April 20, 1965 C. H. KUHN 3,179,244

BIRD FEED SHIPPING CONTAINER

Filed Aug. 15, 1963 2 Sheets-Sheet 1

FIG.- 3

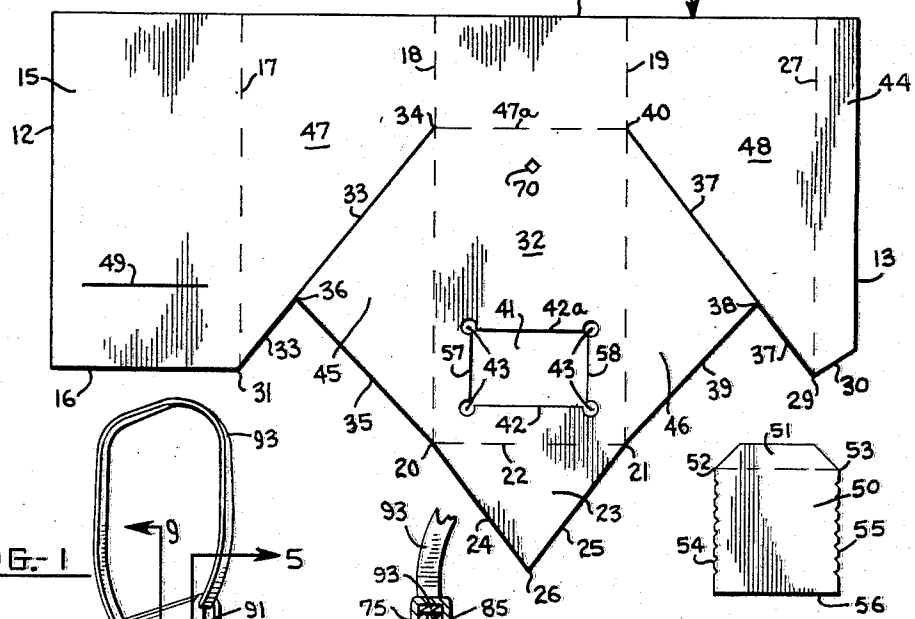
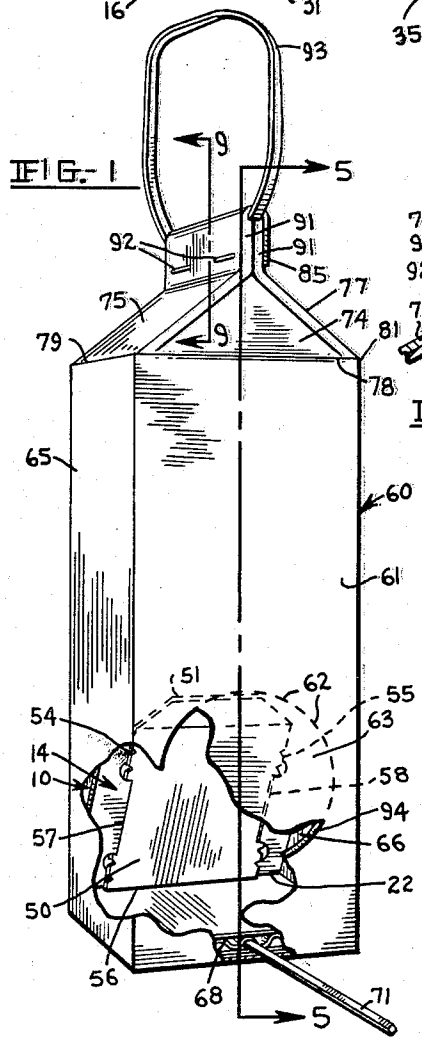


FIG.- 1



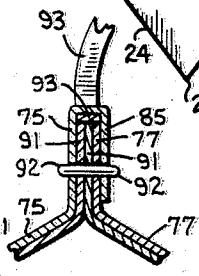


FIG.- 9

FIG.- 4

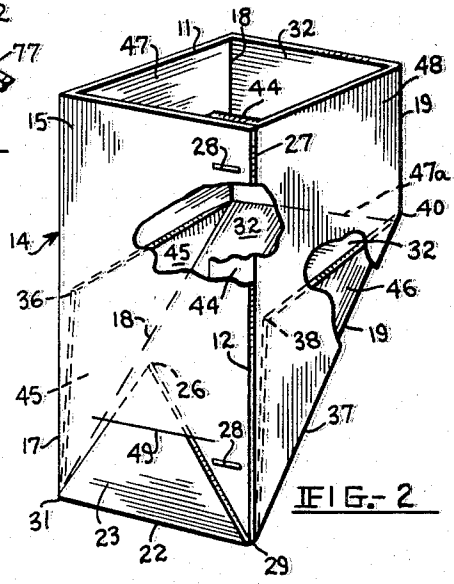


FIG.- 2

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BIRD FEED SHIPPING CONTAINER

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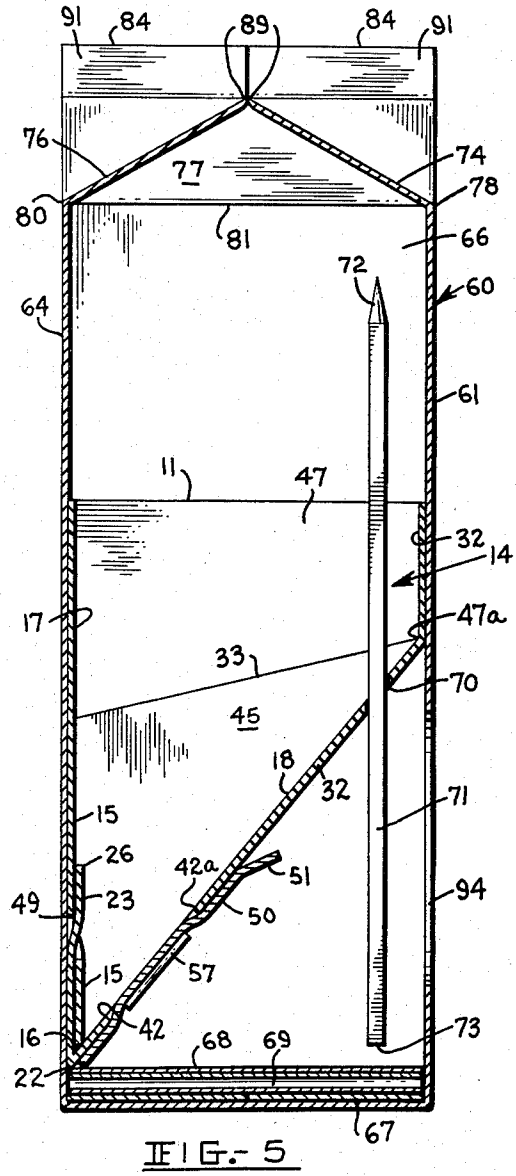


FIG.-5

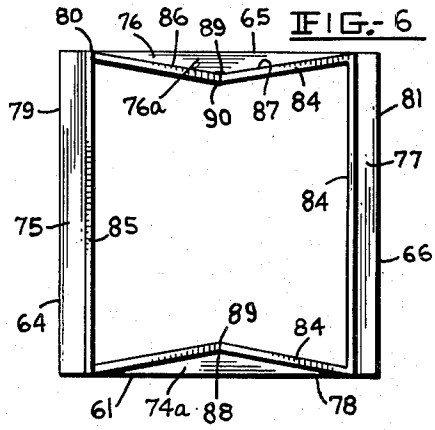


FIG.-6

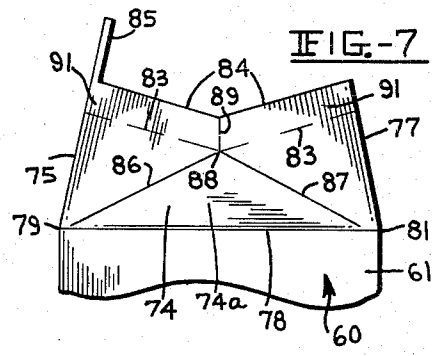


FIG.-7

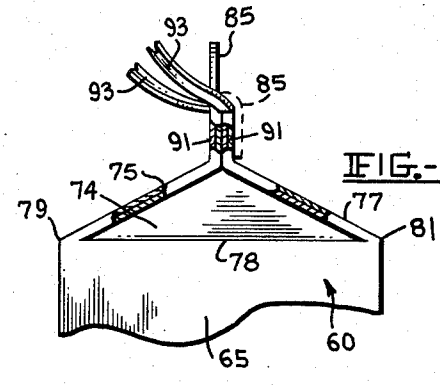


FIG.-8

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BIRD FEED SHIPPING CONTAINER

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Filed Aug. 15, 1963, Ser. No. 302,404
3 Claims. (Cl. 206—47)

This invention relates to a container for shipping, storing, and displaying bird feed.

A primary purpose is to make attractive to prospective purchasers measured quantities of ready mixed bird feed composed of discrete particles substantially free from dust by placing each quantity in a container made ready for bird feeding by simply punching out an exterior window to give access through the window to a gate. This gate is lifted to allow the feed to flow out onto an interior floor in a self-regulatory manner.

The invention resides largely in the particular construction of the container involving an insertable hopper made in one piece and in the relation of the hopper to an enclosing box or housing.

Thus, a further important object of the invention resides in the unique combination of the elements set forth in the appended claims, this combination resulting in a comparatively light weight carrier of the feed in respect to the quantity of feed contained.

These and other objects of the invention will become apparent to those versed in the art in the following description of the invention as now best known to me, which description is made in reference to the accompanying drawings, in which—

FIG. 1 is a view in front perspective and partial section of a container embodying the invention;

FIG. 2 is a view in rear perspective of a feed hopper with fragments removed;

FIG. 3 is a plan view of a hopper blank prior to folding;

FIG. 4 is a front view of a hopper gate;

FIG. 5 is a view on an enlarged scale, in section on the line 5—5 in FIG. 1, without a hanging strap and with the perch in shipping position;

FIG. 6 is a view in top plan of the top of the container before closing;

FIG. 7 is a view in detail and side elevation of the container top closure portion;

FIG. 8 is a view in detail in side elevation and partial section of the container upper end in closed condition; and

FIG. 9 is a detail in transverse section through the container top closure retaining means.

Referring first to FIGS. 1, 2, 3 and 5, a feed hopper is formed from a flat sheet of cardboard blanked to have the shape as indicated in FIG. 3, the blanked form being generally indicated by the numeral 10. This blank 10 has a straight edge 11 which will be a top edge in the set up condition.

The blank 10 has parallel side edges 12 and 13 extending at right angles to the edge 11 for approximately the same lengths. When the hopper which may be generally designated by the numeral 14 is to be substantially rectangular with equal side widths, there is a back side section 15 defined below the top edge 11 extending laterally from the side edge 12, a bottom edge 16 normal to the

edge 12 and a side fold line 17, preferably a score line, normal to the edges 11 and 16.

There is a fold line 18 parallel to the line 17 and spaced therefrom a distance equal to the length of the line 16. A third fold line 19 is parallel to the line 18 and spaced therefrom a distance equal to the length of the line 16. These lines 18 and 19 extend from the edge 11 over a portion of the blank 10 by equal lengths exceeding the lengths of the lines 12 and 13 and terminate respectively at the points 20 and 21, between which points is a fold line 22. This portion between the lines 18 and 19 and 11 and 22 constitutes the front side 32 of hopper 14.

A tab 23 is defined by edges 24 and 25 extending respectively from the points 20 and 21 to the point 26, giving the tab 23 a triangular shape with the point 26 as its apex. This tab 23 is hinged on the line 22 to fold rearwardly.

There is a fourth fold line 27 parallel to the fold lines 17, 18 and 19 and spaced from the line 19 a distance equal to the length of the line 16. The line 27 has the same length as that of the line 17. To the right of the line 27 as viewed in FIG. 3, is the edge 13 spaced a non-exact distance from the line 27, but at least a distance sufficient to receive a fastening of some sort such as an adhesive or preferably one or more staples 28, therethrough in the set up form of FIG. 2.

The line 27 terminates at a point 29 and a line 30 extends from that point to the edge 13 either at a right angle thereto or preferably at an acute angle to the line 27. The lines 16 and 17 intersect at a point 31. A line 33 extends from the point 31 at an acute angle to the line 17 and terminates at the point 34 on the line 18.

A boundary line 35 extends from the point 20 at an acute angle to the line 18 and meets the line 33 at the point 36. That part of the line 33 between the point 31 and the point 36 is a blank 10 boundary line between those two points. That part of the line 33 between the point 36 and the point 34 locates a slit through the blank 10 between points 36 and 34.

In like manner, there is a boundary line 37 extending from the point 29 to the point 38 at an acute angle to the line 27. A boundary line 39 extends from the point 21 to the point 38. The points 36 and 38 are equi-distant from the edge 11. The line 37 continues from the point 38 to the point 40 on the line 19. The points 34 and 40 are equi-distant from the edge 11. The line 37 between points 38 and 40 locates a slit entirely through the blank 10.

A generally rectangular window 41 is provided through the front section 32 adjacent the line 22. Each corner of the margin 42 of the window 41 opens into a circular cutout 43.

The blank 10 of the shape above described is "set up" by folding it on the vertical lines 17, 18, 19 and 27, each fold on these lines being backwardly from the blank as viewed in FIG. 3. The fold on the line 27 defines a fixing tab 44 which is brought against the inside of the section 15 to have the lines 27 and 12 in juxtaposition, FIG. 2. The two triangular shaped blank portions 45 and 46 are folded rearwardly on the lines 18 and 19 and then the front section 32 is swung rearwardly on the line 47*a* extending between the points 34 and 40, carrying the side portions 45 and 46 upwardly between the

hopper sides 47 and 48. The tab 23 is folded from the line 22 around outside of the back section 15 and carried by the apex 26 through the slit 49 laterally across the section 15.

A slide door 50, FIG. 4, has a generally rectangular shape with a pull tab 51 across its top end bendable on the line 52–53. Preferably the side edges 54 and 55 are serrated as indicated. The door 50 has its bottom edge 56 inserted by end portions through the top window margin holes 43, pushed downwardly under the margin end flanges 57 and 58, and out through the bottom holes 43 and over the margin edge 42 to have the bottom edge 56 come to rest at the line 22. The door 50 then has an upper portion and the tab 51 extending above and outside of the window top margin 42*a*. The door side serrations aid in preventing unwarranted lifting of the door tending to interlock over the top and bottom ends of the flanges 57 and 58, but permitting the door 50 to be withdrawn from over the window 41 when desired.

This hopper 10 fits snugly within a housing generally designated by the numeral 60 and herein shown in the one form as having a square cross-section. Preferably, the housing is made out of a water repellant cardboard. The sides of the housing 60 are just wide enough to slidingly receive therewithin the hopper 10.

The housing 60 may be made in a number of ways, and is herein shown in simple structure, the construction of which in general is not considered to be patentable per se. The housing front wall 61 has a line of perforations 62 therethrough defining a complete circle. The area 63 bounded by that perforated line 62 may be punched out for bird feeding purposes but remains intact when the device is to be shipped and stored. The other three sides of the housing are plain, vertically elongated, closed panels designated as a back wall 64 and side walls 65 and 66. The housing has a closed floor 67. Over the housing floor 67 is placed a square of corrugated board 68 to have the undulations 69 run from the front wall 61 to the back wall 64. The board 68 fits snugly against the lower end portions of all four walls.

The hopper 10 has a hole 70 through the upper end portion of the front inclined front section 32 adjacent the line 47*a*. A bird perch 71 has a pointed end 72 which is forced upwardly through the hole 70 to hang there with the other end 73 above the bottom line 22, FIG. 5.

The hopper 10 is inserted through the top, open end of the housing 60 and pushed downwardly therein until the line 22 strikes the board 68. The inclined hopper side 32 faces the housing 60, sloping forwardly from the line 22 and upwardly to the line 47*a* then against the inside of the housing front wall 61. The hopper 10 extends a distance upwardly from the line 47*a* to the top edge 11 which is well below the top end of the housing, FIG. 5.

Feed in predetermined quantity is placed within the hopper 10 and thereabove in the housing 60. The top end of the housing 60 may be sealably closed in several ways, the preferred way in the present form being a folded construction described as follows. Each of the walls 61, 64, 65 and 66 have integral extensions 74, 75, 76, and 77 walls rockable inwardly over the housing 60 on lines 78, 79, 80 and 81 thereacross in approximately a common, horizontal plane. There is a fold line 83 near the upper ends of the extensions entirely around all of them, spaced adjacent the common upper edge line 84. However, there is an extension tab 85 across the extension 75 extending originally above the edge line 84. Each extension 74 and 76 has a pair of diagonal fold lines 86 and 87 extending respectively from the ends of the lines 78 and 80 upwardly to central points 88 and 89 located on the encircling line 83.

The walls 74 and 76 are pushed one toward the other, hinging on the lines 78 and 80; folding on the lines 86 and 87 to form inwardly and upwardly sloping triangular portions 74*a* and 76*a*, and bending to upper end extensions on the central vertical lines 89 and 90 as started in FIG. 6, whereby the housing top edge portion forms a vertically disposed flange 91. The extensions 75 and 77 fold on their lines 79 and 81 and lap over the inwardly folding members 74 and 76 to have the upturned flange 91 come into a central, fore and aft, vertically disposed folded together position. The tab 85 is folded around and downwardly over the flange, FIG. 8 and secured thereover and thereto by staples 92, herein shown, FIG. 1 as two in number. Preferably a supporting cord or strap 93 is passed under this tab 85 before stapling as a means of supporting the container in its assembled form for bird feeding usage.

For such usage, the area 63 is punched out. The door 50 is pulled upwardly and outwardly through the window opening 94 and discarded to allow the feed to flow down onto the board 68. The perch 71 is pulled out through the window and inserted by its point through the housing front wall 61 and into a corrugation channel as indicated in FIG. 1 where it will be securely retained for birds to alight upon when the container is suspended from a tree branch or the like by the tape 93 so that the bird may reach through the window 94 to the feed (not shown) available on the floor 68.

While I have here shown my invention in minute description of one particular form, it is obvious that structural changes may be made without departing from the spirit of the invention, and I therefore do not desire to be limited to that precise form beyond the limitations of the following claims.

I claim:

1. A bird feed container having in combination with a
housing having a potential window defining on one side of the housing adjacent the bottom of the housing;
of a hopper sub-assembly fitting within the housing and resting by a lower end line on the bottom of said housing and having
a back wall with spaced apart first and second vertical edges interconnected by said lower end line;
a first side wall joined to said back wall second edge turning angularly forwardly therefrom and having an under edge sloping diagonally upwardly from the lower end of the back wall second edge merging into a side wall forward vertical edge;
a front section joined by one vertical edge to said side wall forward vertical edge;
a second side section joined to the opposite vertical edge of said front section;
said second side section having an under edge sloping downwardly and away from the juncture of the second section with the front section second vertical edge, terminating at a vertical line defining the width of the second side section;
both side edges of said front section being of equal lengths and less than the lengths of the back wall vertical edges;
said front section having a downwardly extending portion sloping in a plane including approximately said side wall diagonal edges to said back wall lower end wall and being secured to the back wall;
a bird perch carried by said downwardly sloping portion by extending therethrough;
a triangular area extending upwardly from each side edge respectively of said front section portion and lying along opposing sides of said side walls;
said hopper having a potential opening through said front section portion adjacent said bottom end line;
a removable hopper opening closure;
said housing having means retaining said hopper against rotation therein; and
a closure across the top of said housing retaining feed within the housing and hopper.

2. The structure of claim 1, in which
said second side wall overlaps said back wall by a portion; and there is

means securing the overlapping portion to the back wall;

said hopper retaining means comprising

a rectangular wall housing and a like rectangular hopper; and

said hopper potential opening is directed toward the housing potential opening.

3. The structure of claim 2, in which said hopper has a corrugated floor over said bottom; and said

bird perch is removably carried within said housing extending from above said floor and through said hopper front section downwardly extending portion, the perch being available through said housing potential window when opened; and

said floor having chanels of a size to frictionally retain said perch when inserted through the housing into one of the channels.

References Cited by the Examiner

UNITED STATES PATENTS

1,189,779	7/16	Becker	229—17
1,398,041	11/21	Pfeifer	119—52
2,195,575	4/40	Mallgraf	119—52
2,891,711	6/59	Early	229—17
3,022,768	2/62	Lynch	119—52
3,089,462	5/63	Brockmann	229—7

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