Aug. 15, 1933. R. G. BIRR ET AL 1,922,837

FEED STOP FOR TOWEL CABINETS

Filed Dec. 5, 1929 3 Sheets-Sheet 1

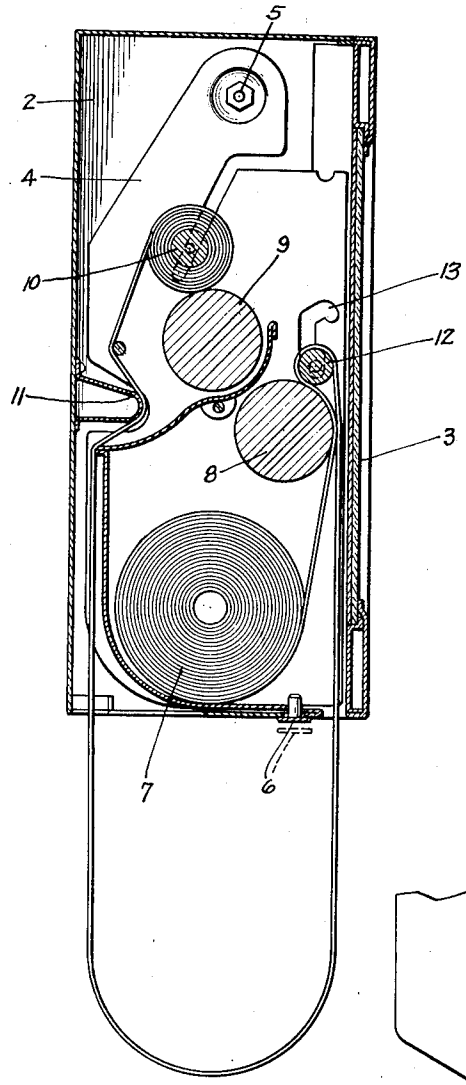


FIG. 1

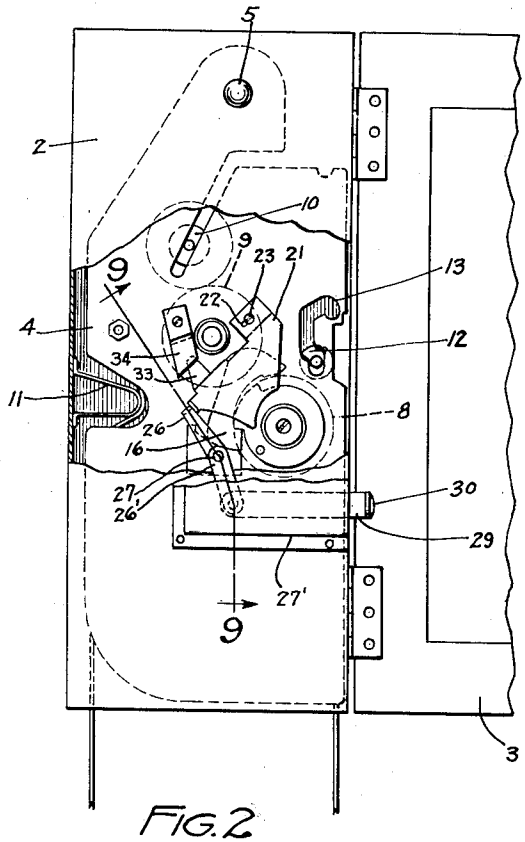


FIG. 2

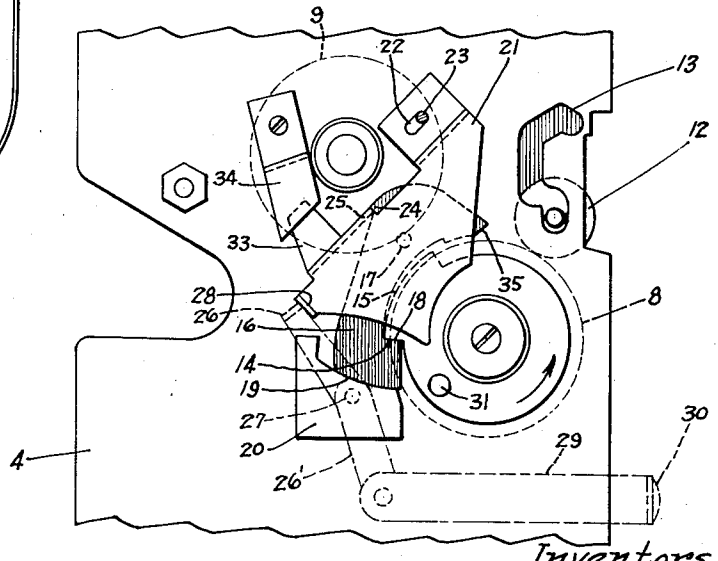


FIG. 3

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FEED STOP FOR TOWEL CABINETS

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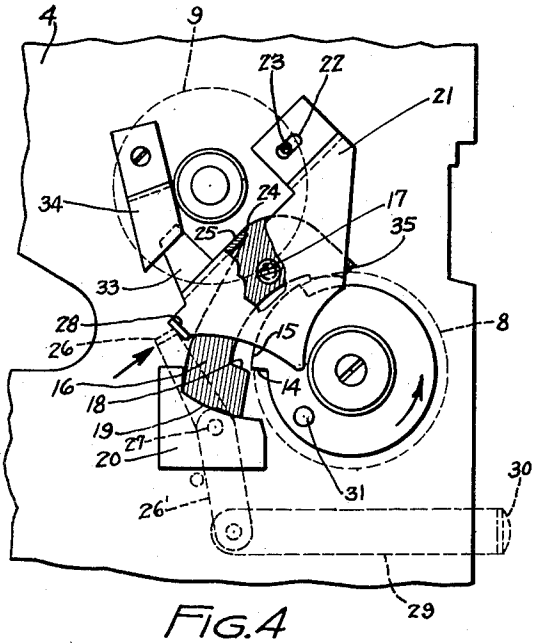


FIG. 4

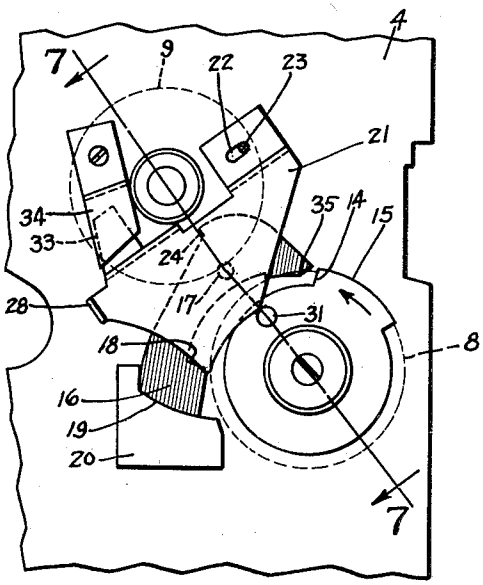


FIG. 5

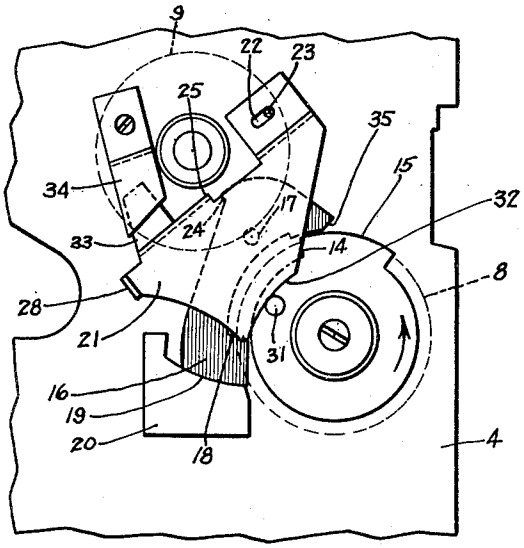


FIG. 6

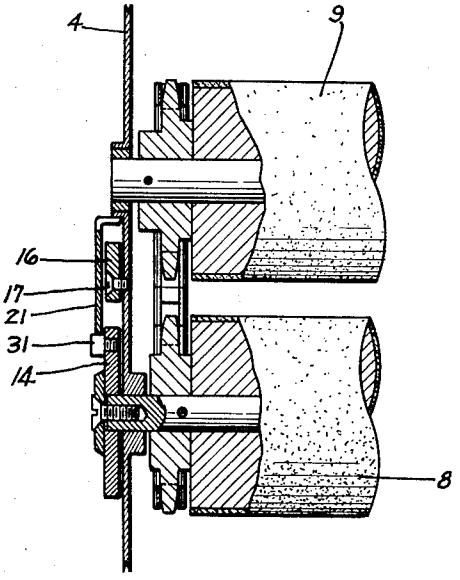


FIG. 7

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FEED STOP FOR TOWEL CABINETS

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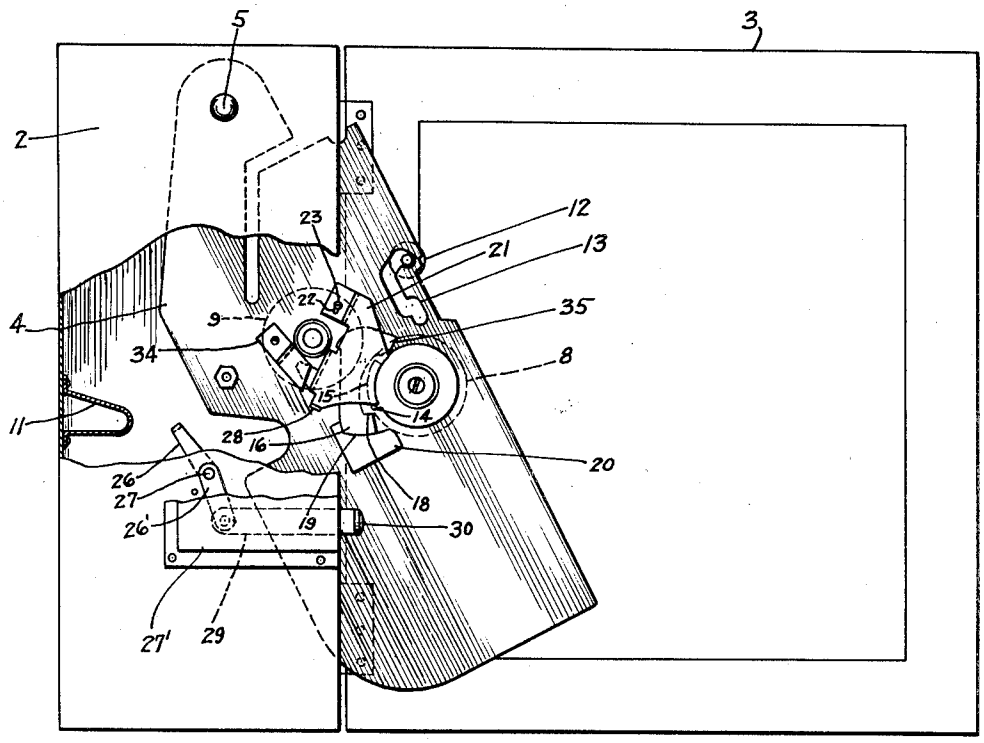


FIG. 8

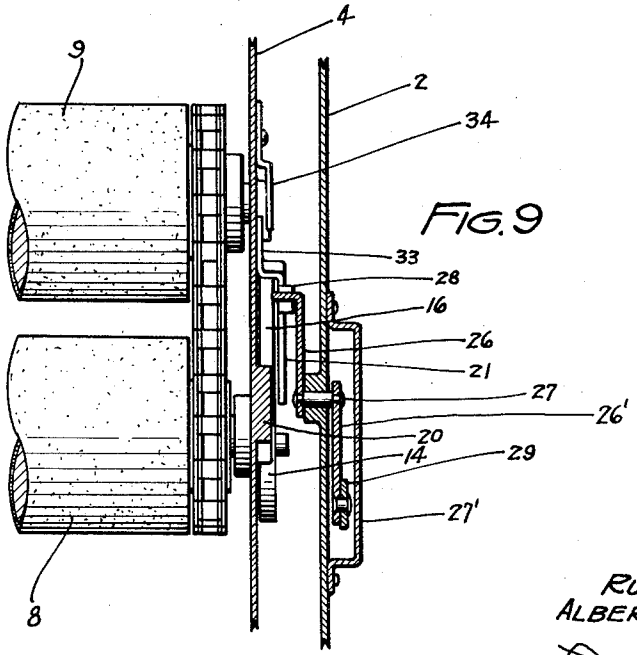


FIG. 9

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UNITED STATES PATENT OFFICE

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FEED STOP FOR TOWEL CABINETS

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Application December 5, 1929. Serial No. 411,867

13 Claims. (Cl. 312—38)

Towel cabinets adapted for delivering a wiping length of clean towel to a user, are usually provided with a stop device to be moved to a release position by the towel user preparatory to delivery of the towel web and adapted to check positively the feed of the towel when a certain predetermined or suitable wiping length of the web has been delivered.

It is desirable of course in the interests of economy of towel use, to prevent the user from delivery a greater length of towel than is necessary for his purpose and thereby prevent waste of the clean web and prolong the time during which a web of certain length may be used. It sometimes happens that a user having operated the release lever, may continue the pressure of his finger thereon and operate the towel feed continuously, thereby withdrawn from the cabinet a very much longer length of web than is required for his purpose.

The primary object of our invention therefore is to provide means in connection with a towel feed controlling device which will positively prevent the towel user from obtaining more than a predetermined wiping length of the web with one operation of the releasing lever.

A further object is to provide a feed stop mechanism that is adapted particularly for use in connection with a towel cabinet wherein an outer section is stationary while an inner section supporting the operating mechanism of the cabinet is movable forwardly to a position convenient for loading the cabinet and stretching the web of the towel supply upwardly in the rear of the movable section to a take up roll.

A further object is to provide a feed control mechanism of simple, inexpensive construction which can be readily applied to a towel cabinet, and capable of withstanding the use of inexperienced persons or those who may be maliciously inclined.

Other objects of the invention will appear from the following detailed description.

The invention consists generally of various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings forming a part of this specification

Figure 1 is a vertical sectional view through a towel cabinet with our invention applied thereto;

Figure 2 is a view with the wall of the cabinet partially broken away, showing the front open and the control mechanism in its normal position;

Figure 3 is a detail view showing the control mechanism and releasing lever in their normal position;

Figure 4 is a similar view showing the mechanism and control lever moved to the release position;

Figure 5 is a detail view showing the position assumed by the parts when the feed roll has partially completed its revolution;

Figure 6 is a similar view showing the lock device returned by the feed roll to its normal locking position;

Figure 7 is a sectional view on the line 7—7 of Figure 5;

Figure 8 is a side elevation of the cabinet of the tilting inner section type with the wall of the outer section broken away showing the position of the release lever of the stop device when the inner section is moved outwardly; and

Figure 9 is a sectional view on the line 9—9 of Figure 2.

In the drawings, 2 represents a towel cabinet having an open front and a suitable door 3 therefor. 4 is an inner section pivotally supported at 5 and adapted to swing outwardly through the open front of the cabinet for convenience in loading the cabinet with clean towel and normally held in its position within the cabinet by a locking device 6. The lower portion of the inner section preferably has a suitable support for a clean towel supply 7 above which is a feed roll 8 having a suitable driving connection with a similar take up roll 9. A soiled towel roll 10 is provided with its convolutions of soiled towel thereon adapted to contact with the roll 9 and be revolved thereby to wind up the soiled towel. A tension device 11 is preferably positioned to engage the soiled towel and smooth out the wrinkles therein as it passes to the take up roll 10. A pinch roll 12 is preferably provided in slots 13 near the feed roll 8 and the web of clean towel is stretched upwardly from the supply over the pinch roll and thence downwardly through the bottom of the cabinet and up in the rear of the support of the clean towel to the take up roll 10.

The invention in this application relates to the mechanism by means of which the operation of the roll 8 and the feed of the clean towel is controlled, and the adaptation of this mechanism to a cabinet having a movable inner section, and we will now proceed to describe this mechanism in detail.

The roll 8 has a shoulder 14 thereon and a curved cam surface 15. A dog 16 is pivoted at 17 and is provided with a stop 18 normally in the path of the shoulder 14 to lock the feed roll against revolution. The lower end of the dog 16 has a curved edge 19 to engage the corresponding edge of a guide plate 20 that is secured to the casing. A slide 21 has a slot 22 therein to receive a pin 23 whereon said slide is adapted to move. The dog 16 has a shoulder 24 in position to be engaged by a flange 25 on the plate 21. A

lever composed preferably of sections 26 and 26' is pivoted intermediate to its ends at 27 and section 26 is adapted to engage a flange 28 on the plate 21. A housing 27' preferably encloses lever section 26'. A reciprocating member 29 is pivotally connected with the lever section 26' and extends outside of the casing and has a finger piece 30 that is adapted to be grasped by the user of the towel for the purpose of manipulating the lever and releasing the feed roll. Inward movement of this member 29 will oscillate the lever sections 26 and 26' from the position shown in Figure 3 to that shown in Figure 4 and at the same time the plate 21 will be actuated to oscillate the dog 16 and move the stop 13 out of the path of the shoulder 14 so that the feed roll will then be released and the user by pulling on the web may obtain a suitable length of towel for wiping purposes.

The end of the feed roll is preferably provided with a pin 31 which in the latter part of the revolution of the roll will engage the edge 32 of the plate 21 and disengage the flange 25 from the shoulder 24, the plate 21 being guided in this movement by means of a tongue 33 and a plate 34 under which the said tongue 33 is adapted to slide. This movement of the plate 21 releases the dog 16 and the shoulder 14 now contacts with the projecting edge 35 of the dog as the feed roll revolves and swings the dog 16 on its pivot from the position shown in Figure 4 to the point illustrated in Figure 6, where the stop 18 will be positioned in the path of the shoulder 14 to positively check the revolution of the feed roll and stop the feed of the towel. This will take place even though the user of the towel may hold the member 29 in its release position. The pin 31 will engage and move the slide out of engagement with the dog and the stop or shoulder on the roll will then positively engage the dog and move it to its locking position regardless of what the user may have done to the release lever and its operating member.

To obtain a wiping length of towel, the user will press the finger piece at the end of the member 29, thereby actuating the slide and causing it to engage the shoulder on the locking dog to swing it from the locking position in Figure 3 to the release position of Figure 4. The feed roll may then be revolved by pull on the towel web, and when it has nearly completed its revolution, the pin 31 will engage the edge of the slide and force it out of its locking engagement with the dog, which is then free to drop back to its locking position by gravity, but this movement is preferably insured by the engagement of the shoulder on the feed roll with the projection on the dog, such engagement forcing the dog from its release back to its locking position where its stop will be in the path of the shoulder 14 to positively arrest movement of the feed roll and delivery of the towel, and this will take place even though the user may have kept his finger on the reciprocating member that is connected to the release lever.

The stop device is adapted particularly for a towel cabinet having an inner movable section capable of adjustment as shown in Figure 8 for convenience in removing the soiled towel and arranging the supply of clean towel in the cabinet. The mechanism of the stop device is so arranged, a portion being mounted on the outer section so that the inner section of the cabinet may be moved outwardly to its loading position temporarily separating the stop device from its operating lever and rendering this device inoperative at this time.

When the inner section and the stop device is returned to its normal working position, the release lever will again be in position to perform its function when the towel user manipulates the finger piece on the outside of the cabinet. The normal working position of the release lever is indicated in Figure 2 where the movable inner section is shown in its normal position within the cabinet.

In Figure 8, this section is shown tilted forwardly through the opening in the front of the cabinet and that portion of the stop mechanism that is mounted on the inner section will of course move forwardly with this section while the release lever and the operating member connected therewith mounted on the stationary outer wall of the cabinet will remain in its normal position and not in any way interfere with the forward movement of the inner section. As soon as the loading operation is completed, the inner section is returned to its normal position and thereupon the element of the mechanism carried by the movable section will again be in the path of the release lever ready to be moved to its release position and disengage the locking dog from the cam on the roll whenever the operating member connected with the release lever is manipulated by the user of the towel. We are thus able to employ a stop mechanism for the rolls in connection with a cabinet having the inner movable section without in any way interfering with the convenient moving of this section to its loading position, the elements of the locking mechanism being temporarily separated and then returned to their normal working position without any attention on the part of the person loading the cabinet.

In various ways the details of construction herein shown and described may be modified and still be within the scope of my invention.

We claim as our invention:

1. In a towel cabinet, the combination with a towel feeding instrumentality, of means for normally locking it against movement, a member adapted to engage said locking means when moved in one direction and positively move it to a release position said member being movable in the opposite direction without affecting such releasing or locking actions, a release device adapted to be actuated by the towel user for operating said member, said instrumentality having means for positively returning said locking means to its normal locking position should the operator hold said release device in its release position.

2. In a towel cabinet, a towel feeding instrumentality having a shoulder thereon, a locking member having a stop in the path of said shoulder to normally check movement of said instrumentality, a slide having means to engage said locking member and move it to a release position when said slide is moved in one direction but ineffective to cause a locking action by movement in the opposite direction, means adapted to be actuated by the towel user for moving said slide, and said instrumentality having means to engage said locking member and positively return it to its locking position at a predetermined point in the delivery of the towel.

3. In a towel cabinet, a feed roll for a towel web having a shoulder thereon, a locking dog having a stop in the path of said shoulder to

normally check revolution of said roll, a member adapted to be moved in one direction to move said locking dog to a release position but movable in the opposite direction without affecting said dog, a lever device actuated by the towel user for operating said member and means associated with said feed roll for disengaging said member from said dog and positively returning said dog to its locking position before said feed roll completes its revolution.

4. In a towel cabinet, a feed roll adapted to deliver a clean towel, a projection thereon, a locking dog having a stop in the path of said projection, a slide having a flange to engage said dog when said slide is moved in one direction and move it to a release position, said slide being movable in the opposite direction without affecting said dog, a lever device actuated by the towel user for moving said slide, a push piece for actuating the lever device, and means associated with said feed roll for disengaging said slide from said dog to allow said dog to return to its normal locking position before said feed roll completes its revolution.

5. In a towel cabinet, a feed roll having a shoulder thereon, a locking dog having a stop in the path of said shoulder, said dog having a lug thereon, a slide having a flange adapted to engage said lug and swing said dog to its release position when moved in one direction, said slide being movable in the opposite direction without affecting said dog, a lever device actuated by the user of the towel for operating said slide, a push piece to operate said lever device, and means associated with the feed roll for positively disengaging said slide from said dog and allowing said dog to return to its normal locking position before said feed roll completes its revolution.

6. In a towel cabinet, the combination with a feed roll adapted to deliver a web of clean towel, of means for normally locking said feed roll, said locking means including a pivoted lever and a plate movable radially of said feed roll and also tangentially thereof to control said pivoted lever, a lever disconnectable from the locking means, said lever having an operating member adapted to be grasped by the towel user for moving said locking means to its release position and means associated with said feed roll for positively returning said locking means to its normal locking position regardless of the position of said release lever and its operating member, before said feed roll completes its revolution.

7. In a towel cabinet, the combination with a feed roll adapted to deliver a web of clean towel, of means for normally locking and unlocking said feed roll including a pivoted lock and a plate movable bodily to unlock the lock, an oscillating lever and a reciprocating member connected with one end thereof and adapted to be actuated by the towel user, said lever being adapted to move said means to its unlocking position when said member is actuated, and said feed roll having means thereon for positively returning said locking means to its normal locking position before said feed roll completes its revolution, should said lever be held in its release position.

8. A towel cabinet comprising relatively movable outer and inner sections, towel delivery devices mounted in said inner section, a feed stop mechanism having some of its elements mounted on said inner section and movable inwardly and outwardly of the outer section and other of its elements including a push piece and a lever device pivoted on said outer section and extending to the rear of said stop mechanism, the relative arrangement of said elements being such that freedom of movement of said inner section inwardly and outwardly of the outer section is permitted.

9. A towel cabinet comprising relatively movable outer and inner sections, towel feed devices mounted in said inner section, a feed stop mechanism mounted on said inner section for movement outwardly therewith, and a release device mounted on said outer section extending to the rear of said stop mechanism and normally in position to move said stop mechanism to its release position, said stop mechanism and said release device being separable by maintaining said outer section stationary and moving outwardly the inner section from within the outer section.

10. A towel cabinet comprising a casing and a housing thereon, a release lever carried by said casing within said housing and having an operating member, an inner section for said cabinet having an outward movement with respect thereto, towel feed devices carried by said inner section and a feed stop mechanism for said devices mounted in said inner section and normally adapted to be actuated by said release lever, said stop mechanism being movable with said inner section out of the path of said release lever.

11. A towel cabinet comprising relatively movable outer and inner sections, a feed roll mounted in said inner section and having a shoulder thereon, a locking dog in the path of said shoulder, a slide adapted to engage said dog, said dog and slide being mounted on said inner section, a release lever mounted on said outer section and adapted to engage said slide and move it and said dog to their release position, said dog and slide being adapted to move with said roll and inner section to a point where said slide will be out of the path of said lever, and returned to a position to be engaged by said lever when said inner section is in its normal position.

12. A towel cabinet comprising relatively movable sections, a towel delivery device mounted in one section, a feed stop mechanism having some of its elements mounted on one section and other of its elements including a push piece and a lever device separable from the other elements and mounted on the other section said lever device extending rearwardly of the other feed stop elements, the relative arrangement of said elements being such that freedom of relative movement of said sections is permitted.

13. A towel dispensing cabinet comprising relatively movable sections, a towel feeding instrumentality mounted in one section for delivery of clean towel to a user, a feed stop mechanism including a push piece adapted to be set in a release position to allow delivery by said towel feeding instrumentality of only a limited length of towel said instrumentality and push piece being separable when the sections are moved relatively, the arrangement of said feed stop mechanism and said sections being such that one of said sections may be moved from within to a position where the feeding instrumentality is outside with respect to the other section and said feed stop mechanism rendered temporarily inoperative, to be automatically restored to its working position upon the return of said section to its normal position.

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