May 2, 1967 R. E. BOWLES ETAL 3,317,034

REINFORCED CARTON

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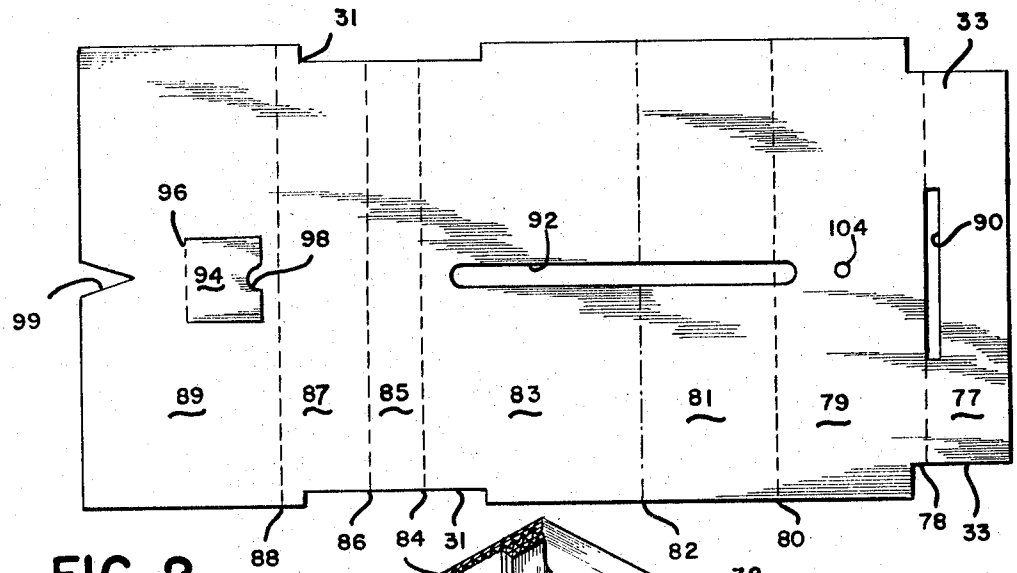


FIG. 2

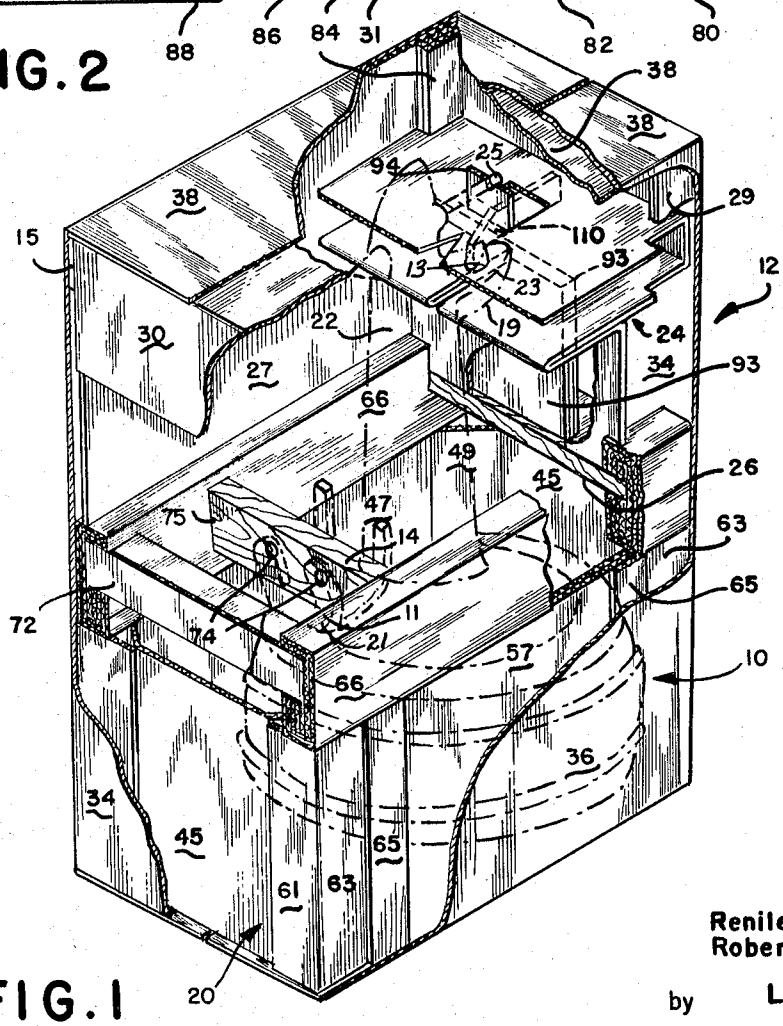


FIG. 1

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FIG.3

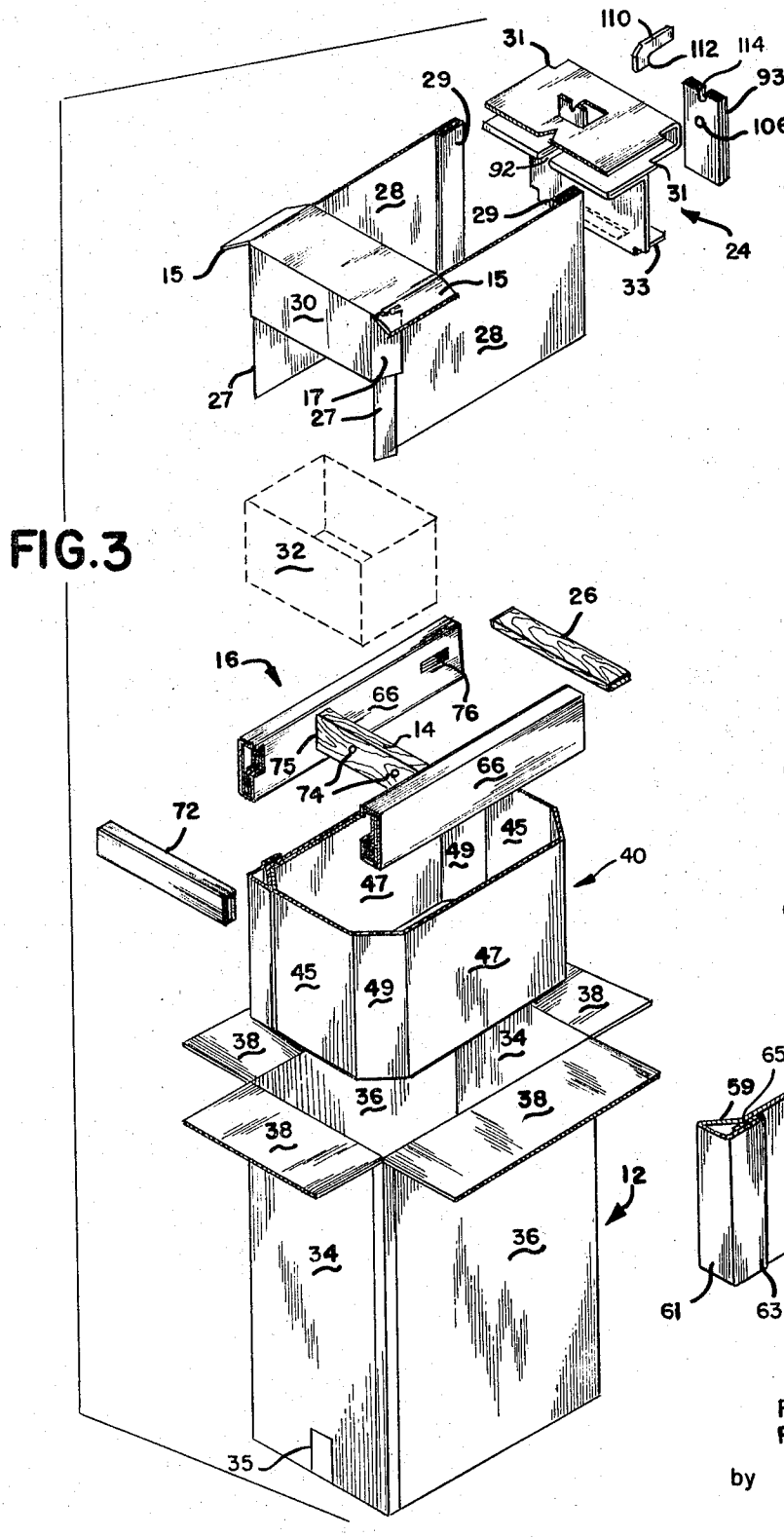


FIG.4

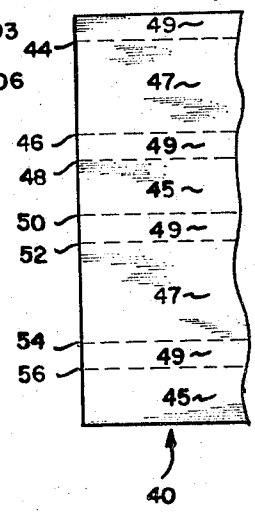
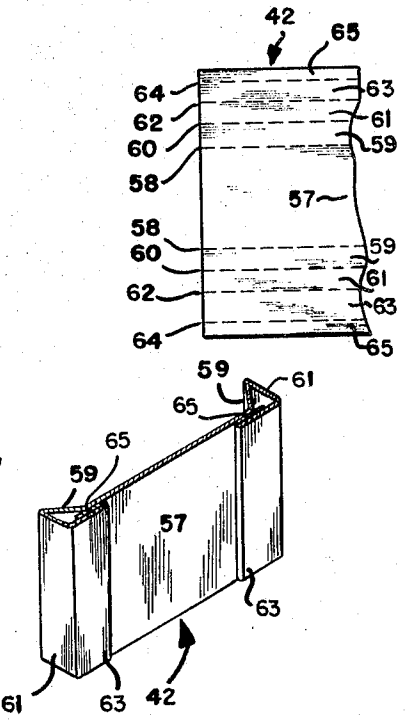


FIG.5



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REINFORCED CARTON

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Filed June 1, 1964, Ser. No. 371,597
13 Claims. (Cl. 206—46)

This invention relates to a carton which is used for shipping outboard marine motors and more particularly to an improved reinforced carton for shipping said motors in a fully suspended position.

Outboard marine motors of the type contemplated herein are shipped as complete units in a single carton. The motor was shipped in an upright position with the powerhead for the motor resting near the bottom of the carton. The shroud for the motor generally filled the entire upper portion of the carton, limiting the available space within the carton. Efforts to increase this space without materially increasing the size of the box have been directed primarily to placing the shroud in the bottom of the carton.

One of the primary objects of the present invention is to provide a carton for shipping outboard marine motors in a fully assembled condition.

Another object of the present invention is to provide a carton for an outboard marine motor in which the engine is completely suspended in the carton so that it is subjected to a minimum of shock during shipment.

Another object of the present invention is to provide an improved paperboard member to lock the outboard marine motor in a fixed position on a skid.

Another object of the present invention is to provide a support for an outboard marine motor which has increased the strength in compression of the carton as well as providing increased protection for the motor.

Another object of the present invention is to provide an improved skid for transporting the motor during manufacture as well as suspending the motor within the carton.

A further object of the present invention is to provide an improved packing arrangement for an outboard marine motor, a gasoline tank and the motor accessories.

These objects are accomplished by clamping an outboard marine motor to the cross member of a skid which is designed to fit within a container having end walls, side walls and top and bottom walls. An insert is provided in the container to suspend the skid between the top and bottom walls of the carton with the motor suspended in an upside down relation. The shroud of the motor is then located within the confines of the insert and spaced from the bottom of the carton. A special reinforced integral pad assembly is used to lock the motor in a fixed position on the skid so that it cannot tip on the skid. The pad assembly provides a solid structure from the cavitation plate of the motor to a second cross piece on the skid. A special plug is inserted into the exhaust of the motor and is seated against the opposite wall of the carton to aid in preventing any motion between the motor and the skid. Sufficient space is provided between the gear case housing and the wall of the carton to position a gas tank container on the skid and to suspend an accessory pack in the top corner of the carton above the gas tank container. The gas tank container and accessory pack provide additional support between the skid and the top of the carton which aids in preventing any motion between the skid and the carton in the event the pack should be turned upside down. Side wall inserts having reinforced end members are used to provide a solid structure from the top of the carton to the edges of the skid within the carton. It has been found that this type of a case provides a simplified method of storing and shipping a complete outboard marine motor as well as improved strength with a smaller container.

Other objects and advantages will become more readily apparent from the following detailed description when read in connection with the accompanying drawings, in which:

FIG. 1 is an isometric view of the carton with the engine shown in phantom in the carton.

FIG. 2 is a diagrammatic view of the gear case pad.

FIG. 3 is an exploded view of the entire outboard motor pack.

FIG. 4 is a view of the blank for the bottom insert.

FIG. 5 is a view of the blank for one of the side wall inserts.

Referring more particularly to the drawings, on outboard marine motor **10** is shown in phantom positioned within a carton **12** in an upside down position. The clamp **11** of the motor is secured to a cross piece **14** on a skid **16**. The shroud of the motor is suspended within a bottom insert assembly **20** with the gear case **22** of the motor held in a vertical position by a gear case pad **24** which is secured to a cross member **26** on the skid. Upper side wall inserts **28** are positioned along the sides of the carton and support an accessory pack **30** in a spaced relation above a gas tank pack **32**.

The carton is made from corrugated paperboard and has end walls **34**, side walls **36** and top closure flaps **38** and bottom closure flaps (not shown) on the bottom of the carton. The bottom flaps are folded inward and secured in position by a tape **35**.

The bottom insert assembly includes a center octagonal section **40** (FIG. 4) positioned between bottom side wall inserts **42** (FIG. 5). The octagonal insert is divided by score lines **44**, **46**, **48**, **50**, **52**, **54** and **56** into end walls **45**, side walls **47**, and corner walls **49**. The bottom wall inserts are divided by score lines **58**, **60**, **62** and **64** into a center section **57**, corner section **59** and end wall section **61**, side wall section **63** and an overlap section **65**. The ends are folded to form triangular corner pieces which matingly engage the corner walls of the octagonal insert when inserted into the carton. Two bottom wall inserts are required for each case; this provides a double wall along the side walls of the carton as well as a triangular reinforced section in each corner of the carton for supporting the skid.

The skid is made up of two longitudinal members **66** held in a spaced relation by wooden cross pieces **14** and **26** and a corrugated paperboard roll up **72**. Cross piece **14** is mounted in a vertical relation in slots **75** in the longitudinal members and is used for the outboard motor clamp **21**. A pair of holes **74** may be provided in the cross piece for securing the motor onto the cross piece. Cross piece **26** is positioned in a horizontal position in slots **76** at one end of the longitudinal members and supports the gear case pad as explained below. The roll up is used to hold the front of the longitudinal members apart and supports the gas tank pack when it is placed in the carton. Each of the longitudinal members is made up of paperboard folded to form hollow rectangular members having a reinforced insert **67** at each end as shown and described in our co-pending application, Ser. No. 322,292, filed Nov. 8, 1963, now Patent No. 3,221,972, issued Dec. 7, 1965.

The gear case pad (FIG. 2) is cut from a single strip of corrugated paperboard that is divided by score lines **78**, **80**, **82**, **84**, **86** and **88** into a mounting flap **77**, vertical section **79**, horizontal section **81**, horizontal overlap section **83**, end wall section **85** and horizontal section **87** hingedly connected to forward section **89**. A slot **90** is cut in the mounting flap to accommodate one end of a reinforced pad **93**. A slot **92** is cut along the longitudinal axis of the blank which is aligned with the lower fin **23**

of the motor when the gear case pad is mounted on the skid. A small flap 94 is cut in forward section 89 and is bent upward on score line 96 to align notch 98 with the propellor shaft 25 on the motor. In order for flap 94 to fit under the drive shaft 25 of the motor, forward section 89 is bent downward along score line 88 with V slot 99 aligned with the gear case. To aid in assembling the reinforced pad onto the gear case pad, a hole 104 may be provided in the vertical section of the gear case pad which is aligned with hole 106 in reinforced pad 93 during assembly. The pad is secured to the vertical section by any well-known adhesive. A notch 108 may be provided in the top of the pad and is aligned with slot 92 to provide clearance for the fin on the gear case.

A small pad 110 composed of a number of sheets of cardboard secured together by any well-known adhesive is used to lock the gear case into the gear case pad. The depending portion 112 of this pad is inserted into the open exhaust 13 below the cavitation plate 19 on the motor. When the two parallel horizontal surfaces, 83 and 89, are aligned with the gear case, the small pad will be positioned in a vertical relation between the two parallel surfaces with its outer end abutting the inside surface of end wall 85. The upper edge 114 of the reinforced pad will underlie the cavitation plate, forming a rigid connection between cross piece 26 and the cavitation plate.

When the motor is to be packed in the carton, it is first clamped on cross piece 14 and pad 110 is inserted into the exhaust. Reinforced pad 93 is preassembled onto vertical section 79 on the gear case pad. The gear case pad is folded and mounted on the gear case housing by aligning slot 92 with the fin on the motor and sliding horizontal section 83 under the cavitation plate. End wall 85 is brought into engagement with the end of pad 110. Forward section 89 is folded over the top of pad 110 and flap 94 folded upward on score line 96 to bring notch 98 into alignment with the drive shaft 25 of the motor. The forward section will be pushed down toward the cavitation plate and onto the upper edge of pad 110 holding it in position in the exhaust of the motor. Mounting flap 77 is then secured to cross piece 26. The motor is now securely mounted on the skid.

Prior to inserting the skid into the carton, the ends of side wall inserts 42 are folded to form triangular corner pieces which fit in the lower corners of the carton. Octagonal section 40 is then inserted into the carton to hold the side wall inserts in position with the triangular corner pieces aligned with corner sections 49. Each corner then has in effect a reinforced post to support the side.

The motor and skid are then placed in the carton with the longitudinal members resting on the upper edges of the octagonal section and side wall inserts. The upper side wall inserts are inserted into the carton with inwardly folded end members 29 aligned with notches 31 and 33 in the gear case pad. A single outwardly folded overlap section 27 is provided at the other end of the upper side wall insert. The gas tank carton 32 is placed on top of the skid and accessory carton 30 hung on the upper side wall inserts with flap 15 and 17 overlapping the sides of the upper side wall inserts. The flaps hold the accessory pack in position so that it cannot slide around in the carton.

The upper flaps 38 of the carton are closed over the top of the carton and secured in position to complete the package. An extremely rigid frame is provided within the carton by the longitudinal members of the skid, the lower triangular corner members and the upper overlapped members 27 and 29. This reinforced framework is further strengthened by the roll up 72 provided in the skid and the stacked arrangement of the gas tank carton and the accessory pack. With the motor clamped to the cross piece on the skid and rigidly supported in a vertical position by pad 24 and exhaust pad 110, there is absolutely no possibility of the motor pivoting about cross piece 14.

Although only one embodiment of the present invention has been shown and described, it should be apparent that various changes and modifications can be made to this structure without departing from the scope of the appended claims.

What is claimed is:

1. In a package for carrying an outboard marine motor in an upside down position, said motor having a clamp, a gear case, a cavitation plate and an exhaust, said package including a container having a top, a bottom, side walls and end walls,

motor mount means having a first cross member to which the clamp of the motor is secured, and a second cross member parallel to and spaced from said first cross member,

insert means for supporting the motor mount means in a spaced relation with respect to the top and bottom of the container, and

reinforcing means positioned on the second of said cross members and forming a rigid support from said cross bar to the gear case for said motor.

2. In a package according to claim 1 wherein said reinforcing means includes a first member having one end mounted on said second cross member and the other end positioned to engage the cavitation plate of the motor, and

a second member positioned between the gear case and one of the side walls of the container.

3. In a package according to claim 2 including an L-shaped member having one end positioned in the exhaust of the motor and the other end abutting the side wall of the container.

4. In a package for carrying an outboard motor having a clamp, gear case, cavitation plate and exhaust and including a container having a top, a bottom, side walls and end walls,

insert means having triangular reinforced corners and being of a height less than the height of the container,

a motor mount support including a pair of elongate pads held in a parallel relation by a pair of cross bars and a spreader pad,

one of said cross bars being adapted to hold the motor clamp, said motor mount support resting on said insert,

a gear case pad having one end secured to the other of said cross bars and the upper end positioned to support the cavitation plate on the gear case of the motor, and

reinforcing pads providing a solid structure from the cavitation plate to the other of said cross bars and from the gear case to one of the side walls of the carton.

5. In a package according to claim 4 wherein said gear case pad is folded from a single integral piece of paperboard to form a vertical section and two parallel sections, said vertical section extending upward from said one of said cross pieces into engagement with the cavitation plate.

6. In a package according to claim 5 wherein one of said reinforcing pads is secured to said vertical section and the other of said pads has one end inserted into said exhaust and the other end abutting the side wall of the carton.

7. A carton assembly comprising a carton having end, side, top and bottom walls,

support means positioned in the bottom of the carton and forming a reinforced enclosure in the bottom of the carton said support means comprising a pair of side wall inserts having integral triangular end sections which fit into the corners of the carton, and an octagonal insert which fits inside of the side wall inserts to hold the triangular end sections in position,

an article mounting means positioned on the support

means, intermediate the top and bottom of the carton,

an article securing means secured to the mounting means and the article to be supported in a fixed position on the mounting means, and

a second support means extending from the top of the mounting means to the top of the carton to hold the mounting means in a fixed position in the carton.

8. A carton assembly according to claim **7** wherein said article mounting means includes a pair of longitudinal elongate sections connected by a pair of wooden cross members and a paperboard cross member.

9. A carton assembly according to claim **7** wherein said article securing means includes a first section extending vertically upward from said article mounting means until it engages said article, and

a second section extending horizontally from said article into engagement with the side wall of the carton.

10. In a package for shipping an outboard motor having a gear case, an exhaust, a cavitation plate, a clamp and a propeller shaft, said package including a carton having a top, a bottom, side walls and end walls, the combination of

an octagonal insert and side wall inserts having triangular end sections at each end, the octagonal insert and side wall inserts resting on the bottom of the carton and extending an equal distance up the sides of the carton,

a skid having a pair of longitudinal side members, first and second cross members interconnecting said side members, said first cross member adapted to be clamped to said motor,

a gear case pad secured to said second cross member and having a first section extending upward in a parallel relation to said end walls and engaging a portion of the gear case of the motor, and

a second section integral therewith and positioned in a parallel relation to the top of the carton and forming a brace between the gear case and one of said end walls, and

second side wall reinforced inserts positioned between the skid and the top of the carton to hold the skid in position.

11. In a package according to claim **10** wherein said second section includes a pair of parallel members, one of said members underlying the cavitation plate and the other member overlying said cavitation plate, said other member including a flap extending upward therefrom into engagement with the propellor shaft of the motor.

12. In a package according to claim **11** including a reinforced pad having one end positioned in the exhaust of said motor and the other end abutting the side wall of the carton.

13. In a package according to claim **12** including a second reinforced pad secured to the first section of said gear case pad with its lower end lying on said second cross member and its other end engaging the underside.

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