Jan. 11, 1944. F. G. DARMAN 2,338,905

CONTINUOUS TOWEL CABINET

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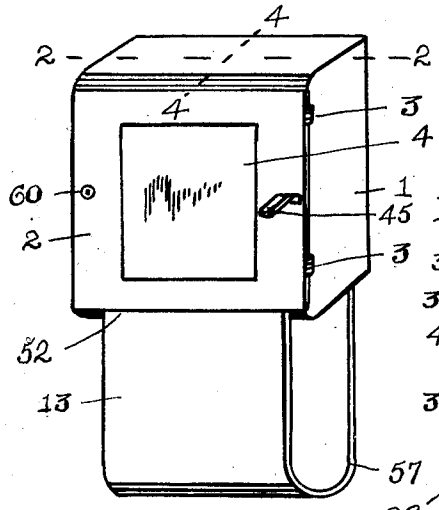


Fig 1

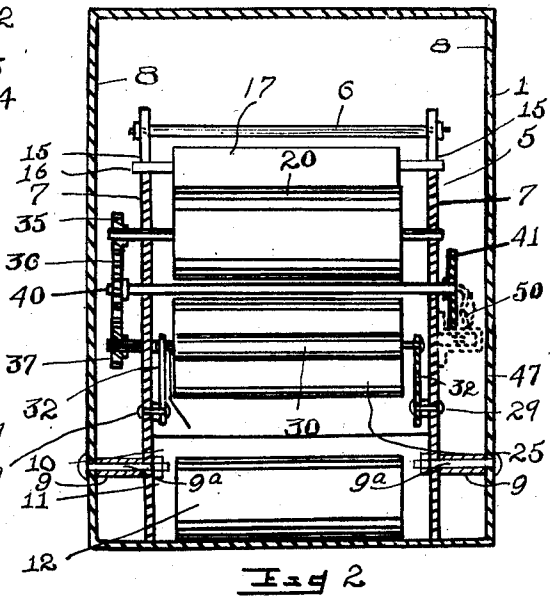


Fig 2

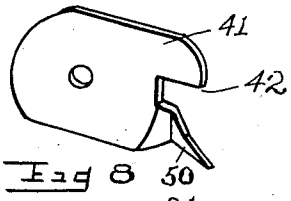


Fig 8

Fig 3

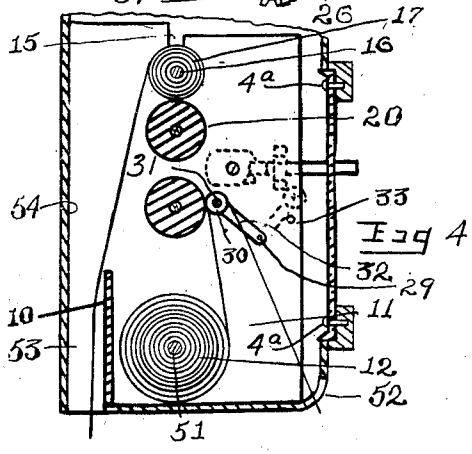


Fig 4

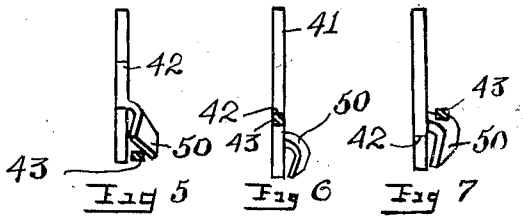


Fig 5 Fig 6 Fig 7

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CONTINUOUS TOWEL CABINET

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3 Claims. (Cl. 271—2.3)

My invention relates to a continuous towel cabinet and I declare the following to be a full, clear, concise and exact description thereof sufficient to enable anyone skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing in which like reference characters refer to like parts throughout the specification.

The object of the invention is to provide a combination of towel measuring means independent of the size of towel feed rollers, whereby feed rollers of much smaller diameter than heretofore used can be employed. Such a structure will allow for building a towel dispensing cabinet more compact and much smaller in size.

Furthermore the invention is to provide a towel cabinet that will allow for the withdrawal of given portions of the towel intermittently or at predetermined intervals of time.

The invention employs a towel dispensing measuring mechanism.

The stop mechanism contemplates the use of a rotating member having a shoulder on its periphery which is engaged by a laterally swinging latch which arrests its motion, whereby to prevent further unwinding of the towel.

There is also a cam surface formed on the periphery of said member which rocks said latch into engaging position with said shoulder to prevent its further turning and the unwinding of the towel. The said latch is manually rocked to releasing position to allow for the further unwinding of the towel.

The invention further contemplates a measuring or intermediate gear which predetermines the length of towel to be withdrawn at each pull or interval. The diameter of said intermediate gear will predetermine the length of towel dispensed on any given pull thereof.

Moreover, the employment of such an intermediate gear enables the use of smaller towel feed rolls and the mounting of said rolls in a vertical plane, whereby to economize in space within the towel cabinet as stated above.

The object will be understood by referring to the drawing in which

Fig. 1 is a perspective view of the towel cabinet.

Fig. 2 is an enlarged view showing a central vertical section taken on the line 2—2 on Fig. 1, parts being in elevation.

Fig. 3 is a detail enlarged view showing a perspective of the feed rollers and immediate parts.

Fig. 4 is an elevational view on a somewhat reduced scale as compared to Fig. 2 showing a vertical section taken on the line 4—4 of Fig. 1, parts being in elevation.

Fig. 5 is a detail front view enlarged showing a member employed to aid in stopping the turning of the towel dispensing pinions and a releasing latch in section just prior to locked position

Fig. 6 is a detail enlarged front view showing the member of Fig. 5 in locked position with the latch member.

Fig. 7 is a detail enlarged front view showing the member of Fig. 5 in released position relative to said latch member.

Fig. 8 is a detail enlarged view showing a cam member employed.

Referring more particularly to the drawing the device embodies a towel cabinet 1 having a front door hinged thereto at 3. A looking glass 4 is disposed within the panel of the front door 2 and held in place by screw 4a, 4a. An auxiliary frame 5 held together by stay rods 6, 6 is disposed within cabinet 1. The side walls 7, 7 of auxiliary frame 5 are spaced from the contiguous side walls 8, 8 of cabinet 1 when the parts are assembled, whereby to allow for clearance of the ends of certain shafts and gears hereinafter mentioned. Sleeve 9, 9 mounted on headed bolts 9a, 9a having bearings in walls 7, 7 and the contiguous walls of casing 1 are used to hold auxiliary frame 5 in spaced relation to the contiguous walls of casing 1. The projecting ends of rods 9a, 9a are threaded for mounting nuts 9b, 9b to hold rods 9a, 9a in place.

A comparatively low transverse partition wall 10 is mounted between walls 7, 7 of auxiliary frame 5 and extends only part way up through the interior of cabinet 1. Wall 10 forms the rear enclosing side of compartment 11 for the disposition of clean towel roll 13. It will serve also as a partition to separate the clean toweling 13 leaving the cabinet and the toweling re-entering the cabinet.

Open guide slots 15, 15 are made in the upper part of each of said walls 7, 7 of the auxiliary frame 5 for the disposition of the respective ends of shaft 16 which moves up and down in said guide slots 15, 15 and carries the roll 17 of soiled toweling 13 thereon.

Soiled towel roll 17 rests on upper feed roller 20 mounted on and to turn with shaft 21 carried in bearings in side walls 7, 7 of auxiliary frame 5. Another lower feed roller 25 mounted on and to turn with shaft 26 carried in bearings in side walls 7, 7 of frame 5, is directly below upper feed roller 20 and in the same vertical plane, whereby to economize in space. Furthermore, the upper

feed roll 20 will separate the clean toweling 13 from the soiled towel 13.

A pinch roller 30 is mounted on a shaft 31 carried in bearings in rock arms 32, 32 which are pivoted at 29 to the side walls 7, 7 of auxiliary frame 5. Rock arms 32, 32 allow said pinch roller 30 to swing against the surface of lower feed roller 25 shown in full lines in Fig. 7. Towel 13 is carried up on roller 30. A pull on the towel 13 will force pinch roller against the surface of lower feed roller 25, whereby it will make a frictional contact against the surface of lower feed roller 25, and cause the turning of said lower feed roller 25.

Laterally extending plugs 33, 33 mounted to the inner surfaces of walls 7, 7 of auxiliary frame 5 will form stops, whereby to arrest the backward swing of pinch roller 30 shown in dotted line in Fig. 3. Pinch roller 30 can be swung to dotted line position shown in Fig. 4 when leading the free end of towel 13 up back of and around pinch roller 30.

The turning of lower feed roller 25 will cause the upper feed roller to turn also simultaneously therewith but in the same direction by means of a train of gears hereinafter described.

A pinion gear 35 is mounted on the extended end of shaft 21 carrying the upper feed roller 20 and turns therewith. Pinion gear 35 meshes with an intermediate or measuring spur gear 36 mounted to turn with a shaft 40 carried in bearings in side walls 7, 7 of auxiliary frame 5. Spur gear 36 is in mesh with gear pinion 37 mounted to turn on shaft 26 which carries to turn the lower feed roller 25 therewith.

The means for automatically stopping the unwinding of towel 13 at regular intervals embodies a member 41 mounted to turn with shaft 40 which carries spur gear 36. A shoulder 42 is formed in member 41. Said shoulder 42 is adapted to engage the reduced end 43 of a horizontally disposed rock releasing latch 45. Latch 45 is pivoted to shaft 46 carried in bearings in a channel bracket 47 bolted or otherwise fastened to the inner surface of side wall 7 of auxiliary frame 5.

The means for moving the reduced end 43 of latch 45 into the path of shoulder 42 contemplates a cam surface 50 formed integral with member 41 which will rock latch 45 laterally to move its end 43 into the downward path of shoulder 42 as shown in dotted lines in Fig. 3.

In order to release end 43 from the contact of shoulder 42, the said latch 45 will be rocked manually into full line position shown in Figs. 3 and 7. In this latter position end 43 of latch 45 will clear shoulder 42 and escape to the right of shoulder 42 as shown in Fig. 7 and thereby allow member 41 to rock past the end 43 of latch 45.

The clean towel roll 12 is wound on a spindle 51 and placed in compartment 11. Its free end will be led up back of and around pinch roller 30 which can be rocked back on its arms 32, 32 for the purpose. Towel 13 is led then down through opening 52 in cabinet 1, thence up through passageway 53 between rear wall 54 of cabinet 1 and partition wall 10. The hand can be inserted down through passageway 53 to aid in drawing the towel thereup. The free end is wound one or two turns on spindle 16 which works up and down in guide slots 15, 15 made in side walls 7, 7 of auxiliary frame 5. A loop 57 of towel 30 is left below cabinet 1.

By now pulling on towel 13, the pinch roller 30 will be forced against feed roller 25 which will rotate the train of pinions and gears 35, 37 and spur gear 36. Spur gear 36 will rotate also member 41. Cam surface 50 of member 41 will rock latch 45 into dotted line position shown in Fig. 3, whereby its free end 43 will lie opposite the on coming shoulder 42 of member 41 to thereby arrest the turning of member 41, spur gear 36, pinions 35, 37 and feed rollers 20, 25 after a predetermined amount of turning of said rollers 20, 25. The operator will now rock latch 43 to full line position, whereby end 43 thereof will move to the right to clear shoulder 42 of member 41 by moving it to the right as shown in Fig. 7.

It will be observed by using the spur gear 36 the same will function as a measuring gear to determine a predetermined amount of toweling that may be withdrawn at each pull of the towel 13. Furthermore, measuring spur gear 36 will allow for the use of feed rollers 20 and 26 of much smaller diameter, whereby to economize in space and yet receive the necessary amount of toweling 13 that can be withdrawn with each pull thereof.

A lock 60 is provided for door 2.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is as follows:

1. In a continuous towel cabinet, a dispensing mechanism having a stop means comprising a member rotating with said dispensing mechanism, said member having a shoulder formed thereon, a cam formed on said member, and a releasing latch for engaging said shoulder for stopping the rotation of said dispensing mechanism at predetermined intervals and said cam adapted to move said latch into engagement with said shoulder.

2. In a continuous towel cabinet, a dispensing mechanism having a stop means comprising a member rotating with said dispensing mechanism, said member having a shoulder formed thereon and a cam member spaced below said shoulder, a rock latch for engaging said shoulder member for stopping the revolution of said dispensing mechanism at predetermined intervals, and said cam member adapted to move said releasing latch into engagement with said shoulder member.

3. In a continuous towel cabinet, a towel dispensing mechanism having a stop means comprising a member with a shoulder and a cam spaced therefrom formed thereon and rotating with said dispensing mechanism, a releasing latch for engaging the shoulder on said first named member to stop the revolution of said dispensing mechanism, and said cam member adapted to urge said releasing latch into engagement with said shoulder.

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