

May 3, 1966

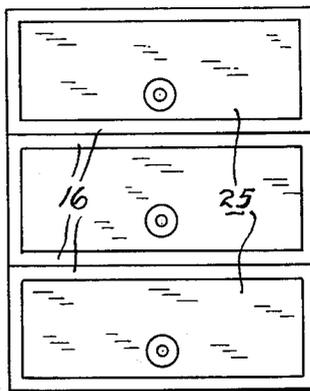
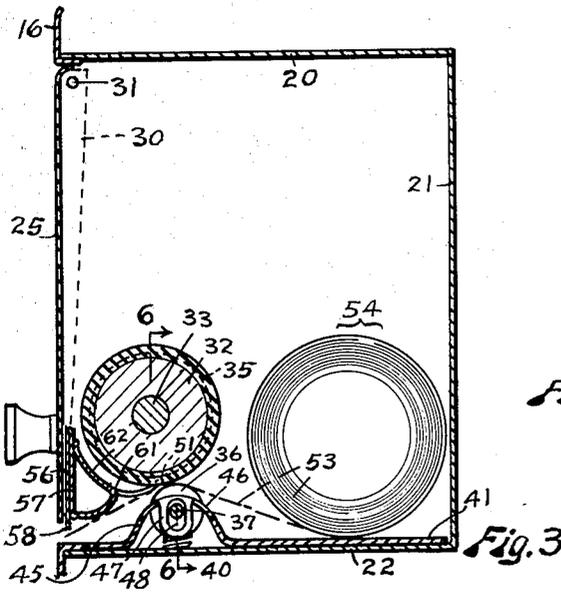
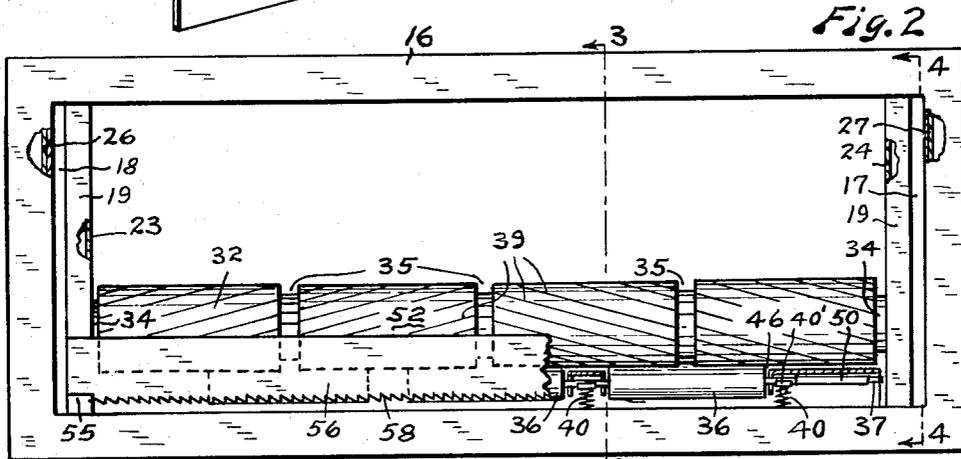
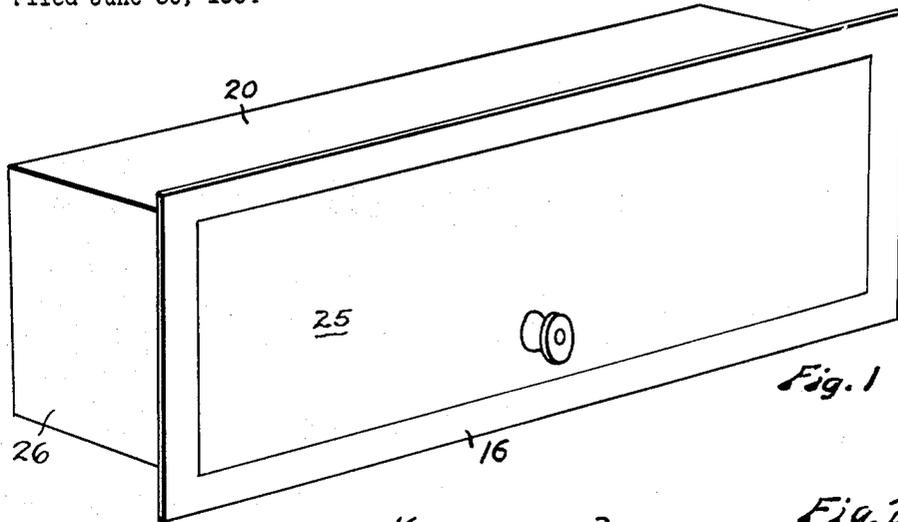
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3,249,273

DISPENSER FOR ROLLED FLIABLE MATERIAL

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2 Sheets-Sheet 1



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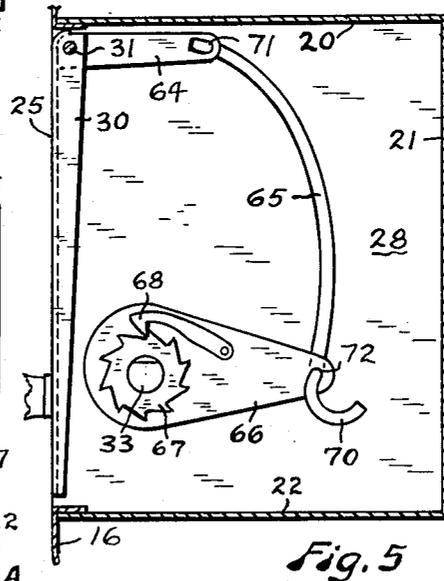
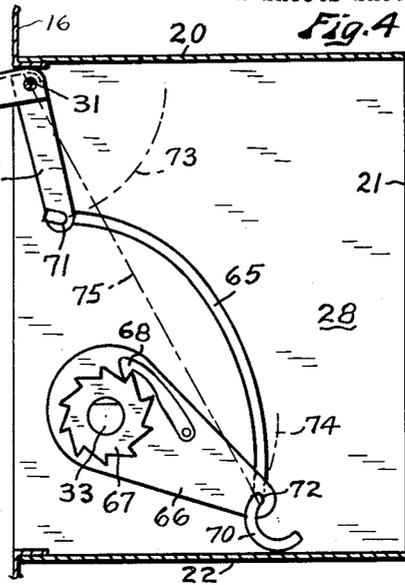
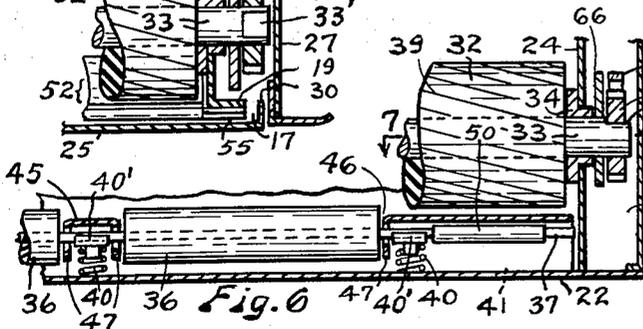
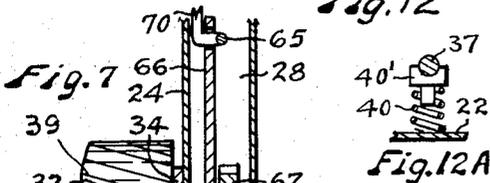
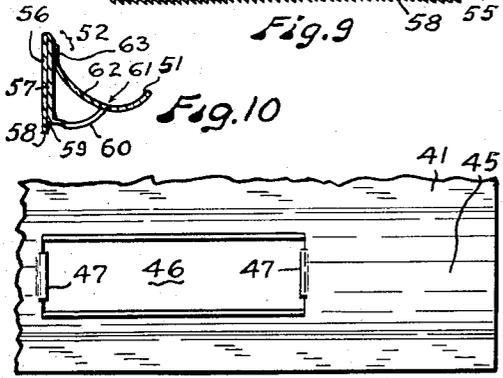
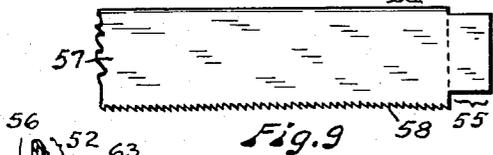
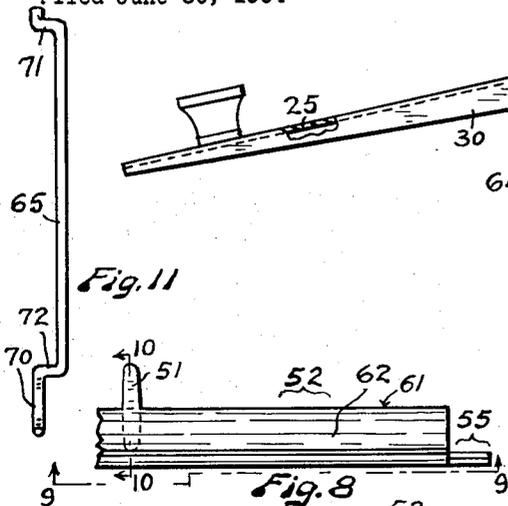
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DISPENSER FOR ROLLED PLIABLE MATERIAL

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2 Sheets-Sheet 2



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DISPENSER FOR ROLLED PLIABLE MATERIAL

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10 Claims. (Cl. 225-16)

My invention relates to a dispenser for rolled pliable material from which sheets can be torn off and particularly to a dispenser for waxed paper, aluminum foil, transparent plastic film and other like pliable materials of the type commonly used in the kitchen for wrapping, covering and otherwise protecting food.

An object of my invention is to provide a dispenser of simple and efficient construction which is not expensive to manufacture, is easy to care for, easy to operate, can be easily operated with one hand, is safe to use in that it is free from sharp corners and like parts which might injure the hands of the user, and one which can be installed in an ordinary kitchen wall between the usual two-by-four studding, thus utilizing space not otherwise usable and making it possible to position the dispenser where it is out of the way but is readily accessible and convenient to use.

Another object of my invention is to provide a dispenser of this nature which is well adapted to be assembled in multiples of superposed units, thus making it possible to store and keep ready for use a number of rolls of pliable wrapping materials of the types commonly used in the kitchen.

Another object is to provide a dispenser including a storage receptacle for rolled pliable material, feed rolls between which the pliable material is yieldingly and frictionally held in such a manner that it can be drawn outwardly preparatory to tearing off pieces of the same, a swingingly mounted door for closing the front of said receptacle, and means operated by opening movement of the door to advance the feed rolls and feed the leading edge portion of the pliable material outwardly far enough so it can easily be grasped for the purpose of withdrawal, the feed rolls holding the material back while it is being torn off and the feed roll advancing means being capable of holding the door in an open position which provides convenient access to the interior of the dispenser.

Other objects of my invention will be apparent from the following description and accompanying drawings.

In the drawings:

FIGURE 1 is a perspective view of a receptacle and dispenser constructed in accordance with my invention.

FIG. 2 is a front elevation of the same with the front door removed and with parts broken away and parts shown in section.

FIG. 3 is a view in cross section, on a larger scale than FIG. 2, taken substantially on broken line 3-3 of FIG. 2 and showing a roll of pliable material in the dispenser.

FIG. 4 is a view partly in end elevation and partly in section, taken substantially on broken line 4-4 of FIG. 2, showing means connected with a swingingly mounted door for advancing a feed roll in response to opening movement of said door, said means also functioning to yieldingly hold said door in the open position in which it is shown in said FIG. 4.

FIG. 5 is a view similar to FIG. 4 except that the door is shown closed and the parts connected therewith are shown in the positions they will occupy when said door is closed.

FIG. 6 is a fragmentary view, partly in section and partly in elevation, taken substantially on broken line 6-6 of FIG. 3, showing the feed rolls and parts of the mounting and operating means for said feed rolls.

FIG. 7 is a fragmentary sectional view, with parts in plan, taken substantially on broken line 7-7 of FIG. 6.

FIG. 8 is a fragmentary detached top edge view of a

combined tear-off bar and guide member for the pliable material.

FIG. 9 is a view in front elevation looking in the direction indicated by broken lines 9-9 of FIG. 8.

FIG. 10 is a sectional view of said combined tear-off and guide member taken on broken line 10-10 of FIG. 8.

FIG. 11 is a detached elevational view of a spring link shown in FIGS. 4 and 5.

FIG. 12 is a detached fragmentary plan view of a mounting plate for smaller feed rolls used in my dispenser.

FIG. 12A is a detached fragmentary view, partly in elevation and partly in section illustrating spring supporting means for smaller feed rolls.

FIG. 13 is a detached elevational view of spring means of modified form which can be used to support the smaller feed rolls.

FIG. 14 is a typical front elevational view, on a reduced scale, showing a group of three of my dispenser units assembled in superposed relation one upon another in a form convenient for installation in a kitchen wall.

Like reference numerals refer to like parts throughout the several views.

My dispenser comprises a receptacle of rectangular cross section formed of a top wall 20, a rear wall 21, a bottom wall 22, two end walls 23 and 24 and a swingingly attached front wall or door 25. Both of the end walls 23 and 24 are set inwardly a short distance from the adjacent ends of the top, rear and bottom walls and two outermost end walls or cover plates 26 and 27 are secured to the receptacle in spaced relation from the respective end walls 23 and 24. This provides a compartment 28 for operating mechanism of a type hereinafter described between the end walls 24 and 27. Preferably a rectangular frame flange 16 is rigidly secured to the front of the receptacle for finishing purposes.

The receptacle formed by the parts 20 to 27 inclusive is preferably about fourteen inches long and in the order of four inches from front to back so that it can be installed in a kitchen wall constructed with conventional two-by-four studding spaced sixteen inches between centers and will be substantially flush with the interior surface of the kitchen wall when so installed.

The door 25 at the front of the receptacle is preferably provided at each end with an inwardly extending flange 30 and pivot members 31 pivotally connect the upper end portions of the flanges 30 with the outer end walls 26 and 27 for swinging movement of the door 25 between a closed position shown in FIGS. 1, 3 and 5 and an open position shown in FIG. 4. Preferably the front edge portions of the innermost end walls 23 and 24 are bent outwardly at right angles so that they form narrow flat face-flanges 19, FIGS. 2 and 7, to which a tear-off member 52 may be secured, as hereinafter described. Each end flange 19 terminates short of the adjacent outermost end wall 26 or 27 so that two upright slots 18 and 17 are provided adjacent the respective outermost end walls 26 and 27. These slots 18 and 17 provide clearance for the end flanges 30 on the door 25.

An upper feed roll 32 of fairly large diameter is mounted on an axial shaft 33 and extends substantially from one end to the other of the dispenser near the front thereof and at a substantial distance upwardly from the bottom 22. The shaft 33 protrudes from both ends of the roller 32 and its protruding end portions are journaled in bearings 34 in the innermost end walls 23 and 24. Preferably at least the circumferential portion of the roller 32 is formed of material, such as a firm rubber or plastic composition, which is somewhat resilient and has a high coefficient of friction. Annular grooves 35 are provided at spaced intervals in the feed roller 32 to receive guiding devices for pliable material as hereinafter explained. Also preferably the roller 32 is diagonally scored by providing

on its periphery shallow grooves or ribs, indicated by lines 39, FIGS. 2, 6 and 7. The ribs or grooves 39 spiral in both directions from a medial position longitudinally of the roller toward the ends of the same. The direction of spiraling of the grooves or ribs 39 is such that, depending on the direction in which the roller is rotated in discharging pliable material, these ribs or grooves will tend to transversely stretch or place a light transverse tension on the pliable material so as to keep it free from folds and wrinkles. This transverse stretching effect can be increased by making the diameter of the roller 32 slightly larger mid way of its length and convergently tapering it slightly toward both ends. If the roll 32 is thus slightly tapered from a medial point outwardly some stretching effect can be obtained without using the ribs or grooves 39. Also oppositely spiraling ribs or grooves 39 can be provided on sections of the roller 32 adjacent both ends and the medial portion of said roller left smooth and some tensioning of the pliable material in transverse directions obtained.

A plurality of smaller rollers 36, preferably of material similar to that of the larger roller 32, are positioned below and in normal contact with said larger roller 32 for cooperation therewith in regulating the withdrawal of material from the dispenser. Three smaller rollers 36 are herein shown but it will be understood that this number may be varied. The smaller rollers 36 are supported on a bearing rod or shaft 37. The shaft 37 is rotatively supported by springs 40, fittings 40' and a mounting plate 41. The springs 40, FIGS. 2, 3, 6 and 12A are of a helical compression type. They rest on the bottom 22 of the receptacle and have, at their upper ends, the grooved fittings 40' which receive and fit partly over and press upwardly against the bearing rod 37. A spring of modified form, which can be used instead of the springs 40 and fittings 40', is shown in FIG. 13. It comprises a coil part 42 of suitable size to fit over the bearing rod 37, said coil terminating in two divergent, outwardly curved arms 43 which are adapted to rest slidably on the bottom 22 of the receptacle and exert a resilient upward pressure on said bearing rod 37.

The mounting plate 41 preferably covers substantially the entire bottom 22 of the dispenser. Said mounting plate 41 has an upwardly arched part 45 of approximately semi-cylindrical cross sectional shape formed therein and extending from end to end thereof. The arched part 45 forms a case and housing for the smaller rollers 36 and said arched part 45 is provided with three spaced apart slots 46. Each slot 46 is of a size large enough to provide clearance through which a peripheral part of one of the smaller rollers 36 may extend and contact the larger roller 32. FIG. 12 shows a fragmentary plan of mounting plate 41. The metal at both ends of each slot 46 is bent downwardly to form a bearing lug 47. Each lug 47 has a vertical slot 48, FIG. 3, through which the bearing rod 37 passes. The slots 48 guide and support the rod 37 and permit necessary movement of said rod 37 toward and away from the larger roller 32. A rubber tube 50 on the end portion of the rod 37 shown at the right in FIGS. 2 and 6 prevents displacement of the rod supporting spring device 40, 40' adjacent to that end of the rod.

A tear-off bar and guide member, indicated generally by numeral 52, is provided to facilitate tearing off pieces of pliable material 53 as said pliable material is drawn or fed outwardly from a roll 54 of the same. The tear-off bar 52 is positioned within the lower front portion of the dispenser housing between the door 25 and the feed rolls 32 and 36. Said bar 52 is provided with end parts 55 which rest against and are welded or otherwise rigidly secured to the out-turned face flanges 19 of the respective end walls 23 and 24.

The tear-off bar 52 is made from a piece of sheet metal by bending and folding it into the shape shown and preferably by welding some parts of the folded metal to-

gether. Said bar 52 comprises a normally vertical flat front portion formed of two contacting and preferably welded together layers 56 and 57. The lower edge of the outermost layer 56 extends below the adjacent edge of the layer 57 and is provided with teeth 58 shaped somewhat like the teeth of a hack saw and positioned so that the pliable material will normally be torn off by pulling it against their vertical edges. The metal forming the lower edge portion of the layer 57 is bent at 59 at approximately right angles and extends toward the feed rolls 32 and 36 and forms a convex guide surface 60 over which the pliable material slides as it is withdrawn from the receptacle. The rounded guide part 60 terminates in a bend 61 of greater than right angles and from this bend 61 a concave part 62 extends back toward the layer 57 and terminates in a marginal portion 63 which lies against and is preferably welded to the layer 57. Said tear-off member 52 is also provided with a plurality of spaced apart curved guide fingers 51, which can be displaced from the guide part 60 and which protrude from the bent edge 61 and have their tip portions positioned in the annular grooves 35 in the larger feed rolls 32 close to the position where the pliable material passes between the rolls 32 and 36. The fingers 51 help in guiding the pliable material and prevent the same from clinging to and wrapping around the larger feed roll 32. The pliable material is essentially capable of being torn off by pulling it against the toothed edge 58 of tear-off member 52.

The pliable material 53 passes outwardly between the rolls 32 and 36 and the springs 40 continuously yieldingly urge the lower rolls 36 toward the upper roll 32. Thus the pliable material is always firmly gripped between said rolls 32 and 36 for outfeed purposes when the roll 32 is advanced and is further held back by said rolls while sheets of the same are being torn off, the resistance to turning offered by the rolls 36 and 32 and the resistance to unwinding offered by the roll of material 34 being sufficient for hold-back purposes. As the pliable material is pulled out of the dispenser it is drawn over the convex guide surface 60 of the bar 52 and this prevents the pliable material from being dragged over the toothed edge 58 but does not prevent it from being drawn upwardly against said toothed edge 58 and torn off neatly and squarely and on a line at right angles to the length of the pliable material.

When waxed paper or like pliable material is torn off along the toothed edge 58 the then leading edge portion of the material will be left concealed and protected and will not protrude from the dispenser. This is desirable for sanitary reasons and appearance. However, this leaves the leading edge portions of the material in a position where it is difficult to grasp in withdrawing more of the material. This also necessitates providing simple and efficient means by which the user can feed out enough of the material so the leading edge portion of the same can be grasped for the purpose of pulling out more material. To meet this need I provide outfeed means operated by the lifting of the door 25 for imparting outfeed rotary movement to the larger feed roll 32 and I construct this outfeed means so that it will also hold the door 25 in a raised position, provided the door is raised far enough so it is approximately wide open, as shown in FIG. 4. Usually lifting the door 25 once will feed out enough material so it can easily be grasped and drawn out further. However it is obvious that any desired amount of the material can be fed outwardly by using the door 25 as a lever and imparting repeated up and down movements thereto.

The devices which interconnect the door 25 and roller 32 comprise a lever arm 64 secured to an end flange 30 of the door 25 near one of the pivot members 31 and extending rearwardly in the ratchet compartment 28 when the door 25 is closed. A curved or bowed link 65 of fairly stiff spring wire has its upper end pivotally connected with the end portion of the lever arm 64 re-

mote from the door 25. The lower end portion of the link 65 is pivotally connected with the outer or rear end portion of a ratchet lever 66. The forward end portion of the ratchet lever 66 fits over and oscillates on the shaft 33 which carries the roll 32. A ratchet wheel 67 is mounted on and secured against rotation on the shaft 33 preferably by providing a flat 33' on the shaft 33 and a complementary flat within the hub of said ratchet wheel 67. A pawl 68 on the lever 66 engages with the ratchet wheel 67 in such a manner as to impart turning movement to the shaft 33 and roller 32 in a clockwise direction. FIGS. 3, 4 and 5, each time the door 25 is swingingly moved upwardly. Gravity will normally hold the pawl 68 in engagement with the ratchet wheel 67 but obviously said pawl 68 may be spring pressed against the wheel 67.

Preferably the lower end portion of the spring wire link 55 extends a substantial distance below the end of the ratchet lever 66 and is curved in the manner shown and forms a stop which will contact the bottom wall 22 and limit downward swinging movement of the ratchet lever 66. A preferred way of pivoting the link 65 to the levers 64 and 66 is to bend said link 65 before it is tempered in such a manner as to provide, near the upper end of the link, a short transversely extending pivot member 71 and near the lower end of said link another short transversely extending pivot member 72. These pivot members 71 and 72 can, if necessary, be inserted in suitable perforations in one or both of the respective levers 64 and 66 before these levers are attached to the respective parts 30 and 33.

As the door 25 is moved upwardly from a closed position the pivot members 71 and 72 will move downwardly along the respective curved paths indicated by broken lines 73 and 74, FIG. 4. The larger feed roll 32 will be rotatively moved clockwise, FIG. 3, and will feed pliable material outwardly until the lower end portion 70 of the bowed link 65 contacts the bottom 22 of the dispenser and arrests this feeding movement. If further upward swinging movement is imparted to the door 25 after the lower end 70 of the link 65 engages the bottom 22 the link 65 will spring or bend like a bow and the upper pivot member 71 of said link will be moved past center, that is, to the left of a straight line 75, FIG. 4, common to the pivot members 31 and 72 and the door 25 will be yieldingly held in its open position. Thus the bowed resilient link 65 functions both as part of the roll advancing means and part of the means for yieldingly holding the door 25 open. Holding the door 25 open facilitates servicing the dispenser.

One or more of my dispensers may be used, depending on the number of different kinds of wrapping material to be cared for. Three superposed units, as shown in FIG. 14, assembled with proper spacers between them and installed in a kitchen wall will take care of and make readily available the three wrappings commonly used, namely, waxed paper, aluminum foil and transparent plastic wrapping film. The rolls of desired material can be readily inserted from the front and the leading edge portions of the material caught between the feed rolls 32 and 36. To obtain the material the user advances the material by raising the door 25 and thus imparting rotation to the feed roll 32 to feed out enough of the material so he can grasp it and pull out and tear off any desired amount. The multiple unit dispenser is neat in appearance when installed in a kitchen wall, is free from objectionable protruding parts, is care free and easy to service, is easy to use and can be operated with one hand if the other hand of the user is otherwise occupied.

The foregoing description and accompanying drawings clearly disclose a preferred form of my invention but it will be understood that this disclosure is mere illustrative and that changes may be made within the scope of the following claims.

I claim:

1. In a dispenser for pliable material, a housing capable of receiving rolled pliable material and having an opening in its front side through which a roll of pliable material can be inserted; a door pivotally supported by said housing from its upper edge portion for swinging movement between an upright closed position and an open position in which it extends forwardly from said housing; feed rolls rotatively mounted in said housing capable of receiving pliable material therebetween and feeding it outwardly from said housing; and means operated by opening movement of said door for advancing said feed rolls.

2. The apparatus as claimed in claim 1 in which the feed roll advancing means includes devices capable of holding the door in an open position.

3. The apparatus as claimed in claim 1 in which the feed rolls are positioned in the lower front portion of the housing; and in which a tear-off member is rigid with the housing and extends lengthwise thereof forwardly of and close to the feed rolls and between the feed rolls and the door.

4. The apparatus as claimed in claim 1 in which at least one of the feed rolls is provided with inclined material tensioning ribs and grooves of shallow depth extending spirally from a location medially of the length of the roll toward the respective ends of said roll, said ribs and grooves spiraling in opposite directions from a medial location toward the ends of the roll.

5. In a dispenser for rolled pliable material, a housing of substantial length and rectangular cross section having an open front side; a door having an upper edge portion pivotally supported from the upper portion of said housing for swinging movement on a normally horizontal axis between a substantially vertical closed door position and an open door position in which it extends forwardly from said housing; upper and lower feed rolls rotatively mounted in contacting relation in the lowermost forward portion of said housing; and roll operating means connected between said door and said feed rolls and operated by upward swinging movement of said door in rotatively advancing said feed rolls with the contacting portions of said rolls moving toward the front of said housing, said roll operating means including a pivot movable past a center line and said roll operating means holding said door in open position when said pivot is so moved past the center line.

6. In a dispenser for rolled pliable material, a housing of substantial length and rectangular cross section, said housing being open at the front; a door having its upper edge portion pivotally supported from the upper edge portion of said housing for swinging movement on a normally horizontal axis between an upright closed door position in which it closes the open front of said housing and an open door position in which it extends outwardly from said housing; an upper feed roll rotatively supported in said housing; a lower feed roll rotatively supported in said housing and yieldingly urged upwardly toward said upper feed roll, said upper and lower feed rolls being positioned in the lowermost forward portion of said housing; a lever rigid with the upper portion of said door and extending toward the rear of said housing; a ratchet wheel coaxial with and rigid with said upper feed roll; a ratchet lever oscillatingly movable about the axis of said ratchet wheel; a pawl on said ratchet lever engaging said ratchet wheel; a bow shaped link of resilient material pivotally connected between the outer end of said ratchet lever and the outer end of the lever on said door; and stop means limiting downward movement of said ratchet lever, said two levers and said link and ratchet wheel and pawl advancing said feed rolls with the contacting portions of said rolls moving toward the front of said housing in response to upward swinging movement of said door and the pivoted upper end of said link being adapted to cross a center line common to the lower pivot of the link and the

axis about which the door swings, whereby the door is yieldingly held in an open position.

7. The apparatus as claimed in claim 6 in which the stop means limiting downward movement of the ratchet lever comprises a downwardly directed integral curved extension on the lower end of the bow shaped link.

8. The apparatus as claimed in claim 6 in which the upper and lower ends of the bow shaped link are pivotally connected with the lever on the door and the ratchet lever respectively by two transversely extending pivot members formed integral with said link.

9. In a dispenser for pliable material, a housing capable of receiving rolled pliable material and having an outlet opening for pliable material in its lowermost front side; lower rolls rotatively supported in the lowermost front portion of said housing adjacent said outlet opening and extending lengthwise of the housing; an upper feed roll positioned above said lower rolls and adapted to be yieldingly contacted by said lower rolls, said upper feed roll being provided with longitudinally spaced apart annular grooves, said upper and lower rolls being adapted to feed pliable material outwardly therebetween; means operable in imparting rotary out-feed movement to said upper feed roll; and a tear-off member supported by and extending longitudinally across said housing parallel with and close to and in front of said feed rolls, said tear-off member being of one piece integral sheet metal construction and including a flat front bar portion doubled upon itself to provide two contacting layers, the outermost layer extending below the innermost layer and terminating in a lower straight toothed tear-off edge against which pliable material can be drawn to tear the same and the lowermost edge of the innermost layer of said flat front bar being bent inwardly and curved upwardly forming a guide portion of substantial width which is convexly rounded on its lower side providing a guide surface positioned between the tearing edge and the rolls and over which pliable material can be drawn outwardly while being held clear of said tearing edge, parts of said downwardly convex rounded guide member being punched out and displaced toward said upper feed roll providing fingers extending into the annular grooves of said upper feed roll whereby pliable material will be deflected outwardly from said upper feed roll; and a reversely bent portion rigidly connected with and forming a brace between the outer terminal edge of said downwardly convex rounded guide part and the upper edge portion of said tear-off member.

10. A dispenser for pliable material comprising a housing capable of receiving rolled pliable material and having an opening in its front side through which a roll of pliable material can be inserted; a door pivotally supported by said housing from its upper edge portion for swinging movement between an upright closed position and an open position in which it extends forwardly from said housing; a lever arm rigid with said door and protruding from the inner side thereof; feed rolls rotatively supported in said housing capable of receiving pliable material therebetween and feeding it outwardly from said housing, one of said feed rolls having an axial bearing member rigid with the roll and protruding from an end of the roll; a ratchet lever supported for oscillation on said axial bearing member; ratchet means connecting said ratchet lever with said bearing member providing out-feeding rotary movement of the roll with which said bearing member is connected in response to angular movement in one direction of said ratchet lever; and a link connecting the outer end portions of said lever arm and said ratchet lever, whereby opening movement of the door will angularly move said ratchet lever and impart outfeed movement to the roller with which said bearing member is connected.

References Cited by the Examiner

UNITED STATES PATENTS

392,502	11/1888	Earl	-----	225—43	X
943,279	12/1909	Smith	-----	225—43	X
2,117,375	5/1938	Steiner	-----	225—10	
2,288,332	6/1942	Steiner et al.	-----	225—14	X
2,322,531	6/1943	Maltby et al.	-----	226—127	X
2,434,454	1/1948	Breitwieser	-----	221—249	X
2,806,529	9/1957	Bulman	-----	225—52	
2,826,373	3/1958	Schwartz	-----	225—14	X
2,830,810	4/1958	Colburn et al.	-----	226—127	
2,973,958	3/1961	Casey et al.	-----	225—38	X
3,045,885	7/1962	Dahlin et al.	-----	225—16	X
3,059,982	10/1962	Dahlin	-----	312—39	

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