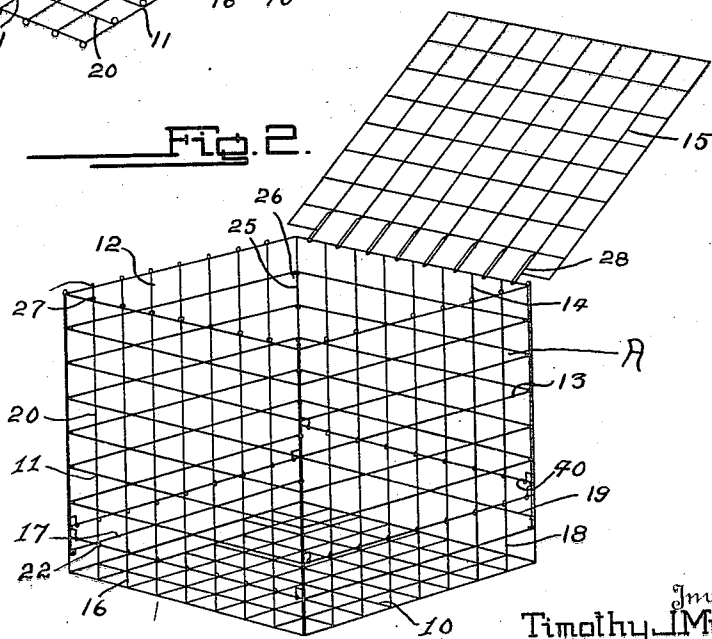
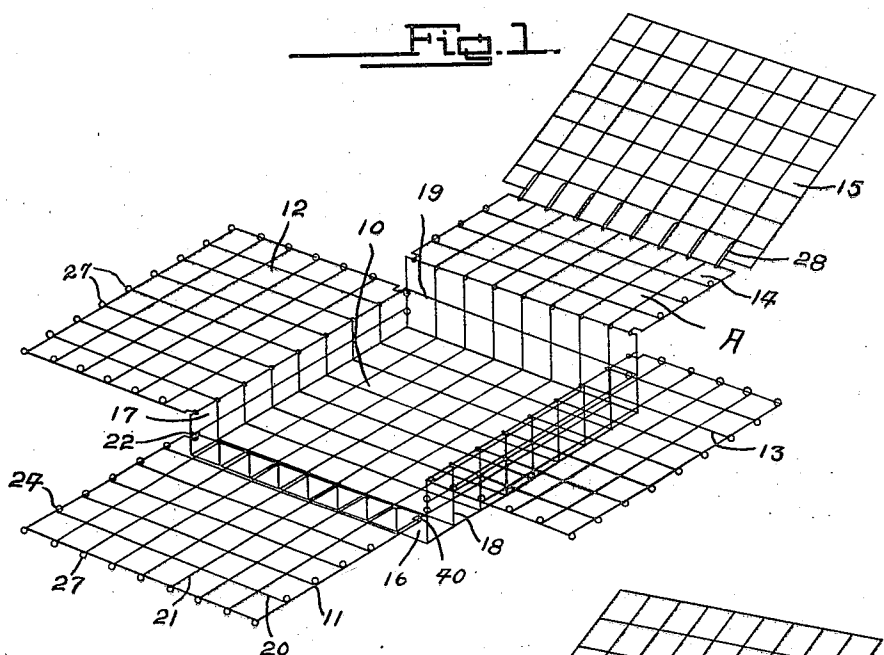


Jan. 30, 1923.

1,443,901.

T. J. MURRAY.
FOLDING WIRE GRATE OR CONTAINER.
FILED SEPT. 23, 1920.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

Fig. 3.

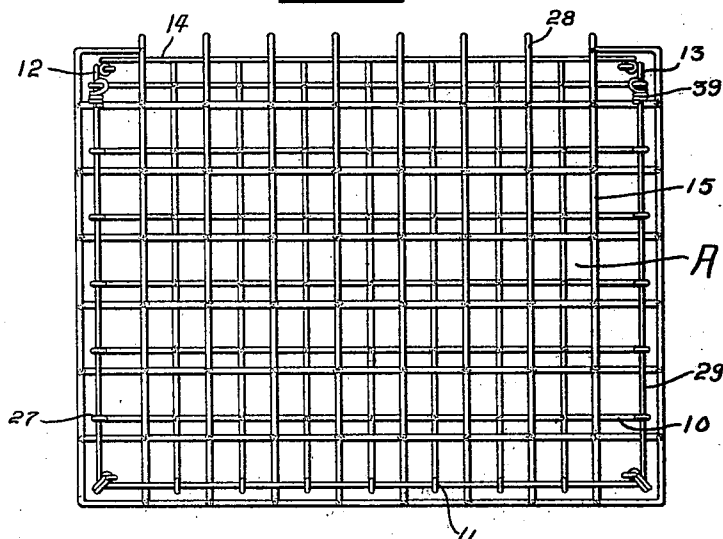


Fig. 6.

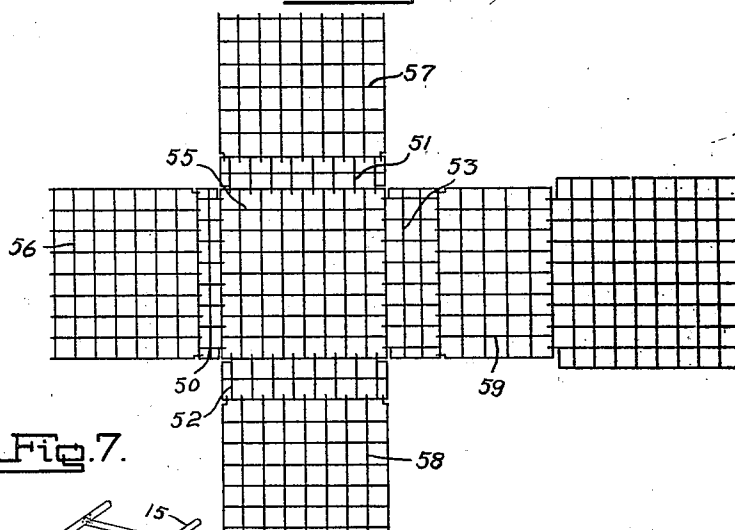
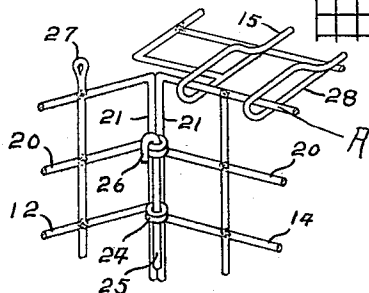


Fig. 7.



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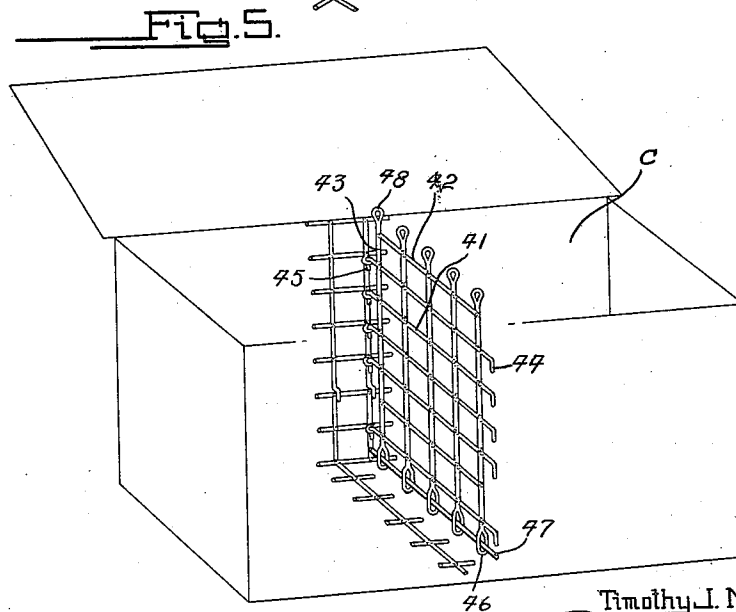
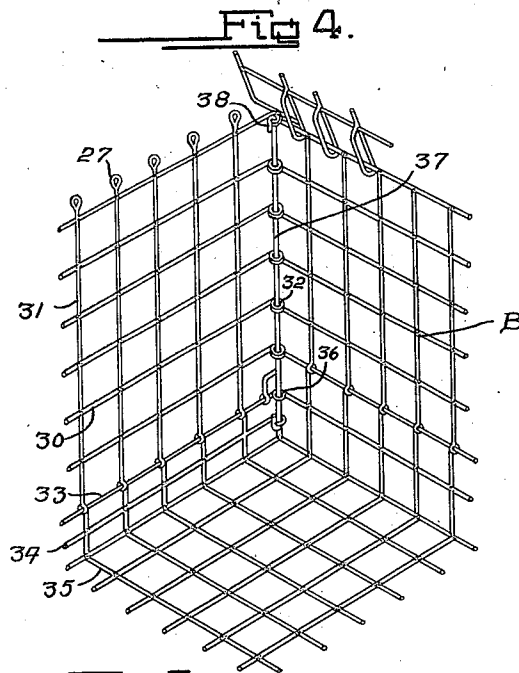
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T. J. MURRAY.
FOLDING WIRE CRATE OR CONTAINER.
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

TIMOTHY J. MURRAY, OF COVINGTON, INDIANA.

FOLDING WIRE CRATE OR CONTAINER.

Application filed September 23, 1920. Serial No. 412,165.

To all whom it may concern:

Be it known that I, TIMOTHY J. MURRAY, a citizen of the United States, residing at Covington, in the county of Fountain and State of Indiana, have invented certain new and useful Improvements in Folding Wire Crates or Containers, of which the following is a specification.

This invention relates to shipping crates and the like, and the primary object of the invention is to provide an improved collapsible and folding crate which can be readily knocked down for shipping or storage, and which is constructed of wire so as to reduce the weight thereof and eliminate the use of wood, which is both expensive and hard to obtain.

Another object of the invention is to provide a durable knock down crate, which will be simple and cheap to manufacture, and which can be easily and quickly set up or knocked down by the ordinary layman.

A further object of the invention is to provide an improved means for forming the wire crate, so as to permit the sides to be connected against collapsing, and to provide an improved means for securing the top to the sides, so as to further prevent collapsing of the sides and to hold the lid or cover against displacement.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, forming a part of this specification, in which:

Figure 1 is a perspective view of the improved shipping crate illustrating the same in its open position prior to being set up for use.

Figure 2 is a perspective view of the crate set up ready for use.

Figure 3 is a top plan view of the crate illustrating the means of connecting the top to the sides so as to prevent collapsing of the sides and the opening of the crate top.

Figure 4 is a fragmentary detail perspective view looking into the crate illustrating one means of connecting the side walls of the crate together.

Figure 5 is a fragmentary detail perspective view illustrating a crate having a central partition incorporated therewith.

Figure 6 is a top plan view of a modified

form of the crate, showing the same in its extended or open position prior to being set up.

Figure 7 is a fragmentary detail perspective view looking into the interior of the crate illustrating the means of connecting the side walls of the crate together of the form illustrated in Figures 1 and 2.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A indicates a shipping crate, which is preferably formed of wire of any desired gauge. The wire mesh from which the crate or container is to be made can be constructed or formed in any preferred manner, either by weaving the strands of wire together or by connecting the strands by solder or the like.

The improved crate A, as shown, includes the bottom wall 10, the front wall 11, the side walls 12 and 13, the rear wall 14 and the top wall or cover 15. As shown in Figures 1 and 2 the bottom wall 10 has its marginal edges bent up to provide flanges 16, 17, 18 and 19. These flanges 16, 17, 18 and 19 are arranged in stepped relation, i. e., each one is formed relatively higher than the other, so as to permit the easy folding of the walls one upon the other, without the interference with one another. Each of the walls of the crate includes spaced parallel horizontal strands 20 and vertically disposed strands 21. The lowermost terminals of the vertical strands 21 are provided with eyes 22 which receive the uppermost wires or strands of the flanges 16, 17, 18 and 19 and form the pivots for the walls. The side edges of the walls 11, 12, 13 and 14 have formed on the horizontal parallel strands 20, eyes 24 which are adapted to align with each other when the walls are placed in their upright positions. The aligned eyes 24 are adapted to receive stay wires or rods 25 and the terminals of these rods or wires may be bent or turned inwardly as at 26 so as to prevent the accidental displacement thereof. Owing to the fact that the corner wires of the walls 11, 12, 13 and 14 are positioned relatively close together, the wires or rods 25 will be relatively hard to get to from the outside of the crate when the lid or top wall 15 is closed, thereby preventing easy entrance of unauthorized persons into the crate.

As shown in Figure 4 of the drawings, a

crate B is provided in which the horizontal strands 30 of the side walls are continued beyond the vertical strands 31 thereof, and these horizontally disposed strands have eyes 32 formed thereon, which are adapted to align with the eyes on the adjacent walls of the crate when the walls are in their vertical upright position. In this form the horizontally disposed wires or strands 33 of the upturned flanges 34 formed on the bottom wall 35 have the terminals thereof provided with eyes 36 which are adapted to align with the eyes 32. The stay rods or wires 37 in this form is adapted to not only be inserted through the eyes 32 but also through the eyes 36. This firmly holds the walls in their upright position against accidental displacement. The terminals of the wires or corner rods 37 are in this form inturned as at 38 to prevent the accidental displacement thereof. Returning to the description of Figures 1 and 2 of the drawings, it is to be noted that the upper terminals of the vertically disposed strands or wires 21 are provided with eyes 27, which are adapted to protrude through the cover 15.

The cover 15 is formed relatively large and has the ends thereof adjacent to the rear wall 14 provided with elongated eyes 28 which are slidably mounted on the uppermost strand of the rear wall 14. This permits fitting of the top wall or cover on the top of the crate to permit of the ready positioning of the eyes 27 therethrough. After the eyes 27 have been positioned between the upper wall or cover 15 of the crate, a bendable wire or cable 29 is threaded therethrough, as clearly shown in Figure 3 of the drawings, and the terminals of this cable may be twisted as at 39 to prevent the accidental displacement thereof. If so desired, a seal (not shown) may be used for connecting the wire 29 to the eyes against removal by unauthorized persons.

The lower corners of each of the walls 11, 12, 13 and 14 may be offset inwardly as at 40 so as to prevent the engagement of these walls with the corner eyes formed on the adjacent walls. This also permits sufficient shifting of the walls to facilitate the easy setting up of the crate.

In Figure 5 is illustrated a crate C which is of substantially elongated oblong form and this crate is constructed exactly like the form shown in Figures 1 and 2, with the exception that a central partition 41 is provided for dividing the crate into compartments, which is sometimes desirable in the shipping of vegetables, fruit and the like. The partition 41 extends transversely across the crate body and includes the horizontally disposed wires or strands 42 and vertically disposed strands or wires 43. The terminals of the horizontally disposed strands or

wires 42 are provided with hooked terminals 44 which are adapted to engage eyes 45 formed for that purpose on the front and rear walls of the crate. The lower ends of the vertically disposed strands or wires 43 are provided with elongated eyes 46 which receive a transversely extending wire 47 carried by the crate body for this purpose. The provision of the elongated eyes 46 permits the partition 41 to be raised or lowered so as to position the hooked terminals 44 in the eyes 45. The uppermost terminals of the vertically disposed wires or strands 43 are provided with eyes 48 which are adapted to protrude through the cover of the crate and a suitable wire (not shown) is adapted to be threaded through these eyes so as to hold the partition against movement.

In Figure 6 is shown a slightly modified form of the crate, in which the side pieces 50, 51, 52, and 53 are hingedly connected to the marginal edges of the bottom wall 55, and these pieces are used in the place of the upstanding flanges 16, 17, 18 and 19 formed on the body wall 10 of the crate illustrated in Figures 1 and 2. The walls 56, 57, 58, and 59 of the crate are hinged to these side pieces, and it can be seen that this provides a double hinge for each of the side walls. This permits the crate to be knocked down in a relatively flat formation and permits a number to be baled together for shipping or storage. When a number of the crates are to be baled together for shipping or storage, it is merely necessary to turn in the side walls 57 and 58 if so desired and connect the crates together in elongated formation.

In collapsing the crate, as shown in Figures 1 and 2, the front wall 11 is first folded inwardly and then the side wall 12 after which the side walls 13, and then the rear wall 14 and its cover 15. This provides a compact structure, and if so desired, the stay wires may be placed below the front wall 11. When the crate is being returned to the original shipper, the stay wires can be either thrown away or returned as may be desired, but it is to be understood that owing to the low cost of these wires that the return of the same is not essential.

From the foregoing description it can be seen that a wire crate has been provided, which can be easily kept clean, manufactured at a small cost and easily and quickly repaired without the aid of skilled mechanics and which can be returned to the original shipper at a minimum amount of cost.

Changes in details may be made without departing from the spirit or scope of this invention; but,

I claim:

1. A knock down wire container comprising a bottom wall, side pieces hingedly car-

ried by the bottom wall and adapted to extend at various heights from the bottom wall, side walls hingedly carried by the upper edges of the side pieces, means for connecting the adjacent side edges and the side walls together, a top wall hingedly and slidably connected to the top edge of one of the side walls, the sliding connection permitting the top wall to be shifted laterally as well as forwardly and rearwardly of the side walls, and means for connecting the top wall to the side walls when the container is in its set up position.

2. In a knock down wire container, a bottom wall, end, front and rear walls hingedly and slidably carried by the bottom wall, means for connecting the meeting edges of the walls together when the walls are in their upright positions, a top wall hingedly and slidably carried by the rear wall arranged to overlie the upper edges of the front and end walls when the same are in their upright positions, and means for connecting the top wall with the front and side walls.

3. In a knock down wire container, a bottom section, end, front and rear walls hingedly carried by the bottom section, means for connecting the meeting edges of the side walls together when in their upright position, a top wall hingedly and slidably carried by the upper edge of the rear wall for lateral and longitudinal shifting movement, the top wall being adapted to overlie the other walls when the same are in their upright positions, upstanding eyes formed on the upper edges of the front and end walls arranged to project through the top wall, and a removable stay wire arranged through the eyes of the front and end walls for engaging the upper surface of the top wall, and means for preventing the accidental movement of said stay wire.

4. In a knock down wire crate, a bottom wall, side walls hingedly carried by the bottom wall, a top wall hingedly carried by one of the side walls, a partition arranged in the crate, inwardly extending eyes car-

ried by certain of the side walls, hooks formed on the sides of the partition arranged to engage in said eyes, and means hingedly and slidably connecting the bottom edge of the partition with the bottom wall for permitting the engagement of the hooks carried by the partition with the eyes carried by the side walls.

5. In a knock down wire crate, a bottom wall, side walls hingedly carried by the bottom wall, a top wall hingedly carried by one of the side walls, a partition arranged in the crate, inwardly extending eyes carried by the inner surface of certain of the side walls, downturned hooks carried by the side edges of the partition arranged to removably engage said eyes, elongated eyes formed on the lower edge of the partition arranged to hingedly and slidably engage the bottom wall to permit the ready positioning of the hooks into said eyes, upwardly extending eyes formed on the upper edge of the partition and arranged to project through the top wall, and a stay rod arranged to extend through said upwardly extending eyes formed on the partition and arranged to engage the upper surface of the cover.

6. In a knock down wire container, a bottom wall, side walls carried by the bottom wall, each of the side walls including vertical and horizontally disposed strands of wires, the terminals of the horizontally disposed strands of wires being provided with right angularly extending eyes, the eyes being arranged in abutting relation to the end vertical strands of wires, the eyes being adapted to align when the side walls are in their set up position, stay wires removably fitted in said eyes and arranged to engage the inner surface of the end vertically disposed strands of wires whereby accidental displacement of the stay wires will be prevented, a top wall, and elongated loops carried by the top wall arranged to slidably and hingedly engage the upper edge of one of the side walls.

TIMOTHY J. MURRAY.