

Aug. 3, 1965

W. B. CRANE, JR

3,198,172

BIRDHOUSE ASSEMBLY KIT AND BIRDHOUSE CONSTRUCTED THEREFROM

Filed Feb. 17, 1964

3 Sheets-Sheet 1

FIG. 1

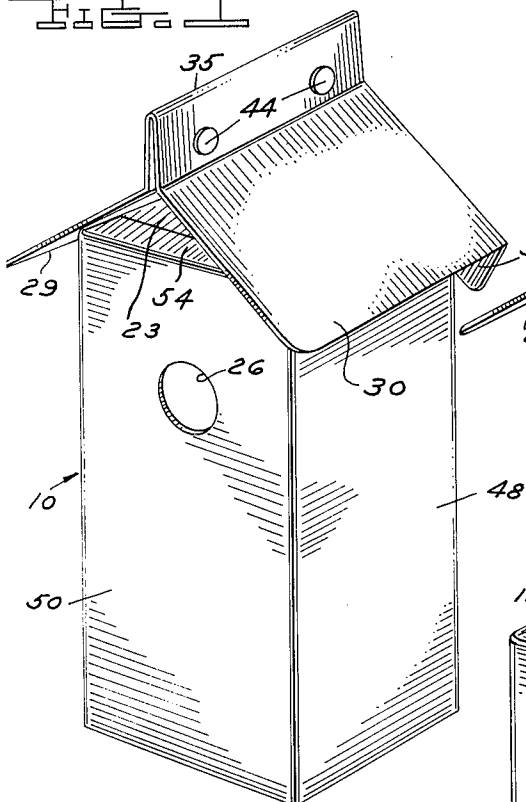


FIG. 2

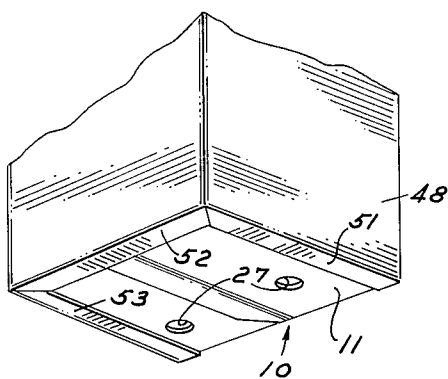
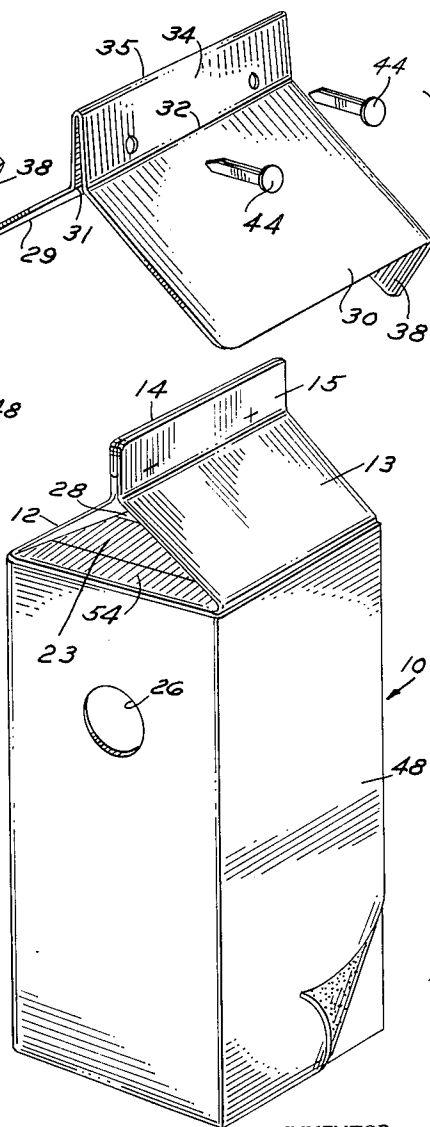


FIG. 3

INVENTOR.

WILLIAM B. CRANE JR.

BY

Bower & Patalidis

ATTORNEYS

Aug. 3, 1965

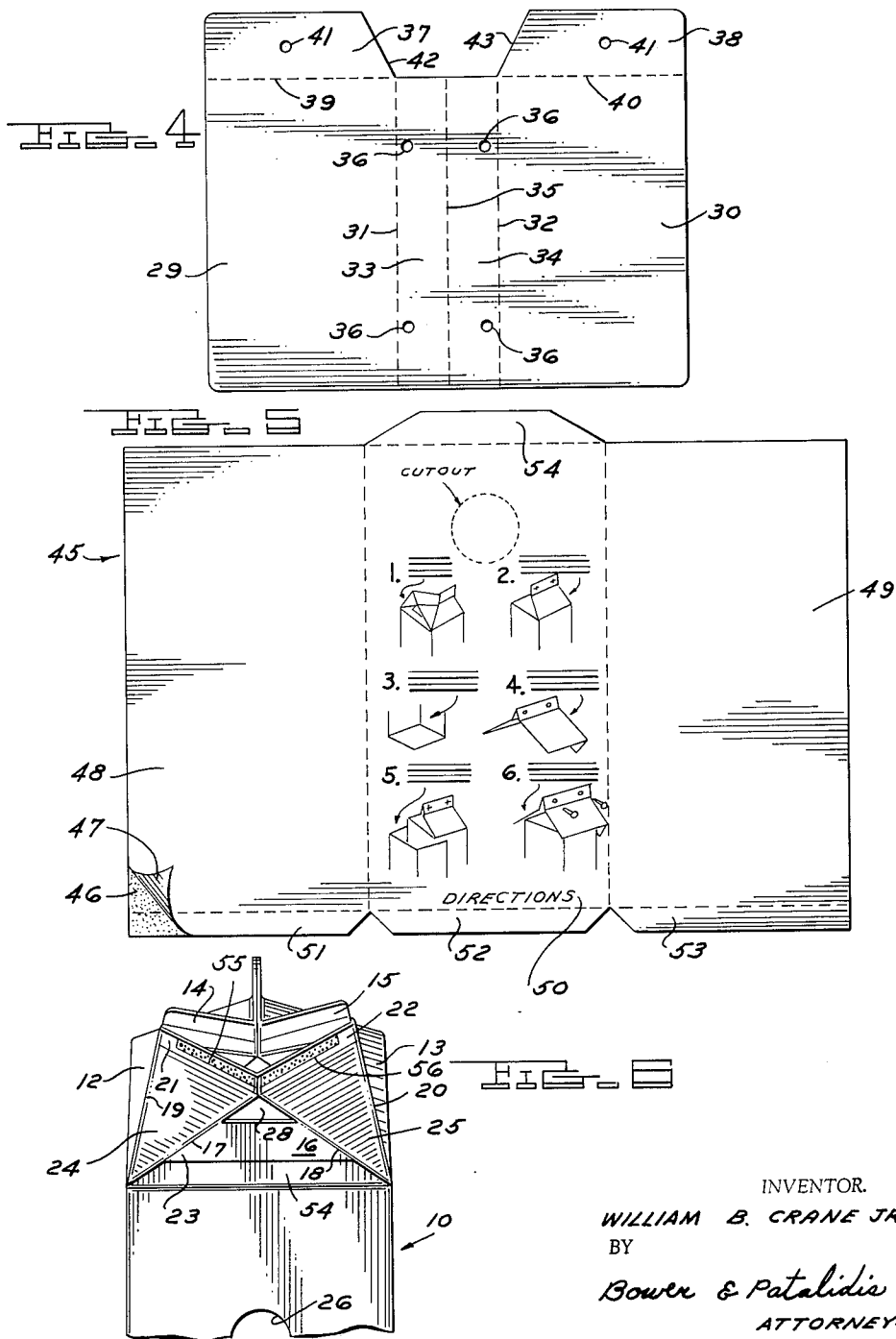
W. B. CRANE, JR

3,198,172

BIRDHOUSE ASSEMBLY KIT AND BIRDHOUSE CONSTRUCTED THEREFROM

Filed Feb. 17, 1964

3 Sheets-Sheet 2



INVENTOR.
 WILLIAM B. CRANE JR.
 BY
Bower & Patalidis
 ATTORNEYS

Aug. 3, 1965

W. B. CRANE, JR

3,198,172

BIRDHOUSE ASSEMBLY KIT AND BIRDHOUSE CONSTRUCTED THEREFROM

Filed Feb. 17, 1964

3 Sheets-Sheet 3

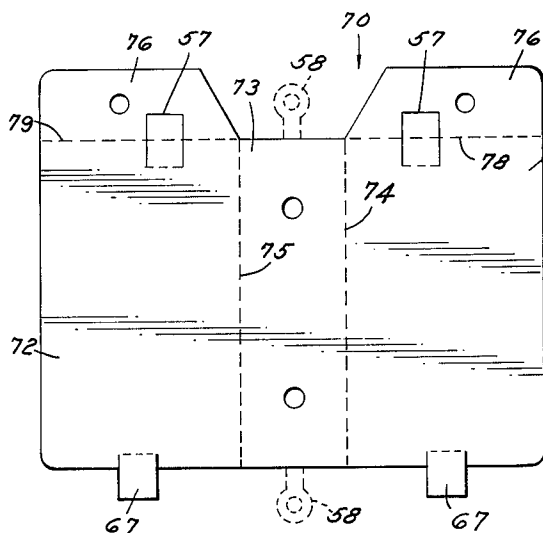


FIG. 6

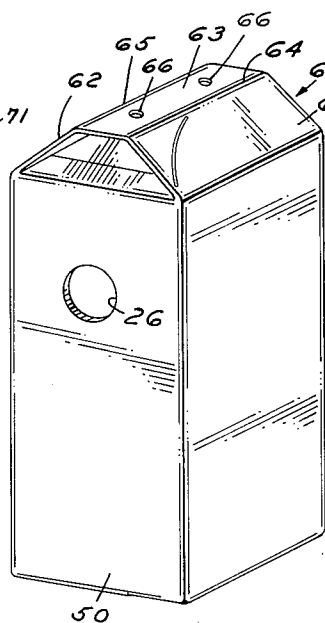
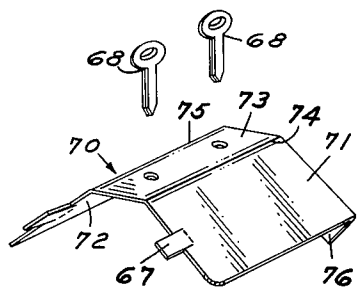


FIG. 7

INVENTOR
WILLIAM B. CRANE JR.

BY
Bower & Patalidis
ATTORNEYS

1

BIRDHOUSE ASSEMBLY KIT AND BIRDHOUSE CONSTRUCTED THEREFROM

William B. Crane, Jr., New York, N.Y., assignor to
Ex-Cell-O Corporation, Detroit, Mich.
Filed Feb. 17, 1964, Ser. No. 345,375
11 Claims. (Cl. 119—23)

The present invention relates to a novel conversion kit which enables a conventional paperboard milk carton to be converted in an expeditious manner to an efficient, semi-permanent birdhouse of advantageous design. The invention also encompasses an assembled birdhouse made with the new kit.

Reliable studies reflect the existence of widespread interest in the preservation of birdlife and in the feeding and housing of birds near homes, where they can be conveniently observed. Notwithstanding such widespread interest, however, the practical difficulties involved in building conventional birdhouses or the expense involved in purchasing them seems to be such that the actual installation of birdhouses appears to be considerably less than the indicated interest in providing them.

Accordingly, a basic objective of the present invention resides in the provision of a novel and highly simplified birdhouse construction, which enables a serviceable, semi-permanent birdhouse to be constructed and installed in a few minutes time, utilizing a minimum of parts and involving a minimum of expense. To this end, the birdhouse structure of the invention incorporates, as a major component, a paperboard milk carton of a conventional style and of a type which is readily commercially available on a nationwide basis. Conventional paperboard milk cartons, particularly those utilizing polyethylene coated paperboard, form durable, rigid, protective housings, which can easily withstand exposure to the elements for, say, a year, to provide a desirable and effective accommodation for a full season, and the construction of the new birdhouse assembly is such that the main enclosure, formed by the milk carton, may be quickly and easily (and, of course, without cost) replaced at the beginning of each season, if necessary or desirable.

In accordance with a further significant aspect of the invention, a simplified and economical kit of conversion parts is provided, which is initially in flat form and suitable for shipment through the mails, and which may be quickly assembled by inexperienced persons to provide a protective, gabled roof and mounting bracket for a housing-forming paperboard milk carton and to provide an outer covering for the milk carton to conceal the advertising and other printed matter thereon and to impart a desirable rustic appearance.

A further and more specific aspect of the invention resides in the provision of a combination roof and mounting bracket of novel construction for use in converting a conventional milk carton to a desirable form of birdhouse. The combination roof and mounting bracket is formed of sheet material bent to form a protective gabled roof and a deep roof ridge adapted for the reception and engagement of the ridgelike closure of a conventional paperboard milk carton. The arrangement is such that the milk carton, having been opened and emptied of its contents, is held by the combined roof and mounting bracket in a reclosed condition and in a manner completely protecting the top of the carton from rain and snow.

For a better understanding of the invention, reference should be made to the following detailed description and to the accompanying drawings, in which:

FIG. 1 is a perspective view of a birdhouse assembly incorporating the features of the invention;

2

FIG. 2 is an exploded perspective view illustrating the manner of assembly of the birdhouse of FIG. 1;

FIG. 3 is a fragmentary perspective view illustrating the bottom wall of the birdhouse of FIG. 1;

FIG. 4 is a plan view of a blank of flat, sheetlike material used in the formation of a novel combined roof and mounting bracket incorporated in the assembly of FIG. 1;

FIG. 5 is a plan view of a sheet of covering material incorporated in the assembly of FIG. 1;

FIG. 6 is a fragmentary perspective view of the top construction of a conventional paperboard milk carton of the type utilized in the birdhouse assembly of FIG. 1;

FIG. 7 is an exploded perspective view illustrating an alternate birdhouse assembly incorporating features of the invention; and

FIG. 8 is a plan view of a blank of flat, sheetlike material used in the formation of a novel combined roof and mounting bracket incorporated in the alternate assembly shown in FIG. 7.

Referring now to the drawings, the reference numeral 10 designates generally a paperboard milk carton of a conventional design currently available on a nationally distributed basis. The milk carton 10, which is advantageously constructed of polyethylene coated paperboard materials (but may be constructed of wax-coated board) typically has four vertical side walls (not specifically identified) of substantially equal size and a bottom wall 11 forming a container body of substantially square cross-section. At the top of the carton, the upper side wall panels 12, 13 extend upward and inward, meeting along a center "ridge" and forming a rooflike structure. Upper marginal panels 14, 15 extend upward from the junction of the "roof" panels 12, 13 for a short distance to form a ridge, sufficient to enable effective closure seals to be made in accordance with known milk carton construction principles.

As indicated in FIG. 6, the upper front wall panel 16 (which may be generally similar to the upper back wall panel, not shown) is creased along diagonal score lines 17, 18 and joins the upper side wall panels 12, 13 along corner score lines 19, 20. Sealing margins 21, 22 are formed along the upper edge extremities of the panel 16 on margins 55, 56 respectively. The margins 55, 56 advantageously being of less width than the marginal panels 14 and 15 of the panels 12, 13. The construction of the top structure is considered to be obvious from the drawing. The panel 16 folds about score lines 17, 18 to form a triangular panel 23 which is positioned underneath the panels 12, 13. The formed carton 10 is illustrated in FIG. 2 and this specific carton would have been opened and reclosed.

To open the conventional milk carton of the type illustrated herein, folded-under triangular panels 24, 25 of the upper wall panel 16 are torn open, to rupture the seals along the front half of the sealing margins formed by panels 14, 15. The opened milk carton, with a formed pouring spout for easy removal of its contents, is reflected by the illustration of FIG. 6, it being understood, however, that the specific carton illustrated in FIG. 6 has certain openings formed therein to adapt it for subsequent utilization as a birdhouse enclosure.

In accordance with the invention, the paperboard milk carton 10 is particularly suitable for conversion and subsequent use as a birdhouse in the conventional half-gallon and gallon sizes, although other sizes might also be used under appropriate circumstances. The half-gallon and gallon sizes are particularly desirable by virtue of the favorable relationship in these carton sizes of vertical to horizontal dimensions. The proportions of the illustrated carton 10 are substantially those of a conventional half-gallon milk carton.

To prepare a half-gallon milk carton for use as a birdhouse, an opening 26 of predetermined size is formed at an appropriate place in the carton front wall. Both the size and the location of the front wall opening 26 are of significance from the standpoint of the attractiveness of the house to various birds and the utility of the enclosure as an effective birdhouse. The necessary relationships are, of course, well known, and it is contemplated that, in a conversion kit incorporating the principles of the invention, appropriate instructions will be included for forming the front wall opening 26 appropriately for selected classes of birds.

In addition to the front wall opening 26, it is important to provide suitable drainage openings 27 in the bottom wall of the housing, this being particularly true in the present instance in view of the inherent liquid-tight characteristics of the body of the milk carton. It is also important to form a ventilation opening in the top of the housing, and, in the structure of the present invention, a ventilation opening 28 is formed to particular advantage by cutting out a triangular top section of the triangular panel 23 formed in the upper front wall panel 16. This triangular section advantageously is cut out, using a knife or razor blade for example, when the carton is in its open condition as illustrated in FIG. 6. Subsequently, when the carton is reclosed as indicated in FIG. 2, the opening 28 is both concealed and protected under the gable formed at the ends of the roof-forming panels 12, 13.

In accordance with the invention, a novel and simplified roof and mounting bracket is provided for assembly with the prepared carton, in such a way as to afford adequate protection for the carton, provide a pleasing, house-like outward appearance and at the same time provide a convenient facility for securing the assembled house structure on a tree, wall, etc. Advantageously, the roof and mounting bracket element is formed of flat, sheet-like material, suitable for shipping and handling in flat condition and capable of being re-formed by the user into a predetermined rooflike structure.

A flat blank suitable for forming a desired roof and mounting bracket is shown in FIG. 4 and comprises first and second roof-forming panels 29, 30 joined along fold lines 31, 32 to a pair of socket-forming panels 33, 34, which panels are in turn joined along a fold line 35. The socket-forming panels advantageously are provided with pairs of openings 36 to receive fastening devices to be described. Mounting tabs 37, 38 are connected along fold lines 39, 40 to the respective roof-forming panels 29, 30, and suitable apertures 41 are provided in the tabs for receiving tacks or other fastening devices.

Advantageously, the roof-forming blank is made of a readily bendable, weather-resistant material, such as sheet aluminum. The various fold lines advantageously are prescored and, if desired, the tabs and panels may be reinforced by suitable ribbing, so that an inexperienced person can readily bend the flat blank into the desired shape without special tools or equipment.

As indicated in FIGS. 1 and 2, the blank of FIG. 4 is formed into a combined roof and mounting bracket in accordance with the invention by folding the blank over upon itself along the fold line 35 and folding the roof-forming panels 29, 30 outward along the fold lines 31, 32 at an angle corresponding to the angle of the top panels 12, 13 of the paperboard milk carton. Determination of the proper roof angle may be assisted by forming the inner end edges 42, 43 of the tabs 37, 38 at a complementary angle. Subsequently, when the tabs are folded along the lines 39, 40 at right angles and downward with respect to the roof-forming panels 29, 30, as shown in FIG. 2 for example, the edges 42, 43 will be in abutting relation when the proper roof angle is established.

As reflected in FIG. 1, the principal dimensions of the roof-forming panels 29, 30 are such that, in the com-

pleted assembly, substantial marginal portions of the roof-forming panels extend beyond the side walls of the container. This not only affords greater protection against leakage, but imparts a more desirable appearance to the assembly. The vertical dimensions of the socket-forming panels 33, 34 are, of course, such as to receive the panels 14, 15 of the container while permitting the roof-forming panels 29, 30 to be supported directly by the container top panels 12, 13.

When the roof and mounting bracket is formed in the manner shown in FIG. 2, it can be applied over the top structure of the prepared carton with the roof-forming panels 29, 30 resting upon the corresponding panels 12, 13 of the carton, the tabs 37, 38 bearing against the back wall of the carton, and the socket-forming panels 33, 34 closely receiving the uppermost marginal panels 14, 15 of the carton and maintaining these panels in a reclosed condition.

After application of the roof and mounting bracket to the carton, through-openings may be formed in the carton panels 14, 15 in alignment with the openings 36 in the socket-forming panels. Suitable fastening elements 44 may then be inserted through the aligned openings to lock the carton and roof structure in assembled relation. If desirable and expedient, of course, suitable tabs or other elements may be formed integrally on the roof-forming sheet, such that it may be semi-permanently secured to the container without the use of the separate fastening elements 44.

Advantageously, the roof and mounting bracket is secured to a suitable permanent structure such as a tree, house, etc., prior to final, semi-permanent assembly of the container and the roof structure. Thereafter, the container can be readily installed in the bracket; in addition, replacement containers may be quickly installed in the same bracket for subsequent seasons.

Since conventional paperboard milk cartons often are brightly printed with advertising and other material, which may possibly be inappropriate for birdhouse use, a conversion kit according to the invention advantageously includes a covering material arranged to be applied over at least the front and side walls of the milk carton, and perhaps also over the back wall in cases where the latter is partly exposed. Advantageously, the covering material is in the form of a sheet of conventional contact adhesive paper which is substantially opaque when applied to the carton and has an exterior pattern which simulates wood or which otherwise provides a suitable exterior appearance for a birdhouse. In FIG. 5 there is shown a blank 45 for the contact adhesive paper, which typically consists of an outer or covering sheet 46 and a removable protective backing sheet 47. Advantageously, the protective sheet 47 has imprinted thereon complete directions for the preparation and installation of a birdhouse assembly according to the invention, including appropriate score lines as well as indicated cut-out lines. And, if desired, the sheet may be pre-cut to a desired shape and size and with appropriate openings.

In the covering sheet illustrated in FIG. 5, definite lines are provided separating the sheet into side wall covering panels 48, 49 and a front wall covering panel 50. Along the bottom edge there are formed three flaps 51-53 which are secured along margins of the bottom wall of the carton and may, if desired, cover the entire bottom wall with the exception of the drainage openings 27. The upper edges of the side wall covering panels 48, 49 are arranged to terminate at the top edges of the carton side walls, while the front wall panel 50 has a flap 54 along its upper edge arranged to cover the intact lower portion of the triangular panel 23.

Advantageously, the necessary cuts and folds can be made in the covering sheet 45 prior to removal of the backing sheet 47. Thereafter, the backing sheet is stripped off and the protective sheet is adhered directly to the surface of the container. In this respect, conventional con-

5

tact adhesive papers will adhere strongly to commercially available polyethylene coated milk cartons.

Referring to FIGS. 7 and 8 we show an alternate version of the invention with various modifications which could be adapted to the birdhouse assembly. We have a paperboard milk carton 60 having upper angular side wall panels 61 and 62 that join to an upper marginal panel 63. The upper angular side wall panels 61 and 62 are connected to the upper marginal panel along lines 64 and 65, respectively. There is a front wall cover panel 50 with an opening 26. Openings 66 are placed in panel 63 to receive securing means for the top assembly 70.

The top assembly 70 has first and second roof-forming panels 71 and 72. Panels 71 and 72 are connected to marginal forming panel 73 by fold lines 74 and 75, respectively. Mounting tabs 76 and 77 are connected to roof-forming panels 71 and 72, respectively by fold lines 78 and 79.

The top assembly 70 is constructed similar to the preferred embodiment shown in FIGURE 2. The container is opened by turning one end of the upper angular side wall panels 61 and 62 away from the marginal panel 63. This will cause tearing along a portion of lines 64 and 65 eliminating complete solid contact between panel 63 and panels 61-62. The tabs 67, on the assembly 70, can be folded around so as to retain the panels 61 and 62 against the bottom of the roof-forming panels 71 and 72. Fastening elements 68 may be used similar to elements 44; however, these can be provided with eye heads so that a unit could be hung from a tree, a post, a house, etc.

Another method of mounting is to provide tabs 57 which would act on the back end or the mounting tab end holding panels 61 and 62 against the inside surface of the roof-forming panels 71 and 72. The tabs 67 will act on the front end as explained previously. Attached are support eye members 58 that could be bent into the upright position for hanging the birdhouse assembly. The tabs 57, 67 and eye members 58 could be adapted to the roof assembly in FIGURE 4 for appropriate use with the preferred embodiment.

As will be understood, the invention enables a highly simplified, yet wholly practical and serviceable birdhouse to be constructed utilizing a conventional paperboard milk carton in conjunction with a combined roof and mounting bracket, and a covering sheet. Both the roof-forming element and the covering sheet may be prepared on an extremely economical basis and shipped in flat form, by mailing or otherwise, such that the necessary equipment for assembling a desirable form of birdhouse can be readily and inexpensively supplied to any person purchasing a conventional paperboard milk carton.

Perhaps the key element in the birdhouse assembly is the simplified top structure, arranged to form a combined roof and mounting bracket, which can be quickly erected by bending or folding a soft sheet of material such as sheet aluminum and which, when applied to a conventional milk carton, serves to complete the birdhouse structurally, imparts pleasing proportions and a desirable, overall appearance, and, at the same time, provides a means for securing the birdhouse on a tree or wall.

In one particularly practical and advantageous form of the invention, the necessary materials and directions are provided in the form of a construction kit comprising the roof-forming element and the covering sheet in flat form, with appropriate directions for assembly and installation printed on the removable back of the covering sheet.

Since the form of the invention illustrated herein is intended to be representative only, reference should be made to the following appended claims in determining the full scope of the invention.

I claim:

1. A birdhouse assembly comprising
 - (a) an opened and reclosed paperboard milk container of the type having a pair of inclined top panels and

6

a pair of ridge-forming panels extending upward from the top panels, and

- (b) a top structure forming a combined roof and mounting bracket secured to the top of said container,
- (c) said top structure comprising a section of sheet-like material folded in the center to provide a pair of opposed, facing socket-forming panels for the reception of the ridge-forming panels of said container and folded along the lower edges of said socket-forming panels to provide downwardly and outwardly extending roof-forming panels,
- (d) said roof-forming panels projecting beyond the front and side edges of the container,
- (e) said socket-forming panels being operative to maintain the ridge-forming panels of the container in a reclosed condition.

2. The birdhouse assembly of claim 1, in which

- (a) said top structure includes tabs extending vertically downward from the back edges of said roof-forming panels and abutting against the back wall of the container,
- (b) said top structure being securable to a support by said tabs.

3. The birdhouse assembly in claim 1, which further includes

- (a) a cover sheet secured to at least the front and side walls of said container,
- (b) said cover sheet having a contact adhesive on its inner surface.

4. The birdhouse assembly of claim 1, in which

- (a) said container has a front wall top panel scored and bent to form an upwardly and rearwardly extending triangular panel received below the front gable of the roof-forming panels, and
- (b) the apex portion of said triangular panel is cut away to provide a recessed, protected ventilation opening.

5. The birdhouse assembly of claim 1, in which

- (a) certain walls of the milk container are cut to provide a drainage opening in the bottom wall, a bird access opening in the front wall, and a ventilating opening immediately below the front gable formed by the roof-forming panels.

6. A top or roof structure adapted for assembly with a reclosed paperboard milk container to form a semi-permanent birdhouse, which comprises

- (a) a pair of roof-forming panels extending downward and outward from a predetermined roof ridge,
- (b) ridgelike socket-forming means extending upward from the upper edges of said roof-forming panels and adapted for the reception of ridgelike closure panels of the reclosed milk container, and
- (c) mounting tabs extending vertically downward from the back edges of the roof-forming panels and adapted for abutting engagement with the back wall of the container,
- (d) said roof-forming panels being of a size and shape to extend beyond the front and sides of the container.

7. The top structure of claim 6, further characterized

- (a) said panels, socket-forming means, and mounting tabs being formed as integral panel sections of a single, initially flat blank of bendable sheet metal,
- (b) said initially flat blank being divided into said panel sections by preformed bending scores.

8. A kit for converting a reclosed paperboard milk container into a semi-permanent birdhouse, comprising

- (a) a flat blank of bendable sheet material,
- (b) said blank being divided by a plurality of parallel fold lines into a pair of foldably connected socket-forming panels at the center area of said blank and a pair of roof-forming panels along the outer edges of said socket-forming panels,
- (c) said socket-forming panels being foldable into opposed, facing relation and being of a width to accom-

7

- modate the reception of the vertically disposed closure panels of a milk container,
- (d) said roof-forming panels being of a width and length in excess of the corresponding width and length dimensions of the top-forming panels of a milk container, and 5
- (e) means for securing a top structure formed by said blank to the top of a reclosed milk container.
9. The kit of claim 8, in which
- (a) said means for securing comprises fastening elements separate from said blank. 10
10. The kit of claim 8, which includes
- (a) an adhesive covering sheet of initially flat form and of a size and shape for covering the front and side walls of a milk container.
11. The kit of claim 10, in which 15
- (a) said covering sheet has a contact adhesive on one surface and a removable backing sheet initially covering said contact adhesive,

8

- (b) said backing sheet having printed on the exposed surfaces thereof guide information for the preparation and installation of a birdhouse.

References Cited by the Examiner

UNITED STATES PATENTS

1,791,956	2/31	Cowles	119—23
2,190,721	2/40	Mallgraf	119—23
2,424,733	7/47	Benson	119—23
2,666,414	1/54	Burr et al.	119—23
2,891,711	6/59	Early	229—17
3,115,865	12/63	Parkes et al.	119—23 X

SAMUEL KOREN, *Primary Examiner.*ALDRICH F. MEDBERY, *Examiner.*