Oct. 10, 1933. C. F. DREYER ET AL 1,929,918

RECEPTACLE

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Fig. 1.

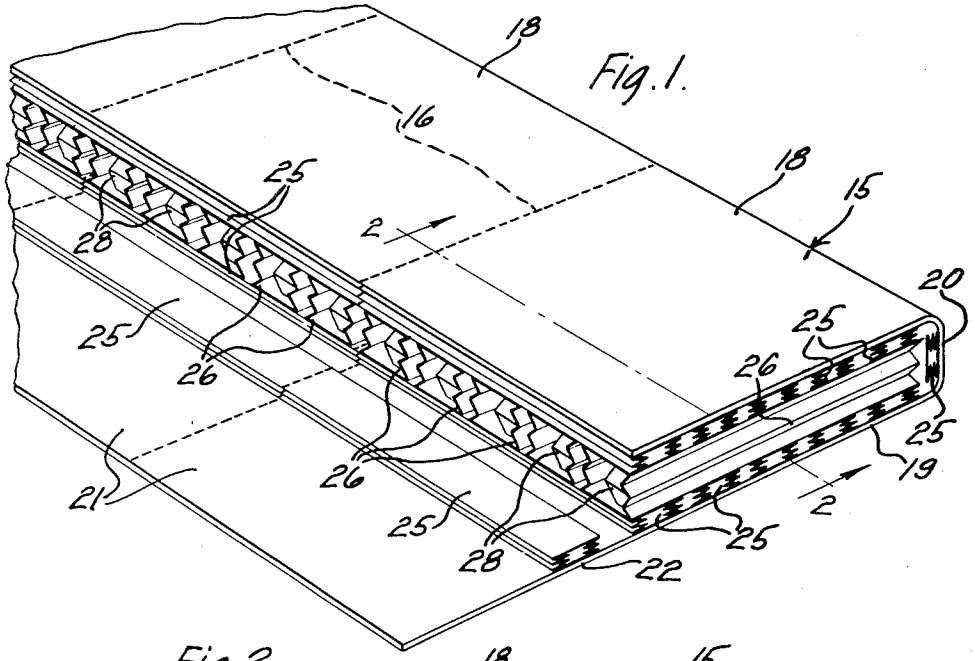


Fig. 2.

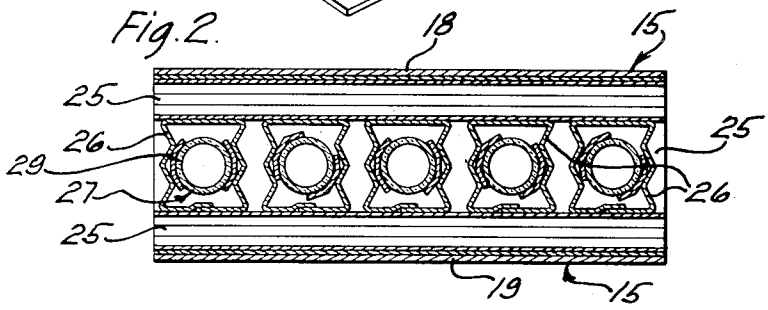


Fig. 3.

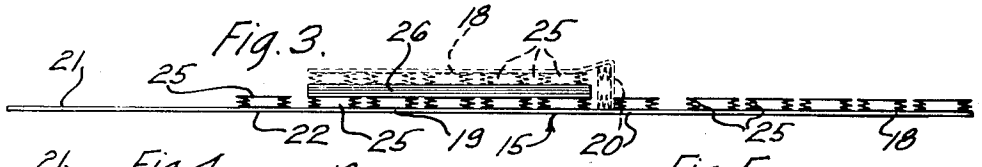


Fig. 4

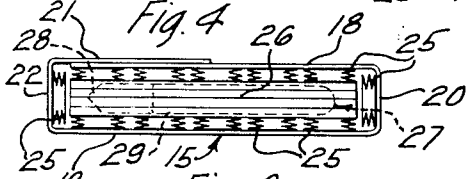


Fig. 5.

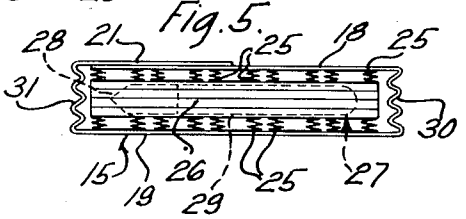
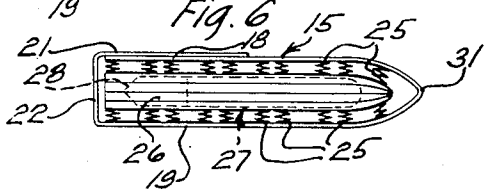


Fig. 6



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Fig. 7.

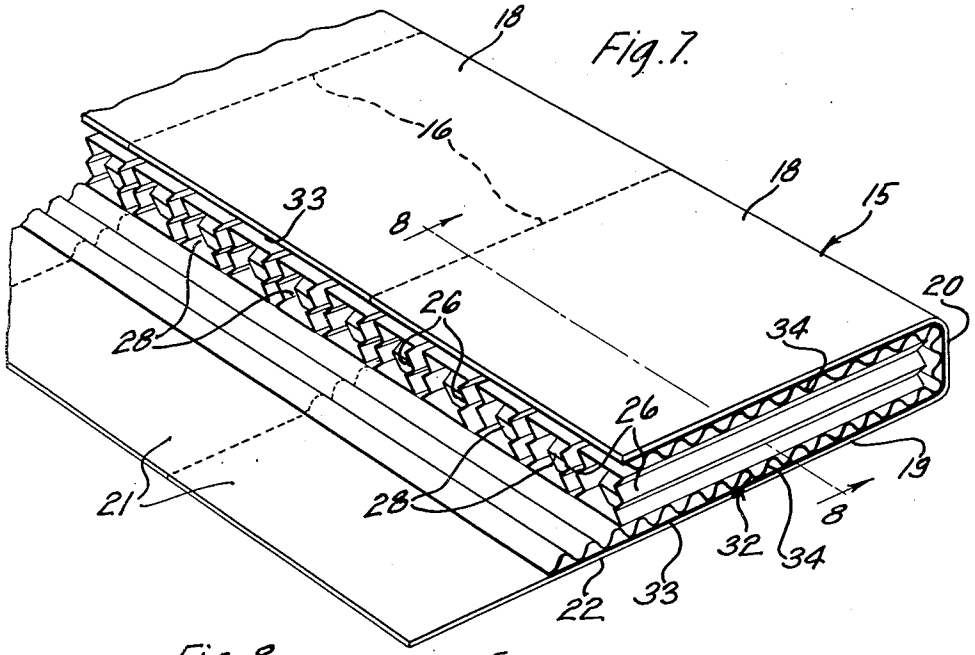


Fig. 8.

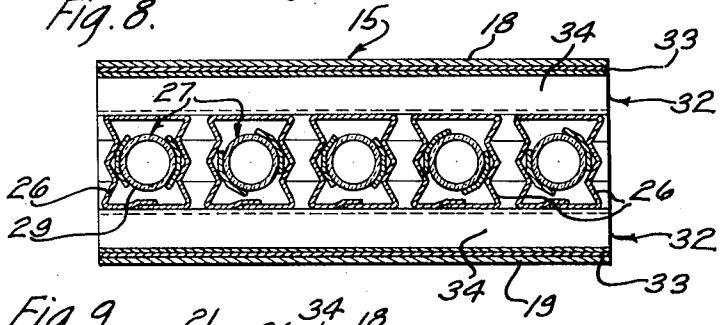


Fig. 9

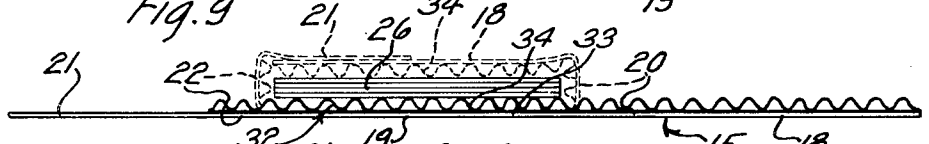
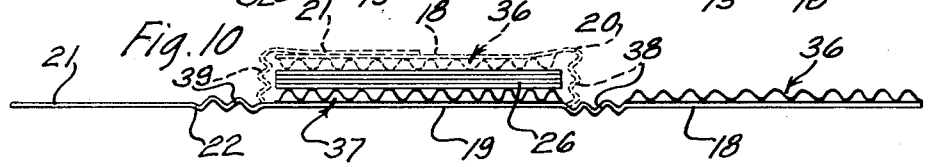


Fig. 10



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UNITED STATES PATENT OFFICE

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RECEPTACLE

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Application December 10, 1930
Serial No. 501,214

3 Claims. (Cl. 229—28)

This invention relates to receptacles, and more particularly to shock and pressure resistant type receptacles for holding fragile articles.

The primary object of this invention is to provide an improved shock and pressure resistant type receptacle which is economical to manufacture, efficient, and durable in service whereby fragile articles inserted therein are protected from deleterious shock and pressure during handling, shipment, or storage.

In accordance with the above object, the present invention contemplates in one embodiment thereof an all paper or equivalent fabric expandible, multiple cell type receptacle particularly adapted for holding fragile articles, such as telephone switchboard lamps, wherein shock and pressure resisting means, comprising collapsible members, are arranged transversely of and at opposite sides of the expandible cells which hold the lamps for the purpose of resisting deleterious shock and pressure. Specifically, the paper receptacle comprises a backing sheet doubled back on itself with a series of parallel collapsible and expandible members or cells secured thereto in spaced relation to provide opposite shock and pressure resistant side and closed end walls. Between the side walls are arranged a series of cells similar to the before mentioned cells, each of which is designed to hold a lamp, the latter cells being secured to the inner surfaces of the shock and pressure resistant cells, which latter cells extend transversely of the lamp holding cells for the purpose of strengthening the receptacle as a whole. One side of the folded backing sheet extends from the open ends of the lamp holding cells to provide a flap which is bent over the open ends of the loaded cells and suitably attached to the side of the receptacle for the purpose of sealing the same.

According to another embodiment of this invention, the side and closed end walls of the receptacle are provided with shock and pressure resistant means comprising a continuous strip of "single faced" flexible corrugated paper or board secured to the backing sheet and extending along that portion of the flap which forms the wall at the open end of the receptacle, the corrugations extending transversely of the lamp holding cells, which are secured to the corrugations.

Other objects and advantages of this invention will more fully appear from the following detailed description, taken in connection with the accompanying drawings, wherein

Fig. 1 is a perspective fragmentary view of a strip of detachable multiple receptacles embodying the features of this invention shown as holding switchboard lamps and with the sealing flap open;

Fig. 2 is an enlarged vertical sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a side view on a reduced scale of a partially assembled receptacle of the type shown in Fig. 1;

Fig. 4 is a side view of the receptacle shown in Fig. 3 after complete assemblage with lamps inserted therein and the flap turned over in position to seal the open end;

Figs. 5 and 6 are side views of modified forms of the receptacle shown in Figs. 1 to 4, inclusive;

Fig. 7 is a perspective fragmentary view of another form of a strip of detachable multiple receptacles shown as holding switchboard lamps with the sealing flap open;

Fig. 8 is an enlarged vertical sectional view taken on the line 8—8 of Fig. 7;

Fig. 9 is a side view on a reduced scale of a partially assembled receptacle of the type shown in Fig. 7, and

Fig. 10 is a side view of a modified form of the receptacle shown in Figs. 7, 8 and 9.

Referring now to the drawings in detail, particularly to Figs. 1 to 4, inclusive, 15 is a backing or outer cover sheet first formed in the shape of a flat blank as shown in Fig. 3 from comparatively heavy paper. The blank sheet 15 can be formed to provide a supporting sheet for a single receptacle or a series thereof of any desired number. As shown in the drawings, the blank sheet is of a suitable length to accommodate a plurality of series of receptacles, each series consisting of five receptacles, with transverse scored or perforated lines 16 (Fig. 1) formed in the sheet so that each series can be readily separated from the others. Scored lines may be provided at any desired location on the sheet 15, depending upon the number of receptacles which it is desired to detach in a group. In forming the blank for the backing sheet 15 suitable fold lines (not shown) are provided therein so that the blank can be folded to form opposite side walls 18 and 19, a wall 20 for a closed end of the completed receptacle and a flap 21 for folding over the open end of the receptacle after the articles are inserted therein. A portion of the flap 21 when folded over the open end of the receptacle provides a wall 22 for the open end thereof. In some instances the flap 21 and end wall 22 may be omitted, depending upon the particular use of the receptacle.

Before the blank backing sheet 15 is folded (Fig. 3) a plurality of parallel spaced collapsible tubes or cells 25 open at each end and extending along the entire length of the sheet are pasted or otherwise secured to that surface of the sheet which when folded will form the inner surfaces of the folded sheet, the cells extending parallel to the walls 20 and 22. The cells are so spaced along the sheet 15 that when the sheet is folded with the flap 21 over the open end of the receptacle a plurality of cells will be upon each of the inner surfaces of the opposite side walls 18 and 19 and one cell upon each of the end walls 20 and 22 as clearly shown in Fig. 4, the series of cells upon the side walls being directly opposite each other. The cells 25, which it will be apparent are resilient, are for the purpose of resisting shock and pressure directed against the side walls 18 and 19 and the end walls 20 and 22, which walls are formed from the backing sheet 15. A plurality of parallel spaced cells 26 are arranged between the opposite series of shock and pressure resistant cells 25 for holding articles, in the present disclosure telephone switchboard lamps 27, which include a wood or composition base 28 supporting a glass bulb 29, the lamps being effectively protected from deleterious shocks and pressure during handling, shipment, or storage by the action of the cells 25.

The cells 26 as shown in Figs. 1 to 6, inclusive, and numbering five for each series of detachable receptacles are pasted or otherwise secured to the upper surfaces of the cushioning cells 25 which are pasted to the side wall 19, the cells 25 and 26 being arranged at right angles to each other with the open ends of the cells 26 being aligned with the outer longitudinal edges of the end cells 25 and the cells 26 of each series of five substantially coinciding with the scored lines 16 of the sheet 15. After thus securing the cells 26 to the cells 25 the right end of the sheet 15 (Fig. 3) is folded along the fold lines to bring the end and side walls 20 and 18, respectively, into the positions thereof as shown in full lines in Fig. 1 and dotted lines in Fig. 3. Before folding the sheet 15 as just described, paste is applied either to the upper surfaces of the cells 26 or to the upper surfaces of the cells 25 so that the same may be secured together. By arranging the shock and pressure resisting cells 25 transversely to the article-holding cells 26 a comparatively rigid and strong receptacle results. It is to be understood that the cells 25 are transversely scored or perforated on lines (not shown) coinciding with the line 16 of the backing sheet 15 so that they will readily separate when each series of the cells 26 are detached from the adjacent series of cells 26.

Each of the cells 25 and 26 may comprise a similar paper or cellophane tube of a suitable wall thickness, having longitudinally folded or creased collapsible or expandible side walls formed in a known manner, well understood in the art, or they may be made from dissimilar paper of different thickness. In the case of the cells 25 yieldability is particularly desired and therefore a suitable quality of paper having a thickness best suited to provide the desired yieldability will be chosen. It may be desirable to use two ply paper for each of the cells 25 and 26 or a single thickness in one and two ply in the other.

The lamps 27 or other articles may be automatically inserted in the cells 26, with the base 28 adjacent the flap 21, by suitable packaging mechanism, or this may be accomplished manually and thereafter the flap 21 is turned over and pasted or otherwise secured to the side wall 18 to seal the receptacle, or it may be merely folded over without securing it.

The inner surfaces of the cells 26 when formed from material other than cellophane may be treated to provide a suitable surface upon which the articles or lamps 27 inserted therein may freely slide. This treated surface or the surface provided by cellophane material is particularly advantageous when removing the lamps from the cells 26. The removal of the lamps 27 is readily accomplished by first turning the flap 21 back to its open position and thereafter pinching the receptacle between the side walls 18 and 19 at points directly opposite the rounded inner end of the lamps, the lamps freely moving without appreciable pressure upon the lamp bulbs 29 toward the open ends of the cells.

The form of receptacle illustrated in Fig. 5 differs from the receptacle shown in Figs. 1 to 4, inclusive, by the omission of the collapsible cells 25 at the end walls 20 and 22 and the substitution thereof of shock and pressure resistant corrugations 30 and 31, respectively, provided in the blank backing sheet 15 simultaneous with the forming thereof.

Another form of the receptacle is shown in Fig. 6 wherein the cells 25 are omitted at the end walls 20 and 22 and the normally closed or right end of the receptacle is given a tapered and rounded end 31. This is accomplished by reducing the space between the adjacent end cells 25 of each series upon the side walls 18 and 19 and the omission of the fold lines at this end of the receptacle so that when the receptacle is completely formed a tapered and rounded end is formed by the walls 18 and 19. As a result thereof the opposite adjacent cells 25 upon the side walls 18 and 19 follow the line of the walls and the corresponding ends of the article holding cell 26 therebetween are slightly closed when the lamps 27 are inserted. With the extreme closed end of the receptacle spaced an appreciable distance from the aligned side walls and ends of the cells 25 and 26, respectively, there is provided a very effective shock and pressure resistant end for the receptacle, which will fully protect the glass bulb 29 of the lamp 27. This type of receptacle without a cushion at the flap end thereof when packed in a vertical position, resting upon its rounded end, in covered cartons and with the bases 28 of the lamps 27 adjacent the open end of the cells 26 effectively protects the lamps or other fragile articles which may be contained therein from shocks and pressure.

Figs. 7 and 8 disclose another embodiment of the improved receptacle wherein a strip of "single faced" flexible corrugated paper or board 32 comprising a continuous backing sheet 33 having a smooth side and a continuous corrugated band 34 is secured thereto. The sheet 33 abuts and is secured to the main backing sheet 15 of the receptacle beginning at the end wall portion 22 of the flap 21 and extending along the side wall 19 around the end wall 20 and continuing to the end of the opposite side wall. The corrugations of the band 34 like the cells 25 of Figs. 1 to 4, inclusive, extend transversely of the lamp holding cells 26 for adding rigidity to the complete receptacle. Like the cells 25 of the other embodiments of the receptacle the corrugated paper board 32 is scored

or perforated on lines (not shown) coinciding with the lines 16 of the main backing sheet 15 so that the board 32 will readily separate when each series of cells 26 are detached from the adjacent series of cells 26. The use of the corrugated board 32 provides a very effective type of cellular shock and pressure resistant means for the side walls 18 and 19 and the end walls 20 and 22. It will be apparent that although the corrugated band 34 is disclosed and described as being secured to the backing sheet 33 it may be secured directly to the main backing sheet 15, thus omitting the sheet 33, in which case the band 34 would extend along the flap 21 beyond the end wall portion 22.

An alternative form of receptacle employing "single faced" corrugated paper board between the side walls 18 and 19 and the lamp holding cells 26 is shown in Fig. 10. The structure illustrated in Fig. 10 differs from that shown in Figs. 7, 8 and 9 by the employment of an individual strip of corrugated board as indicated at 36 and 37 upon the side walls 18 and 19, respectively, and the forming of corrugations 38 and 39 upon the end wall portions 20 and 22, respectively, of the main backing sheet 15 simultaneously with the forming thereof.

Various additional modifications of the invention will suggest themselves to those skilled in the art, and such modifications as fall within the spirit of the invention are intended to be covered by the appended claims.

What is claimed is:

1. A receptacle comprising walls and a plurality of collapsible cells for containing articles, said walls comprising outer backing sheets and cellular linings secured thereto and said collapsible cells being secured to said linings.

2. A receptacle comprising walls and a plurality of collapsible cells for containing articles, said walls comprising outer backing sheets and linings formed of cells, each of said second mentioned cells having folded side walls and another wall secured to the adjacent backing sheet and said first mentioned cells being secured to said linings.

3. A receptacle comprising walls and a plurality of collapsible cells for containing articles, said walls comprising outer backing sheets and cellular linings secured thereto and said collapsible cells being secured to said linings and extending transversely to the cells of said linings.

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