

July 13, 1937.

G. C. WOODRUFF

2,086,688

SHIPPING CONTAINER

Original Filed Sept. 11, 1931

4 Sheets-Sheet 1

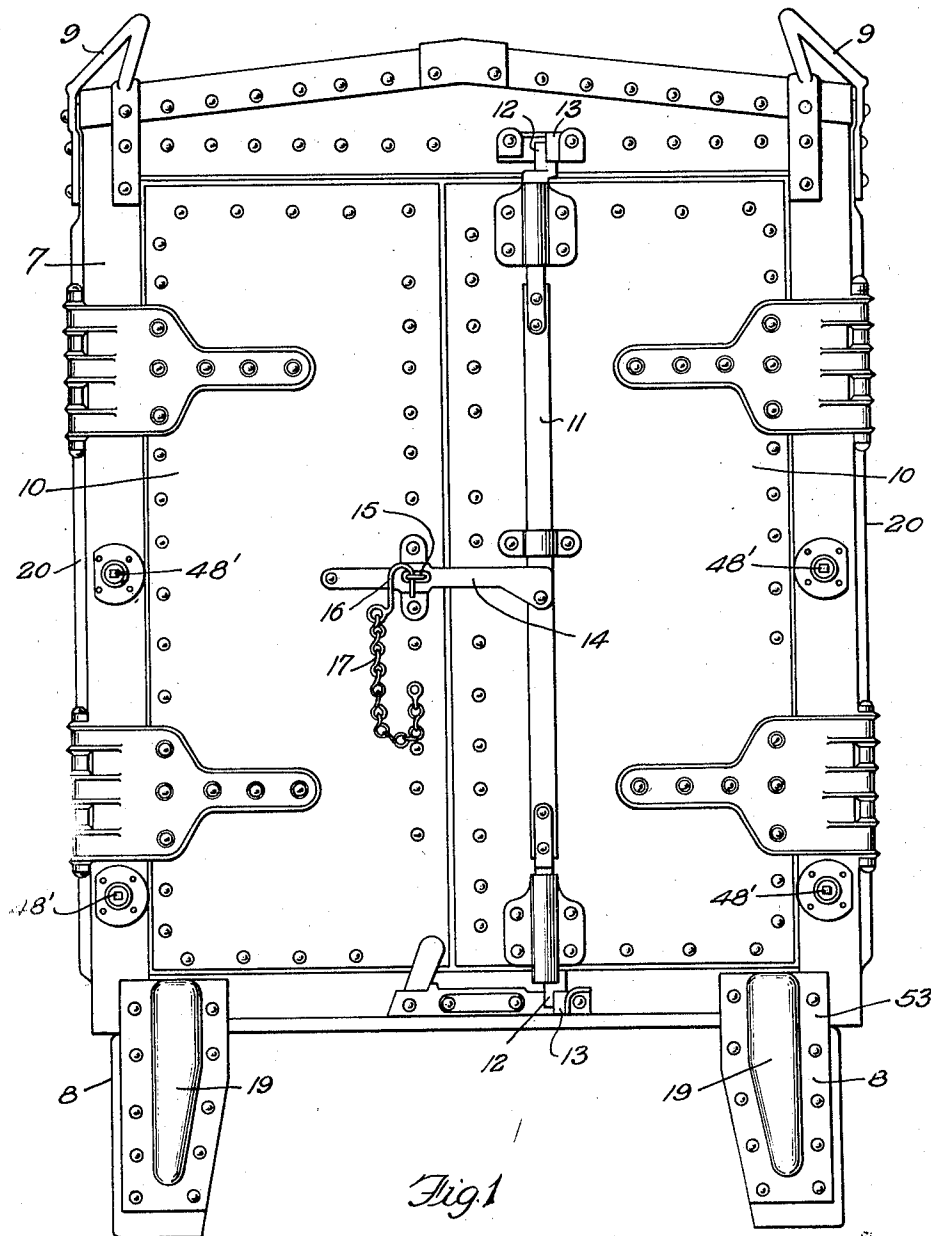


Fig. 1

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July 13, 1937.

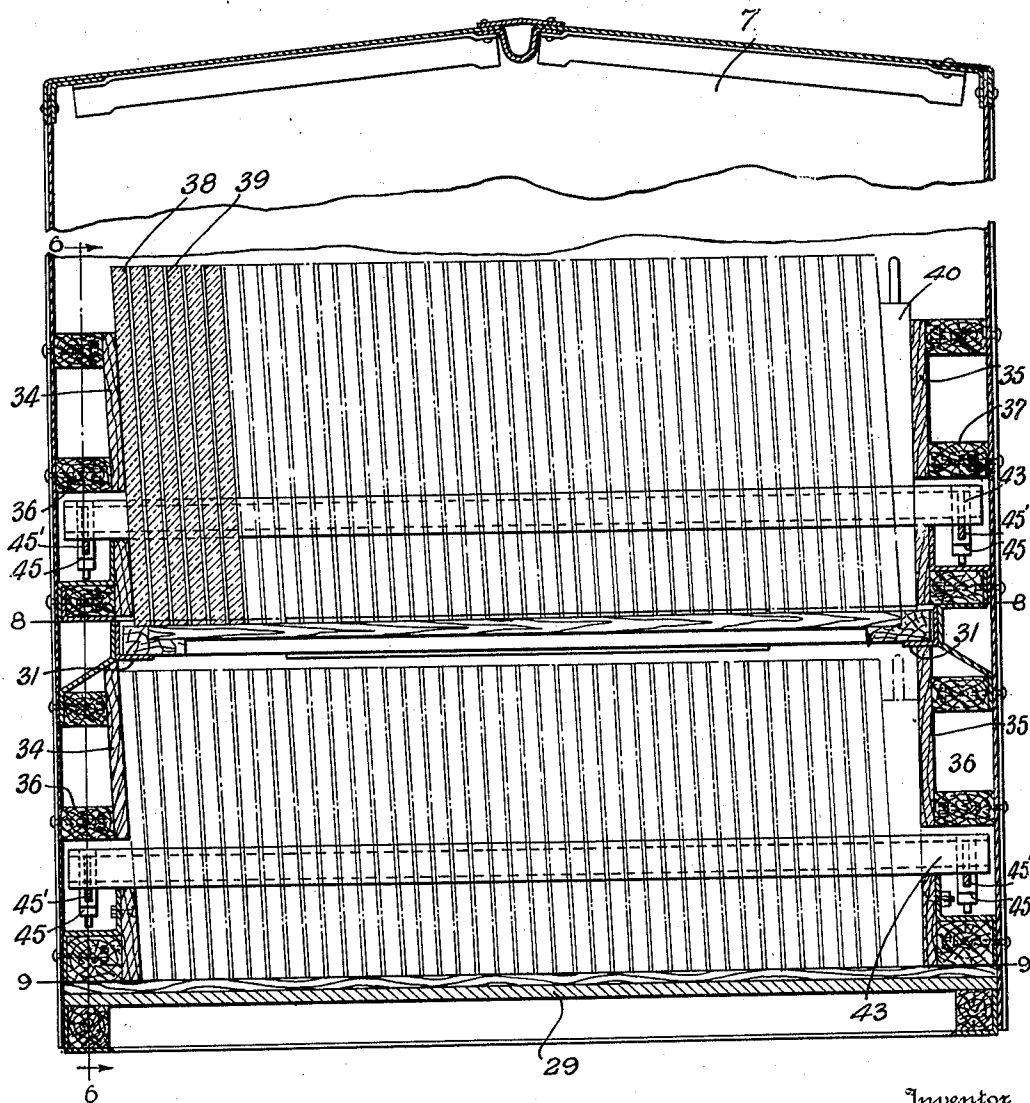
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Original Filed Sept. 11, 1931 4 Sheets-Sheet 2

Fig. 2



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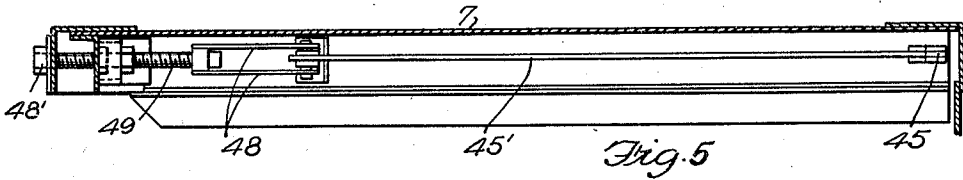
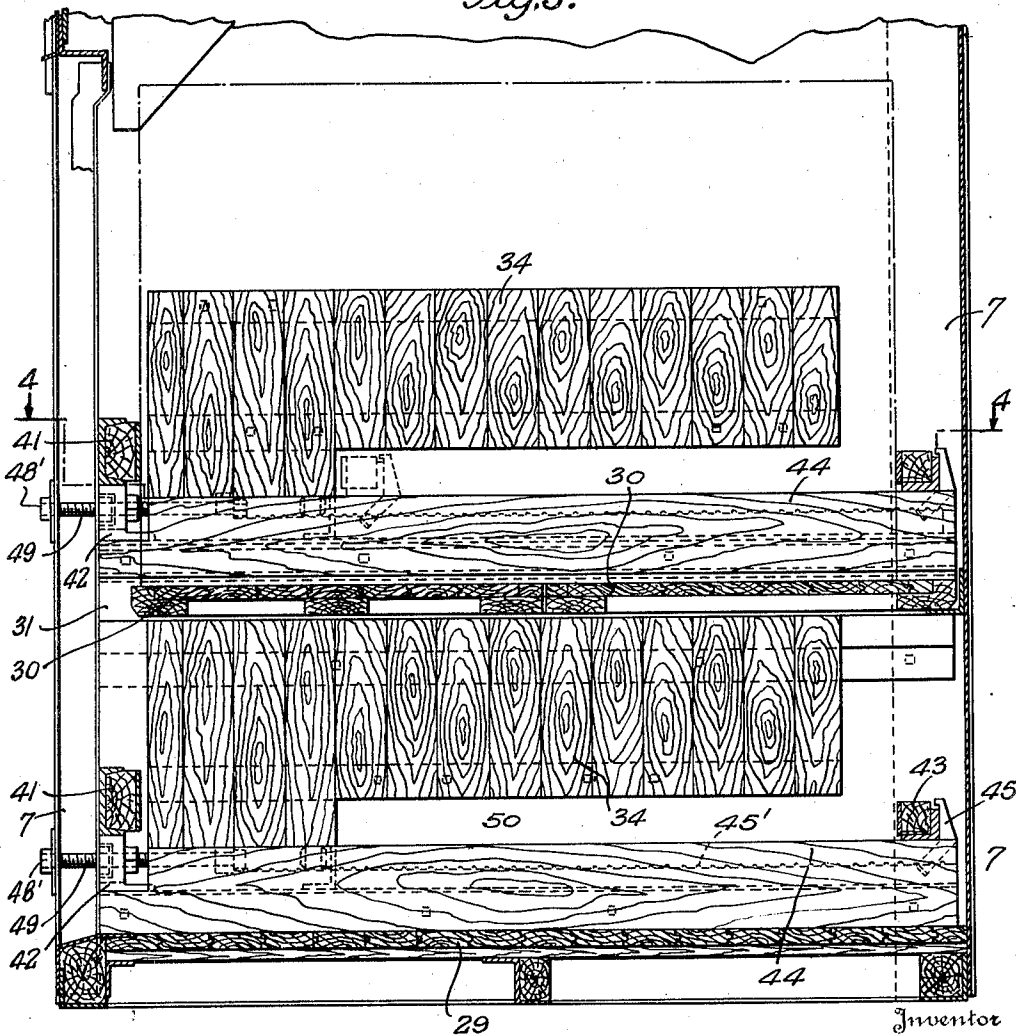


Fig. 5

Fig. 3.



Inventor

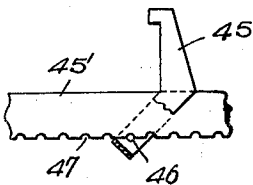


Fig. 4

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SHIPPING CONTAINER

Original Filed Sept. 11, 1931 4 Sheets-Sheet 4

Fig. 6

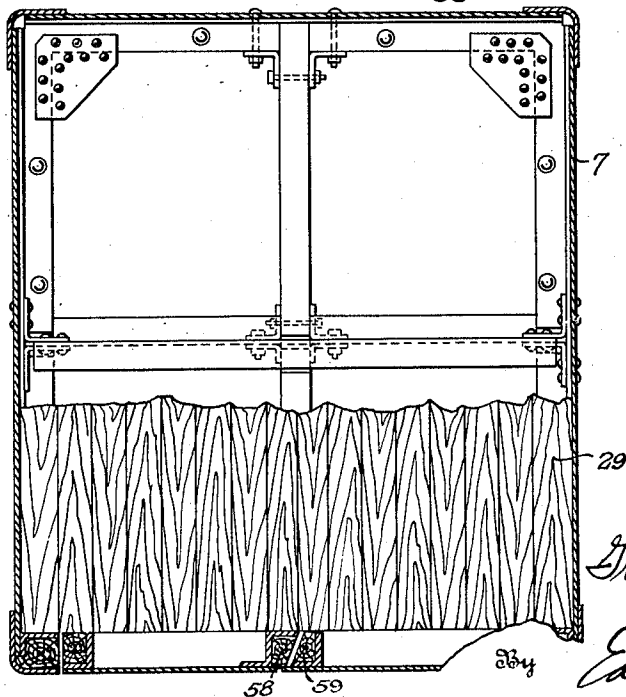
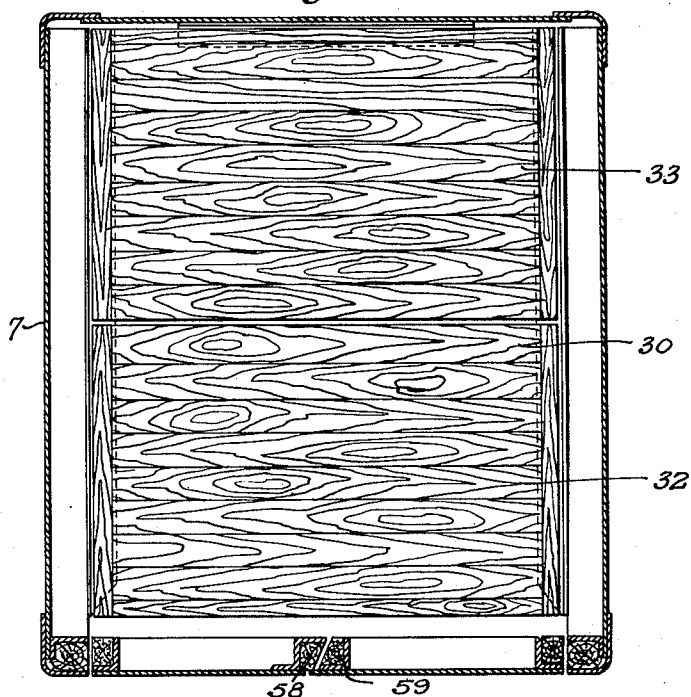


Fig. 7

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UNITED STATES PATENT OFFICE

2,086,688

SHIPPING CONTAINER

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Original application September 11, 1931, Serial
No. 562,372. Divided and this application April
24, 1933, Serial No. 667,703

13 Claims. (Cl. 220—1.5)

The present application is a division of my
prior application Serial No. 562,372, filed Sep-
tember 11, 1931.

This invention relates to improvements in
5 shipping containers and particularly to contain-
ers for container cars of drop-side type and other
shipping vehicles.

One object of the invention is to provide a con-
struction of container whereby automobile glass,
10 automobile parts, and other like articles or com-
modities may be stored for shipment and shipped
in container cars or other shipping vehicles with
greater ease, convenience and facility.

Another object of the invention is to provide a
15 container of strong and durable type in which
sheet glass or other materials or articles may be
compactly packed and secured against shifting
and injury while in transit or being handled.

Still another object of the invention is to pro-
vide a container in which, by the use of supple-
20 mental floors, shelves or partitions the glass or
other commodity or articles to be shipped may
be stored in tiers therein and the tiers of ma-
terial separately secured and held against shift-
ing movements.

Still another object of the invention is to pro-
vide a container in which a removable supple-
30 mental floor, shelf or partition of sectional type
is provided so as to allow greater convenience of
access to the container for the packing of goods
therein or the removal of goods therefrom.

With these and other objects in view, the in-
vention consists of the features of construction,
35 combination and arrangement of parts, herein-
after fully described and claimed, reference being
had to the accompanying drawings, in which:—

Figure 1 is a front elevation of one of the
containers.

Figure 2 is a vertical transverse section through
40 the container.

Figure 3 is a vertical front-to-rear section
through the container on the line 6—6 of Fig-
ure 2.

Figure 4 is a detail view showing a feature of
45 construction.

Figure 5 is a horizontal front-to-rear sec-
tion through one side of the container on the
line 4—4 of Figure 3.

Figure 6 is a horizontal section through the
50 container on line 8—8 of Figure 2.

Figure 7 is a horizontal section through the
container on line 9—9 of Figure 2, a portion of
the lower floor being broken away to expose the
bottom frame construction.

55 Each container 7 is of rectangular or oblong

rectangular form and of special construction,
and comprises a steel-framed, steel-sheathed
waterproof container provided with depending
supporting legs 8 at the four corners of the bot-
tom thereof, lifting brackets 9 at the four corners 5
of the top thereof, and hinged doors 10 at the
front, which doors are adapted to be secured in
closed position by a vertically disposed, oscilla-
tory locking bar 11 mounted on one of the doors
and carrying at its ends bolts 12 to engage keepers 10
13 on the container above and below the doorway.
Any suitable means may be employed for oscil-
lating the bar 11, a hand lever 14 being shown
in the present instance as provided for that pur-
pose, said lever being also apertured to serve as a 15
locking staple for engagement with a keeper eye
15 on the other door. A hook 16 carried by one
end of a chain 17 fastened at its opposite end
to the door carrying the keeper eye is shown as
provided for engagement with the eye to hold 20
the staple in locking position, but a padlock or
other locking means may be employed for the
purpose, and, if desired, a suitable type of seal
may be used which must be broken before the
doors can be opened to allow access to the con- 25
tainer, and the breakage of which will indicate
that the fastening means has been tampered
with or released.

The legs 8 are adapted to seat within receiving
sockets 18 provided for their reception in the 30
floors of the compartments. The legs 8 are pro-
vided with guide shoes 19 for guiding contact with
the doors and other surfaces of the container
compartments of the car in guiding the contain-
ers into and out of position, and the sides of the 35
containers may be provided with suitable rein-
forcing and guiding ribs 20 for engagement with
suitable guides at the sides of each compartment
of the car to further assist in guiding the con-
tainer into and out of position. 40

The container 7 is provided with a permanent
bottom floor 29 and may be provided with an
upper floor or horizontal shelf or partition 30
in the event that it is desired to divide it into
two superimposed storage compartments. In the 45
present instance an upper floor or compartment
30 is provided which is removably supported on
angle metal brackets or ledges 31 and is divided
transversely into front and rear sections 32 and
33 for greater convenience in loading and unload- 50
ing the container, as, upon the removal of the
partition section 32 through the doorway, easier
access to the interior of the container is allowed
for loading and unloading the lower compart-
ment and loading and unloading the goods sup- 55

ported on the inner or rear shelf portion 33. When it is desired to pile the goods solidly from the floor 2 to the maximum loading level of the container the shelf 30 may be dispensed with, but its use allows desirable separation of different kinds of material, as well as the packing or storage of materials of the same character in a better manner and to better advantage from the standpoints of ease and convenience in loading and unloading and greater security against damage of the lading.

One object of my invention is to construct the container so as to allow packing of the lading in tiers, and the packing and shipment in a secure manner of automobile window or windshield glass or other sheet material or other articles or goods which may be packed in the same or a similar way. As shown, each compartment of the container above and below the partition 30 is provided at one side with an abutment 34 which is inclined slightly to the vertical, and at its opposite side with a straight vertical abutment 35, said abutments 34 and 35 being formed by battens which are secured to supporting beams 36 and 37. In loading glass or other sheet material, or similar material, in the upper compartment or lower compartment, the glass sheets 38 are disposed vertically with their lower longitudinal edges resting on the floor 29 or partition 30, as the case may be, the first sheet being rested against the abutment 34 and the other sheets successively placed in position, with sheets of paper or other cushioning layers 39 therebetween until a space between the final sheet and the abutment 35 is left sufficient to receive a clamping wedge 40 which is inserted in position between the last sheet and said abutment 35 to clamp the stack of sheets in parallel relation and against shifting laterally of the container. Preferably the container is also provided with means for engagement with the end edges of the sheets to prevent the stack of glass from shifting either forwardly or rearwardly. The means provided for this purpose comprises a stationary clamping bar 41 at the front of each container compartment, which bar rests upon supporting blocks 42 at the opposite sides of the container doorway, and a cooperating movable clamping bar or block 43 resting at its ends upon guide blocks 44 arranged at the opposite sides of the container in alinement with the blocks 42. The bar or block 43 is engaged by feed dogs 45 provided with clutch pins 46 for engagement with notches 47 arranged at intervals in feed bars 45', one of such bars being provided at each side of the container, and each bar being coupled at its forward end by a swivel connection 48 with a feed screw 49 journaled in the block 42 and having an angular end 48' extending outwardly at the front of the container for the application of a hand crank or other suitable tool thereto, whereby the shafts associated with each movable clamping bar 43 may be revolved to move the feed bars 45' and the clamping bar 43 forwardly to bring said bar 43 into engagement with the rear edges of the sheets and to force the front edges thereof into clamping engagement with the bar 41, by which means the stack or sheets of glass will be held from shifting either forwardly or rearwardly. The battens 34 are cut away for a portion of their length along their lower edges so as to form slotted guideways 50 between the same and the bars 44 into which the bar 43 may move to clamp stacks of less depth than the depth of the container compartment or of varying depths, allowing small, large

or intermediate stacks to be clamped with equal facility. The dogs 45 are tiltably mounted so that their clutch pins 40 may be disengaged from any of the notches 47 with which they are engaged at any time and shifted forwardly or backwardly on the bars 45' to regulate the distance between the bars 41 and 43 as may be required in clamping stacks of different sizes, and which capability of adjustment of the dogs 45 and the bar 43 allows adjustment of the bar 43 to clamp small or large stacks without an excessive range of travel of the bars 45 or of feed screws 49 of excessive length being employed. The construction and arrangement of parts in the container, furthermore, adapts stacks of glass or other material to be stored in tiers in the container and each tier to be clamped firmly and securely against movement either forwardly or rearwardly or sidewise or in any direction in the container, so that damage to the material being shipped will be effectually prevented. It is, of course, obvious that sheet materials other than glass may be shipped and materials other than sheet materials may be stored and shipped in the containers in tiers or en masse, so that a container suitable for shipping goods in either of these ways is provided.

The meeting rails 58 and 59 upon the free edges of the doors are preferably provided with beveled surfaces.

From the foregoing description, taken in connection with the drawings, the construction and mode of operation of the invention will be readily understood without a further and extended description, and it will be seen that the invention provides a construction of container which allows glass or other sheet material or automobile or other parts of various kinds to be stored and shipped with great ease and facility and allows material of the same kind or different kinds to be shipped for delivery to the same or different destinations. These containers are also so constructed that different kinds of materials, or different lots of the same material, may be stored and shipped in each container and the lots kept separate from each other, while affording greater convenience in storing and removing the lots of goods. Other advantages of the invention will also be understood and appreciated by those versed in the art.

While the constructions of the parts herein shown are preferred, it is to be understood that changes in the form, proportion and details of construction of the parts may be made, within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:—

1. In a shipping container, a container having a doorway and a compartment accessible through the doorway and provided with a floor, abutments at opposite sides of the floor having longitudinally extending guide slots, clamping means for cooperation with the abutment at one side of the compartment for holding goods therein pressed against the other abutment to secure the goods against movement in one direction, an abutment at a side of the compartment at right angles to those named, and means movable in the guide slots of the first-named abutment for engaging and clamping the goods in a direction at right angles to that first-named against the latter-named abutment.

2. In a shipping container, a container having a doorway and a compartment accessible through

the doorway and provided with a floor, abutments at opposite sides of the floor having longitudinally extending guide slots, clamping means for cooperation with the abutment at one side of the compartment for holding goods therein pressed against the other abutment to secure the goods against movement in one direction, an abutment at a side of the compartment at right angles to those named, a clamping bar movable in the guide slots of the first-named abutment and toward the second-named abutment in a direction at right angles to the direction first-named for clamping the goods against the second-named abutment, and means for securing said clamping bar in adjusted position.

3. In a shipping container, a container having a doorway and a compartment accessible through the doorway and provided with a floor, abutments at opposite sides of the floor having longitudinally extending guide slots, clamping means for cooperation with the abutment at one side of the compartment for holding goods therein pressed against the other abutment to secure the goods against movement in one direction, an abutment at a side of the compartment at right angles to those named, a rack bar extending parallel with one of the first-named abutments, a clamping bar movable in the guide slots of the first-named abutments for clamping the goods in a direction at right angles to that first-named against the second named abutment, and means slidably engaging the rack bar and adapted to interlock therewith for securing said clamping bar in adjusted position.

4. In a shipping container, a container having a doorway and a compartment accessible through the doorway and provided with a floor, abutments at opposite sides of the floor, clamping means for cooperation with the abutment at one side of the compartment for holding goods therein pressed against the other abutment to secure the goods against movement in one direction, an abutment at a side of the compartment at right angles to those named, a rack bar extending parallel with one of the first-named abutments, a clamping bar slidably engageable with the first-named abutments for clamping the goods in a direction at right angles to that first-named against the second-named abutment, and means slidably engaging the rack bar and adapted to interlock therewith for securing said clamping bar in adjusted position.

5. A container of the character described having a goods supporting floor, abutments at two opposite sides of the container each embodying superposed portions forming an intervening guide channel, means cooperating with one of said abutments for clamping goods between the same and the other abutment, an abutment at a third side of the container at right angles to the first-named abutments, a clamping member slidably movable in the guide channels of the first-named abutments toward and from the abutment at the third side of the container, and means for adjustably securing said clamping member in said guide channels.

6. A container of the character described having a goods supporting floor, abutments at two opposite sides of the container, one of said abutments having an abutment surface inclined to the vertical and the other a vertical abutment surface and each comprising superposed members forming an intervening guide channel, a wedge clamp adapted to be disposed between the abutment having the vertical abutment surface

and the goods to clamp the latter against the inclined abutment surface of the other abutment, an abutment at a third side of the container at right angles to the first-named abutments, a clamping member slidably movable in the guide channels of the first-named abutments toward and from the abutment at the third side of the container, and means for adjustably securing said clamping member in said guide channels.

7. A container of the character described having a goods supporting floor, abutments at two opposite sides of the container provided with guideways, an abutment surface at a third side of the container; a clamping bar movable in said guideways toward and from the abutment at the third side of the container, rack toothed feed bars movable in said guideways, and feed dogs engageable with the movable clamping bar and adjustably engageable with the rack teeth of the feed bars.

8. A container of the character described having a goods supporting floor, abutments at two opposite sides of the container provided with guideways, an abutment surface at a third side of the container, a clamping bar movable in said guideways toward and from the abutment at the third side of the container, rack toothed feed bars movable in said guideways, screw shafts for adjusting the feed bars, and feed dogs engageable with the movable clamping bar and adjustably engageable with the rack teeth of the feed bars.

9. In a shipping container, the combination of a container body having an open front, a closed back and closed sides, abutments at the sides of the container provided with guideways, means cooperating with said abutments for clamping articles of merchandise therebetween, a clamping member at the front of the container, a cooperating clamping member at the rear of the container adjustable toward and from the front clamping member in said guideways, and means accessible from the exterior of the container at the front thereof for adjusting said adjustable clamping member.

10. In a shipping container, the combination of a container body having an open front, a closed back and closed sides, abutments at the closed sides of the container having guideways, means cooperating with said abutments for clamping articles of merchandise therebetween, a clamping member at the front of the container, a cooperating clamping member at the rear of the container movable toward and from the front clamping member in said guideways, means accessible from the exterior of the container at the front thereof for adjusting said adjustable clamping member, and means cooperating with the guideways for locking the adjustable clamping member in adjusted position.

11. In a shipping container, the combination of a container body of generally rectangular form, stationary abutments at two of the opposite sides of the body, one of which is arranged at an angle inclined to the vertical, a wedge clamp for insertion between the other of said abutments and a stack of correspondingly inclined articles of merchandise for clamping said stack wedged against the inclined abutment, relatively stationary and adjustable clamping members at two opposite sides of the container at right angles to the abutments, and means disposed and operable from the exterior of the container and at one side thereof for adjusting said adjustable clamping member.

12. In a shipping container, the combination of a container body, stationary abutments located at two of the opposite sides of the body and provided with guideways, means cooperating with one of said abutments for clamping articles of merchandise between the abutments, relatively stationary and movable clamping members at two opposite sides of the body at right angles to those first-named, said adjustable clamping member being movable in said guideways, means cooperating with the guideways for locking said adjustable clamping member in adjusted position, and means disposed and accessible from the exterior of the container and at one side thereof for adjusting said adjustable clamping member.

13. In a shipping container, the combination

of a container body having a doorway at the front thereof, abutments at the sides of the container having guideways, means cooperating with said abutments for clamping articles of merchandise therebetween, a clamping member at the front of the container, a cooperating clamping member at the rear of the container movable toward and from the front clamping member in said guideways, means accessible from the exterior of the container at the front thereof for adjusting said adjustable clamping member, and means cooperating with the guideways for locking the adjustable clamping member in adjusted position.

GRAHAM C. WOODRUFF. 15