

July 20, 1937.

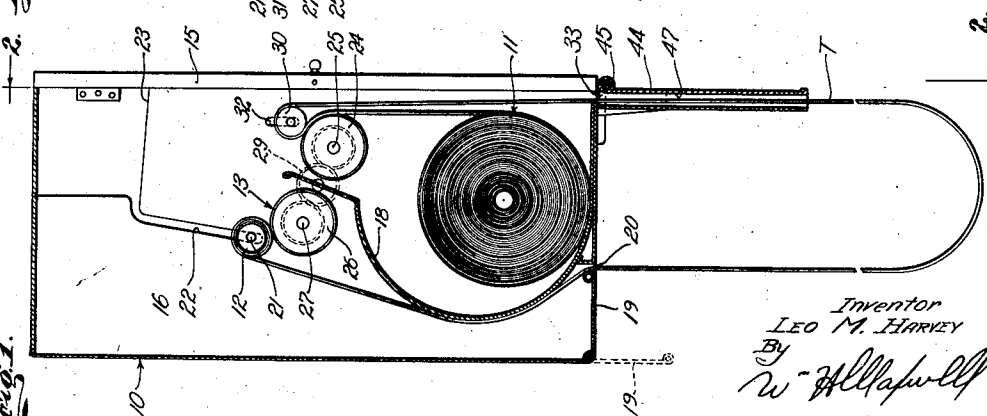
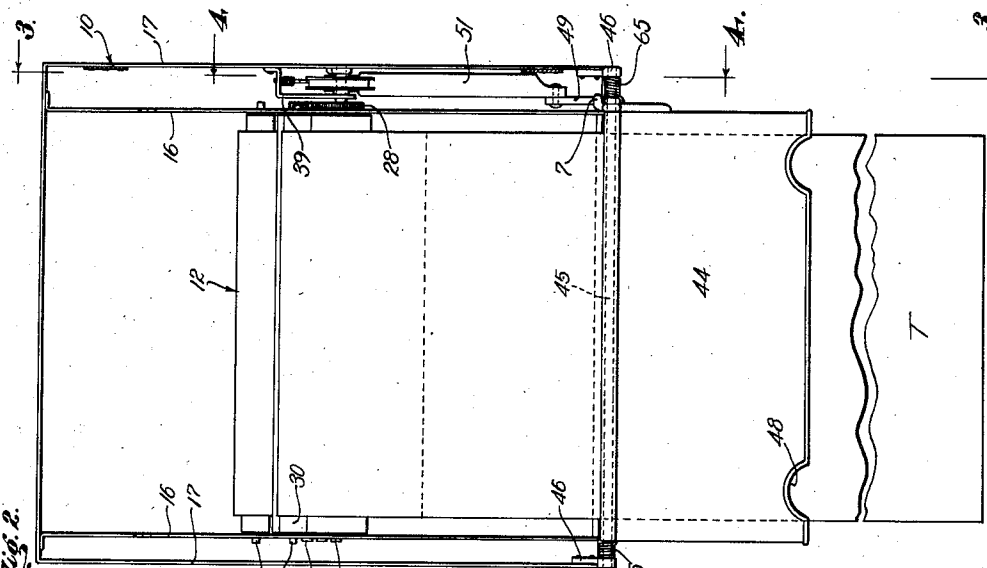
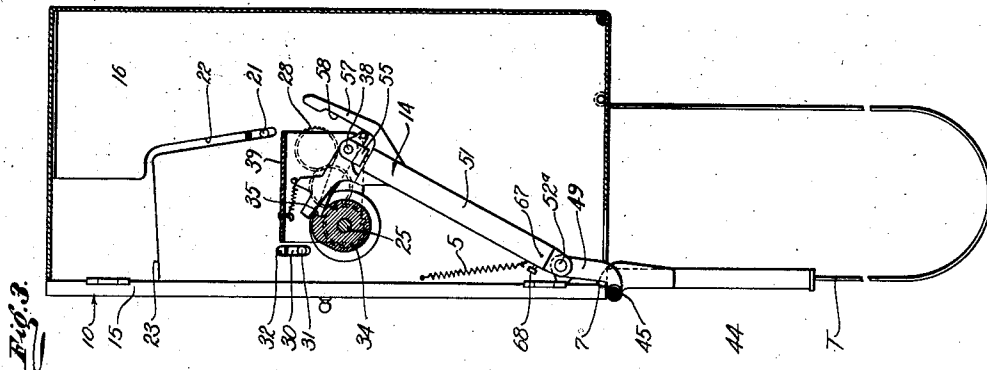
L. M. HARVEY

2,087,513

TOWEL CABINET

Filed May 14, 1934

3 Sheets-Sheet 1



Inventor
LEO M. HARVEY
By *W. H. Allapwell*
His Attorney

July 20, 1937.

L. M. HARVEY

2,087,513

TOWEL CABINET

Filed May 14, 1934

3 Sheets—Sheet 2

Fig. 5.

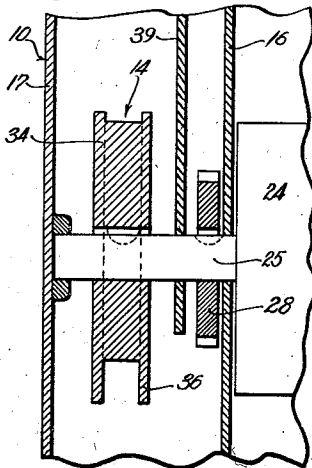


Fig. 6.

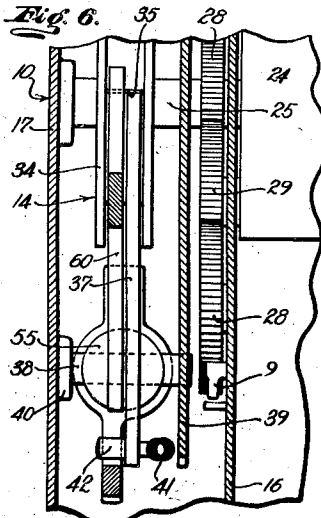
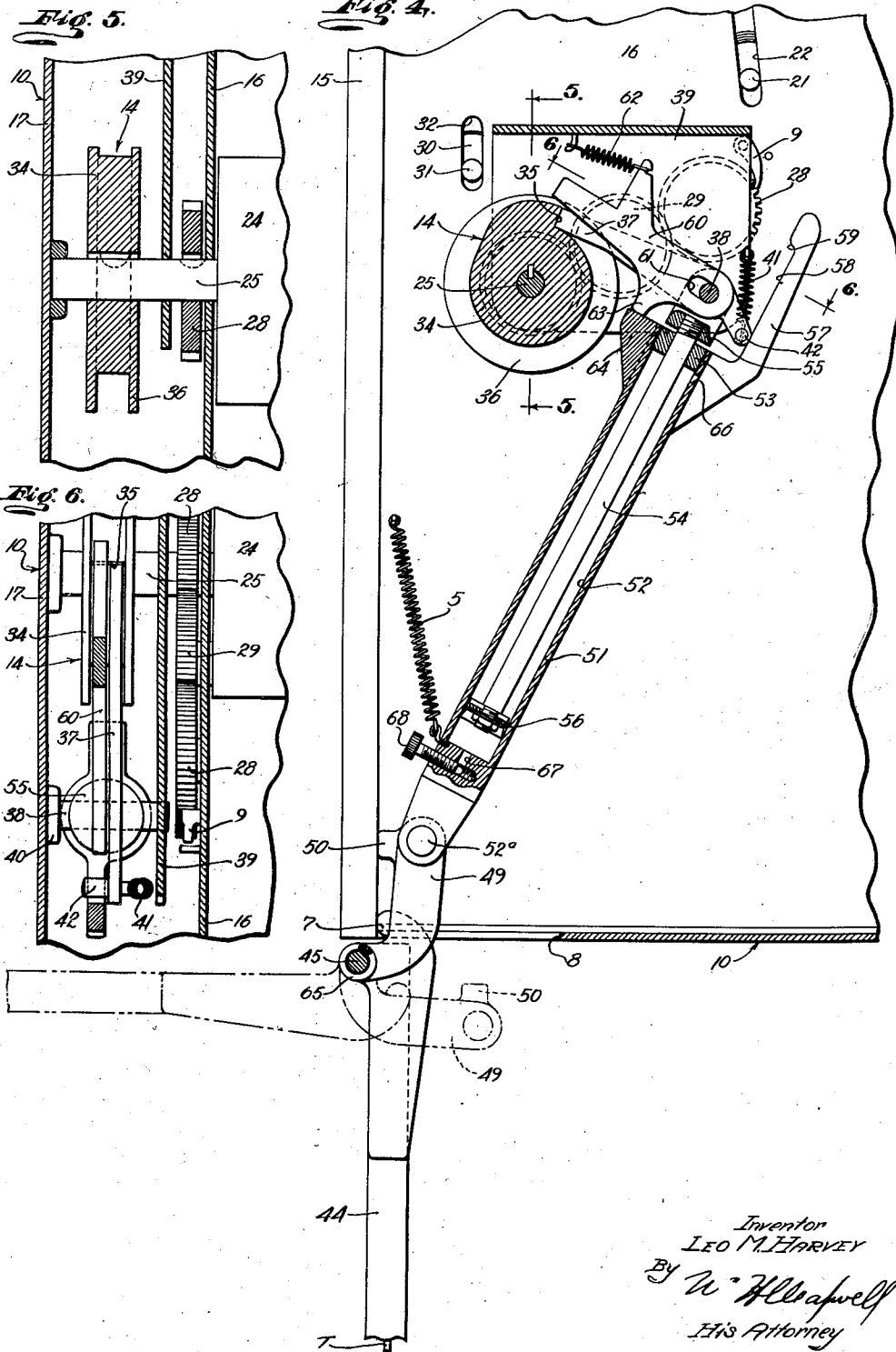


Fig. 4.



Inventor
LEO M. HARVEY
By *W. H. Crawford*
His Attorney

July 20, 1937.

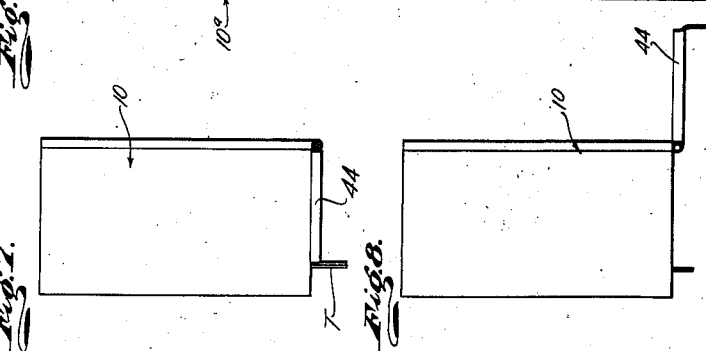
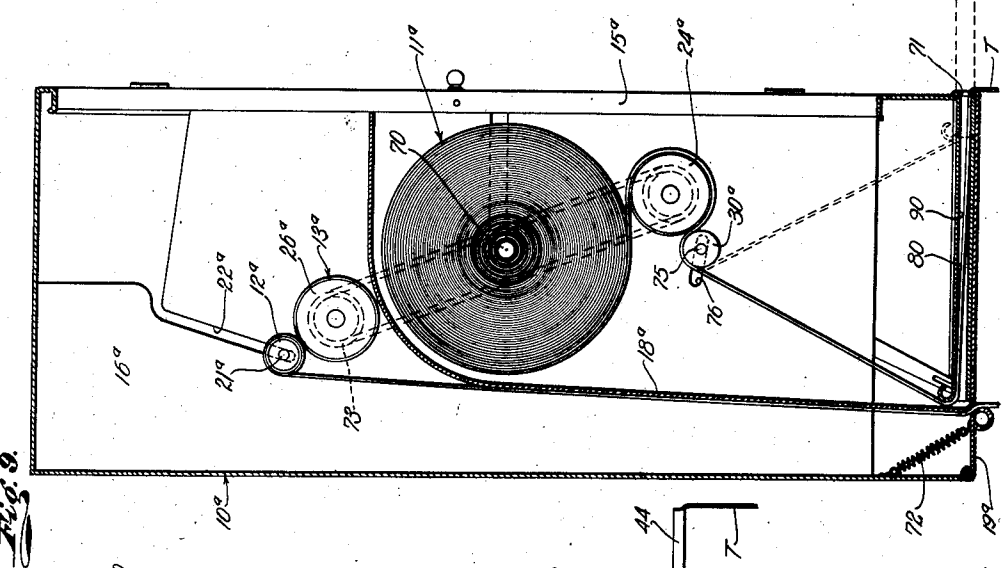
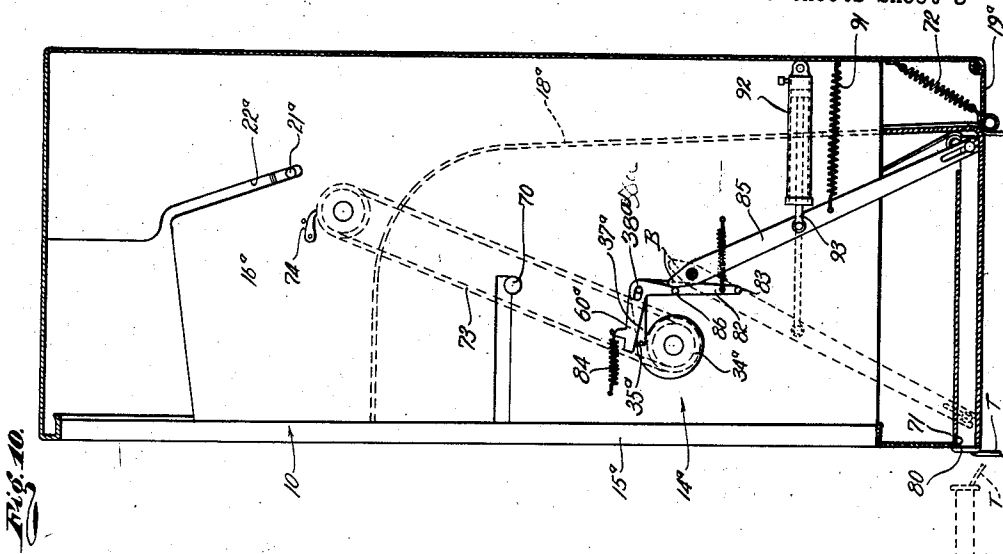
L. M. HARVEY

2,087,513

TOWEL CABINET

Filed May 14, 1934

3 Sheets-Sheet 3



Inventor
LEO M. HARVEY
BY
W. H. Crawford
His Attorney

UNITED STATES PATENT OFFICE

2,087,513

TOWEL CABINET

Leo M. Harvey, Los Angeles, Calif.

Application May 14, 1934, Serial No. 725,536

18 Claims. (Cl. 312—38)

This invention relates to a towel cabinet and relates more particularly to a roll-towel cabinet of the class commonly used in public washrooms and the like. A general object of this invention is to provide a practical, effective towel cabinet embodying a novel means for delivering and controlling the delivery of the roll-toweling.

Towel cabinets of the class for delivering or vending roll-toweling have been introduced involving devices for limiting the delivery of the toweling at each operation. These devices are usually such that predetermined lengths of the toweling may be repeatedly withdrawn by the user without delay by merely successively operating the locking mechanism. This is very objectionable as a person may withdraw an excessive amount of toweling and greatly deplete the supply of clean toweling in the cabinet. Further, locking devices of the character referred to are usually more or less unsanitary as they involve buttons, levers or handles that must be manipulated by the users to free the toweling for delivery. The web or portion of the clean toweling withdrawn from the typical forms of towel cabinets usually depends from the lower end of the cabinet or extends across the face of the cabinet in close proximity thereto. Toweling thus dispensed cannot be conveniently employed to dry the face because of its closeness to the cabinet which prevents the user from bringing his head or face in proper engagement with the clean toweling without interfering with the case.

An object of this invention is to provide a roll-towel cabinet in which a clean portion of the toweling is fed or delivered from an apron or drawer which is extended or projected from the cabinet to render the clean toweling conveniently accessible for use. In the device of the present invention an apron or drawer is first projected from the cabinet and the clean toweling may be withdrawn from its outer end to be entirely free from and spaced a substantial distance from the cabinet whereby it may be readily employed to dry the face as well as the hands.

Another object of this invention is to provide a roll-towel cabinet in which a limited or predetermined amount of toweling may be readily withdrawn from the cabinet and a substantial time interval must elapse before more toweling may be withdrawn for use, whereby the wasteful use of the toweling is avoided.

Another object of the invention is to provide a towel cabinet of the character mentioned in which a predetermined amount or length of clean toweling may be easily withdrawn for use by en-

gaging and pulling on the toweling itself without handling or manipulating buttons, levers or the like.

Another object of the invention is to provide a towel cabinet of the character mentioned that embodies a simplified and improved means for operating the winding roll or take-up roll whereby the amount of soiled toweling taken up is equal to the length of the clean toweling withdrawn at each operation of the device.

Another object of the invention is to provide a towel cabinet of the character mentioned in which the take-up roll for reeling in the soiled toweling may be easily and quickly positioned in and removed from the case or cabinet.

Another object of the invention is to provide a towel cabinet that is compact and particularly slightly in appearance as it does not involve any projecting levers, handles, or the like.

Other objects and features of my invention will be readily and more fully understood from the following detailed description of typical preferred forms and applications of the invention, throughout which description reference may be had to the accompanying drawings, in which:

Fig. 1 is a vertical detailed sectional view of one form of the invention showing the parts in the normal or unactuated positions. Fig. 2 is a vertical, sectional view of the front portion of the device illustrating the principal mechanisms in elevation, being a view taken as indicated by line 2—2 on Fig. 1. Fig. 3 is a vertical detailed sectional view taken as indicated by line 3—3 on Fig. 2. Fig. 4 is an enlarged vertical detailed sectional view of the control means taken substantially as indicated by line 4—4 on Fig. 2. Figs. 5 and 6 are enlarged, transverse detailed sectional views taken substantially as indicated by lines 5—5 and 6—6, respectively, on Fig. 4. Fig. 7 is a side elevation of an embodiment of the invention in which the apron is normally held up against the lower end of the case. Fig. 8 is a view similar to Fig. 7 showing the apron in a projected position for the delivery of the clean toweling. Fig. 9 is a vertical detailed sectional view of another form of the invention showing the parts in the normal positions and indicating the projected position of the drawer in dotted lines. Fig. 10 is a vertical, sectional view of the device illustrated in Fig. 9 showing the control mechanism in elevation.

The embodiment of the invention illustrated in Figs. 1 to 6, inclusive, of the drawings includes, generally, a cabinet or case carrying a supply roll of clean toweling and a

take-up roll 12, means 13 for handling the toweling T and for operating the take-up roll 12, and a control 14 for the means 13 operatable to prevent the withdrawal of toweling from the case for a predetermined period following the withdrawal of a given amount of toweling.

The cabinet or case 10 is provided to contain or house the rolls 11 and 12 and the mechanism of the device. The case 10 may be a substantially rectangular upright structure as illustrated in the drawings. The front of the case 11 is normally closed by a hinged door 15 which may be opened to render the interior of the case accessible. Vertical partitions or supports 16 extend between the upper and lower ends of the case 10 adjacent its opposite side walls 17. A partition 18 extends between the supports 16 in the lower portion of the case. The partition 18 is curved upwardly and rearwardly from the bottom of the case and then curves forwardly and upwardly to terminate at an inclined portion. An opening is provided in the bottom or lower wall of the case 10 to facilitate the threading of the toweling to the take-up roll 12 which opening is normally closed by a suitable door 19. The door 19 may be held in the closed position by a suitable latch or spring means (not shown). A space or slot 20 occurs between the forward edge of the door 19 and the bottom wall of the case to pass the soiled toweling upwardly into the case.

The supply roll 11 of clean toweling is arranged in the case to rest on its bottom wall in front of the partition 18. The toweling T is threaded upwardly from the forward side of the roll 11 to the means 13 and the concaved forward side of the partition 18 is adapted to receive the roll 11 in the event it has a tendency to move from its normal position when the toweling is reeled from it. The take-up roll 12 is located above and somewhat rearwardly of the partition 18 and extends between the spaced supports 16. Gudgeons or pins 21 project from the opposite ends of the take-up roll 12 and project into slots 22 in the supports 16. The slots 22 extend upwardly and slightly forwardly to comparatively large notches 23 in the upper outer corners of the supports 16. The pins 21 are free to rotate and move longitudinally in the slots 22. The lower walls of the notches 23 are inclined downwardly and forwardly from the slots 22 to facilitate the removal of the take-up roll 12. It is believed that it will be apparent how the take-up roll 12 may be readily positioned in the case by opening the door 15 and passing the roll inwardly so that the pins 21 are slid along the lower edges of the notches 23 and received in the slots 22.

The means 13 handles or feeds the toweling T, operating to rotate the take-up roll 12 to receive the same amount of toweling that is reeled from the supply roll 11 at each operation of the device. The means 13 includes a friction roll 24 positioned between the supports 16 at a point above and forward of the supply roll 11. Journals or pins 25 on the opposite ends of the roll 24 are rotatably received in openings in the supports 16. A similar friction roll 26 of the same diameter as the roll 24 is located rearwardly of the roll 24. Pins 27 on the opposite ends of the roll 26 are rotatably received in openings in the supports 16. Gears 28 are provided on the pins 25 and 27 at corresponding ends of the rolls 24 and 26. A pinion 29 meshes with the two gears 28 to operatively connect the

rolls 24 and 26. It will be apparent how the gearing just described connects the rolls 24 and 26 for simultaneous rotation in the same direction and at the same rate.

In accordance with the invention the clean toweling rotates or drives the roll 24 as it is reeled from the supply roll 11. The toweling T leaving the supply roll 11 passes upwardly and is trained or threaded over a roller 30. The roller 30 is spaced above and slightly forward from the roll 24 and has pins 31 on its opposite ends rotatable and longitudinally shiftable in slots 32 in the supports 16. The clean toweling T passes upwardly from the roll 11 to first engage the periphery of the roll 24 and then thread over the pulley or roller 30. From the roller 30 the toweling passes downwardly in the front portion of the case and passes through a slot 33 in the front lower corner of the case 10. The periphery of the roll 24 is roughened or provided with a friction material or abrasive material such as emery cloth whereby the roll 24 is positively caused to rotate as the toweling is moved to drive or rotate the roll 26 through the gearing just described. Further, the friction material on the periphery of the roll 24 cooperates with the towel T to prevent movement of the toweling when the roll is held against rotation by the control 14, as will be subsequently described. The slots 32 are located so that the roller 30 rests on the roll 24 through the intervening toweling and downward force transmitted to the roller 30 by a pull on the toweling tends to tightly lock the toweling between the roller 30 and the roll 24, unless the roll 24 is free to rotate.

The rear friction roll 26 cooperates with the toweling on the take-up roll 12 to drive or rotate the take-up roll upon being rotated in the manner just described. The slots 22 are located so that the take-up roll 12 rests on the friction roll 26 through the toweling wrapped on the take-up roll. The slots 22 permit the take-up roll to move upwardly as an increasing amount of toweling is reeled on it. The soiled toweling passes upwardly through the slot 20 and is then wrapped on the take-up roll 12 from its rear side. The weight of the take-up roll 12 and the tension on the toweling tends to hold the toweling on the take-up roll in firm contact with the periphery of the roll 26 so that the take-up roll is rotated to reel in the toweling at the same rate as the toweling is reeled from the supply roll 11. The friction roll 26 which is of the same diameter as the driving roll 24 rotates the take-up roll 12 to reel up the same amount of toweling that passes over the periphery of the drive roll 24. This action of the means 13 remains constant irrespective of the diameter of the reeled up toweling on the take-up roll 12. The periphery of the rear friction roll 26 is roughened or provided with a suitable abrasive material to have effective driving engagement with the reeled up toweling on the take-up roll 12. A pawl 9 cooperates with a gear 28 to prevent reverse movement of the toweling.

The invention includes effective means for maintaining suitable tension on the soiled toweling as it passes to the take-up roll 12 which tension assists in holding the take-up roll in proper contact with the friction roll 26 and causes the toweling to be reeled on the take-up roll in the proper manner. The take-up roll 12 and the slot 20 passing the soiled toweling into the case 10 are spaced vertically and forwardly from the rearwardly curved portion of the partition 18. 75

Accordingly the toweling passing upwardly from the slot 29 to the take-up roll 12 must contact or move over the rear side of the curved part of the partition. The curvature of the partition 18 is rather gradual so that a considerable amount of toweling remains in dragging contact with its outer surface. The engagement of the toweling with the curved partition 18 operates to maintain a suitable tension on the portion of the toweling being reeled on the take-up roll 12.

The control 14 is provided to limit the amount of toweling T that may be withdrawn from the case 10 at one operation and to prevent the withdrawal of further toweling for a predetermined period of time following said operation. The control 14 limits the extent of rotation of the friction roll 24 and prevents rotation of the roll 24 following the completion of its limited rotary movement and by thus controlling the roll 24 controls the extent and time of delivery of the toweling. As governed by the control 14 the roll 24 constitutes a measuring element or roll determining the amount of toweling that may be withdrawn from the cabinet. As previously described toweling can be withdrawn from the case 10 only when the roll 24 is free to rotate, this being due to the provision of the friction material on the periphery of the roll 24 and the lock action of the roller 30 which binds the toweling between it and the periphery of the roll 24.

The control 14 includes a cam or disc 34 on the pin 25 which carries a gear 28. The disc 34 has a curved peripheral surface provided with an abrupt or radial shoulder 35. Spaced side flanges 36 project beyond the periphery of the disc 34. A detent or pawl 37 is provided to cooperate with the shoulder 35 to normally prevent rotation of the roll 24. The pawl 37 is pivotally supported by a pin 38. The pin 38 has one end carried by a bracket 39 and has its other end supported in a bearing 40 on a side wall 17 of the case. The bracket 39 has its principal part spaced from said side of the case to leave a suitable space for housing the disc 34 and other parts of the control. A spring 41 is connected to the bracket 39 and a pin 42 on the pawl 37 to urge the pawl into engagement with the periphery of the disc. With the parts in the normal positions the outer end of the pawl 37 engages the shoulder 35 to prevent the withdrawal of toweling T from the case 10.

Means controlled by forward movement or withdrawal of toweling T from the case 10 is provided to release the pawl 37 from the shoulder 35 and thus permit the removal of a predetermined amount of toweling from the case. This pawl releasing means of the control 14 includes an extensible or projectable member or apron 44 cooperating with or engaging the toweling T. In the form of the invention being described the apron 44 or the part adapted to be projected from the case 10 to release the control 14 normally depends from the forward lower corner of the case 10. The apron 44 is carried by an axle or rod 45 whose opposite ends are rotatably supported in bearings 46. The apron 44 is movable between its vertical depending position and a substantially horizontal position where it projects forwardly from the lower forward corner of the case. The apron 44 is in the nature of a channel or guide for passing and guiding the toweling. In the form illustrated the apron 44 is tubular, being provided with an opening or slot 47 which extends through it from one end to the other to pass the clean toweling, it being understood that

the apron 44 may be of other construction and configuration if desired. The upper or inner end of the slot 47 registers with the slot 33 in the case 10. Spaced notches 48 are provided in the forward or outer edge of the apron 44 whereby clean toweling is made readily accessible for engagement when the toweling is to be withdrawn through the raised apron. In the apparatus illustrated in Figs. 1 to 7, inclusive, of the drawings, the clean toweling or the apron 44 may be engaged and manipulated to raise the apron 44 to its projecting horizontal position. This movement of the apron 44 releases the pawl 37 from the cam shoulder 35 whereby the toweling may be withdrawn or pulled from the apron.

The operative connection between the apron 44 and the pawl 37 whereby the pawl is released from the shoulder 35 upon the apron 44 reaching its horizontal position includes a lever or link 49 pivoted on the rod 45 and adapted to pass through an opening 8 and project into the case 10. A stop 50 may be provided on the link 49 to engage the case 10 for the purpose of limiting its upward or inward movement. A lug 7 is provided on the apron 44 to cooperate with the link 49 at a point spaced from its connection with the rod 45. A cylinder 51 is pivotally connected with the link 49 by a pin 52^a and projects upwardly and inwardly in the case to have its upper end adjacent the pivoted end portion of the pawl 37. The cylinder 51 has a central longitudinal opening 52. A bushing or bearing part 53 is screw-threaded in the outer end of the opening 52. A piston rod 54 extends into the cylinder opening 52 and slidably operates through the part 53. A nut 55 is provided on the outer end of the piston rod 54 and is pivotally supported on the shaft or pin 38. The nut 55 is notched or slotted to pass the pawl 37 and another part to be subsequently described. A cup-leather 56 is provided on the rod 54 to slidably cooperate with the wall of the opening 52. The purpose and function of the piston rod and cup-leather will be hereinafter described.

A cam part or arm 57 projects from the upper end of the cylinder 51 and has a longitudinal side or surface 58 for slidably cooperating with the pin 42 on the pawl 37. An enlargement is provided on the outer end of the arm 57 and provides a downwardly facing shoulder 59 which cooperates with the pin 42 to pivot the pawl 37 against the action of the spring 41 and release the pawl from the shoulder 35. The toweling T is thus freed for delivery or withdrawal when the apron 44 is moved to its horizontal position projecting forwardly from the case 10.

The control 14 includes means for preventing unlimited withdrawal of the toweling T while the apron 44 is in its horizontal position. A dog or pawl 60 is slackly pivoted on the pin 38 having a slot 61 passing the pin. The slot 61 permits the required endwise movement of the pawl 60 relative to the pin 38. A spring 62 is connected with the pawl 60 to normally urge its outer end portion against the periphery of the disc 34. A stop 63 on the pawl 60 normally cooperates with a stop 64 on the cylinder 51 to hold the pawl 60 spaced from the disc 34. Downward movement of the cylinder 51 resulting from movement of the apron 44 toward its horizontal position disengages the stop 64 from the stop 63 so that the spring 62 urges the pawl 60 against the disc 34. The pawl 60 is proportioned and is held by the spring 62 so that its outer end projects beyond the shoulder 35 when the pawl

37 is in cooperation with the shoulder and the pawl 60 does not interfere with the initial movement of the disc 34 when the pawl 37 is disengaged from the shoulder 35. When sufficient 5 toweling has been withdrawn from the forward end of the projected apron 44 to cause the disc 34 to be rotated a complete revolution the shoulder 35 comes into contact with the end of the pawl 60 and further turning of the disc is prevented. This stopping of the disc 34 of course 10 prevents the further withdrawal of toweling from the apron 44 at that time.

Means is provided for automatically returning the cylinder 51 and associated parts to their 15 normal positions. In the particular structure illustrated in the drawings a spring 5 is connected to the cylinder to urge it to the normal position. Springs 65 may surround the rod 45 to urge the apron 44 toward its down or vertical 20 position. When the apron 44 is released or freed following the withdrawal of the toweling T from its outer end the spring 65 operates to move the apron 44 toward its normal depending position, the weight of the apron aiding the operation of 25 the spring. The apron 44 in being slackly connected with the cylinder 51 may be moved at will after the release of the pawl 37 without affecting the lock mechanism.

The invention includes means for delaying or 30 retarding the return of the cylinder 51 to its normal position. In the embodiment of the invention illustrated in the drawings this delaying or retarding means includes the piston rod 54 and the cup-leather 56 previously described. An 35 open port 66 communicates with the outer end portion of the cylinder opening 52 allowing the free entrance and exhaust of air from this end of the cylinder. A port 67 communicates with the lower end of the cylinder opening 52 and 40 is controlled to suitably retard the return movement of the cylinder 51. A valve member or screw 68 is threaded into an opening in the cylinder body to restrict or partially cut off the port 67. The screw 68 may be adjusted to provide 45 for any desired rate of discharge of air from the inner or lower end of the cylinder opening 52.

When the apron 44 is moved to its projecting or horizontal position the cup-leather 56 contracts to permit the free passage of air to the 50 inner end of the cylinder opening. During the return movement of the cylinder this air trapped in the inner end of the cylinder opening is forced to escape from the port 67 and the screw 55 68 limits the rate of this discharge and the return of the cylinder is thus retarded or delayed. The pawl 60 is disengaged from the shoulder 35 due to the cooperation of the stop 64 with the stop 63 when the cylinder 51 reaches its normal 60 position, the pawl 37 having automatically returned to its position in cooperation with the shoulder 35. The withdrawal of toweling is thus prevented during the return movement of the cylinder 51 and until the cylinder has assumed 65 its normal position.

It is believed that the operation of the form of the invention illustrated in Figs. 1 to 6, inclusive, of the drawings will be readily understood 70 from the foregoing detailed description. When a person wishes to withdraw clean toweling T from the cabinet he engages the toweling through the notches 48 or engages the apron 44 or both and moves the apron to its projecting substantially horizontal position. Prior to this movement 75 of the apron to its horizontal position the

pawl 37 cooperates with the shoulder 35 to prevent rotation of the roll 24 and withdrawal of the toweling. During the movement of the apron 44 to its horizontal position the lug 7 engages 5 the link 49 so that the cylinder 51 is moved downwardly with the lever arm 49 thus freeing the pawl 60 for cooperation with the disc 34 and causing sliding cooperation of the surface 53 with the pin 42. As the apron 44 reaches or 10 approaches its fully projected position the shoulder 59 comes into engagement with the pin 42 to swing the pawl 37 out of cooperation with the shoulder 35 releasing the roll 24 for rotation and thus releasing the toweling T for withdrawal 15 from the apron. The clean toweling removed or withdrawn from the outer end of the projected apron 44 is conveniently accessible for use and its underside as well as upper side may be employed in the drying of the hands and face. It 20 will be noted that the clean toweling removed from the outer end of the projected apron 44 may be used to dry the face without fear of interference with the case or other parts of the device.

During the removal of the clean toweling as 25 just described the rear friction roll 26 is rotated through the gearing 28 and 29 to rotate the take-up roll 12 to reel in the same amount of toweling that is reeled from the supply roll 11. Due 30 to this operation of the means 13 a uniform amount of toweling T is at all times depending from the cabinet. Clean toweling may be freely pulled or withdrawn from the outer end of the projected apron 44 until the roll 24 has been 35 turned approximately one complete revolution, at which time the shoulder 35 strikes the end of the pawl 60. The pawl 60 thus prevents further rotation of the roll 24 and further withdrawal of clean toweling. From the above it will be seen 40 that the control 14 operates to permit the withdrawal of only a predetermined amount or length of clean toweling from the projected apron 44, the length of toweling that may be withdrawn being substantially equal to the length of the 45 circumference of the roll 24. When the user releases the toweling and the apron 44 the springs 65 and the weight of the apron return the apron to its normal position. The spring 5 acts to return the cylinder 51 to its normal position. The 50 air trapped in the inner end of the cylinder opening 52 resists this return movement of the cylinder and as the trapped air is permitted to discharge at a slow rate the return movement of the cylinder is retarded. The air trapped in 55 the inner end of the cylinder opening 52 is ultimately slowly forced from the opening and the cylinder 51 assumes or moves to its normal position. During the initial portion of the return movement of the cylinder 51 the shoulder 59 moves away from the pin 42 so that the pawl 37 60 again comes into cooperation with the disc 34. As the cylinder 51 approaches its normal position the stop 64 cooperates with the stop 63 to release the pawl 60 from the shoulder 35, whereupon the pawl 37 assumes the function of preventing rotation of the disc 34 through its engagement with the disc shoulder 35. It will be seen that the device cannot be operated to discharge clean toweling until the pawl 60 has been 70 released from the shoulder 35 and as this cannot take place until the cylinder 51 has assumed its normal position clean toweling cannot be dispensed or removed until the lapse of a predetermined time following the release of the pawl 37. 75

This prevents the wasteful and unnecessary use of excessive toweling.

Figs. 7 and 8 of the drawings illustrate an embodiment of the invention in which the apron 44 is pivotally supported at the forward lower corner of the case 10 to be movable from a substantially horizontal position below and adjacent the bottom of the case and a substantially horizontal position projecting forwardly from the case. Fig. 7 illustrates the apron 44 in its normal or retracted position where it is substantially horizontal and lying adjacent the bottom of the case 10. To withdraw clean toweling from the cabinet the toweling T or the apron 44 is engaged and the apron swung forwardly to the position illustrated in Fig. 8, whereupon the control 14 is released to permit the withdrawal of clean toweling. The control 14 and the other mechanisms of the cabinet may be identical with those described above. The link and lug connection 7-49 is such that the apron 44 may continue to move to the position illustrated in Fig. 7 after the stop 50 has engaged the case 10 to stop movement of the link 49 and cylinder 51. The springs 65 are sufficiently strong to move the apron to the horizontal retracted position. During the movement of the apron 44 to the projecting horizontal position the cylinder 51 is not moved until the lug 7 engages the link 49.

The embodiment of the invention illustrated in Figs. 9 and 10 of the drawings includes, generally, a case 10^a holding a supply roll 11^a and a take-up roll 12^a, means 13^a for handling or feeding the toweling T, and a control 14^a for the feeding means 13^a.

The case 10^a may be similar to the case 10 and is shown in the drawings as a substantially rectangular structure having an open front normally closed by a door 15^a. Supports 16^a extend vertically through the case adjacent its opposite sides and a partition 18^a extends through the case between the supports. The supply roll 11^a of clean toweling is supported in the forward portion of the case on a suitable spindle 70. The take-up roll 12^a is disposed above and rearwardly of the partition 18^a and its gudgeons or pins 21^a are rotatable and longitudinally shiftable in slots 22^a in the supports. The slots 22^a may be identical with the slots 22 and the take-up roll 12^a may be supported in the same manner as the roll 12. An elongate opening 71 is provided in the front of the case adjacent its lower end. An opening is provided at the bottom of the case adjacent its back and is normally partially closed by a door 19^a. The clean toweling T is fed outwardly through the opening 71 in a manner to be hereinafter described and passes upwardly into the case between the forward edge of the door 19^a and the partition 18^a. A spring 72 urges the door 19^a against the toweling so that the toweling passing into the case is maintained under a suitable tension. The drag placed on the toweling by the spring pressed door 19^a insures the proper rolling of the toweling on the take-up roll 21^a.

The means 13^a for handling the toweling includes a friction roll 24^a spaced below and slightly forward from the supply roll 11^a and a friction roll 26^a for engaging and supporting the take-up roll 12^a. A chain and sprocket drive 73 operatively connects the roll 26^a with the roll 24^a. A pawl 74 is provided to prevent reverse feeding or movement of the toweling. A pulley or roller 30^a is provided adjacent the friction roll 24^a and has

its supporting pins 75 rotatable and shiftable in slightly inclined slots 76 in the supports 16^a. The toweling T is fed forwardly from the lower end of the supply roll to pass around the forward side of the friction measuring roll 24^a and is then threaded between the friction roll and the roller 30^a.

The control 14^a permits the withdrawal of only a predetermined amount of toweling from the case 10 following the projection of an apron or drawer 80 from the case and then prevents successive or further removal of toweling from the case for a predetermined interval of time. The control 14^a includes a disc 34^a on a pin or shaft of the roll 24^a. The disc 34^a has an abrupt peripheral shoulder 35^a. A pivoted lever or pawl 37^a normally cooperates with the shoulder 35^a to prevent rotation of the roll 24^a. The pawl 37^a has a comparatively long depending arm 82 provided at its lower end with a pin 83. A second pawl 60^a is provided to cooperate with the shoulder 35^a and is urged into engagement with the disc by a spring 84. The pawl 60^a has endwise as well as pivotal movement on its supporting pin 38^a. The control 14^a includes a lever 85 pivoted between its ends to have an upper arm B which normally cooperates with a pin 86 on the pawl 60^a to hold the pawl disengaged from the disc 34^a. The lower end of the lever 85 is slackly pivotally connected with the drawer 80. The drawer 80 is shiftable in the lower portion of the case between a position where it is substantially entirely within the case and a position where it projects forwardly from the case through the opening 71. The drawer 80 is in the form of a guide or channel for the toweling. In the particular case illustrated the drawer is tubular having an elongated opening or slot 90 for passing the toweling from the interior of the case to the exterior of the case. The toweling enters the rear or inner end of the drawer and hangs or depends from the outer end of the drawer. The forward end of the drawer 80 may be notched in the same manner as the apron 44. The lever 85 is connected with the inner end of the drawer 80 and upon the drawer being moved forwardly the lever 85 is pivoted in a direction to release the pawl 60^a so that the pawl is free to engage the disc 34^a. When the drawer 80 reaches or approaches its full out position the lever 85 cooperates with the pin 83 to disengage the pawl 37^a from the shoulder 35^a whereupon clean toweling may be withdrawn from the case. When a predetermined amount of toweling has been withdrawn from the outer end of the drawer the shoulder 35^a engages the pawl 60^a to limit or prevent the withdrawal of further toweling.

A spring 91 or equivalent means is provided for returning the drawer 80 and the lever 85 to their normal positions. The return movement of the drawer 80 is retarded by a dashpot mechanism 92. The plunger rod 93 of the mechanism 92 is pivotally connected with the lever 85 at a point between its ends and the mechanism operates to retard the return movement of the drawer 80 so that a substantial period of time must elapse before the drawer reaches its full in position after being released by the user.

In operation of the form of the invention illustrated in Figs. 9 and 10 of the drawings the parts are normally in the positions illustrated by full lines in the drawings. Toweling cannot be withdrawn from the case when the drawer is in the in position due to the cooperation of the pawl 37^a with the disc 34^a. When it is desired to remove

or pull out a portion of clean toweling for use the toweling at the forward end of the drawer 80 is engaged and pulled forwardly to move the drawer 80 to its forward projecting position indicated by the broken lines in Fig. 9. During the initial portion of this movement the lever 85 is released from the pin 86 so that the pawl 60^a engages the disc 34^a. When the drawer 80 reaches its fully projected position the lever 85 engages the pin 83 to disengage the pawl 37^a from the shoulder 35^a. Clean toweling may then be freely withdrawn from the forward end of the drawer until the shoulder 35^a engages the pawl 60^a. The clean toweling fed forwardly from the projected drawer 80 is conveniently accessible for wiping both the hands and face. When the drawer 80 and toweling is released after the use of the toweling the spring 91 returns the drawer to its normal position under the control of the dashpot 92. Upon the drawer 80 reaching or approaching its normal position the lever arm B engages the pin 83 to disengage the pawl 60^a from the shoulder 35^a so that the pawl 37^a assumes full rotation-preventing engagement with the disc 34^a.

Having described only typical preferred forms and applications of my invention, I do not wish to be limited or restricted to the specific forms and applications herein set forth, but wish to reserve to myself any modifications or variations that may appear to those skilled in the art or fall within the scope of the following claims.

Having described my invention, I claim:

1. A towel cabinet including a case, a tubular protective member carried by the case and movable forwardly from the case at the exterior thereof, and a supply of toweling in the case threaded through the member to be withdrawn therethrough and to project the member by cooperation therewith.
2. A towel cabinet including a case, a supply of toweling in the case, a member projectable from the exterior of the case and normally supporting a portion of the toweling for withdrawal from its outer end and for the transmission of force from the toweling to the member to move the member, and means within the case for controlling withdrawal of the toweling from the case operatively connected with the member to be governed by movement imparted to said member through the medium of the toweling.
3. A towel cabinet including a case, a tubular member movable forwardly from the case, a supply of toweling in the case threaded through the member for withdrawal therefrom, and means within the case for controlling the withdrawal of the toweling from the case operatively connected with the member to be governed by movement imparted to said member.
4. A towel dispensing device including a case, a member on the case movable from a retracted position flush with the front of the case to a position where it projects forwardly from the case, a roll of toweling in the case, the toweling being threaded to extend from the outer end of the member, means normally preventing withdrawal of the toweling releasable by projection of the member, and toweling take-up means in the case actuated by the toweling.
5. A towel dispensing device including a case, a member on the case movable from a retracted position flush with the front of the case to a position where it projects forwardly from the case, a roll of toweling in the case, the toweling being threaded to normally extend from the outer end

of the member whereby its exposed portion may be manipulated to project the member, and means normally preventing movement and withdrawal of the toweling releasable by such projection of the member.

6. A towel dispensing device including a case, a member on the case movable from a retracted position flush with the front of the case to a position where it projects forwardly from the case, a roll of toweling in the case, the toweling being threaded to extend from the outer end of the member, means normally preventing withdrawal of the toweling releasable by projection of the member and means arresting withdrawal of the toweling following the withdrawal of a predetermined amount of toweling.

7. A towel dispensing device including a case, a member on the case movable from a retracted position to a position where it projects from the case, a roll of toweling in the case, the toweling being threaded to extend from the outer end of the member, means for returning the member to its retracted position, means arresting removal of the toweling after the withdrawal of a predetermined amount of toweling, means releasing the last mentioned means upon the return of the member to its retracted position, and means delaying the return of the member to its retracted position.

8. A towel dispensing device including a case, a member on the case movable from a retracted position to a position where it projects from the case, a roll of toweling in the case, the toweling being threaded to be removable from the outer end of the member, a measuring roll controlling movement of the toweling and having a cam part, a pawl normally cooperating with the cam part to prevent movement of the toweling, an operative connection between the member and pawl for releasing the pawl from the cam part when the member is moved to the projecting position, a pawl for cooperating with the cam part to arrest removal of the toweling after the withdrawal of a predetermined amount of toweling, means releasing the last mentioned pawl after the lapse of a predetermined time, and means for re-engaging the first pawl with the cam part, the connection allowing free manipulation of the member following the release of the first pawl.

9. A towel cabinet including a case, a tubular member at the exterior of the case pivoted to the case to be shiftable bodily relative thereto from a position flush with the front of the case to a position where it projects forwardly from the case and having an opening, and a supply roll of toweling in the case, the toweling being threaded through the opening for withdrawal from the outer end of the member during usual operation of the device.

10. A towel cabinet including a case, a tubular member pivoted to the case to be movable to a position projecting forwardly from the case, a supply roll of toweling in the case, the toweling being removable through the member, means normally holding the toweling against withdrawal, a connection between the member and the means whereby the means is released upon the member reaching its projecting position, means arresting the withdrawal of toweling when a predetermined amount of toweling has been withdrawn, and delayed means for resetting the first named means and releasing the second named means, said connection permitting free movement of the member following the release

of the first named means without affecting the first named means.

11. In a towel cabinet, a case, a tubular member shiftable forwardly from a position in the case to a position projecting forwardly from the case, and a roll of toweling in the case, the toweling being threaded through the member for free removal from its outer end and to project the member through its engagement therewith when being removed.

12. A towel cabinet including a case, a tubular member shiftable forwardly from a position in the case to a position projecting forwardly from the exterior of the case, a roll of toweling in the case, the toweling being threaded through the member for free withdrawal from its outer end, and means governing the withdrawal of the toweling controlled by movement of the member.

13. A towel cabinet including a case, a tubular member shiftable forwardly from a position in the case to a position projecting forwardly from the case, a roll of toweling in the case, the toweling being threaded through the member to be normally engageable at its outer end and to be withdrawn from its outer end, and means normally holding the toweling against withdrawal releasable by movement of the member to its forward projecting position.

14. A towel cabinet including a case, a member pivoted to the case to be movable to a position projecting from the case, a supply roll of toweling in the case, the toweling being associated with the member for withdrawal from its outer end, releasable means normally preventing withdrawal of the toweling, and a connection between the releasable means and the member whereby movement of the member to its projecting position releases said means, said connection including dash pot means retarding the return of the member to its normal position.

15. A towel cabinet including a case, a member pivoted to the case to be movable from a retracted position where it is flush with the case to a position projecting from the exterior of the

case, a supply roll of toweling in the case, the toweling being associated with the member for withdrawal from its outer end, releasable means normally preventing withdrawal of the toweling, a connection between the member and the releasable means whereby the releasable means is released when the member reaches its projected position, and means in the case arresting withdrawal of the toweling after a predetermined amount of toweling has been withdrawn.

16. A towel cabinet including a case, a member pivoted to the case to be movable between a retracted position depending from the case and a position projecting forwardly from the case, a supply of toweling in the case, the toweling being associated with the member for removal from its outer end, a control within the case remote from the member for controlling the removal of the toweling, and an operative connection between the control and the member whereby removal of the toweling is governed by movement imparted to the member.

17. A towel cabinet including a case, a supply of toweling in the case, a member connected with the case movable from a retracted position relative to the case to a position where it projects from the exterior of the case to be extended relative to the case and normally carrying a portion of the toweling so the towel is engageable at the exterior of the case for withdrawal from said member, and means for normally preventing withdrawal of the toweling releasable upon the member being extended relative to the case.

18. A towel cabinet including a case, a supply of toweling in the case, a member projectable forward from the case by manipulation of the toweling, the toweling being normally engageable at the outer end of the member, means for normally positively preventing withdrawal of the toweling, and a release for said means operable by projection of the member.

LEO M. HARVEY.