

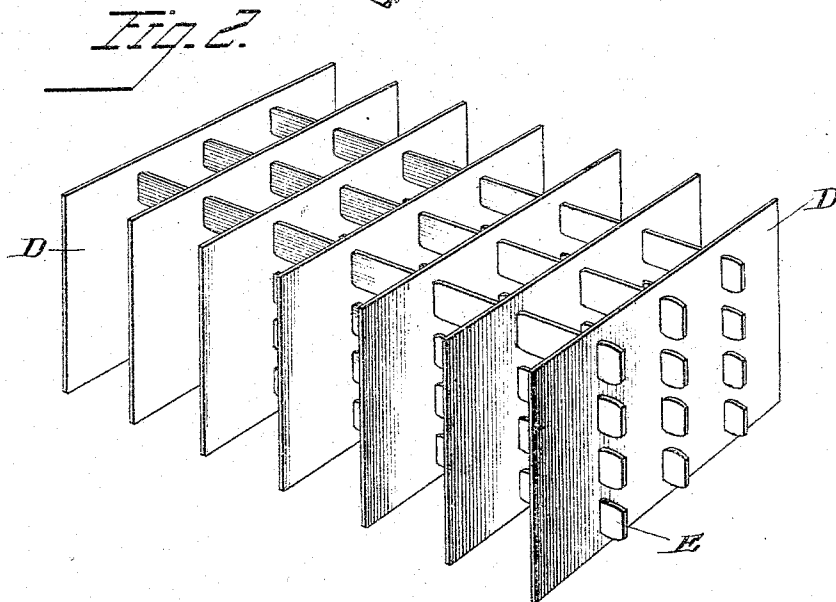
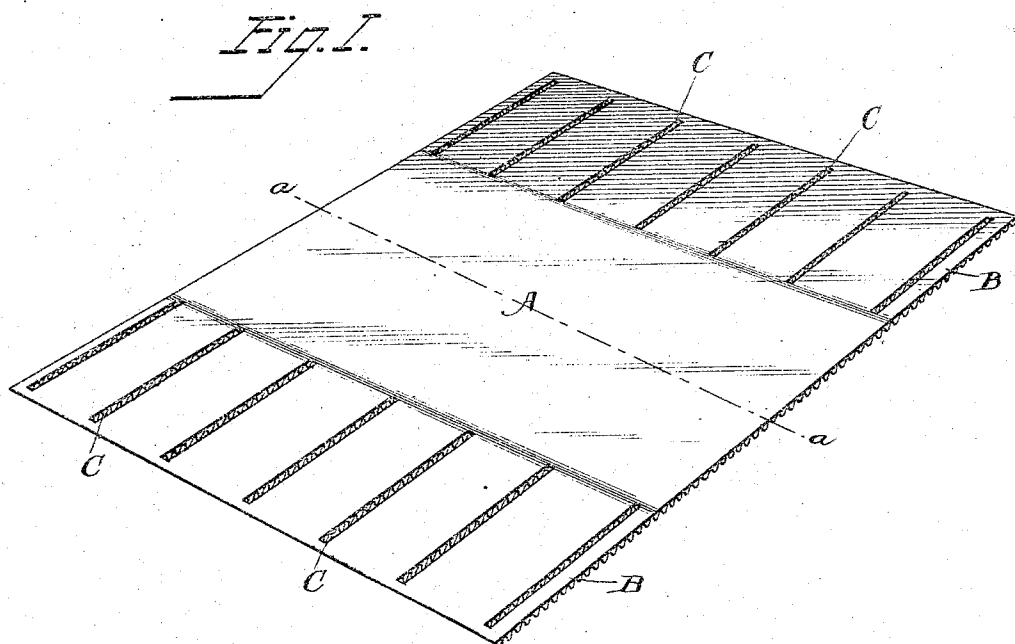
(No Model.)

2 Sheets—Sheet 1.

J. T. FERRES.
PACKING AND SHIPPING BOX.

No. 563,918.

Patented July 14, 1896.



Witnesses
Martin H. Olsen.
Leonora Thummar.

Inventor
Jeffery J. Ferres
by Edward Reitor
his atty

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

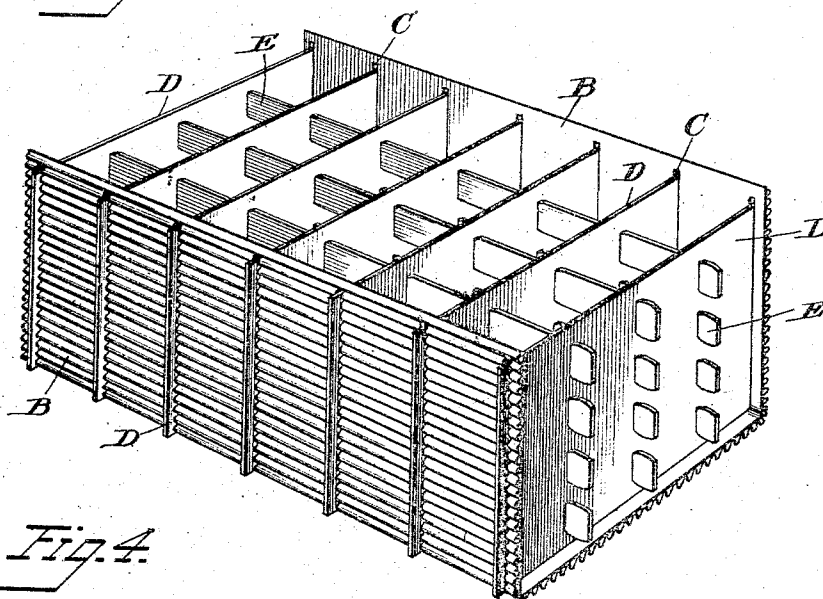
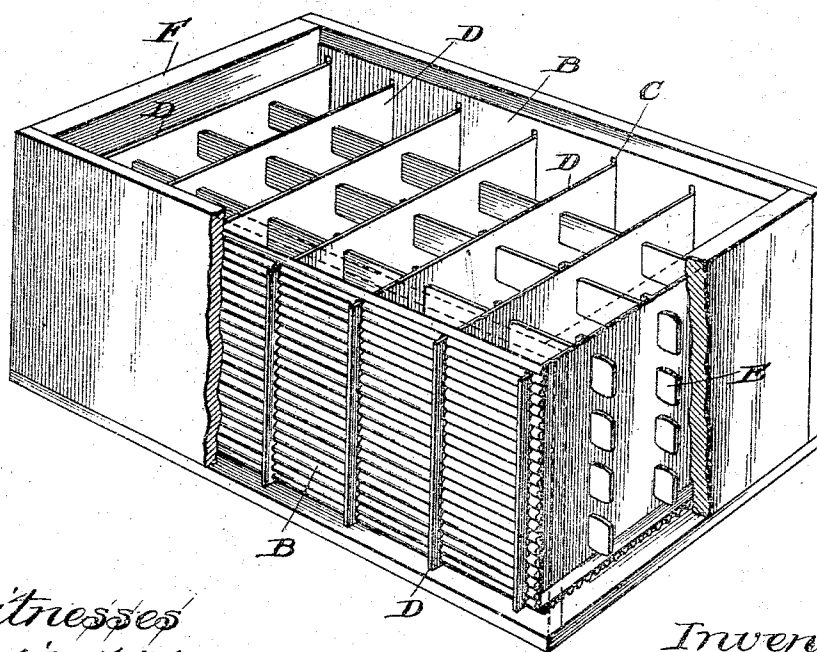


Fig. 4.



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UNITED STATES PATENT OFFICE.

JEFFREY T. FERRES, OF ANDERSON, INDIANA.

PACKING AND SHIPPING BOX.

SPECIFICATION forming part of Letters Patent No. 563,918, dated July 14, 1896.

Application filed August 22, 1895. Serial No. 560,103. (No model.)

To all whom it may concern:

Be it known that I, JEFFREY T. FERRES, a subject of the Queen of Great Britain, formerly residing at Frelighsburg, Province of Quebec, in the Dominion of Canada, but now residing at Anderson, in the county of Madison and State of Indiana, have invented a certain new and useful Improvement in Packing and Shipping Boxes, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates more particularly to boxes designed for the packing and shipment of bottles, jars, and other fragile articles, and in which are employed removable sets of partitions forming cells in which the bottles or other articles are placed and held separated from each other.

It has for its object the production of a cheap and superior cushioning-lining for such boxes, which may be shipped in quantities in compact form from the manufacturer or jobber to the customer, and which may be readily applied to the sets of partitions or cell-cases and placed with the latter in the packing or shipping boxes, and there efficiently serve the purpose of protecting the bottles or other articles from injury in the handling of the boxes. It is especially adapted for use in connection with cell-cases which can be collapsed or pressed into substantially flat shape for shipment, as, for instance, can those shown and described in my prior patent, No. 476,622, of June 7, 1892, the linings and cell-cases being shipped to the user in flat form, and assembled by him and placed in the boxes as he needs them; but it may be used with other forms of cases, either collapsible or not. The lining is designed more particularly for the protection of the contents of the two side rows of cells along the opposite sides of the box, although it preferably also forms a cushion over the bottom of the box upon which the contents of all the cells may rest. In its preferred form it consists of two side portions and a bottom portion, either composed of a single integral blank or sheet of material or of separate pieces joined together, the two side portions being flexibly connected to the bottom portion, so that they may be bent upward to vertical position to inclose or embrace

a set of partitions and be inserted therewith into the box. It is not essential to the broader scope of my invention, however, that the lining either be composed of a single integral blank or that the separate pieces composing it be all connected together. Thus, as will be hereinafter pointed out, many of the advantages of my invention may be enjoyed by the use of a lining divided longitudinally along the bottom portion into two parts or halves, as indicated by dotted line *aa* in Figure 1 of the drawings, the two side portions being flexibly connected to the respective halves of the bottom portion.

In the form shown in the accompanying drawings the lining consists of a single piece of material, upon the middle portion of which the set of partitions or cell-case is adapted to rest, and the sides of which are adapted to be bent upward to vertical position and are provided with vertical slots through which project the ends of the cross-partitions of the cell-case. The single blank thus consists of the middle or bottom portion, and the two side portions flexibly connected thereto and provided with the slots to cooperate with the ends of the cross-partitions. In its broader scope my invention contemplates the use of any suitable cushioning material for the lining, but the material which I believe to be best adapted for the purpose, and which I prefer to employ, is corrugated paper, either plain or faced, preferably the latter.

In the drawings, Fig. 1 represents a perspective view of the linings in the flat condition in which they are shipped; Fig. 2, a perspective view of a set of partitions or cell-case opened out into position for use; Fig. 3, a perspective view of the lining of Fig. 1 and the cell-case of Fig. 2 assembled together in position to be inserted in the shipping-box; and Fig. 4, a perspective view of them in said box, part of the latter being broken away.

The same letters of reference are used to indicate identical parts in all the figures.

As seen in the drawings, the lining is composed of the middle or bottom portion *A* and the two side portions *B B*, formed of a single sheet or blank, but not essentially so, as before stated. The side portions *B B* are provided with the series of slots *C C*, extending in this instance from the edges of the bottom

portion A to nearly the outer or upper edges of the side portions B B, leaving a narrow margin between such edges and the ends of the slots, by which margin the upper ends of the slots are closed. It is highly advantageous to close the upper ends of the slots, by means of these margins or otherwise, for a purpose hereinafter mentioned, and it forms one feature of my invention, but it is not essential to the broader scope thereof, without departing from which the slots might extend entirely through the edges of the sides B B, as hereinafter explained.

The lining shown in the drawings is composed of a sheet of faced corrugated paper, but it is not essential to the broader scope of my invention that the corrugated paper be faced, or that corrugated paper be employed at all, since I believe I am the first in the art to produce a lining constructed and operating like mine, regardless of the material from which it is formed. In its narrower scope, however, the material, corrugated paper, forms an essential element of my invention, as will be apparent from the terms of my respective claims.

In Fig. 2 is shown a set of partitions or a cell-case similar to that described in my aforesaid prior patent, consisting of a series of cross-partitions D and a series of longitudinal partition-strips E, passed through slits in the partitions D, and forming therewith a set of cells adapted to receive a series of bottles, jars, or other fragile articles. As shown in my prior patent, the cell-case is designed for use without any cushioning-lining in the box, and the outside rows of cells have outer walls formed by two additional rows of longitudinal strips E. In the present instance the cell-case being intended for use with my new lining, these two outside rows of strips E are omitted and the outside rows of cells left open, the sides B B of the lining forming their outer walls, as hereinafter explained. These cell-cases may be readily collapsed and pressed into flat shape for shipment, so that a very large number of linings and cases may be packed and shipped in a small space. It will be understood, however, that the lining is applicable to any cell-case, whether constructed like Fig. 2 or not, provided it has the projecting partition ends D.

In assembling the parts for use the set of partitions is placed upon the bottom portion A of the flat lining and the sides B B of the latter are bent upward to vertical position, so that the ends of the cross-partitions D pass through the slots C, as in Fig. 3, and then the whole is placed in the box F, as in Fig. 4, whereupon it is ready for the reception of the bottles or other articles to be shipped.

It will be seen that the bottom A of the lining forms a cushion upon which the bottles rest and by which they are protected from injury by jarring against the bottom of the box, while the bottles placed in the two outside rows of cells along the sides of the box

are protected from the side walls thereof by the sides B B of the lining. Inasmuch as the ends of the cross-partitions D pass through the slots C and are confined therein by the margins of the sides B at the upper ends of the slots, the weight of the bottles in position in the cells and resting upon the bottom portion A of the lining (whether said bottom be composed of a single piece or two pieces) will hold the partitions in the bottom of the box and prevent their becoming displaced therefrom. This is exceedingly convenient and forms a desirable feature of my invention, since in the absence of it, as if the slots C were cut entirely through the upper edges of the sides B B, some other means would have to be employed for holding the partitions in the bottom of the box. In the use of partitions of this character at the present time means of various kinds are employed for holding the partitions in place in the bottom of the box, such as cleats or strips fastened to the inner faces of the sides or ends of the box, above the ends of the partitions or metallic fastening devices suitably applied at the same point. In either event these fastening devices increase expense and are inconvenient to apply and have to be removed in order to get the cell-case out of the box, whereas with my novel lining the only thing necessary to hold the partitions in place is the presence of the bottles in position, and as soon as they are removed the partitions, with the lining, may be readily lifted out of the box. As heretofore stated, however, my invention is not limited in its broader scope to the use of this means for holding the partitions in place, since some of the advantages of my invention may be enjoyed even if the slots be extended through the edges of the sides of the lining and supplemental means be employed for holding the partitions in place, and even when the ends of the slots are closed for the purpose referred to it may be done by other means than by leaving the margins, as by securing separate strips of paper or veneer along the edges of the sides B B across the open ends of the slots.

From the foregoing description it will be seen that when a lining and set of partitions are assembled and placed in a box the slots in the sides B B of the lining alone will serve to hold the partitions down and keep them in the bottom of the box and will also hold the ends of the cross-partitions from lateral movement. It results from this that when a box filled with bottles or other articles in the cells is turned on end the slots in the sides B B will support the ends of the cross-partitions D, so that the end of each partition forming, in such position of the parts, the bottom of a cell will independently support the contents of the cell and prevent the weight of the same resting upon the cell beneath. Heretofore in the use of cell-cases similar to that shown in Fig. 2 it has sometimes been the practice to insert vertical sheets of lining material at the sides of the box between the ends of the cross-

partitions and side walls of the box; but such sidelinings not being slotted or otherwise connected to the ends of the partitions the result was that when a filled box was turned on end the weight of the contents of the side rows of cells caused the ends of the partitions to sag and the weight of the contents of the entire column of cells to therefore rest to a greater or less extent upon the article in the lowermost cell, thus greatly increasing the risk of breaking or other damage.

Again, while, as before stated, I prefer to form each lining of a single piece or blank, in which event the bottom portion A would naturally be formed of cushioning material, the same as the side portions, yet my invention may not be evaded in its broader scope by constructing the lining substantially as mine is and leaving the bottom portion A flat or of non-cushioning shape or material. Thus, if instead of corrugated paper the lining should be formed of cork-covered paper, or other similar material, it would be possible to coat only the side portions B B with the cushioning material, and leave the bottom portion A uncoated, in which event by placing a separate cushioning-mat upon the bottom portion A before the partitions were placed upon it the advantages of my invention might be largely enjoyed. Again, it might be possible, though not convenient, to corrugate only the side portions of the blank forming the lining, leaving the bottom portion flat, in which case it could be used in the manner above described.

The advantages of my new lining over those with which I am familiar are, in part, the cheapness with which it may be produced; the fact that it may be shipped flat in compact form with the cell-cases; the facility with which it may be combined with the cell-case and placed in the box ready for use, or removed therefrom when desired; the fact that it supports the ends of the cross-partitions when the box is turned on end and thereby causes each cell in the two outside rows to carry the weight of its own contents while the box is in such position; the fact that in its preferred form it serves, of itself, when the contents of the cells are in place, to hold the cell-case in position in the bottom of the box and avoids the necessity of the independent means heretofore employed for that purpose; and, finally, its efficiency in cushioning the contents of the box and preventing injury thereto. In none of these respects, I believe, have the linings or cushioning devices heretofore employed equaled or approximated my invention.

60 Having thus described my invention, I claim—

1. The herein-described removable lining for packing and shipping boxes, consisting of a single sheet of corrugated paper composed of a bottom and two side portions flexibly connected to the bottom portion and adapted to be bent upward to vertical position to in-

close a set of partitions or cell-case, said side portions being provided with vertical slots extending from their lower ends to or adjacent their upper edges, which permit the ends of all of the partitions, in assembling the parts, to pass laterally through said slots as the sides of the lining are being bent upward to vertical position, substantially as and for the purpose described.

2. The herein-described removable lining for packing and shipping boxes, composed of the bottom portion and the two side portions flexibly connected thereto, said side portions being adapted to be bent upward to vertical position to inclose a set of partitions and provided with slots to receive the ends of the partitions, said slots being closed at their outer or upper ends, by margins left along the edges of the side portions or otherwise, so as to hold the partitions in place and prevent upward movement of them, substantially as and for the purpose specified.

3. The herein-described lining for packing and shipping boxes, composed of the bottom portion and the two side portions formed of a single blank of cushioning material, the two side portions being adapted to be bent upward to inclose a set of partitions and provided with slots to receive the ends of the partitions, said slots being closed at their outer or upper ends so as to confine the ends of the partitions therein, substantially as and for the purpose specified.

4. The herein-described lining for packing and shipping boxes, composed of the bottom portion and the two side portions formed of a single sheet of faced corrugated paper, the two side portions being adapted to be bent upward to inclose a set of partitions, and provided with slots to receive the ends of the partitions, said slots being closed at their outer or upper ends by margins left along the edges of the side portions, so as to confine the ends of the partitions therein, substantially as and for the purpose specified.

5. The combination, with a packing or shipping box, of a removable cushioning-lining fitted therein and composed of a bottom portion and two side portions flexibly connected thereto and provided with vertical slots closed at their upper ends, and a set of partitions fitted in said box and having the ends of the partitions projecting through and confined in the slots in the side portions of the lining, substantially as and for the purpose specified.

6. The combination, with a packing and shipping box, of a removable cushioning-lining formed of a single sheet or blank of corrugated paper and composed of the bottom portion and the two side portions, the latter being provided with vertical slots closed at their upper ends, and a set of partitions fitted in said box and having their ends projecting through and confined in the slots in the side portions of the lining, substantially as and for the purpose specified.

7. The combination, with a packing or ship-

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ping box, of a removable lining fitting there-
in and consisting of a single sheet of corrugated paper, comprising a bottom portion and
two side portions flexibly connected thereto
5 and provided with vertical slots extending
from the top to the bottom of said side portions, a set of partitions fitted in said box
and having the entire ends of all of the partitions projecting through and fitting in the
10 slots in the side portions of the lining, said
slots being of sufficient length to receive the

full widths of the ends of the partitions, and means for holding the partitions from vertical movement in the slots, while the walls of the slots serve to hold them from lateral movement, substantially as and for the purpose described.

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