March 27, 1951 J. G. DUNNEBACK 2,546,922

SHIPPING RECEPTACLE WITH INNER ARTICLE FASTENING MEANS

Filed Sept. 28, 1945 2 Sheets-Sheet 1

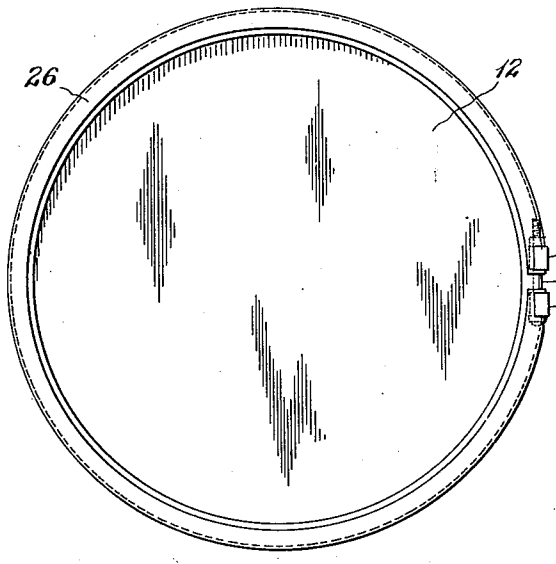


FIG. 2.

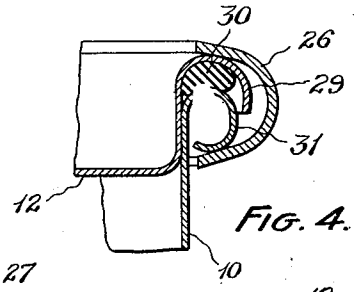


FIG. 4.

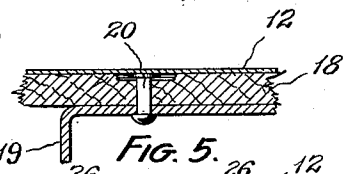


FIG. 5.

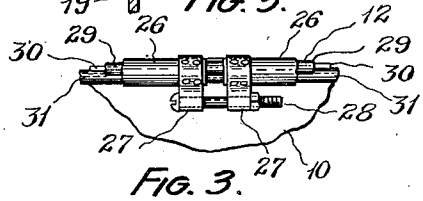


FIG. 3.

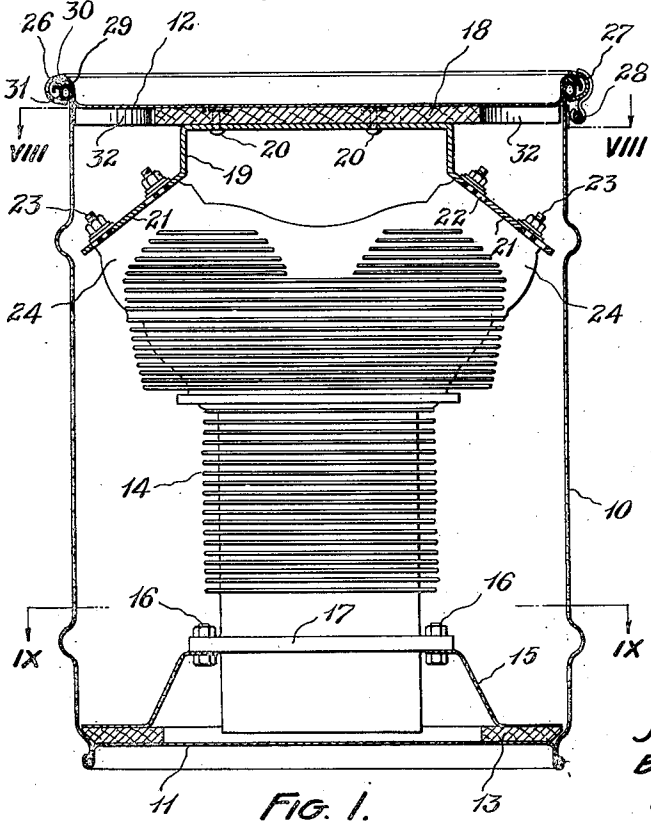


FIG. 1.

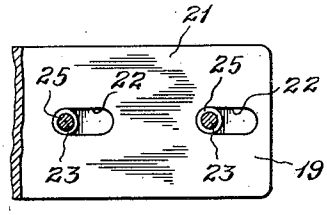


FIG. 7.

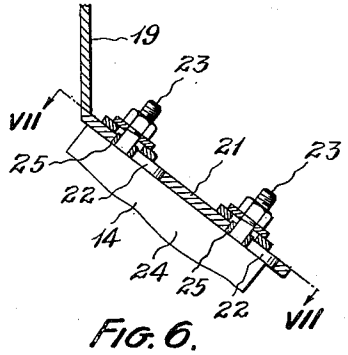


FIG. 6.

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SHIPPING RECEPTACLE WITH INNER ARTICLE FASTENING MEANS

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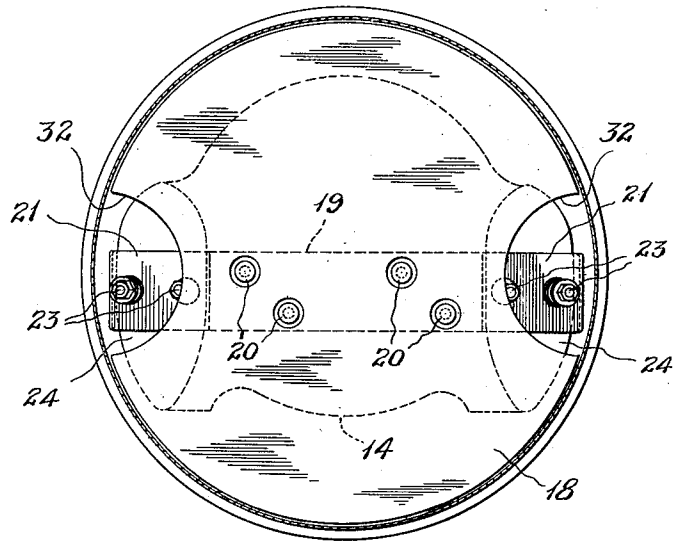


FIG. 8

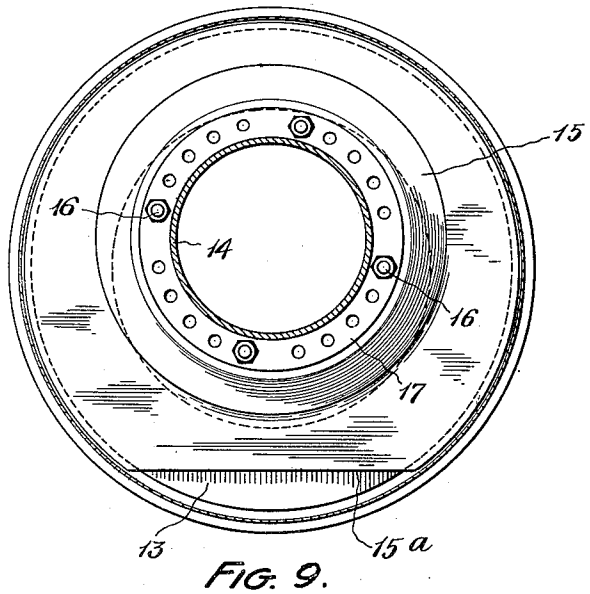


FIG. 9.

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SHIPPING RECEPTACLE WITH INNER ARTICLE FASTENING MEANS

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2 Claims. (Cl. 206—46)

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This invention relates to shipping packages and more particularly to packages for articles which must be carefully protected against dampness and which usually are subject to damage if roughly handled, as in the case of electrical machinery or equipment, aircraft engines or parts thereof, etc.

One object of my invention is to provide a shipping package or container of such form that a machine or other article is held therein in such manner that the container can be subjected to hard blows which are sufficient even to deform it without injury to the article.

Another object of my invention is to provide a shipping package of such form that the article shipped therein is firmly maintained in spaced relation to the side and end walls of the drum and can be easily placed in and removed from the drum.

My invention is especially applicable to the packing for shipment of articles of irregular shape, as, for example, airplane motor cylinders. I provide for packing such articles in packages or containers of conventional shape, as, for example, cylindrical, and mounting the articles therein so that they are adequately protected against damage during shipment.

Other details, objects and advantages of the invention will become apparent as the following description of a present preferred embodiment thereof proceeds.

In the accompanying drawings I have shown a present preferred embodiment of the invention, in which

Figure 1 is a vertical cross-sectional view through a package comprising a drum having an airplane motor cylinder packed therein;

Figure 2 is a top plan view of the package of Figure 1;

Figure 3 is a fragmentary face view of the cover fastening and sealing means;

Figure 4 is a fragmentary vertical cross-sectional view to enlarged scale of the cover sealing means;

Figure 5 is a fragmentary vertical cross-sectional view to enlarged scale of a portion of the structure of Figure 1;

Figure 6 is a fragmentary vertical cross-sectional view to enlarged scale of another portion of the structure of Figure 1;

Figure 7 is a fragmentary angular face view, partly in cross-section, of a portion of the structure of Figure 1;

Figure 8 is a horizontal cross-sectional view taken on the line VIII—VIII of Figure 1; and

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Figure 9 is a horizontal cross-sectional view taken on the line IX—IX of Figure 1.

The container may suitably be formed of sheet metal and as shown in the drawings comprises a drum-like body portion 10, a bottom head 11 having tightly sealed connection with the lower end of the body portion 10 and a cover 12 that is removably applied to the upper end of the body portion. A stiffening member or plate 13 which can be of ply-wood or other suitable material is seated against the bottom head 11 of the drum and is beveled at its edge to engage a complementary-shaped portion of the drum as shown in Figure 1. In this case the member 13 is centrally apertured to receive the downwardly projecting end of an aircraft motor cylinder 14 that is here shown as being the article packed for shipment.

A base member 15 of sheet metal has an upstanding central portion that is apertured to receive the lower portion of the cylinder 14, the cylinder being connected to the member 15 by bolts 16 that extend through holes in a flange 17 on the cylinder and holes in the base member 15, the member 15 being directly supported by the stiffening member 13. A portion of the member 15 is cut away at 15a (Figure 9) so that if the side of the drum has become deformed with an indentation and it is thereafter desired to remove the article and the member 15, such member can be rotated on its axis until the cutaway portion 15a thereof will be in alignment with the indented portion of the drum, thereby permitting withdrawal of the cylinder and the member 15 from the drum.

A stiffening member 18 of ply-wood or other suitable material normally has flatwise engagement with the cover 12, when the cover is in place, to distribute any endwise thrusts which may be imposed against the cover by the cylinder 14 during handling of the package. A bracket member 19 of strap-like form is secured to the stiffener 18 by bolts or rivets 20, the bracket member having sloping arms 21 that are slotted at 22, as shown more clearly in Figure 7, to receive threaded studs 23 that are carried by and protrude from pads 24 of the cylinder 14, whereby detachable connection is effected between the bracket 19 and the engine cylinder. Bushings or ferrules 25 are provided around the studs 23 to prevent the walls of the slots 22 from damaging the studs 23. The holes at 22 are made in the form of elongated slots to permit of freely lifting the bracket 19, in a vertical direction, from the studs 23 when the nuts have been removed.

The cover 12 is removably held in place by a clamping ring 26 that has perforated ears 27 through which a tightening bolt 28 extends to draw the ring 26 tightly and clamp the lip 29 of the cover against a rubber packing ring 30 that rests upon the beaded edge 31 of the drum 10.

The disc 18 is of a diameter nearly equal to the internal diameter of the drum 10, and, by reason of its connection to the bracket 19, affords lateral support to the engine cylinder 14. The disc 18 has hand holes 32 cut into its edges whereby it, together with the engine cylinder and the base member 15, can readily be removed from the drum when the cover has been opened. The lower end of the cylinder is held against lateral displacement by the member 15 which seats rather closely within the drum. When the drum is in an upright position, as in Figure 1, the weight of the cylinder will be imposed upon the base member 15, while if the drum is turned upside down the bracket 19 will afford vertical support to the cylinder. When the drum is on its side the members 15 and 19 will cooperate to hold the cylinder in a centralized position in the drum thus avoiding injury to it even if the side of the drum should become caved in somewhat.

The term "drum" is employed herein largely as a matter of convenience; the casing or container shell need not necessarily be of cylindrical contour.

While I have shown and described a present preferred embodiment of the invention it is to be distinctly understood that the invention is not limited thereto but may be otherwise variously embodied within the scope of the following claims.

I claim:

1. A shipping receptacle comprising a container that is closed at its lower end and has a removable cover for its upper end, a base member loosely disposed within the closed lower end of the container and having a peripheral edge in engagement with the side walls of the container, means including positive fastening means for connecting an article to the base member, a plate adapted to engage the lower surface of the cover and with its peripheral edge in proximity to the inner side walls of the container, a bracket bearing at its mid-portion against the plate and secured thereto and having its end portions projecting into the space within the container and

means including positive fastening means for connecting the article to the end portions of the bracket, the plate, the bracket and the base member, when connected to the article, being manipulatable as a unit when placing them in the container or removing them therefrom.

2. A shipping receptacle comprising a container that is closed at its lower end and has a removable cover for its upper end, a base member loosely disposed within the closed lower end of the container and having a peripheral edge in engagement with the side walls of the container, means including positive fastening means for connecting an article to the base member, a plate adapted to engage the lower surface of the cover and with its peripheral edge in proximity to the inner side walls of the container, the plate being partially cut away at its peripheral edge to provide hand holes enabling gripping and removal of the plate from the container, a bracket bearing at its mid-portion against the plate and secured thereto and having its end portions projecting into the space within the container and means including positive fastening means for connecting the article to the end portions of the bracket, the plate, the bracket and the base member, when connected to the article, being manipulatable as a unit when placing them in the container or removing them therefrom.

JOSEPH G. DUNNEBACK.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
492,470	Osgood	Feb. 28, 1893
537,643	Johnston	Apr. 16, 1895
1,992,950	Horner et al.	Mar. 5, 1935
2,068,819	Said	Jan. 26, 1937
2,300,259	Kueppers	Oct. 27, 1942
2,377,415	Guignon, Jr.	June 5, 1945
2,418,868	Cole et al.	Apr. 15, 1947
2,424,553	Conti	July 29, 1947

FOREIGN PATENTS

Number	Country	Date
849,261	France	Aug. 11, 1939