

No. 667,828.

H. G. ROTH.  
BOX.

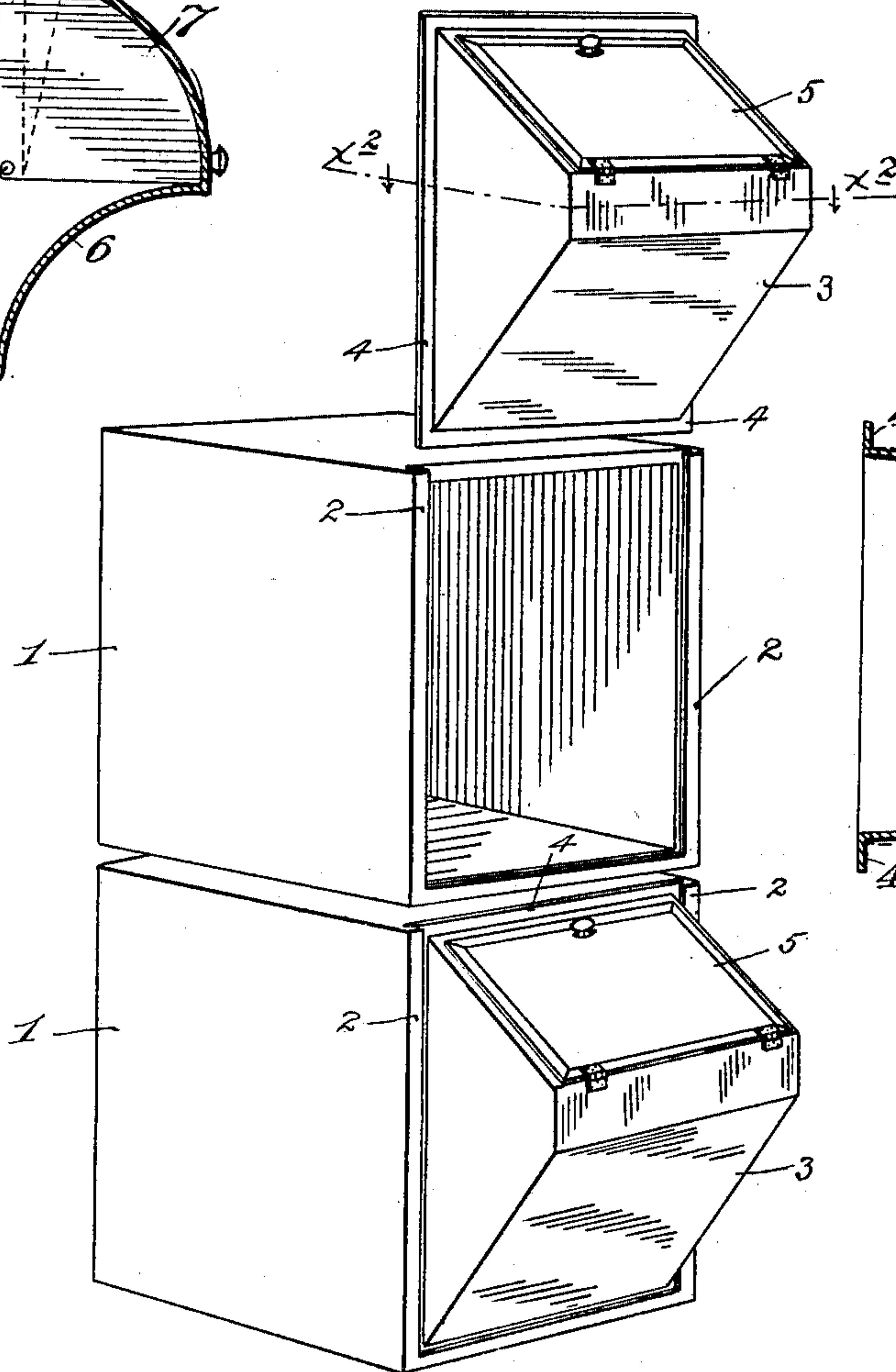
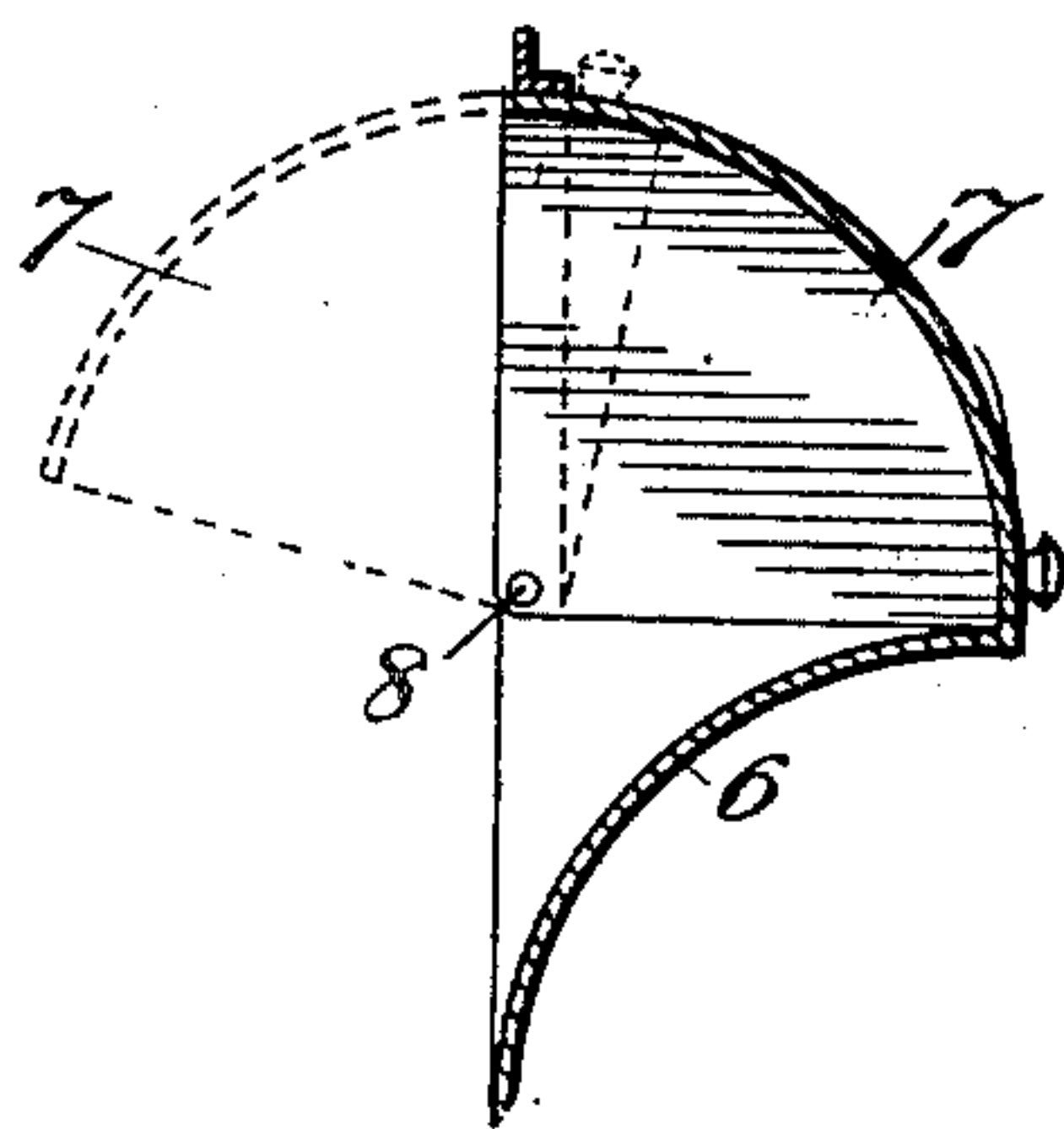
Patented Feb. 12, 1901.

(Application filed Feb. 16, 1900.)

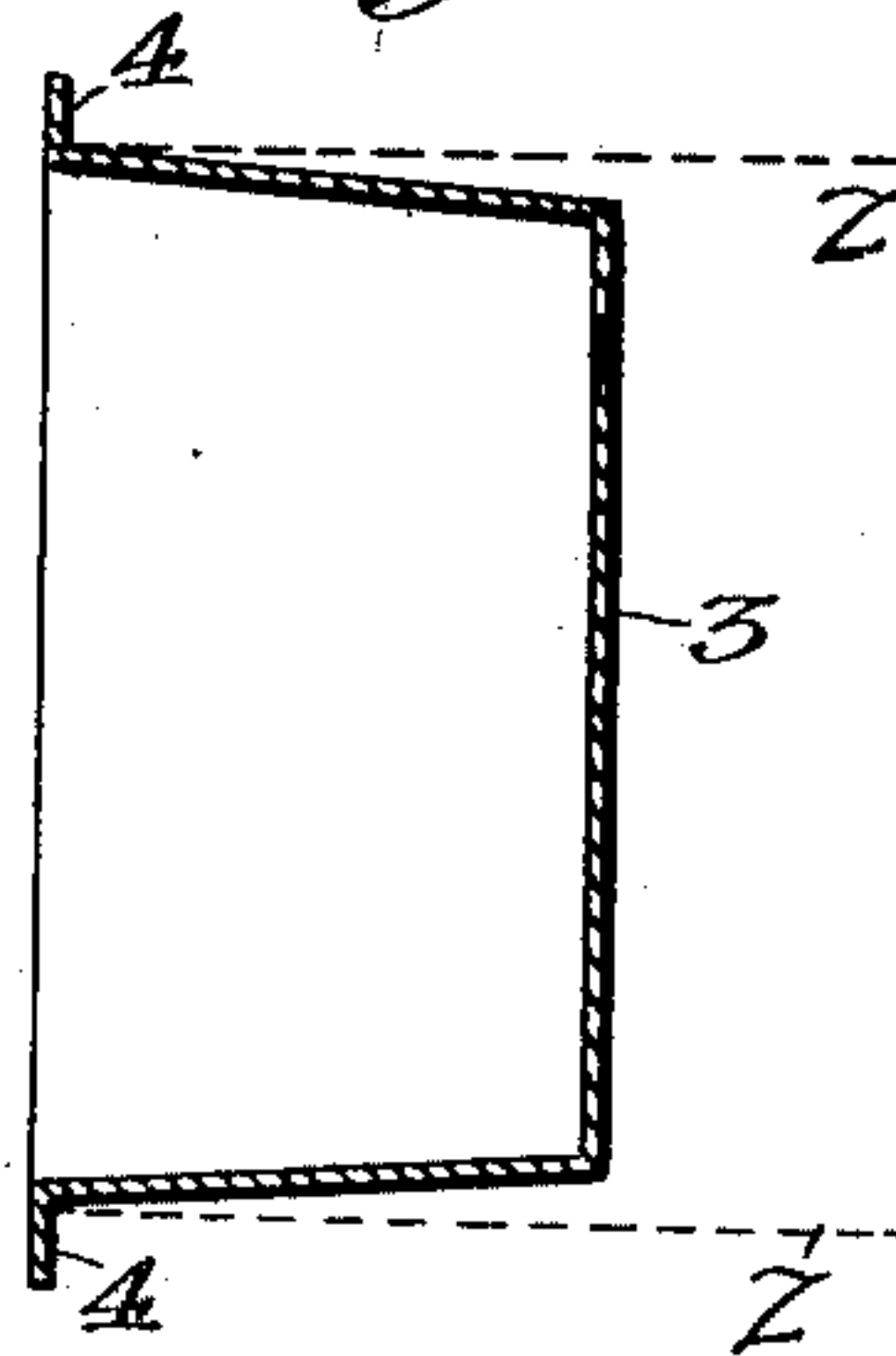
(No Model.)

*Fig. 1.*

*Fig. 3.*



*Fig. 2.*



*Witnesses.*  
*Harry Tilgner.*  
*Robert Otto.*

*Inventor.*  
*Henry G. Roth.*  
*By his Attorneys.*  
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# UNITED STATES PATENT OFFICE.

HENRY G. ROTH, OF MINNEAPOLIS, MINNESOTA.

## BOX.

SPECIFICATION forming part of Letters Patent No. 667,828, dated February 12, 1901.

Application filed February 16, 1900. Serial No. 5,407. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY G. ROTH, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has for its object to provide an improvement in boxes or bins such as are used in grocery-stores and other places to contain teas, coffees, and many other articles of merchandise.

To these ends my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claim.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a perspective view showing several boxes constructed in accordance with my invention, the same being provided with removable sides or sections, one of which as shown is removed from the box. Fig. 2 is a horizontal section on the line  $x^2 x^2$  of Fig. 1, and Fig. 3 is a transverse vertical section illustrating a modified form of the detachable side of the box.

Referring first to the preferred construction illustrated in Fig. 1, the numeral 1 indicates an approximately cubical box, which is provided with one open side and is provided at this open side with flanged guides  $q^2$ , adapted to receive the thin edges of a detachable side when the latter is moved vertically downward with respect to Fig. 1. The detachable side which I preferably employ is in the form of a laterally-bulged hopper 3, which is provided with outwardly-projecting flanges 4 at its four sides. The side and bottom flanges 4 are adapted to fit within and enter the channel inward of the guide-flanges 2 of the box 1. At its upper inclined surface the hopper 3 is preferably provided with an opening which is adapted to be closed or opened at will by a hinged cover 5.

By reference to Fig. 2 it will be noted that the vertical sides of the hopper portion 3 are tapered inward, this taper being indicated by

the divergency of the sides from the parallel dotted lines  $z$ . The purpose of this is to permit a plurality of the hopper-sections or removable sides 3 to be closely telescoped and packed without lost space for storage or shipment.

It is not proposed to apply the removable bulged sides or hopper-sections to the boxes until after the boxes have been shipped to their destination and have been placed in the store and opened up for sale. Until this time flat removable sides would be secured by the flanges 2 of the boxes 1 to close the boxes.

Another fact which is of great importance is this: that the tops and bottoms of the said boxes either with or without the bulged sides applied thereto have the same form and the same area, so that they may be piled vertically one on top of the other without lost space and without losing stability. Hence with the bulged sides applied a series of boxes of the same size and dimensions may be piled vertically one on top of the other, and access may be readily had to the interior of any one of the boxes through the said bulged sides and without spilling the contents of the boxes.

Another great advantage derived from the use of the bulged detachable side is this: It is the ordinary custom to open up a new box of tea, for instance, before the previous box has been entirely emptied. It is not desirable to have both of the boxes displayed in the store at the same time. With the ordinary box this was necessary. However, with my improved box it is not necessary, for the reason that the application of the bulged or hopper-like side considerably increases the holding capacity of the box, thus giving additional space within the box, into which the remnant of the previous box may be poured. The advantage of this construction will be readily appreciated by all grocers or merchants handling teas, coffees, and similar lines of goods for the retail trade.

In Fig. 3 the detachable and bulged side 6 is shown as formed with a concave bottom and a convex top, the said convex top being in the nature of a segmental gate or cover 7, which is pivoted to the said side at 8 and is adapted to be moved from its full-line position into its dotted-line position, and vice versa, to open and close the box.



Boxes constructed on the plan above described may be used for a great variety of purposes and may be of any size desirable for the uses to which they are put. If of very large size, they might be termed "bins," and hence it will be understood that the word "box" is used in a generic sense.

The bulged detachable sides are intended to be supplied by the house using these boxes for the shipment of goods separately from the boxes and in quantities.

The detachable sides of the box may of course be secured in various ways; but they are advisably secured by coöperating grooves and flanges, either as illustrated in Fig. 1 or in some similar way. The so-called "detachable" sides are preferably stamped with light sheet metal; but they may be formed of wood or in part of wood and in part of metal. If the box is to be provided with the flanges 2, as illustrated in Fig. 1, these flanges would be preferably formed of metal strips suitably secured to the box.

A box of the above character, having the bulged and detachable side, makes it possible to use the shipping-box by the addition of the said bulged side to contain the goods while on sale, while with boxes as hitherto constructed it has usually been necessary to dump the contents of the shipping-box into a bin which is a permanent fixture of the

store. It will be understood that in all cases it would be preferable to leave the goods in the box in which they were shipped, as considerable time is thereby saved, and it will be further understood that with such commodities as pepper and spices it is quite a difficult and very disagreeable job to empty one box into another or into a bin.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

A box having at one side an opening that extends to the four surrounding walls thereof, in combination with an outwardly-bulged detachable side piece completely spanning the opening of said side, and having approximately parallel side plates and outwardly-converging top and bottom plates, which four plates form outwardly-extended continuations of the four adjacent walls of said box, the said top plate having a gate or lid affording an entrance to said box, and devices for detachably securing the margin of said side piece to the edges of said box, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY G. ROTH.

Witnesses:

F. D. MERCHANT,  
M. M. MCGRORY.