Feb. 11, 1930. F. M. STEINER 1,746,292

TOWEL CABINET

Filed Oct. 10, 1927 2 Sheets-Sheet 1

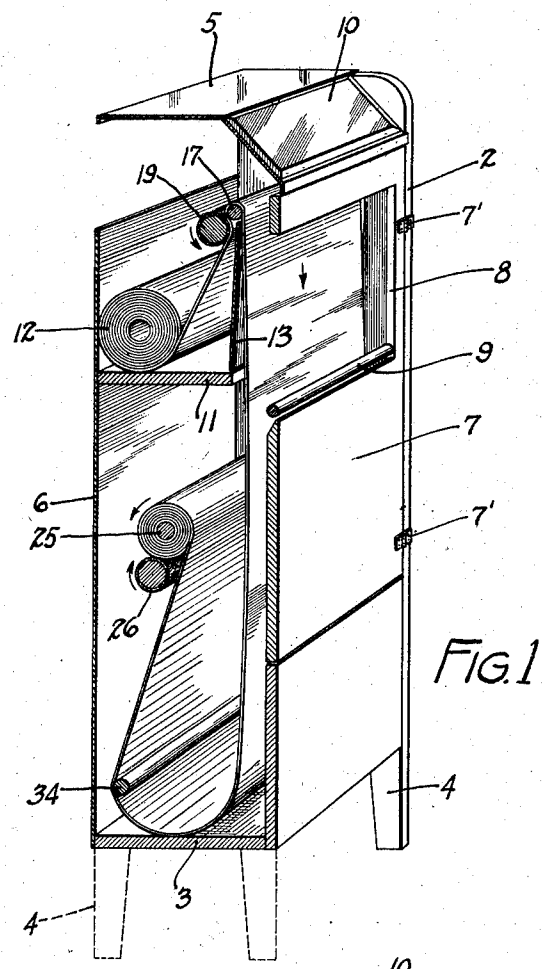

FIG. 1

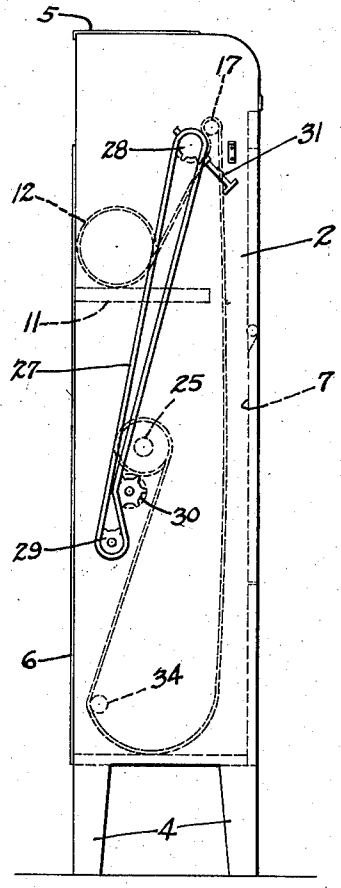

FIG. 2

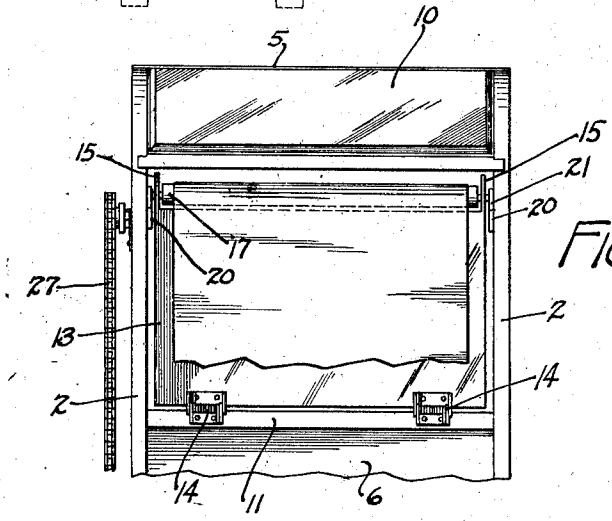

FIG. 3

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TOWEL CABINET

Filed Oct. 10, 1927 2 Sheets-Sheet 2

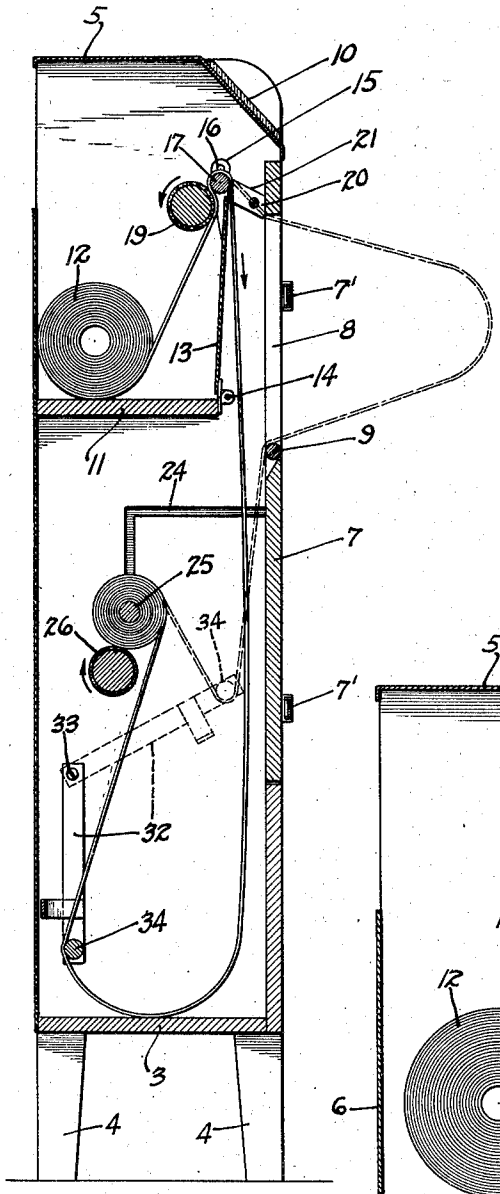

FIG. 4

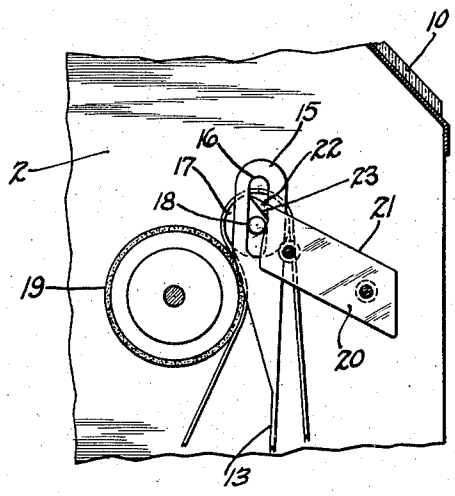

FIG. 6

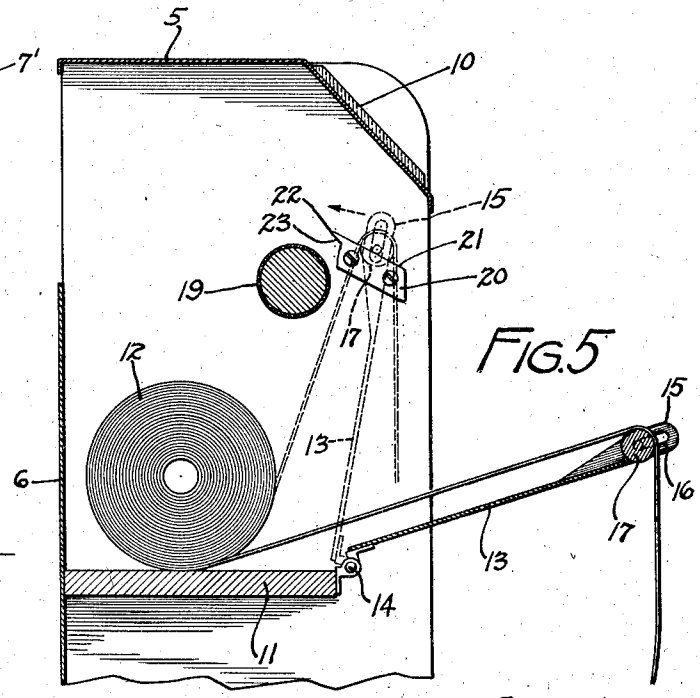

FIG. 5

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UNITED STATES PATENT OFFICE

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TOWEL CABINET

Application filed October 10, 1927. Serial No. 225,350.

In the operation and maintenance of towel cabinets adapted for use in hotels, office buildings, factories, clubs and the like, it is necessary at intervals to fill or reload the cabinet with a clean towel web removing the soiled one for delivery to the laundry. The cabinets may be filled in some instances by the person delivering the clean towels from the laundry or by the attendant or other person in charge of the washroom or other place where the cabinets may be located. Difficulty has been experienced at times in the operation of the cabinets due to the fact that the attendant or other person in placing the clean towel therein has neglected, through lack of time or inattention, to properly stretch or place the towel web in the cabinet so that the person using the towel will have no difficulty in obtaining the desired length for wiping purposes. It has been the practice to provide a certain routine or manner of placing the towel web in the cabinet and if this procedure is followed there is then no difficulty in using the towel but if the web is improperly placed or stretched in the wrong manner in the cabinet then it cannot be used until the error is corrected. It also often happens that the attendant in a hurry will forget to perform some essential part of the operation and the cabinet as a result cannot perform its functions until the step that has been omitted has been performed. The object therefore of my present invention is to provide a towel cabinet wherein provision is made for placing the clean towel in only one way, so there is no possibility of the attendant making an error when loading the cabinet. In other words, the easiest way to load the cabinet is the right way. A further object is to provide a cabinet which can be loaded from the front, that is, without the necessity of passing the hands up through or into the back of the cabinet and a still further object is to provide a cabinet which after the loading operation is performed will be automatically set by the closing of the cabinet door and rendered operative for immediate use when the loading operation is completed. Thus there is no chance for the attendant to omit any step and cause the cabinet to be inoperative. Other objects of the invention will appear from the following detailed description.

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

In the accompanying drawings forming part of this specification,

Figure 1 is a perspective view with the side wall of the cabinet removed showing the inner arrangement;

Figure 2 is a side elevation of the cabinet;

Figure 3 is a front view of the upper portion of the cabinet with the door removed;

Figure 4 is a vertical sectional view showing the web of towel drawn outwardly to a using position through the cabinet door, as indicated by dotted lines, the normal position of the towel being indicated by full lines;

Figure 5 is a detailed view showing the gate in its open or cabinet loading position; and

Figure 6 is a detailed view showing the means for holding the pinch roll in its working position when the cabinet is in use.

In the drawings 2 represents the side walls of the cabinet, 3 the bottom on floor supported by suitable legs 4, 5 is the top of the cabinet and 6 the rear wall thereof; 7 is a door closing the opening in the front of the cabinet and provided with spring hinges 7′ and an opening 8 of suitable height from the floor to allow the towel user to view the clean towel and reach through the opening and grasp the clean web. At the bottom of the opening 8 I prefer to provide a roller 9 on which the web of towel falls when released by the user, to facilitate its return into the cabinet. The door 7 is preferably provided with a suitable lock by means of which unauthorized access to the interior of the cabinet is prevented. Above the door I prefer to provide the usual mirror 10 for convenience of the towel user.

Within the cabinet preferably at a point opposite the opening 8 I provide a shelf 11 arranged horizontally across the cabinet from side to side and extending from the rear wall forwardly to a point adjacent the door

opening 8. This shelf is adapted to support the supply of clean towel 12 placed thereon. A gate or door 13 is provided with spring hinges 14 secured to the forward edge of the shelf and is adapted to swing downwardly and forwardly through the opening in the front of the cabinet when the door 7 is opened. This gate may be made of any suitable material, flexible or inflexible if preferred, but generally sheet metal or a wood panel will be employed and when the gate is in its raised position it will be substantially vertical as shown in Figure 1 and will conceal the supply of towel on the shelf 11. The upper edge of the gate has brackets 15 thereon provided with vertical slots 16 and a pinch roll 17 has a spindle 18 in the slots of said brackets at each end of the gate. A delivery feed roll 19 is mounted in bearings in the side walls of the cabinet adjacent the pinch roll 17 and the web of clean towel is stretched from the supply up between the feed roll 19 and the pinch roll and from thence depends opposite the door opening where it can be conveniently grasped by the user. Plates 20 are mounted on the side walls of the cabinet and have inclined upper edges 21 terminating in prongs 22 which overhang the inner ends of the plates and have bevelled lower edges 23. These bevelled lower edges contact with the spindle of the pinch roll and normally hold it in its depressed position where it presses the web of towel against the sanded surface of the feed roll 9 with sufficient friction so that when the user pulls on the web of towel and revolves the pinch roll, the feed roll 19 will also be revolved. When access is desired to the towel supply or the delivery feed roll the attendant will press the gate and pinch roll inwardly until the spindle 18 clears the prongs 22 and then the gate and pinch roll may be swung downwardly and outwardly to the position indicated by full lines in Figure 5. Normally however the plates 20 will prevent such outward movement until the pinch roll is dislodged from the prongs 22 by the inward and upward movement of the roll. In loading the cabinet therefore the first step after opening the cabinet door is to disengage the pinch roll from the prongs 22, swing the gate to the position indicated in Figure 5 and then insert the supply of clean towel upon the shelf 11. The end of the web is then stretched over the pinch roll as indicated and when the gate is alloyed to swing back to its normal vertical position the pinch roll will move to a point beyond the prongs 22 and then drop down either to its working position or be pulled down when the towel is used.

I prefer to provide means for winding up the soiled portion of the towel and therefore provide guides 24 in the side walls of the cabinet to receive a takeup roll 25 that is adapted to slide in said guides and rest upon a takeup feed roll 26 having a sanded surface and mounted in bearings in the side walls of the cabinet. This takeup feed roll for convenience in loading is operated in the opposite direction from the delivery feed roll 19 and I accomplish this by providing a chain 27 engaging a sprocket 28 on the roll 19, a similar idle sprocket 29 on the wall of the cabinet and an intermediate sprocket 30 on the takeup roll. With this arrangement the person loading the cabinet does not have to pass the web to the rear of the takeup feed roll, but may stretch it from the front of the cabinet direct to the takeup roll, the shorter and easier way. This sometimes was done by a careless attendant when the feed rolls were operated in the same direction, thereby preventing the takeup roll from performing its function. My present arrangement prevents any mistake in stretching the web to the takeup roll as the easy way of stretching the web is the proper way. A lock device 31 adapted to be tripped by the finger of the user is provided in connection with the roll 19 for releasing and allowing it to make a single revolution, the locking device automatically setting itself to prevent a second revolution when the first one has been completed.

In the lower portion of the cabinet I prefer to provide a frame 32 pivoted at 33 and carrying a roller 34 under which the web of towel is carried to the takeup roll. This frame has the function of drawing the soiled web of towel into the cabinet where it will be partially concealed and inconspicuous when the cabinet is not in use. A user drawing out a length of towel will after use drop it and the web, unless means are provided to pull it back into the cabinet, would drop down and drape itself over the roller 9 and the front of the cabinet, but by providing the pull-back device 32 I am able to immediately withdraw the soiled section of the towel from view as soon as it is used and released.

When the supply of clean towel is exhausted the door of the cabinet will be opened and held in an open position and the roll of soiled towel removed, then the pinch roll will be pushed inwardly and upwardly to disengage it from the locking plates and allow the gate 13 to be swung outwardly to the position shown in Figure 5 and when this has been done the supply of clean towel is placed on the shelf and the web stretched outwardly over the pinch roll and then carried downwardly under the roller 34 to the takeup roll 25. There is only one easy way the clean towel can be inserted in the cabinet and it will be almost impossible for an attendant or any one else to place the towel improperly in the cabinet, and all the work can be performed from the front of the cabinet as soon as the door is opened. When the gate is

swung down to its loading position it will hold the cabinet door open and the pressure of the door on the gate will prevent it from closing and allow the attendant the free use of both hands.

When the clean towel has been properly stretched the attendant will release the gate 13 and the springs will return it to its normal position, the pinch roll automatically returning to its seat beneath the prongs 22 where it will press the web of towel against the surface of the delivery feed roll. This will all occur automatically without any attention on the part of the attendant and when the gate has assumed its normal position the door of the cabinet may be closed and the towel is ready for use. The automatic return of the pinch roll to its normal working position eliminates entirely any danger of the cabinet being inoperative through carelessness or forgetfulness of the attendant in not replacing this pinch roll, as it automatically seats itself when the gate is released, and this feature of the cabinet I regard as important as usually some manual operation of the attendant is necessary to replace the pinch roll and if he forgets to do this the cabinet is not operative. My improvement does away with this objection to cabinets of this type as heretofore made. Furthermore there is only one easy way the attendant can stretch the web under the pull-back roll 34 to the takeup roll 25 and hence there is no probability of error in stretching the web of towel during the loading operation to the takeup roll.

It will be noted that the gate or plate 13 in addition to its function of supporting the pinch roll serves as a means for separating the clean towel web from the soiled portion, preventing any possible contact between them and infection from such contact. I have shown the element 13 as composed of a solid plate but it will be understood that it may be in the form of a grating or grill if preferred and while the spring hinges provided in connection with the plate 13 and the door of the cabinet are convenient, I do not confine myself to such use for while in the cabinet as shown the gate will be automatically raised when released by the attendant or from contact with door, still the attendant would hardly forget to close this gate or move it to its raised position even if the spring hinges were omitted, as he could not close the door of the cabinet until the gate was so arranged. I have found, however, the spring hinges to be quite a convenience as they have sufficient power to immediately raise the gate and swing the pinch roll to a point above and in the rear of the locking plates as soon as the gate is released. Then it is only necessary to exert a slight pull on the clean towel web to move the pinch roll down to its normal position under the prongs of the locking plates and adjacent the feed roll. I may also of course provide some other supporting means for the clean towel supply than the shelf 11. This however is convenient for placing the towel supply thereon and adds very little to the expense of the cabinet. Should the attendant neglect to put the web of soiled towel down under the rod 34 it will not effect the successful operation of the cabinet as the takeup roll would be operated to wind the web of soiled towel thereon even though the pull-back device be idle. I prefer however to use the pull-back as it insures the withdrawal of the soiled portion of the towel from a conspicuous position on the front of the cabinet.

I claim as my invention:

1. A towel cabinet, comprising a casing having an opening through which access may be had to the clean towel, a support for the clean towel supply in said casing, a delivery feed roll mounted in said casing, a pinch roll over which the clean towel web may be stretched, said pinch roll normally pressing the towel web against said feed roll, a gate hinged within the cabinet and normally in rear of the exposed part of the towel web whereon said pinch roll is mounted for forward movement to a position for filling the cabinet and means whereby said pinch roll will be automatically returned to its normal position adjacent said feed roll when the loading operation is completed.

2. A towel cabinet comprising a casing having an opening through which access may be had to the clean towel and a door for said opening, a support for the clean towel supply in said casing, a delivery feed roll mounted in said cabinet, a pivoted gate between the towel supply and said door adapted to swing outwardly through said door opening and expose the towel support when said door is opened, a pinch roll carried by said gate and normally positioned adjacent said feed roll, means for locking said gate and automatically forcing said pinch roll against said feed roll when the towel web is pulled through the opening and the rolls are in their normal positions.

3. A towel cabinet comprising a casing having an opening and a door for said opening, said door having a panel opening through which the web of clean towel is visible and may be drawn outwardly through said panel opening for use, a support for the clean towel within said cabinet, a feed roll, a pinch roll, a support therefor pivoted in the cabinet to move forwardly through the casing opening when said door is opened, when the web of clean towel may be stretched forwardly from said supply over said pinch roll to depend therefrom within the lower part of the cabinet, the web of towel may be raised and held between said pinch roll in its normal position and said feed roll and means for locking said

pinch roll in its normal position to resist outward pull thereon of the towel web when it is in use.

4. A towel cabinet comprising a casing having a door and opening therein through which the web of clean towel is visible and may be drawn outwardly for use, a support for the clean towel supply within said cabinet, a feed roll mounted in said cabinet, a pinch roll adapted to press the web of clean towel against said feed roll, a swinging support for the pinch roll having slotted bearings therefor wherein said pinch roll is movable transversely of the pinch roll axis, means for normally locking the pinch roll and its support in a raised position, said transverse movement of said pinch roll in its slotted bearings operatively disengaging it and said support from said locking means and allowing the roll and support to be moved forwardly through said opening when the cabinet is to be loaded with the clean towel supply, means for engaging and automatically raising said pinch roll relative to its support when said swinging support is returned to its normal position within the cabinet, a web of clean towel being adapted to depend from said pinch roll to the lower portion of the cabinet.

5. A towel cabinet comprising a casing having an opening therein and a door provided with a panel opening through which the web of clean towel is visible and accessible for use, a support for the clean towel supply within said cabinet, a feed roll mounted in said cabinet, a pinch roll and means supporting it adjacent said feed roll, means for normally locking said pinch roll in its working position, said pinch roll having means for freedom of lateral movement in said supporting means to adapt it for release manually from said locking means and said supporting means being pivoted to move outwardly through said door opening with said pinch roll to a cabinet loading position, when the web of clean towel may be stretched over said pinch roll to depend within the cabinet and means for first directing said pinch roll automatically back to its normal working position adjacent said feed roll upon the return movement of said pinch roll into the cabinet and then wedging the pinch roll against the feed roll.

6. A towel cabinet comprising a casing having an opening through which access may be had to the clean towel, means within the casing for supporting a supply of clean towel, a delivery feed roll mounted within the cabinet, a pinch roll having a spindle supported adjacent said feed roll, a support provided with loose bearings for said spindle having a movement forwardly to allow the web of clean towel to be stretched over said pinch roll and between it and said delivery roll, plates mounted in said casing and having prongs thereon normally overhanging the supporting spindle of said pinch roll and preventing upward and outward movement thereof, said pinch roll having freedom of upward movement in its loose bearings on said support for manual disengagement from said plates and prongs and said plates have inclined upper surfaces to contact with the spindle of said pinch roll when moved toward said delivery roll and direct said pinch roll to a point where downward pull on the towel web will move said pinch roll to its working position adjacent said feed roll.

7. A towel cabinet comprising a casing having an opening in its front wall, a shelf in the rear of said opening adapted to support a supply of clean towel, a delivery feed roll mounted above said shelf, a gate hinged to the forward portion of said shelf and having means for normally holding it in a raised position, a pinch roll having a spindle adapted to slide in slots provided on the upper portion of said gate and normally pressing the web of clean towel stretched between said rolls into contact with said feed roll, means for locking said pinch roll and gate in their raised position but permitting manual release and downward movement of said gate and pinch roll through the opening in said casing to a loading position, the space above said shelf being exposed when said gate is moved downwardly to allow the insertion of the clean towel and such space being normally concealed when said gate is returned to its raised locking position.

8. A towel cabinet comprising a casing having an opening through which access may be had to the web of clean towel, a support for the clean towel supply within said cabinet, a feed roll mounted in said cabinet, a pinch roll between which and said feed roll the web of clean towel may be stretched, an oscillating support for said pinch roll whereon it is movable outwardly through said opening to facilitate stretching the clean web thereover, means for normally locking said pinch roll against such outward movement, said pinch roll being loosely mounted in said support whereby it may be moved inwardly and upwardly thereon to release it from said locking means.

9. A towel cabinet comprising a casing having an opening through which access may be had to the web of clean towel therein, a support for the clean towel supply within said casing, a feed roll mounted in said cabinet, a pinch roll to press the web of clean towel against said feed roll, pivoted means for supporting said pinch roll and adapted to separate the soiled web of towel from the clean web and prevent contact between them, means for normally wedging said pinch roll to its position against said feed roll, said supporting means having a slot therein to permit movement of the pinch roll to separate it from said holding means, said pinch

roll and its pivoted support having a movement downwardly and outwardly through the opening in said casing to a loading position where the web of clean towel may be conveniently stretched over said pinch roll and thereafter said pinch roll and support may be returned to their normal position adjacent said feed roll.

10. A towel cabinet comprising a casing having an opening through which the web of clean towel may be drawn for use, a pair of rolls within the cabinet, pivoted means for supporting one of said rolls for movement outwardly and downwardly to a position convenient for loading the cabinet, where the web of clean towel may be stretched over said movable roll during the loading operation, means for locking said movable roll when in its raised position adjacent the other roll, said locking means including a cam for forcing said rolls together upon the downward pull of the user on the web of clean towel.

11. A towel cabinet having a door with a panel therein, a shelf in the upper portion of the cabinet in rear of said panel, a feed roll mounted in said cabinet above the shelf, a gate pivoted to the shelf and extending up between the shelf and said panel, a pinch roll carried by the gate and movable outside said door for towel loading purposes when the door is opened.

12. A towel cabinet having a door with a panel therein, a shelf in the upper portion of the cabinet, a feed roll mounted in said cabinet above the shelf, a gate pivoted to the shelf and extending up between a towel supply on the shelf and said panel, a pinch roll carried by the gate and movable outside said door when the same is opened, a takeup roll below the panel, a chamber in the lower part of the cabinet, and means in the chamber for drawing the towel web back into the chamber after the same is pulled through the panel said means being below the takeup roll.

In witness whereof, I have hereunto set my hand this 5th day of October, 1927.

FRANK M. STEINER.