

E. C. ROSE.
SHEET METAL CRATE.
APPLICATION FILED DEC. 26, 1907.

929,022.

Patented July 27, 1909.

2 SHEETS—SHEET 1.

FIG. 1.

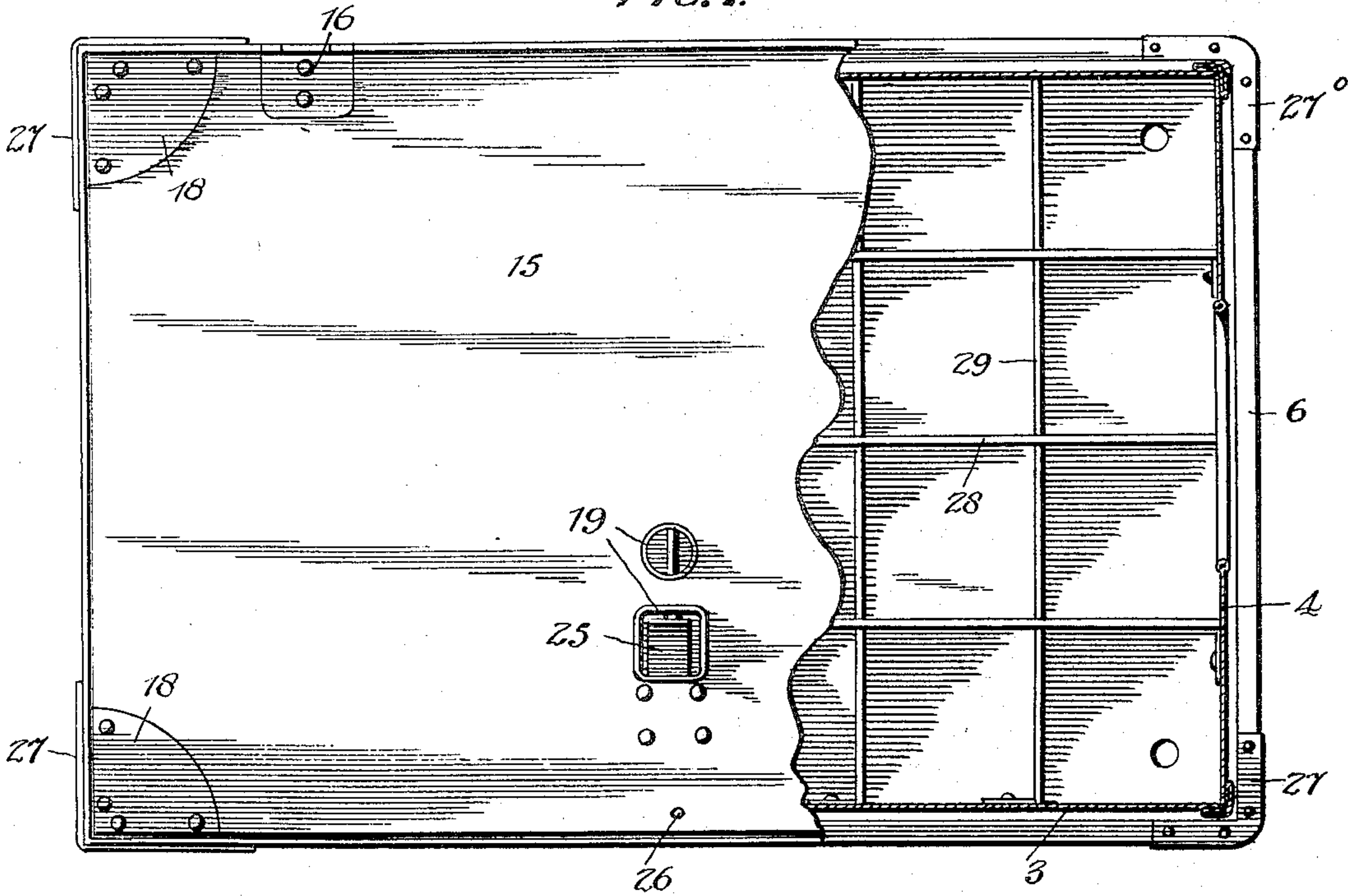
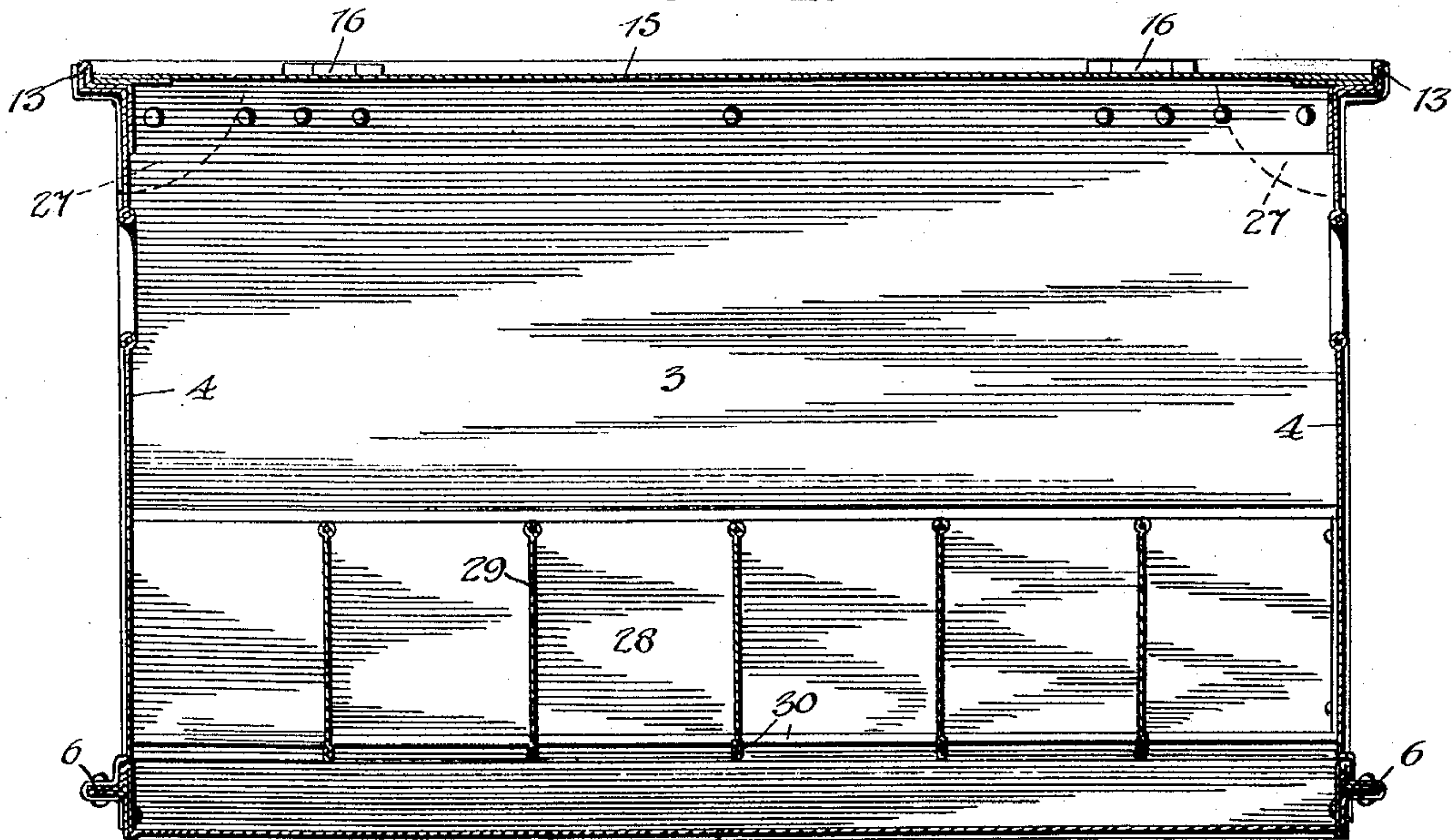


FIG. 2.



WITNESSES

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2 SHEETS—SHEET 2.

FIG. 3.

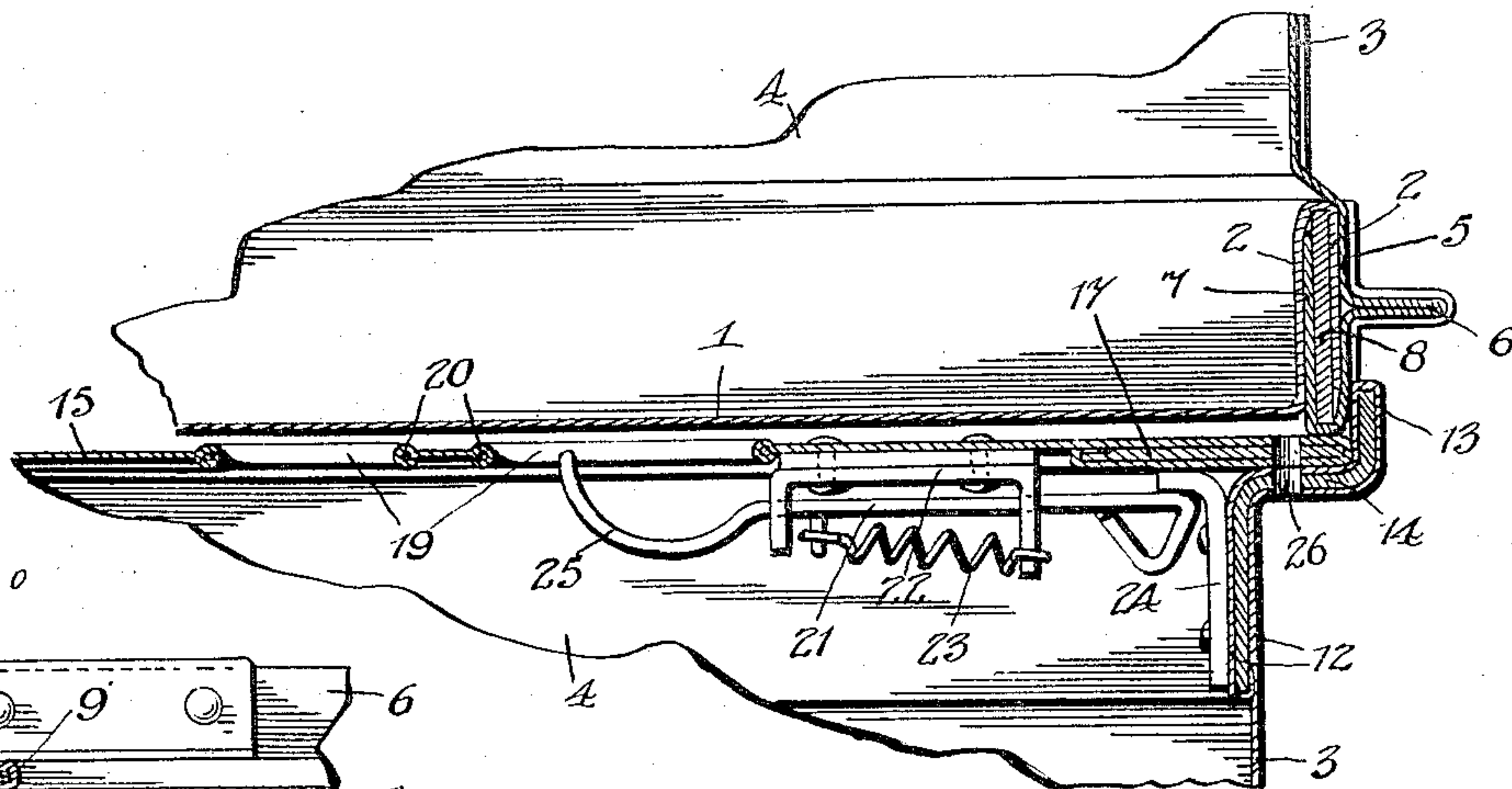


FIG. 4.

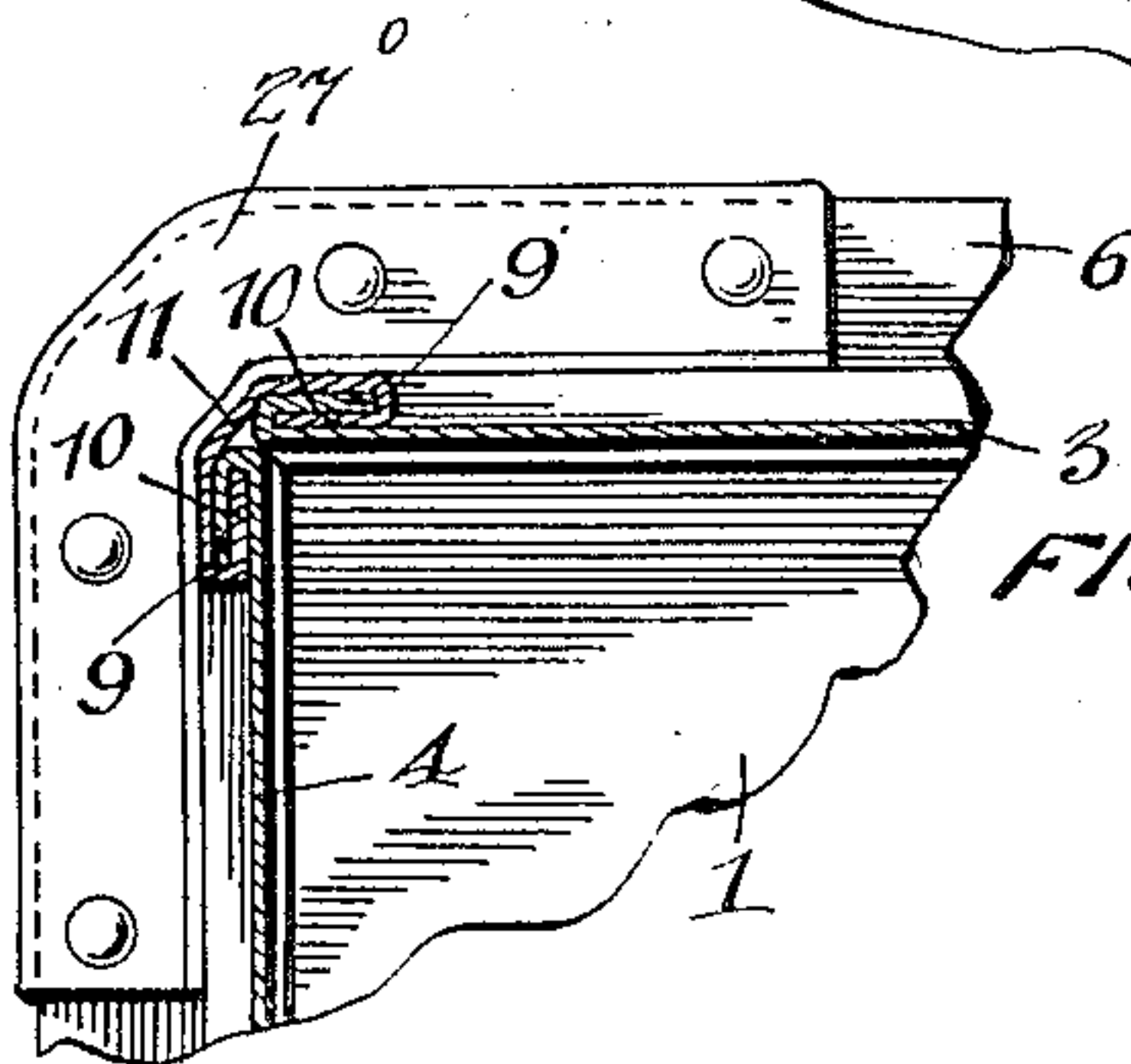


FIG. 6.

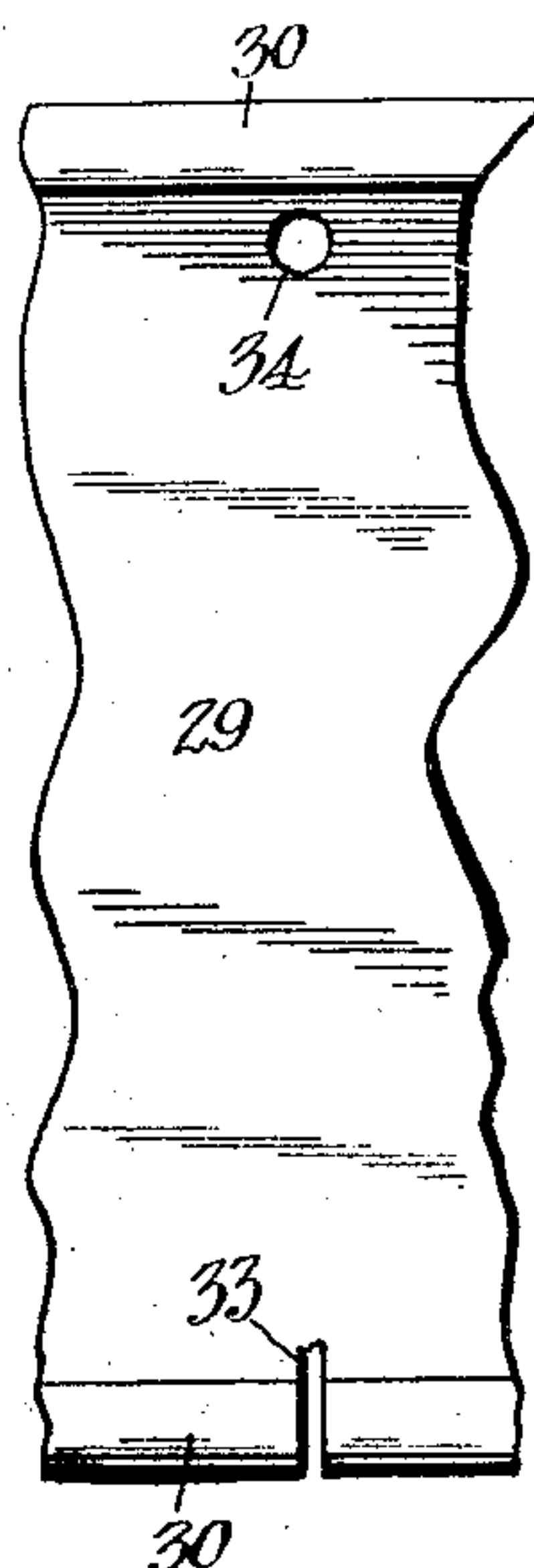


FIG. 7.

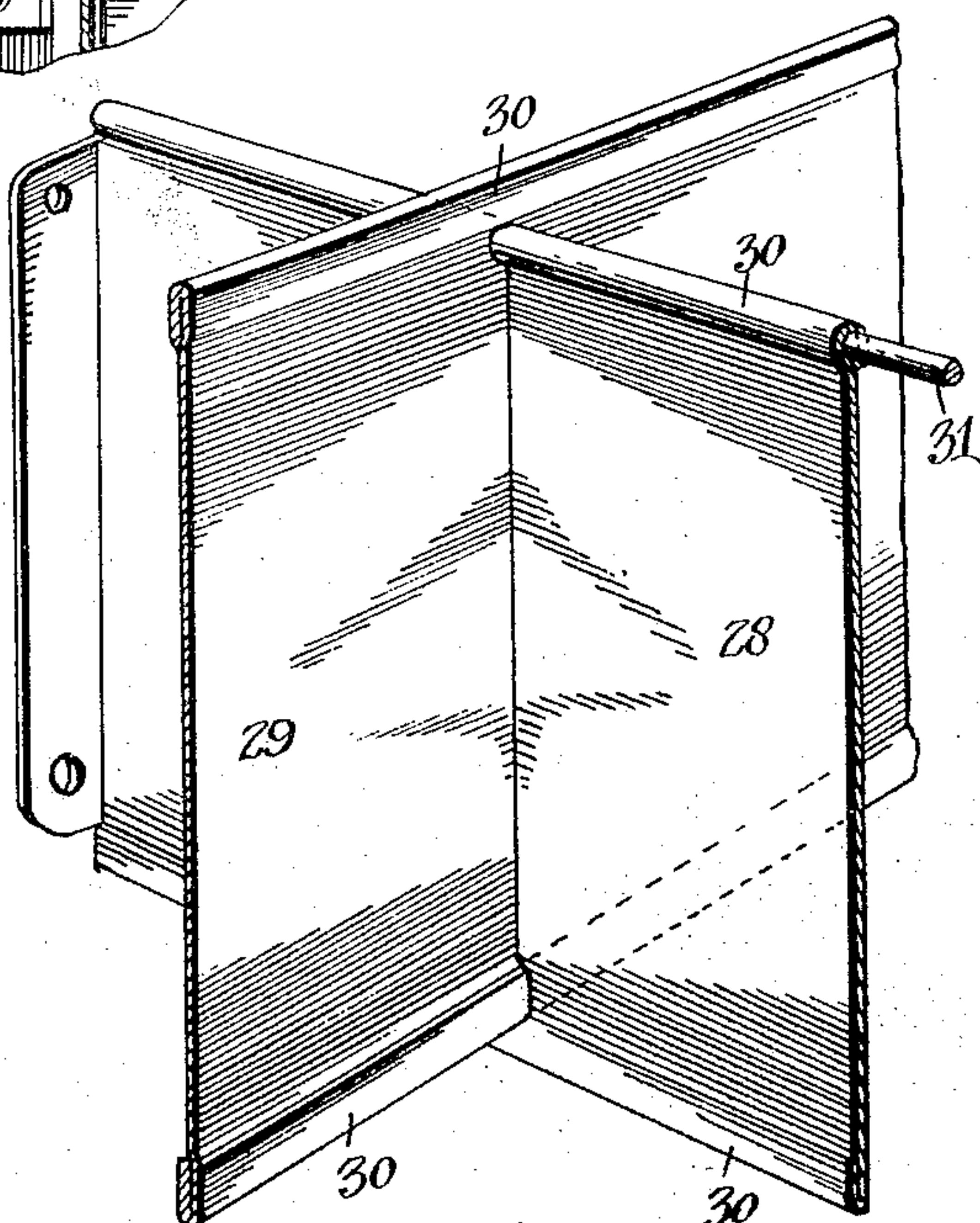
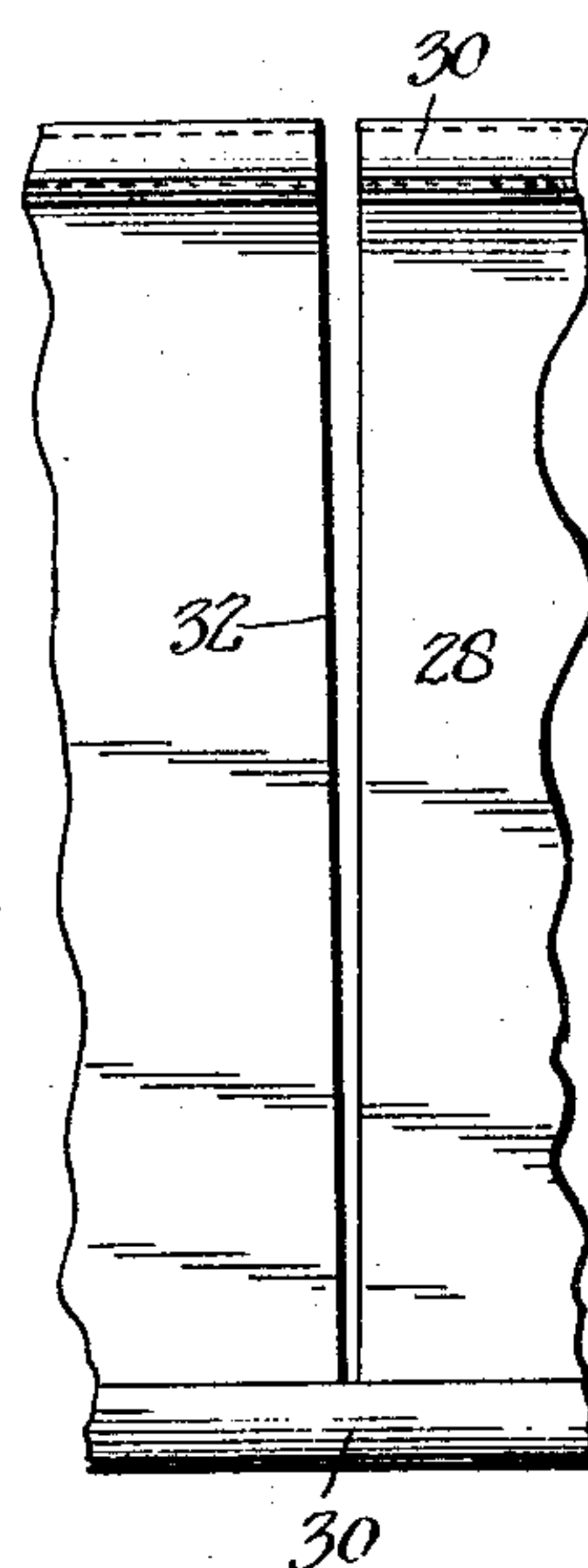


FIG. 5.

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UNITED STATES PATENT OFFICE.

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SHEET-METAL CRATE.

No. 929,022.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed December 26, 1907. -Serial No. 408,099.

To all whom it may concern:

Be it known that I, ELMER C. ROSE, 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 Sheet-Metal Crates, of which the following is a specification.

My invention relates to sheet metal crates and the object thereof is to provide crates which may be more readily and advantageously nested and stacked.

A further object of my invention is to provide a construction of crate in which there are no moisture holding seams and in which the rusting will consequently be reduced to a minimum.

Further objects and advantages of my invention will appear in the course of the following description in which reference is had to the accompanying drawings, forming a part of this specification, in which like numerals are used to designate like parts throughout the several figures thereof, and in which,

Figure 1 is a plan view, partly broken away and in section, of a crate constructed in accordance with my invention, Fig. 2 is a central longitudinal sectional view taken therethrough, Fig. 3 is a fragmentary sectional view, on an enlarged scale, of crates in the nested or stacked position, Fig. 4 is a fragmentary sectional view of one corner of my improved crate, Fig. 5 is a fragmentary perspective view of partitions in the locked position, and Figs. 6 and 7 are elevations of the engaging portions of opposing locking partitions.

In the practical embodiment of my invention I provide a bottom 1 having its material adjacent the edges thereof bent upwardly at substantially right angles thereto and the extreme edges thereof bent outwardly and downwardly in spaced parallel relation to said first named portions to form doubled folds 2 opening downwardly.

The box body comprises the bottom 1 formed as described and the sides 3 and ends 4 having co-extending outwardly offset extensions 5 adjacent their lower edges, engaging said bottom 1, provided with central longitudinally extending folded and clamped offsets 6 to receive the shock of abutting crates or other articles. The extreme edges 7 of said sides and ends beyond said extensions 5 are similarly bent inwardly and upwardly upon, and lie in spaced parallel rela-

tion to said extensions forming substantially similar double folds to those of the bottom 1 and opening upwardly to engage the outer downward extension of the said folds 2 of the bottom. A stiffening frame of the shape of the sides and ends when assembled, is carried with the joint formed by the engagement of the folds of said sides and ends with the folds of the bottom 1 and comprises a thickened metallic strip 8 held between the edges 7 and the outer one of the folds 2. Thus a base joint is formed which presents no moisture holding seams upon either the inside or outside of the box.

The abutting vertical edges 9 of the sides 3 and ends 4 are folded outwardly from their respective body portions and are engaged between the same and their said body portions by the inwardly extending longitudinal edges 10 of a clamping strip 11, which engaging edges are subjected to pressure and flattened against the sides 3 and ends 4 after their engagement, all of which is clearly illustrated in Fig. 4.

The upper edges 12 of the sides 3 and ends 4, are bent outwardly and upwardly to form an offset flange 13, then downwardly parallel to themselves, inwardly and downwardly, and have their extremities folded beneath a strengthening frame comprising a thickened metallic strip 14 having an approximately central horizontal flange, a vertical upward flange and a downward vertical flange, to conform to the edges 12 which it supports.

The top or cover 15 is hinged by hinges 16 to the upper edge of one of the sides 3 and comprises a sheet of metal tightly drawn and clamped about a rectangular thickened frame 17 and having reinforcing corner plates 18 riveted thereto. The cover 15 is provided with a pair of openings 19 adjacent its free edge and approximately centrally of its ends, said openings having reinforced edges 20 and being provided to allow of the insertion of the operator's fingers.

Mounted upon the inner face of the lid or cover 15 is a locking bolt 21 slidably arranged through a bracket 22 and having a coil spring 23 extending between the same and said bracket to normally pull said bolt through said bracket toward the edge of said lid. The outer end of the bolt 21 engages beneath a keeper 24 secured upon the inner face of the adjacent side 3 of the box near its flange 13 and in alinement with said bolt. The rear end 25 of the bolt 21 is curved upwardly be-

neath one of the openings 19 within reach of persons desiring to open the same. I also provide, however, openings 26 through the edge of the lid 15 and through the upper edge of the opposing side 3, said openings being adapted to aline when said lid is lowered to allow of the insertion of a seal.

The corners of the box body are provided with reinforcing caps 27 and 27^o riveted thereto, the upper caps 27 conforming to the curvature of the outwardly offset flanges 13 and the lower caps 27^o conforming to and surrounding the folded offsets 6 thus not only strengthening the box body, but also strengthening said offsets.

The partitions mounted within the box just described to hold the bottles comprise longitudinal and transverse sheet metal strips 28 and 29 respectively, each of which are provided with folded longitudinal edges 30. The upper folded edge 30 of the longitudinal strips 28 is in the form of a channel through which a locking rigid wire 31 passes. The longitudinal strips 28 are provided with transverse slits 32 extending through its upper folded edge and body portion to the lower folded edge 30 to receive the transverse strip 29 therein as shown in Fig. 5, said transverse strip 29 being provided with a short slit 33 through its lower edge to lock at the base of the slit 32 and to allow the material adjacent said slit 33 to rest upon the lower folded edge of the strip 28. The transverse strip 29 is further provided with an opening 34 to aline with the channeled upper folded edge of the strip 29 and to receive the locking wire 31 therethrough when the strips 28 and 29 are engaged as shown in Fig. 5 and as previously described. The base locking wire as ordinarily employed is thus done away with and inasmuch as said base locking wire is very difficult to insert, as experience has taught, my device presents a decided improvement and advantage thereover.

From the foregoing description and by reference to the accompanying drawing it will be seen that I provide a construction in which there are a number of new sheet metal formations which render the same as nearly impervious to rusting as is possible and which allow of the same being readily nested or stacked without constructing the top of greater dimensions than the base.

Having thus described my invention, I claim:

1. In a crate of the character described, the combination of a body having its lower edge portion outwardly offset, and bent downwardly and inwardly and upwardly to form spaced inner and outer walls, having a channel therebetween opening upwardly adjacent the said offset, and a bottom arranged wholly within the limits of body, having its edge portions bent upwardly and outwardly

and downwardly, at right angles thereto, to form inner and outer spaced walls, having a channel therebetween opening downwardly, the outer of said bottom walls being engaged between the inner and outer of said body walls, and held therein by said offsets, substantially as described.

2. In a crate of the character described, the combination of a body having its lower edge portions outwardly offset, and bent downwardly inwardly, and upwardly to form spaced inner and outer walls having a channel therebetween opening upwardly, adjacent the offset, a bottom arranged wholly within the limits of said body, having its edge portion bent upwardly and outwardly and downwardly at right angles thereto, to form inner and outer walls having a channel therebetween opening downwardly, the outer of said bottom walls being engaged between the inner and outer of said body walls, and held therein by said offset, and a reinforcing strip, rectangular in cross section, arranged within the communicating channels of said body and said bottom, and between the inner wall of the former, and the outer wall of the latter to brace and lock the same together, substantially as described.

3. In a crate of the character described, the combination of a body having its lower edge portions outwardly offset, and bent downwardly and inwardly and upwardly to form spaced inner and outer walls, having a channel therebetween opening upwardly adjacent the said offset, the outer wall of which is doubled centrally and longitudinally to form an offset extending outwardly at right angles thereto, and a bottom arranged wholly within the limits of said body, having its edge portions bent upwardly and outwardly and downwardly, at right angles thereto, to form inner and outer spaced walls having channels therebetween opening downwardly, the outer of said bottom walls being engaged between the inner and outer of said body walls, and held therein by the first named offset, substantially as described.

4. In a crate of the character described, the combination of a body having its lower edge portions outwardly offset, and bent downwardly and inwardly and upwardly to form spaced inner and outer walls, having a channel therebetween opening upwardly adjacent said offset, the outer of said walls being doubled centrally and longitudinally to form an offset extending outwardly at right angles thereto, a bottom arranged wholly within the limits of said body, having its edge portions bent upwardly and outwardly and downwardly, at right angles thereto, to form inner and outer walls, having a channel therebetween opening downwardly, the outer of said walls being engaged between the inner and outer body walls, and held therein by said offset, and a reinforcing strip rectangular

lar in cross section, arranged within the communicating channels of said body and said bottom, and between the inner wall of the former, and the outer wall of the latter, to
5 brace and lock the same together, substantially as described.

5. In a crate of the character described, a body having its upper edges provided with extensions bent back inwardly thereon, and
10 reinforcing strips about which said extensions are bent to inclose the same, said extensions and said strips being bent centrally and longitudinally to form an upper outwardly offset flange, extending parallel with said body,
15 substantially as described.

6. In a crate of the character described, the combination of sides and ends, having their abutting edges bent back thereupon, clamping strips for engagement with said
20 edges to lock said sides and ends together, said sides and ends having double spaced lower edges and having extensions bent back inwardly upon their upper edges, a bottom having doubled spaced edges to engage said
25 lower edges, strengthening strips about which said extensions of said upper edges are bent to hold the same, said upper edges and said strips being bent to form longitudinally co-extensive offset flanges, and a hinged lid resting
30 upon the base of said continuous flange, substantially as described.

7. In a crate of the character described, the combination of a body having its upper edges provided with extensions bent back inwardly thereon, and its lower edge portions
35 outwardly offset and downwardly and inwardly and upwardly to form spaced inner and outer walls, having a channel therebetween opening outwardly adjacent the said offset, reinforcing strips about which said
40 upper edge extensions are bent to inclose the same, said upper edge extensions and said strips being bent centrally and longitudinally to form an upper, outwardly offset flange extending parallel with said body, and a bot-
45 tom arranged wholly within the limits of said body, having its edge portions bent upwardly and outwardly and downwardly, at right angles thereto, to form inner and outer walls, having a channel therebetween opening
50 downwardly, the outer of said body walls being engaged between the inner and outer of said lower edge body walls, and held therein by the offset thereof, substantially as described.
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In testimony whereof I affix my signature in presence of two witnesses.

ELMER C. ROSE.

Witnesses:

GLEN F. KILLEY,
GEO. W. HENSLER.