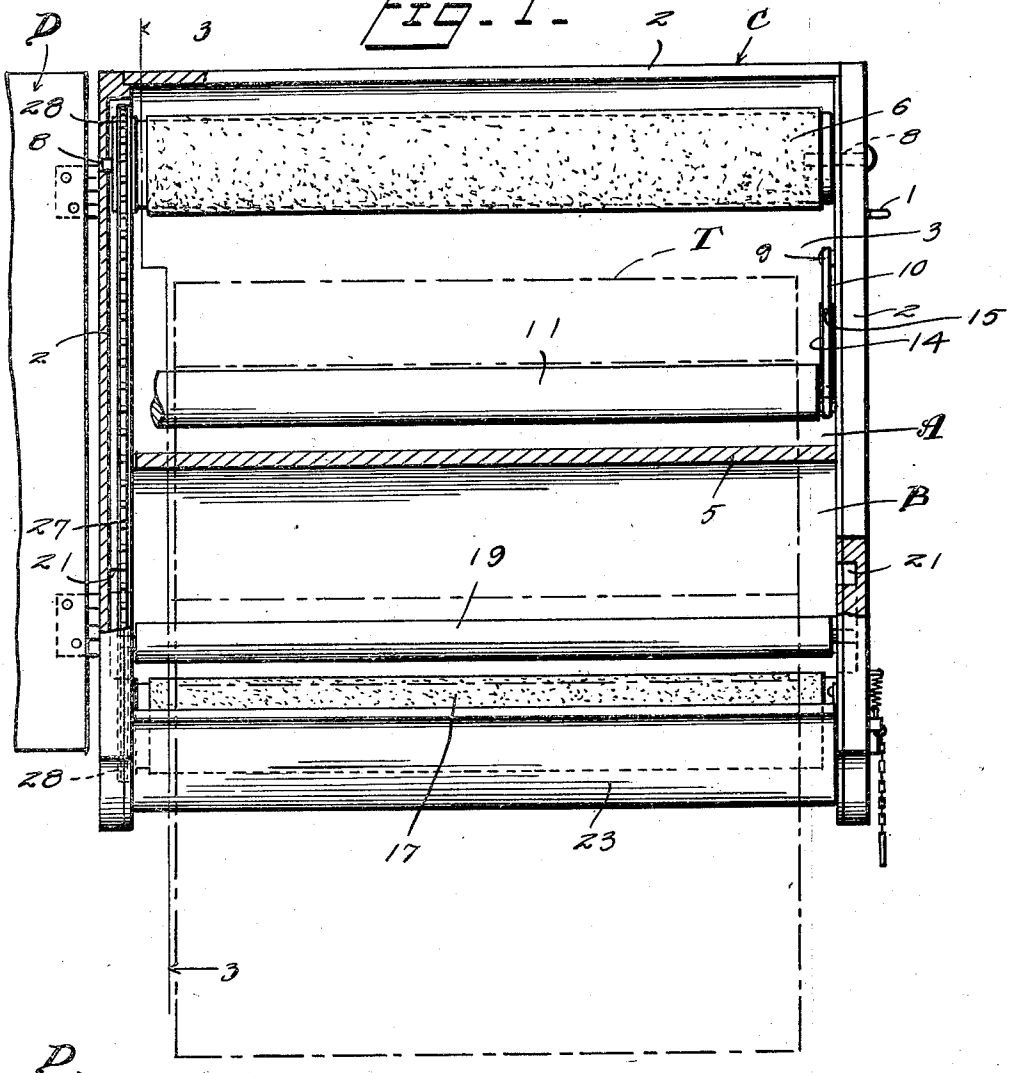
May 24, 1932. S. A. SCHWARTZ 1,860,206

TOWEL SERVICE APPARATUS

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Fig. 1.



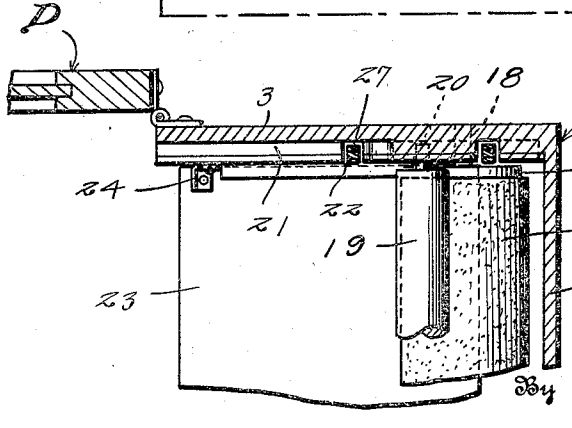


Fig. 5.

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Fig. 2.

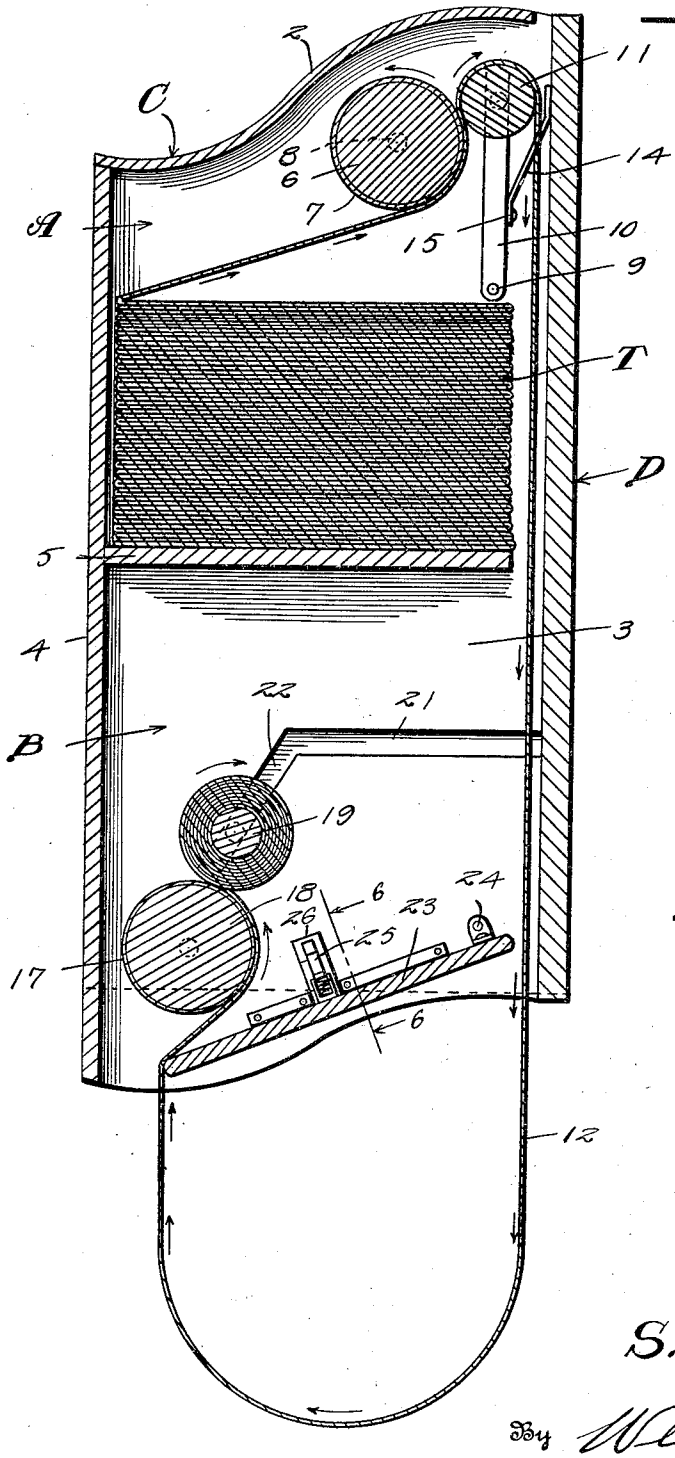
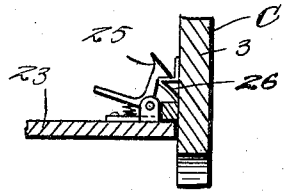


Fig. 6.



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TOWEL SERVICE APPARATUS

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Fig. 3.

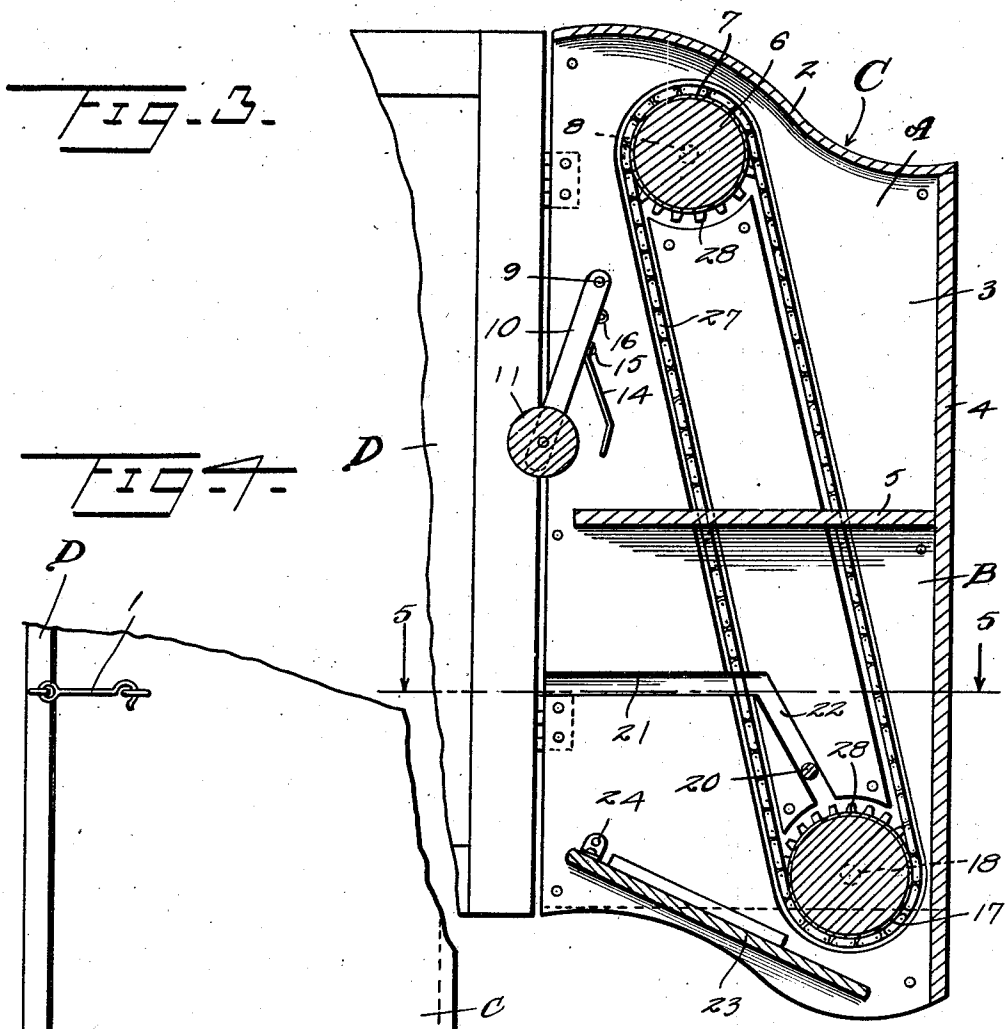
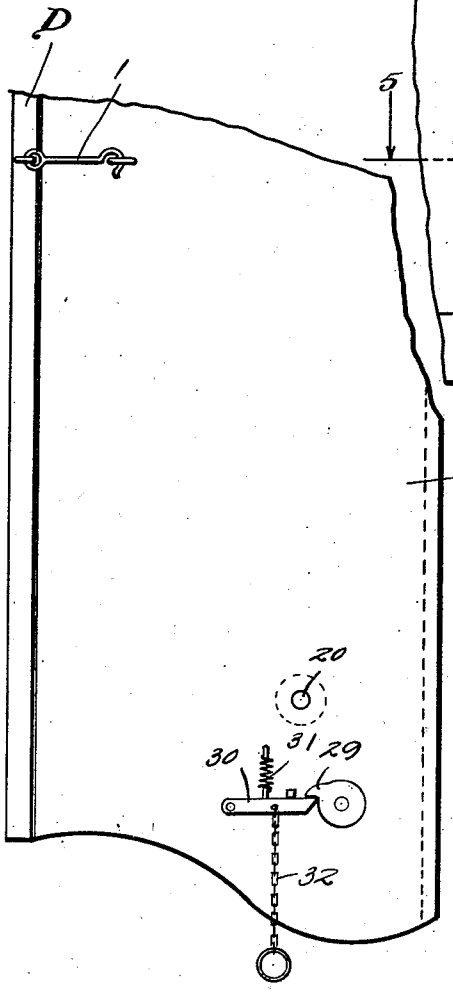


Fig. 4.



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UNITED STATES PATENT OFFICE

SAMUEL A. SCHWARTZ, OF ST. PAUL, MINNESOTA

TOWEL SERVICE APPARATUS

Application filed April 28, 1931. Serial No. 533,526.

This invention relates to a towel service apparatus, and it is primarily an object of the invention to provide an apparatus of this kind especially designed and adapted for use in what might be termed public wash rooms such as are found in office buildings, factories and kindred places.

It is also an object of the invention to provide an apparatus of this kind which is particularly adapted for use in connection with what is commonly known as towel service wherein clean toweling is delivered from time to time, the apparatus being so constructed as to permit ready and convenient placement of the clean toweling within the apparatus for use.

Another object of the invention is to provide a device of this kind wherein the toweling as delivered from the laundry is placed within the apparatus in a condition which might be termed in bulk, together with means whereby only a predetermined amount of clean toweling can be obtained by the user as a result of pull upon the toweling.

A further object of the invention is to provide an apparatus of this kind provided with means for holding a supply of clean toweling preferably constituting a single web of desired length, together with means whereby the soiled toweling is automatically stored in a manner to facilitate its removal simultaneously with the pulling or withdrawing of a portion of clean toweling from the source of supply.

An additional object of the invention is to provide an apparatus of this kind comprising a cabinet having means therein for holding a supply of clean toweling from which said clean toweling depends in the form of a loop and wherein the cabinet is further provided with means for winding into a roll the soiled toweling and, furthermore, wherein means are provided under the influence of the door for closing the cabinet to maintain requisite tension upon the clean portion of the toweling.

A still further object of the invention is to provide an apparatus of this kind wherein the toweling is in the character of a web of desired length and wherein the clean toweling is adapted to be intermittently withdrawn for use, together with a tension roller mounted within the cabinet for coaction with the webbing to facilitate its proper withdrawal by the user, said tensioning roller automatically becoming ineffective or inoperative upon opening the door to the cabinet to either apply or remove the toweling.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved towel service apparatus whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:—

Figure 1 is a view partly in front elevation and partly in section illustrating an apparatus constructed in accordance with an embodiment of my invention;

Figure 2 is a vertical sectional view taken through the device as illustrated in Figure 1 at substantially the transverse center thereof;

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

Figure 4 is a fragmentary view in side elevation with portions in section illustrating a means for normally locking the toweling against feeding and also to permit a measured feed of the toweling;

Figure 5 is a fragmentary horizontal sectional view taken substantially on the line 5—5 of Figure 3;

Figure 6 is a detailed sectional view taken substantially on the line 6—6 of Figure 2 illustrating a means for holding the tilting bottom of the cabinet in its raised or normal position.

As disclosed in the accompanying drawings, C denotes a cabinet of desired dimensions and configurations and which, in the present embodiment of my invention, is of a

type designed to be suspended upon a wall although it is to be understood that the cabinet may be so constructed or designed as to be supported or mounted in any manner which best complies with the requirements of practice.

As herein disclosed, the bottom and front faces of the cabinet are open, the front face however being adapted to be closed by a door D herein disclosed as of a hinged type. The door is adapted to be held in its closed position by any effective fastening means but, as illustrated in Figure 4, such means as indicated at 1 constitutes a conventional hook and eye.

At a predetermined distance below the top wall 2 of the cabinet C and extending between the side walls 3 thereof and from the back wall 4 is a shelf or table 5 dividing the interior of the cabinet into what may be termed two compartments A and B. The upper compartment is adapted to have placed therein a supply of toweling T. This toweling T constitutes a web of desired length and as delivered from the laundry is folded to provide a stack or pile from which the toweling from the top will readily unfold as pull or strain is imposed by the user upon the toweling.

Within the compartment A at a point in close proximity to both the top wall 2 of the cabinet and the front open face thereof, is rotatably supported by the side walls 3 a feed roller 6 of desired dimension and which has its periphery of a character to assure effective gripping action upon the toweling with which it engages. This peripheral surface may constitute covering 7 of emery paper, rubber or of any material or combination of materials which may assure the desired gripping action.

The roller 6 at its opposite ends is provided with trunnions 8 which are rotatably engaged with the side walls 3 of the cabinet C whereby said roller is supported for free rotation.

While not at all times essential yet it is to be noted in the present embodiment of my invention the mountings for the roller 6 are such as to maintain the same normally in working position and against ready displacement.

Pivotally connected, as at 9, to the side walls 3 of the cabinet C at points in advance of the applied roller 6 and also therebelow are end portions of the elongated arms 10. Connecting and rotatably supported by the outer or free end portions of the arms 10 is a tension roller 11 for coaction with the roller 6 hereinbefore referred to when the arms 10 are in raised position within the cabinet C.

When the roller 11 is in its raised position, as particularly illustrated in Figure 2, it serves to maintain in close frictional contact with the roller 6 the toweling leading from the stack or pile T, said toweling passing upwardly and forwardly in contact with the roller 6 and over the roller 11. The toweling extends downwardly from the roller 11 at a point closely adjacent to the open face of the cabinet C and is adapted to form a loop portion 12 below the cabinet C.

In order to assure the raised roller 11 having requisite tension to assure proper and effective coaction with the roller 6, each of the arms 10 carries a leaf spring 14, one end portion of which, as at 15, being anchored to an arm 10 while the opposite or free end portion of the spring 14 is directly engaged by the door D when closed. This coaction of the door D with each of the springs 14 results in putting each of the springs under such tension to assure the most effective coaction of the roller 11 with the roller 6 and the toweling passing therebetween.

When the door D is open the arms 10 together with the roller 11 carried thereby will drop downwardly so that no hinderance or obstruction will be offered to the placement of a new or clean stack of toweling T upon the shelf 5 and, furthermore, with the arms 10 and roller 11 in their downmost position the desired initial placement of the clean toweling with respect to the roller 11 and roller 6 is materially facilitated as it is only necessary in the setting of the toweling to draw the same over the lower roller 11. This will so position a portion of the toweling that when the roller 11 is raised the toweling will have proper contact from below with the roller 6 and the roller 11 will be in requisite frictional coaction with the roller 6 and the toweling especially after the door D has been closed.

The downward movement of the roller 11 is positively limited by contact of each of the arms 10 with a suitably positioned stop 16 extending inwardly from the adjacent side wall 3 of the cabinet. As is particularly illustrated in Figure 3, when the roller 11 is at the limit of its downward movement it is projected beyond the open face of the cabinet C, thus preventing the door D being fully closed. This is of advantage as it gives positive indication that a new supply of clean toweling is required.

The lower portion of the bottom compartment B, preferably adjacent the back wall 4, has positioned therein a second feed roller 17. This roller at each end is provided with a trunnion 18 whereby the roller may be rotatably supported by the side walls 3 of the cabinet and in what might be termed a substantially permanent mounting. This roller 17 is also provided with a peripheral surface of emery paper, rubber or the like to assure the roller 17 having a maximum of gripping or frictional contact with the soiled toweling which passes upwardly over the forward portion thereof as particularly illustrated in Figure 3. The toweling from the compart-

ment A passes down to provide a loop 12, hereinbefore referred to, and up within the lower portion of the compartment B at the rear thereof and in contact with the forward peripheral portion of the roller 17 for winding upon the soiled toweling roller or mandrel 19. Each end portion of the roller or mandrel 19 is provided with a trunnion 20 which is adapted to be received within the entrance groove 21 open at the front face of the cabinet and which terminates in an inwardly and rearwardly inclined groove 22. These inclined grooves 22 provide means whereby the weight of the roller or mandrel 19 together with the toweling wound thereabout assures the soiled toweling having effective frictional contact with the peripheral surface of the roller 17.

To assure the maintenance of the desired loop 12 and more especially to maintain the preferred spacing of the side stretches of the loop 12, I provide the lower part of the bottom compartment B with a bottom panel 23 the forward marginal portion of which at each end of the panel being pivotally connected, as at 24, to an adjacent side wall 3 of the cabinet C, thus providing a mounting whereby the bottom panel 23 may be swung up into working or closed position or readily dropped or lowered when it is desired to engage the outer free extremity of new toweling with the roller 17 and the winding roller or mandrel 19. As particularly illustrated in Figure 2, it is to be noted that the panel 23 is of such a width that, when in its raised or closed position with respect to the bottom of the cabinet C, the rear marginal portion of the panel 23 extends beyond or rearwardly of the vertical center of the roller 17.

This is of advantage as it provides further means to assure an increased area of the toweling having frictional contact with the roller 17 whereby the efficiency of the roller 17 in its operation is increased. Any means may be employed to maintain the panel 23 in its raised or closed position but, as particularly illustrated in Figure 6, the panel 23 at one end portion is provided with a conventional spring latch 25 for coaction with a keeper or lug 26 suitably affixed to the adjacent side wall 3 of the cabinet C.

The rollers 6 and 17 are of the same diameter and these rollers 6 and 17 are in driven connection one with the other whereby they rotate in unison in the same general direction and at the same peripheral speed. This driving connection between the rollers 6 and 17 may be accomplished in any manner which complies with the requirements of practice but, as herein disclosed, such connection constitutes an endless chain 27 passing around sprocket wheels 28 suitably carried by the rollers 6 and 17. Rotating with the roller 17 is a stop 29 with which is adapted to engage a holding member 30 whereby the rollers 17 and 6 together with the toweling are held against travel until the holding member has been released from the stop. This holding member 30, as herein disclosed, has associated therewith a spring member 31 which constantly urges the holding member in a position to automatically engage or coact with the stop 29 so that, in the present embodiment of the invention, the roller 17 is only allowed to make a single revolution and of course the toweling allowed to travel a distance in accordance with the circumferential dimension of such roller. It is for this reason the roller 17 is also termed a check roller to determine a predetermined amount of clean toweling to be withdrawn from the stack or pile T.

A pull chain 32 or other device is operatively engaged with the holding member 30 so that when it is desired to use the toweling a person need only to operate such chain or kindred device to release the holding member 30 from the stop 29 whereby the person can then take hold of the front stretch of the loop 12 and by imposing pull thereon may cause the clean toweling to be delivered for use. As the pull is imposed upon the clean toweling the resultant rotation of the roller 6 will be transmitted through the chain 27 to the roller 17 resulting in a corresponding amount of soiled toweling being wound upon the roller or mandrel 19.

When the stack or pile T of toweling has been used, upon opening of the door D and the dropping or lowering of the panel 23 the roll of soiled toweling may be readily removed and at the same time a stack or pile T of clean toweling properly placed upon the shelf 5 and said toweling readily, quickly and convenienty brought into proper contact or engagement with the rollers 6 and 17 and of course with the winding roller or mandrel 19.

It is believed to be clearly understood that the apparatus as herein disclosed is one which is particularly intended for use in connection with towel service wherein the cabinet constitutes a substantially permanent fixture in the possession of the user and that clean toweling is delivered from time to time by the laundry or service man.

From the foregoing description it is thought to be obvious that a towel service apparatus constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. An apparatus of the class described comprising, in combination, a cabinet having an open portion, a door for closing said open portion, means for supporting a supply of clean toweling within the cabinet, a feed roller rotatably mounted within said cabinet and with which the toweling engages, rock arms pivoted to said cabinet for swinging movement about an axis extending cross wise of said cabinet, a roll carried by said rock arms for engagement with the toweling to hold the same in frictional engagement with the roller, and means carried by the arms for contact with the door when the door is closed to maintain the roller in working position with respect to the toweling and roller.

2. An apparatus of the class described comprising, in combination, a cabinet having an open portion and including side walls, a door for closing said open portion, means for supporting a supply of clean toweling within the cabinet, a feed roller rotatably mounted within said cabinet and with which the toweling engages, rock arms pivotally connected at their lower ends to said side walls for projection of parts thereof outwardly beyond said open portion, a roll carried by said parts of said rock arms for engagement with the toweling to hold the same in frictional engagement with said feed roller, means carried by the arms for contact with the door when the door is closed to maintain said roll within the cabinet in working position with respect to the toweling and roller, said arms and roll carried thereby dropping out through the open portion of the cabinet when the door is opened.

3. An apparatus of the class described comprising, in combination, a cabinet having an open portion, a door for closing said open portion, means for supporting a supply of clean toweling within the cabinet, a feed roller rotatably mounted within said cabinet and with which the toweling engages, rock arms pivoted to said cabinet for swinging movement about an axis extending cross wise of the cabinet, a roll carried by said rock arms for engagement with the toweling to hold the same in frictional engagement with the roller, and springs carried by the arms and with which the door contacts when closed to maintain the roll in working position with respect to the toweling and roller.

4. An apparatus of the class described comprising in combination, a cabinet having an open bottom portion, means for holding within said cabinet a supply of clean toweling, feeding means permitting toweling to be fed downwardly adjacent the front of the cabinet to extend in a loop below said open bottom portion, soiled towel take-up means in said cabinet to which the toweling may run from the rear portion of said loop through said open bottom portion, a panel disposed between the sides of said cabinet in said open bottom portion and pivotally connected adjacent its forward edge to the sides of the cabinet for swinging movement of its rear portion downwardly below the bottom of the cabinet to form a wide gap for the threading of toweling through said open bottom portion to said soiled towel take-up means and retaining means for holding said panel in upwardly swung relation to space the front run of said loop from the rear run thereof and to cause engagement of the rear run of said loop with said panel as the toweling extends to said soiled towel take-up means.

In testimony whereof I affix my signature.

SAMUEL A. SCHWARTZ.