(No Model.)

2 Sheets—Sheet 1.

E. B. MUNSON.

PAPER BOX.

No. 306,172. Patented Oct. 7, 1884.

Fig. 1.

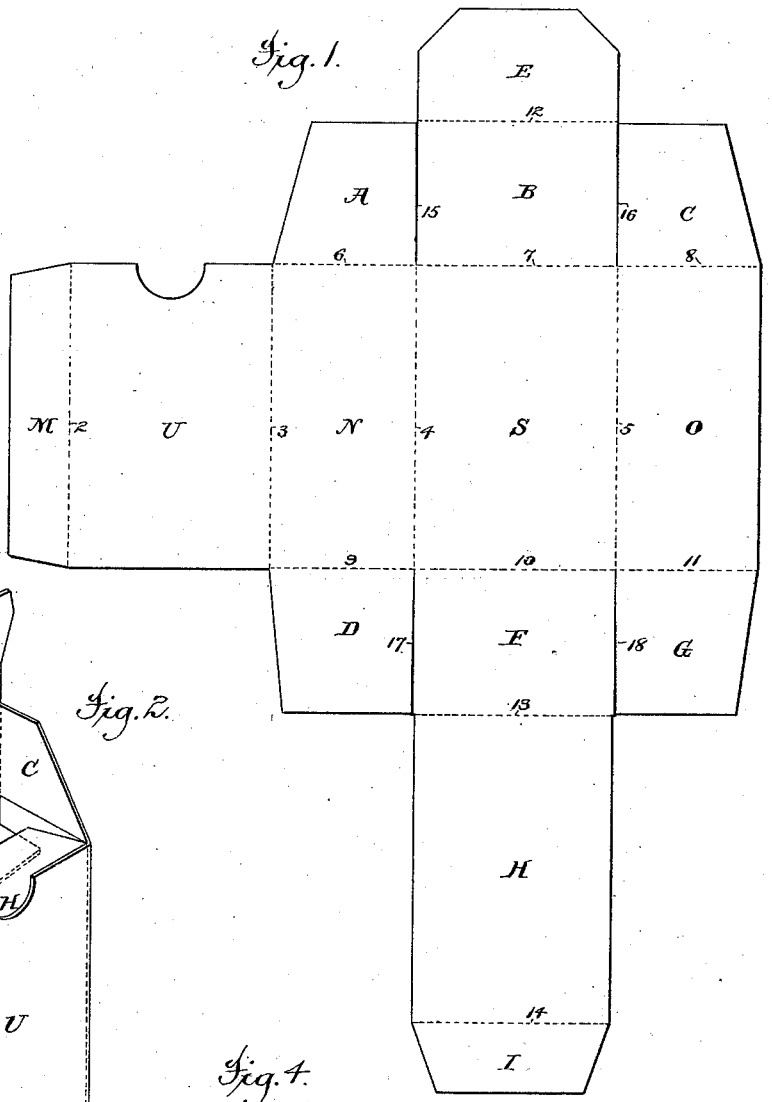


Fig. 3.

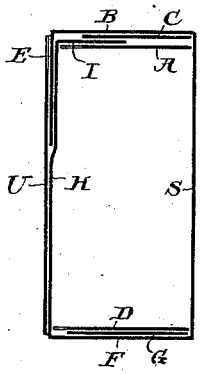


Fig. 2.

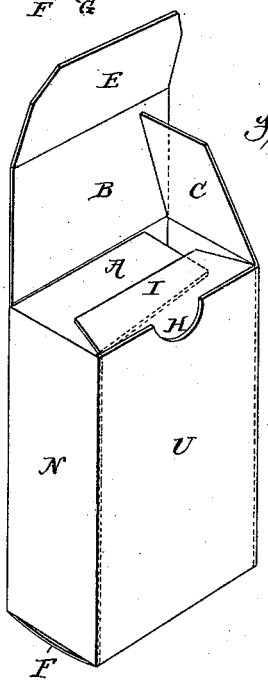
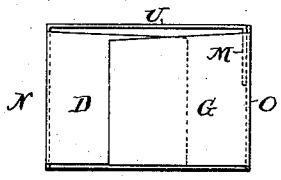


Fig. 4.



Attest:

Geo. H. Graham

Jas. J. Kennedy

Inventor:

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Attys.

(No Model.)

2 Sheets—Sheet 2.

E. B. MUNSON.

PAPER BOX.

No. 306,172. Patented Oct. 7, 1884.

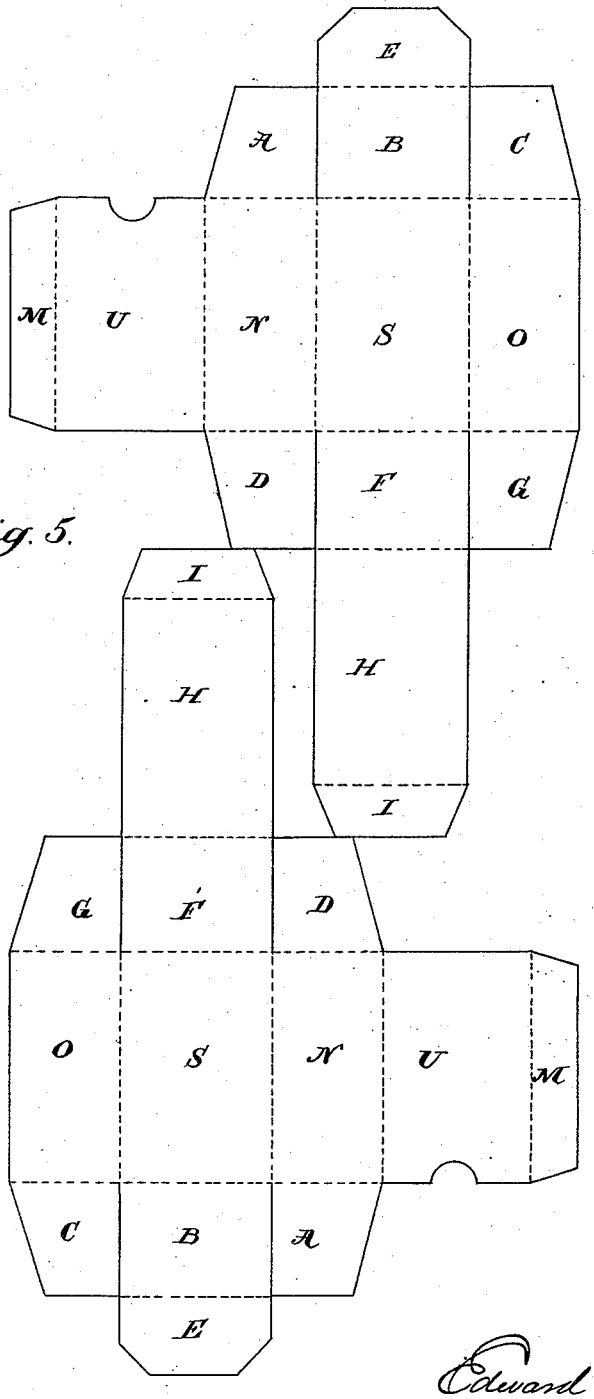

Fig. 5.

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UNITED STATES PATENT OFFICE.

EDWARD B. MUNSON, OF NEW HAVEN, CONNECTICUT.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 306,172, dated October 7, 1884.

Application filed August 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. MUNSON, a citizen of the United States, residing in the city of New Haven, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Paper Boxes, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The improvements embraced in the present invention relate to that class of paper boxes now commonly known as "knockdown" boxes, and wherein the blank which forms said box is cut in a single piece from paper, card-board, or other material, so as to provide four sides and end-closing flaps, whereby the contents of the box are held and suitably inclosed.

The invention comprises a new structure of such boxes, the same consisting in forming the blank cut and creased to form body parts, bottom flaps, bottom with pocket-forming tongue and locking tucking flap, top closing flaps and top or cover with a tucking tongue, whereby a box is formed that may be cheaply made with a strong and substantial end and bottom capacitated to brace and support the body walls, provide a pocket for the reception of the locking tongue of the closing end, and means for locking and retaining the parts comprising both top and bottom in their closed condition, and thus effectually holding the contents within the box without danger of the box becoming unfastened.

In the drawings, Figure 1 illustrates the blank from which the box is made. Fig. 2 is a perspective view illustrating the box in a partially-closed condition. Fig. 3 is a central vertical section of the box when in a closed condition. Fig. 4 is a view of one of the ends of the box, showing the closing flaps in a closed condition with the tongue broken away; and Fig. 5 shows the mode of cutting out, whereby economy of material is accomplished.

In a practical embodiment of this invention a blank is cut, creased, or scored and incised, as seen in Fig. 1, whereby is provided the box sides U N S O and body-lap M, bottom flaps, D G, bottom F, pocket-forming flap H, and locking flap I, top flaps, A C, top or cover B, and tucking tongue E.

The creasing or scoring of the blank to provide lines or hinge-like joints upon which the several portions of the box are manipulated to form the box is made on the lines 4 5, to permit the sides N O to bend or fold up at right angles to the side S; the line 3, to permit the side U to bend at right angles to the side N, and line 2, to permit the body-lap M to bend or fold inwardly at right angles to the side U; on the lines 9 11, to enable the bottom flaps, D G, to bend or fold inwardly at right angles to said sides N O; on line 10, to enable the bottom F to bend or fold up at right angles to said side S; on the line 13, to enable the pocket-forming tongue to bend or fold inwardly at right angles to said bottom F; on line 14, to enable the locking flap I to bend at right angles to said tongue H; on the lines 6 8, to enable the top-closing flaps A C to bend or fold inwardly at right angles to said sides N O; on the line 7, to enable the top or cover B to bend or fold over at right angles to the side S, and on the line 12 to enable the tucking tongue E to bend or fold inwardly at right angles to said top or cover B. The blank is also provided with the incisions 17 18, to separate or free the bottom-closing flaps D G from the bottom F, and with the incisions 15 16, to free the top-closing flaps A C from the top or cover B. A blank thus provided with lines of creasings and incisions which permit the several portions thereof to be bent or folded up on each other may be produced by any of the well-known dies, or it may be performed by hand, or by any other method, and thus the blank may be converted into box form in the following manner: The sides N O are bent or folded up at right angles to the side S, the side U is bent at right angles to the side N, so as to lie in the same plane with the side S, and the fastening-lap M is bent or folded inwardly at right angles to the side U, so as to lie within and against the bent-up side O, and may then be secured to said side O by cement or other securing means, thus making a tubular structure formed by the sides U N S O, as seen in Fig. 4. To close the bottom the bottom flaps, D and G, are bent inwardly at right angles to the sides N O. The bottom F is then bent or folded up at right angles to said side S over the said flaps

D G, and the pocket-forming tongue H is bent at right angles to said bottom F, and its end and locking flap I is tucked into the interior of the box between the side U and the folded-over bottom flaps, D G, so as to lie against the side U with its tucking flap I projecting from the top or opposite end of the box, as seen in Fig. 2. The top of the box is then closed by bending or folding inwardly one of the top flaps, as A, at right angles to the side N. The locking flap of the tongue H, which was projected out of top in closing the bottom, is then bent or folded down at right angles to said tongue H, so as to lie upon said flap A, as seen in Fig. 2. The other top flap, C, is bent or folded inwardly at right angles to the side O, so as to lap upon the locking flap I and over the flap A. The top B is bent or folded at right angles to the side S over the flaps A I C, and its tucking tongue E is bent or folded down at right angles to it, and is tucked within the side U and between it and the pocket-forming tongue H lying adjacent thereto, as clearly seen in Fig. 3. The flaps D G and A C might be of such length as to meet or nearly meet in the center. The locking flap I of the bottom tucking tongue is thus confined between the flaps A and C and re-enforced by the top or cover B, from which it will be seen that any tendency of the bottom bulging out from the weight of the contents of the box will be resisted by a direct pull upon the top flap, A, and likewise any such tendency on the part of the flap A to bulge out will be resisted by the bottom F and its flaps D G. This locking flap I might, however, be bent or folded over the two top flaps, A C, so as to lie between the flap C and the top or cover B, and still perform the function of preventing the bottom and top from bulging out, and aid in giving the box greater strength when closed.

By confining the tucking tongue E of the cover in the pocket formed by the tongue H and the side U any injury to the contents of the box by reason of said tongue E coming in contact therewith in closing the cover is avoided, and the tongue E is prevented from injury and defective operation which would result from contact with hard materials packed in the box. The strongest form of structure is thus not only obtained, but the disposition of the parts enables boxes to be produced with great economy, as the blanks are shaped so as to be lapped past each other, as in Fig. 5, and thus be cut from the stock with great economy—that is, with a minimum waste of unused material.

What I claim is—

The herein-described box, the same consisting of the body parts U N S O, lap M, bottom flaps, D G, bottom F, pocket-forming tongue H, with locking tucking flap I, top closing flaps A C, and top or cover B, with tucking tongue E, the whole formed in a single piece, and folded substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWARD B. MUNSON.

Witnesses:

GEO. H. GRAHAM,

T. H. PALMER.