

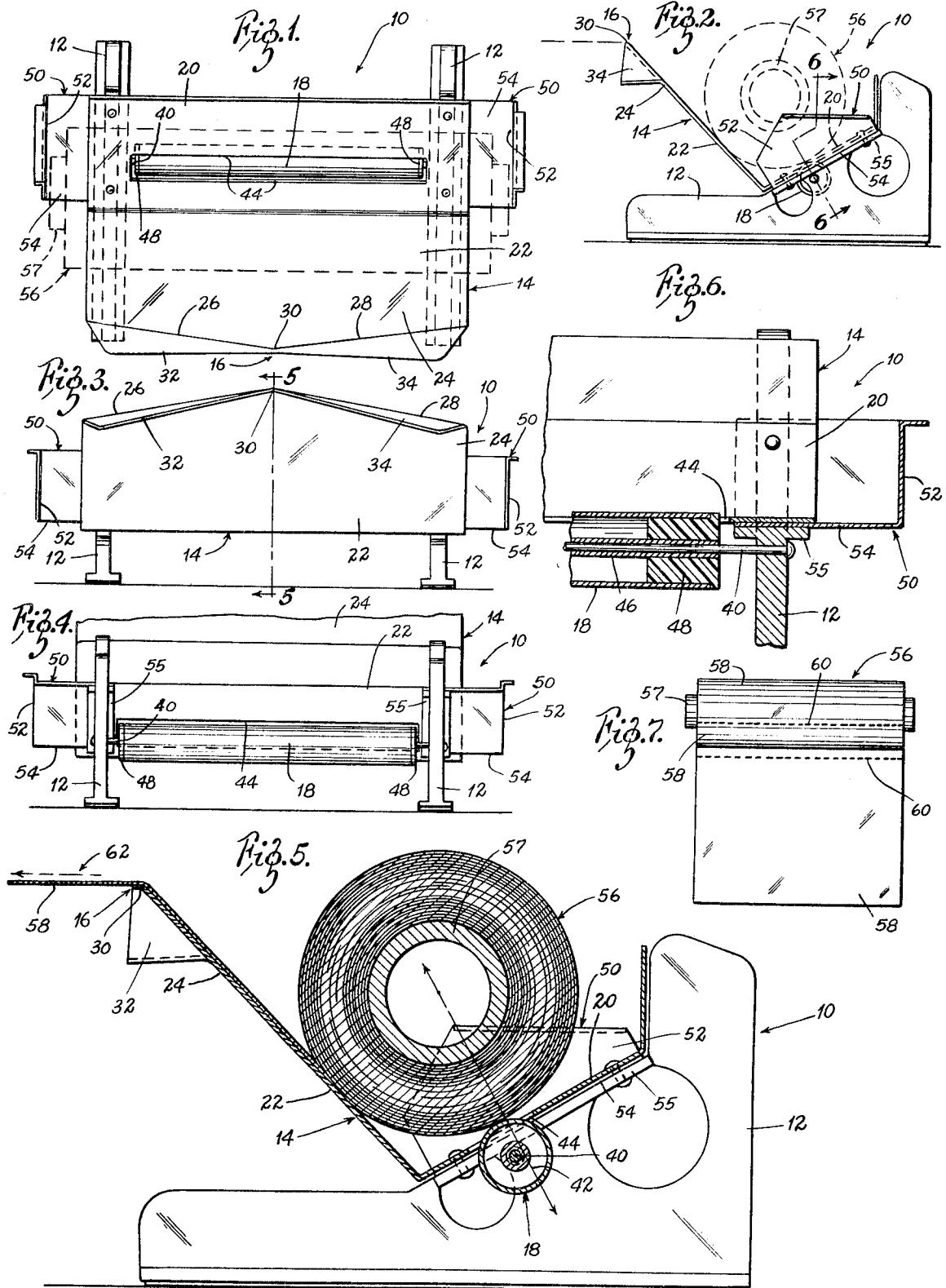
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DISPENSER FOR ROLLS OF PERFORATED FOIL

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DISPENSER FOR ROLLS OF PERFORATED FOIL
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5 Claims

ABSTRACT OF THE DISCLOSURE

A dispenser for rolls of perforated aluminum foil. The dispenser has piercing means for piercing and separating sheets of aluminum foil as the web is withdrawn over it. Special roller bearing means are provided in a dispenser trough to facilitate the movement of heavy rolls having varying diameters of aluminum foil and to prevent premature tearing of the perforated sheets.

Summary of the invention

In the past, dispensers have been provided for rolls of perforated plastic film, which have means for piercing the perforations of the film so that sheets can be withdrawn and torn apart. Such a dispenser is shown in Pat. No. 3,045,883. Such dispensers have provided convenient means for tearing sheets of film from rolls of film material for use in institutions, industrial locations, super markets, and the like, for various wrapping purposes. When such dispensers are used for dispensing rolls of perforated aluminum foil, or other types of metallic foil, difficulties are encountered however, due to the greatly increased weight of the foil material. Such weight in rolls of foil material causes greatly increased friction and difficulty in withdrawing the web of material, resulting in some cases tearing or premature separation of the web material.

By means of this invention there has been provided a dispenser with means for facilitating the movement of the perforated roll of aluminum foil. A roller bearing is provided in the dispenser trough against which the roll of foil bears. Thus, a two-point suspension is provided in the trough, the one point being upon the roller bearing and the other upon a wall of the trough, so as to facilitate the movement and minimize the force required to pull out the web of material. The roller bearing is specially located such that it can receive large rolls and still bear against the same roll is the diameter is decreased as the roll is used up and taken advantage of the roller bearing contact upon the roll of material.

The dispenser is adapted for easy and simple use by relatively unskilled operators. The construction is rugged and yet relatively simple and uncomplicated.

The above features are objects of this invention and further objects will appear in the detailed description which follows, and will be otherwise apparent to those skilled in the art.

For the purpose of illustration of this invention, there is shown in the accompanying drawings a preferred embodiment thereof. It is to be understood that these drawings are for the purpose of illustration only and that the invention is not limited thereto.

In the drawings:

FIG. 1 is a top plan view of the dispenser;

FIG. 2 is a view in side elevation taken from the right side of FIGURE 1;

FIG. 3 is a view in front elevation of the dispenser;

FIG. 4 is a view in rear elevation of the dispenser;

FIG. 5 is an enlarged view in section taken on the line 5—5 of FIG. 3 showing the manner of perforating the perforated sheets of roll material as it is drawn over the dispenser piercing means;

FIG. 6 is an enlarged view in section taken on the line 6—6 of FIG. 2 showing the mounting of the roller bearing for the roll of foil; and

FIG. 7 is a plan view showing a roll of perforated foil with the web extended.

Description of the invention

The dispenser of this invention is generally identified by the reference numeral 10 in FIGS. 1 through 5. It is comprised of a pair of vertical end supports 12, supporting a dispenser trough or tray 14, having a piercing means 16. The roller bearing means is generally indicated by the reference numeral 18, and is shown mounted in the rear portion of the dispenser trough.

The dispenser tray 14 is comprised of a trough-like section having a rear wall 20 converging with a front wall 22 to form the V-shaped trough in which the roll of aluminum foil is positioned. The front wall 22 has an extended front portion 24, which acts as a rest for the web of material as it is extended.

The piercing means 16 is effected by converging edges 26 and 28 of the extended tray section 24, which provides a point 30 over which the center of the web is extended. Flanges 32 and 34 act as a rest for the end of the web of material after it has been separated and facilitates the finding of the edge or end of the web for the next tearing operation.

The roller bearing 18 is mounted upon the side supports 12 through a support shaft 40. The shaft supporting the roller bearing 18 is so located that it is positioned slightly toward the apex of the trough with respect to a line 42 perpendicular to the rear wall 20, and which passes through the center of a full roll of material. Thus, the bearing contact of the roller bearing with the roll of material is situated slightly away from this line such that as the roll decreases in diameter as it is used up the center line or perpendicular line 42 will move through the center of the support shaft 40, and then when the roll is nearly empty it will still provide bearing relationship with the roller bearing 18 and not engage the tray surface 20 of the rear wall.

The roller bearing 18 is so constructed that it fits through a slot-like opening 44 provided in the rear wall surface 20. The roller bearing has an interior tube 46, which is supported at the ends of the roller bearing shell by means of a spacer washer or end closure 48.

The dispenser tray is further provided with end stop members 50. These stop members are in the form of uprising vertical flange elements which are angle shaped such that the wall 52 extends vertically to act as a stop for the ends of the roll, while the bottom wall 54 is secured to the bottom of the rear tray wall 20 and a flange 55 of the support 12, as best shown in FIGS. 2, 5 and 6. In this manner rolls can be positioned within the tray and the stop members prevent any accidental dislodgment of the rolls outside the tray trough.

Operation

The dispenser of this invention is specially adapted for use with rolls of aluminum foil. Such rolls are of considerably greater weight than the normal rolls of plastic film or other conventional wrapping material, and it is for such rolls that the dispenser of this invention has been specially designed, although it is to be understood that it may be employed with other types of roll material.

A roll of perforated aluminum foil is generally indicated by the reference numeral 56 in FIG. 7 with the core shown at 57. Individual sheets are identified by the reference numeral 58 separated from other sheets by transverse perforation lines 60. A full roll is shown ready for use in FIGS. 2 and 5. As seen in FIG. 5 in particular, the full roll fits into the dispenser trough 44 in such a

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manner that line 42 drawn from the center of the roll to the dispenser tray wall 20 is located to the right of the center of the roller bearing 18 and the roller bearing contact with the roll. In smaller rolls, as the roll is used up or depleted, this line 42 will obviously move toward the apex of the dispenser trough and the roll will still maintain bearing relationship with the bearing 18 until the roll of film exposes the core 57 of the roll and the roll is used up. This insures the operating efficiency of the roller bearing and prevents the roll from bearing against both the rear wall 20 and the front wall 22 of the dispenser tray, which would greatly increase friction over that provided through the roller bearing structure of this invention.

For dispensing or tearing sheets of film 58 from the roll of film, the operation is similar to that shown in Pat. No. 3,045,883. Thus, the end of the last sheet 58 is simply pulled out in the direction of the arrow shown in FIG. 5 where the path of the film is identified by the reference numeral 62. The end of the web is withdrawn until the perforated line 60 rides over the piercing means 30 at the front end of the extended section 24 of the dispenser tray. The tension on the web caused by the pull presents a high degree of force or pressure at the center of the perforated line 60 and causes it to tear away from the center and separate the end sheet 58. Additional sheets of aluminum foil are separated in the identical manner until the roll is used up.

Accordingly, through this invention the roller bearing has provided an effective means for dispensing perforated sheets of aluminum foil. The roller bearing has prevented excess tension or pressure being used in the draw out of the web of material, which, due to the great weight of the roll of aluminum foil as compared to conventional rolls of film, can cause premature separation or tearing of the web across areas that are not perforated. The special design of the roller bearing provides for the accommodation of full rolls of film down to the last sheets before the roll becomes empty to present the naked core.

Various changes and modifications may be made within this invention as will be readily apparent to those skilled in the art. Such changes and modifications are within the scope and teaching of this invention as defined by the claims appended hereto.

What is claimed is:

1. A dispenser for rolls of aluminum foil having transverse perforations defining said foil in separate sheets, said dispenser comprising a trough defined by converging front and rear walls, said front wall having a web piercing means for tearing the web of aluminum foil as it is drawn thereover, said piercing means being defined by converging front edges of said front wall forming a point at the center of the forward edge of said wall and roller bearing means to reduce the friction and resistance to rotation of the aluminum foil roll when the free end of the web is withdrawn, said roller bearing means being mounted at the rear wall of said trough to provide roller bearing contact at the bottom of said roll of foil, the axis of the roller bearing being parallel to the roll of foil and underlying the rear wall of the trough, and a minor portion of the top surface being exposed through a slot in the rear wall for load bearing contact with the roll of foil.

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2. The dispenser of claim 1 in which the dispenser trough is mounted at its sides upon a pair of vertical supports and said roller bearing is journaled at its ends in said supports and the axis of the roller bearing is parallel to the roll of foil and underlies the rear wall of the trough and a minor portion of the top surface is exposed through a slot in the rear wall for load bearing contact with the roll of foil.

3. The dispenser of claim 1 in which the angular relation of the converging walls of the trough and the position of the mounting of the roller bearing is such that when a full roll of foil is placed in the trough it bears against the roller bearing at a point slightly offside with respect to the apex of the trough, and a line through the center of the roller bearing perpendicular to the rear wall and as the roll is exhausted the roll bears against the roller bearing in a near side relation.

4. The dispenser of claim 1 in which the axis of the roller bearing is parallel to the roll of foil and underlies the rear wall of the trough, and a minor portion of the top surface is exposed through a slot in the rear wall for load bearing contact with the roll of foil, the angular relation of the converging walls of the trough and the position of the mounting of the roller bearing is such that when a full roll of foil is placed in the trough it bears against the roller bearing at a point slightly offside with respect to the apex of the trough, and a line through the center of the roller bearing perpendicular to the rear wall and as the roll is exhausted the roll bears against the roller bearing in a near side relation.

5. The dispenser of claim 1 in which the dispenser trough is mounted at its sides upon a pair of vertical supports and said roller bearing is journaled at its ends in said supports and the axis of the roller bearing is parallel to the roll of foil and underlies the rear wall of the trough and a minor portion of the top surface is exposed through a slot in the rear wall for load bearing contact with the roll of foil, the angular relation of the converging walls of the trough and the position of the mounting of the roller bearing is such that when a full roll of foil is placed in the trough it bears against the roller bearing at a point slightly offside with respect to the apex of the trough, and a line through the center of the roller bearing perpendicular to the rear wall and as the roll is exhausted the roll bears against the roller bearing in a near side relation.

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60 FRANK T. YOST, Primary Examiner

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