

June 3, 1930.

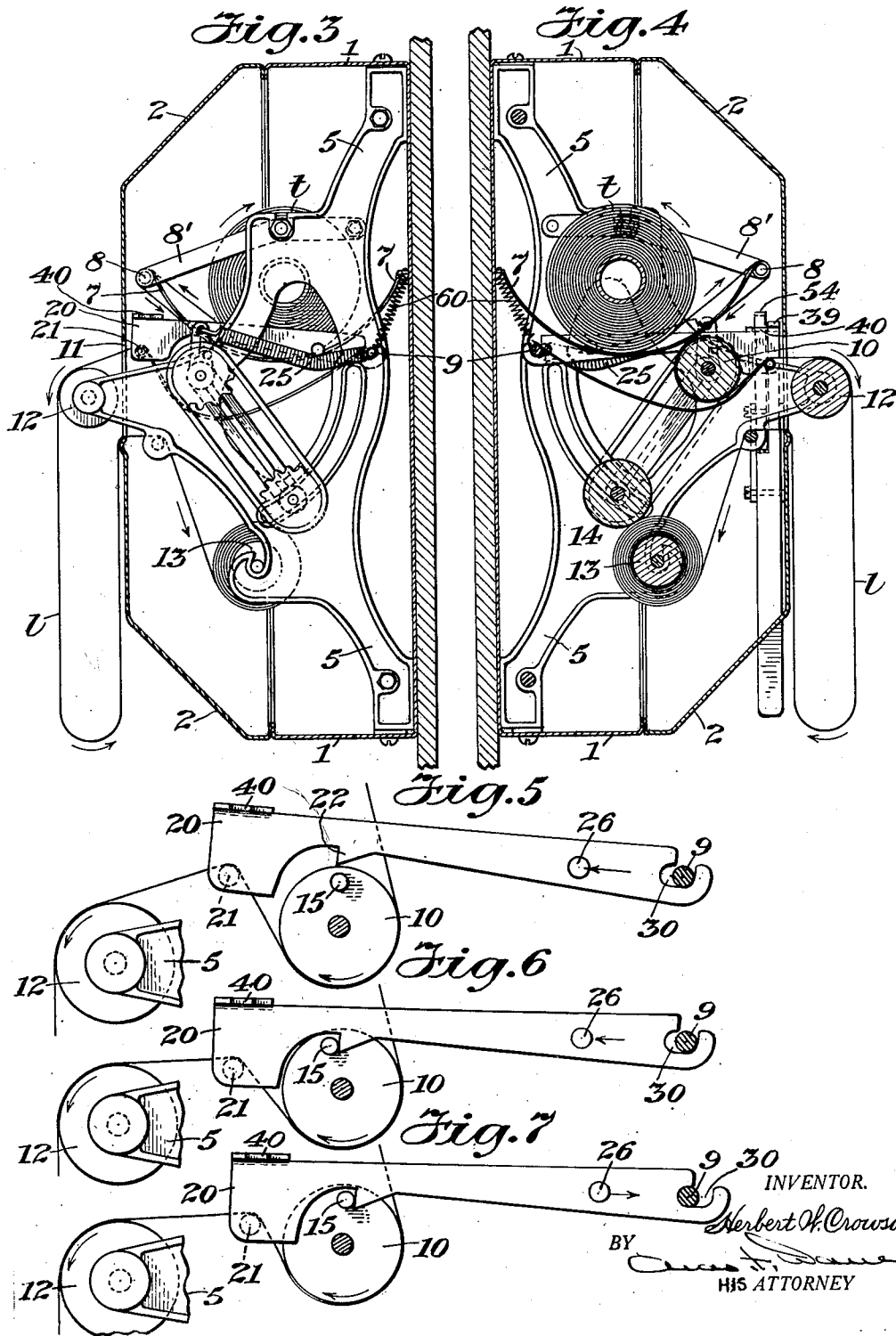
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TOWEL CABINET

Filed June 24, 1927

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Fig. 11

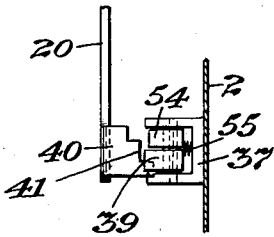


Fig. 12

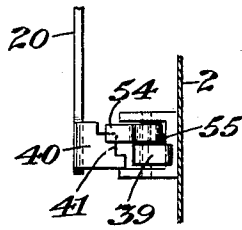


Fig. 13

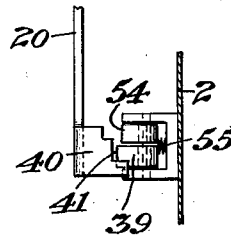


Fig. 8

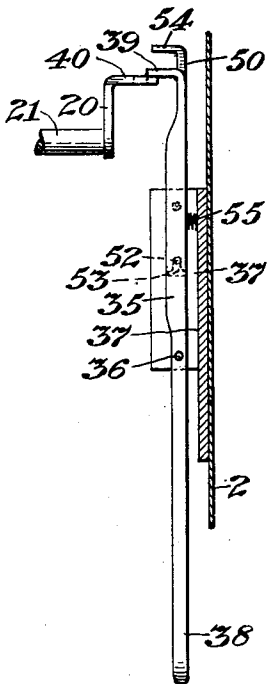


Fig. 9

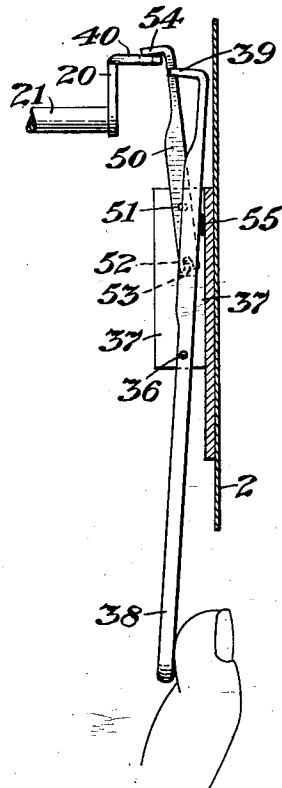
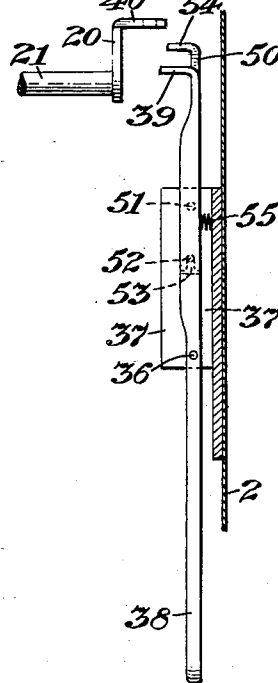


Fig. 10



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TOWEL CABINET

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This invention relates to towel cabinets of the type in which a considerable length of towelling, usually in the form of a roll, is supported within the cabinet and adapted to be drawn therefrom in relatively short lengths as required for individual use. In the use of these cabinets, however, there is a tendency on the part of the users to draw off more towelling for each individual use than is really required and in this way add unnecessarily to the expense of maintaining the cabinet. With this in mind, it has been the main object of my present invention to provide these cabinets with a simple and efficient means for so controlling the delivery of the towelling, that it will be drawn or measured off only in lengths of predetermined size which, for hand or face drying purposes, will be relatively short. This object I attain by the novel construction and arrangement of parts hereinafter described and as illustrated in the accompanying drawings.

Other objects and advantages of the invention will appear and be referred to in the detailed description of the invention which follows.

Referring now to the accompanying drawings—

Fig. 1 is a front elevation of a cabinet equipped with my invention, with part of the cabinet proper or casing broken away for the better illustration of the contained towel controlling mechanism.

Fig. 2 is a horizontal cross section on the line 2—2 of Fig. 1.

Fig. 3 is a vertical section on the line 3—3 of Fig. 1.

Fig. 4 is a vertical section on the line 4—4 of Fig. 1.

Figs. 5, 6 and 7 are enlarged details showing the roller for measuring off the towelling in predetermined lengths and its cooperating stop device, at different times during operation of the same.

Figs. 8, 9 and 10 are enlarged views, in front elevation and section, of part of the measuring roller stop device, and a cooperating latching means, illustrating the operation of the latter in effecting its engagement with and release from the stop device, and

Figs. 11, 12 and 13 are corresponding top plan views, respectively, of the same.

The cabinet proper or casing, which may be of any suitable or desired design, is here shown as comprising a body portion 1, having a hinged door 2 at the front side thereof, through which access may be conveniently had to the interior of the casing for the purpose of placing clean towelling therein, removing soiled towelling therefrom, or for any other desired purpose.

Located within the casing adjacent opposite ends thereof are a pair of frame brackets 5, 5, which are secured in position by fastening bolts 6. These brackets provide supports for a plurality of parts to be presently described which function to control the delivery of the clean towelling from the cabinet and the return of the soiled towelling therein.

Within the upper part of the casing is a suitable towel support, here shown as comprising a pair of plates 7, 7, which are pivotally mounted at their front ends on a rod 8 carried by arms 8', 8', fixed to the end brackets, and at their rear ends rest against the adjacent wall of the casing, the plates intermediate of their ends having a concaved form to provide a trough-like structure or shelf in which the roll of clean towelling, indicated at *t*, may be loosely supported. The purpose of this particular form of towel support will be hereinafter explained.

When a roll of towelling is placed in its support, the leading end of the towelling is led from the roll forwardly over the rod 8, thence backwardly and around a roller 10, and from this forwardly again through an opening 11 in the front wall of the casing to and over a guide roller 12, which latter is journaled in extensions of the frame brackets which project through the opening 11 in the casing to support the roller 12 at the front side thereof. From this guide roller 12, the towel depends in loop form, as at *l*, in convenient position for use, the towel at the rear side of the loop passing backwardly through the opening to a take-up or re-winding device of usual construction, comprising a pair of rollers 13 and 14 be-

tween which the towel is passed and about one of which the towel is re-wound.

In the use of the cabinet, the user grasps the loop portion 7 of the towel and pulls the same downwardly over the guide roller 12, which pulling action serves to rotate the roller 10, located intermediate of said guide roller and the towel support, by reason of the frictional engagement of the towelling therewith. As a means for controlling the delivery of the towelling from the cabinet, I provide this intermediate roller 10 with an abutment, here shown in the form of a pin 15 located at one end thereof adjacent its peripheral edge, which abutment, at each complete rotation of the roller, is adapted to be brought into engagement with a suitable stop device to thereby stop the further rotation of the roller and at the same time stop the further delivery of the towelling; the frictional engagement between the roller and the towelling being such as to prevent any substantial slippage or relative movement between the same. In this way, a length of towelling will be delivered or measured off at each rotation of the roller which will substantially correspond to the circumference of the roller, and by substituting rollers of different diameters the length of towelling delivered or measured off may be varied correspondingly.

The stop device for limiting or stopping rotation of the roller 10 as described, is here shown as comprising a pair of end members, 20, 20, pivotally connected at their rear ends with a cross rod 9 carried by the frame brackets and at their front ends extending slightly forward of the roller 10 at opposite ends of the latter and there connected by a crossbar 21 which is adapted to engage with the towelling at the under side thereof at a point between the roller 10 and the guide roller 12. Formed or located on the under side of one of the side members 20 is a detent 22 adapted for stopping engagement with the roller abutment 15. This detent however is normally held in a position above the path of movement of the roller abutment by means of springs 25, 25 engaging with the under side of pins or projections 26 on the end members 20, 20, of the stop device. When the detent 22 is thus held in its normal raised position, as shown in Figs. 3 and 5, the towel engaging bar 21 at the front end of the members 20, 20, is in a position to deflect the engaged towelling upwardly from its normal path of movement between the roller 10 and guide roller 12, whereby, when the user pulls upon the towelling hanging from the roller 12 this acts to depress the bar 21 and connected member 20 and thereby lowers the detent 22 into operative position in the path of movement of the roller abutment 15, as shown in Fig. 6; to engage the same and stop the roller 10 upon the completion of its next

rotation. Upon the release of the towel after its delivery has been checked by the stopping of the roller 10, the stop device is automatically returned to its normal raised position with the detent 22 above the path of the roller abutment, by the action of the springs 25.

When the stop device has thus been returned to its raised position, it will be obvious that upon the withdrawal of another length of towelling the detent 22 would be again lowered into stopping engagement with the roller abutment 15 and so prevent rotation of the roller and consequent further delivery of the towelling if such parts were not first moved out of registry with each other. Therefore, in order to effect this, the end members 20 have a sliding connection with their pivot support 9, through the medium of elongated slots 30 therein, whereby, when the roller abutment 15 comes into contact with the stop detent 22, as shown in Fig. 6, a final pull on the towelling and a consequent further rotation of the roller will cause a backward movement of the members 20 on the pivot rod 9, as from the position shown in Fig. 6 to that shown in Fig. 7, whereafter, upon the release of the stop device by the towelling or other holding means, it will be operated by the springs 25 to first disengage the detent 22 from the roller abutment 15 and then be returned by a forward movement to its normal position, as shown in Fig. 5, with its detent 22 slightly forward of and out of registry with the roller abutment. With the parts so positioned, when the stop device is again lowered upon the next pull on the towelling, the roller abutment 15 will be back of the stop detent 22 and free to permit of another rotation of the roller. The described horizontal movement of the members 20 under the influence of the springs 25 is effected through the frictional engagement of the pins 26 with said springs, which is sufficient to cause a slight distension of the front ends of the engaged springs upon the backward movement of the members 20, whereby, upon the release of the towelling by the user, the recoil of the springs will return the members 20 to their normal position as described.

In the use of the hereinbefore described means for controlling the delivery of towelling from the cabinet by measuring the same off in predetermined lengths, it has been found that there is a tendency on the part of users to draw off in successive lengths more towelling than may be actually required, this being readily accomplished by simply pulling out a length as measured off by one rotation of the roller 10, and then, after simply loosening up on the towelling to permit of the release of the stop detent from the roller abutment, pulling off another length of towelling; these successive with-

drawals being accomplished without the necessity of the user removing his or her grasp on the towelling. It has therefore been a further object of my invention to provide means for rendering it necessary that a user shall release his grasp on the towel at each withdrawal of a measured length of towelling, in order to more effectually break the continuity of the towel delivery operations and in this way have a tendency to limit the withdrawals to only the amounts required. In carrying this part of my invention into effect, I provide an automatically acting latch that will engage the stop device when in its lowered operative position and hold the same in such position with the roller locked against movement for the delivery of more towelling, until the latch has been released by the user by an operation requiring the use of one of the user's hands; in this way causing the user to release his grasp on the towel and so causing a break or interruption in the withdrawal of the towelling which will ordinarily be sufficient to stop further withdrawals until actually required.

Such a latching means as here shown comprises a lever 35 pivoted at 36 to a supporting block 37 attached to the inner wall of the casing door 2; this lever at its lower end projecting through an opening in the casing to provide an operating handle at the exterior of the casing, as at 38, and at its upper end provided with a lateral extension 39 for latching engagement with a latch member 40 attached to one of the end members 20 of the stop device. The latch member 40 has a cut-out 41 in one edge thereof registering with the latch 39 whereby, when the stop device is lowered by the pulling action of the towelling, such cut-out will permit of the lowering of the member 40 to a position below the plane of the latch 39 in order that said member, upon the described backward movement of the stop device transversely of its axis under the final pull of the towelling, will move into a position beneath and in latching engagement with the latch 39, as shown in Figs. 1, 2, 8 and 11. When the stop device is thus latched in its lowered operative position, it will of course be necessary for the user to release his grasp on the towel to operate the latch to release the stop device, as shown in Figs. 9 and 12.

As a means for rendering the latch releasing operation of a character requiring more definite attention on the part of the user than that required with the use of the single latch 39, and so more effectually interrupt the towel delivery operation, I have provided a second latch member in the form of a lever 50 pivoted to one wall of the supporting block 37 at 51, with its lower end bifurcated for engagement with a pin 52 on one side of the first latch lever, as at 53, and with its upper end extended slightly above the latch exten-

sion 39 of said first lever and provided with a similar extension 54. With this combination and arrangement of parts, the movement of the first latch device 39 to releasing position, as shown in Figs. 9 and 12, will act to throw the second latch device 54 into latching engagement with the latch member 40 of the stop device; thus necessitating the release of the lever 38 by the user and the return of same to its normal position under the action of a spring 55, in order to completely release the stop device, as shown in Figs. 10 and 13.

In the measuring off of the towelling through the medium of the roller 10 as described, it is necessary that the frictional engagement between the towelling and said roller be sufficient to avoid any substantial slippage between the same. This is effected in part by providing the roller with a sanded surface (not shown). In order however to increase such frictional engagement, I have pivotally mounted the towel supporting plates 7, 7, at their front ends on the rod 8, as hereinbefore described, and arranged the same whereby they will extend to a position opposite the roller 10 and bear against the towelling passing thereover with sufficient pressure to maintain the desired frictional engagement of the towelling with said roller; the plate 7 being yieldingly held to such position by means of springs 60 connecting at one end with the plates and at their opposite ends anchored to the rod 9, as clearly shown in Figs. 3 and 4.

What I claim is:

1. In a towel cabinet, a towel measuring device comprising a stop roller having an abutment, said roller engaging with the towel and being rotated thereby during its withdrawal, a pivoted stop device engaged and operated by the towel during its withdrawal to be moved thereby into position for stopping engagement with the roller abutment, said stop device being slidably mounted for movement transversely of its axis, and means operative to disengage the stop device from the roller abutment following its release by the towel and thereafter impart a further movement to the same to bring it out of registry with said abutment.

2. In a towel cabinet, a towel measuring device comprising a stop roller having an abutment, said roller engaging with the towel and being rotated thereby during its withdrawal, a pivoted stop device having a detent rigid therewith and being engaged and operated by the towel during withdrawal to bring its said detent into position for stopping engagement with the roller abutment, said stop device being slidably mounted for movement transversely of its axis, and a spring operative to disengage the stop device detent from the roller abutment following release of the device by the towel and thereafter impart

a further movement to the same to bring it out of registry with said abutment.

3. In a towel cabinet, a towel measuring device comprising a stop roller having an abutment, said roller engaging with the towel and being rotated thereby during its withdrawal, a pivoted stop device engaged and operated by the towel during its withdrawal to be moved thereby into position for stopping engagement with the roller abutment, said stop device being slidably mounted for movement transversely of its axis, and a spring yieldingly holding the stop device in normal position and permitting of a movement of said device in one direction under the impact therewith of the roller abutment and thereafter disengaging it from said abutment and moving it in the opposite direction out of registry with the latter.

4. In a towel cabinet, a towel measuring device, comprising a stop roller having an abutment, said roller engaging with the towel and being rotated thereby during its withdrawal, a towel supporting shelf positioned adjacent the roller and bearing on the towel in its passage over the latter and holding it in frictional engagement therewith, and a stop device engaged and operated by the towel during its withdrawal to be moved thereby into position for stopping engagement with the roller abutment.

5. In a towel cabinet, a towel measuring device comprising a stop roller having an abutment, said roller engaging with the towel and being rotated thereby during its withdrawal, a stop device engaged and operated by the towel during its withdrawal, whereby said stop device will be moved by the pull of the towel into position for stopping engagement with the roller abutment, a latch device holding the stop device when brought to its roller stopping position, and a second latch device operatively connected with the first one for movement in opposition thereto whereby the second one will engage the latch member upon the release of the first one therefrom.

6. In a towel cabinet, a towel measuring device comprising a stop roller having an abutment, said roller engaging with the towel and being rotated thereby during its withdrawal, a stop device engaged and operated by the towel during its withdrawal to be moved thereby into position for stopping engagement with the roller abutment, a pivoted latch device holding the stop device when brought to its roller stopping position, and a second pivoted latch device having a pivotal connection with the first one for movement thereby in a direction in opposition thereto whereby the second one will engage the latch member upon the release of the first one therefrom.

In testimony whereof I affix my signature.

HERBERT W. CROWSON.