

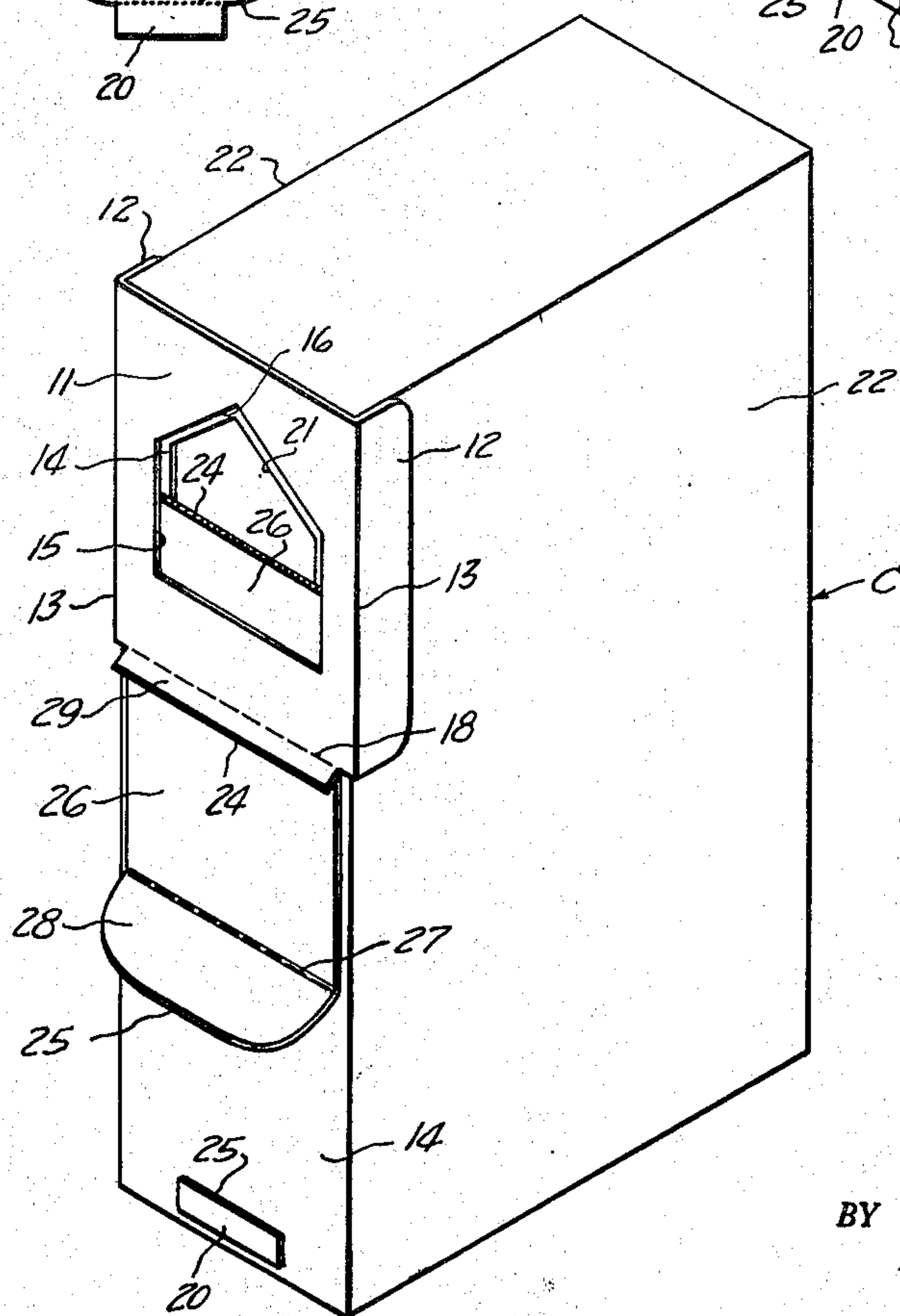
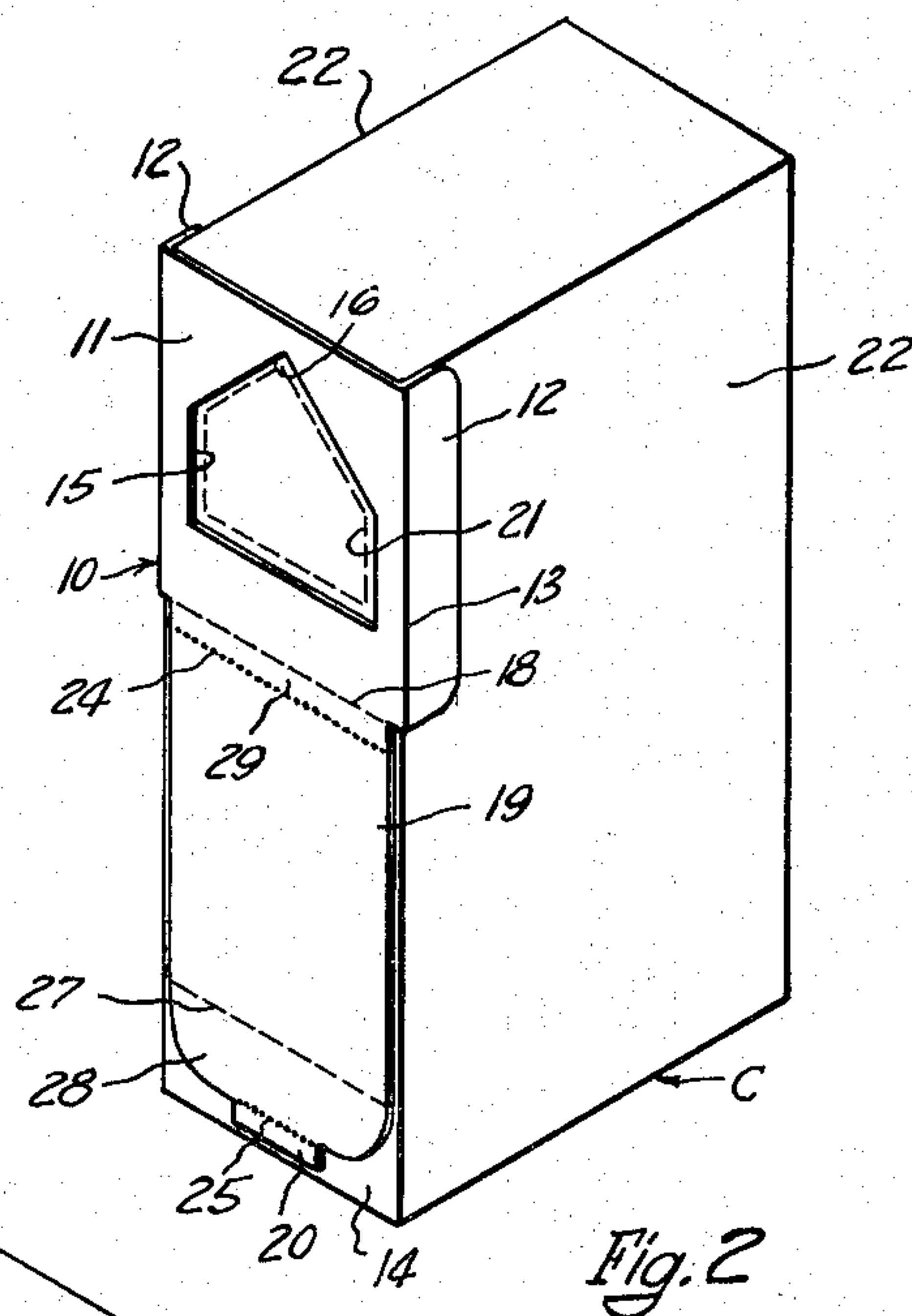
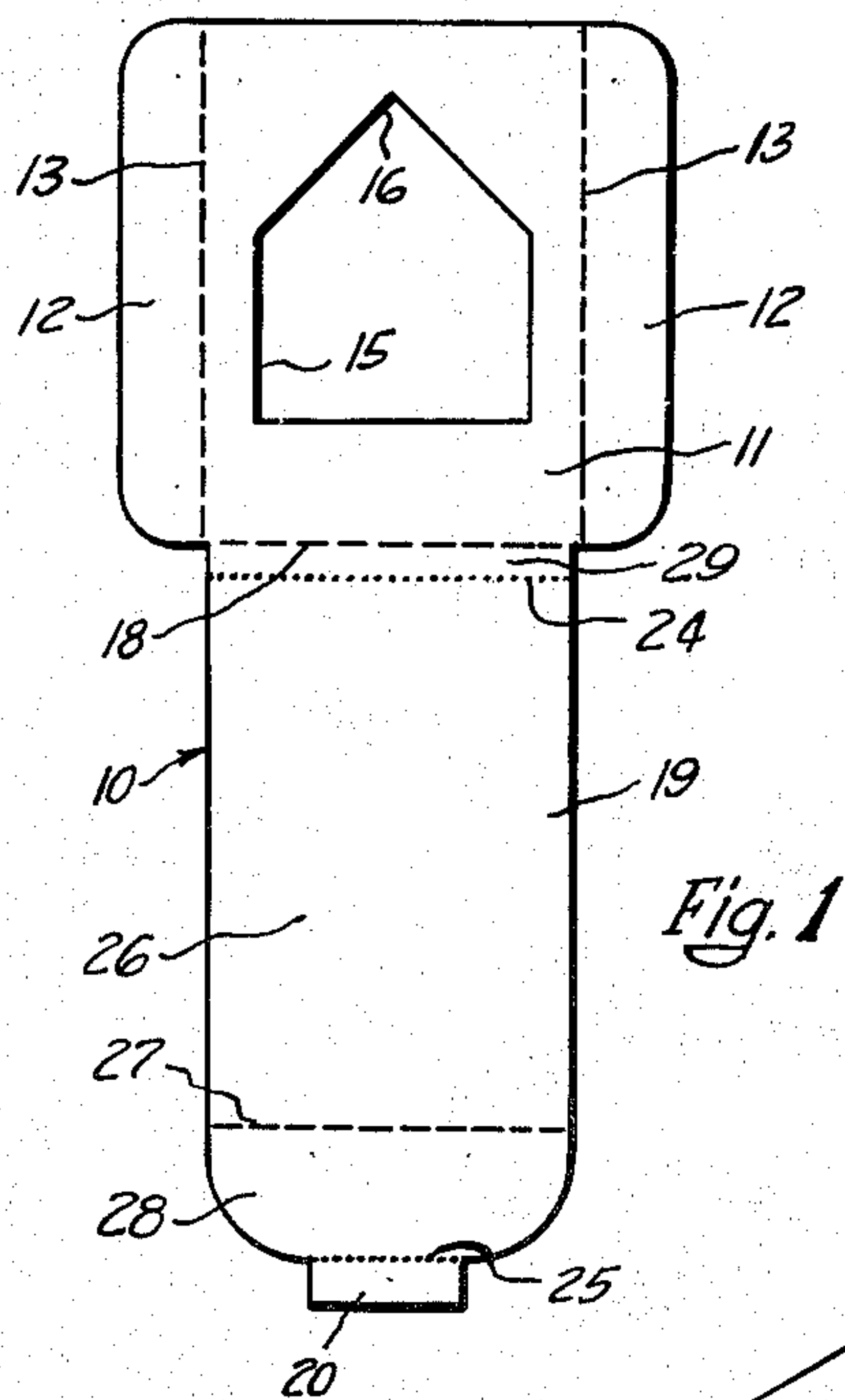
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ATTACHABLE CLOSURE FOR CONTAINERS

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ATTACHABLE CLOSURE FOR CONTAINERS

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6 Claims. (Cl. 229-7)

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This invention relates to improvements in attachable closures for containers such as folding cartons, set-up cartons, and the like.

As is well-known in the industry, cartons are cheap, attractive and efficient containers for a variety of flake, granular, and powdered products such as cereals, coffee, sugar, salt, flour, soap, and the like. However, since the cartons for such products are often formed of rather flimsy material, no closure device for cartons has been made available to the industry which is simple, efficient, and cheap enough to be commonly used on such cartons.

It has been found especially difficult to provide an efficient closure device for cartons that are "over-wrapped" with thin paper or the like after the carton is filled and sealed. Such over-wrapping is commonly applied to cartons which contain powdery materials such as flour, so as to prevent sifting. Over-wrapping is also frequently applied to cartons which contain products that must be kept free from the moisture and oxygen in air. These products include salt, sugar, cereals, coffee, and the like. Over-wrapping is also used to prevent weevils and other insects from entering the package before it is opened.

It is, therefore, a principal object of this invention to provide an improved attachable closure for cartons and the like which may be appended or affixed by automatic machinery to a carton, in either folded or set-up form, and which will enable the filled carton to be easily opened, and efficiently and securely re-closed.

An important object of the invention is to provide an improved attachable closure for cartons and the like which may be made of sheet cardboard, plastic, or the like, and which may be easily and cheaply attached to cartons by fast automatic machinery, whether the cartons are over-wrapped or not.

Another object of the invention is to provide an improved closure attachment for cartons which may be affixed to cartons commonly in use without structural alteration of such cartons, and which will not be awkward or bulky so as to interfere with the operation of the automatic case packing machinery which places filled cartons into shipping containers.

A further object of this invention is to provide an improved carton closure device of the character described which may be attached or affixed to cartons made of very cheap and flimsy paper-board to provide means by which such cartons may be easily opened and securely re-closed.

It is an ultimate object of the invention to

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provide a closure of the character described which will enable either unwrapped or over-wrapped cartons to be easily opened and tightly re-closed so as to prevent contamination of the contents from dirt and insects, lessen the deterioration caused by the interchange of air with its moisture and oxygen, enable the user to control the volume of pour, and avoid accidental spillage.

Still another object of this invention is to provide an attachable carton closure device which offers improvements to the packer and to the eventual consumer, both in operation and in costs, over carton closure devices now in commercial use.

Additional objects and advantages of the invention will be apparent from the following description of improved closure devices for cartons and the like, manufactured in accordance with the invention, and by reference to the accompanying drawings which illustrate preferred embodiments of the same.

Figure 1 is a plan view of a cut, scored, and perforated closure blank which is ready for attachment to a carton.

Figure 2 is an isometric view of an unopened carton to which the improved closure device has been appended, and

Figure 3 is an isometric view of the carton of Figure 2 after it has been initially opened, showing the closure gate in partly closed position.

In the drawings, the numeral 10 designates an attachable closure device which has been formed or cut from a sheet of cardboard, plastic, laminated material or the like. The closure device includes a frame portion 11 generally rectangular in configuration and having lateral wings or flanges 12 formed at each side. The flanges or wings are defined by scored or creased lines 13 which enable the flanges to be turned at substantially right angles to the plane of the frame along the score lines so that the frame may be secured to one panel or body wall 14 of a carton C, as will be hereinafter more fully explained.

The frame is provided with an aperture 15, which has a transverse width less than the width of the frame. The aperture may be completely cut out of the sheet material of which the frame is formed, or it may be outlined by perforations so that the aperture piece may be "knocked out," or it may be simply outlined in printed lines so that the aperture could be obtained by cutting through the material along such printed lines. While the aperture is shown as substantially pentagonal in shape, with the upper portion convergent apexially, it may obviously be otherwise

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shaped in any desired suitable manner, as for example a circle, a diamond, a triangle, etc., without departing from the spirit of the invention. Preferably, however, the upper portion of the aperture is convergent. The convergent upper portion of the aperture provides for control of the volume of material poured from the box and also has a further function which will be hereinafter more fully explained.

The lower end of the frame is defined by a creased or scored line 18, and an elongate integral tongue-like portion 19 of sheet material extends below the frame and is formed with a small tab 20 at its lower end. The transverse width of the frame portion 11 between the creased or scored lines 13 is substantially equal to the width of the panel 14 of the carton to which the closure device is to be attached, so that the wings or flanges 12 may be turned to lie flat along the adjacent body walls 22 of the carton. Glue, plastic cement, or other suitable adhesive material is applied to the inner surfaces of the flanges before the closure device is applied to the carton, and the flanges are then turned inwardly and pressed against the sides 22 of the carton, whereupon the flanges are securely affixed to such side walls of the carton. The frame is thus affixed closely contiguous to the side wall 14 of the carton and is positioned with its upper end in substantial alignment with the upper end of such side wall of the carton, as clearly shown in Figure 2. The tab 20 at the extreme lower end of the tongue-like piece 19 is also coated on its underside with glue, plastic cement or other adhesive and is pressed against the side wall 14 of the carton, whereby the tab is cemented or glued to the side wall and the tongue-like portion 19 is held in close proximity to the surface of such side wall of the carton.

The attachable closure device, when attached to the carton, takes substantially the appearance shown in Figure 2 of the drawings, and since the closure device is a relatively thin piece of sheet material, and is held in contiguous relationship to the side body walls of the carton, it will be seen that the closure device may be attached to the carton without altering the structure of the carton and without materially interfering with the customary handling thereof.

If desired, a potential aperture in the side body wall 14 of the carton, registering with the aperture 15 in the frame of the attachable closure device, may be defined by perforated or half cut score lines 21 or printed lines so that the aperture could be obtained by cutting through the side body wall along such printed lines. If desired, however, the lines defining the potential aperture in the side body wall of the carton may be omitted and the user may simply cut the side body wall to conform to the configuration of the aperture 15 in the closure attachment.

The tongue-like portion 19 is provided with a perforated or weakened line 24 at its upper end spaced slightly below the creased or scored line 18 defining the lower end of the frame, whereby the upper portion of said tongue-like member may be detached from the frame along such perforated line. The lower end of the tongue-like portion may also be detached from the tab 20 along a perforated or weakened line 25 at the lower end of said portion adjacent the tab. The portion so detached provides an elongate

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substantially rectangular sliding closure gate 26 which may be interposed between the frame 11 and the side body wall 14 of the carton to adjustably slide therebetween. A crease or score line 27 is formed transversely of the lower portion of the closure gate, whereby the portion of the gate between the crease line 27 and the lower end of the gate may be folded along such line to provide a grip or finger piece 28 which may be grasped to manipulate the gate in its sliding movement.

For facilitating entry of the sliding closure gate between the frame 11 and the side body wall 14 of the carton, the short lip or flap 29 formed between the crease line 18 at the lower end of the frame and the perforation line 24 may be lifted to provide a guide for directing the upper end of the closure gate between the frame and side body wall.

The transverse width of the tongue-like section 19 and the closure gate 26 formed therefrom is preferably substantially equal to or slightly smaller than the transverse width of the side body wall or panel 14, but is greater than the transverse width of the aperture 15 in the frame. Thus, when the closure gate is inserted between the frame and the side body wall, the longitudinal edges of the closure gate will be guided by the intumed flanges 12 which are glued to the adjacent walls 22 of the carton. Likewise, since the aperture 15 and the registering aperture in the side body wall are both narrower in width than the closure gate, it will be seen that the portions of the frame body wall surrounding the aperture will engage and press against the marginal portions of the closure gate as the same slides therebetween. Also, since the frame is initially secured closely contiguous to the side body wall 14, the marginal portions of the frame and body wall adjacent the aperture will frictionally grip the closure gate interposed therebetween to positively hold the same in various adjusted positions. This tight frictional gripping or clamping of the closure gate between the frame and carton body wall forms a seal which prevents sifting of fine powdery materials from the carton through the aperture.

It is believed obvious that the position of the closure gate 26 may be adjusted with respect to the aperture 15 so as either to completely open the aperture or to reduce the opening through the aperture to any desired size. The convergent upper portion 16 of the aperture also provides for very accurate control of the volume of pour of materials through the aperture.

Furthermore, the convergent upper portions of the apertures in the frame and in the side body wall of the carton permit the rectangular upper end of the closure gate to readily pass along such convergent portion and enter between the upper marginal portions of the frame and side body wall above the aperture to completely close the aperture. Also, since the closure gate is guided in its vertical movement between the intumed flanges 12 of the frame, objectional sticking or binding of the gate as it slides is prevented.

As the closure device is a separate attachment which may be affixed or appended to a carton after the same has been formed, filled and sealed, it is believed to be readily apparent that the closure device may be as readily applied to an over-wrapped carton having a thin covering of paper or the like applied thereto after the carton

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is filled and sealed. In such event the flanges or wings 12 would be cemented or glued to the over-wrapping layer on the side walls 22 adjacent the side body wall 14 upon which the frame of the closure device is to be positioned. Likewise, the tab 20 at the lower end of the closure gate portion of closure device would also be cemented or glued to the over-wrapping material on the side body wall 14. Since the over-wrapping is tightly applied to the carton, and since the aperture through the over-wrapped side body wall is formed within the aperture in the frame, it will be seen that the over-wrapping material remains taut after the aperture has been formed therethrough, and that the closure mechanism will function in the same manner as if the carton were not over-wrapped.

It is especially important to note that since the closure attachment is formed completely separately from the carton and is subsequently affixed to the carton, the carton itself may be made of cheap, thin and flimsy paperboard or the like. And, since the closure attachment is relatively small it may be made of a comparatively heavy and stiff material which will strengthen the side body wall of the flimsy carton and provide for a proper, efficient, satisfactory closure in such body wall. Also, due to the relatively small quantity of material used in the closure attachment, it may be made of a high grade of material without undue expense.

Of great importance to the manufacturers who pack cartons with their products is the fact that this closure device does not prevent or hinder the operation of their standard carton forming, filling, sealing and over-wrapping machinery. The closure attachment is preferably applied to the cartons after they have passed through the processes just mentioned.

Of interest to the person who consumes the product in a carton equipped with this closure device is the fact that the size of the aperture may be virtually as great in width as the carton panel or body wall upon which the closure device is applied. Thus, an aperture may be provided which is large enough for pouring out large flaky or granular substances which require large openings.

From the foregoing, it will be seen that an improved attachable closure has been provided which may be affixed to cartons or the like by automatic machinery, and which will enable the filled carton to be easily opened and efficiently and securely closed. It will also be noted that the closure attachment may be applied to cartons which are over-wrapped as well as cartons which are not.

It is particularly important to note that the closure attachment of the invention may be applied to cartons made of cheap, light-weight, flimsy paperboard or other material to provide a satisfactory efficient reclosable closure therefor. The closure attachment may be made of a high-grade relatively stiff heavy material without undue expense, and so will more readily withstand heavy wear, and will likewise strengthen and stiffen the carton body wall.

The foregoing description of the invention is explanatory only, and changes in the details of the construction illustrated may be made by those skilled in the art, within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

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1. In combination, a carton having side body walls and end closures and a closure attachment including, a frame member having an aperture therethrough, lateral flaps on the frame member secured to the container affixing the frame member adjacent the upper end and contiguous to the exterior of one of the container side body walls with the aperture in said frame member initially closed by and defining a potential aperture in said side body wall, an elongate substantially rectangular closure gate initially secured at one end to the frame member and at its opposite end to the carton and detachable from said frame member and carton so as to be subsequently interposable between the contiguous frame member and side body wall to slide therebetween to adjustably close the opening provided by the registering frame and side body wall apertures after the same have been initially opened.

2. In combination with a carton having side body walls and end closures and a potential aperture in one of said side body walls, a closure attachment affixed to said carton and including, a rectangular frame member formed of sheet material and having an aperture therethrough, lateral flaps integral with the frame member and adhesively secured to the walls of the carton adjacent said side body wall having the potential aperture therein to affix the frame member contiguous to said side body wall with the frame aperture registering with the potential aperture in the side body wall, an elongate substantially rectangular closure gate member formed integral with and depending from said frame member and having a tab at its lower end adhesively secured to the side body wall having the potential aperture therein, said closure gate member being detachable from the frame portion and the tab so as to be subsequently insertable between the frame member and the side body wall and slidable therebetween to adjustably close the opening provided by the apertures in the frame and side body wall after the same have been opened.

3. A closure attachment of the character set forth in claim 2 wherein, the transverse width of the aperture in the frame member is less than the transverse width of the frame member, and the transverse width of the closure gate is greater than the transverse width of the aperture and substantially equal to the transverse width of the frame member, whereby the portions of the frame and side body wall surrounding the aperture frictionally grip the closure gate therebetween and the lateral flaps guide the closure gate in its sliding movement between the frame member and side body wall.

4. A closure attachment of the character set forth in claim 2 wherein, flexible lip means is provided at the lower end of the frame member which may be raised to facilitate insertion of the closure gate between the frame member and side body wall after the gate member has been detached from said frame member.

5. A closure attachment of the character set forth in claim 2 wherein, the registering apertures in the frame member and side body wall have their upper ends convergent in form.

6. As a sub-combination, a one-piece attachable closure attachment adapted to be secured on a side body wall of a carton to provide a reclosable aperture and closure in the side body wall of said carton and including, a frame portion having an aperture therein surrounded by said frame portion, lateral flaps integral with the frame portion and extending laterally from said

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frame portion on opposite sides of the aperture providing means whereby the frame may be affixed to the side body wall of a carton to hold said frame in place thereon with the portions of the frame surrounding the aperture unjoined with said side body wall, an elongate substantially rectangular closure member initially integral with the frame portion and projecting from one side portion thereof other than those having the lateral flaps, and a tab integral with the end of the closure member opposite the frame portion and providing means for holding such opposite end of the closure member close against the side body wall of a carton, there being a weakened line between the closure member and the frame portion and another weakened line between the tab and the closure member whereby the closure member is detachable from the frame portion and from the tab and after detachment may be inserted between the frame portion and side body

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wall and slide therebetween to adjustably open and close the aperture in the frame portion.
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