F. STANDIFORD.

FOLDING EGG CRATE.

APPLICATION FILED SEPT. 18, 1916.

1,230,336.

Patented June 19, 1917.

2 SHEETS—SHEET 1.

Fig. 1

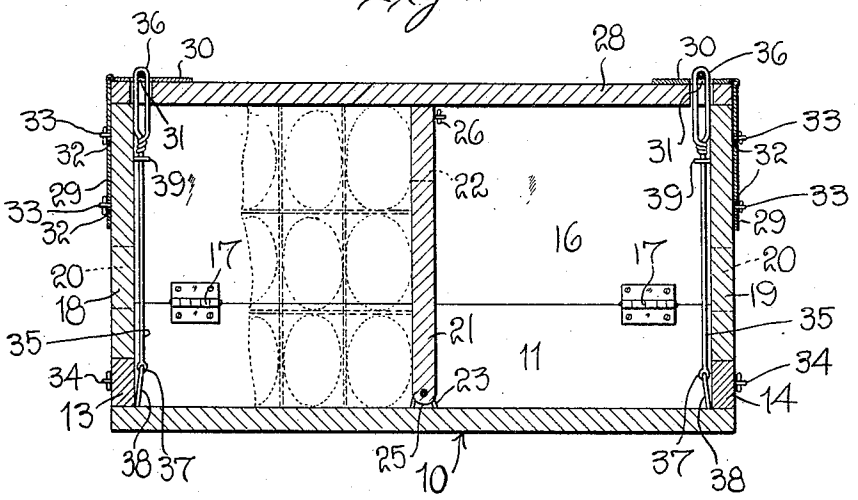
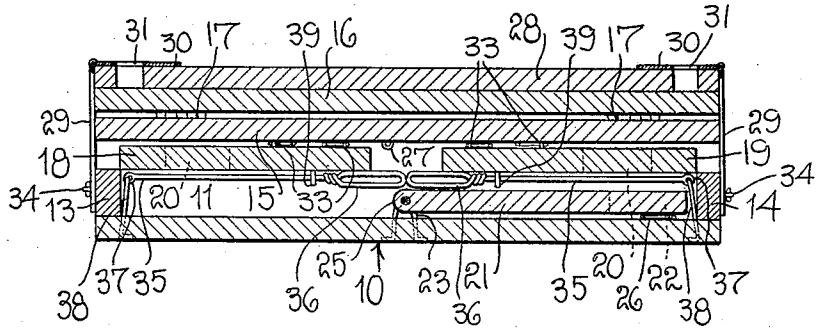


Fig. 2



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Fig. 3

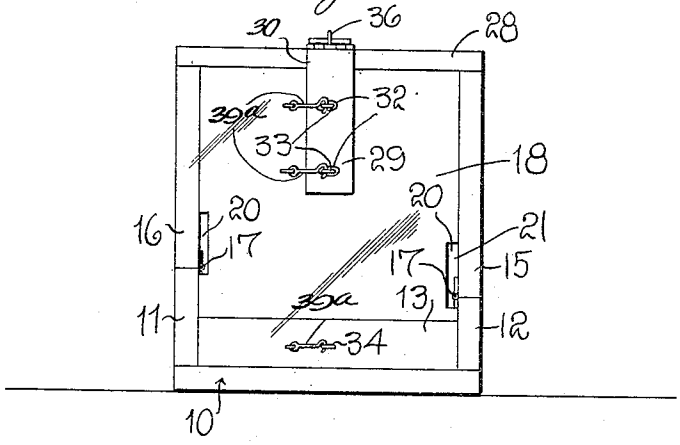


Fig. 4

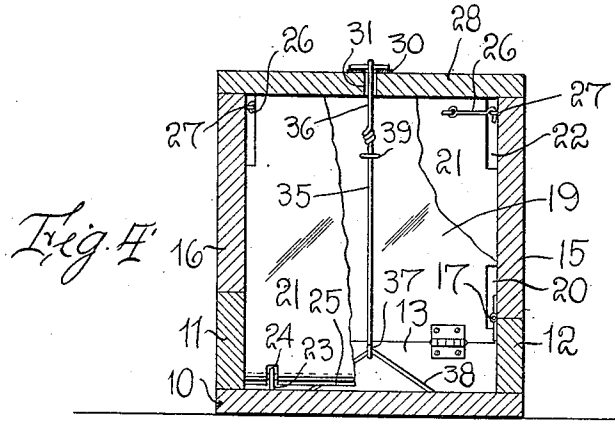
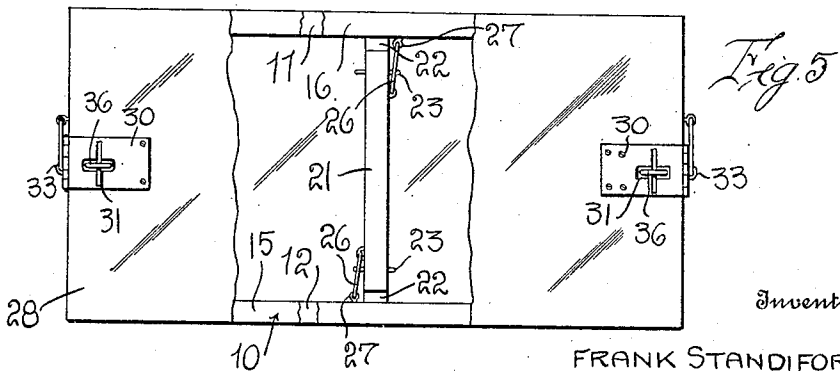


Fig. 5



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UNITED STATES PATENT OFFICE.

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FOLDING EGG-CRATE.

1,230,336. Specification of Letters Patent. Patented June 19, 1917.

Application filed September 18, 1916. Serial No. 120,862.

To all whom it may concern:

Be it known that I, FRANK STANDIFORD, a citizen of the United States, residing at Livermore, in the county of Alameda and State of California, have invented certain new and useful Improvements in Folding Egg-Crates, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to collapsible crates or boxes and particularly to a crate or box of this description particularly designed for the transportation of eggs and so constructed that it may be folded into very compact form for return when empty.

The general object of my invention is the provision of a very simply constructed and, therefore, cheap crate which is thoroughly substantial and which may be folded into small compass with very little trouble or set up with an equally small amount of labor.

A further object is to so construct the box or crate that narrow lumber may be used to form the crate or box, thus reducing the cost of material and compensating for the increased labor in making this folding box over the ordinary non-folding egg box.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a crate constructed in accordance with my invention;

Fig. 2 is a like view showing the crate folded;

Fig. 3 is an end elevation of the crate set up;

Fig. 4 is a vertical sectional view; and

Fig. 5 is a top plan view with the cover partly broken away.

Referring to these figures it will be seen that my box comprises a bottom 10 having upwardly extending side pieces 11 and 12 which are rigidly secured to the bottom and upwardly extending end sections 13 and 14 which are rigidly secured to the bottom. Hinged to the side piece 12 is the side 15 and hinged to the side piece 11 is the side 16. It will be seen from Fig. 4 that the side piece 11 is slightly higher than the side piece 12 for a purpose which will be hereafter stated. The sides 15 and 16 are hinged to the portions 11 and 12 by means of hinges 17 of any usual or suitable construction.

Hinged to the sections 13 and 14 are end pieces 18 and 19 which are cut away at 20 so as to pass the hinges 17 and also to afford ventilation.

Hingedly connected to the bottom 10 and disposed approximately at the middle of the bottom is the partition 21 which is cut away at 22 so that it may pass the hinges 17. This partition 21 is connected to the bottom by a peculiar form of hinge illustrated in Fig. 1 and comprising wires 23, each wire being upwardly bowed, the ends of the wires being extended through the bottom and clenched, the partition 21 being formed adjacent its ends with the arcuate passages 24 through which the wires 23 pass. The lower edge of the partition is of course rounded off as at 25 so as to permit the partition to rotate in a vertical plane. This construction permits the partition to lie flat down on the bottom when the case is folded. The upper end of the partition carries the hooks 26 which engage with staples 27 attached to the sides 15 and 16 adjacent the upper edges of these sides.

The cover of the box is designated 28. This has the same area as the bottom and attached to the cover at opposite ends thereof are the hasps 29, each hasp being hinged to a base plate 30 attached to the cover in any suitable manner and formed with a longitudinally extending slot 31, the cover being correspondingly slotted. The hasp is provided with one or a plurality of perforations 32 for the reception of staples 33 and 34, the staples 34 being attached to the end pieces 13 and 14 while the staples 33 are attached to the ends 18 and 19.

For the purpose of strengthening the case when filled and for taking the weight of the case from the end hinges, I provide the vertically extending rods 35 which at their upper ends are each formed to provide an elongated loop 36. At their lower ends each of the rods is formed to provide a loop 37 which is disposed at the junction of the end piece 18 or 19 with the end piece 13 or 14 and extending up from the bottom edges inward of the ends 13 and 14 are the retaining loops 38 whose ends are extended

through the bottom and clenched. Each of the rods 35 is guided adjacent its upper end through an eye 39 formed of wire, the ends of which are inserted through the side pieces 18 or 19 as the case may be and clenched. The rods 35 are of such length that the loops 36 will project above the end pieces 18 or 19 and above the cover when the latter is in place and the loops are disposed through the slots 31 of the cover and hasp. It will be seen that by this construction, the bottom of the box is connected to the cover of the box or crate by means of the rods 35 and the loops 38 so that the bottom is positively supported from the top of the box and thus in handling the crate the strain does not come all upon the hinges connecting the parts 18 and 19 to the parts 13 and 14, nor upon the hasps 32 and their hinges 33. These boxes or crates are ordinarily roughly handled and it is desirable to take the strain from these hinges as much as possible. Transversely extending pins are disposed through the eyes 36 across the slots 31. Hooks 39ª are mounted upon the end pieces 18 and 19 so as to engage the hasps with the eyes 33 and 34 in the manner illustrated in Fig. 3.

The practical use of my invention will be obvious from what has gone before. In the knocked down condition of the box the partition 21 lies flat upon the bottom. The end 19 is turned over the partition to rest upon the top thereof, while the end 18 extends horizontally but in spaced relation to the bottom so that fillers or egg holders may be disposed between the bottom and the end piece 18. The side 15 is turned over upon the end pieces and then the side 16 is turned over upon the side 15. The cover is then disposed on top of the side 16 and the hasps are turned down and engaged with the eyes 34 by means of the hooks 39ª or by other suitable means, as for instance small padlocks. When the box or case is filled, ventilation is provided through the openings 20 and this is particularly desirable for a commodity such as eggs. The eggs may be kept in cold storage in these boxes or cases and will not be liable to become spoiled or deteriorated because of these openings through which the cold air may gain the interior of the box, thus keeping the eggs in good condition. The top and bottom may be made of two or more boards attached to each other in any suitable manner and the rest of the crate can be made of relatively narrow strips of material. The crate may be made of relatively thin lumber so as to be light and decrease the cost.

Having described my invention, what I claim is:

1. A folding egg box comprising a bottom having oppositely disposed relatively rigid side sections, one of said side sections being taller than the other, relatively rigid end sections extending upward from the bottom, side sections hingedly connected to the first named side sections, end sections hingedly connected to the first named end sections, a partition hingedly connected to the bottom and adapted to be turned up to space the side sections from each other and divide the box, a cover having hasps on its extremities, members carried by the hinged end sections adapted to engage said cover when the hinged end sections are turned to a vertical position to thereby connect the cover to the bottom of the box, and means on the hinged end sections engaging said hasps.

2. In a folding crate, a bottom, sides and ends, the ends being hinged so as to be turned into a vertical position or moved into a horizontal position, wire loops extending upward from the bottom, vertically disposed wire rods mounted upon the end sections and having their lower ends each connected to one of said loops, the upper end of each rod being formed with a vertically disposed elongated loop projecting above the top of the box and adapted to receive a transverse pin, a cover to said box having slots through which said loops project, and hasps on the extremities of the cover engageable with eyes on the ends of the box.

3. In a folding crate, bottom, sides and ends, the sides and ends being hingedly connected to the bottom so as to be folded inward upon the bottom, a cover, means for detachably engaging the cover with the end sections when the latter are turned to a vertical position, and means disposed inward of the ends detachably engaging the cover with the bottom of the box when the end sections are turned to said vertical position to thereby relieve the strain on the end members, said means being foldable inward onto the bottom of the box when the end sections are folded inward parallel to the bottom.

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

FRANK STANDIFORD.

Witnesses:
GEO. W. MCKENZIE,
H. M. LEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."