

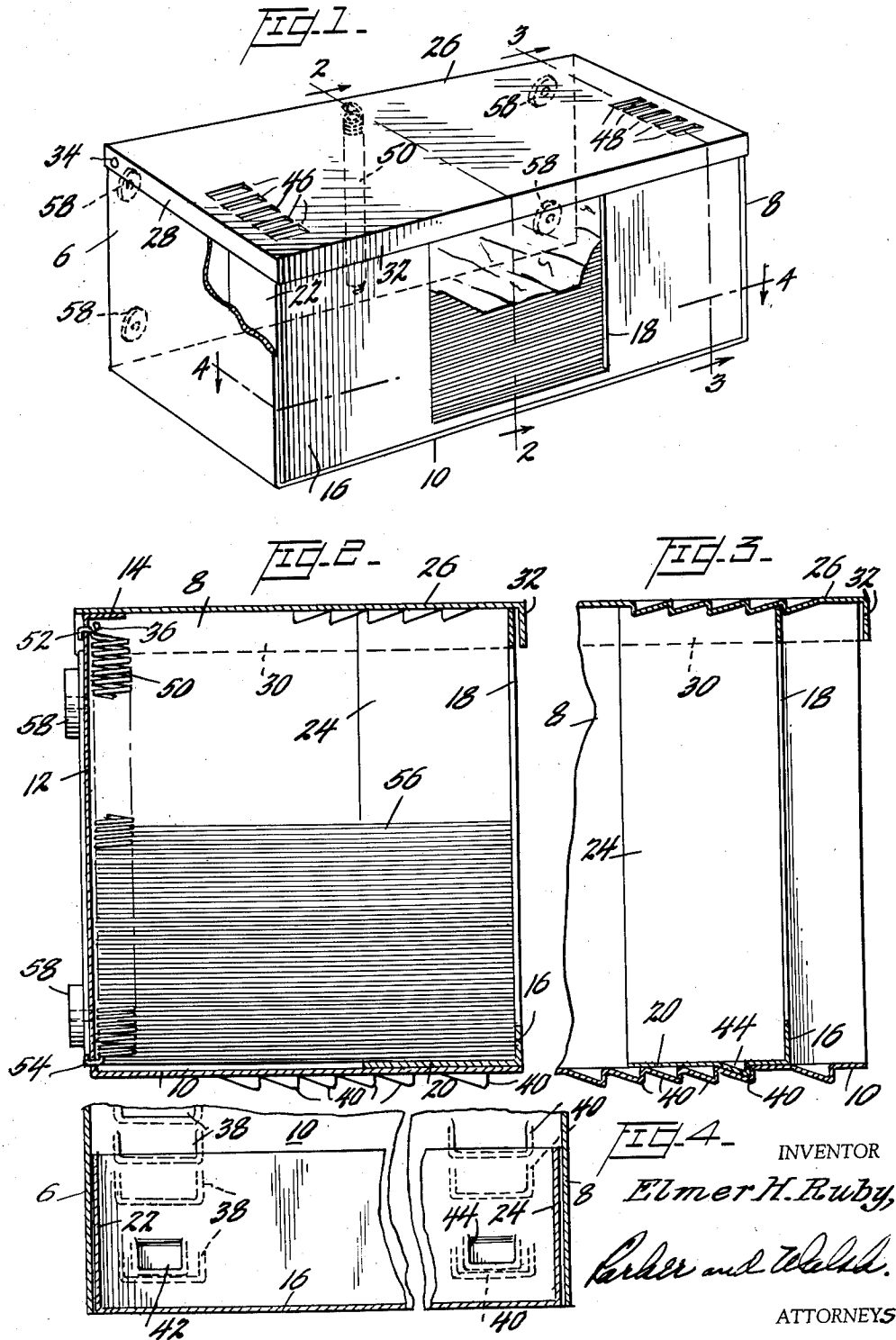
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PAPER TOWEL DISPENSER

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PAPER TOWEL DISPENSER

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This invention relates to a dispenser for pliable sheet material, such as paper towels or the like. The existing, box-form dispensers are in each case tailored to a particular form and size of the material to be stored, which limits their usefulness and results in undue expense whenever a change in size or shape of the material becomes desirable or necessary for any reason.

It is, therefore, an object of the present invention to provide a dispenser for sheet material, in roll form or stacked, which is readily convertible to accommodate a variety of sizes of material. A further object is to provide a dispensing enclosure having a coil spring element cooperating with a volume-adjustable dispenser to provide ready and reliable functioning of the dispensing operation.

Briefly described, the invention comprises a box-form enclosure with integral bottom and end faces and a rear panel, a top lid pivoted at the rear of the enclosure, and a front cover having a dispensing window, said cover being positionable at various depths within the enclosure by means of cooperating elements on the top lid and on the bottom of the enclosure. A coil spring mounted in the rear of the enclosure cooperates with the stored material, both to ensure proper positioning of odd-sized material and to aid in accurate, individual dispensing.

The above-stated objects are attained by the present invention, one preferred form of which is described in the accompanying specification and illustrated in the drawings in which:

FIGURE 1 is a perspective view of a fully assembled dispenser containing a complement of sheet paper towels in stacked relation;

FIGURE 2 is a medial, vertical sectional view of the dispenser of FIGURE 1 as seen on the plane of the line 2-2 of FIGURE 1;

FIGURE 3 is a partial vertical sectional view of the dispenser of FIGURE 1 as seen on the plane of the line 3-3 of FIGURE 1, and showing the front cover in an adjusted position with respect to that of FIGURE 2; and

FIGURE 4 is a partial, horizontal sectional view of the dispenser of FIGURE 1, as seen on the plane of the line 4-4 of FIGURE 1.

Referring to the drawing by characters of reference, there is shown a rectangular, box-form container, the main body of which comprises four panels, namely, end faces 6 and 8, a bottom 10, and a rear face 12, the latter having, at its top, a marginal portion 14 bent forwardly at right angles into parallelism with the top edges of end faces 6 and 8. This four-sided box element, if metallic, may be secured as by soldering, or welding, with or without interlocking, as will appear most judicious from known practices in the sheet metal art. Alternatively, the box may be formed as a unit, from plastic or the like.

For adjustability of the effective size of the container, the front cover is made as a separate element which is positionable at various locations across the front-to-back depth of the container. Thus, the front cover comprises a main, upright panel 16 having a central, rectangular opening or window 18 of a size to permit ready withdrawal of single sheets of material up to a size equal to the area of the bottom of the box. Obviously the window size may be varied within a considerable range of sizes. For vertical stability, the front cover has a skirt portion 20 of substantial width at its lower edge, which is

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bent at right angles so as to dwell upon the bottom 10 of the container with the front panel 16 in a vertical position. The front cover is also bent at right angles along its vertical edges to provide side skirts 22 and 24.

The covering lid of the container comprises a main panel 26 with depending edge portions 28, 30 at its ends and 32 at its front, which snugly overlap the top edges of end faces 6, 8 of the container, as well as the top portion of the open area in which the front cover is received. The lid is hinged at the top and rear of end faces 6, 8 as by simple rivets 34, 36 so that the container may be easily opened for reloading, and adjustment of the front cover, if necessary.

For anchoring the front cover at the desired position along the front-to-rear extent or depth of the container there is provided an interlocking feature comprising a series of downwardly struck portions in the form of ratchet-like indentations in the top lid and in the container bottom, the latter cooperating with complementary indentations in the bottom skirt of the front cover. The left and right series of indentations in the bottom panel 10 are indicated by the numerals 38 and 40. A pair of indentations 42, 44 in the bottom skirt 20 of the front cover 16 mate with pairs of indentations 38, 40 in the container bottom to positively position the front cover at the desired location. Anchoring of the front cover in any adjusted position is rendered complete by a double series of indentations 46, 48 at opposite ends of the top lid 26, which project inwardly of the lid and which, when the lid is swung into closed position, lock the top edge of the front cover against forward or backward movement.

Carried centrally on the rear panel 12 of the container, opposite the front window 18, is a vertically positioned, coiled, tension spring 50 with its free ends 52, 54 anchored in perforations in the panel 12. As seen in FIGURE 2, the individual sheets of stored material 56 are inserted between successive convolutions of the coil spring. This positive lodgment of the individual sheets under pressure ensures against disarrangement of all but the specific sheet being removed, even in the case where the sheets are of a length less than that of the dispenser. It will be seen that with the adjustable feature of the front cover, the virtues of the coil spring holder are available for sheets in a variety of widths. The coil spring has further utility in its coaction with the movable front in the handling of sheet material in roll form in a manner presently to be described. A further advantage is that it enables a degree of latitude in positioning the sheets to compensate for the roughly approximate spacing afforded by the indentations in the box elements. The dispenser may be used in portable form, being simply set on a table top, in which case it will preferably have non-skid legs such as vacuum cups, or it may be screwed to a wall. In the latter case it will preferably be provided with spacer bosses 58, perforated to receive screws.

In its use with stacked, sheet material the container is loaded by first swinging lid 26 open and removing front cover 16, the latter being accomplished by the simple act of lifting. The sheets are then stacked in the container, each being inserted between successive convolutions of the coil spring to an extent which will approximately position the sheets for contact by the front cover when engaged in a set of positioning indentations. If the sheets happen to lie slightly outwardly of the correct position they will be eased into correct position by gentle pressure on the front cover until it slips into its locking slot. With the front cover in place the lid is dropped to complete the locking of the parts, and the system is ready for dispensing.

For removal the uppermost sheet is grasped by the fingers and a gentle, outward pull applied. As the grip

of the coil spring is overcome the sheet slips outwardly drawing in to the region of the window the remote edges of the sheet. In the removal of the sheet from the recess of the coil spring, the thickness of the coil contrives to insulate the sheet from the underlying sheet so that the latter remains undisturbed.

In the use of the container with material in roll form the recesses in the coil spring are not utilized, but the spring nevertheless cooperates by lateral pressure to snugly hold rolls of varying diameters. As will be obvious, in order for the spring to exert lateral force on a roll, the roll must be placed in the container with its axis extending from side to side of the container. For this purpose, the range of usefulness of the spring may be extended by providing an opening in the back face of the container to allow greater lateral movement of the spring under bending forces.

While a certain preferred embodiment of the invention has been shown and described, it will be understood that the invention is not limited thereby, since various changes in the size, shape and arrangement, for instance, of the several component parts may be subject to modification by those skilled in the art in the light of the above disclosure, and the invention should not, therefore, be deemed as limited except as shall appear from the spirit and scope of the appended claims.

I claim:

1. A dispensing device comprising a container having a bottom, end faces and a rear face, a coil spring secured in the rearward portion of said container with its axis generally perpendicular to said bottom, a separate, front face receivable within said bottom and end faces, a top cover, and cooperating means on said front face and two opposite faces adjoining said front face for adjustably positioning said front face, said front face having an opening for removal of stored material from said device, located centrally of said face and extending substantially from top to bottom.

2. A dispensing device comprising a container having a bottom, end faces and a rear face, a separate, front face receivable within said bottom and end faces, and having a central opening for removing stored material from said device, a movable top cover, and interlocking means on said top cover, said bottom and said front face, the first two mentioned interlocking means being arranged in spaced relation in a direction from front to rear of said container for adjustably positioning said front face, and a coil spring secured in the rearward portion of said device with its axis generally perpendicular to said bottom, said coil being located centrally of said rear face in general alignment with said opening in said front face.

3. A cabinet dispenser suited to the interchangeable dispensing of:

paper in rolls, suited for tearing across the web of the paper;

stacked paper sheets;

said dispenser being further suited to the interchangeable dispensing of sheets of differing widths, said dispenser comprising a box having a rear face, a front face movable toward and away from the rear face in substantially parallel planes thereto, a paper dispensing opening of substantial width in the front face, extending substantially from top to bottom of said face, two pair of opposing faces completing the top, bottom and sides of said box, said box being arranged to receive interchangeably a roll of paper with its axis extending from side to side or a sheet flat on the bottom of the box with its length extending from side to side; and interlocking means on the front face and on at least one pair of opposing faces for adjustably fixing the front face with respect to the rear face to accommodate the front-to-rear dimension of the box to the size of the paper confined therein.

4. A dispenser according to claim 3 wherein the front face has a horizontal skirt at its lower edge, the top face is movable and has a series of downwardly projecting elements on its underside, said elements being arranged in parallel formation extending parallel to the front face, the bottom has a series of indentations extending parallel to the front face and the skirt of the front face has a projection selectively receivable in the indentations of the bottom, the front face being secured against movement when said top face is in place.

5. A dispenser according to claim 3 wherein the front face has a horizontal skirt at its lower edge, said skirt having a downwardly depending, pawl-like projection, the bottom face has a series of downwardly depending serrations defining ratchet form indentations in said bottom for selectively receiving said pawl-like projection and the top face is movable, having downwardly depending elements adapted for interlocking engagement with the top of the front face when said top face is in place.

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