the line 3—3 of Figure 1;

Figure 4 is a vertical sectional view through a towel cabinet showing a slightly modified construction;

Figure 5 is a similar view showing a modified construction in position for loading; and

Figure 6 is a sectional view on the line 6—6 of Figure 4.

In the drawings, 2 represents the side walls of the cabinet; 3, the top; 4, a bottom plate or towel support; and 5, the front door which, when opened, allows convenient access to the interior of the cabinet. The rear of the cabinet may be closed or it may be open as shown, as it is fastened upon the wall, generally, and the wall acts as a means to prevent dust and dirt from entering the cabinet. The plate 4 at the bottom is preferably of less width than the depth of the cabinet providing an opening or space 35 between the plate 4 and the wall whereon the cabinet is mounted for the purposes hereinafter described. Upon this plate 4 the clean roll or fold of a towel 6 is placed and allowed to roll or unfold to facilitate the unwinding of the clean web. At the front the plate preferably has an upwardly projecting flange or ledge 7 which serves as a stop for the clean roll and this ledge is separated from the front door of the cabinet by a gap or opening 8 through which the web of clean towel depends, as will hereinafter appear. Above the roll of clean towel is a frame preferably of metal comprising side plates 9 pivotally supported at 10 on the side walls of the cabinet, the pivots being preferably at the upper rear corners of the plates as shown in Figures 1 and 2 so that when the frame is tilted forwardly a considerable space will be formed between it and the wall for convenience in loading the cabinet, all as hereinafter described in detail.

The plates 9 are connected and braced and strengthened by a cross plate 11 preferably of comparatively thin sheet metal having its ends suitably secured to the plates 9 and somewhat S shaped in cross section to form a curved guard between the feed rolls 12 and 13 which are journaled in the plates 9 in contiguous relation, preferably one in front of

the other on substantially the same level and having a driving connection between them such as a sprocket belt 14 so that the rolls will have the same peripheral speed. These rolls have roughened surfaces, preferably by sanding them, but in place of the sanded surfaces I may provide a rubber or adhesive surface for each roll, the object being to have a surface to which the web of towel will adhere and cling so that it will not slip on the surface of the roll but instead will act as a means for transmitting the pull of the user on the web to the roll to cause it to be driven and in turn to drive the other roll simultaneously. The plates 9 preferably have rearwardly extending ears 9' and these ears are connected across the cabinet by a bracing rod 16 which cooperates with the plate 11 to strengthen the frame wherein the feed rolls are mounted and prevent them from being racked or twisted when the cabinet is in use. A stop 17 is also preferably provided beneath the plate 9 to engage therewith and limit the downward movement of these plates. The upper edges of the plates have diagonal slots 18 therein extending to a point near the feed roll 12 and notches 19 are also preferably provided in the upper edge of the plates to receive what I term a pinch roll 20 over which the web of clean towel is stretched in loading the machine. Preparatory to loading, the pinch roll is placed in the notches 19 and then the web of clean towel is stretched over this pinch roll, thence downwardly through the gap 8 to depend in a loose loop below the cabinet. The end is then stretched upwardly through the opening 35 to the soiled towel roll 21 which I prefer to mount in guides or slots 22 provided in the side walls of the cabinet. A tension roll 23 is positioned in the cabinet in the rear of the roll 13 to contact with the web of soiled towel and exert a slight tension thereon and also operate as a means for straightening the wrinkles or folds that may have been formed in the web. A rod 24 connects the side walls of the cabinet near the plate 4 and a flexible guard 25 such as canvas or suitable fibrous material is stretched between this rod and the rod 15 and operates as a means to hold the roll of clean towel in place and also is adapted to be pushed or bent forwardly in loading the cabinet so that more room will be provided in the rear of the clean roll for the attendant's hand as he stretches the web upwardly to the soiled towel roll. This is a feature of the cabinet shown and described in my application #151,472, filed November 29, 1926, and I make no claim to this flexible guard specifically herein. When the clean towel web has been stretched between the rolls the pinch roll will be removed from the notches 19 and dropped into the slots 18 where it will slide down by gravity and pinch the clean web between the surface of the pinch roll and the forward feed roll 12 so that when

the user pulls down on the clean web the pinch roll will be drawn against the feed roll and insure the clinging of the towel web to the feed roll sufficiently to drive the forward feed roll and in turn through the sprocket belt revolve the rear feed roll. This rear feed roll being in contact with the soiled towel web through the force of gravity will revolve the roll 21 and wind up the soiled web synchronously with the unwinding of the clean web from the clean roll.

I prefer to provide a stop device 26 operated by the user preparatory to pulling on the web of towel, said stop device allowing one complete revolution of the feed rolls. This stop mechanism is shown and described in the application of Steiner, Wasileski and Murdo #15,881, filed March 16, 1925, and I make no claim to the specific stop device herein.

In Figures 4 and 5 I have shown a modified construction which consists in providing plates 27 preferably of metal having the curved guard plate 11^a between them and provided with upwardly extending ears 28 projecting to a point near the top of the cabinet and pivoted at 29 on the side walls and these plates have slots 30 therein to receive the soiled towel take-up roll instead of having this roll mounted in guides in the side walls of the cabinet. The plates are also wider than those shown in connection with Figures 1 and 2 and in addition to the notches 31 to receive the bearings of the take-up roll 21^a these plates have similar notches 19^a in the edges of slots 32 which extend inwardly from the forward ends of the plates to points near the forward feed roll. The notches 31 may be used to receive bearings of the soiled towel take-up roll 21^a preparatory to its insertion into the slots 30 while the pinch roll may be placed in the notches 19^a until the operator is ready to have the clean towel web engaged with the surface of the feed roll. The method of filling this modified form of cabinet is substantially the same as described with reference to Figure 1 although I have shown the clean towel roll 6^a in the form of a bolt on the floor or plate 4 instead of being rolled up into a roll. This, however, is an obvious modification in the manner of folding the web at the laundry and it may be delivered either as a roll or a bundle or bolt as convenience may dictate.

In both of these cabinets the frame within the outer case of the cabinet is small and entirely above the clean towel roll, the object being to reduce manufacturing cost as much as possible by eliminating unnecessary parts, it being found that the supply of clean towel instead of being supported by the inner frame independently of the main casing of the cabinet may just as well be carried by the bottom of the main casing itself and thereby dispense with the lower portion of the inner frame, such as shown in the Frank G. Steiner appli-

cation above referred to. It is, of course, desirable in a cabinet of this kind to economize space, there usually being none to spare in the washrooms of an office building or hotel; hence, the arrangement of the feed rolls in close proximity to one another and the horizontal forward and rear relation which allows for the shortening of the height of the cabinet. When the door is opened and the frame tilted on its pivots ample space will be provided at the rear to allow the attendant to insert his hand and connect the web of the towel with the soiled towel roll. The position of the pivots of the frames in both constructions is such that there will be sufficient weight in front of the pivots to normally hold the frame down to its horizontal position upon the stops 17 or against the back of the cabinet and when the frame is lifted in filling the cabinet its release by the attendant will allow it to immediately drop by gravity to its horizontal using position.

I claim as my invention:

1. A towel cabinet comprising a casing, a support for clean towel supply in the lower portion of said casing, a frame wholly above said support extending horizontally from front to rear of the cabinet and pivotally supported to swing upwardly, delivery and take up feed rolls mounted in said frame and having a driving connection between them and also having surfaces adapted to adhere to the towel web, a pinch roll mounted in said frame and over which the clean web is stretched to depend between the supply of clean towel and the front of the cabinet within convenient reach of the user, a pull on said web drawing it against said delivery feed roll to drive both of them, a take up roll whereon the soiled towel is wound to contact with said take up feed roll, said frame when tilted upwardly on its pivots being adapted to swing its rear portion forwardly and provide space in the rear of said frame to conveniently stretch the loose end of the towel web upwardly to the soiled towel take up roll.

2. A towel cabinet comprising a casing, a support for a clean towel supply in said casing, a frame pivotally supported in said casing wholly above said support, said frame being normally horizontal and adapted to swing vertically on its pivots, a pair of rolls journaled in said frame, one in front of the other, and having a driving connection between them for simultaneous movement, said rolls having surfaces adapted to adhere to a towel web and one of them forming a feed delivery roll and the other a feed for the take up roll, the web of clean towel being adapted to be stretched upwardly from said towel supply to contact with said feed delivery roll and thence to depend from said supply to form a loop in position to be grasped by the user, a take up roll for the soiled towel mounted in guides in said casing and whereon the loose

end of the towel web is wound, the web of soiled towel contacting with said take up feed roll to be revolved thereby, the upward tilting of said frame exposing an opening in the rear of said frame for conveniently stretching the web of towel upwardly to said take up roll.

3. A towel cabinet comprising a casing, a shelf in the lower portion thereof for supporting a towel supply, a frame in said casing above said towel support and comprising horizontally arranged rearwardly extending side plates and a connecting plate between them, said side plates being pivotally mounted in said casing, and adapted to swing vertically on their pivots to move said frame forwardly, delivery and take up feed rolls mounted in said plates, one in advance of the other, and having a driving connection between them, said rolls having surfaces adapted to adhere to a towel web, the clean web being adapted to be stretched upwardly from the towel supply to contact with the delivery feed roll and from thence depending to a position to be grasped and pulled by the user, a soiled towel take up roll mounted in guides in the walls of said casing and whereon the loose end of the towel web is wound for contact with said take up feed roll, said frame when tilted on its pivots being adapted to expose a gap or opening in the rear of said frame through which the loose towel web may be stretched to said take up roll.

4. A towel cabinet comprising a casing, a stationary support in the lower portion thereof, for a supply of clean towel, a frame pivoted in said casing above said support and comprising side plates and a connecting means between them, forward and rear delivery and take up feed rolls journaled in said plates and having a driving connection between them and provided with surfaces adapted to adhere to a towel web, said plates having slots therein and a pinch roll fitting in said slots and resting on said delivery feed roll, the web of clean towel being adapted to be stretched upwardly around said pinch roll and held thereby against said delivery roll, the web depending from said pinch roll downwardly in position to be grasped by the user, a soiled towel take up roll mounted in guides in the walls of said casing and whereon the loose end of the towel may be wound to contact with said take up feed roll, said frame when tilted upwardly swinging its rear portion forwardly to allow convenient access to said take up roll in stretching the web of towel thereto.

5. A towel cabinet comprising a casing, having in the lower portion thereof, a support for a clean towel supply, a frame pivoted within said casing and located above said support, delivery and take up feed rolls mounted in said frame, one in front of the

other, and having a driving connection between them for simultaneous movement, said feed rolls having surfaces adapted to adhere to a towel web, said frame having guides therein extending toward said delivery feed roll, a pinch roll fitting within said guides and adapted to rest on said delivery feed roll, said frame also having notches to receive the bearings of said pinch roll when it is removed from said guides, the web of clean towel being adapted to be stretched around said pinch roll and depend therefrom within convenient reach of the user, a soiled towel take up roll mounted in guides in the walls of said casing and whereon the loose end of the towel web is wound to contact with said take up feed roll, said frame when tilted upwardly on its pivots being adapted to expose an opening in the rear of said frame and allow convenient stretching of the towel web to said take up roll.

6. A towel cabinet comprising a casing having a support for a clean towel in the lower portion thereof, a frame comprising comparatively narrow rigidly connected plates pivotally mounted in the upper portion of said casing and extending horizontally therein from the front to the rear and having their lower edges above said support, delivery and take up feed rolls journaled in said plates and arranged one in advance of the other; and having a driving connection

between them for simultaneous movement, said rolls having peripheral surfaces adapted to adhere to a towel web, said frame being pivoted to normally rest inside the cabinet, the web of clean towel being adapted to be stretched upwardly to contact with said delivery feed roll and from thence downwardly to depend in a loop in convenient position to be grasped by the user, a take up roll mounted in guides in said casing and whereon the loose end of the towel web is wound for contact with the peripheral surface of said take up feed roll, space being provided in the rear of said clean towel, the tilting of said frame exposing a gap in the rear thereof through which the web of towel may be conveniently stretched to the soiled towel take up roll.

7. A towel cabinet comprising an outer casing, a take up roll and a tension roll pivoted in the outer casing, an inner casing pivoted on pivots within the outer casing said inner casing extending on both sides of said pivot the inner casing having a flexible web guard depending downwardly at the rear of said pivot, and two feed rolls for feeding the towel, both pivoted in said inner casing, said take up roll normally resting on one of said feed rolls.

In witness whereof, I have hereunto set my hand this nineteenth day of January, 1927.

GEORGE ADOLPH STEINER.