

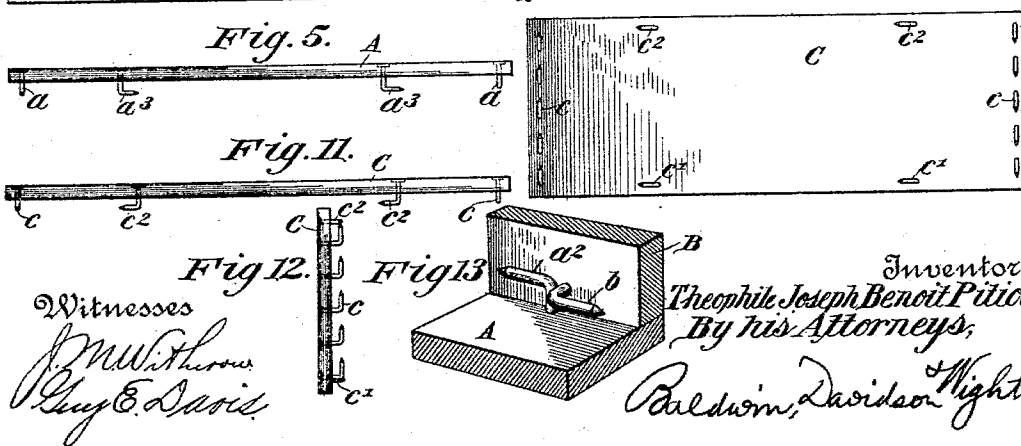
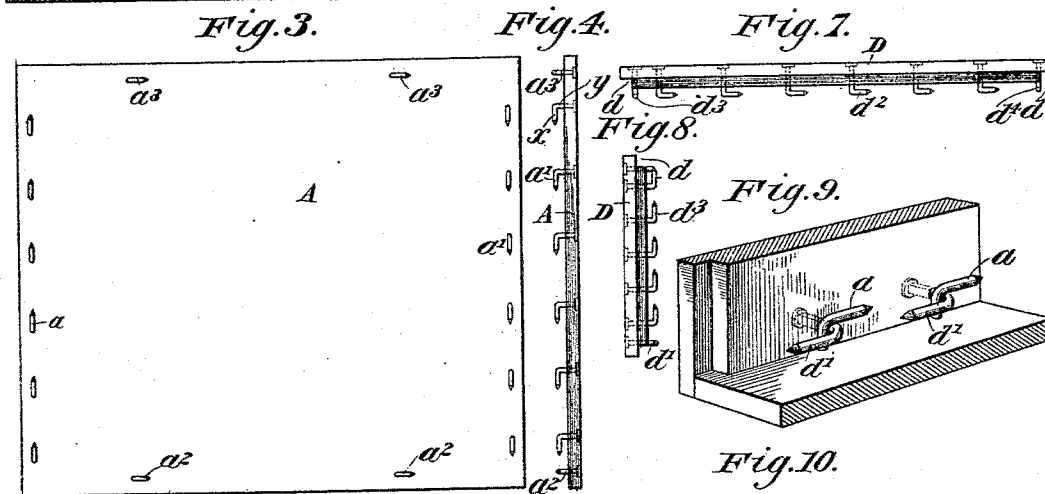
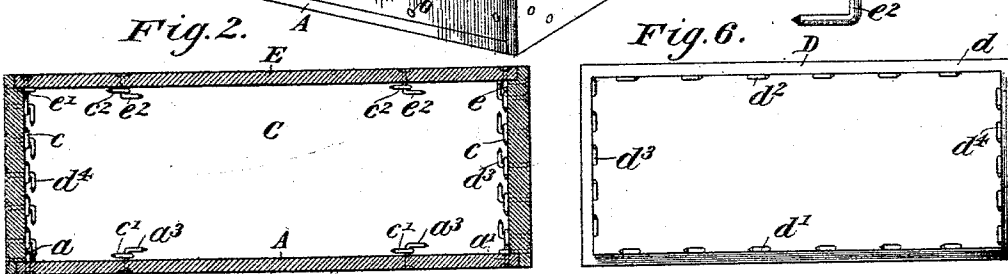
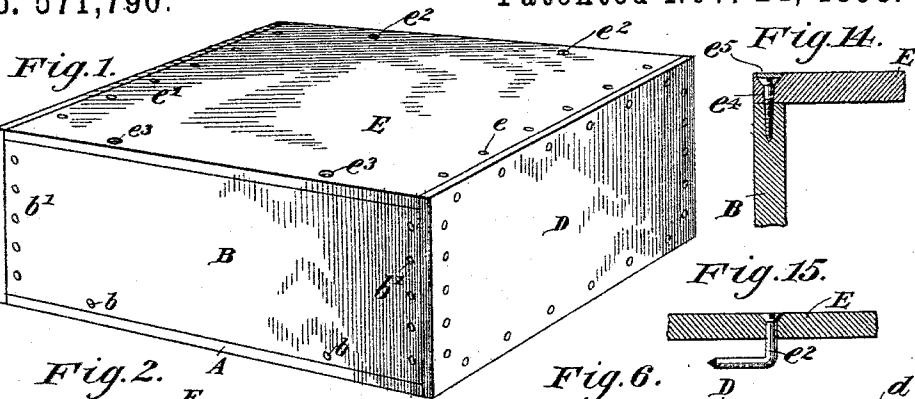
(No Model.)

2 Sheets—Sheet 1.

T. J. B. PITIOT.
KNOCKDOWN BOX.

No. 571,790.

Patented Nov. 24, 1896.



(No Model.)

2 Sheets—Sheet 2.

T. J. B. PITIOT.
KNOCKDOWN BOX.

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Fig. 16.

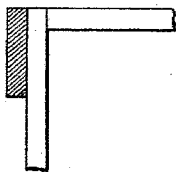


Fig. 17.

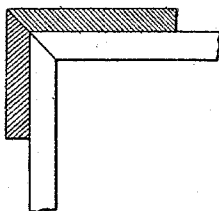


Fig. 18.

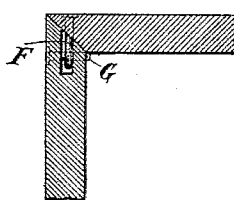


Fig. 19.

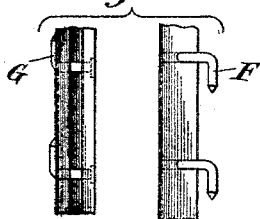


Fig. 20.

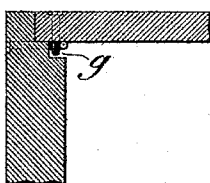


Fig. 21.

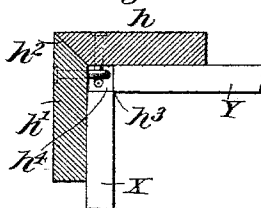


Fig. 22.

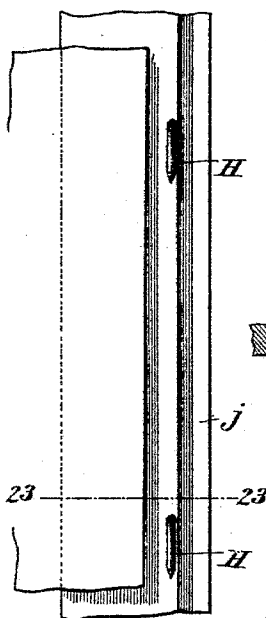


Fig. 24.

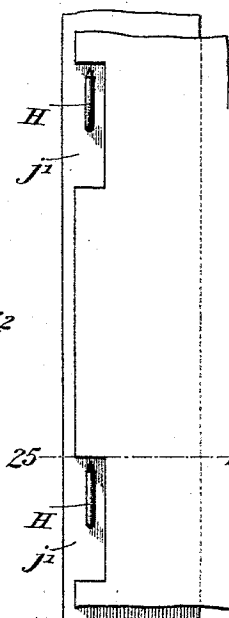


Fig. 23.

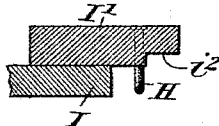


Fig. 25.

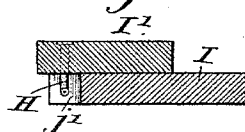
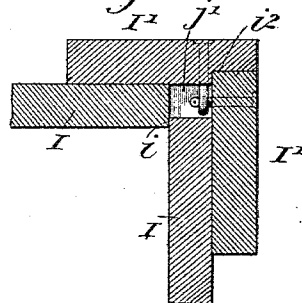


Fig. 26.



Witnesses

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UNITED STATES PATENT OFFICE.

THEOPHILE J. B. PITIOT, OF MARSEILLES, FRANCE.

KNOCKDOWN BOX.

SPECIFICATION forming part of Letters Patent No. 571,790, dated November 24, 1896.

Application filed April 3, 1896. Serial No. 586,052. (No model.) Patented in France August 7, 1895, No. 249,377.

To all whom it may concern:

Be it known that I, THEOPHILE JOSEPH BENOIT PITIOT, a citizen of the Republic of France, residing in Marseilles, France, have
5 invented certain new and useful Improvements in Knockdown Boxes, (for which I have received Letters Patent in France, No. 249,377, dated August 7, 1895,) of which the following is a specification.

10 My invention relates to that class of boxes known as "knockdown" boxes, which are adapted to be readily taken apart and folded or reduced to a compact form and size and which may as readily be set up for use.

15 According to my invention I provide the several sections of the box with hooks, arranged in an improved manner and adapted to interlock and securely hold the parts of the box together, and yet permit of their ready
20 separation to be packed in a compact form.

My improvements may be applied to boxes, cases, and receptacles of various forms, some of which are shown in the accompanying drawings, in which—

25 Figure 1 shows a perspective view of a plain rectangular box with the parts assembled and secured by my improved fastening devices. Fig. 2 shows a longitudinal central section of the same; Fig. 3, a top plan view of the bot-
30 tom piece; Fig. 4, a view of the side edge of the bottom; Fig. 5, a view of the front edge of the bottom. Fig. 6 shows an inside view of one of the side pieces; Fig. 7, a view of the top edge of one of the side pieces; Fig. 8, an
35 end view of the same. Fig. 9 is a detail view in perspective, showing the manner of connecting one of the side pieces with the bottom. Fig. 10 is an inside view of the back piece. Fig. 11 is a view of the top edge of the back
40 piece. Fig. 12 is a view of one end of the back piece. Fig. 13 is a detail view showing the manner of connecting the top with the back piece. Fig. 14 shows the manner of securing the top to the front piece by screws.
45 Fig. 15 shows one of the hooks on the top piece. Fig. 16 shows the corner of a box having a batten on one side. Fig. 17 shows the corner of a box having two battens at the corner. Fig. 18 shows the corner of a box
50 with the adjacent sections mitered at their edges and joined by hooks arranged in re-

cesses. Fig. 19 is a detail view showing the arrangement of the hooks in adjacent box-sections. Fig. 20 shows a modified way of
connecting two box-sections where the hooks 55 are arranged in recesses. Fig. 21 shows the manner of connecting adjacent box-sections where battens are used and the hooks are arranged in recesses. Fig. 22 shows another
60 modification where the box-sections are provided with battens and where the hooks are arranged in recesses. Fig. 23 shows a transverse section on the line 23 23 of Fig. 22. Fig. 24 shows a box-section adapted to engage
65 with a box-section such as shown in Fig. 22. Fig. 25 shows a transverse section on the line 25 25 of Fig. 24. Fig. 26 shows a transverse section through two sections of a box constructed as indicated in Figs. 22 and 24 with
70 the hooks joined.

Referring to Figs. 1 to 15, inclusive, the
bottom A of the box is provided at one side
edge with a row of hooks a , and at its opposite
side edge is provided with another series
75 of hooks a' , pointing in the opposite direction. At its front edge the bottom is provided with two hooks a^2 and at its rear edge
with two similar hooks a^3 . Each of the hooks
80 a and a' is driven through the bottom and is provided with a square shank or other suitable locking device to keep it from turning. The part x of the hook is arranged at right
angles with the part y . The front piece B is
provided with two hooks b , adapted to engage
85 with the hooks a^2 , and at each opposite end the front piece is provided with a vertical row of hooks b' . The back piece C is provided
with two vertical rows of hooks c at opposite
90 ends. At the bottom are arranged two hooks c' and at the top two hooks c^2 .

It will be observed that the hooks c at opposite
ends of the back piece point in opposite
directions. Each side piece D is rabbeted
around its edge, as indicated at d , to
95 receive the ends of the other section of the box. Each end piece is provided at the bottom with a series of hooks d' at the edge of
the rabbet, and at the top with a series of
hooks d^2 , pointing in the opposite direction.
At one end each side piece is provided with a
100 series of hooks d^3 , and at the opposite end with a series of hooks d^4 , pointing in the op-

posite direction. The top E has a series of hooks e on one edge adapted to engage with the hooks d^2 at the top of one side piece, and it also has a series of hooks e' , adapted to engage with the hooks d^2 on the other side piece. At the back end of the top piece I provide two hooks e^2 of the construction shown in Fig. 15, which are adapted to be turned to bring them into engagement with the hooks c^2 of the back piece. At its front edge the top piece is provided with two holes e^3 to receive screws e^4 , as indicated in Fig. 14. All of the hooks are stationary except the hooks e^2 and the hooks b and c' , which are adapted to turn in the manner indicated in Fig. 15.

The box-sections are so arranged as to fit together snugly, and the hooks are so arranged as to interlock in such manner as to hold the parts tightly together. In assembling the box-sections the side pieces D are first connected with the bottom A. This may be done by sliding the side pieces D along the edges of the bottom piece A until the hooks d' engage with the hooks a and a' . Then the front piece may be moved vertically to cause the hooks b' to engage with the hooks d^4 , and the back piece may be secured to the side pieces in a similar way.

The top or cover E is connected with the hooks d^2 in the side pieces D by sliding the top transversely, and then the hooks e^2 are turned to cause them to engage with the hooks c^2 on the back piece. Finally the screws e^4 are inserted at e^3 .

If it is desired to seal the box, the heads of the screws e^4 may be countersunk and sealing-wax or the like may be inserted in recesses, as indicated at e^5 . The sealing-wax may be protected, if desired, in any suitable way.

When the boxes are very large, straps, hoops, or the like may be applied in the usual way; but as these hoops, &c., form no part of my invention they are not illustrated.

In taking down the box the screws e^4 are first removed and the hooks e^2 separated from the hooks c^2 . Then the front and back pieces may be taken away. This will leave the two side pieces standing, and the box may be unpacked without entirely dismantling the case; but the side pieces D may be readily separated and then all the parts may be conveniently packed for transportation or storing.

Figs. 16 to 26, inclusive, show some modifications.

In Fig. 18 the box-sections are shown as mitered, and the hooks are arranged in the mitered edges of the sections. These sections are grooved, as shown in Fig. 19, to receive the hooks F and G, which cross each other, as indicated. By this arrangement a perfectly smooth interior for the box is provided, there being no danger of the points catching into any goods packed in the box.

In Fig. 20 the joint at the corner is somewhat modified, there being a recess g for the inner ends of the hooks. This will permit

of the sections being attached and separated, but will protect the points.

In Fig. 21 the corner is provided with battens h h' , mitered at h^2 , the two box-sections X and Y having straight ends with their edges touching at h^3 . This leaves a square chamber h^4 for the inner ends of the hooks.

Figs. 22 to 26, inclusive, show a further modification. Here the two box-sections I I' overlap to a slight extent at i . Each box-section is provided with a batten I', mortised together at i^2 . The battens project from the ends of the box-section I. The batten on one section, as indicated in Fig. 22, is provided with a groove j , extending from end to end of the batten. The other section is provided with short grooves or recesses j' , in which the hooks II are arranged. These two sections may be readily connected by first moving the ends toward each other, so as to project the hooks on one section through those on the other, and then by a movement in a direction at right angles to the first movement the hooks may be interlocked.

The box having battens may be constructed, set up, and taken down in substantially the same manner as a box constructed as shown in Fig. 1.

My improved box or case may be rapidly made by machinery, the hooks being automatically set in proper position by such machinery. It is only necessary, of course, to pass the box-sections through the machine, whereas in the manufacture of other boxes by machinery the entire box must be passed through the machine.

The top E of the box may be constructed in any suitable way. It may be composed of open-work material when it is desired to transport poultry, rabbits, or the like in the boxes.

I claim as my invention—

1. A knockdown box each section of which is provided with hooks extending from the outside, where the hooks are headed, to the inside, where they are bent at right angles, the shank of each hook being provided with devices to prevent it from turning, substantially as described.

2. A knockdown box, the side pieces of which are rabbeted around their edges and provided with hooks extending through from the outside, where they are headed, along the inner edges of the rabbets, to the inside, where they are bent at right angles, the top, bottom, front and back pieces of said box being seated in the rabbets of the side pieces, and having hooks engaging with the hooks of said side pieces.

3. A knockdown box in which the bottom, the side pieces and the front and back pieces are detachably secured by interlocking hooks, and in which the top is provided with hooks at opposite side edges adapted to engage with hooks in the side pieces of the box, and which is also provided with rotatable hooks extending through from the outside, where they are

headed, to the inside, where they are bent at right angles, and adapted to engage with hooks on the back piece when turned.

4. A knockdown box in which each section
5 is provided with a hook arranged in a recess adapted to engage with another hook also arranged in a recess.

5. A knockdown box in which the sections
10 are mitered and recessed with hooks extending into recesses in the mitered edges of the section.

6. A knockdown box having battens at the corners each provided with a series of hooks

extending from the outside of the box, where they are headed, to the inside of the battens, 15 where they are bent at right angles and interlock, said interlocking portions of the hooks being arranged in recesses intervening between the battens and the sides of the box.

In testimony whereof I have hereunto sub- 20 scribed my name.

THEOPHILE J. B. PITIOT.

Witnesses:

J. H. KONTER,
CHAS. P. PRESSLY.