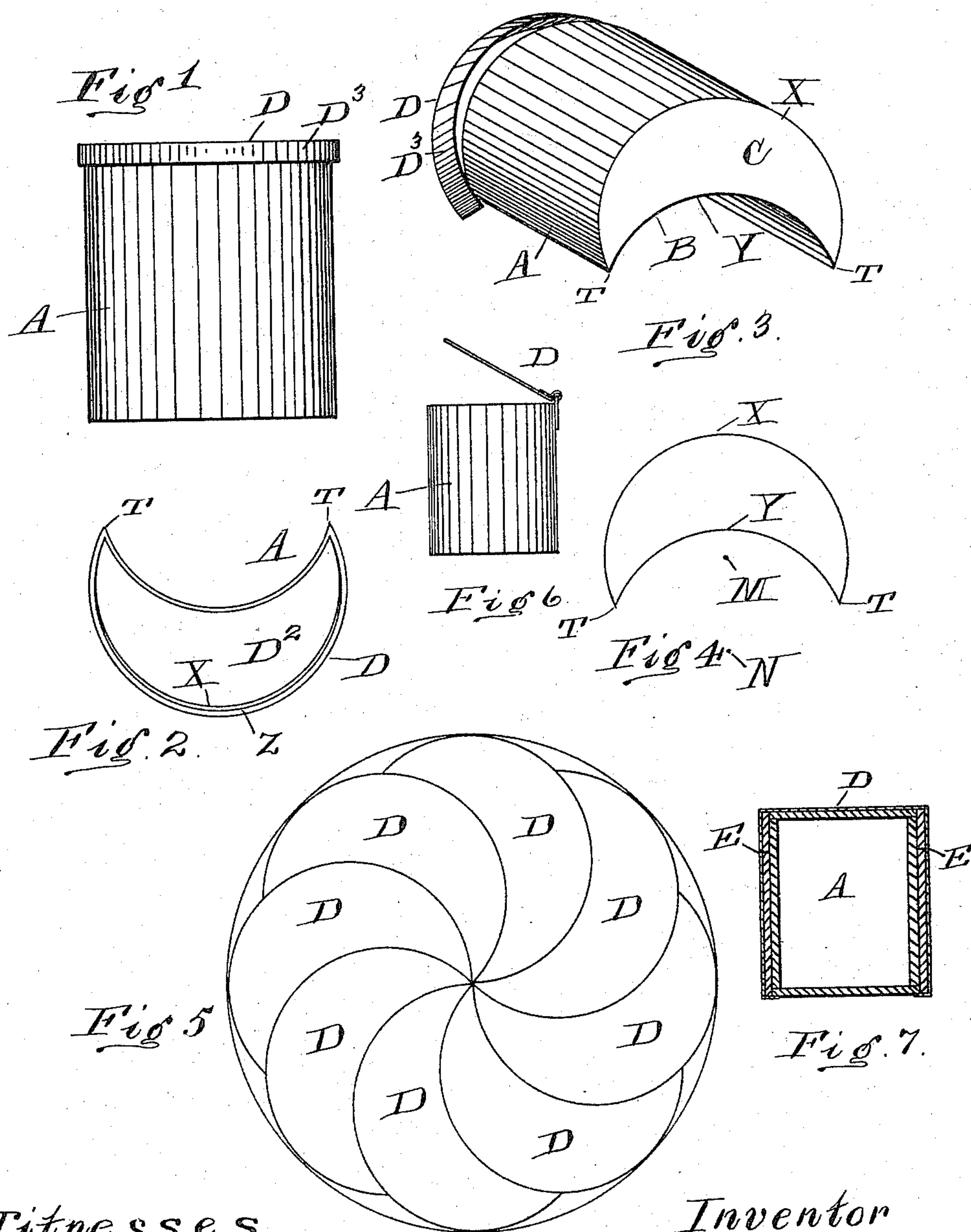


(No Model.)

J. L. BESUNER.  
PACKING BOX.

No. 580,447.

Patented Apr. 13, 1897.



Witnesses  
J. C. Lemon  
K. Smith.

Inventor  
Jewel Lewis Besuner  
per Wm. Hubbell Fisher  
Attorney



# UNITED STATES PATENT OFFICE.

JEWEL LEWIS BESUNER, OF CINCINNATI, OHIO.

## PACKING-BOX.

SPECIFICATION forming part of Letters Patent No. 580,447, dated April 13, 1897.

Application filed March 28, 1894. Serial No. 505,364. (No model.)

*To all whom it may concern:*

Be it known that I, JEWEL LEWIS BESUNER, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Packing-Boxes, of which the following is a specification.

The articles for whose reception I originally designed these boxes are cigars, but other articles can be advantageously packed therein.

One principal feature of my invention relates to the general configuration of the box, whereby I am enabled to pack many or few of the boxes without material loss of space in barrels, hogsheads, casks, or cylinders of any given size.

Another principal feature of my invention relates to a novel construction of a box of such shape whereby the lid of the box when once applied to the latter and located thereon is tightly held thereon and will ordinarily keep its place unless removed by human agency.

Other features of my invention and other advantages will be apparent from the following description and claims.

In the accompanying drawings, making a part of this application, and in which similar letters of reference indicate corresponding parts, Figure 1 represents an elevation of the convex side of the box, the latter being in an upright position. Fig. 2 is a plan view of the lid or cover and indicating the special form of the lid or shutter for the cheaper form of box. Fig. 3 is a view in perspective of the box and of its lid or cover, the latter being partially removed. Fig. 4 is a plan view, diagrammatic, illustrating the mode of laying out the lines of the outline of the end of the box. Fig. 5 is a plan view indicatory of how the boxes can be packed together. Fig. 6 is an edge elevation of a box made of wood and illustrating a modified form of lid. Fig. 7 is a vertical section of the box when the main portion is made with a shoulder.

A indicates the front or convex side of the box, and B the concave side thereof.

C indicates the bottom of the box, and D the top or lid of the box.

The curve in which the convex portion of the box lies is a part of a true circle. Consequently the curve X of the outer or convex

edge of the bottom C is a like portion of a true circle of substantially the same diameter.

The concave side B of the box is of a curve Y of the same diameter, but described from a point on a line extended through the central radius of the box and distant from the inner edge of the box the distance of an entire radius. Thus in Fig. 4 the curve X of the outer edge of the box is described from a center M, and the curve Y of the inner edge of the box is described from point N. The distance between the points M and Y is one-fourth of the radius.

The surface of the bottom B—viz., the space between the curves X and Y—is that of a half of the area of a circle described with the radius with which the curves X and Y are described. Hence the shape of the ends of the box may be denominated a “half-disk” or “half-moon.” As just mentioned, the box is symmetrical in form, both ends of the pieces A and B being curved alike.

The bottom is connected to the parts A and B in any suitable manner and holds the shape of the box.

In the ordinary mode of constructing the box a slight piece of glue-paper is put in the inside center and will hold the sides in curved shape against the bottom without other aid.

The box will usually be made of pasteboard covered with paper, and the bottom will in such event be fastened to the pieces A and B, and these to one another at the edges, in any of the well-known modes.

The cover of the box is not shaped exactly as is the bottom C. The inner curve Y of the top is the same as the curve Y of the box, but the outer curve Z of the top is somewhat different, to wit: The distance between the tips T T of the bottom C and cover D is the same—that is to say, the “chord” between said points is of the same length in each—but the curve Z of the top bows out (convexly) a little more than does the curve X of the bottom. The cover has the usual flange D<sup>s</sup> around its edge, conforming in shape with the top portion D<sup>2</sup> of the cover and lying at and along the outer edge of such portion D<sup>2</sup>.

In putting the box together the two ends of the box proper must first be put into (within) the flange of the cover or lid, as shown in Fig. 3, the inner or concave portion of the



box interfitting with the inner or concave portion of the cover. The outer or convex edge of the cover is now brought down to the convex edge of the box and fitted over portion A. This can be readily done. In this operation the upper ends of the box are thrown slightly out of their natural position, and hence operate by their elasticity and wedging action to bind the cover to the box. In no other way than the one described can the cover be readily adjusted to the box. These conjoint differences of shape thus united constitute a joint or clasp for securely uniting the cover to the box.

I have heretofore described the simplest and cheapest form of construction of the pasteboard box.

A more finished box is made as indicated in Fig. 7 as follows, viz: The box has a shoulder at E, formed by composing the upright portions of the box proper of two thicknesses of cardboard, the outer one stopping short of the top edge of the box, thus leaving above a part upon which the flange D<sup>3</sup> of the cover shall fit, the outer surface of the flange D<sup>3</sup> being flush with the outer surface of the box.

The cover in such a case is preferably not made as described in connection with the cheaper make of box, but is made as any ordinary cover would be made. These boxes may be made of wood, and in such event will preferably be provided with a simple flap lid, hinged at its outer edge to the box, substantially as shown in Fig. 6. These boxes may be made of glass. A twelve-gallon jar would take up one-sixth of the layer-space in an ordinary barrel, and any number could be safely packed in a cask or barrel without any straw or other fillings of any kind and could be transported without breakage, for they cannot shake or move in any direction, and when a number are nested together so as to make a circle they hold together by themselves. The same remark is true of these boxes of whatever material made.

The following advantages also obtain, viz: If zinc be used, oils of any kind can be shipped in tanks made in the half-moon shape and thus packed. An amount of oil equal to twenty-four barrels could be handled by an ordinary wagon, thereby saving space and expense, a great advantage for shipping combustible fluids or dry materials. Any number of packages nested together will not move apart. A single light cord or band around the periphery of the circular body formed by a number of these packages, (half-moon boxes,) nested as described, will serve to hold them together in a remarkably compact and inseparable condition.

I will now describe the mode in which my boxes are packed together for shipment.

It is well known to shippers and to the shipping trade in general that casks and barrels and hogsheads are among the very best kinds of receptacles in which to ship articles. The barrel is easily rolled, and consequently is

more easily gotten about than a box. It is less subject to damage from blows than a box and ordinarily receives less knocks in transportation. This fact will be appreciated when it is remembered that lower freight-rates are, as a rule, charged for barrels than for boxes. Certain classes of barrels and very clean second-hand hogsheads can be obtained very cheaply. Their cost is less than one-half of the ordinary cost of a case.

I pack the barrel with these boxes in the following manner: I arrange the boxes one behind another in a circle, substantially as shown in Fig. 5, putting a sufficient number to fill the lower portion of the barrel in a horizontal first tier. Upon this first tier I place a second tier, arranging the boxes in like manner as I did the first tier. I continue thus to add layer upon layer until the barrel is full. As the barrel is larger at its middle than at its ends, I utilize the larger cubical area at its center by there adding one or more boxes in the circular row, constituting a layer.

The advantageous peculiarity of the shape of these boxes is that the number of boxes to form a circular row can be increased or diminished, and the boxes of said row will readily form a layer of substantially a circular form, (in plan view,) the circle being of increased or diminished diameter, according to the number of boxes present in the layer or row. Thus nested they will not get loose or shake about into any other shape or form. It will thus be obvious that a cask, barrel, or hogshead or a like-shaped receptacle can be fully utilized and substantially all of the space be utilized for the reception and conveyance of boxes.

A barrel packed with these boxes filled with cigars will not break or burst open. They need not be strapped or capped, as cases are when filled with cigars. They are much easier to be sealed.

In place of casks or barrels or hogsheads, cylindrical boxes of a diameter everywhere the same can be usefully employed to receive the half-moon boxes, but such cylindrical boxes are too expensive to supersede barrels or casks or hogsheads as receptacles for my improved boxes.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. A half-moon packing-box, the chord of the crescent-space, formed by the inner side of the box being of the same length as the distance between the ends of the box formed by the junction of the sides of the box, and the concave curve of the cover coinciding in shape with the curve of the concave side of the box, but the convex curve of the cover being somewhat greater than that of the convex side of the box and not a true circle, substantially as and for the purposes specified.

2. A packing-box, whose convex side and whose concave sides are each a curve described with the same radius, and said two sides being respectively united to one another at the ends, the center M from which the con-



vex curve is described being one-quarter of a radius distant from the center of the arc of the concave curve, and three-quarters of a radius distant from the center from which the latter curve is described, and provided with a cover, the chord of whose curves at the inside of the sides, viz: the straight line uniting the ends of said curve is substantially the same in length as the chord of the curves of the box, but the convex curve of the cover being longer and greater at mid-length than the convex curve of the box, substantially as and for the purposes specified.

3. A packing-box whose convex side and whose concave sides are each a curve described with the same radius, and said two sides being respectively united to one another

at the ends, the center M from which the convex curve is described being one-quarter of a radius distant from the center of the arc of the concave curve, and three-quarters of a radius distant from the center from which the latter curve is described, and a cover that coincides in size and contour with that described by the sides of the box, except that the width of the figure included by the flange of the cover is greater than the width of said figure described by the sides of the box, substantially as and for the purposes specified.

JEWEL LEWIS BESUNER.

Attest:

A. S. LUDLOW,  
K. SMITH.