April 7, 1925. 1,532,370

J. N. BORROUGHS

TOWEL CABINET

Filed March 16, 1922 3 Sheets-Sheet 1

Fig. 1

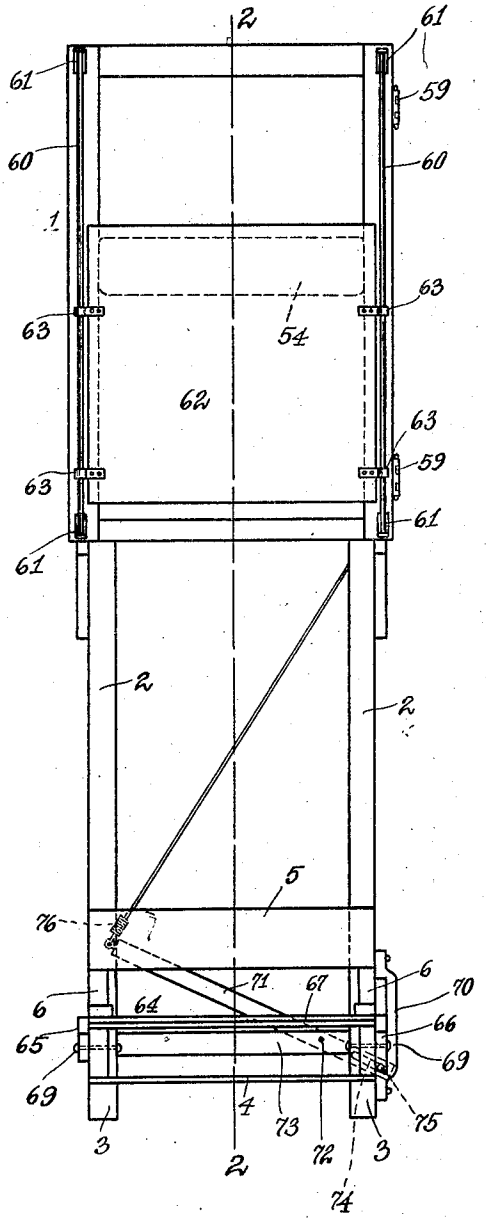
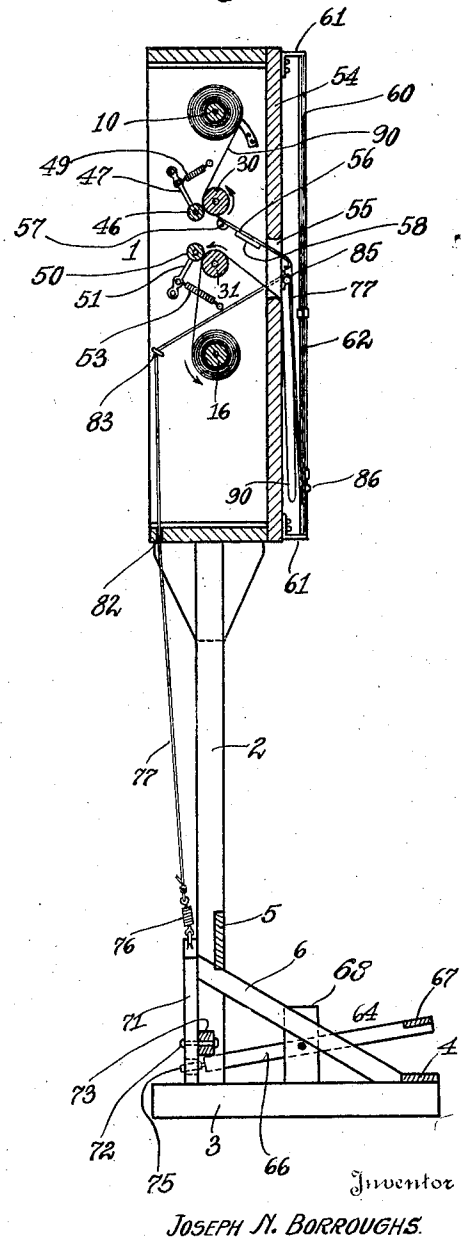


Fig. 2



Inventor

JOSEPH N. BORROUGHS.

By Harry C. Schroeder

April 7, 1925. 1,532,370

J. N. BORROUGHS

TOWEL CABINET

Filed March 16, 1922 3 Sheets-Sheet 2

Fig. 3

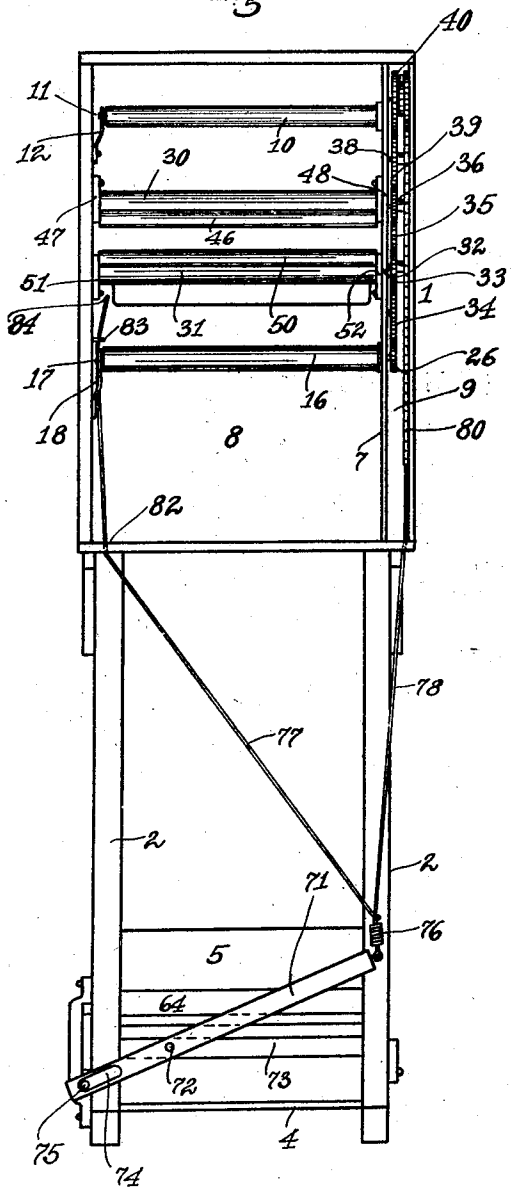
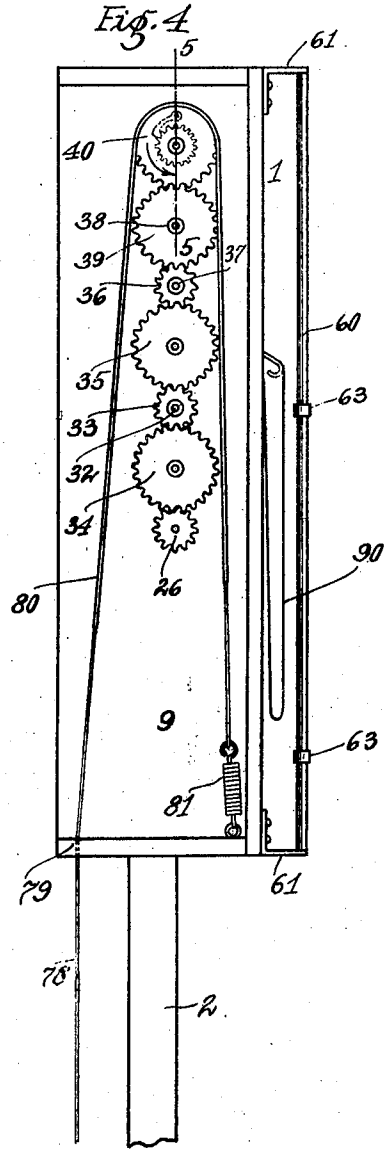


Fig. 4



Inventor

JOSEPH N. BORROUGHS.

By Harry G. Schroeder

Attorney

April 7, 1925. 1,532,370

J. N. BORROUGHS

TOWEL CABINET

Filed March 16, 1922 3 Sheets-Sheet 3

Fig. 5

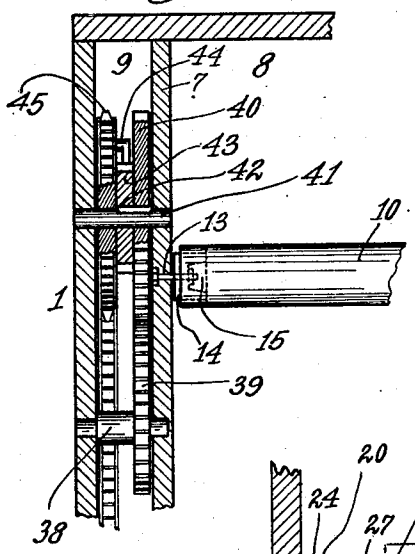


Fig. 6

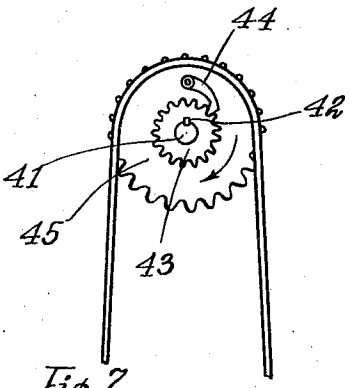
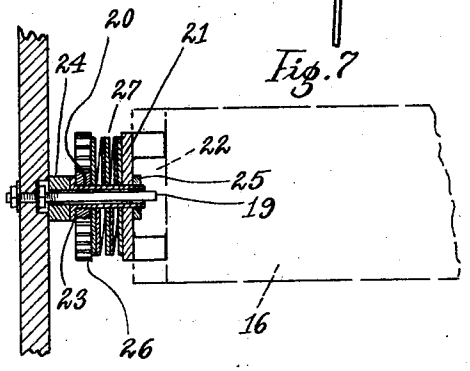


Fig. 7



Inventor

JOSEPH N. BORROUGHS.

By Harry C. Schroeder

Attorney

Patented Apr. 7, 1925. 1,532,370

UNITED STATES PATENT OFFICE.

JOSEPH N. BORROUGHS, OF OAKLAND, CALIFORNIA.

TOWEL CABINET.

Application filed March 16, 1922. Serial No. 544,128.

To all whom it may concern:

Be it known that I, JOSEPH N. BORROUGHS, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Towel Cabinets, of which the following is a specification.

My invention is an improved towel cabinet comprising a shield which normally covers the last used portion of the towel which remains outside the cabinet, and may be elevated to uncover said portion of the towel by means of a foot treadle, which also operates the mechanism that draws the used portion of the towel within the cabinet and advances a succeeding clean portion of the towel into position for use below the elevated shield.

Referring to the annexed drawing in which my invention is illustrated and which forms a part of this specification:

Figure 1 is a front elevation of my towel cabinet.

Figure 2 is a transverse vertical section of my towel cabinet taken on line 2—2 of Figure 1.

Figure 3 is a rear elevation of my towel cabinet.

Figure 4 is a side view of the upper part of my cabinet with the left wall thereof removed showing the gearing and chain for operating the gearing.

Figure 5 is a fragmentary sectional view of the upper left portion of the cabinet showing the towel advancing means.

Figure 6 is a face view of the upper drive gear and chain for driving said gear, and the pawl and ratchet for allowing the gear to be driven in one direction only.

Figure 7 is a longitudinal section of the towel take-up roller clutch.

In the drawing 1 indicates a rectangular casing open at the back and supported on standards 2—2 which are mounted on horizontal base members 3—3. The base members 3—3 are connected at the forward ends by a bar 4 secured at its ends to said ends of said members at the upper edges thereof. The standards 2—2 are connected near their lower ends by a horizontal bar 5. Angle braces 6—6 are secured respectively at their upper ends to the standards 2—2 at the lower edge of bar 5 and at their lower ends to the base members 3—3 at the rear edge of bar 4. The casing 1 is divided by a transverse vertical partition 7 near the left side thereof into a main towel compartment 8 and a gear compartment 9 at the left side of said casing.

A towel supply roller 10 is detachably journaled in the conventional manner in the upper part of the compartment 8 of casing 1 at one end by means of a journal 11 in a spring bracket 12 secured to the right side wall of said casing, and at its other end by means of a journal 13 in the partition 7 and a coupling 14 secured on said journal 13 and fitting in a diametrical groove 15 in said end of the roller. A towel take-up roller 16 is detachably journaled in the lower part of the casing compartment 8 at one end by means of a journal 17 in a spring bracket 18 secured to the right side wall of said casing, and at its other end by means of a stud 19 secured in the left side wall of the casing and extending through partition 7 and a sleeve 20 and coupling 21, said sleeve being journaled on said stud and extending through partition 7 and said coupling fitting frictionally on the inner end of said sleeve and engaging a diametrical groove 22 in said end of said casing. One end of sleeve 20 has an external flange 23 which fits against a block 24 on the stud 19 which block rests against the left side wall of casing 1. A nut 25 screws on the other end of said sleeve to prevent the coupling 21 coming off the sleeve. A gear 26 is secured on the sleeve 20 adjacent the flange 23 and a disk clutch 27 is mounted on the sleeve 20 between said gear and the coupling 21 which clutch normally causes the coupling to rotate with the sleeve 20 and gear 26. Guide rollers 30 and 31 are journaled in the casing compartment 8 between the rollers 10 and 16 in the right side wall of said casing and in the partition 7. On the journal 32 of roller 31 which extends through partition 7 is secured a pinion 33 within the gear casing 9 which pinion meshes with two idler gears 34 and 35 journaled within the gear compartment 9 on the partition 7. The idler gear 34 in turn meshes with the gear 26. The idler gear 35 in turn meshes with a pinion 36 secured on the journal 37 of guide roller 30 within gear compartment 9, which journal extends through the partition 7. On a shaft 38 journaled in the right side wall of casing 1 and in partition 7 is secured within the gear compartment 9 a gear 39 which meshes with pinion 36 and with a sprocket 40 keyed on a

shaft 41 by a key 42 within the gear compartment 9, which shaft is journaled in the right end casing wall and in partition 7. A ratchet gear 43 is also keyed on the shaft 41 by key 42, the teeth of which gear are engaged by a pawl 44 pivoted to a gear 45 loosely mounted on the said shaft 41. A pressure roller 46 which engages the rear side of guide roller 30 is journaled in one end of a pair of arms 47 and 48 pivoted respectively to the right side wall of casing 1 and to the partition 7. A spring 49 is connected to arm 47 and to the right side wall of the casing, which spring holds the pressure roller 46 in engagement with guide roller 30. A pressure roller 50 which engages the rear of guide roller 31 is journaled in one end of a pair of arms 51 and 52 pivoted to the right side wall of casing 1 and to the partition 7. A spring 53 is connected to the arm 51 and to the right side wall of the casing, which spring holds the pressure roller 50 in engagement with guide roller 31. The front wall 54 of the casing 1 is provided with a wide horizontal slot 55 through the upper part of which extends the forward edge of an inclined guide plate 56 which is pivoted just below the guide roller 30 at its upper edge by pivots 57 to the right side wall of the casing and to the partition 7 and rests upon supports 58 secured to said casing side wall and to said partition. The front wall 54 of the casing is supported by hinges 59 to the forward edge of the right side wall of the casing 1. A pair of vertical guide rods 60—60 are secured at their ends near the side edges respectively of the front wall 54 of casing 1 in brackets 61 secured to the front of said wall. A shield 62 is slidably mounted on the rods 60—60 by means of sleeves 63 surrounding said rods, which sleeves are secured to said shield. A foot treadle 64 comprising a pair of arms 65 and 66 and a foot piece 67 secured to the forward ends of said arms, is pivoted in uprights 68—68 secured to base members 3—3 by pivots 69—69, one of said pivots extending through the arm 66 and the other upright. The rear end of arm 66 swings in a guide 70 secured to the outside of one of the standards 2. A lever 71 is pivoted at the rear of standards 2—2 by a pivot 72 to a cross bar 73 secured at its ends to the inside of standards 2—2 just above the base members 3—3. The lower end of lever 71 has a slot 74 into which projects a pin 75 on the rear end of treadle arm 66. A spring 76 is secured to the upper end of lever 71 to which spring are connected cords 77 and 78. The cord 78 extends through an opening 79 in the bottom of the gear compartment 9 of casing 1 and is connected at its upper end to one end of a chain 80 which extends over the sprocket 40 and is connected at its other end to a spring 81 connected to the bottom of the casing. The cord 77 extends upwardly through an opening 82 in the lower wall of casing 1, through an eye 83 secured to the inside of the right side wall of said casing, and through an opening 84 in the front wall of the casing at the right end of slot 55 over a pulley 85 and is secured at its end to the lower part of shield 62 at 86.

The clean towel 90 is wound around the supply roller 10 and extends between guide roll 30 and pressure roller 46, over guide plate 56, through slot 55 down in front of the casing 1, and upwardly in front of said casing through said slot over guide roller 31 and between said guide roller and pressure roller 50 and around takeup roller 16, to which take-up roller the towel is connected.

Normally the shield 62 rests in its lowermost position in front of that portion of the towel which has been used and is outside the front wall of the casing and the treadle 64 rests in its uppermost position. A person desiring to use the towel stands in front of the cabinet and with his foot depresses treadle 64, which swings the lever 71 on its pivot and draws down the cords 77 and 78 and chain 80 and respectively elevates the sheild 62 above the used portion of the towel in front of the casing, and takes up said used portion of the towel on take-up roller 16 and advances from roller 10 a clean portion of the towel in front of the casing in place of said used portion; the take-up roller 16 being rotated through the medium of chain 80, sprocket 45, pawl 44, ratchet gear 43, gears 40 and 39, pinion 36, gear 35, pinion 33, gear 34 and pinion 26 and the guide roller 31 being rotated through the medium of said mechanism except gear 34 and pinion 26 to cause the roller 16 to take-up the used portion of the towel; and the feed and guide roller 30 being rotated through the medium of chain 80, sprocket 45, pawl 44, ratchet gear 43, gears 40 and 39 and pinion 36, to advance from supply roller 10 a clean portion of the towel in front of the casing 1 and to allow the used portion to be taken up by the take-up roller 16 as above described. When the towel has been used the user takes his foot off the treadle 64, whereupon the shield 62 drops by gravity in front of the used portion of the towel and the treadle is elevated by the dropping of the shield and by the spring 81 through the medium of chain 80 and cord 78, the pawl 44 escaping the ratchet gear 45 as the chain is drawn back by said spring. As the increasing diameter of the wound portion of the towel on take-up roller 16 tends to wind the towel on said roller faster than the speed of feed roller 31, the clutch 27 allows the roller 16 to slip and wind the towel at the speed corresponding to the speed of said feed roller.

Having described my invention, I claim:

1. In a towel cabinet, a towel casing provided with a slot in its front wall, a towel supply roller mounted in said casing, a take-up roller mounted in said casing, means for feeding said towel from said supply roller through said slot in front of said casing and back through said slot on to said take-up roller, a shield which normally rests in front of that portion of the towel in front of said casing and means for simultaneously elevating said shield above said portion of the towel and for operating said feeding means and said take-up roller for advancing the towel and winding the same on said take-up roller to bring a clean portion of the towel in front of said casing.

2. In a towel cabinet, a towel casing provided with a slot in its front wall, a towel supply roller mounted in said casing, a take-up roller mounted in said casing, means for feeding said towel from said supply roller through said slot in front of said casing and back through said slot on to said take-up roller, a train of gears for operating said supply roller, take-up roller and feeding means, a shield which normally rests in front of that portion of the towel in front of said casing, and foot operated means for simultaneously elevating said shield above said portion of the towel and for operating said gearing for advancing the towel and winding the same on said take-up roller to bring a clean portion of the towel in front of said casing.

3. In a towel cabinet, a towel casing provided with a slot in its front wall, a towel supply roller mounted in said casing, a take-up roller mounted in said casing, means for feeding said towel from said supply roller through said slot in front of said casing back through said slot on to said take-up roller, gearing for operating said supply roller, take-up roller and feeding means, a shield which normally rests in front of that portion of the towel in front of said casing, a lever, a treadle for operating said lever, a cord connected to said lever and to said shield for elevating said shield when said treadle is depressed and an additional cord operated by said lever for operating said gearing on said take-up roller to bring a clean portion of the towel in front of said casing.

4. In a towel cabinet, a towel casing provided with a slot in its front wall, a towel supply roller mounted in said casing, a take-up roller mounted in said casing, means for feeding said towel from said supply roller through said slot in front of the casing and back through said slot on to said take-up roller, a shield which normally rests in front of that portion of the towel in front of said casing, gearing for operating said feeding means and said take-up roller, a ratchet gear on one of the gears of said gearing, a sprocket, a pawl on said sprocket engaging said ratchet gear, a chain extending over said sprocket, a spring connected to one end of said chain and to said casing and means for drawing said chain over said sprocket against the tension of said spring to operate said gearing and means operated by said last mentioned means for elevating said shield.

5. In a towel cabinet, a towel casing provided with a slot in the front wall thereof, a towel supply feed roller mounted in said casing, a feed roller for feeding the towel from said supply roller out through said slot, a take-up roller, a second feed roller for drawing the towel from the outside back through said slot and feeding it on to said take-up roller, pinions on said feed rollers and said take-up roller respectively, an idler gear for said pinions, a ratchet gear secured to said towel supply feed roller, a sprocket, a pawl pivoted to said sprocket and engaging said ratchet gear, a chain extending over said sprocket, a spring connected to one end of said chain and to said casing and means connected to the other end of said chain for drawing said chain over said sprocket against the tension of said spring.

In testimony whereof I affix my signature.

JOSEPH N. BORROUGHS.