

(No Model.)

3 Sheets—Sheet 1.

J. T. CRAW.
PAPER BOX.

No. 564,593.

Patented July 28, 1896.

FIG. 1.

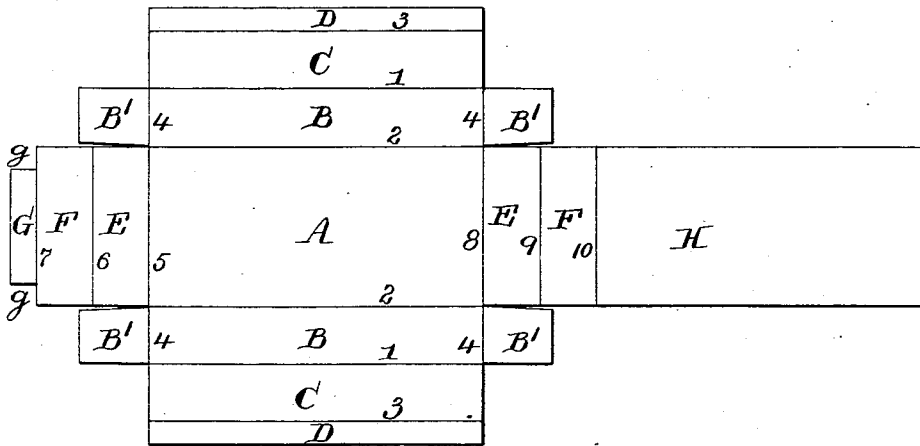
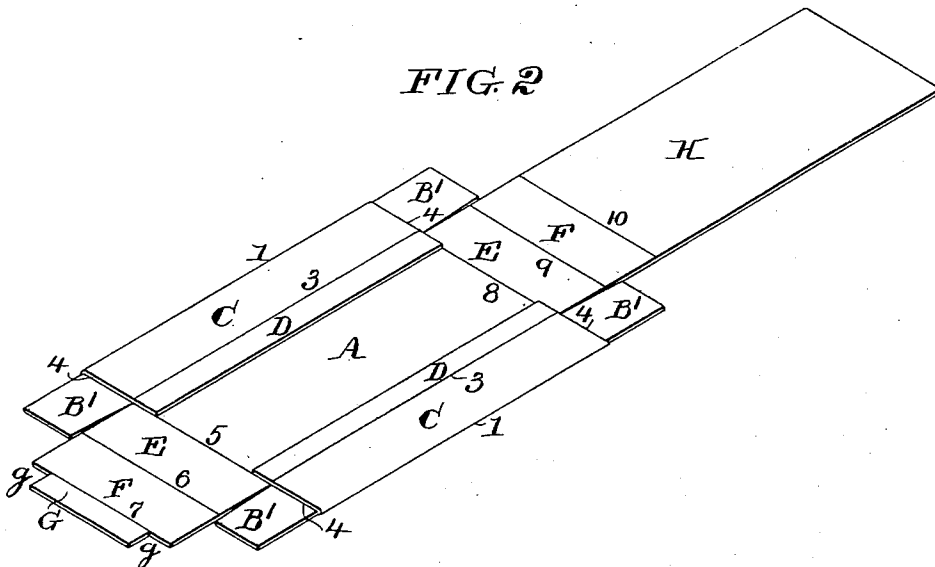


FIG. 2.



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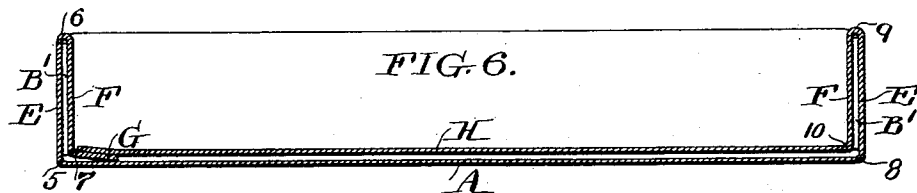


FIG. 7.

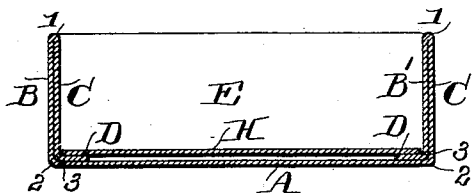


FIG. 8.

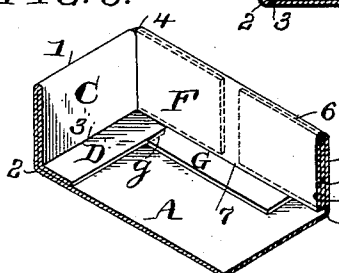


FIG. 3.

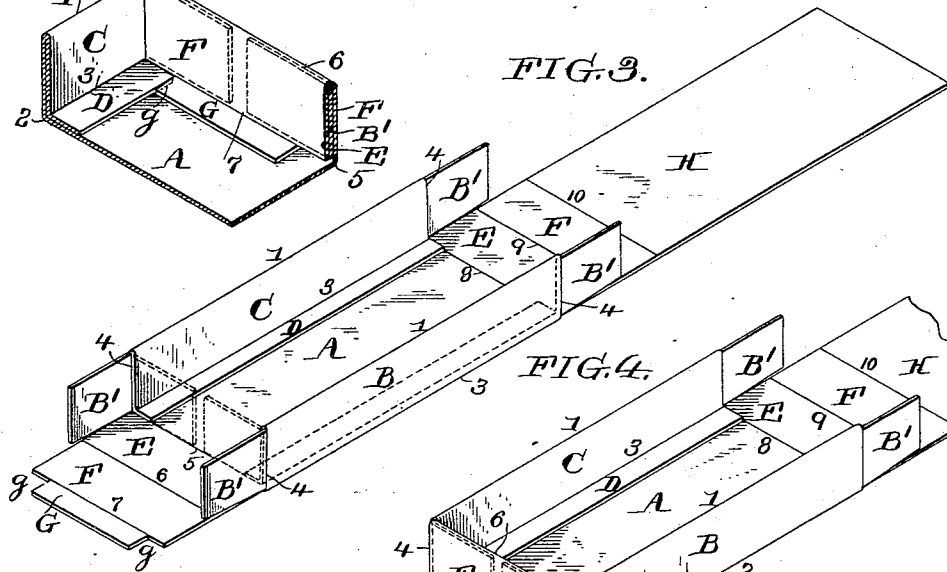


FIG. 4.

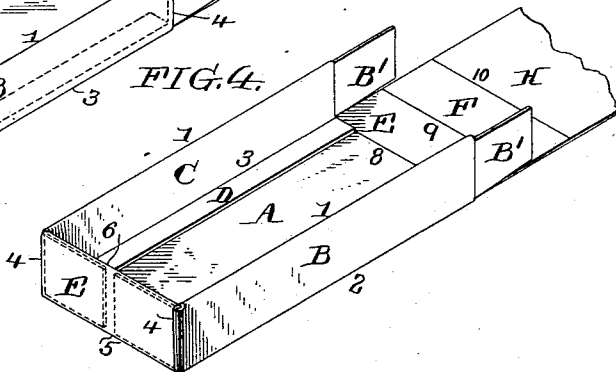
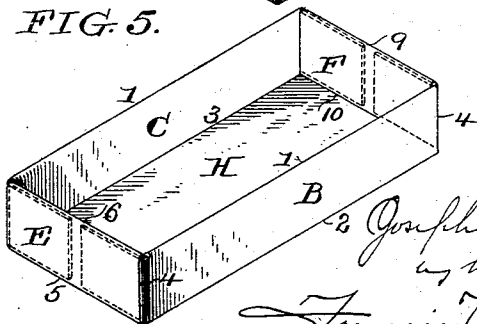


FIG. 5.



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FIG. 9.

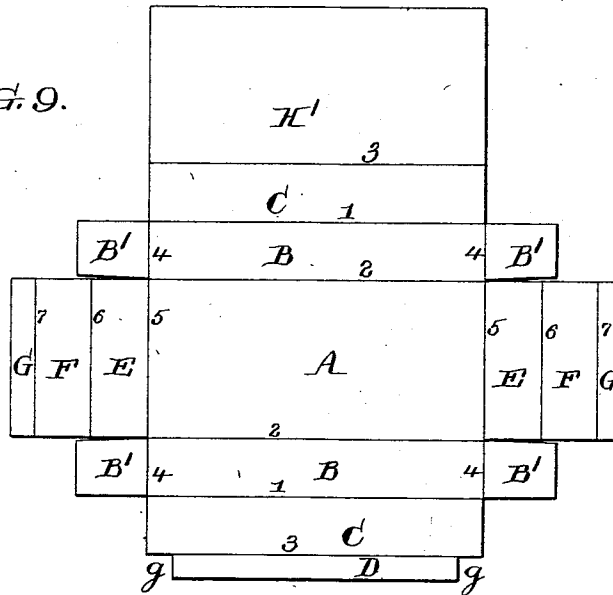


FIG. 10.

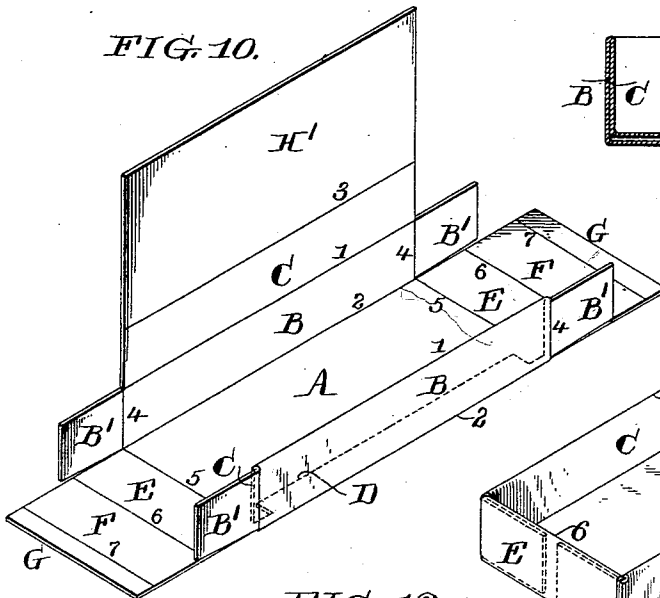


FIG. 12.

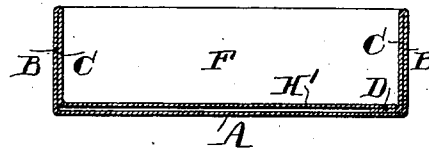


FIG. 11.

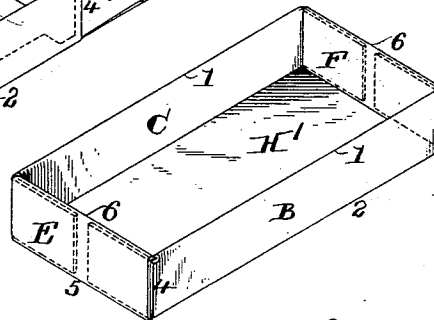
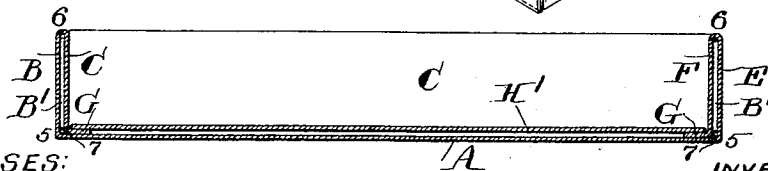


FIG. 13.



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UNITED STATES PATENT OFFICE.

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PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 564,593, dated July 28, 1896.

Application filed July 8, 1895. Serial No. 555,186. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. CRAW, a citizen of the United States, residing in Jersey City, county of Hudson, State of New Jersey, have invented a certain new and useful Improvement in Paper Boxes, of which the following specification is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of knockdown boxes of paper or pasteboard, and has for its object to provide a box of this description which shall be at once exceedingly strong and stiff, have a particularly finished appearance, and be easy of construction.

The nature of my improvements will be best understood as described in connection with the drawings in which they are illustrated, and in which—

Figure 1 represents the blank formed with laps and creases adapted for the construction of my new box in what I consider its best and most perfect form. Fig. 2 is a perspective view of the blank, representing the first folding operation; Fig. 3, showing the second folding operation; Fig. 4, the third folding operation; Fig. 5, the fourth or completing fold. Fig. 6 is a longitudinal section through the completed box; Fig. 7, a transverse section; Fig. 8, a perspective view of one corner of the inside of the box before the false or inner bottom is secured in place. Fig. 9 is a plan view of a somewhat modified blank provided with laps and creases adapted to the manufacture of a box having the leading features which characterize my present invention. Fig. 10 shows the box in process of manufacture; Fig. 11, the completed box; Fig. 12, a cross-section, and Fig. 13 a longitudinal section of the modified construction.

A in all of the figures indicates the bottom of the box, B B the laps forming the sides or side walls, and E E the laps forming the ends or end walls.

C and C indicate laps extending from and formed integral with the laps B and B and adapted to fold down on the inside of the box against the side walls or laps B, each of the laps

C being by my new construction provided with terminal laps D and D, which are adapted to fold down against the bottom A of the box. I also provide the end laps or walls E with laps F, formed in continuation thereof and adapted to fold down against the laps or end walls E on the inside of the box, and preferably I provide each lap F with a terminal lap, as G or H, which is adapted to fold down upon and lie along the bottom A of the box.

B' B', &c., indicate lateral prolongations of the laps B, which, as is usual in boxes of this kind, are folded at right angles to the laps B and are inclosed between laps E and F.

H and H' indicate pieces of pasteboard, preferably formed integral with the blank and adapted to serve as an inner or false bottom to the box, serving not only to strengthen the bottom, but also to hold the inwardly-folded laps C C and F F in proper position against the outer walls of the box.

Preferably where the short horizontally-lying laps G and D would, if extended to the full width of the sides and end pieces, lap upon each other I cut away the corners, as indicated at g g, to avoid this lapping and so that both the laps D and G may lie flat upon the bottom A of the end, and I will here mention that, while I greatly prefer to provide the end laps F with the horizontally-lying extensions, such extensions may nevertheless be dispensed with without departure from the broad features of my invention, which, however, in all cases involves the use of the horizontally-lying extensions of the side laps C C, because these side laps, being of much greater length than the end laps, require for properly holding them in place the brace which is afforded by the horizontally-lying extensions.

In my preferred form of construction I make the inner or false bottom piece H as a prolongation of one of the side laps F, as indicated in Figs. 1 to 8, though the bottom piece may, with many of the advantages of my new construction, be formed as a prolongation of one of the side laps C. (Indicated in Figs. 9 to 13.)

Among the particular merits of my preferred form of construction (indicated in Figs. 1 to 8) is the ease and simplicity of the oper-

ation by which the properly-prepared blank is formed into a box. This is illustrated in the drawings, the first folding operation being to turn the laps C and D inward around the crease-line 1, bringing the blank to the form indicated in Fig. 2. The side pieces B C are then bent upward around the crease-lines 2 until they stand perpendicular to the bottom A, this manipulation also bending at right angles to the lap C and terminal laps D, which, of course, are bent on the crease-lines 3. The next folding consists in bending in the terminal laps B' B' at the left end N of the blank, as represented, until they stand at right angles with the laps C and the bottom A, as indicated in dotted lines at Fig. 3. The end piece E is then bent up at right angles to the bottom on the crease-line 5, the lap F pressed in and down over the terminals B' B', and the terminal lap G at the same time pressed down upon the bottom A of the box, bending on the crease-line 7, with the result indicated in Fig. 4. The end of the box thus completed will hold its own shape, enabling the operator to give his undivided attention to the folding of the other or right-hand end of the box, which is accomplished in precisely the same way, except that instead of the short lap G is the long lap or bottom piece H, which is pressed down upon the bottom of the box covering the laps D, D, and G and forming a perfectly smooth bottom at the same time that it locks the inwardly-bent laps securely in position.

In the manipulation of the modified blank shown in Fig. 9 what I may call the "front" or "lower" series of laps projecting from the bottom piece A is most conveniently folded in precisely the same way as are the similar laps in the blank of Fig. 1. The upper side piece B, however, with its terminal laps, is folded up around the creased line 2, as indicated in Fig. 10. The terminal laps B' are then folded into proper position, and the end laps E, F, and G folded over them as in the case of the other blank, the final folds making this modification of my box consist in pressing the laps C down around the crease-line 1 until it lies against the inside of B, and then, or at the same time, pushing the terminal lap or bottom piece H' down upon the inside of the box and so as to cover the terminal laps lying upon the bottom of the box and abutting against the inner walls thereof.

The box formed in accordance with my invention presents a smooth and finished appearance both inside and outside, and at the same time all of its parts are braced and buttressed in such a way as to give the box great strength and rigidity.

Of course it will be understood that by the term "box" I have reference as well to box-covers as to the box proper.

Some of the advantages of my invention are present even if the false bottom is not formed as an integral part of the blank, but

is simply inserted after the box has been erected and so as to overlie the terminal flaps and press the inner side laps against the outer laps.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A knockdown box having end and side walls, said side walls having laterally-extending flaps B', and end and side laps adapted to fold down inside of the walls of the box, said side laps having lap extensions adapted to fold down upon the box-bottom and a false or inner bottom adapted to fit the inner sides of the box-bottom and hold the inner walls of the box against the outer walls thereof.

2. A knockdown box having end and side walls, said side walls having laterally-extending flaps B', and end and side laps adapted to fold down inside of the walls of the box, said laps all having lap extensions adapted to fold down upon the box-bottom and a false or inner bottom adapted to fit the inner sides of the box-bottom and hold the inner walls of the box against the outer walls thereof.

3. A knockdown box having end and side walls, said side walls having laterally-extending flaps B', and end and side laps adapted to fold down inside the outer walls of the box, said side laps both having lap extensions adapted to fold down against the box-bottom and a false bottom formed of an extension of one of the inwardly-folding laps and of the breadth of the box-bottom whereby it holds the inner walls or laps against the outer walls of the box.

4. A knockdown box having end and side walls, said side walls having laterally-extending flaps B', and end and side laps adapted to fold down inside the outer walls of the box, said laps all having lap extensions adapted to fold down against the box-bottom and a false bottom formed of an extension of one of the inwardly-folding laps and of the area of the inside of the box whereby it abuts against and holds the inner laps against the box-walls.

5. A knockdown box having end and side walls, said side walls having laterally-extending flaps B', and end and side laps adapted to fold down inside the outer walls of the box, said side laps both having lap extensions adapted to fold down against the box-bottom and one end lap having a lap extension of the area of the inside of the box adapted to fold down upon the box-bottom and abut against the inner laps so as to hold them against the outer box-walls.

6. A knockdown box having end and side walls, said side walls having laterally-extending flaps B', and end and side laps adapted to fold down inside the outer walls of the box, said side laps and one end lap having short extensions adapted to fold down upon the box-bottom, and the other end lap having an extension of the area of the box-bottom adapted

to fold down upon the box-bottom and abut against the inner laps so as to hold them against the outer box-walls.

5 7. A knockdown box having end and side walls, said side walls having laterally-extending flaps B', and end and side laps adapted to fold down inside the outer walls of the box, said side laps and one end lap having short extensions adapted to fold down upon the box-

bottom, the ends of the end lap extension being cut away so as not to lap on the extensions of the side laps, and the other end lap having an extension adapted to fold down upon and form a false or inner bottom for the box.

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