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TISSUE DISPENSER

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Fig. 1

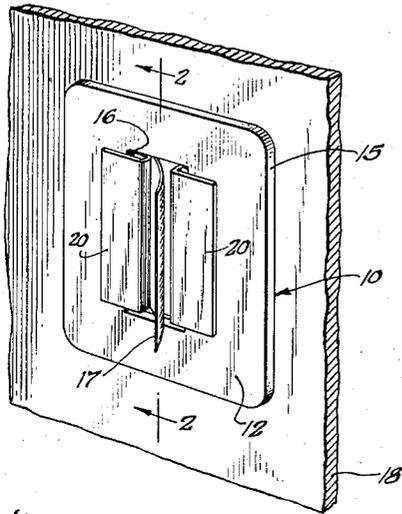


Fig. 2

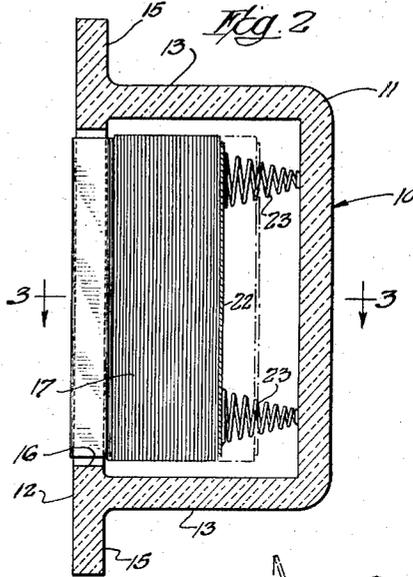


Fig. 3

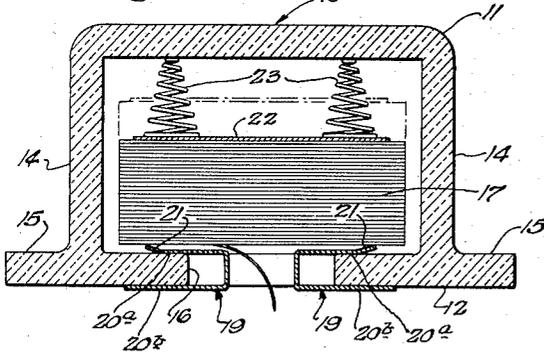


Fig. 4

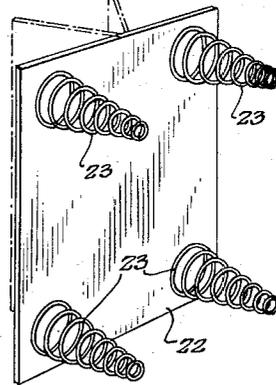


Fig. 5

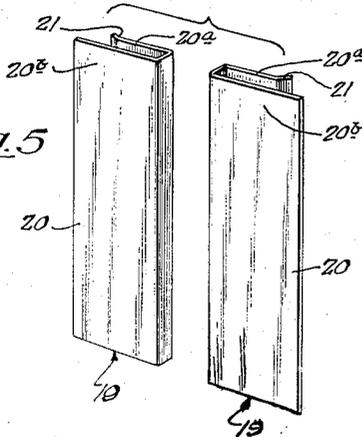
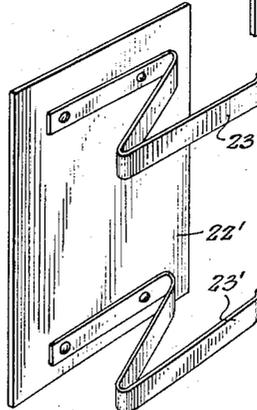


Fig. 6



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TISSUE DISPENSER

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8 Claims. (Cl. 221—59)

The present invention relates generally to tissue dispensers and more particularly to an improved wall-mounted tissue dispenser for holding and individually dispensing tissues of the type which are pre-folded and stacked in interleaved fashion so that when one tissue is extracted from the dispenser, a portion of the following tissue is partially withdrawn and may be readily grasped.

The prime deficiency of existing dispensers of the present type stems from the fact that loading of the dispenser requires a relatively large opening through which a stack of tissue, or the like, may be readily inserted into the dispenser housing while proper individual dispensing of the tissues, after loading, dictates a relatively narrow dispensing aperture.

Prior attempts to satisfy these two requirements have been either by way of constructing the dispenser housing in a plurality of parts which are releasably latched together and which may be separated to afford the necessary large opening for loading the dispenser or providing a dispensing aperture which accommodates both loading of the dispenser and individual dispensing of the tissues. The former multi-piece constructions, and the latching means necessitated thereby, are of course, costly to manufacture and the necessity of separating the housing parts precludes permanent installation of the dispenser flush with a wall, as is desirable from the standpoint of appearance. The latter dispenser constructions, on the other hand, have in the past resulted in an aperture which is too narrow for easy insertion of a tissue stack and too wide for efficient dispensing.

In order that each succeeding tissue may be readily extracted, a spring-pressed follower plate is generally employed for constantly urging the stack of tissue toward the dispensing aperture. Existing dispensers are further deficient in that their follower plate arrangements have consisted of a rigid plate and a single central spring for biasing the plate. Such arrangements require relatively stiff springs resulting in excessive and non-uniform pressure on the tissue stack and improper feeding of the tissues.

A major object of this invention is the provision of tissue dispensing means of the character described which avoids the above and other deficiencies of such dispensers.

Another major object of the invention is the provision of inexpensive shutter members to be mounted on existing dispensers of the character described embodying a single combined loading and dispensing opening whereby said opening may be varied in width to facilitate loading of the dispenser as well as efficient and proper individual extraction of tissues therefrom.

Another object of the invention is the provision of a tissue dispenser of the character described embodying a front opening of variable size which may be enlarged to permit insertion of a stack of tissue into the dispenser and then reduced to provide a dispensing aperture of proper size.

Yet another object is the provision of a tissue dispenser

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of the character described wherein the dispenser housing is of unitary construction so as to be accommodated for permanent installation in and substantially flush with the surface of a wall, and wherein further there is provided a flexible, resiliently supported follower plate which may be flexed to permit insertion thereof into the unitary housing.

A further object of the invention is the provision, for use in a tissue dispenser of the character described, of a resiliently supported follower plate for constantly urging the remaining tissue stack toward the dispensing aperture, the resilient supporting of such plate being such as to provide substantially uniform loading on the stack.

A still further object of the invention is the provision of a tissue dispenser of the character described which is pleasing in appearance, easy to load, simple in construction, and inexpensive to manufacture.

The invention may be best understood from the following detailed description thereof, taken in conjunction with the annexed drawings, wherein:

Figure 1 is a view in perspective of a tissue dispenser, embodying the features of this invention, permanently mounted in a wall;

Figure 2 is a section through the dispenser shown in Figure 1, the section being taken substantially along the line 2—2 of Figure 1;

Figure 3 is a section taken substantially along the line 3—3 of Figure 2;

Figure 4 is an enlarged detailed view in perspective of the resiliently supported follower plate of the invention, the phantom lines indicating the manner of flexing the plate to permit insertion thereof into the dispenser;

Figure 5 is a detailed view in perspective of the members for varying the size of the front opening of the dispenser; and

Figure 6 is a detailed view in perspective of a modified form of spring biased follower plate.

Referring now to the drawings, the dispenser 10 of the invention comprises a hollow one-piece casing 11 of ceramic material, for example, including a front wall 12. The front wall 12 projects laterally beyond the four side walls 13 and 14 of the casing 11, as shown in Figures 2 and 3, so as to form a generally rectangular flange 15. The front wall 12 is formed with a central, rectangular opening 16 having a width substantially equal to the thickness of a stack 17 of tissues to be dispensed and a length substantially equal to the height of said stack so as to permit the insertion of the stack of tissues 17 into the interior of casing 11, as will presently be seen. In mounting the dispenser, the casing 11 may be inserted into a recess (not shown) of corresponding size in a wall 18, with the rear surface of flange 15 abutting the outer surface of the wall about the recess. The dispenser may be secured in place, for example, by cementing said rear flange surface to the wall with adhesives, although, of course, screws or other fastening means may be employed.

It will be noted that casing 11 is formed as a single integral member. This unitary construction of the casing permits the present dispenser to be permanently fixed in the wall 18 with the front wall 12 thereof substantially flush with the wall. Such flush mounting of the dispenser provides a pleasing appearance and eliminates the obstruction which exists in the case of dispensers which protrude substantially beyond the surface of the wall. In the alternative, the dispenser may be built into the wall. That is, the sides of the above-mentioned recess may provide the back and side walls of the dispenser while the outer surface of the wall may extend over said recess and be formed with the opening 16 to provide the front wall of the dispenser.

Opening 16 in front wall 12 is, as heretofore mentioned, large enough to pass the stack of tissue 17 dur-

ing loading of the dispenser. An opening of such size is too large, however, for the proper dispensing of individual tissues. Accordingly, the present invention proposes the use of a pair of shutter members 19 for varying the effective width of the front opening so that such width may be reduced sufficiently to provide a dispensing aperture of proper size.

The shutter members 19 are identical in construction and each comprises a rectangular plate 20 of metal or other flexible material which is folded along parallel lines to form a generally U-shaped clip. The separation of the legs 20a and 20b of the clip, adjacent the bight of the U, is slightly greater than the thickness of front wall 12 of the dispenser, the legs converging to their free ends to provide a separation at said ends which is slightly less than said thickness so that when the clips are positioned to straddle the wall 12, at opposite sides of the opening 16, they will be frictionally retained in position. The longitudinal edge portions of the legs 20a of the clips are slightly outwardly angled, as shown at 21, to facilitate mounting of the clips on the wall 12.

It will be seen that the shutter members 19 may be moved apart to define a relatively large opening having a width substantially equal to the width of opening 16 to permit insertion of the tissue stack 17 into the dispenser. If desired of course, the members may be completely removed when loading the dispenser. The members 19 may be subsequently positioned as shown in Figure 3 to define a relatively narrow dispensing aperture of proper width.

Indicated at 22 is a follower plate which bears against the rear surface of the tissue stack 17 and is urged toward the front wall 12 by four helical or conical compression springs 23 secured to the plate at the four corners thereof. This spring pressed follower plate constantly urges the remaining portion of the stack toward the front of the dispenser so that each tissue may be readily extracted. The positioning of the springs 23 at the four corners of the follower plate 22 assures substantially uniform loading on the tissue stack and proper functioning of the dispenser. The constant of these springs is relatively low so that the pressure on the tissue stack is such that the tissues may be easily extracted. Also, the cone angle of the springs is such that they may be compressed to substantially a flat condition, to provide for maximum movement of the follower plate and a light, substantially constant pressure is maintained on the stack from the first to the last tissue dispensed, by movement of one turn of the springs inside the adjacent turn. When helical springs are used this result is obtained by the springs bending sidewise to permit full movement of the plate.

In lieu of the four biasing springs 23, a modified form of follower plate 22' may have a pair of Z-shaped leaf springs 23' fixed thereto, as shown in Figure 6. This latter form of spring assures constant positioning of the follower plate parallel to the front and rear dispenser walls.

The follower plates 22 and 22' each comprises a sheet of relatively thin, flexible material so as to be capable of being readily flexed to a generally V-shape, as illustratively indicated in phantom lines in Figure 4. The follower plates are made flexible in order that they may be initially inserted through the opening 16 into operative position within casing 11.

The front tissue of stack 17 will bear against the edges of angulated portions 21 of clips 19 and these edges are preferably rounded so that the tissues will not be torn as they are extracted. Since the front tissue bears mainly on these edges, rather than flatly against the front wall of the dispenser, less resistance is offered to the removal of the tissues. Also, once the front tissue is drawn out of contact with these edges, the latter will engage the next following tissue so that the latter will not adhere to and be withdrawn along with the first tissue, as often occurs in existing dispensers.

In use, the shutter members 19 are moved apart, or removed, and the stack 17 is inserted into casing 11 through the relatively large opening thus formed. The flap of the first tissue is positioned to extend through the opening, as shown in Figure 3. The shutter members 19 are then moved together, to the position of Figure 3, to define a dispensing aperture of the proper width. As each tissue is extracted, the flap of the following tissue will be drawn to a position wherein it protrudes slightly through the dispensing aperture.

It will be apparent that the present shutter members and follower plate may be utilized on existing dispensers embodying a single, front, loading and dispensing aperture, or dispensers of this type may be initially manufactured to incorporate such members and plates.

While certain illustrative embodiments of the invention have been disclosed, it will be apparent that numerous modifications in design and arrangement of parts may be made within the scope of the appended claims.

I claim:

1. A dispenser for individually dispensing tissues from a stack of tissues or the like, comprising: means defining a hollow one-piece casing for enclosing a stack of tissues and having a front wall formed with a rectangular opening, the length of said opening being substantially equal to one dimension of said stack; at least one resilient clip straddling said front wall at one side of said opening and movable toward and away from the other side of the opening for varying the effective width of the latter, said member being movable to vary said effective width between a value substantially equal to the thickness of said stack and a value such as will provide a proper tissue dispensing aperture whereby said opening serves both as a loading and dispensing aperture; and a spring-pressed follower plate in said casing for urging a stack of tissue toward said front wall.

2. In a dispenser for individually dispensing tissues or the like from a stack thereof, including a one-piece hollow housing for containing a stack of said tissues and having a front wall formed with a single rectangular opening, the improvements comprising: a pair of resilient clip members straddling said wall at opposite sides of said opening having adjacent edge portions defining therebetween the effective width of said single opening, said clip members being movable toward and away from each other whereby said opening may be varied in width to accommodate either loading of said stack into the dispenser or individual extraction of the tissues from the dispenser; and a follower plate including a plurality of spaced springs in said housing for urging a stack of tissue toward said front wall, said springs being spaced to provide substantially uniform loading on said stack.

3. In a dispenser for individually dispensing tissues or the like from a stack thereof, including a hollow, one-piece casing for containing a stack of said tissues and a front wall centrally formed with a rectangular opening having a length substantially equal to one dimension of said stack, the improvements comprising: a pair of resilient, generally U-shaped clips straddling said wall at opposite sides of said opening, said clips each having a length substantially equal to the length of said opening and having their bight portions arranged parallel to the side edges of the opening, the spacing between said clips defining the effective width of said opening; said clips being movable away from one another to positions wherein said effective width is substantially equal to the thickness of said stack to permit loading of the latter into the casing, and movable toward one another to positions wherein said effective width is such as to provide a tissue dispensing aperture; said clips being frictionally retained in adjusted position; and a flexible follower plate adapted to be flexed to permit passing thereof through said opening to the interior of said casing, and a plurality of spaced spring supports fixed to said plate whereby said plate is

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adapted to urge a stack of tissues toward said front wall with substantially uniform loading on the stack.

4. The subject matter of claim 3 wherein said spring supports comprise substantially parallel, conical compression springs which are compressible to substantially flat condition.

5. The subject matter of claim 3 wherein said spring supports comprise Z-shaped springs having their parallel legs parallel to said plate.

6. A dispenser for individually dispensing tissues or the like from a stack thereof comprising: a hollow one-piece casing for containing a stack of said tissues and having a front wall centrally formed with a rectangular opening with a length substantially equal to one dimension of said stack; a pair of generally U-shaped clips straddling said walls along opposite sides of said opening, said clips each having a length substantially equal to the length of said opening and having their bight portions arranged in confronting relationship and parallel to the side edges of said opening, said clips being movable apart to admit the thickness of said stack to load said casing and movable towards one another to provide a proper tissue dispensing aperture therebetween, said clips being frictionally retained in adjusted position; a follower plate in said casing; and a plurality of spaced apart spring supports for said plate for biasing said plate toward said front wall with substantially uniform loading on a stack disposed between said wall and plate.

7. The subject matter of claim 6 wherein the separation of the legs of each clip is substantially equal to the thickness of said wall and the free edge portion of each of the interior legs of said clips is outwardly angled relative to the other leg of each clip.

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8. In a dispenser for individually dispensing tissues or the like from a stack thereof, including a hollow casing for confining a stack of said tissues and a front wall in said casing formed with an opening through which such a stack can be passed into the casing to load the dispenser, the improvements comprising: at least one shutter slidably supported on said front wall at one side of said opening and overlying an edge of said opening which in part defines said opening, said shutter being constructed and arranged to resiliently grip said front wall both inside and outside the hollow casing and being manually movable to a position wherein nearly the entire area of said opening is exposed to facilitate insertion of a stack of tissues through said opening, said shutter also being movable manually toward the opposite side of said opening to reduce the effective width of said opening while maintaining the grip of said shutter on said front wall; and a resilient tissue-feeding means wholly inside said casing and located back of the stack of tissues when inserted, said resilient tissue-feeding means compressing said stack against said front wall and said shutter.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,858,045

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Joseph P. Loeb

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 4, line 30, for "member" read -- clip --.

Signed and sealed this 3rd day of March 1959.

(SEAL)

Attest:

KARL H. AXLINE

Attesting Officer

ROBERT C. WATSON
Commissioner of Patents