

F. V. POWELL.
KNOCKDOWN PAPER BOX.
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1,190,797.

Patented July 11, 1916.

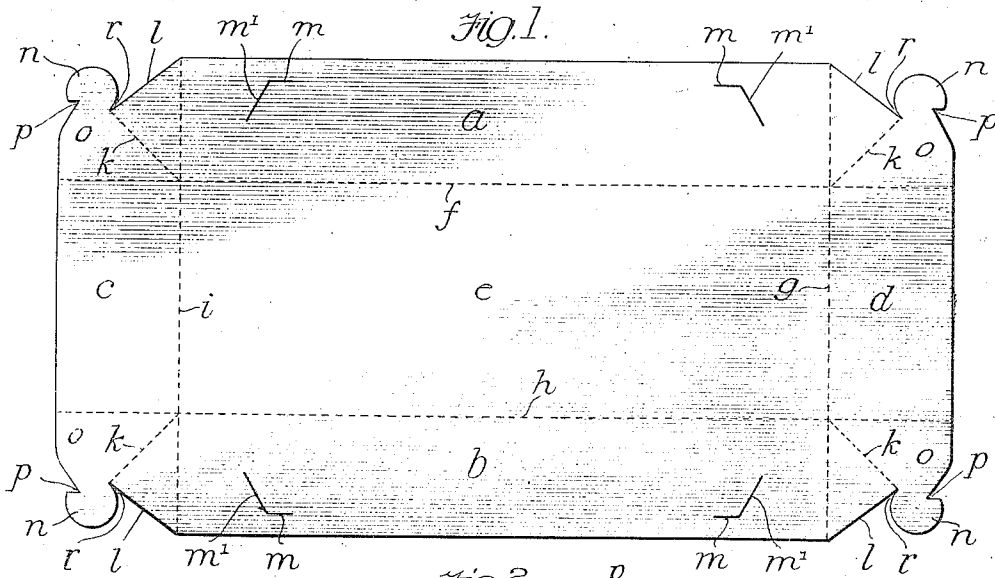
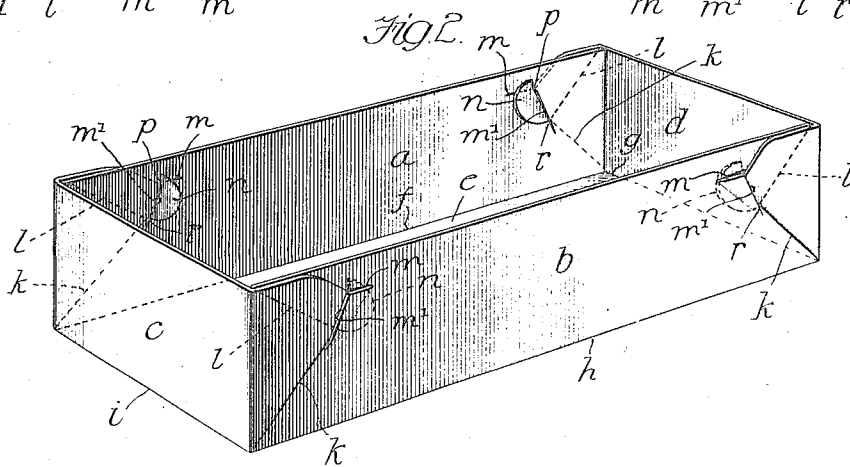
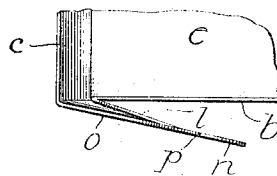


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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KNOCKDOWN PAPER BOX.

1,190,797.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANCIS V. POWELL, a citizen of the United States, residing at Anderson, Madison county, Indiana, have
5 invented certain new and useful Improvements in Knockdown Paper Boxes, of which the following is a specification.

My invention relates more particularly to that form of box which is made from a single blank of heavy paper or cardboard suitably shaped and scored, and bent up along the edges of the body of the blank and at right angles thereto to form side and end walls which are locked together at their adjacent ends to form the corners.

My invention has in view the production of a box which is very readily set up into the shape it occupies when in use and knocked down to the blank form for shipment or
20 storage, in which the corners are heavily reinforced to prevent crushing and the lock so constructed that, while it may be readily engaged, it will hold the walls securely against accidental displacement in use.

With this object in view, my invention consists in the box as covered by the following claim, a specific form of which is disclosed in the specification below and the accompanying drawings for the purpose of
30 illustration; though my invention is not limited thereto except in so far as the claim specifies the construction thereof.

In the drawings accompanying the specification and forming a part thereof, Figure
35 1 is a view, in plan, of the box blank; Fig. 2 is an isometric view showing the box in condition for use; and Fig. 3 is a fragmentary view, showing a corner of the box in a position which it occupies in the course of
40 setting the box up.

The box may be made of any well known or suitable material, such as paper board of considerable flexibility, and of any desired shape, and in the present instance is shown as of considerable length compared to its
45 breadth, being of the form and dimensions employed for use in packing suits of clothes, etc. The blank is ordinarily scored along the lines of fold, and in Fig. 1 the lines of
50 scoring are indicated by dotted lines. The side walls *a*, *b* and the end walls *c*, *d* are attached to the bottom *e* along the scored lines *f*, *g*, *h*, *i*, which scoring is continued in the case of each line to the margin of the blank.

The material comprised in the angle between adjacent lines of the ends of the side and end walls respectively is not cut away or severed from either adjacent wall, as is frequently done in boxes of this character, but is scored diagonally along the lines *k*, which lines substantially divide the angles between the adjacent ends of the walls. When the box is set up, the material within each angle between the ends of adjacent walls and constituting the corner fold is folded or doubled
60 upon itself along the line *k* and laid back along one of the adjacent walls, which in the construction shown is a side wall. Said wall is provided at a convenient point with an angular slit *m*, one leg of which is parallel and the other at an angle to the adjacent side of the box, and which slit is engaged by a locking tongue or tab *n* formed from the material of the corner fold. For
70 this purpose the latter is cut away on an angle, as at *l*, to the score *k*, so that when the corner fold is swung back upon the line *i* to lie against the side wall, the point of meeting of the edge *l* and the score *k* will approximately coincide with the inner end
80 of the angular slit *m*. Upon the other leaf *o* of the corner fold is formed a locking tab or tongue *n* which is provided with a hook portion having locking edge *p* and is adapted to enter within and engage the slit *m*.
85 In setting up the box, the walls are first raised to a position perpendicular to the bottom of the box, each corner fold being folded outward and the leaves thereof brought together. It is then folded around
90 to lie flat against the outer side of the adjacent side wall, and the locking tongue slipped through the angular slit. Then when the walls are brought to their ultimate relative positions, notch *r* at the base of the
95 locking tongue is drawn to the point of the angular slit and is there held, the hook portion of the tongue extending above the horizontal leg of the slit.

It will be observed that the neck portion
100 of the tongue between the edge *p* and the notch *r* is but slightly less in thickness than the length of the inclined portion of the slit in which it is located when the box is set up, so that there is little or no relative movement of the parts, while at the same time the angular slit permits its entire length to
105 be used in inserting the tongue,

By reason of the fold along the line *k* and the presence of the inner leaf of the corner fold, the locking tongue which is formed on the outer leaf of the locking fold is pressed outwardly to some extent against the side wall at the edge of the slit, and in this manner is more firmly held than it would be were the tongue formed on a single thickness of material. Furthermore, the double thickness of material along the line *k* tends to prevent the corner fold entering the slit *m* beyond the point *r* at the base of the tongue or breaking down the slit and yielding to crushing action. The angular slit readily permits the entry of the tongue and at the same time, by reason of the direction of the inclined member *m* of the slit, furnishes an abutting edge for the tongue. In Fig. 2 the box is shown prepared for use, and it will be understood that a similar construction is or may be used as a cover therefor.

I claim:

A knockdown box comprising a bottom *e*, side walls *a*, *b*, end walls *c*, *d*, corner folds doubled upon a line *k* diagonal to the angle between the scoring between the bottom and the adjacent side and end walls and folded back against one of said walls, the inner leaf of the corner fold being cut away upon the line *l* extending from the line *k* to the adjacent upper corner of the side wall, the outer leaf of the corner fold being formed with a locking tongue comprising an outwardly directed hook terminating at one edge at the line of fold of the corner fold and projecting over the edge *l* of the inner leaf, the wall against which the corner fold is laid being provided with a slit *m* for receiving the hooked tongue.

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Witnesses:

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