

No. 821,760.

PATENTED MAY 29, 1906.

A. R. SPEER.
METAL PACKING CASE.
APPLICATION FILED FEB. 6, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

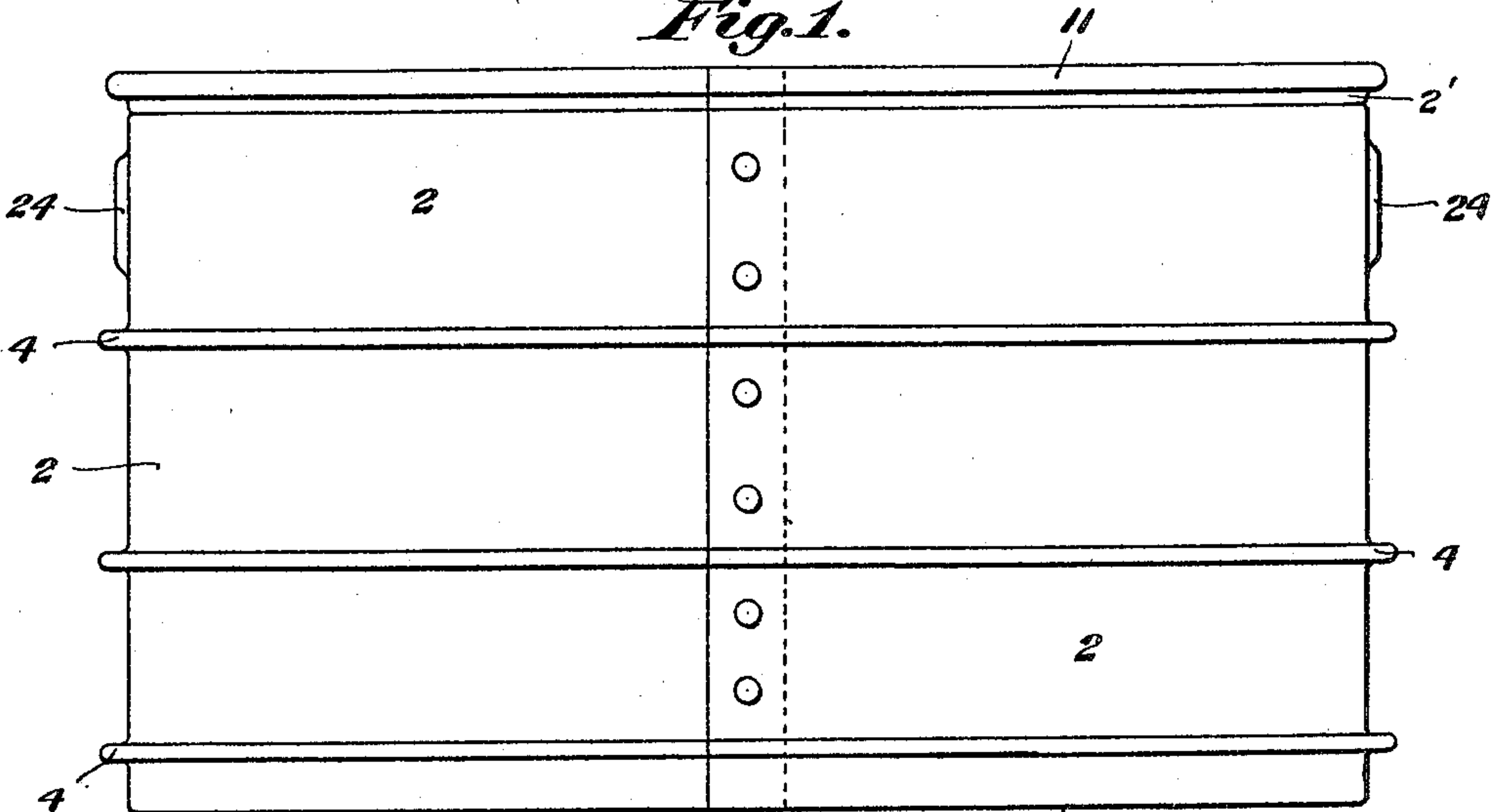


Fig. 2.

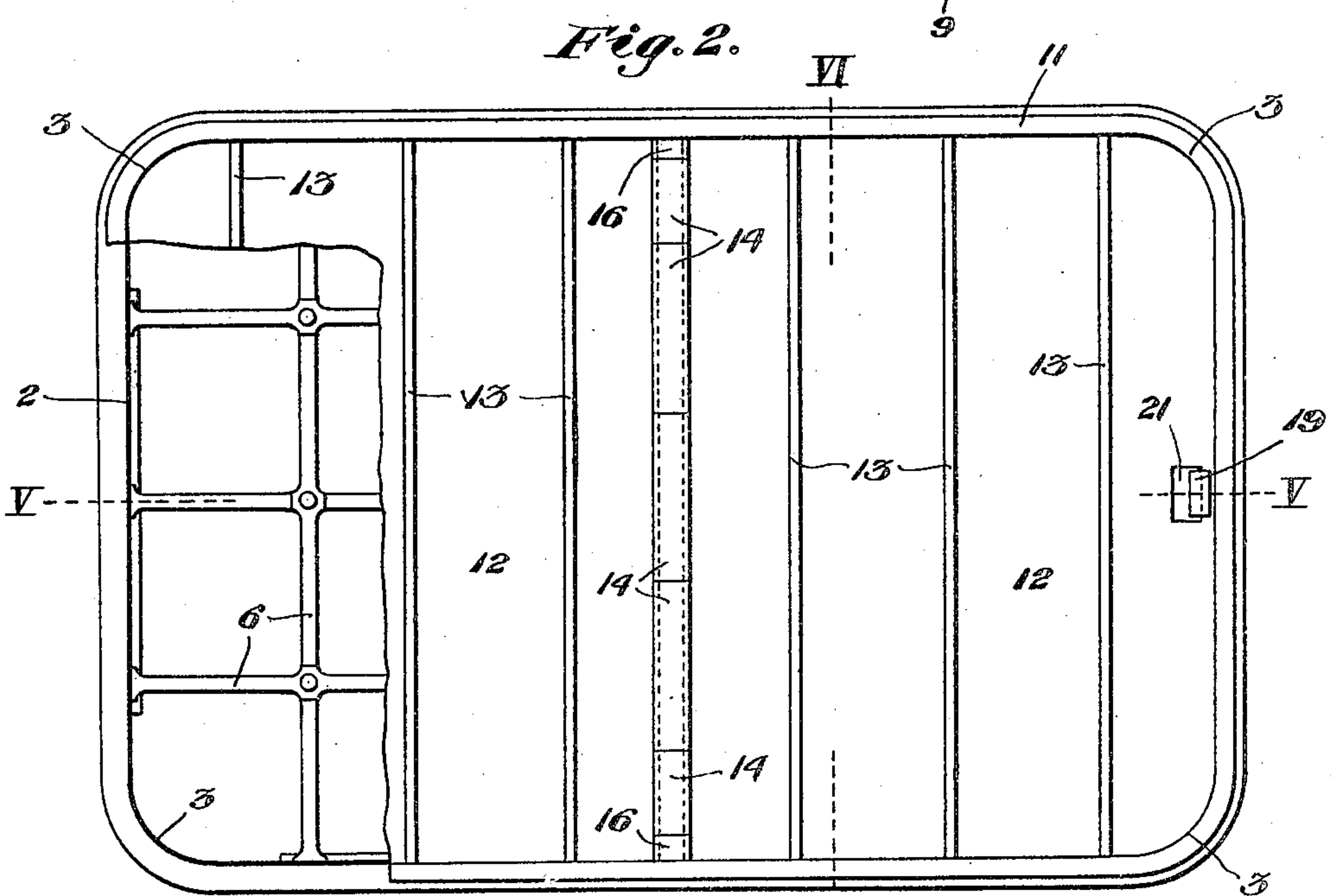


Fig. 4.

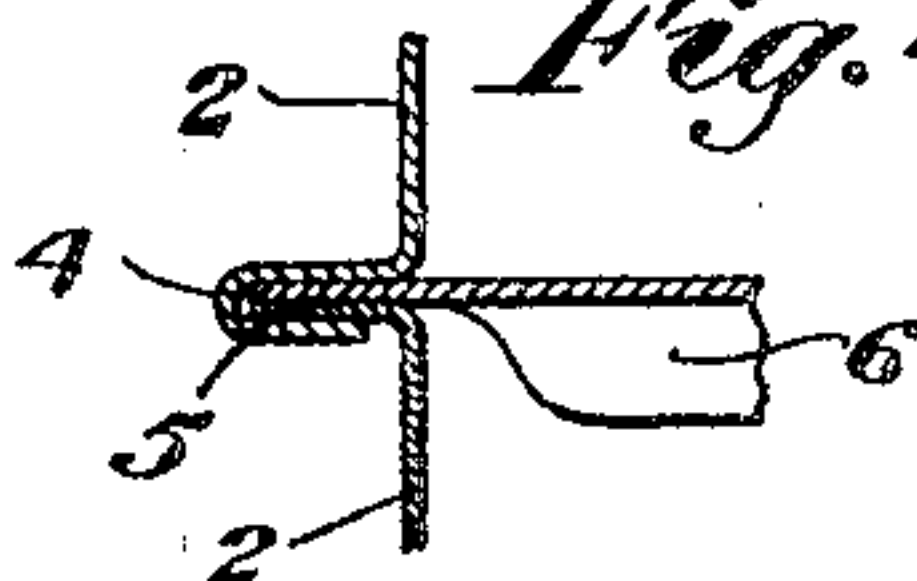
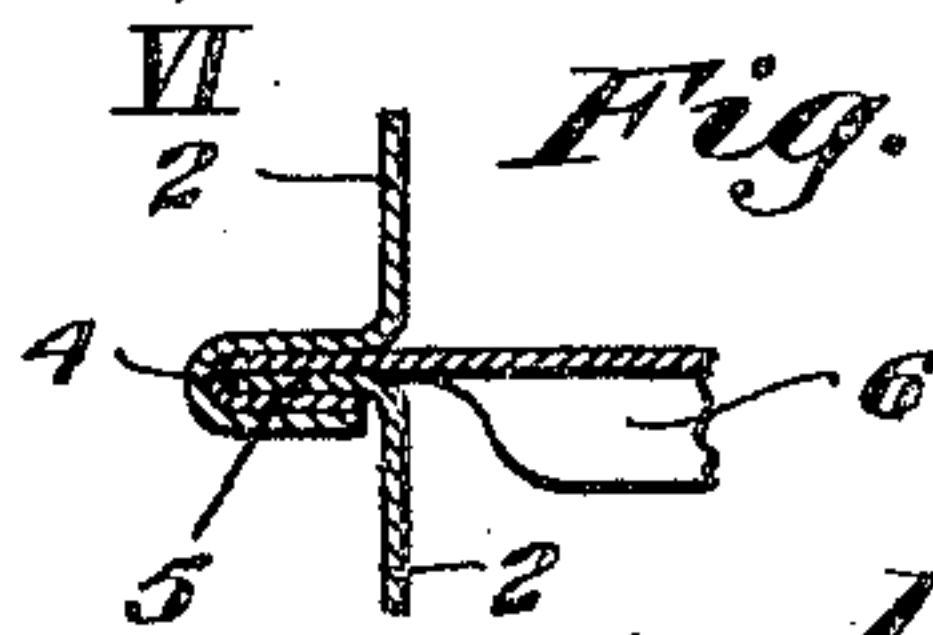


Fig. 5.



Witnesses:

C. R. Rodd.

Chas. S. Lyley.

Inventor:

Arthur R. Speer

by C. M. Clarke

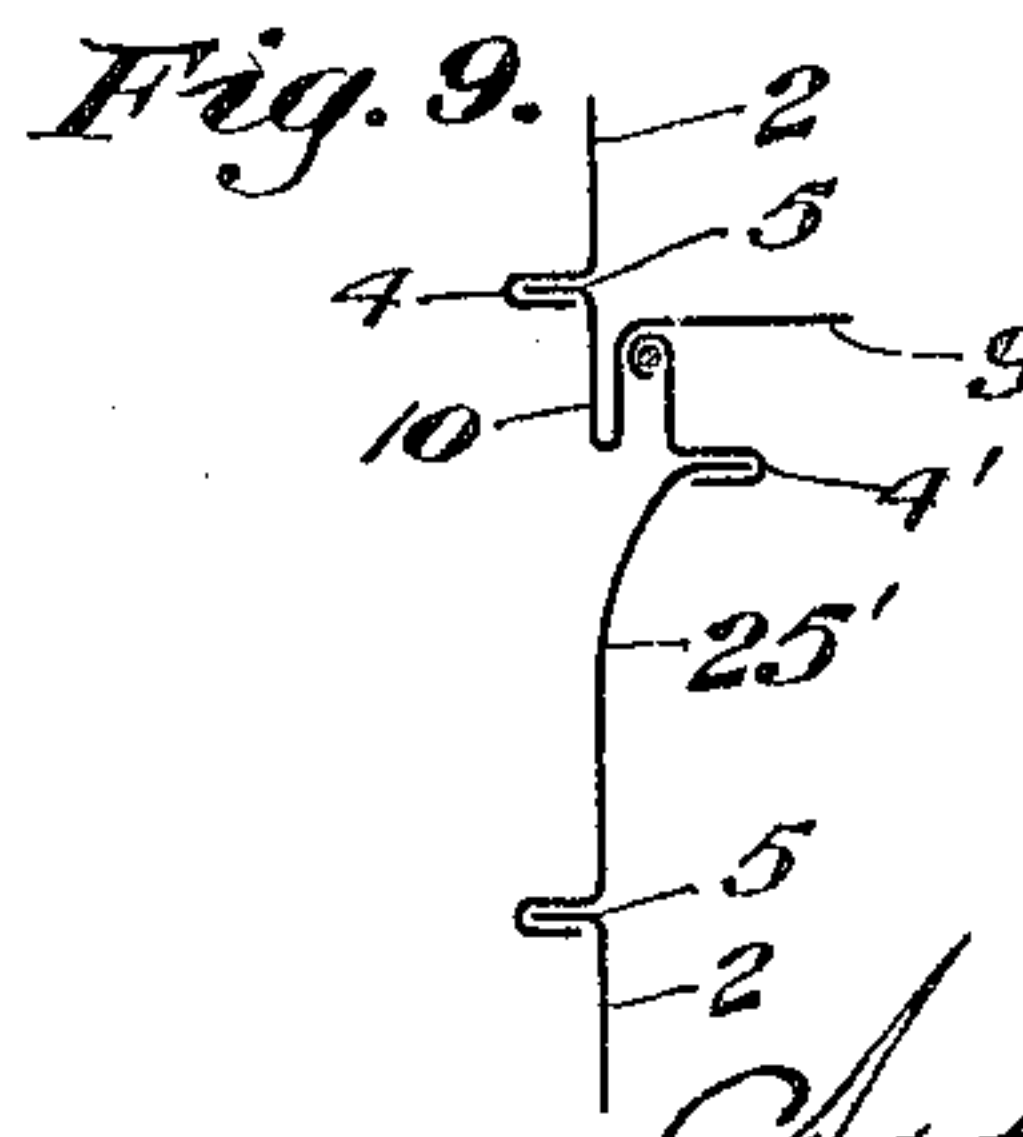
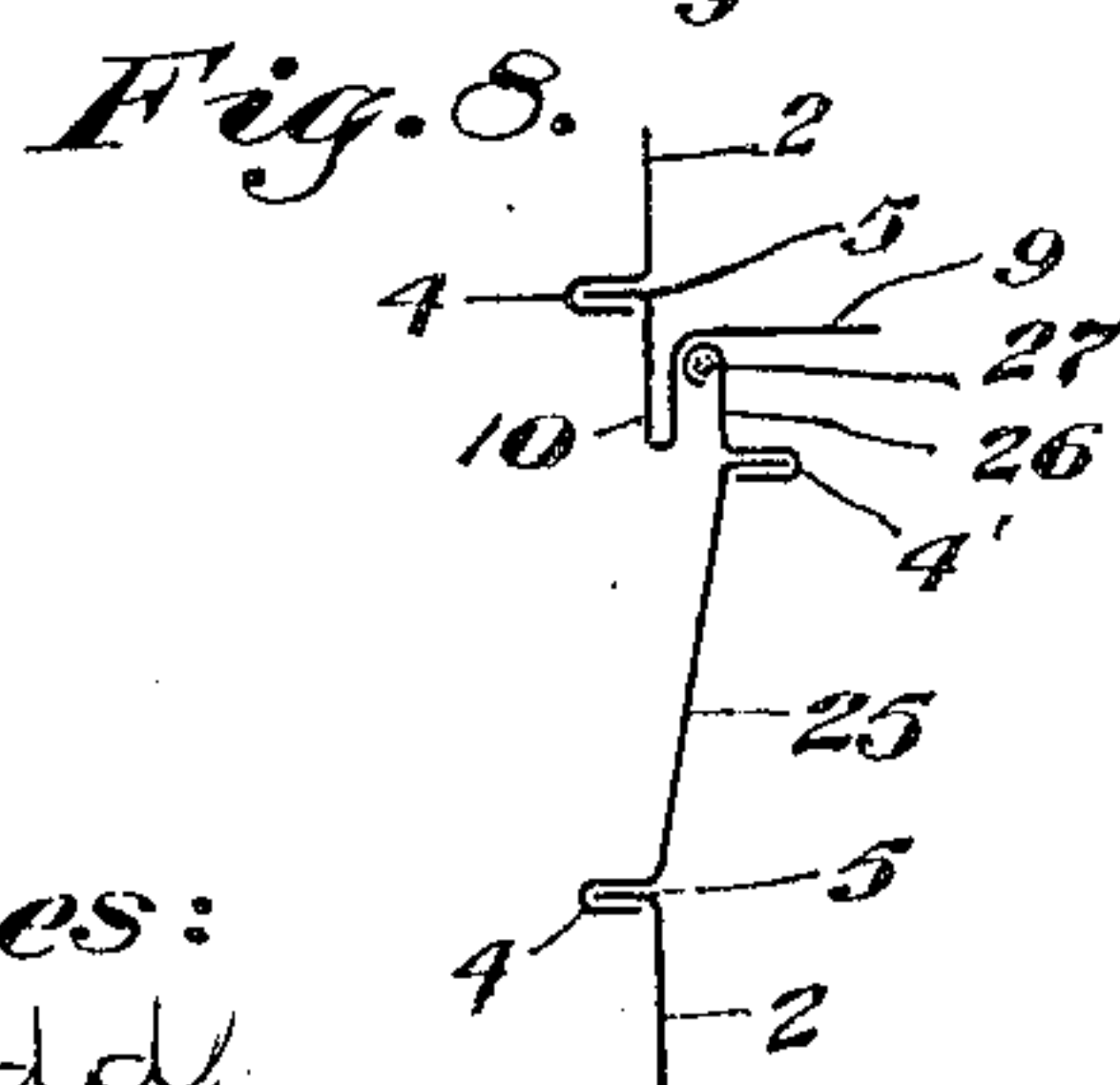
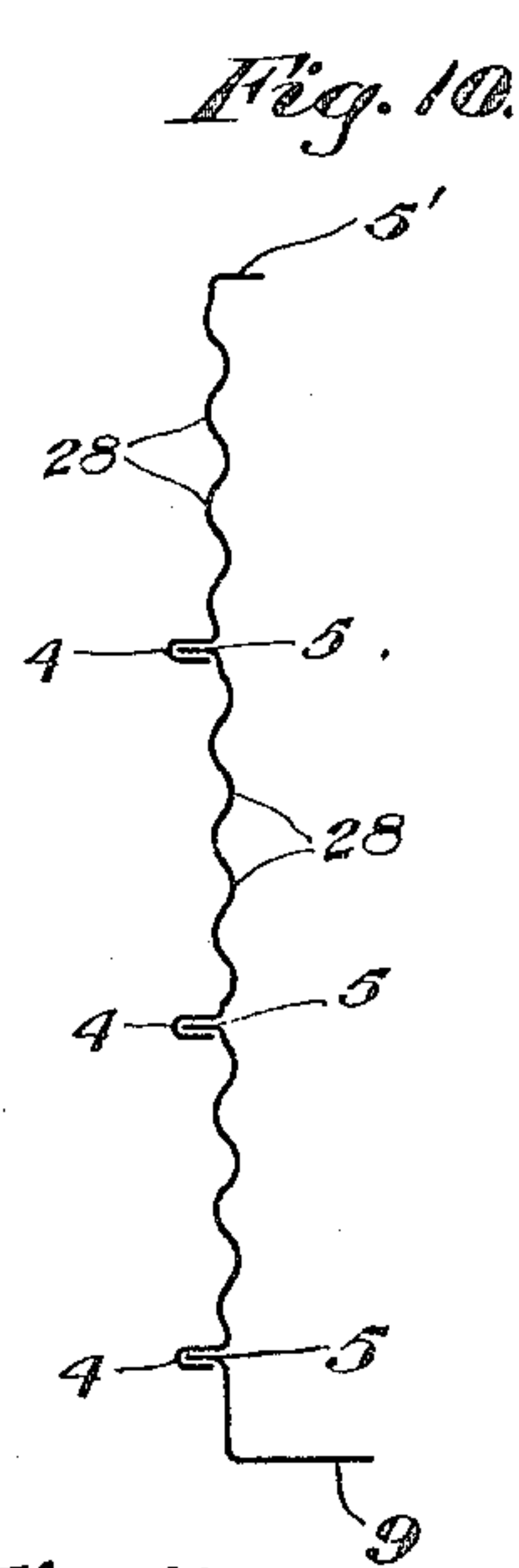
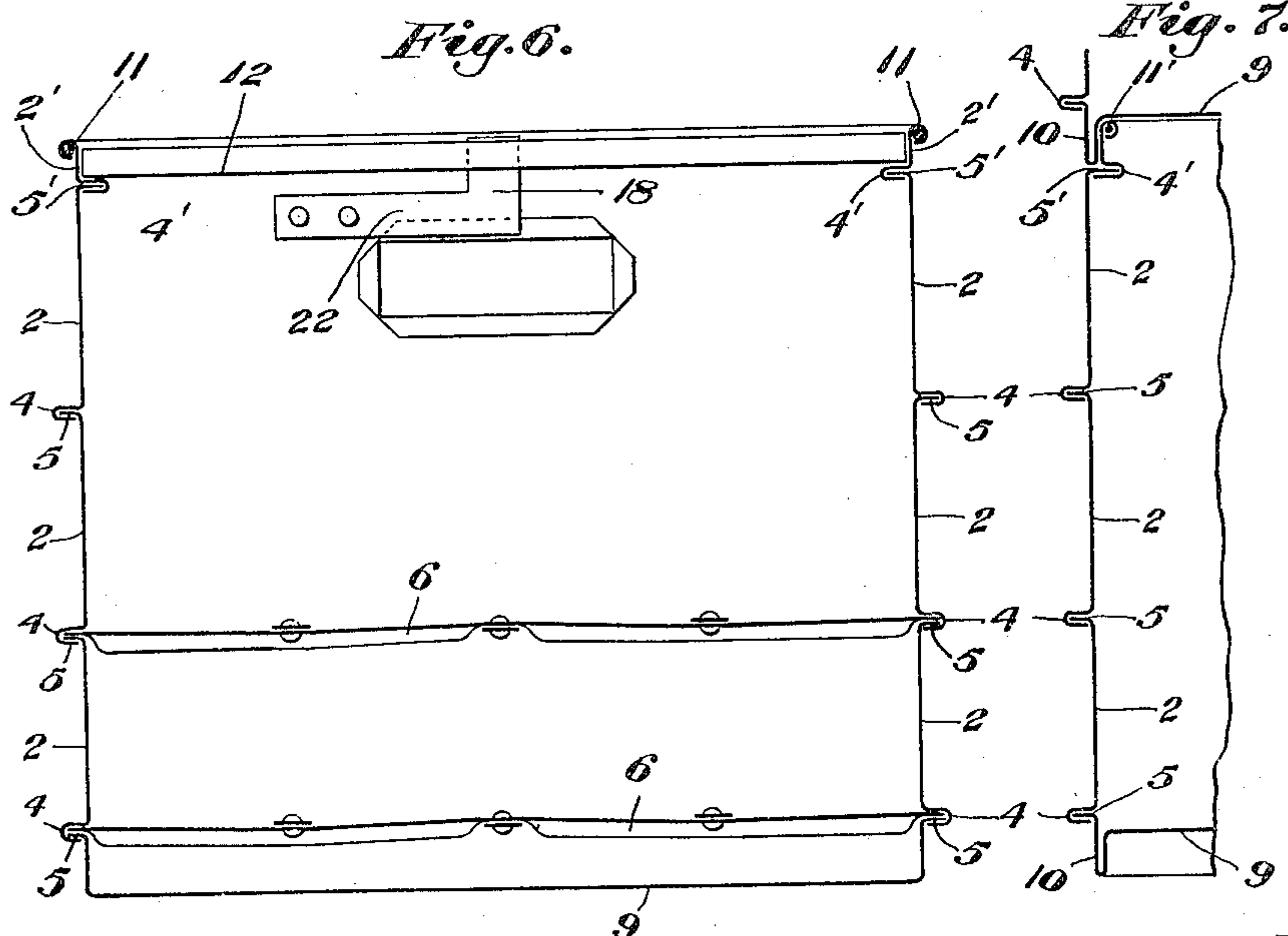
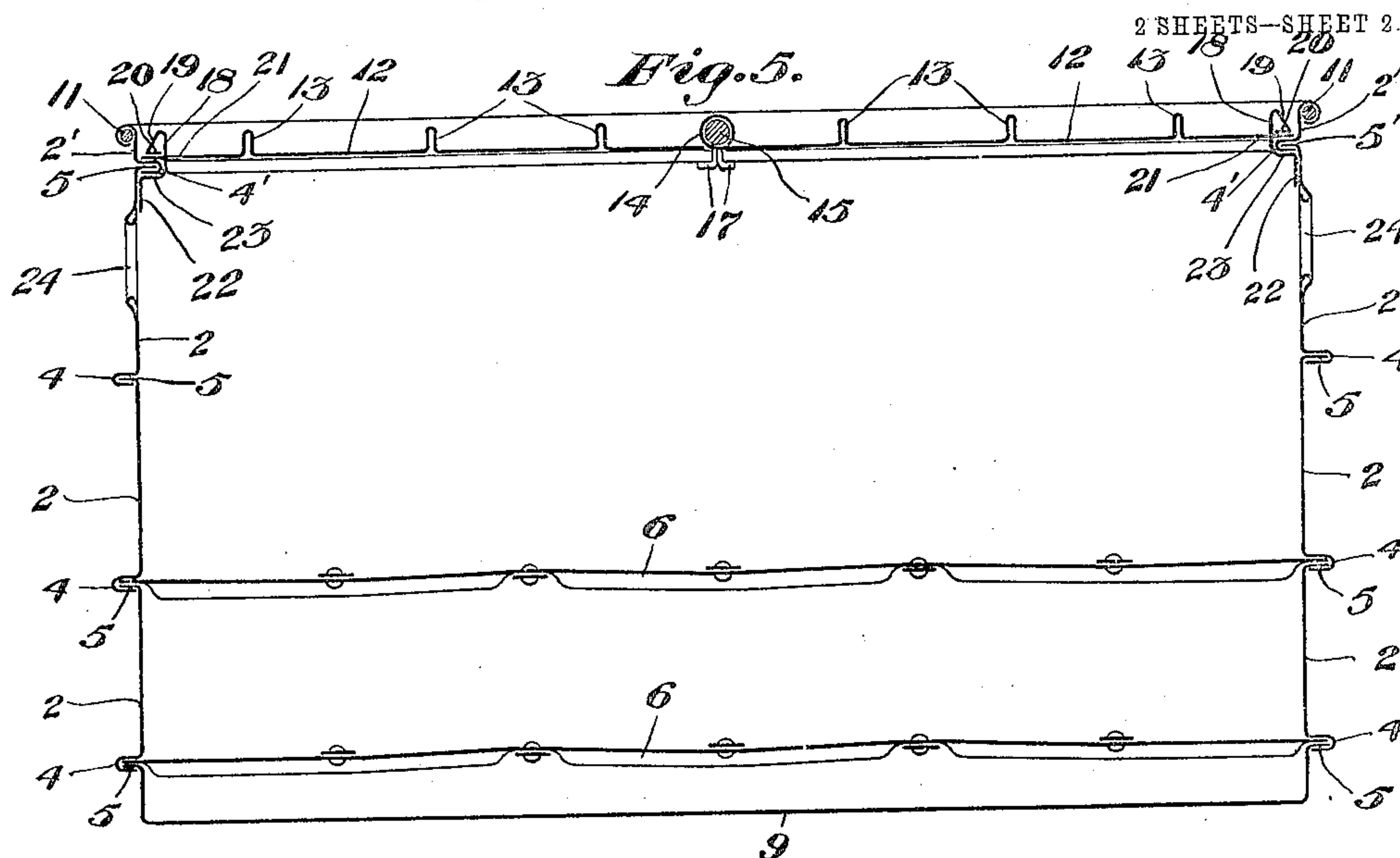
his attorney.

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2 SHEETS—SHEET 2.



Witnesses:
E. R. Rodd.
Chas. S. Rpley

Inventor:
Arthur R. Speer
by E. M. Clarke
his attorney

UNITED STATES PATENT OFFICE.

ARTHUR R. SPEER, OF PITTSBURG, PENNSYLVANIA.

METAL PACKING-CASE.

No. 821,760.

Specification of Letters Patent.

Patented May 29, 1906.

Application filed February 6, 1905. Serial No. 244,492.

To all whom it may concern:

Be it known that I, ARTHUR R. SPEER, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metal Packing-Cases, of which the following is a specification, reference being had therein to the accompanying drawings, forming part of the specification, in which—

Figure 1 is a view in side elevation of my improved metallic packing-case. Fig. 2 is a plan view, partly broken away. Figs. 3 and 4 are detail sectional views showing the manner of attaching the partitions to the walls of the case. Fig. 5 is a longitudinal vertical section on the line V V of Fig. 2. Fig. 6 is a cross vertical section on the line VI VI of Fig. 2. Fig. 7 is a similar partial sectional view showing a modified construction. Figs. 8 and 9 are sectional detail views showing further modifications and illustrating the manner of nesting the cases one upon another. Fig. 10 is a sectional detail view showing a case composed of corrugated sections. Fig. 11 is a similar view showing a modified form of joint.

My invention refers to improvements in sheet-metal packing or shipping boxes or cases for any suitable merchandise or material, the present construction being particularly designed for the storage and shipment of bottles.

The invention has in view to provide a metallic case having great strength without unnecessary weight, so as to economize material and secure the greatest efficiency, and also to provide a case which is compact in construction and so arranged that a number of such cases may be mounted one upon another in such a manner as to prevent slippage or disturbance, and to provide a construction well adapted to avoid danger of bending, breaking, or interference, and to guard against the various injuries to which such vessels are subject in handling and shipping.

Referring now to the drawings, the sides and ends of the case are made of a plurality of continuous sheets 2 of metal bent around into rectangular form, the meeting ends of which overlap at the side or end and are riveted or otherwise secured together, the corners being rounded, as indicated at 3. The sections 2, forming the sides and ends, are connected together in such a manner as to

provide outwardly-projecting continuous strengthening-ribs formed by doubling the metal along one edge of the section, as indicated at 4, to embrace a corresponding flange 5 of the next adjacent section, which flange interfits between the doubled sides 4, thus providing an interlocking joint of great strength and producing the outwardly-projecting rib referred to. The body portion of the case is thus built up of a series of such connected sections, which may be of any number desired, according to the size and capacity of the case and the distance apart of the ribs.

When desired, partitions 6 of any suitable construction are incorporated with the case in the process of its manufacture, such partitions being of any convenient form, as strips of metal, wire, &c. The terminals of the partitions are inserted between the meeting flanges of adjacent sections, as shown, and secured between them by doubling the embracing flanges 4 around flanges 5, as shown in Fig. 3, or the flanges 4 may be merely doubled around flanges 5 without bending the partition-terminal, but tightly clamping it in position, as in Fig. 4. The present invention does not refer particularly to the racks or partitions and is not limited to a case necessarily provided with these parts, it being obvious that they may be entirely dispensed with, if desired, so as to leave a non-obstructed interior cavity for use in packing or shipping various articles of merchandise, as crackers, &c., or loose material in bulk.

The case is provided with a bottom 9 of sheet metal, connected with the lower edges of the sides and ends in the same manner as in the construction of the joints above described, the bottom being made in pan form and provided with a similar outwardly-extending flange 5, interfitting between and embraced by the doubled flange 4, forming the rib, as clearly shown in Fig. 5, or the bottom may be attached in any other suitable manner. The bottom may also be made in the form indicated in Fig. 7, wherein a downward-extending surrounding edge 10 is formed by doubling the metal upon itself, the bottom extending across somewhat upwardly above said bottom edge, thus providing for the nesting of one case on the top of the other, as will be readily understood and as indicated in said figure.

The upper section forming the top edge of the case is connected with the next lower ad-

5 adjacent section 2 in the same manner de-
 scribed as to the connection of the main sec-
 tions, except that the upper edge of the top
 main section is turned inwardly, as indi-
 10 cated at 5', while the lower portion of the top
 section 2' is also extended inwardly and then
 outwardly, tightly embracing the flange 5'
 and providing an inwardly-extending
 strengthening-rib, providing a lid-support-
 15 ing flange 4', while the upper terminal edge
 of the section 2' is turned around into bead
 form, providing an upper strengthening edge
 11, having a reinforcing-wire, if desired, or,
 if preferred, the sheet metal may be merely
 20 doubled upon itself to form a corresponding
 stiffening edge. In the construction shown
 in Fig. 7 the metal forming the top edge may
 be located inwardly, as shown at 11', thus
 providing an outer clearance-space for the re-
 25 ception of the downwardly-extending bot-
 tom edge 10 of a superimposed case when set
 upon it. By this construction it will be seen
 that the cases may be neatly nested together,
 and any tendency to slide or displacement
 30 will be effectually prevented. The top or
 cover of the case is preferably made of two
 separately-hinged sections 12 12, made of
 sheet metal and provided with a series of
 doubled strengthening-ribs 13, extending
 35 transversely of the tops, which are also pro-
 vided with rounded corners and fit neatly
 within the edge, extending upwardly above
 the inner flange 4'. These top sections 12
 are provided with hinged strap extensions
 40 14, which are arranged alternately and which
 surround a hinge pin or rod 15, extending
 across the top from one side to the other and
 upon which the sides may freely turn. The
 rod 15 is mounted at each end in a ferrule 16,
 45 made of sheet metal, the terminals 17 of
 which fit inwardly in a vertical slot cut in rib
 4', the terminals 17 being bent outwardly
 underneath said rib, so as to thus secure the
 ferrule in position. This manner of mount-
 50 ing the hinge-rod is very simple, cheap, and
 effective, and the rod is thus located rigidly
 beneath the level of the surrounding upper
 edge and against the upper edges, thus brac-
 ing them.

55 The ribs 13 of the covers are so located
 with relation to each other that when either
 of the covers is laid over upon the other the
 ribs will not interfere, but will permit the
 cover to be laid down flat below or on a level
 with the said upper edge, thereby providing
 a smooth surface without any upwardly-pro-
 jecting parts.

60 At each end of the case in its upper mid-
 dle portion are located the spring-latches 18,
 having an upper sloping face 19 and a locking-
 abutment 20, adapted to pass through an
 opening 21 in the end of the cover and to
 spring back to locking position, as shown in
 Fig. 5. The latch is provided with an inte-
 65 gral laterally-extended spring portion 22,

riveted to the inner side of the case, as shown
 in Fig. 6, the upwardly-extending latch ex-
 tremity being also provided with an offset
 portion 23, arranged to engage underneath
 the upper flange 4', thereby giving a firm 70
 solid bearing independent of its attachment
 to the case. By this arrangement the lock is
 very solid and compact, capable of auto-
 matic operation upon closing the lid, while a
 sealing-tie of any kind may be inserted 75
 through the opening 21 and one of the hand-
 hole openings 24, located at each upper end
 of the case. These hand-hole openings are
 finished around the edges by doubling the
 metal upon itself, as shown, and provide a 80
 convenient means for lifting the case.

In Fig. 8 I have shown a modified con-
 struction wherein the upper section 25 is in-
 clined inwardly at any desired angle and
 joined with the upper terminal section 26, 85
 these parts being connected in the manner
 already described, and the upper terminal
 edge 27 extends outwardly or inwardly, as
 preferred. In Fig. 9 the upper panel 25' is
 curved or bowed inwardly, as shown, and 90
 connected with the upper terminal edge con-
 struction in the same manner. An especial
 advantage of both of these constructions is
 that they greatly strengthen and reinforce
 the sides and ends, giving great stiffness 95
 and preventing buckling, while at the same
 time providing sufficient space for the nest-
 ing of the cases by the assemblage of the top
 of one with the bottom of another. In Fig.
 10 I have shown a construction wherein the 100
 sections forming the sides and ends are cor-
 rugated, as shown at 28, thereby further
 strengthening and stiffening these parts and
 adding to the stability of the entire struc-
 105 ture. When thus braced and reinforced in
 this manner and, as already described, it will
 be seen that a very strong and light case may
 be provided by using a sheet metal of com-
 paratively small gage, thereby reducing cost
 and weight. If desired, the outwardly-ex- 110
 tending ribs may be modified or eliminated
 by the construction shown in Fig. 11, wherein
 the meeting edges of the sections are clenched
 together, providing a ribbed joint having
 great strengthening qualities. 115

It will be understood that the case may be
 made in various sizes or dimensions, and I do
 not desire to be limited to the specific design
 and construction shown, as various changes
 may be made by the skilled mechanic in the 120
 design or details of construction, &c., and all
 such changes are to be considered as within
 the scope of the following claims.

What I claim is—

1. In a shipping-case, the combination of a 125
 plurality of surrounding sections of sheet
 metal bent into rectangular form with round-
 ed ends, said sections being joined together
 by the metal at the edge of one section em-
 130 bracing a terminal flange of the next adja-

cent section so as to provide outwardly-extending strengthening-ribs, with a separate similarly-attached bottom portion, and an upper inwardly-extending lid-supporting flange, substantially as set forth.

2. In a shipping-case, the combination of a plurality of surrounding sections of sheet metal bent into rectangular form with rounded ends, said sections being joined together by the metal at the edge of one section embracing a terminal flange of the next adjacent section so as to provide outwardly-extending strengthening-ribs, with a separate similarly-attached bottom portion and an upper top-receiving extension similarly secured to the lower adjacent section by inwardly-extending connected flanges providing a lid-supporting ledge, substantially as set forth.

3. A shipping-case of sheet metal having a downwardly-extending surrounding bottom flange, a top portion deflected inwardly beyond the inner walls of said bottom flange and adapted to fit within said bottom flange of an adjacent case, with an inwardly-projecting strengthening and lid-supporting flange, substantially as set forth.

4. In a shipping-case, the combination of a plurality of superimposed sections having flat sides and ends and rounded corners, said sections being joined together by doubling the edges upon each other to form surrounding ribs, a bottom secured to the lower section, an upper portion similarly secured to the upper section and forming an inwardly-extending flange, and a cover adapted to rest upon said flange, substantially as set forth.

5. In a shipping-case, the combination of a plurality of superimposed sections having flat sides and ends and rounded corners, said sections being joined together by doubling the edges upon each other to form surrounding

ribs, a bottom secured to the lower section and having downwardly-extending supporting-flanges, and an upper portion located inwardly within the plane of the inner faces of said bottom flanges, substantially as set forth.

6. In a shipping-case, the combination of a plurality of superimposed sections having flat sides and ends and rounded corners, said sections being joined together by doubling the edges upon each other to form surrounding ribs, a bottom secured to the lower section and having downwardly-extending supporting-flanges, and an upper portion located inwardly within the plane of the inner faces of said bottom flanges, said upper portion being connected to the upper section by doubling the meeting edges to form an inwardly-extending lid-supporting flange, substantially as set forth.

7. In a shipping-case, the combination of a plurality of surrounding sections joined together by folding the edge of one section around the edge of the next adjacent section, a bottom connected with the lower section in a similar manner, and a top portion connected with the upper section so as to provide an inwardly-extending lid-supporting flange, substantially as set forth.

8. A shipping-case having sides and ends composed of a plurality of connected sections with intervening joints providing outwardly-extending encircling ribs, and a bottom connected with the lower section and provided with a downwardly-extending supporting-flange, substantially as set forth.

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

ARTHUR R. SPEER.

Witnesses:

JAS. J. McAFEE,
J. J. SPEER.