July 10, 1951 E. AGAMAITE, JR 2,560,061

PAPER DISPENSER

Filed March 6, 1946 3 Sheets-Sheet 1

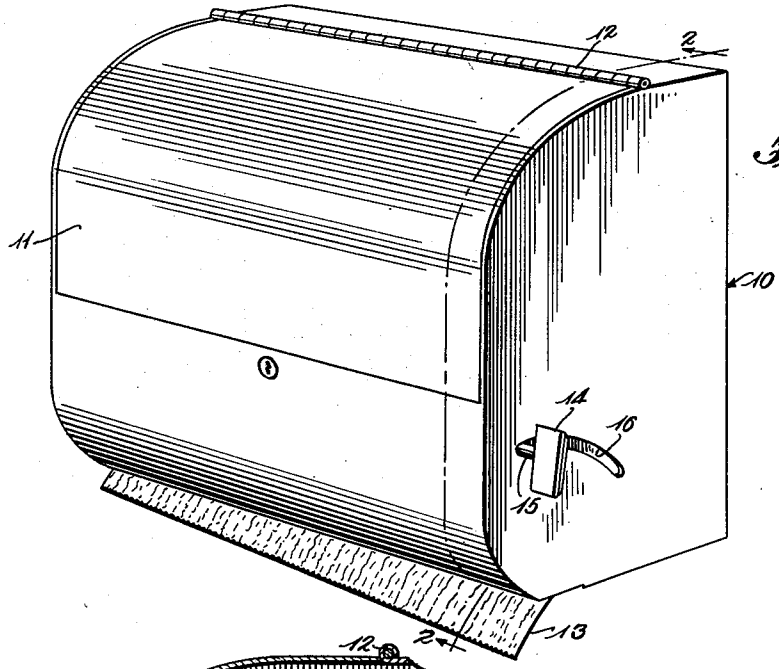


Fig. 1.

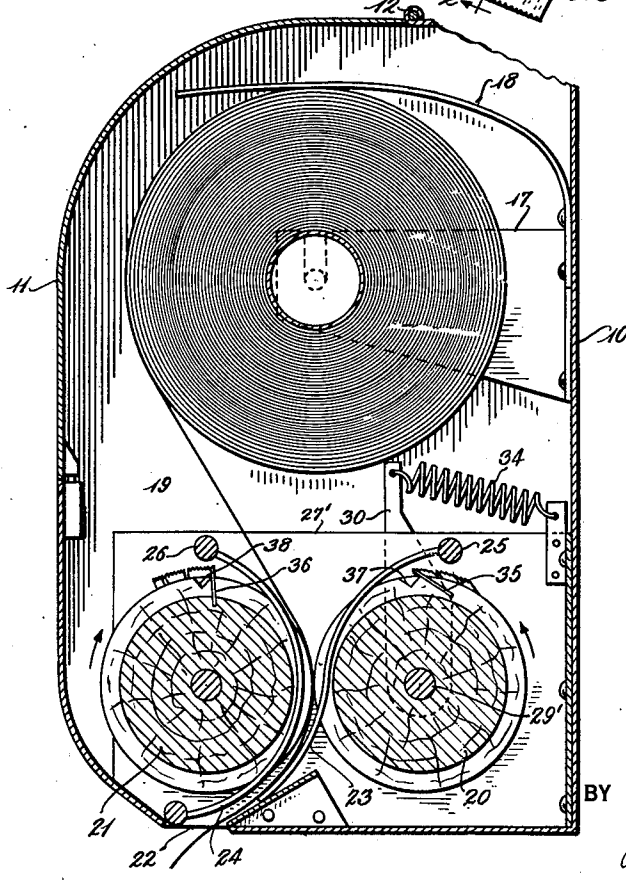


Fig. 2.

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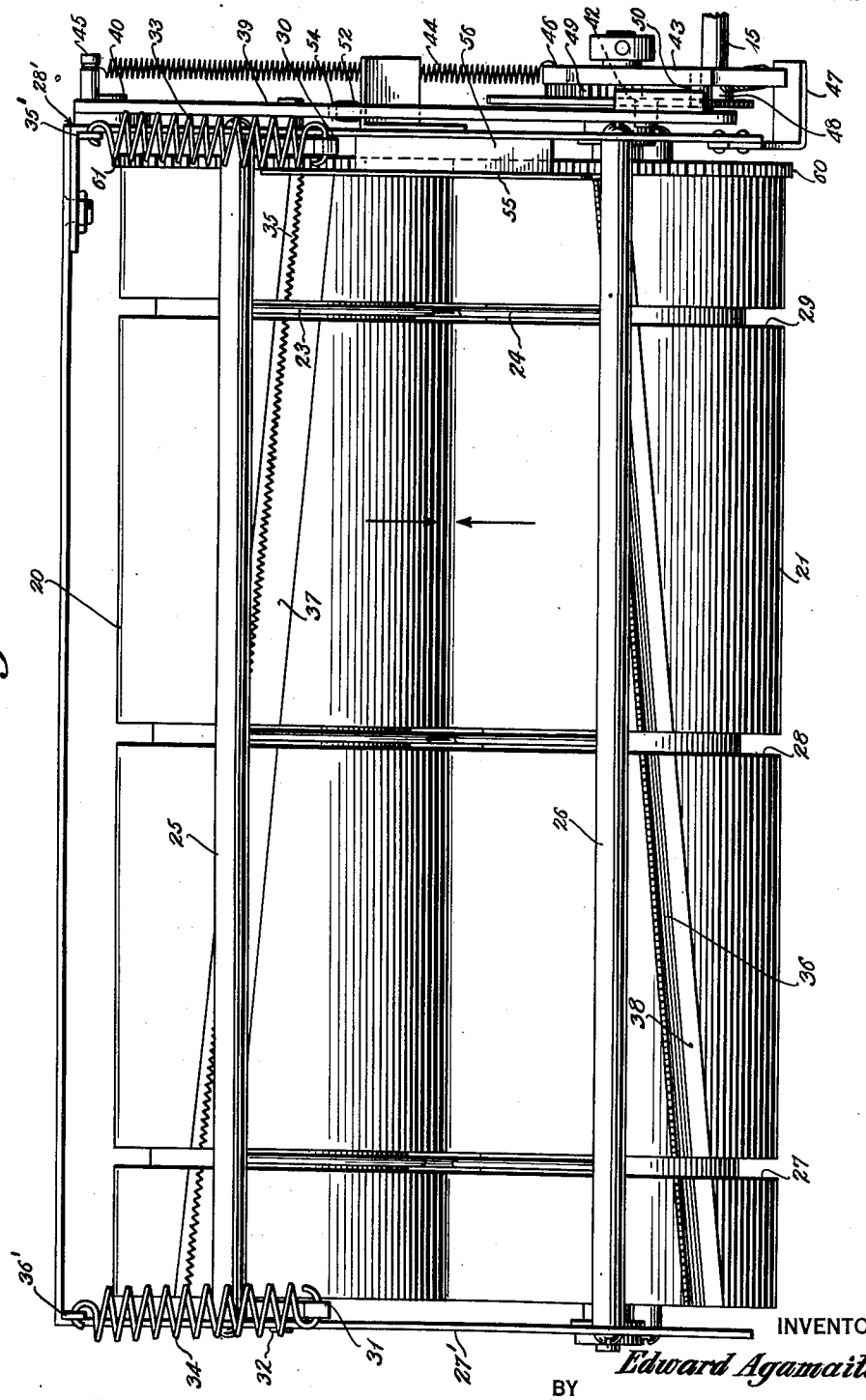


Fig. 3.

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Fig. 4.

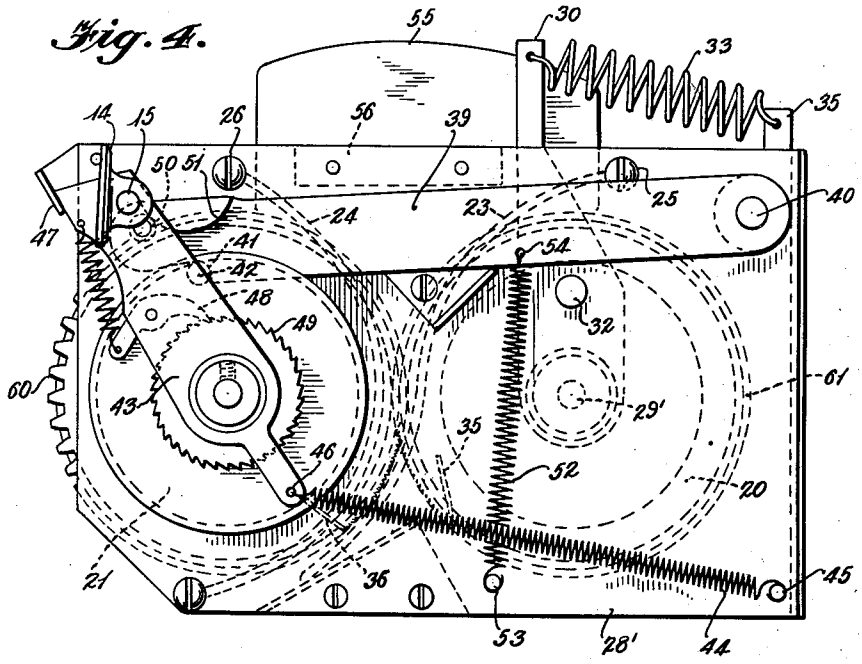
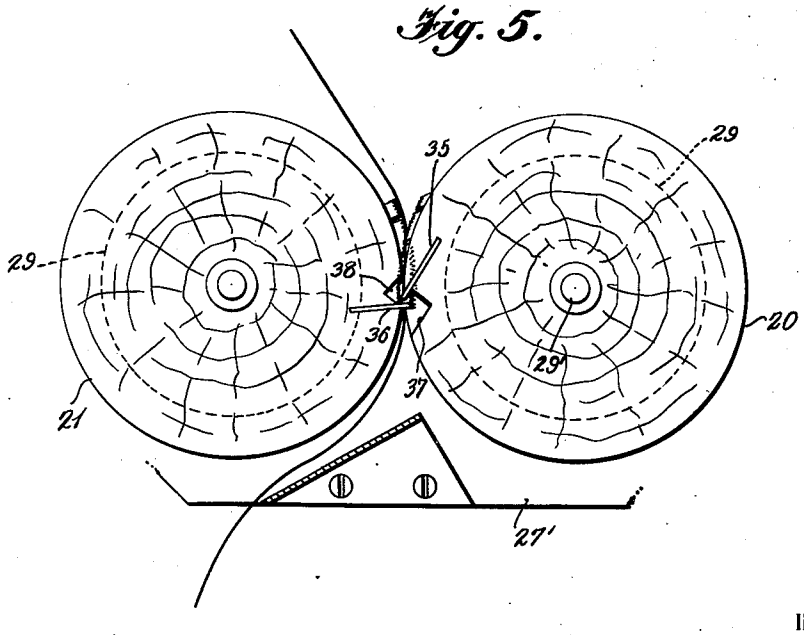


Fig. 5.



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PAPER DISPENSER

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Application March 6, 1946, Serial No. 652,276

4 Claims. (Cl. 164—66)

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The invention relates to paper towel dispensers and has as an object the provision of a dispenser for holding an unperforated roll of paper toweling and provided with feed and cutting means operable to deliver a length of paper at each actuation of the device.

It is a further object of the invention to provide a dispenser of the character referred to that will be of simple structure and not likely to get out of order.

Further objects will appear from the following description when read in connection with the accompanying drawings showing an illustrative embodiment of the invention and wherein:

Figure 1 is a perspective view of the casing of the device;

Fig. 2 is a vertical transverse section on line 2—2 of Figure 1;

Fig. 3 is a plan view of the feed and cutting means showing the feed rollers in the position occupied after about 247° of the feed rotation has been completed, the outer casing being omitted.

Fig. 4 is an end view of the roller and feed mechanism, casing omitted, showing the rollers in starting position; and

Fig. 5 is a detail end view of the rollers with the knives in cutting position showing the delivery skirt in section.

As shown the device comprises a casing 10 having a cover 11 hinged to the body of the casing as at 12 and the end of a sheet of paper 13 is shown protruding from the delivery opening of the casing.

Projecting from the casing is shown a finger piece 14 mounted on a stud 15, the stud adapted to move in an arcuate slot 16 in initiating delivery of a length of paper.

A roll of paper may be carried in the casing 10 upon brackets 17, and to prevent overrunning of the roll when paper is withdrawn there is shown a spring brake 18 secured to the casing and resting upon the top of the roll. The paper from the roll is shown as carried downwardly at 19 between a pair of rollers 20, 21 which rollers may be suitably turned out of wood. To guide the paper to the delivery opening 22 and to prevent its adhesion to either of the rollers there are shown strippers 23, 24 mounted upon rods 25, 26 and resting in slots 27, 28, 29 in the rolls. One of the rollers, as 21, is shown as mounted in the casing on a fixed axis between the plates 27', 28'. The remaining roll is shown as having its axis 29' mounted in levers 30, 31 which levers are pivoted upon pins 32 projecting from the plates 27', 28'. The ends of the levers 30, 31 are drawn rearwardly by means of coil springs 33, 34 anchored to the ends of the levers and to brackets 35', 36' secured to the frame of the device.

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To cause the rolls to revolve in synchronism, each carries a gear 60, 61 which intermesh.

By the provision of the floating bearing for the roll 20, the paper is always pressed between the rolls in such a manner that pull upon the paper shall cause revolution of the rolls and contact of the cutting knives, to be described, with the paper in due course.

To cut the paper after a sheet of length equal to the circumference of the rollers has been drawn, there are shown knives 35, 36 formed with serrated edges, the serrations of the edges designed to intermesh when the knives come together. The knives are, as shown, placed upon the rollers in a diagonal position so that they will begin the cut across a sheet at one edge thereof and cut progressively to the outer edge of the sheet during a revolution of about 22½° arc.

Adjacent each knife there is shown a recess 37, 38 into which the projecting edge of the opposite knife may project when the knives are intermeshed as shown in Fig. 5. As will be seen from Fig. 3 the knives are interrupted where they cross the slots 27—29. The knives are positioned as shown in Fig. 4 so as to complete the cut of the sheet just at the end of their revolution.

To provide a positive stop for the revolution of the rollers there is shown a link 39, Fig. 4 pivoted at 40 in the end plate 28' and having a notch 41 in position to engage a pin 42 carried by the end of the roller 21.

To initiate delivery of a sheet of paper, there is shown a plate 43 pivoted upon the anchor of the roller 21 and projecting upwardly to a position adjacent the front of the casing. The pin 15 is carried by the plate 43 and projects through the slot 16 as already described. The plate 43 is held in normal position and returned thereto after actuation by a coiled spring 44 anchored at 45 to the casing and at 46 to the projecting end of the plate. A stop for the return movement of the plate after actuation is shown at 47. Pivoted upon the plate 43 there is shown a pawl 48 coacting with ratchet teeth 49 carried by the roller.

To lift the link 39 whereby to remove the stop recess 41 from the path of movement of the pin 42 there is shown a cam roller 50 carried by the plate 43 engaging a cam 51 mounted on the link 39.

In operation the finger piece 14 is actuated through an arc of substantially 90° thus actuating the roll 21 and by friction upon the paper

causing actuation of roll 20. The paper is thus fed downwardly where it can be readily grasped by the user who then pulls upon the paper. After about 247½° revolution the knives begin their cut and completely sever the paper at or just prior to contact of the pin 42 in the recess 41.

The very last portion of the cut may be the result of momentum of the rolls given by the pull upon the paper. The paper may be pulled rapidly but will be stopped positively by the pin 42 and rebound will be prevented by coaction of the pawl 48 with the ratchet teeth 49.

To pull the link 39 downwardly to normal position a coiled spring 52 is shown anchored at 53 to the frame and at 54 to the link. As shown the end of the paper will be cut at a relatively large angle to the side margins thereof; whereby to avoid a sharp point of the severed sheet which would be substantially useless upon a towel. To guide the edges of the paper in their feed to the rolls there is shown a plate 55 mounted upon the end plates of the frame by means of an angle 56 which causes the plate to stand substantially flush with the ends of the rolls and thereby to prevent paper getting into the actuating mechanism.

Minor changes may be made in the physical embodiment of the invention within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. A paper dispenser comprising, in combination: a pair of coacting feed rolls formed with smooth peripheries; coacting paper severing knives formed with serrated cutting edges, one of each spirally mounted on the respective rolls for intermeshing of the serrations as the rolls revolve; a stop pin projecting from an end of one of said rolls; a movable stop member mounted independently of either roll normally standing in the path of movement of said pin as the rolls revolve; a drive ratchet mounted on the axle of one of said rolls; a manually operable lever mounted on the axis of the ratchet carrying roll and carrying a pawl coacting with said ratchet; means actuated by said lever to withdraw said movable stop from the path of said stop means in the initial movement of said manual lever; means to restore the movable stop to normal position after the passage there-beyond of the stop pin; and means to hold a supply of paper in strip form to feed to the bite of said rolls.

2. The structure of claim 1 with one of said rolls mounted in swingable arms and with spring means to urge the movably mounted roll against the surface of paper passing between the rolls.

3. The structure of claim 1 in which the movable stop means is carried by a swingable arm also carrying a cam surface, and in which the manually operable means carries a cam to coact with said cam surface to lift said arm.

4. The structure of claim 1 with said rolls formed with grooves behind said knives for entry thereinto of the teeth of the coacting knife on the opposite roll as the teeth intermesh.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
486,102	Goff	Nov. 15, 1892
486,103	Goff	Nov. 15, 1892
709,408	Jahnz	Sept. 16, 1902
1,395,795	Carlson	Nov. 1, 1921
1,811,537	Cummings	June 23, 1931
1,894,037	Harshberger	Jan. 10, 1933
2,026,533	Haupt	Jan. 7, 1936
2,079,651	Crafts	May 11, 1937
2,341,956	Staude	Feb. 14, 1944
2,365,838	Perkins	Dec. 26, 1944

FOREIGN PATENTS

Number	Country	Date
14,813	Great Britain	Sept. 19, 1889