Oct. 17, 1939. M. J. PARNIN 2,176,274

CONTAINER

Filed Sept. 6, 1938 3 Sheets-Sheet 1

Fig. 1

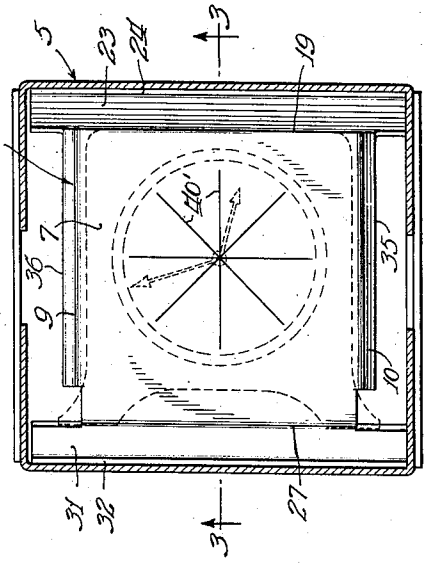
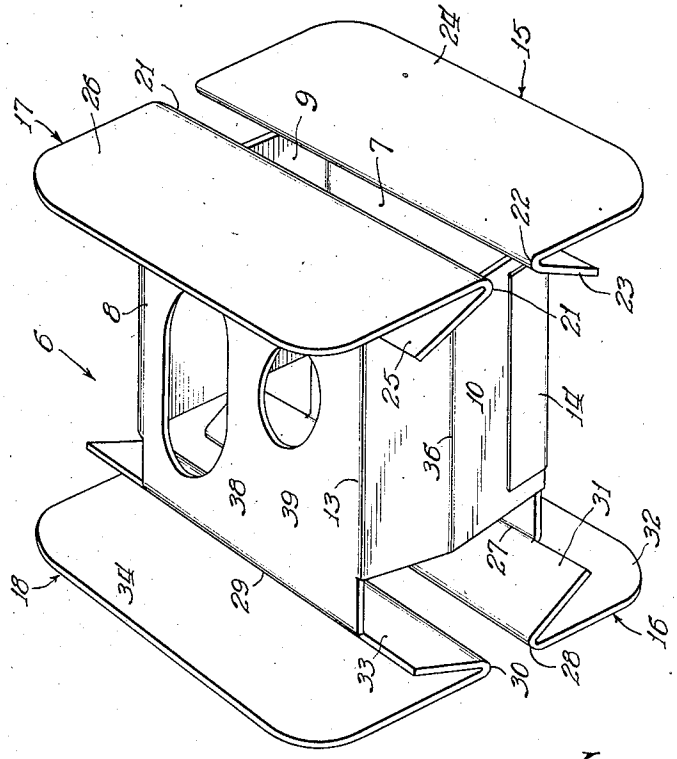


Fig. 2



Inventor:
Maurice J. Parnin

By: E. A. Wagonseller

Atty.

Oct. 17, 1939. M. J. PARNIN 2,176,274

CONTAINER

Filed Sept. 6, 1938 3 Sheets-Sheet 2

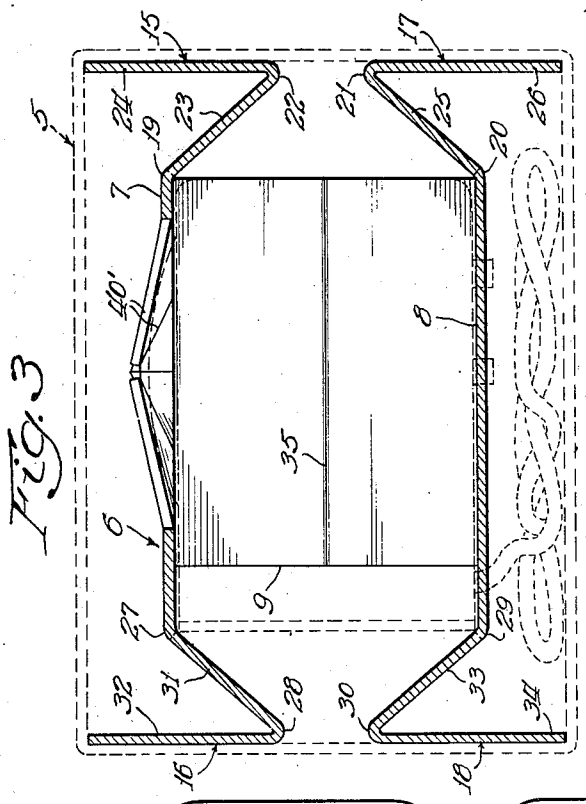


Fig. 3

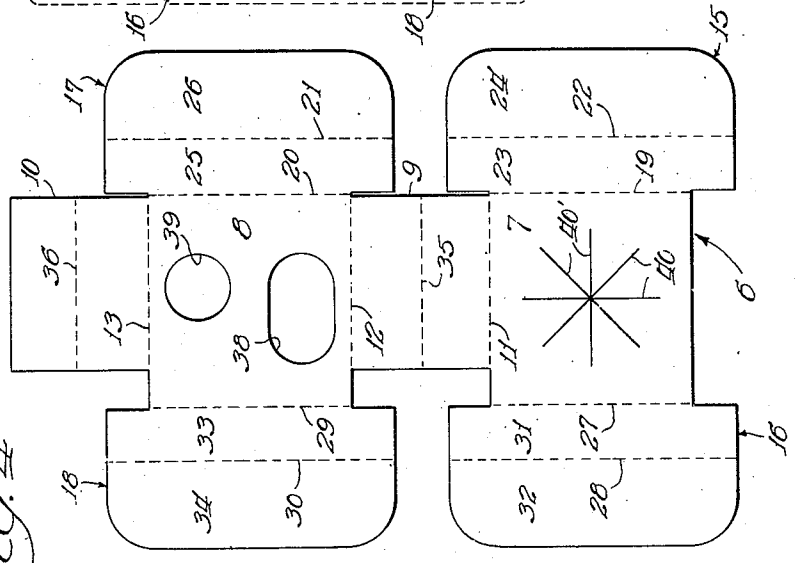


Fig. 4

Inventor:
Maurice J. Parrin.
By: E. A. Wagonseller
Atty.

Oct. 17, 1939. M. J. PARNIN 2,176,274

CONTAINER

Filed Sept. 6, 1938 3 Sheets-Sheet 3

Fig. 6

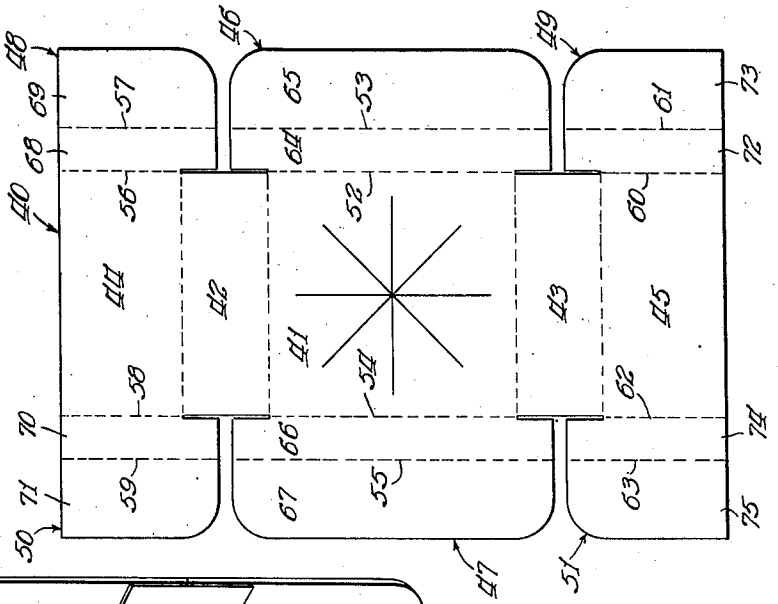
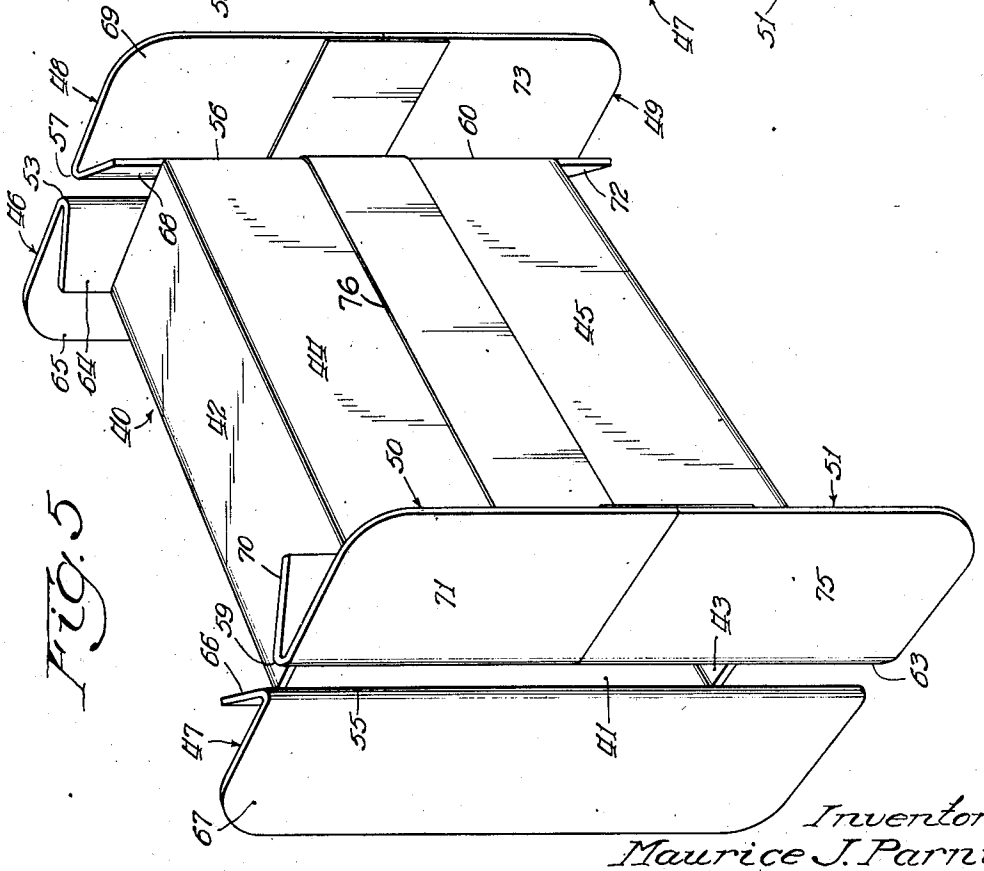


Fig. 5



Inventor:
Maurice J. Parnin
By: E. A. Wagonseller
Atty.

Patented Oct. 17, 1939 2,176,274

UNITED STATES PATENT OFFICE

2,176,274

CONTAINER

Maurice J. Parnin, Wellesley, Mass., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Application September 6, 1938, Serial No. 228,537

7 Claims. (Cl. 229—14)

The present invention relates to shipping containers and, more particularly, to containers for the storage and shipment of precision instruments and similar articles such, for example, as electric clocks, which require a high degree of care in transportation.

One object of the invention is to provide a simple and sturdy form of container for articles of the kind described which will enable such instruments to be safely packed for shipment by unskilled packers and with the consumption of a minimum amount of time and energy.

Another object of the invention is to provide an inner packing element for a shipping container which is arranged to fit snugly into an outer enclosing container and is provided for that purpose with a simple arrangement of flaps functioning as a combined cushioning element, closure element and spacing element, the parts being so constructed and related to each other as to accomplish these results with a minimum amount of material as well as a minimum of hand manipulation of the inner packing element to condition it for use as a supporting and retaining means within the enclosing container.

A further object of the invention is to provide an inner packing element for articles of the kind described which is arranged to loosely receive an article, and so constructed that the article will be more snugly engaged when the inner element with the article contained therein is inserted into an outer shipping container.

A further object of the invention is to provide an efficient form of inner packing element which will maintain an enclosed article out of contact with all the walls of an outer container and which is so constructed as to enable the user to remove the article from its packing without destroying either the outer container or the inner packing element, thus enabling the retailer or the householder to reuse the package where such use is desired, as in the case of clocks being returned to the manufacturer for adjustment or repair.

To these and other ends the present invention resides in certain improvements in combination of parts all as will be hereinafter more fully described and pointed out in the claims at the end of the specification.

In the drawings:

Fig. 1 is a sectional view showing an outer container and an inner packing element made in accordance with the present invention;

Fig. 2 is a perspective view of the inner packing element in instrument-holding position, but without including the outer enclosing container;

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1, looking in the direction of the arrows;

Fig. 4 is a plan view of the blank of the inner element laid out flat;

Fig. 5 is a perspective view of a somewhat modified form of the inner packing element in instrument-holding position, but without including the outer enclosing container; and

Fig. 6 is a plan view of the blank for the inner packing element as illustrated in Fig. 5.

Similar references to characters throughout the several views indicate the same parts.

The present invention, as disclosed, is applied to the idea of packing electric clocks for shipment in such a way that the clock will be held substantially suspended in an inner packing element inside of an outer container so that there will be no likelihood of the clock coming into contact with the inner faces of the walls of such outer container with consequent danger of breakage.

For purpose of retaining the inner packing element in such a position as to keep the instrument held therein out of contact with the walls of the outer box, there are provided suitable pads or cushioning elements which are so formed as to extend beyond the contour of the inner element in two directions, which may be termed longitudinal and transverse directions. These pads, at the same time, project upwardly beyond the ends of the inner element to cushion it against the adjacent ends of the enclosing container and also to space it from such ends.

Referring more particularly to the drawings, an outer container, designated generally at 5, is provided which is of such dimension as to snugly entclose an inner packing element, indicated generally at 6. The outer container 5 may, as herein illustrated, comprise an ordinary form of paperboard shipping container or carton, such as the so-called tubular slotted carton, having four side walls with closure flaps extending from top and bottom thereof, enabling the carton to be closed as by means of glue or tape. Any suitable enclosing container may be employed with the inner packing element.

The inner packing element 6 preferably comprises a single sheet of paperboard, such as, for example, doublefaced corrugated board, suitably cut and scored to provide a front and rear panel 7 and 8, and side panels 9 and 10. Score lines 11 and 12, impressed in the blank, separate the side panel 9 from panels 7 and 8 respectively, and score line 13 separates the rear panel 8 from the side panel 10. As best indicated in Fig. 2, the inner element is preferably formed for convenience into the shape of a collapsible tube in which the side panel 10 is joined to the edge of the front panel 7 by suitable means, such as a strip of gummed tape 14.

For the purpose of providing cushioning and spacing means for the inner packing element, the front and rear panels 7 and 8 are preferably each provided with an extension on the upper and lower edges thereof, respectively, these extensions

being indicated at 15 and 16 for the panel 7, and at 17 and 18 for the panel 8.

As shown in Fig. 4, the flaps 15, 16, 17 and 18 are arranged to be bent over relative to the attached panels and they are also arranged to be folded back upon themselves. For this purpose the blank is scored at 19 and 20, between the main panel and the respective flaps 15 and 17. The flaps 15 and 17 are also scored at 21 and 22 to provide two panels indicated at 23 and 24 on the flap 15, and at 25 and 26 on the flap 17.

In like manner, the flaps 16 and 18 are provided with score lines 27, 28, 29 and 30, respectively, to separate such flaps into panels 31 and 32 on flap 16, and panel 33 and 34 on flap 18.

The panels 23, 25 and 31 and 33 are preferably all of substantially the same length and width. As will clearly appear by reference to Figs. 2 and 4, these panels extend laterally beyond the edges of the front and rear panels 7 and 8, so that when the panels 23, 25, 31 and 33 are formed of such a length to snugly fit inside an enclosing container, the edges of panels 7 and 8 will be maintained spaced from the walls of such container.

The respective panels 23, 25, 31 and 33 are of a width preferably not greater than approximately one-half of the corresponding dimension of the inner tubular element so that when these panels are folded inwardly they will form at least a partial closure for the ends of the tube so as to retain the packed article against endwise movement with respect to the tubular element.

The panels 24, 26, 32 and 34 are for convenience made the same length as the panels to which they are attached, although this is not necessary in every case. These panels, however, are made of such a width that, when bent backwardly upon the panels to which they are attached, the outer extremities of the panels 24, 26, 32 and 34 will engage against the inner faces of the adjacent walls of the enclosing container, whereby the inner packing element will be maintained against movement in either direction at right angles to the edges of the panels 23, 25, 32 and 34.

The length and width of the flaps 15, 16, 17, and 18 depends upon the relative dimensions of the outer container and of the tube formed by the walls 7, 8, 9 and 10. If the tube proper terminates considerably short of the walls of the enclosing container, then it is desirable to provide for somewhat wider angles between the folded panels 23, 24; 25, 26; etc., and one or both of the panels will be made wider. On the other hand, if the dimensions of the enclosing container are not substantially greater than the corresponding dimensions of the panels 7 and 8, allowing for the double thickness of material provided by the overlapping panels of the flaps, it is obvious that the panels 23, 25, 31 and 33 may be of any width, preferably not greater than one-half of the width of the end panels 9 and 10, so that these panels will act to at least partially close the tube, and the panels 24, 26, 32 and 34 will be of a width somewhat greater than the first mentioned panels depending upon how far it is desired to keep the front and rear faces of the inner packing element away from the corresponding inner faces of the enclosing container.

In order to provide for conveniently receiving the clock between the panels 7 and 8, the end walls 9 and 10 are preferably made of a width somewhat greater than the corresponding dimension of the clock, thus keeping the normal distance between the main panels 7 and 8 greater than the corresponding thickness of the clock in a direction at right angles to these main panels.

The flaps 15, 17 and 16, 18 are so constructed that when the inner tubular element has been preliminarily expanded to receive the clock, the extremities of adjacent pairs of these will be separated a greater distance than the corresponding dimension of the container into which the inner packing element is to be inserted. Thus, when the inner packing element is inserted in the outer container, there will be a tendency for the side walls 9 and 10 to become deformed to reduce their effective dimensions at right angles to the panels 7 and 8. In order to best provide for the deformation of the walls 9 and 10, there are provided lines of fold, indicated at 35, 36, preferably formed by scoring the panels centrally thereof substantially parallel to the edges of the panels 7 and 8, thus dividing these panels into relatively movable sections. By this construction, when the clock has been inserted within the inner packing element it will lie somewhat loosely between the panels 7 and 8, but after the inner element is inserted in the outer container the panels 7 and 8 are brought closer together into firm contact with the clock and the walls 9 and 10 will assume an outward convex condition due to bending along the crease lines 35, 36.

As indicated in Figs. 2 and 4, the lower ends of the end panels 9 and 10 may be cut away so that such panels are shorter than the corresponding panels 7 and 8. Due to this arrangement the inner tube will accommodate any overhanging or outwardly extending base portion, trim or other projection at the bottom or top portion of the clock. As will be readily understood, the upper ends of the panels 9 and 10 may be cut away in the same manner as indicated at the upper ends thereof.

In order to accommodate any outwardly projecting portions, such as setting or adjusting buttons, levers, or similar devices, suitable openings, as indicated at 38 and 39 are provided in the panel 8. It will be readily understood that these openings may be disposed with when not needed or the openings may be altered to suit the particular construction or arrangement of projecting elements at the rear face of the clock or other instrument. It is to be noted that when the end walls 9 and 10 are constructed for deflecting movement, as above described, a clock carrying setting or adjusting buttons and any other projecting parts located at the rear of the clock may be readily moved into position in which the projecting parts will be in registration with openings such as 38 and 39 formed in the panel 8 and these projecting parts will be received into the openings upon movement of the main panels 7 and 8 into contact with the front and rear sides of the clock when the inner packing element is placed within the shipping container. Likewise, when the inner packing element, containing a clock, has been removed from the outer shipping container, the panels 7 and 8 will be free to return to their original separated condition, and the end walls 9 and 10 will tend to return to plane form. This causes withdrawal of the projecting parts from the openings such as 38 and 39 formed in panel 8 and the clock may thereupon be removed from the inner packing element without any substantial likelihood that the projecting parts will catch on the edges of the openings in the withdrawing operation.

In the present instance the front panel 7 of

the inner packing element is formed with a plurality of radial slits 40', 40' which function to allow the central portion of the panel 7 to bulge somewhat outwardly for the purpose of accommodating a convex crystal or glass at the front of the packed instrument.

In practice, the enclosing container and the inner packing element will be sent to the user in a collapsed or knock-down condition. When the user desires to employ the construction of the present invention for packing a clock, it is only necessary to expand the tube of the inner packing element and insert the clock endwise into the tube until it is enclosed between the inner faces of the front and rear panels 7 and 8. The flaps 15 and 17 will next be so manipulated as to bring the panels 23 and 25 over the clock and then to bring the panels 24 and 26 down substantially over panels 23 and 25 respectively, so that panels 24 and 26 will project outwardly beyond the outer faces of the front and rear walls 7 and 8, respectively.

A similar operation is then performed on the lower flaps 16 and 18 to bring these flaps into the same relative condition as panels of flaps 15 and 17. The inner packing element, with the clock therein, is now ready to be inserted into the outer container which will, in the meantime, have been set up by expanding same and taping or gluing one set of closure flaps when the container is in the form of a slotted carton. The preferred manner of inserting the inner packing element into the outer is to grasp the front and rear walls between the thumb and fingers and to insert the inner element with the flaps in folded condition as above described so that one of the side walls 9 or 10, whichever is desired, is directed downwardly and the other wall directed upwardly so as to be opposite the closure opening of the enclosing container. The enclosing container is then ready to be closed. Due to this provision, the enclosing container may be readily opened and the inner element may be withdrawn.

Figs. 5 and 6 show the manner of varying the construction of the blank of the inner packing element by having the portions at the ends of the blank so formed as to each provide complementary portions of one of the main panels.

According to this form of the invention the blank 40 is suitably cut and scored to provide a central panel 41, which may for convenience be termed the front panel, two side panels 42 and 43, and two additional complementary portions 44 and 45, which, when secured edge to edge, will constitute a second main panel which, for convenience, may be termed the rear panel.

Panel 41 is provided with flaps 46 and 47, respectively, at the top and bottom edges. In like manner, panels 44 and 45 are provided at their top and bottom edges, respectively, with extension flaps 48, 49 and 50, 51.

Score lines are impressed in the blank as indicated at 52 and 53 for flap 46, and at 54 and 55 for flap 47; at 56 and 57 for flap 48; at 58 and 59 for flap 50; at 60 and 61 for flap 49; and at 62 and 63 for flap 51. Due to the provision of these score lines the flaps 46, 47; 48, 50; and 49, 51 are divided respectively into cushioning and spacing panels 64, 65; 66, 67; 68, 69; 70, 71; 72, 73; and 74, 75.

As shown in Fig. 5 the blank illustrated in Fig. 6 may be secured into tubular form by bringing the ends of the blank together along the edges of panels 44 and 45 and their respective attached flaps 48, 50 and 49, 51, then securing a strip of tape 76 along the joint thus formed. This form of inner packing element may then be folded into a flat condition along two opposite pairs of score lines as will be readily understood.

The inner packing element, illustrated in Figs. 5 and 6, will be used in substantially the same manner as the packing element illustrated in Figs. 1 to 4. That is, it is adapted to be received into an outer container after the cushioning and spacing pads have been folded similar to the arrangement of these pads illustrated in Figs. 1 to 3, inclusive, whereby the central portion of the tube, within which the contained article is held, will be spaced out of contact with all of the walls of the enclosing container and will be cushioned at each end of the tube. Except for the differences in construction, this form of inner packing element will function in a manner substantially identical to the form first disclosed.

When the article to be packed is an electric clock, the space between the inner packing element and the outer container is adapted to accommodate a substantial length of conducting wire with a terminal plug attached.

While the present invention has been described as being particularly applicable to the packaging of clocks, it is desired that this term be considered as used in a generic sense as equally applicable to other articles or instruments which require protection during transportation and are of such a shape as to be readily insertable into the inner packaging element such as described herein.

It is apparent from the foregoing description that there is provided an efficient and durable form of packaging construction for clocks and similar articles which require maximum protection during transportation. The inner packing element may be shipped to user in a very compact form and rapidly set up and packed by the user to provide adequate protection for the clock without requiring the use of anything but glue or tape to prepare the clock for shipment. After the clock has been packed, as indicated herein, it may be shipped to the retailer and unpacked by him for inspection and display. After sales are made the clocks may be readily replaced within the inner packing elements and the latter inserted into the outer container. The clock may be quickly prepared for further shipment or delivery to the home of the purchaser with a maximum degree of safety during this final transportation. The package need not be in any way destroyed by opening it to remove the contained article for inspection, and it is possible to reuse the inner packing and outer container several times as in the case of returning the clock to the manufacturer for adjustment or repair.

While the present description sets forth a preferred embodiment of the invention, numerous changes may be made in the construction without departing from the spirit of the invention, and it is therefore desired that the present embodiment be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

1. A container for clocks comprising, in combination, an enclosing container having four side walls with top and bottom closures, an inner packing element comprising a strip of paperboard folded into tubular form and adapted to engage opposite sides of a clock, an extension flap on at least one end of each of two oppositely disposed walls of said packing element, each of said

extension flaps having a portion adapted to be folded inwardly over the top of the packing element to provide a closure element therefor and having an additional portion adapted to be bent outwardly of the packing element with its extremity extending beyond the adjacent side wall of the packing element, whereby contact of the extremity of such flap with the inner face of the wall of the enclosing container will maintain the side wall of the packing element away from the adjacent wall of the enclosing container.

2. A container for clocks comprising, in combination, an enclosing container having four side walls with top and bottom closures, an inner packing element comprising a four-sided tube of paperboard adapted to encase the clock, an extension flap on at least one end of each of two oppositely disposed walls of said tube, each of said extension flaps having a portion adapted to be folded inwardly over the top of the tube to provide a closure element therefor and having an additional portion adapted to be folded over the first mentioned portion to extend beyond the adjacent side wall of the tube, whereby contact of the extremity of such flap with the adjacent inner face of the wall of the enclosing container will maintain the side walls of the tube away from the adjacent walls of the enclosing container, at least one of the folded portions of said extension flaps being extended at each end thereof laterally beyond the walls of the tube which are disposed at an angle to the walls upon which the flaps are located, whereby such extended ends engage the walls of the enclosing container to space the other two side walls of the tube away from the adjacent side walls of the enclosing container.

3. A container for clocks comprising, in combination, an enclosing container having top and bottom walls and four side walls, an inner packing element comprising a four-sided tube of paperboard adapted to encase a clock, an extension flap on at least one end of each of two oppositely disposed walls of said tube, each of said extension flaps having a portion adapted to be folded inwardly over the top of the tube to provide a closure element therefor and having an additional portion adapted to be bent in a reverse direction to the first portion, outwardly of the tube, so that said portions provide cushioning elements between an end of the clock and the adjacent wall of the enclosing container, the extremity of each of such flaps extending beyond the adjacent side wall of the tube, whereby contact of the extremity of such flaps with the respective adjacent inner faces of the walls of the enclosing container will maintain the side wall of the tube away from said walls, at least one of the folded portions of said extension flaps being extended at each end thereof laterally beyond the walls of the tube which are disposed at an angle to the walls upon which the flaps are located, whereby the remaining pair of opposed walls is engaged.

4. A container for clocks of the kind comprising a rectangular shaped casing with laterally flaring base portions, said container comprising, in combination, an enclosing container having top and bottom walls and four side walls, an inner packing element comprising a tube of paperboard having front, rear, and side panels, adapted to embrace the front, rear, and side walls of a clock casing, two oppositely disposed walls of the tube having extension flaps at each end thereof, said extension flaps being folded to provide a plurality of cushioning elements at each end of the tube, said cushioning elements extending over a portion of the ends of the tube to engage the top and bottom of the clock casing, said cushioning elements being adapted to contact the inner surfaces of the enclosing container to maintain the inner packing element spaced from the side walls of the enclosing container, the side walls of the tube, other than those upon which the aforesaid flaps are located, being each cut away at one end thereof to leave a space between the end of said side wall and the cushioning element to allow the base portions of the clock to extend outwardly between the cushioning element and the lower ends of the side walls.

5. An inner packing element, adapted to be used with an enclosing container having a top and bottom wall and four side walls, said packing element comprising a tube of resilient paperboard, two opposed walls of said tube having flap extensions thereon adapted to be folded to provide reversely bent portions, the outer portions of each pair of flaps at the ends of the tube being adapted to bear flatwise against two opposed walls of an enclosing container and the outer extremities of such portions being extended beyond the sides of the tube so as to engage respectively against the inner faces of two other walls of the enclosing container, said flap extensions being extended laterally beyond the edges of the tube whereby the two remaining walls of the enclosing container may be engaged thereby.

6. A blank for an inner packing element, adapted to be used with an enclosing container having a top and bottom wall and four side walls, said blank comprising a strip of paperboard creased to provide a front panel, a side panel hinged thereto, a rear panel hinged to the opposite edge of the side panel, an additional side panel hinged to the opposite edge of the rear panel, each of the front and rear panels having flap extensions at each end thereof, each of said flap extensions projecting laterally beyond its attached panel to provide means for spacing the side panels from the walls of an enclosing container when the blank has been formed into a tube and when inserted within an enclosing container.

7. A blank for an inner packing element, adapted to be used with an enclosing container having a top and bottom wall and four side walls, said blank comprising a strip of paperboard suitably scored to provide a centrally disposed front panel, side panels hinged respectively to the opposite sides of the front panel, complementary rear panel portion hinged respectively to the outer edges of the side panels, flaps arranged to constitute cushioning and spacing elements extending respectively from the top and bottom edges of the front panel, said flaps extending transversely beyond the edges of the front panel, flaps arranged to constitute cushioning and spacing elements extending respectively from top and bottom edges of each of the complementary rear panels, each of said flaps extending beyond the edges of the complementary panel portions toward the side walls to which said portions are attached, so that substantial portions of such flaps project beyond the line of juncture between the respective side walls and the attached complementary panel portions.

MAURICE J. PARNIN.