

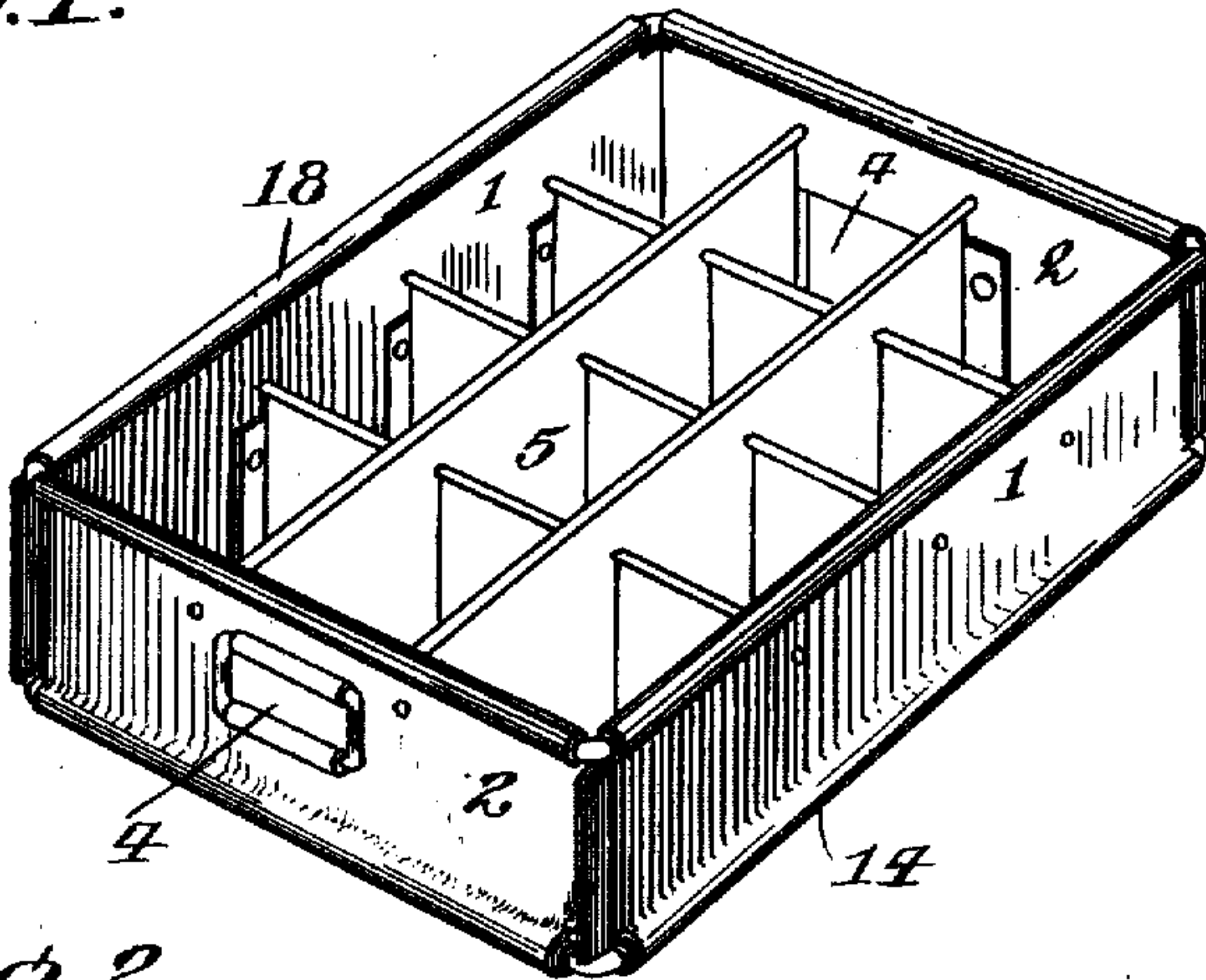
G. KLENK.  
METAL BOX.

APPLICATION FILED NOV. 29, 1907.

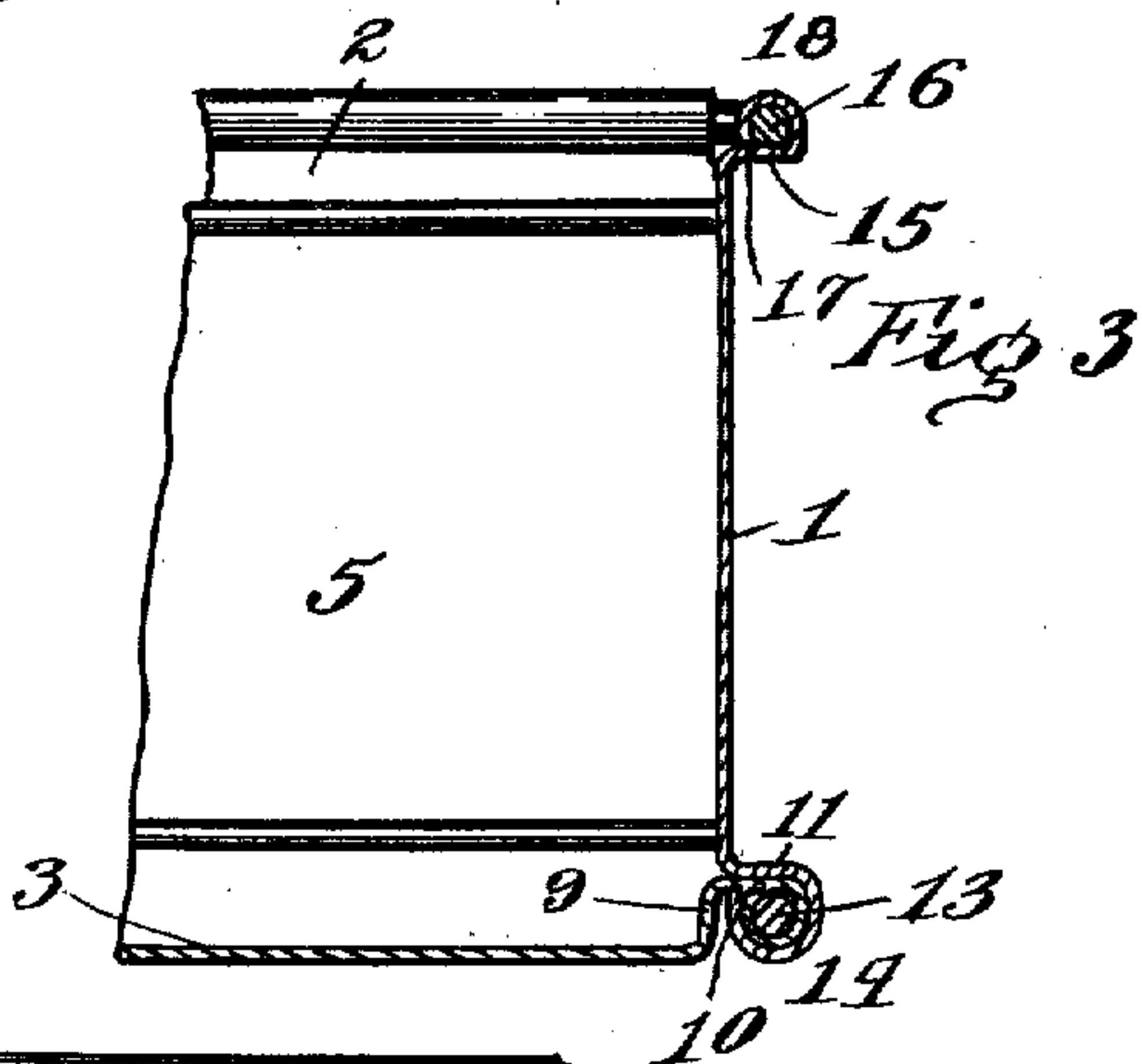
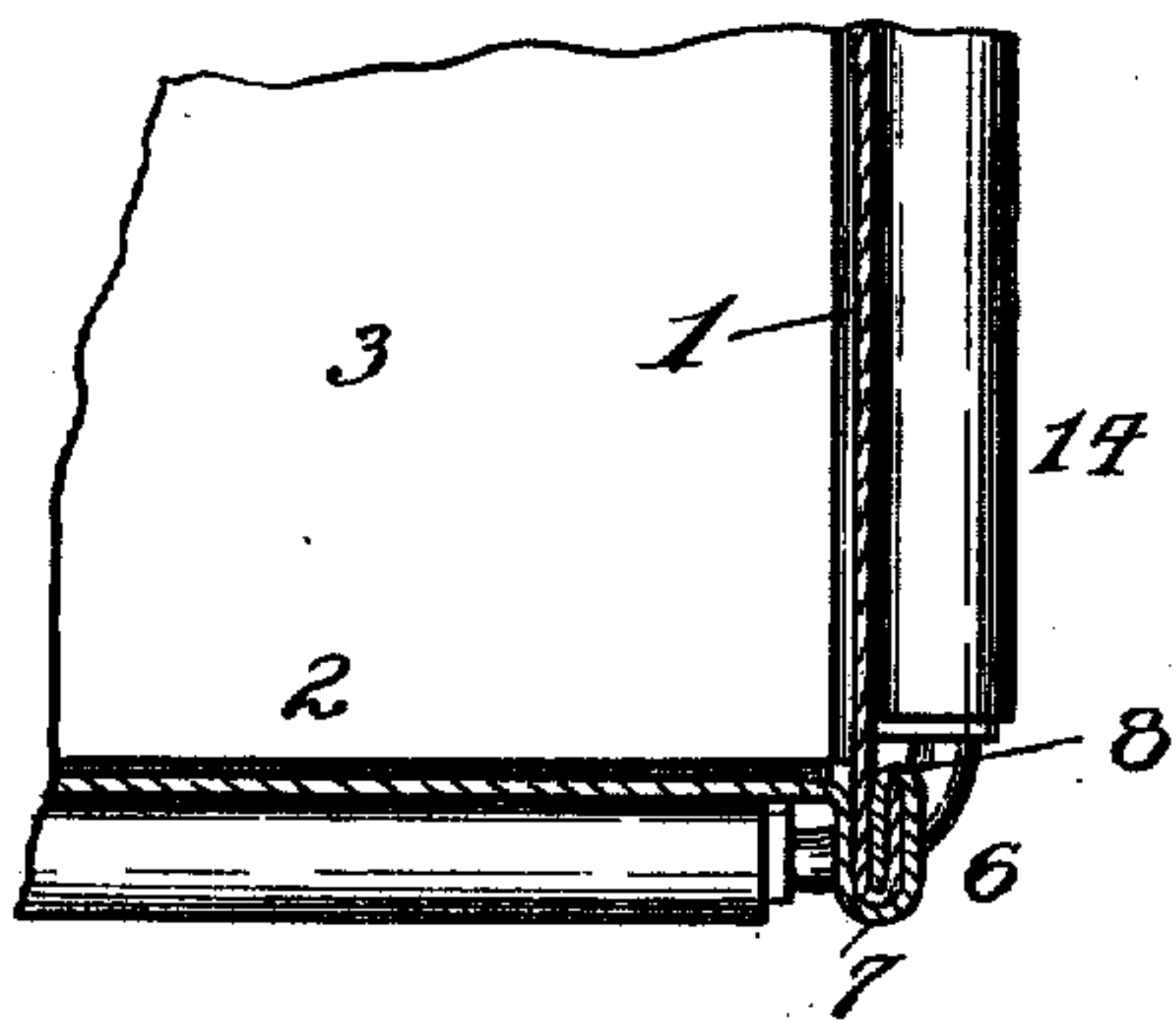
911,598.

Patented Feb. 9, 1909.

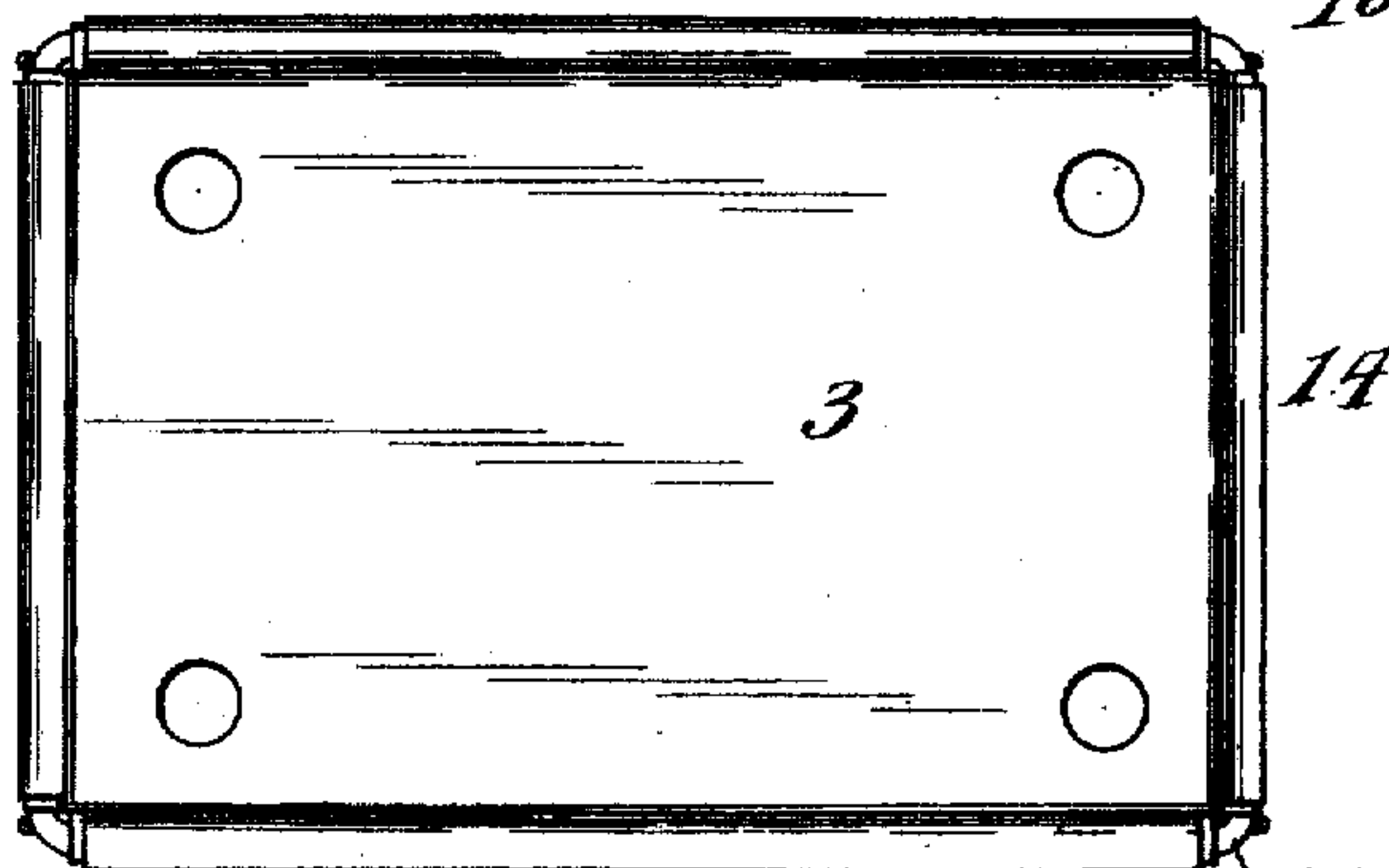
*Fig. 1.*



*Fig. 2.*



*Fig. 4.*



Witnesses  
B. H. Brann  
George E. Edeline

By

Inventor  
Gottlieb Klenk  
H. H. Bless  
his Attorney



# UNITED STATES PATENT OFFICE.

GOTTLIEB KLENK, OF DEFIANCE, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO  
DEFIANCE PRESSED STEEL COMPANY, A CORPORATION OF OHIO.

## METAL BOX.

No. 911,598.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed November 29, 1907. Serial No. 404,304.

*To all whom it may concern:*

Be it known that I, GOTTLIEB KLENK, a citizen of the United States, residing at Defiance, in the county of Defiance and State of Ohio, have invented certain new and useful Improvements in Metal Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in metal receptacles of the type set forth in patents granted to G. Klenk and J. F. Fink on the 24th day of December, 1904, No. 778,680 and to Gottlieb Klenk on the 27th day of February, 1906, No. 813,976.

The object of the present invention is to provide a seam construction for the junction of the side, end and bottom walls with one another.

Figure 1 is a perspective view of the box, as a whole. Fig. 2 is a fragmentary cross sectional view showing the method of uniting the side and end walls. Fig. 3 is a fragmentary cross sectional view showing the method of uniting the bottom and end or side walls and the detail structure of the top edge of the box. Fig. 4 is a bottom plan view of the box as a whole.

1—1 and 2—2 indicate the side and end walls, respectively, and 3 the bottom of the box, which are preferably made of sheet metal. The hand-holes 4 and the cell partitions 5 may be of any usual construction, that shown, being described in my Patent No. 794,627. The hand-holes and cell partitions are not involved in this invention and are illustrated merely to show a box as it may be constructed for the purpose of crating bottles. The end and side walls are united in the vertical seams 6, as shown in Fig. 2 of the drawings. The sections of sheet metal of both side and end walls are extended outwardly beyond the plane of the end wall and in the plane of the side wall sufficiently far to form a strengthening rib or flange, and are bent back upon themselves, as at 7. The metal of the end wall is again bent as at 8, around the extreme edge of the side wall so that there may not be several open seams into which water can enter and rust the joint. By forming these flanges in the same plane with the side wall, the boxes may be slid longitudinally past one another when several lie side by side without the interference of any lateral projections such as the diagonally positioned edge flanges, which have heretofore

been used; and at the same time these ribs which are easy to manufacture add rigidity to the box and particularly to the end walls.

The section of metal which constitutes the bottom of the box is united to the side and end sections in a peculiar and novel manner, as will now be described.

Referring to Fig. 3, the bottom section is carried upward for a short distance, in the plane of the lateral wall, as at 9, and then horizontally outwardly as at 10. The side section is likewise bent outwardly as at 11, in contact with this last-mentioned horizontal part 10 of the bottom section, and the two sheets are bent down and around the strengthening wire 13. It will be seen that the bead 14, thus formed serves to strongly unite the several sections of the box and at the same time strengthen and reinforce the lower part of the box. Furthermore, this flange being outside of the plane of the end and side walls of the box and above the plane of the bottom of the box, a smooth bottom is presented to the floor or other surface upon which the box rests, in such a manner that any unevenness or projection in such floor or supporting surface will not interfere with the free movement of the box over it. Also when these boxes are put together in piles or stacks, considerable weight must be supported by the side and end walls. By carrying the sheet metal forming the reinforcing bead first outwardly and then downwardly, the downward thrust due to such weight, has the effect of wrapping the thickness of metal more closely around the wires, instead of opening the bead, as would be the case if the sheet metal were carried down around the bottom and up the outside of the reinforcing wire.

The upper edges of the lateral walls 1 and 2 are bent outwardly as at 15 and then up and around a top reinforcing wire 16, the extreme edge 17 being back in toward the bead 18, thus formed. Thus the box has a smooth interior uninterrupted by inward projections, and the weight of any boxes or other bodies that may be supported by the top of the bead, will have the effect of drawing the metal more tightly around the wire than otherwise.

It will be observed that in my box, there is no open seam between adjacent edges of the several sections, by which water may enter the joint, and that the vertical thrust



due to any weight that may be supported by the box will not open up the bead and separate it from the reinforcing wire but rather wrap it more closely around the same.

5 What I claim is:

1. In a rectangular metal box made of a plurality of sections of sheet metal, two opposite side sections and two opposite end sections, each side section being seamed with  
10 an end section at each of its vertical edges to form a flat crimp projecting outwardly in the plane of the side section, the planes of the four crimps being parallel to each other.

2. In a metal box, made of a plurality of  
15 sections of sheet metal, lateral sections bent at their lower edges, first outwardly then downwardly and inwardly to form a hollow floor contacting bead lying outside of the planes of said lateral sections.

20 3. In a metal box, made of a plurality of sections of sheet metal, lateral vertical sections bent at their lower edges, first in a horizontal plane, then downwardly and back toward the plane of the said lateral sections  
25 to form a hollow floor contacting bead, lying generally to one side of the plane of the said lateral sections.

30 4. In a metal box, a bottom section bent at its edges first upwardly then horizontally and downwardly to form a bead lying generally above the plane of said bottom section the lower face of the bead being flush with the lowermost floor contacting surface of the bottom.

35 5. In a metal box, a bottom section bent at its edges first upwardly then outwardly, downwardly and inwardly to form a bead lying generally above the plane of said bottom section.

40 6. In a metal box, bottom and lateral sections, the bottom section being bent upwardly at its edges, substantially in the plane of the said lateral sections, then in contact with the similarly bent lateral sections outwardly,  
45 downwardly and inwardly to form a floor contacting bead generally outside of the planes of the lateral sections and above the plane of the bottom section.

50 7. In a metal box, bottom and lateral sections, crimped to form a reinforcing and uniting bead having its lower edge flush with the floor contacting plane of the box.

8. In a metal box, bottom and lateral sections, crimped to form a reinforcing and unit-

ing bead having its lower edge flush with the  
55 floor contacting plane of the box, and lying outside the planes of said lateral sections.

9. In a metal box, bottom and lateral sections, crimped to form a reinforcing and uniting bead having its lower edge flush with the  
60 floor contacting plane of the box, the bottom having a smooth uninterrupted lower surface.

10. In a metal box, lateral walls of sheet metal suitably joined at their vertical edges,  
65 the upper edges thereof being bent first in a horizontal plane, then upwardly and around and downwardly to form a bead, the upper marginal edge of the sheet metal of the side walls abutting the sheet metal of the said  
70 horizontal part of the bead, the bead as a whole being disposed in vertical planes to one side of the plane of the lateral walls, and a wire inclosed within said bead.

11. In a metal box, made of a plurality of  
75 sections of sheet metal, lateral sections bent at their lower edges, first outwardly then downwardly and upwardly to form a hollow floor engaging bead lying outside of the planes of said lateral sections, and a reinforcing  
80 wire within said bead.

12. In a metal box, made of a plurality of sections, of sheet metal, lateral vertical sections bent at their lower edges, first in a horizontal plane, then downwardly and back  
85 toward the plane of the said lateral sections, to form a hollow floor engaging bead, lying generally to one side of the plane of the said lateral section, and a reinforcing wire within said bead.  
90

13. In a metal box, a bottom section bent at its edges first upwardly, then outwardly, downwardly and inwardly to form a bead lying above the plane of the bottom section and with its lowermost face flush with the  
95 floor engaging plane of the box, reinforcing wire within said bead, and vertical lateral sections abutting said bead on its upper face whereby the weight carried by the lateral sections is imparted to the bead in a vertical  
100 plane inside of the axis of the bead.

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

GOTTLIEB KLENK.

Witnesses:

HENRY B. HARRIS,  
JULIUS J. BLAIR.