

June 5, 1934.

J. H. ADDLER

1,961,322

TOWEL CABINET

Filed May 28, 1927

2 Sheets-Sheet. 1

Fig. 1

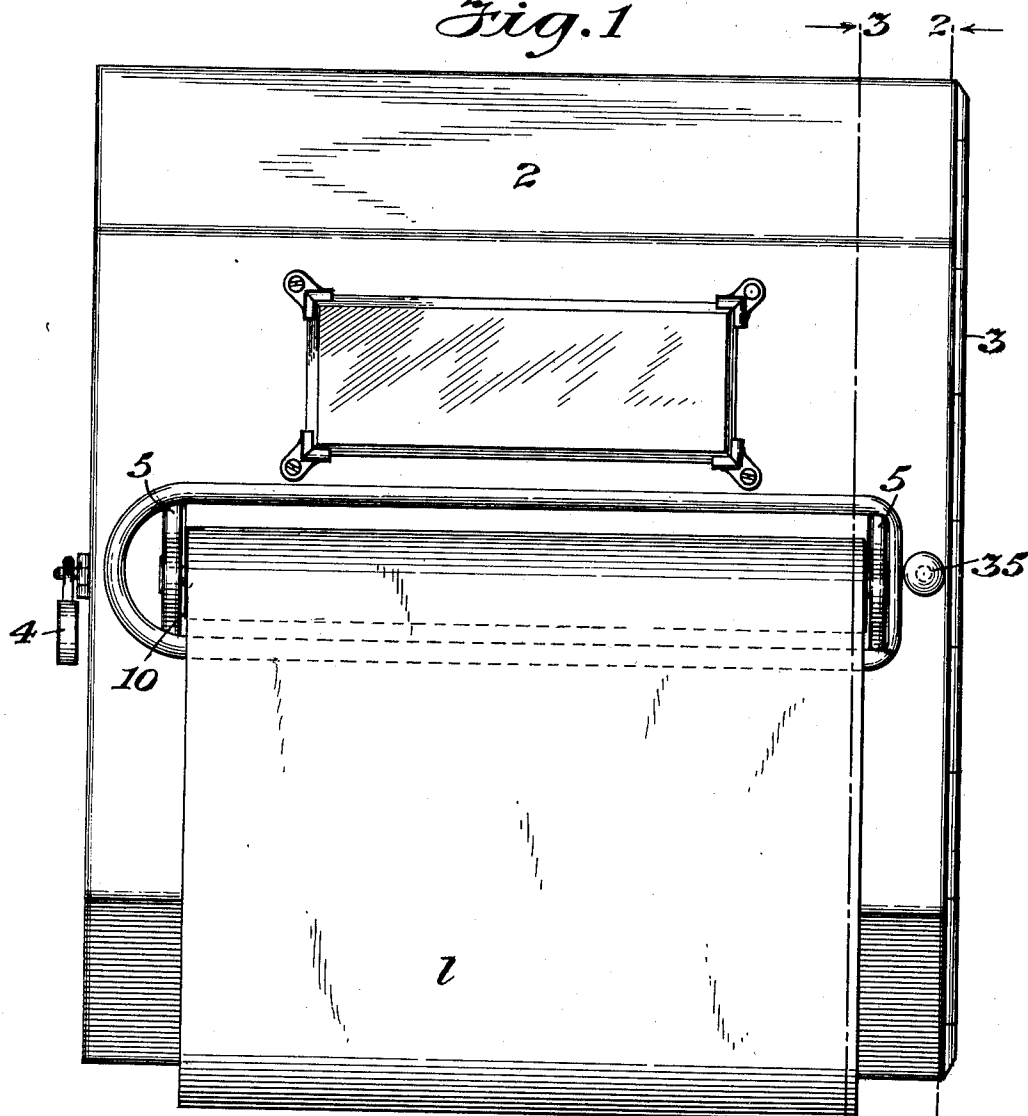
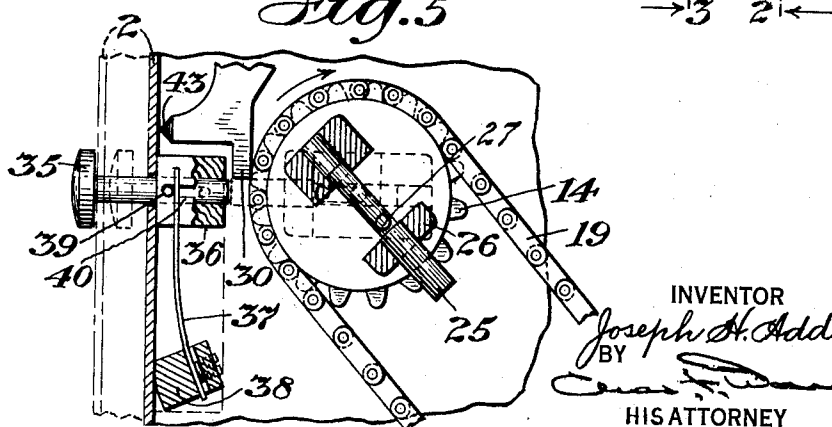


Fig. 5



INVENTOR

Joseph H. Addler

BY

Charles F. Danner
HIS ATTORNEY

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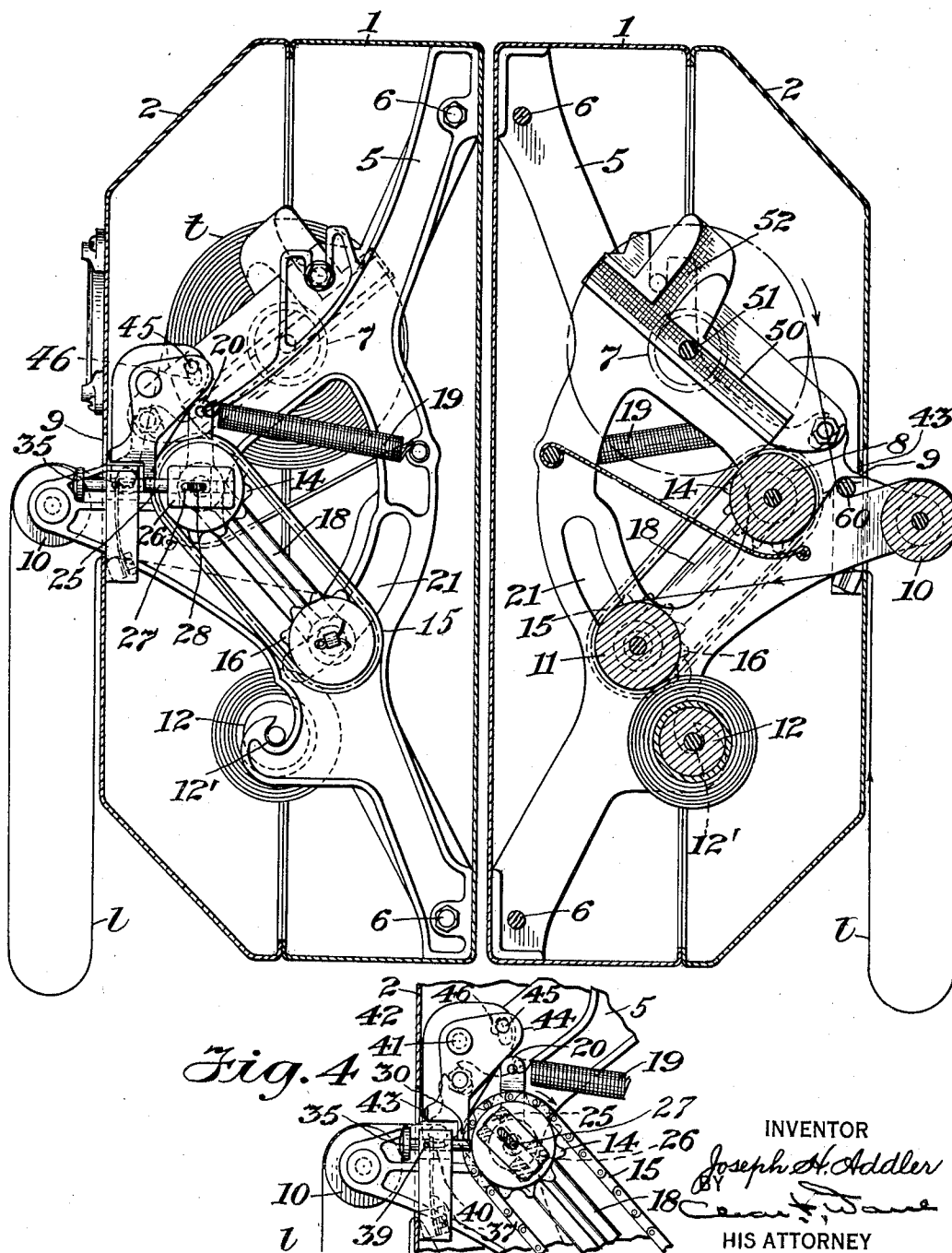
TOWEL CABINET

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2 Sheets-Sheet 2

Fig. 2

Fig.3



UNITED STATES PATENT OFFICE

1,961,322

TOWEL CABINET

Joseph H. Addler, Brooklyn, N. Y., assignor to
Pulclean Manufacturing Corporation, Bridge-
port, Conn., a corporation of Delaware

Application May 28, 1927, Serial No. 195,047

5 Claims. (Cl. 312—38)

This invention relates to towel cabinets of the type comprising a plurality of rollers within the cabinet, one carrying a roll of clean towelling adapted to be drawn outwardly through an opening in the cabinet in suitable predetermined lengths for drying purposes; another adapted to be rotated by the frictional engagement therewith of the roll of towelling as it is unwound in being withdrawn from the cabinet; and others being operative to take up the soiled towelling in substantially the same ratio as it is drawn out, these take-up rollers being operated through suitable driving connections from said towel driven roller.

The object of the present invention is to provide a simple and effective means for controlling the delivery of the clean towelling whereby its withdrawal from the cabinet will be in predetermined lengths. This object is attained by means of the new and novel construction and arrangement of parts as hereinafter described and claimed and as illustrated in the accompanying drawings, in which—

Fig. 1 is a front elevation of a towel cabinet constructed in accordance with my invention.

Fig. 2 is a vertical section through the same, on line 2—2, looking in the direction indicated by the arrows.

Fig. 3 is also a vertical section through the same, taken on line 3—3, looking in the opposite direction as indicated by the arrows.

Fig. 4 is a detail of part of the towel delivery mechanism shown in Fig. 2, partly in section, but showing the parts in a different position.

Fig. 5 is an enlarged detail of a part of the same mechanism, showing another position of the parts.

The cabinet, which may be of any desired construction or design, is here shown as comprising a body portion 1 having a door 2 at the front side thereof, said door being hinged at one end to the body, as at 3, and at its opposite end being secured in closed position by suitable fastening means, such as the lock 4. These parts may be formed of any suitable material, but preferably are formed of metal.

Located within the casing 1 adjacent opposite ends thereof are a pair of frame or bracket plates 5, 5, which are secured in position by fastening bolts 6. These bracket plates provide end bearings for a plurality of towel supporting and operating rollers to be presently described.

Suitably journaled in these bracket plates adjacent the top part of the cabinet is a roller 7 upon which the roll of clean towelling, indicated at *t*, is adapted to be mounted. When so mounted, the leading end of the towel is led from the front side

of the roll downwardly beneath a stationary guide rod 60, and from thence forwardly through an opening 9 in the front wall of the cabinet to and over a guide roller 10, which latter is journaled in extensions of the bracket plates which project through the opening 9 in the cabinet to support the roller 10 at the front side thereof. From this guide roller 10, 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 comprising a pair of rollers 11 and 12 between which the towel is passed, one of these rollers being operated by means to be presently described to pull the engaged towel into the cabinet and re-wind it upon the other, as shown in Figs. 2 and 3.

As the towel is drawn outwardly from the clean roll, the soiled part thereof is adapted to be drawn back into the cabinet and re-wound upon the roller 12 in substantially the same ratio as it is drawn out in order to maintain substantially the same length of loop at all times at the front side of the cabinet. This is accomplished in the following manner: A roller 8 is journaled at its opposite ends in the bracket plates 5, 5, in position to have the roll of towelling on the roller 7 bear directly thereagainst, whereby, as said roll is rotated by the pulling of the towel from the cabinet, it will act through its frictional engagement with the roller 8 to rotate the latter, and such actuation of this roller 8 is utilized to operate the rewinding roller 11 through suitable driving connections. These connections, which are duplicated at the opposite ends of the rollers, comprise a sprocket wheel 14 attached to one end of the roller 8 and operatively connected through a sprocket chain 15 with a second sprocket wheel 16 attached to one end of the re-winding roller 11, which latter cooperates with the roller 12 to effect a re-winding of the towel. The driven roller 11 is journaled in the lower ends of a pair of swinging arms, such as 18, pivotally mounted on hub extensions of the roller 8, whereby it may move bodily with respect to the roller 12 to accommodate itself to the increasing diameter of the roll of soiled towelling being wound thereon, and it is yieldingly held in cooperative relation to the roller 12 to effect winding of the towel thereon by means of springs 19 connecting with upper extensions 20 of the arms 18, as clearly shown in Fig. 2. As a further means of guiding the roller 11 in its movements radially of the roller 12, the bracket plates 5 are provided with arcuate slots 21 through which the end journals of the roller 11 extend.

As hereinbefore referred to, it is an object of the present invention to provide a simple and effective means for controlling the feed or delivery of the clean towelling whereby its withdrawal from the cabinet will be in predetermined lengths. This I accomplish by the provision of means for automatically stopping the roller 8 once upon each rotation thereof and thereby stopping the outward feeding or withdrawal of the towel; it being understood that the friction between the towel and the roller is such as to prevent movement of the towel independently of the roller under ordinary pulling strains such as exerted in the normal use of the cabinet. In the present case such friction is increased by sanding the towel engaging surface of the roller 8.

The means for stopping rotation of the roller 8 as referred to comprises a pin or bolt 25 slidably mounted in a block 26 on the outer end of one of the sprocket wheels 14 on said roller 8; this bolt having a sliding movement in a direction transversely of the roller and being limited in its movement by means of a pin 27 thereon extending into an elongated slot 28 in the outer wall of the block. When a length of towel is drawn out from the cabinet, thereby causing rotation of the roller 8, this bolt 25 will slide outwardly from the block 26 under the action of gravity as it moves downwardly from a horizontal position, so as to project one end thereof beyond the block, as shown in Fig. 5. Such projecting end during the continued rotation of the roller will be brought into engagement with a detent 30, as shown by full lines in Fig. 2 and by dotted lines in Fig. 5, and so limit or stop the further withdrawal of the towelling. Subsequently, to obtain another length of towelling, the bolt is released from the detent to permit another rotation of the roller 8. Such release of the bolt may be effected by hand if desired, but preferably and as here shown a releasing device is provided in the form of a push-button 35 slidably supported in a block 36 on the inner wall of the door 2 with its head at the outer side of the door and with its inner end or stem arranged for movement beneath the detent 30. Thus, after the bolt has been brought into stopping engagement with the detent and it is desired to withdraw another length of towelling, the user simply pushes the button 35 inwardly against the bolt until the latter is released or disengaged from the detent. When this is done, the roller is free to turn and permit of the withdrawal of another length of towelling, the bolt remaining in its retracted position within the block until, during the rotation of the roller and connected block from the stopping position shown in Fig. 2 through the position shown in Fig. 4 and until it reaches the position where it again passes the horizontal as shown in Fig. 5, when the bolt will again gravitate outwardly from the block to project one end thereof into position for engagement with the detent as before described.

When the user has disengaged the bolt from the detent by an inward pressure of the push-button 35 in the manner described, said button when released is again returned to its normal outward position by the action of a spring 37 mounted at one end in a block 38 on the door and with its free end pressing against a pin 39 on the button to exert an outward pressure thereon; said pin 39 working within an elongated slot 40 in the block 36 to limit the movement of the button.

The detent 30 may be in the form of a station-

ary stop if desired, but I prefer to have it movable whereby it may be shifted out of the way of the bolt 25 to permit of the free turning of the feed controlling roller 8 when the towel is being positioned and threaded up in the cabinet. In the present case said detent is pivoted at 41 to a plate 42 fixedly attached to one of the brackets 5 and is formed with an extension 43 arranged to be engaged by the door 2 and held thereby in its operative bolt engaging position, as shown. When the door is opened, the detent may then be swung outwardly to an inoperative position, as shown by dotted lines in Fig. 5. Preferably this is automatically accomplished by forming the detent with an extension at the right of the pivot, as at 44, which, upon the opening of the door, will act as a weight to automatically swing the detent to its inoperative position. A pin 45 on the detent working in an elongated slot 46 in the plate 42 serves to limit the detent in its described movements.

The roller 12 of the re-winding device is supported in open bearings 12' in the bracket plates, as best shown in Fig. 2, whereby to provide for its ready removal therefrom, both for the purpose of permitting the ready connection of one end of the towel thereto in the original threading up of the towel, and also for the further purpose of permitting the convenient removal of the roll of soiled towelling therefrom. It is desirable that the towel carrying roller 7 should also be readily removable from its bearings for the purpose of permitting the roll of clean towelling to be readily placed thereon. Such removable connection of the roller 7 is provided for, as here shown, by forming the bracket plates 5 on their inner or opposing faces with inclined guide-ways 50 for receiving the end bearing or axle pins 51 of the roller 7 as shown, these guide-ways being so arranged as to permit of the gravitation of the roller and supported towelling towards the feed controlling roller 8 as the diameter of the roll of towelling decreases during use of the same, and thus serving to maintain proper contact of the roll of towelling with the roller 8. An open-ended guide-way 52 on each of the bracket plates leading into the guide-way 50 from a point towards the front side of the cabinet permits of the ready placing of the roller 7 in position and its withdrawal therefrom.

What I claim is:

1. In a towel cabinet, the combination with a towel feed-controlling roller, of a bolt slidably supported by said roller with one end in a projected position during part of the rotation of the roller, a detent positioned to be engaged by said bolt when in its projected position, and a releasing device movable across said detent for releasing the bolt therefrom; said detent being movably mounted whereby it may be swung to an inoperative position to permit uninterrupted movement of the feed-controlling roller.

2. In a towel cabinet, the combination with a towel feed-controlling roller, of a bolt slidably supported by said roller with one end in a projected position during part of the rotation of the roller, a movable detent positioned to be engaged by said bolt when in its projected position, a door on the cabinet acting when in closed position to hold said detent in its operative position for engagement by the bolt, and means for automatically moving said detent to inoperative position upon the opening of said door.

3. In a towel cabinet having a door, the combination with a towel feed-controlling roller, of

a stop member carried by said roller, a movable detent normally positioned to be engaged by said member to stop rotation of the roller, means for releasing the stop member from engagement with the detent, and means for automatically moving said detent to inoperative position upon the opening of the cabinet door.

4. In a towel cabinet having a door, the combination with a towel feed-controlling roller, of a stop member carried by said roller, a movable detent normally positioned to be engaged by said member to stop rotation of the roller, means for releasing the stop member from engagement with the detent, and means for automatically moving the detent to inoperative position upon the opening of the cabinet door, said detent when in its inoperative position having a part thereof in

the path of movement of the door to be engaged by the latter when closed to thereby return the detent to its normal operative position.

5. A towel holder and a delivery feed roll mounted therein over which the supply of clean towel is delivered to the user, said feed roll normally having an intermittent rotary movement and means for locking it against movement at the completion of each stroke, means adapted to be actuated by the towel user for releasing said feed roll, means normally preventing access to said feed roll, but adapted to be moved to expose said roll, and a device actuated through the operation of said moving means for rendering said locking means temporarily inoperative.

JOSEPH H. ADDLER.

20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150