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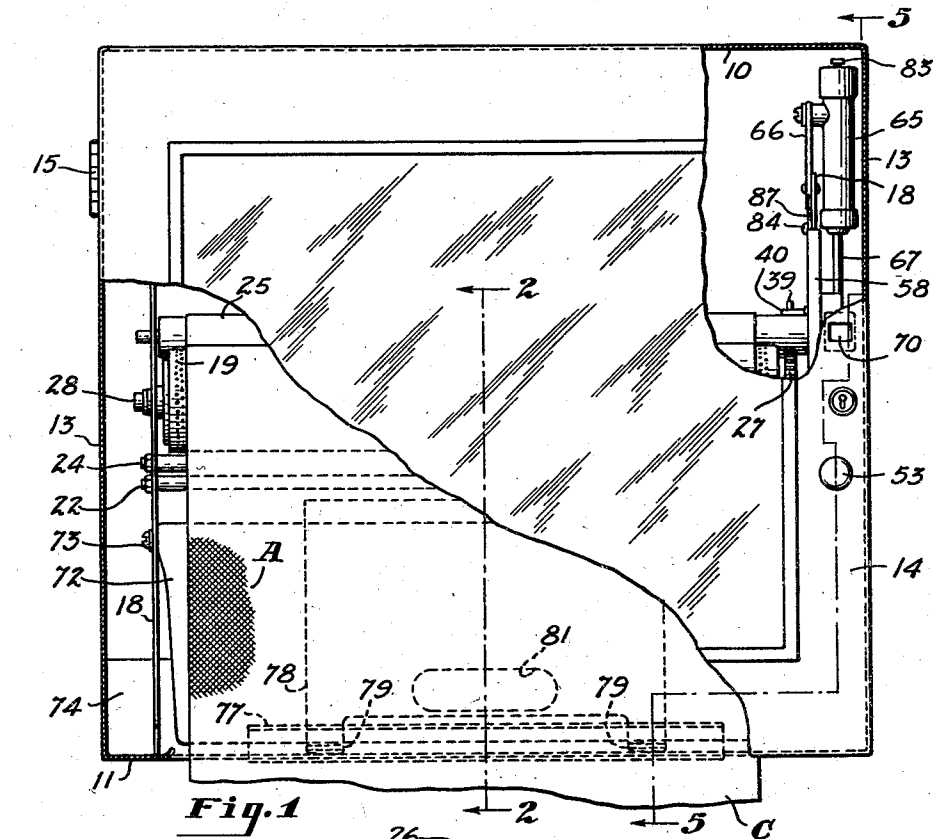
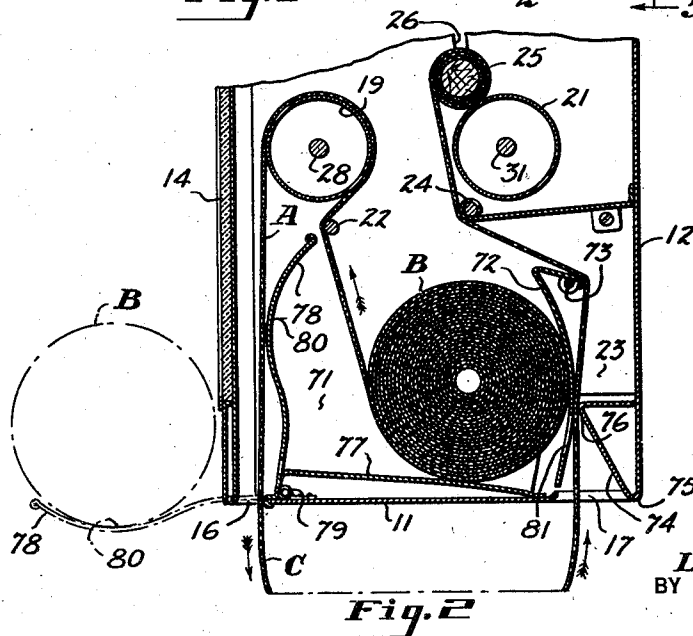
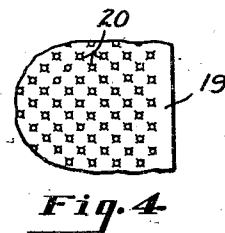
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2,274,155

TOWEL CABINET

Filed Oct. 31, 1936

3 Sheets-Sheet 1



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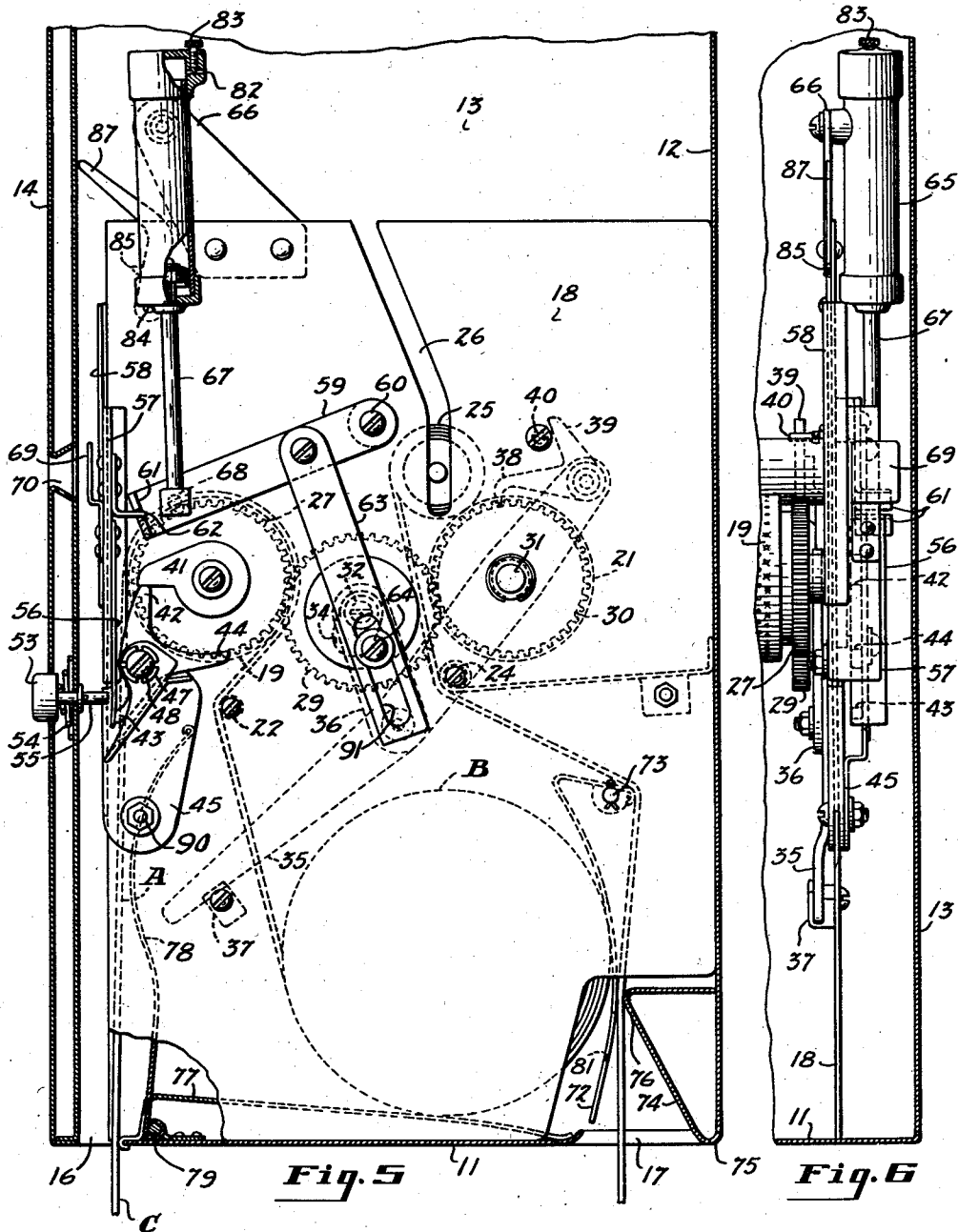
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3 Sheets-Sheet 2



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TOWEL CABINET

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3 Sheets-Sheet 3

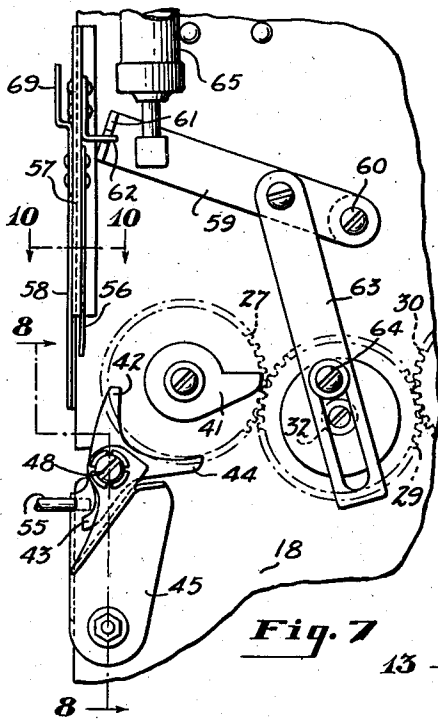


Fig. 7

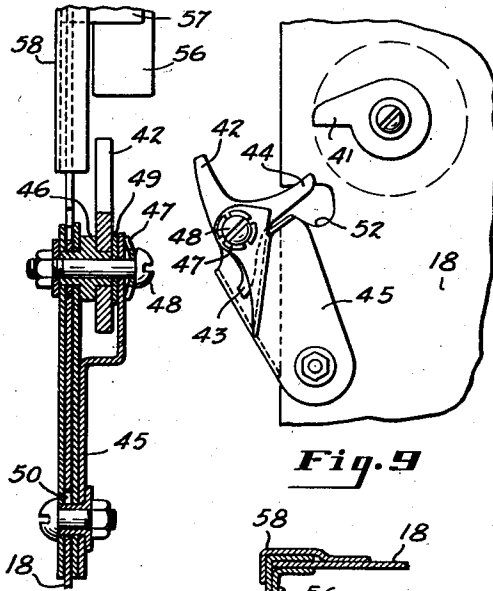


Fig. 8

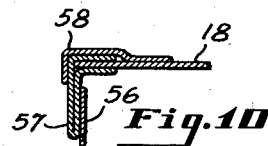


Fig. 9

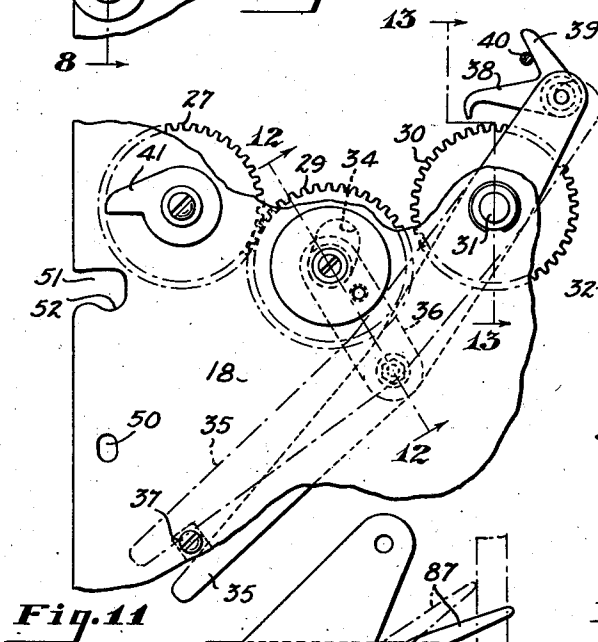


Fig. 10

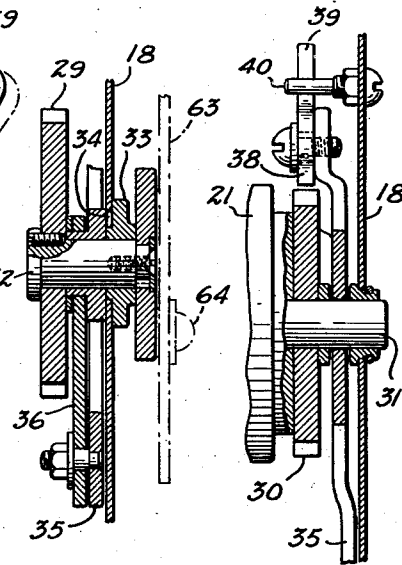


Fig. 11

Fig. 12

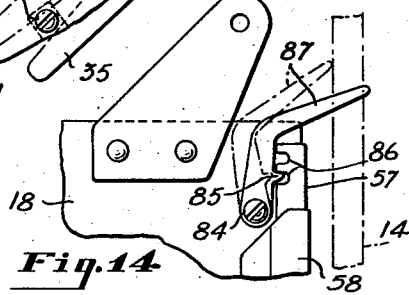


Fig. 13

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TOWEL CABINET

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Application October 31, 1936, Serial No. 108,623

25 Claims. (Cl. 312—38)

This invention relates to towel cabinets and more particularly to cabinets of the type which are arranged to dispense a predetermined length of clean toweling and simultaneously and automatically take up a predetermined length of used toweling.

Such towel cabinets are commonly used in public wash rooms and the like. The usual type of cabinet is provided with space for a roll of clean toweling and a portion of the toweling is looped below the cabinet. By suitable mechanism a length of used toweling is drawn into the cabinet each time that a user withdraws from the cabinet a length of clean toweling.

It has been found desirable to provide towel cabinets of this character with timing mechanism arranged so that the user is prevented from immediately withdrawing successive lengths of clean toweling from the cabinet. Although such an arrangement has obvious advantages of economy it is often objectionable in that persons unacquainted with the operation of the cabinet are likely to believe it inoperative when they are unable to withdraw a clean length of toweling. Under such circumstances the toweling is often jerked and pulled in an effort to obtain a clean length of toweling. Such a procedure is, of course, injurious to both the mechanism of the cabinet and the toweling. Even though there may be no apparent injury to the cabinet the toweling may be severed so that further lengths of clean toweling cannot be withdrawn until an attendant has serviced the cabinet.

It is, therefore, an object of the present invention to provide an improved towel cabinet of this character which is arranged to prevent the immediate withdrawal of successive lengths of toweling and which is provided with a signal to indicate to a user when a length of clean toweling may be withdrawn from the cabinet.

Another object is to provide a towel cabinet of this character in which the mechanism is driven by a feed roller actuated by the withdrawal of clean toweling carried over such feed roll and in frictional engagement with a considerable portion of the surface of said roller.

Another object is to provide a cabinet of the character described and having synchronously driven rolls for dispensing and retracting toweling, and which is provided with means for readily disengaging the rolls so that they may be free to rotate in reloading the cabinet with clean toweling.

A further object is to provide a cabinet of this

character which is arranged to tension and smooth the used toweling as it is rolled up in order to facilitate an efficient winding operation.

A still further object is to provide a towel cabinet of this character which is readily loaded and unloaded and simple in design and construction and inexpensive to manufacture.

Other objects and advantages will become apparent as the description of my invention proceeds. In the drawings I have illustrated a towel cabinet disclosing a preferred embodiment of my invention, in which:

Figure 1 is a front elevation partly in section and with parts broken away of such a towel cabinet;

Fig. 2 is a fragmentary sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary sectional detail of one of the rollers in the cabinet;

Fig. 4 is a plan view of the fragmentary portion of a roller shown in Fig. 3;

Fig. 5 is a fragmentary end elevation of the cabinet showing the operating mechanism;

Fig. 6 is a fragmentary front elevational view of one end of the cabinet showing parts of the mechanism illustrated in Fig. 5;

Fig. 7 is a fragmentary detail showing a portion of the operating mechanism of the cabinet;

Fig. 8 is a fragmentary detail partly in section taken on the line 8—8 of Fig. 7;

Fig. 9 is a fragmentary detail view showing the feed roll stop in released position;

Fig. 10 is a fragmentary sectional view on the line 10—10 of Fig. 7;

Fig. 11 is a fragmentary detail view showing the mechanism for driving the feed and intake rolls synchronously;

Fig. 12 is a fragmentary detail partly in section on the line 12—12 of Fig. 11;

Fig. 13 is a fragmentary detail partly in section on the line 13—13 of Fig. 11; and

Fig. 14 is a detail view showing the timing mechanism latch.

The cabinet may be in the form of an upright casing suitably suspended or supported and having top 10, bottom 11, back 12, sides 13, and a door 14 carried on suitable hinges 15.

As best shown in Fig. 5, the front edge of the bottom 11 is spaced from the door 14 to provide a towel outlet opening 16. In a similar manner the rear edge of the bottom 11 is spaced from the back 12 to provide a towel inlet opening 17. Supported within the casing, such as by resting on the bottom 11, is a pair of spaced parallel side frames or journal supporting plates 18,

These plates carry most of the mechanism for the cabinet and may be arranged for easy removal in the event that it is desired to service the mechanism. Thus the mechanism of a cabinet may be readily replaced without disturbing the casing, which often is painted or otherwise decorated to harmonize with its surroundings.

Carried between the plates 18 in suitable journals and positioned towards the front of the cabinet is a feed roll 19. As shown in Figs. 3 and 4, the surface of this roller is provided with any suitable friction means such as a plurality of upstanding burrs 20 which are arranged in closely spaced relation in order to provide an efficient frictional engagement with toweling carried over the roll. Although the roll 19 and the burrs 20 may be made in any suitable manner, I prefer to form the roll 19 of sheet metal and the burrs 20 by outward projections or punch marks. An intake roll 21 is journaled between the supporting plates 18 to the rear of the feed roll 19. This roll is of the same circumference as the feed roll 19 for a reason to be hereinafter pointed out and is provided with suitable friction means such as burrs 20.

A web of toweling A from a supply roll B is carried in front of a friction bar 22 which is supported between the side plates 18. As clearly shown in Figs. 2 and 5, web A passes between the friction bar 22 and the feed or measuring roll 19. It is then carried over the feed roll and downwardly in front of the bar 22 and supply roll B, passing through the towel outlet opening 16 and formed into a suitable loop C beneath the cabinet. At the rear of the cabinet the towel enters the towel inlet opening 17 where it is carried upwardly to the rear of the supply roll B through a used towel passage 23. As the web leaves the used towel passage it is carried around a friction bar 24 which is carried in the supporting plates 18 and positioned beneath the intake roll 21. A winding roll 25 has its extremities journaled in upstanding slots 26 in side plates 18 located above the intake roll 21.

A gear 27 secured on shaft 28 which also carries the feed roll 19 meshes with intermediate gear 29 carried by one of the supporting plates 18 in a manner to be hereinafter described. The intermediate gear in turn meshes with gear 30 secured to the shaft 31 which carries the intake roll 21. Thus the feed roll 19 and intake roll 21 are arranged to rotate in synchronous relation. It is to be noted that the withdrawal of toweling from the cabinet rotates the feed roll 19 which has over one-half its circumference in frictional engagement with the toweling. Since the feed roll and intake roll have the same peripheral length and are driven in synchronous relation, a length of used toweling equivalent in length to the clean toweling withdrawn from the towel outlet opening 16, will be drawn into the cabinet through the inlet opening 17 and rolled on the winding roll 25 through its frictional engagement with the intake roll 21.

In order to facilitate the withdrawal of a roll of used toweling from the cabinet and the reloading thereof with a fresh roll of clean toweling, the synchronous drive between the feed roll and intake roll may be released by unmeshing the intermediate gear 29 and the intake roll 21. This may be accomplished by supporting stub shaft 32 which carries the intermediate gear 29 in a movable bearing 33 slidably retained in an arcuate slot 34. The slot 34 is concentric with gear 27 so that movement of the bearing 33

which carries intermediate gear 29 does not interfere with the meshed relation of the gear 27, actuated by the feed roll, and the intermediate gear. It will be seen that by movement of the bearing 33 in the arcuate slot 34, the intermediate gear 29 may be brought into or released from engagement with the gear 30. This movement is accomplished as shown in Fig. 11 by means of a lever 35 carried on shaft 31. A link 36 connects the movable bearing 33 and the lever 35 so that with the lever in a raised position illustrated by the broken lines of Fig. 11, intermediate gear 29 meshes with gear 30 and a synchronous drive is established between the feed roll 19 and intake roll 21. Lowering the lever 35 to the position illustrated by the full lines of the same figure permits the movable bearing 33 to drop in the arcuate slot 34 so that the gears 29 and 30 are unmeshed. In its raised position the lever 35 may be supported by a suitable lug 37 which is secured to the supporting plate 18.

A pawl 38 carried by an extension on the lever 35 and arranged to engage the teeth of gear 30 prevents the gears and rolls 19 and 21 being driven in a reverse direction. Finger 39 on the pawl 38 is arranged to engage a pin 40 carried in the supporting plate 18, upon movement of the lever 35 to the position shown by full lines of Fig. 11. Such movement releases the gear 30 from engagement with the pawl 38 so that with the lever 35 in lowered position the intake roll 21 is free to rotate in either direction. Upon raising of the lever 35 to the position indicated by the broken lines of Fig. 11 the finger 39 moves away from the pin 40 and the pawl 38 reengages the gear 30 so that with the gears 27, 29 and 30 in meshed relation and the rolls 19 and 21 in synchronous driving relation their rotation is restricted to one direction by the pawl 38.

In order to restrict the amount of towel which the user withdraws from the cabinet a stop mechanism is provided to arrest the rotation of feed roll 19 after each revolution. This mechanism includes a cam or arm 41 carried on feed roll shaft 28 and a three fingered stop. One finger 42 of this stop is normally arranged to engage the cam 41 to prevent rotation of the feed roll 19 and withdrawal of toweling from the cabinet. A second finger 43 is arranged to be engaged by a member of a releasing mechanism to be later described so as to move the finger 42 out of engagement with the cam 41, thus permitting the rotation of roll 19 and the withdrawal of toweling from the cabinet. Such rotation of the feed roll carries the cam 41 over third finger 44 of the stop which moves the finger 42 into proper position to be engaged by the cam 41 upon completion of a revolution.

To retract the stop from operative engagement with the cam 41 during loading of the cabinet, so that the feed roll may be freely rotated, said stop is carried on the end of pivoted arm 45 by means of bearing 46, spring 47 and bolt 48. The spring 47 is arranged to frictionally hold the stop between the bearing 46 and a washer 49, thus preventing its being dislodged through shaking or disturbing the cabinet, and movement of the stop is dependent upon positive actuation either by the releasing mechanism or the cam 41. The arm 45 may be formed of a reversely bent piece of sheet metal which embraces one of the frame plates 18 and a second piece of sheet metal secured against one side of the reversely bent piece; the arm is pivoted on a bolt 90 received in a vertically elongated slot 50 in the supporting

plate 18. The bearing 46 is received in a slot 51 formed in the plate 18 and having a rounded seat 52 arranged to support the bearing 46 and retain it in position so that the stop will not become displaced during operation of the cabinet. It is to be seen that the pivot slot 50 permits slight vertical movement of the pivoted arm 45 so that the bearing 46 can properly settle into the seat 52 when the bearing is carried into and out of the slot 51.

With the mechanism in the position illustrated in Fig. 5, it is to be seen that the cam 41 has been arrested by the finger 42 of the three fingered stop thus preventing rotation of the feed roll 19 and withdrawal of toweling from the cabinet. Carried in the door 14 of the cabinet and positioned adjacent the second finger 43 of the three-fingered stop is a suitable push button 53 normally held in retracted position by a helical spring 54. Pressure on the button 53 forces plunger 55 thereof into engagement with a deflectable member 56. This deflectable member may be constructed of any suitable material such as spring metal and upon deflection is arranged to engage the third finger 43 of the stop so that the stop is rotated on its bearing 46 and the finger 42 disengaged from the cam 41 thus releasing the feed roll 19 and permitting a length of toweling to be withdrawn from the cabinet. It is to be noted, however, that withdrawal of toweling from the cabinet rotates the cam 41 into engagement with third finger 44 of the stop so that the stop is rotated on bearing 46 to its original position so that upon completion of one revolution of the roll 19 the cam 41 will again be engaged by stop finger 42 of the three fingered stop and withdrawal of the toweling arrested.

In constructing towel cabinets of the character described the feed roll 19 is usually made of such circumference that one revolution thereof permits the withdrawal of a length of toweling sufficient for one person's use. For reasons of economy it may be desirable to have a towel cabinet from which it is inconvenient to withdraw more than a single length of toweling by one person. This is done by a timing device which prevents the immediate withdrawal of successive lengths of toweling from the cabinet and requires that a time interval elapse after one length of toweling has been withdrawn before another may be withdrawn. In the present invention this is accomplished by supporting the deflectable member 56 on a carrier 57 so that the deflectable member may be reciprocated into and out of the path of the plunger 55.

As shown in Fig. 10, one edge of the carrier 57 is bifurcated to provide a channel which has sliding engagement with the forward edge of the supporting plate 18. The carrier is guided and held in position by means of an overlying flange 58 carried by plate 18 and cooperating with the latter to provide a slideway for the carrier 57. An arm 59 pivoted to the supporting plate 18 at 60 has a bifurcated flanged end 61 which engages a finger 62 on the carrier 57. Link 63 connects the arm 59 with an eccentric or crank 64 secured on stub shaft 32. At each revolution of the intermediate gear 29 which is provided with the same number of teeth as gear 27, the crank 64 makes one revolution and raises the arm 59 so that the deflectable member 56 is withdrawn from between the plunger 55 and second finger 43 of the stop.

The rate at which the carrier 57 returns to its lower position, to carry the deflectable mem-

ber 56 between the plunger 55 and the second finger 43 of the stop, is regulated by a timing mechanism comprising an air cylinder 65 pivotally supported at 66 on the side plate 18. A piston within the cylinder is carried by a reciprocable stem 67 pivoted on the arm 59 at 68. Due to the weight of the stem and mechanism secured thereto the mechanism will descend by gravity, thus lowering the carrier and deflectable member 56. The rate at which the stem 67 and mechanism connected therewith falls by gravity may be regulated by controlling the admission of air into the cylinder through a port 82 opening into the cylinder and provided with an adjusting screw 83 to adjust the size of the port. Thus the timing mechanism can be regulated so that it lowers the carrier and deflectable member in any predetermined period of time and the time interval which must elapse between successive withdrawals of toweling may be controlled.

With the deflectable member 56 removed from its normal position between the finger 43 of the stop and the plunger 55, actuation of the button 53 is unavailing to release the cam 41 from the stop since the plunger is offset with respect to the finger 43. Until the air cylinder 65 permits arm 59 to lower the carrier 57 and deflectable member 56 toweling cannot be withdrawn. Thus, by suitable adjustment of the screw 83 the period elapsing after the withdrawal of toweling from the cabinet and before a second length of toweling may be withdrawn can be regulated as desired.

An elongated slot 91 in the link 63 is provided for sliding engagement with the crank 64 to permit rotation of the intermediate gear 29 when the deflectable member 56 is in a raised position. Pivoted on the side plate 18 by a suitable pin 84 is a latch 85. This latch is positioned adjacent the top of overlying flange 58 and is arranged to lean toward the door 14. Thus the latch tends to lie across the top of the slideway between the plate 18 and the overlying flange 58. As the carrier 57 at the end of its upward stroke moves beyond the top of the flange and out of the top of the slideway the latch engages a detent 86 formed in the carrier, as shown by the full lines of Fig. 14, thus holding the carrier and deflectable member in their upper position.

This feature is advantageous in reloading the cabinet with a fresh roll of clean toweling since the carrier and deflectable member may be retained in their upper position during this operation. Consequently, during the relatively rapid and continuous rotation of the feed roll incident to threading a clean towel web through the cabinet there need be no tendency to rapidly pump the carrier and reciprocable member up and down since the latch 85 will hold them from dropping by gravity and the crank 64 will merely reciprocate in the slot 65 of the link 63. An extended finger 87 formed on the link 63 is arranged to be engaged by the door 14 as the latter is closed so that the latch 84 is pivoted away from the path of the reciprocable member 57. Thus when the cabinet is closed the latch is held in an inoperative position as shown by the broken lines of Fig. 14 and the carrier 57 is not engaged thereby when raised by the withdrawal of toweling from the cabinet.

Secured to the carrier 57 is a signal or flag 69 and in the door 14 is a window 70 positioned so that the flag may be readily seen from in front of the cabinet when the carrier 57 and deflec-

table member 56 are in their lowermost position and the cam 41 may be released from the finger 42 of the stop by actuation of the button 43. With the carrier 57 raised so that the deflectable member 56 is withdrawn from between the plunger 55 and finger 43 the flag 69 is arranged to be withdrawn from behind the window 70 so as to be invisible from the exterior of the cabinet and a user is informed that toweling cannot be withdrawn from the cabinet. If desired, the flag 69 may have a suitable legend or symbol inscribed thereon to indicate when toweling may be withdrawn from the cabinet or the flag may be of sufficient length so as to be visible through the window 70 at all times and with different legends or symbols inscribed thereon to indicate when toweling cannot be withdrawn as well as when it may be withdrawn.

A clean towel compartment 71 is provided in the bottom of the cabinet to receive the supply roll B. An apron 72 pivotally supported at 73 between the side plates 18 separates the clean towel compartment 71 from the used towel passage 23. A guide plate 74 is positioned in the used towel passage 23 and is inclined upwardly and inwardly from the bottom edge of the back 12. As shown, this plate may be formed integrally with the back 12 of the casing and thus eliminate relatively sharp edges from the used towel passage 23. The guide plate 74 is formed with a shoulder 76 extending across the used towel passage 23 and with which the apron 72 normally is in engagement. The roll B is carried on a member 77 which is inclined downwardly towards the rear of the clean towel compartment 71 so that the roll bears against the apron 72. It is to be observed that the web A of toweling as it passes upwardly through the used towel passage 23 is frictionally engaged between the apron 72 and shoulder 76 on the guide plate 74. This has a smoothing and tensioning action on the web so that wrinkles and creases may be removed and an efficient and desirable winding of the web on the intake roll 21 is facilitated. This tensioning and smoothing of the web is aided by its circuitous path over the upper edge of the apron 72 and under the friction bar 24. As the toweling is used from the roll B the weight of such roll will diminish, but this is compensated for so as to obtain as nearly a uniform frictional effect on the web passing between the apron 72 and shoulder 76 by the apron being pivoted at its top so that as the diameter of the roll B decreases its point of contact with the apron 72 will recede from the pivot 73. This compensating for the decrease in weight of the roll A as the toweling is used is also aided by changing the slope of the inclined member 77 so that as the roll B decreases in diameter and its line of support moves towards the rear of the compartment 71 it rests on a steeper incline.

The loading of the cabinet is facilitated by a pivoted bracket 78 which is suitably hinged at 79 in cutaway portions at the front of the inclined member 77 to the bottom 11 of the cabinet adjacent the towel outlet opening 16. When loading the cabinet the bracket 78 is arranged to lie in a substantially horizontal position and is provided with a dished portion 80 to support the roll B during the threading of the web A through the mechanism. With the roll thus supported in front of the cabinet, both hands of the attendant are free to thread the web through the used towel passage 23 and the apron 72 may be swung in a forward direction into the clean

towel compartment 71. To aid the attendant in drawing the apron 72 away from the abutment 76 a finger hole 81 is provided in the apron 72.

It is to be understood that during the operation of reloading the cabinet with a fresh roll of toweling the rolls 19 and 21 are released by withdrawing the bearing 46 of the stop from the slot 50 and the lever 35 is moved off the stud 37 to disengage the gears 29 and 30. When the cabinet is loaded the pivoted bracket 78 is in an upright position and may be supported so by having a bearing engagement against one edge of the inclined member 77 which defines the above mentioned cutaway portions of the latter.

It will thus be seen that the present invention provides a towel cabinet which is arranged to dispense a predetermined length of clean toweling and is provided with means for preventing the immediate removal of successive lengths of such toweling, but which is also provided with a signal or flag to indicate to a user when a clean length of toweling may be withdrawn.

Although a single embodiment of the invention has been herein shown and described it will be understood that numerous modifications of the construction shown may be resorted to without departing from the spirit of this invention as defined in the appended claims.

What I claim is:

1. In a towel cabinet, a feed roll and an intake roll to engage a web of toweling, a gear fixed to each of said rolls, an intermediate gear normally meshing with each of said gears to synchronize the rolls, means to restrict the rotation of the intake roll to a single direction, locking means for preventing withdrawal of toweling, releasing means for permitting the withdrawal of a predetermined length of toweling, and means for disengaging one of said gears and the intermediate gear whereby the rolls may be independently rotated.

2. In a towel cabinet, a feed roll and an intake roll to engage a web of toweling, a gear fixed to each of said rolls, an intermediate gear normally meshing with each of said gears to synchronize the rolls, ratchet means to restrict the rotation of the intake roll to a single direction, locking means for arresting the feed roll after withdrawal of a predetermined length of toweling comprising an arm rotated by the feed roll and a stop engageable with said arm, a member normally adjacent the stop and deflectable into engagement therewith to temporarily release the arm whereby a length of toweling may be withdrawn, means operable externally of the cabinet for deflecting said member, and timing means for temporarily removing said member from adjacent the stop for a predetermined period of time whereby the immediate withdrawal of successive lengths of toweling is prevented.

3. In a towel cabinet having a roll, a lock for holding the roll against rotation, means for releasing the lock and including an element to be actuated by a user and a reciprocable member normally positioned intermediate the lock and said element, said member arranged to be displaced upon actuation of the element, and the displacement operating to release the lock, and timing means operative to withdraw the reciprocable member for a predetermined period of time after each rotation of the roll whereby actuation of the element is unavailing to release the lock during said period and said actuation is unrestricted.

4. In a towel cabinet arranged to receive a

supply of toweling, means for suspending from the cabinet a loop of the toweling from said supply, and means whereby clean toweling from the supply may be progressively fed into the loop and an equivalent amount of toweling simultaneously retracted into the cabinet from the loop, said means including a roll for engaging a web of the toweling, said roll having a sheet metal grater surface formed with a multiplicity of spaced, outwardly projecting punch mark coronas presenting jagged edges to the engaged toweling.

5. In a towel cabinet, a roll actuated by the toweling, an element rotated by the roll, a stop arranged to automatically engage the element and arrest the roll after the withdrawal of a predetermined length of toweling, a deflectable member reciprocably mounted and normally positioned adjacent the stop, said member arranged to disengage the element and stop and release the roll upon being deflected when in its normal position, and means operable externally of the cabinet by the user to deflect the member.

6. In a towel cabinet, a roll frictionally engageable with toweling being withdrawn from the cabinet, an element rotated by the roll, a stop having a finger, engageable with the element to arrest the rotation of the element and restrict the withdrawal of toweling to predetermined lengths, means for shifting the stop out of normal position to release the element and permit the withdrawal of a length of toweling, another finger on the stop arranged for engagement with the element to shift the stop to normal position during the withdrawal of toweling, means for supporting the stop, said means being movable away from normal position to carry the stop out of range of the element to permit unrestricted rotation of the roll in servicing the cabinet, and means for retaining the supporting means in normal position during operation of the cabinet.

7. In a towel cabinet, a feed roll and an intake roll to engage a web of toweling, means for driving said rolls in such relation to one another that a length of toweling is drawn into the cabinet equivalent to a length withdrawn from the cabinet, stop means for restricting the withdrawal of toweling to predetermined lengths, means for releasing the stop means to permit the withdrawal of a length of toweling, a crank actuated by one of the rolls, a vertically reciprocable member associated with the releasing means and stop means, and arranged, when in elevated position, to render the releasing means ineffective, said crank arranged to elevate the reciprocable member at each withdrawal of toweling, and the member normally returning by gravity to lowered position, and means for timing the return of the reciprocable member to prevent the immediate withdrawal of successive lengths of toweling.

8. In a towel cabinet, a feed roll and an intake roll to engage a web of toweling, means for driving said rolls in such relation to one another that a length of toweling is drawn into the cabinet equivalent to a length withdrawn from the cabinet, stop means for restricting the withdrawal of toweling to predetermined lengths, means for releasing the stop means to permit the withdrawal of a length of toweling, a crank actuated crank arranged to elevate the reciprocable member associated with the releasing means and stop means, and arranged, when in elevated position, to render the releasing means ineffective, said crank arranged to elevate the reciprocable member at each withdrawal of toweling, and the

member normally returning by gravity to lowered position, means for timing the return of the reciprocable member to prevent the immediate withdrawal of successive lengths of toweling, a flag movable with the reciprocable member, and a window in the cabinet through which the flag is visible upon movement, by gravity, of the reciprocable member to its lowered position to indicate the releasing means is effective to release the stop.

9. In a towel cabinet having stop means for arresting the withdrawal of toweling after the withdrawal of a predetermined length thereof, a deflectable element for releasing the stop means, releasing means operable externally of the cabinet by a user to actuate the element and release the stop means, timing means for automatically rendering said releasing means ineffective to actuate the element and release the stop means for a period of time after the withdrawal of a length of toweling without interfering with the operability of the releasing means, and signal means responsive to the timing means to indicate to a user when the releasing means can be operated to release the stop means.

10. In a towel cabinet having stop means for arresting the withdrawal of toweling after the withdrawal of a predetermined length thereof, a deflectable element for releasing the stop means, releasing means operable externally of the cabinet by a user to actuate the element and release the stop means, timing means for automatically rendering said releasing means ineffective to actuate the element and release the stop means for a period of time after the withdrawal of a length of toweling without interfering with the operability of the releasing means, and signal means responsive to the timing means to indicate to a user when the releasing means can be operated to release the stop means, said signal means comprising a window in the cabinet and a vertically reciprocable flag movable past said window at a substantially uniform rate of speed during the major portion of said period of time.

11. In a towel cabinet, a feed roll and an intake roll to engage a web of toweling, a driving connection between said rolls establishing a rotational relationship of the intake roll with respect to the feed roll whereby a length of used toweling is drawn into the cabinet by the intake roll substantially equivalent to a length of fresh toweling withdrawn from the cabinet against the feed roll, locking means for automatically arresting rotation of the feed roll after the withdrawal of a predetermined length of toweling to prevent continuous withdrawal of the toweling, means for releasing the locking means to permit rotation of the feed roll and the withdrawal of a length of toweling, timing means having connection with one of the rolls for actuation in synchronous relation therewith and arranged to prevent release of the locking means by the releasing means for a period of time after each withdrawal of toweling, and means shiftable to one position for disengaging the driving connection between said rolls to permit rotation of one of the rolls without the other while removing used toweling from the cabinet and loading the cabinet with a fresh supply of toweling, and shiftable to another position to reestablish said synchronous driving connection between said rolls, said timing means having continuous connection with said one roll.

12. In a towel cabinet, a clean towel compartment, means for supporting a supply of clean toweling in the compartment, a pivoted apron

disposed in a substantially vertical position at one side of the clean towel compartment, a used towel passage extending through the cabinet on substantially the same level as the compartment and separated therefrom by the pivoted apron, an abutment in the passage, and the pivot of the apron arranged so that the apron normally bears against the abutment whereby toweling extending through the passage is frictionally engaged between the apron and the abutment.

13. In a towel cabinet having a roll rotated by the toweling, stop means for arresting the rotation of the roll to restrict the withdrawal of toweling to predetermined lengths, means for releasing the stop means, timing means including a reciprocable member for preventing the release of the stop until after the lapse of a period of time following the withdrawal of a length of toweling, a driving connection between the roll and the member arranged to move the member to a release preventing position at one limit of movement of the member upon rotation of the roll and the member arranged to normally move by gravity to another limit of movement, and said driving connection including means permitting continuous rotation of the roll subject to the stop means while the member is at said first named limit of movement.

14. In a towel cabinet having a roll rotated by the toweling, stop means for arresting the rotation of the roll to restrict the withdrawal of toweling to predetermined lengths, means for releasing the stop means, timing means including a reciprocable member for preventing the release of the stop until after the lapse of a period of time following the withdrawal of a length of toweling, a driving connection between the roll and the member arranged to move the member to a release preventing position at one limit of movement of the member upon rotation of the roll and the member arranged to normally move by gravity to another limit of movement, said driving connection including means permitting continuous rotation of the roll subject to the stop means while the member is at said first named limit of movement, and latch means arranged to retain the reciprocable member at said first named limit of movement while reloading the cabinet.

15. In a towel cabinet having a roll rotated by the toweling, stop means for arresting the rotation of the roll to restrict the withdrawal of toweling to predetermined lengths, means for releasing the stop means, timing means including a reciprocable member for preventing the release of the stop until after the lapse of a period of time following the withdrawal of a length of toweling, a driving connection between the roll and the member arranged to move the member to a release preventing position at one limit of movement of the member upon rotation of the roll and the member arranged to normally move by gravity to another limit of movement, said driving connection including means permitting continuous rotation of the roll subject to the stop means while the member is at said first named limit of movement, a door for the cabinet, and a latch arranged to retain the reciprocable member at said first named limit of movement while said door is open for reloading the cabinet, said door arranged upon closing thereof to actuate the latch to release the reciprocable member.

16. In a towel cabinet, a feed roll, an intake roll, a gear fixed to the feed roll for rotation therewith, a second gear fixed to the intake roll

for rotation therewith, said rolls and gears having fixed journals to prevent movement toward and away from one another, a third gear normally meshing with both of said previously named gears to establish a synchronous drive between the feed and intake rolls, a movable journal for said third gear permitting the shifting of said third gear to unmesh the third gear and one of the other said gears to interrupt said synchronous drive and enable one roll to be rotated independently of the other roll, a member arranged to normally hold said third gear in mesh with the other gears to retain the synchronous drive of the feed and intake rolls, said member being manually shiftable to move the third gear from normal position and effect said unmeshing of the third gear, a latch for restricting rotational movement of one of the rolls to a single direction, and means for actuating said latch upon said shifting of the member to release the roll restricted by the latch for rotation in both directions.

17. In a towel cabinet, a pair of spaced supporting members, a feed roll and an intake roll disposed between the members, shafts journaled in said members, said feed roll being rigidly secured to one of said shafts for positive rotation therewith and said intake roll being rigidly secured to another of said shafts for positive rotation therewith, a gear rigidly secured to said feed roll shaft, a gear rigidly secured to said intake roll shaft, a movable gear normally meshing with both of said gears to establish a synchronous drive between the feed and intake rollers, means for shifting said movable gear to unmesh said movable gear and one of the other gears, a stop to arrest the rotation of the feed roll, means for releasing the feed roll from the stop, timing means to delay the effective operation of the releasing means for a predetermined time interval after each rotational towel delivering movement of the feed roll, said timing means including a connecting member having an elongated slot, and a crank actuated by one of the gears, said crank having limited longitudinal sliding engagement with the slot of the connecting member of the timing means.

18. In a towel cabinet, a pair of spaced supporting members, a feed roll and an intake roll disposed between the members, shafts journaled in said members, said feed roll being rigidly secured to one of said shafts for positive rotation therewith and said intake roll being rigidly secured to another of said shafts for positive rotation therewith, a gear rigidly secured to said feed roll shaft, a gear rigidly secured to said intake roll shaft, a movable gear normally meshing with both of said gears to establish a synchronous drive between the feed and intake rollers, means for shifting said movable gear to unmesh said movable gear and one of the other gears, a stop to arrest the rotation of the feed roll, means for releasing the feed roll from the stop, timing means to delay the effective operation of the releasing means for a predetermined time interval after each rotational towel delivering movement of the feed roll, said timing means including a connecting member having an elongated slot, a crank actuated by one of the gears, said crank having limited longitudinal sliding engagement with the slot of the connecting member of the timing means, and means for holding the connecting member substantially at one limit of movement to prevent reciprocation of the connecting member while the crank slides

back and forth in the slot of the connecting member.

19. In a towel cabinet, a rotatable feed roll, a stop member to arrest the rotation of the roll, a member having a normal position in which it is movable to actuate the stop member and release the roll, a plunger operable externally of the cabinet by a user and arranged to move the movable member when the latter is in its normal position to actuate the stop member, means actuated by the feed roll for withdrawing the movable member from its normal position, and timing means to withhold the withdrawn movable member from its normal position for a predetermined time interval after each withdrawal thereof, said plunger being substantially equally movable whether the movable member is withdrawn or is in its normal position.

20. In a towel cabinet, a compartment for clean toweling having along one side thereof an apron pivoted adjacent its top edge for swinging movement in the cabinet, inclined means stationary in the cabinet for supporting a roll of toweling in the compartment so that the roll gravitates against one side of the apron, abutment means supported in the cabinet on the other side of the apron to provide therebetween a passage for toweling, and means operable by the withdrawal of clean toweling from the roll to draw used toweling upwardly through said passage while the roll bears against the apron to press the latter against the abutment means and thereby frictionally restrain the upward movement of the used toweling.

21. In a towel cabinet, feed and intake rolls engageable with toweling to control the movement thereof, means connecting the rolls for synchronous operation, stop means for restricting the withdrawal of toweling to predetermined lengths, releasing means, a member mounted for vertical reciprocation and when in lowered position associated with the stop means and the releasing means to connect the same whereby operation of the releasing means is effective to release the stop to allow the withdrawal of a length of toweling, said member when in elevated position being arranged to render the releasing means ineffective, a crank actuated by one of the rolls, and means actuatable by the crank to elevate the reciprocable member at each withdrawal of toweling and arranged to permit the reciprocable member to return by gravity to lowered position.

22. In a towel cabinet, a feed roll having a gear connected thereto, an intake roll having a gear

connected thereto, an intermediate gear normally meshing with said gears to synchronize the rolls, ratchet means to restrict the rotation of one of the rolls to a single direction, and means including a movable member to simultaneously disengage the intermediate gear from at least one of the other gears and release the ratchet means for unrestricted rotation of said one roll.

23. In a towel cabinet, a feed roll having a gear connected thereto, an intake roll having a gear connected thereto, an intermediate gear normally meshing with said gears to synchronize the rolls, a pivoted member adjacent the gears, and releasable pawl means engageable with one of the gears to restrict the rotation thereof to a single direction, said member having connection with the intermediate gear and being movable to disengage said intermediate gear from at least one of the other gears and having connection with the pawl means to withdraw the pawl from the gear engaged thereby upon said disengaging movement.

24. In a towel cabinet, a feed roll having a gear connected thereto, an intake roll having a gear connected thereto, an intermediate gear normally meshing with said gears to synchronize the rolls, a movable member and means mounting the same for pivotal movement about the axis of one of the rolls, releasable pawl means connected to said member and engageable with one of the gears to restrict the rotation thereof to a single direction, and means connecting the member to the intermediate gear, said member being movable to substantially simultaneously disengage the intermediate gear from at least one of the other gears and withdraw the pawl from the gear engaged thereby.

25. In a towel cabinet, an inclined support for a roll of clean toweling, a take-up roll above the support, an apron and means mounting the same for pivotal movement relative to the support and between a supported roll of clean toweling and the path of used toweling extending upwardly through the cabinet to the take-up roll adjacent the lower side of the support, said apron being disposed in position to divide the interior of the cabinet into a clean towel compartment and a used towel passage, and an abutment supported in said passage on the opposite side of the used toweling path from the apron whereby a supported clean roll of toweling gravitates against the apron to force the same against the abutment to squeeze used toweling therebetween as such toweling is drawn upwardly by the take-up roll.

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