No. 865,538. PATENTED SEPT. 10, 1907.

W. E. SMITH.

SHIPPING CASE.

APPLICATION FILED OCT. 31, 1906.

Fig. 1.

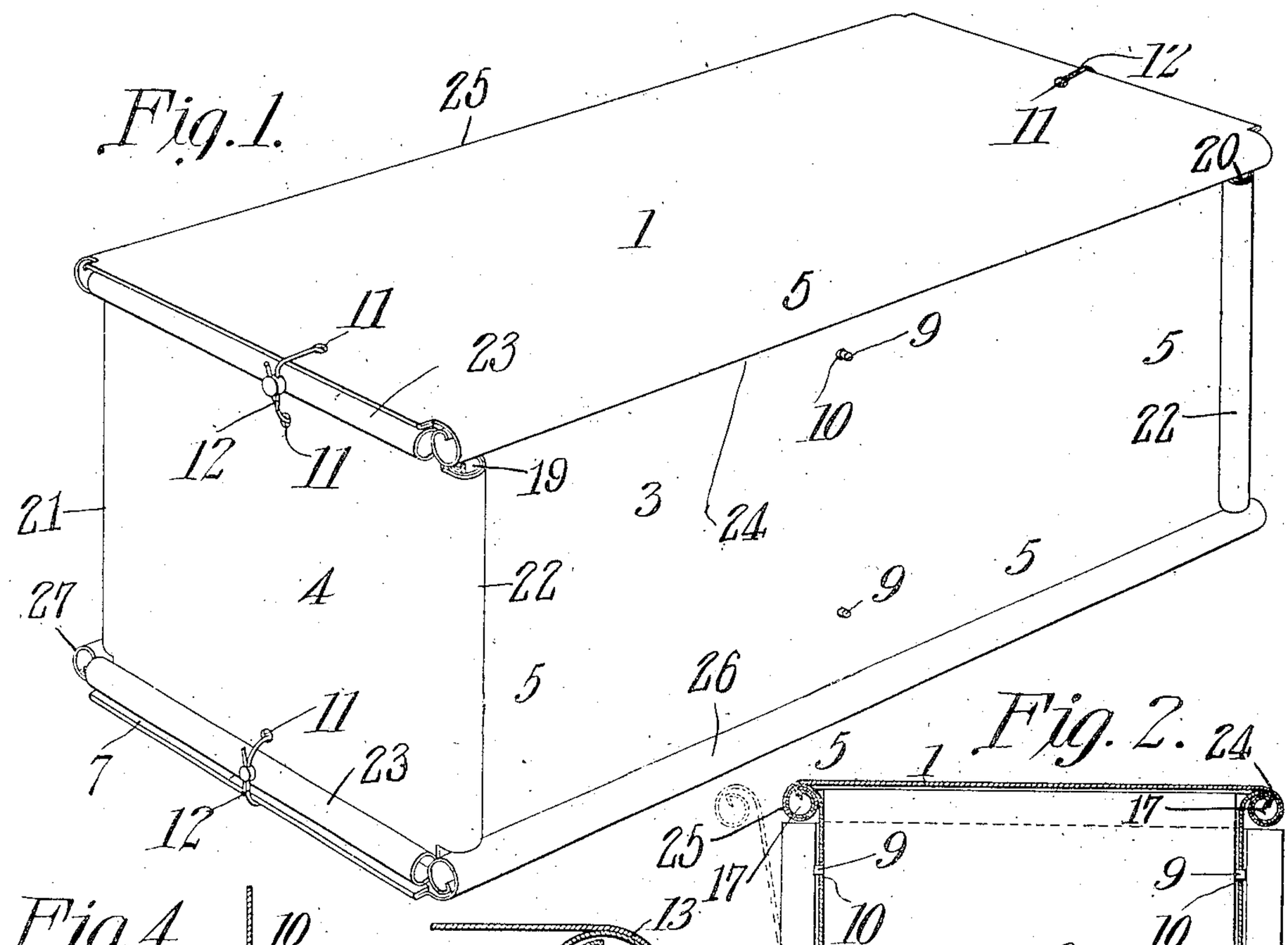

Fig. 4.

Fig. 5.

Fig. 2.

Fig. 3.

WITNESSES:

E. J. Stewart

C. Bradway.

Walter E. Smith INVENTOR

By C. A. Snow & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

WALTER ERNEST SMITH, OF CLAY CENTER, KANSAS.

SHIPPING-CASE.

No. 865,538. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed October 31, 1906. Serial No. 341,465.

To all whom it may concern:

Be it known that I, WALTER ERNEST SMITH, a citizen of the United States, residing at Clay Center, in the county of Clay and State of Kansas, have invented a new and useful Shipping-Case, of which the following is a specification.

This invention relates to a shipping case intended primarily for eggs, although it is not necessarily limited to this use, and it relates more particularly to a knock-down packing and shipping case which is adapted to be taken apart and packed together when the commission agent, merchant, or consumer desires to return it to the poultry farm or producer, so that the cases can be re-shipped at comparatively little expense.

The invention has for one of its objects to provide a shipping case of this character which is preferably made of sheet metal so as to successively stand the comparatively rough handling incident to shipping and to be of long life.

A further object of the invention is to provide a simple, inexpensive and substantial case in which the various parts thereof are connected by joints so constructed and disposed as to greatly reinforce the crate or case and to act as handholds for facilitating the handling of the same and as guards and spacers for protecting the case from juxtaposed objects, so that the latter cannot come in contact with or strike against the sides of the case.

Another object of the invention is the employment of a simple means for removably securing the central partition in the shipping case, so that the parts of the latter can be conveniently disconnected for packing the case for reshipment.

With these objects in view, and others, as will appear as the nature of the invention is better understood, the invention comprises the various novel features of construction and arrangement of parts, which will be more fully described hereinafter, and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention, Figure 1 is a perspective view of the shipping case. Fig. 2 is a transverse section thereof. Fig. 3 is a vertical longitudinal section of the shipping case. Fig. 4 is a detail sectional view of one of the corners. Fig. 5 is a detail sectional view of a portion of the crate showing the modified means for fastening the cover.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

Referring to the drawing, 1 designates the top or cover, 2 the bottom, 3 the sides, and 4 the ends of the case. These several parts are preferably constructed of galvanized sheet iron of suitable gage, and they are so proportioned as to produce a case of substantially the same capacity as egg cases commonly employed in the trade, that is to say, a capacity of thirty dozen of eggs. The parts of the crate are detachably connected by interlocking joints which are connected and disconnected by a relative sliding movement of two adjacent parts. As shown more clearly in Fig. 4, each joint comprises an exterior roll and an interior roll formed on the edges of two adjacent parts, such, for instance, as the bottom 2 and one of the sides 3, as shown in said figure. The exterior rolls are, by preference, though not necessarily on the top 1, bottom 2, and the vertical edges of the end pieces 4, while the interior rolls are on the four edges of each side piece 3. The rolls are made in a suitable rolling machine and are proportioned to snugly fit one in the other by a longitudinal sliding movement of the side 3 with respect to the bottom 2. The roll joints preferably extend the full length and height of the case, so as to perform the threefold function of greatly reinforcing and stiffening the case along the corner edges thereof, of affording handholds whereby the case can be conveniently picked up and carried, or otherwise handled, and of forming guards at the sides and ends of the case for preventing adjacent cases, or other objects, from striking the sides and causing probable breakage of the eggs.

The sides 3 are provided with rolls 17, 18, 19 and 20, the rolls 17 at the top of the sides, the rolls 18 at the bottom, while the rolls 19 and 20 are at the opposite ends thereof. They all curve outwardly from the outer surfaces of the sides. The ends 4 have their vertically extending rolls 21 and 22 bent back along the inner faces thereof while the horizontal rolls 23 are curved outwardly along the outer surfaces of the ends. The top and bottom of the case may be counter-parts and have their side edges formed into rolls, those on the respective side edges of the top, numbered 24 and 25, and those on the bottom 2 numbered 26 and 27, which curve back on the inner surfaces thereof. The end edges 7 are preferably turned back flat so as to reinforce the said edges. In assembling the parts of the case, the bottom rolls 18 of the sides are engaged with the rolls 26—27 of the bottom and the sides slid into proper position. The side rolls 21—22 of the ends 4 are then engaged with the end rolls 19—20 of the sides 3 and the ends 4 slid down until their lower edges strike upon the bottom 2. The sides 3 will thus be locked to the bottom and the ends 4 to the sides. The case can then be filled with the commodities desired to be shipped and the cover 1 will next be placed on the case by engaging the rolls 24—25 thereof with the top rolls 17 of the sides 3. After the rolls are thus engaged, the cover is slid completely on, so that the contents will be ready for shipment. As shown in Figs. 1 and 3, the top and bottom rolls of the ends 4 do not coöperate to form joints between the ends of the top and bottom of the case, but are employed to stiffen the ends 4 and to form handholds and spacers. In adapting the crate for shipping of eggs, a central transverse cushion is employed, and

the eggs are packed in the usual cardboard fillers and horizontal partitions, so that they will be amply protected.

By preference, the partition 8 is constructed of wood and the ends are provided with lugs 9 which engage in openings 10 in the sides 3 of the case. By means of these lugs, the partition 8 is held in a central transverse position. The partition is mounted in the case after the sides 3 are placed on the bottom and before the ends 4 are assembled on the sides. This permits the sides to be swung outwardly to the dotted line position shown in Fig. 2, so that the partition can be adjusted on the bottom 2 with the lugs 9 in alinement with the openings 10. After the partition is so placed, the sides 3 are moved inwardly to the vertical position to interlock the lugs in the openings. The ends 4 are then secured to the sides 3, so that the latter are held in the vertical position shown. It will thus be seen that not only the partition, but the several parts of the case are secured in place without the necessity of nails, screws or other fastenings. By reason of this fact, the case can be set up or taken apart with great facility.

The frictional engagement of the rolls of the top and bottom with the rolls of the sides may be found sufficient to hold the top and bottom in fixed position with respect to the body of the case. In the event that it is not desirable to hold the parts in place by such a frictional engagement, the top and bottom and ends are provided with apertures 11 near their adjacent edges through which suitable fastenings, such as wires 12, can be inserted for holding the top and bottom in place.

It may be found desirable in some instances to employ a hinge cover, instead of a slide cover such as that shown in Fig. 1. For this purpose, the cover is provided with a roll at one side similar to one of the rolls of the cover 1, and the cover is attached at one edge by means of its roll sliding into the roll of the adjacent side 3. Such a roll joint, besides permitting the cover to be readily attached or detached, also permits of the cover being swung open or closed. The free edge of the cover is indicated at 13 in Fig. 5, and it is curved downwardly so as to snugly fit against the top roll of the adjacent side 3. The edge 13 is provided with a hingedly connected hasp 14 which engages over an eye or loop 15 on the adjacent side 3 of the case, and the cover can be locked closed by means of a suitable lock, such as 16.

I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, but I desire to have it understood that the apparatus shown is merely illustrative, and that various changes may be made, when desired, as are within the scope of the invention.

What is claimed is:—

A knockdown shipping case of sheet metal comprising a bottom plate provided with rolls on its side edges, side plates each having rolls on all of its edges, the rolls on the lower edges interlocking with and having a hinged connection with rolls on the bottom plate, a partition plate provided with pins on each side edge adapted to engage registering openings in said plates only after the latter plates have first swung outwardly, end plates each having rolls on its side edges to interlock with similar rolls on said side plates and top and bottom rolls to form hand holds or grips, and a top sheet having side rolls adapted to interlock with the upper rolls on the aforesaid side sheets and flat ends extending over the top rolls of the end sheets.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WALTER ERNEST SMITH.

Witnesses:
E. E. VINCENT,
WALLACE H. VINCENT.