(No Model.) 4 Sheets—Sheet 1.

H. S. MUNSON.

BOX.

No. 588,871. Patented Aug. 24, 1897.

Fig. 1.

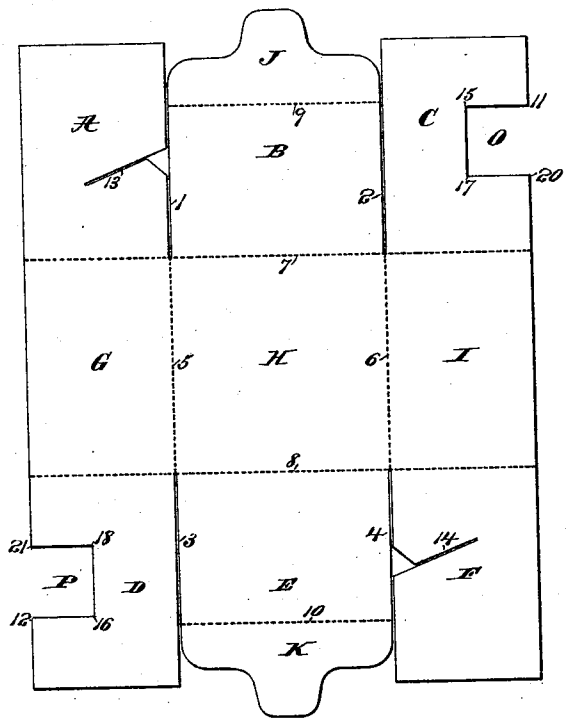
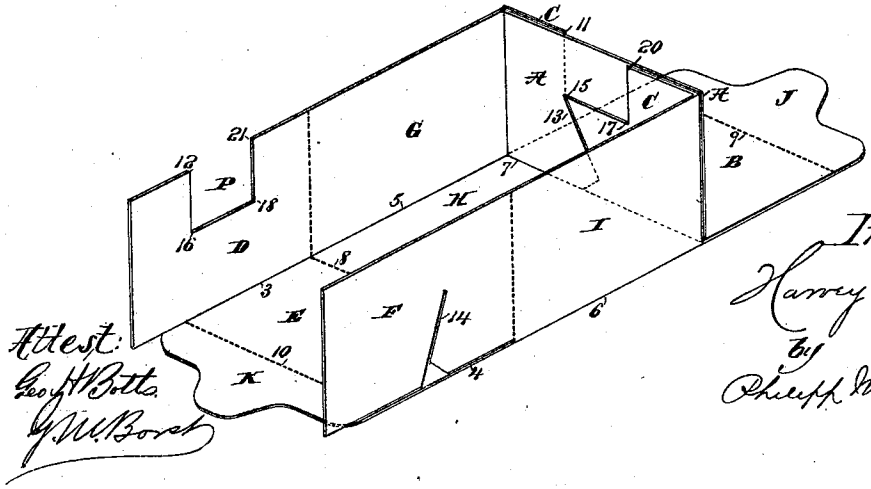


Fig. 2.



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Fig. 3.

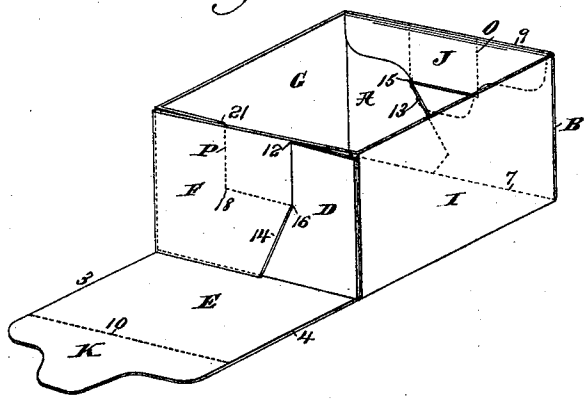
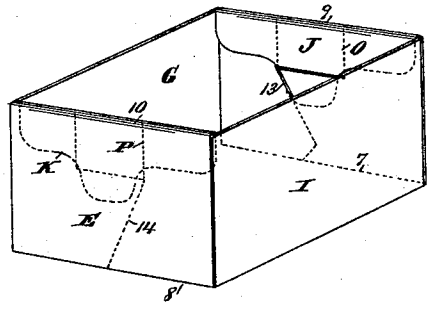


Fig. 4.



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BOX.

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Fig. 5.

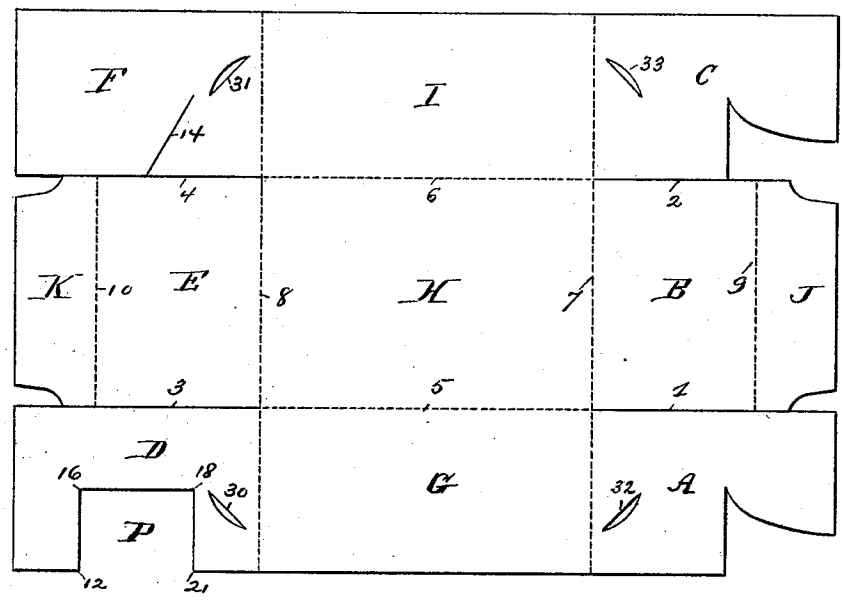
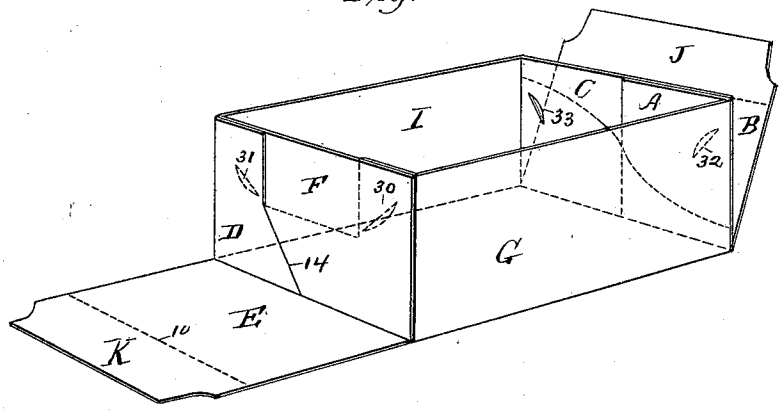


Fig. 6.



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(No Model.) 4 Sheets—Sheet 4.

H. S. MUNSON.

BOX.

No. 588,871. Patented Aug. 24, 1897.

Fig. 7

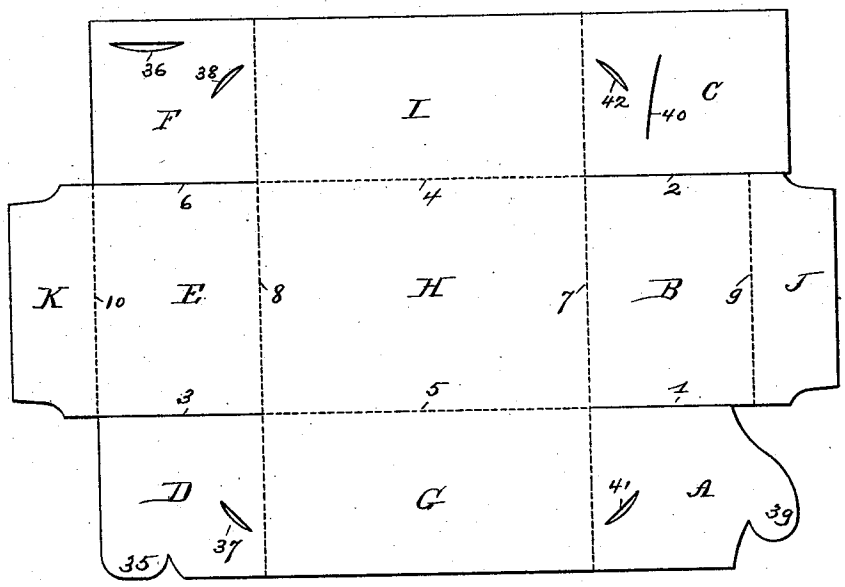
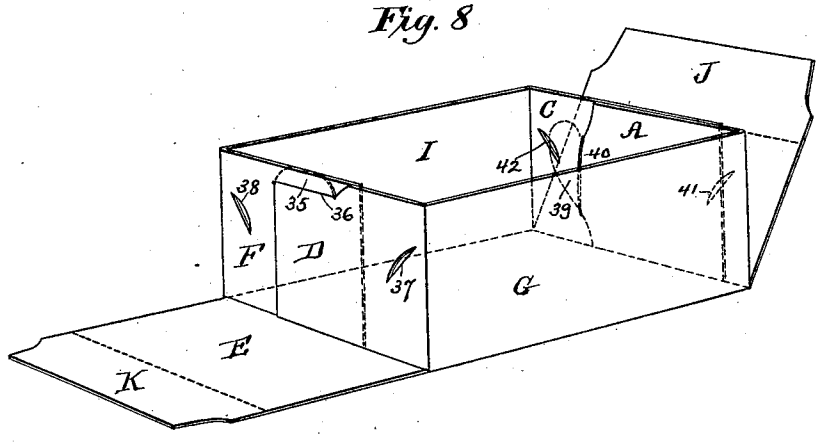


Fig. 8



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UNITED STATES PATENT OFFICE.

HARVEY S. MUNSON, OF NEW HAVEN, CONNECTICUT.

BOX.

SPECIFICATION forming part of Letters Patent No. 588,871, dated August 24, 1897.

Application filed March 22, 1893. Serial No. 467,130. (No model.)

To all whom it may concern:

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

These improvements relate to boxes of that class which are made of paper or equivalent material and are formed from a blank of such material so cut, shaped, and creased that the boxes may be piled open or flat for shipment or storage and yet each contain within itself all of the means required for retaining its conformation when its parts are bent or disposed in a hollow or box form.

The invention consists in a box or box-cover whose component blank is cut and creased to constitute its end or ends of three closing flaps, the two side flaps whereof overlap and have means for interlocking with each other, and the outermost or end flap of which overlaps the upper edges of the side flaps and has its end secured within the folds forming the box, and so that no loose or free end is left to project into the box, whereby said flaps will not only retain their relationship and not be separable in use, so as to admit of the box being distorted, but present no obstruction to the insertion of the contents of the box or to the cover readily slipping onto the box.

The accompanying drawings, illustrating this invention, show such blanks in Figures 1, 5, and 7, and in Figs. 2, 3, 4, 6, and 8 boxes composed of such blanks in various stages of conversion from the flat blank into the hollow or box form.

The blank may be formed out of paper or other appropriate material more or less thick, according to the requirements of the use for which the box is designed.

In the examples shown the composing blank is of rectangular form and is incised from each end on the lines 1 2 and 3 4 to provide the end flaps A B C and D E F and the extensions J K, whose ends are additionally shaped to form tongues. It is creased, embossed, scored, or pierced on lines 5 6 to define the lines of folding of its sides G I, that are united to the bottom H; also upon the lines 7 8 to define the lines of folding of its end flaps B E, that are united to the bottom H, and to define the lines of folding of its end flaps A D and C F, that are respectively united to the sides G I, and also on lines 9 10 to define the lines of folding of the tongued extensions J K, that respectively form a part of the end flaps B E. Thus incised and creased, embossed, scored, or pierced the sides G I may be bent up at right angles to the bottom H, their projecting end flaps A C and D F bent inward and overlapped in partial formation of the ends, the end flaps B E be bent up at right angles to the bottom H, and their extensions J K be bent inward over the overlapped end flaps A C and D F, the whole constituting a hollow or box-like structure, suitable according to the height of its sides for use as a box or the cover of a box.

In order that such a box may retain its hollow or set-up form by locking or engaging means that will practically lock its parts in place without the use of adhesive matter or other addition to the parts contained within the blank itself and so that when the parts composing its end or ends are once engaged or interlocked they may not move one upon the other or with respect to each other, so as to distort the box, the side flaps that in part form the end are provided with means to lock or engage one with the other, and the outermost or end flap is extended to provide a part capable of overlapping the upper edges of the side flaps and with means for securing its end within the plies forming the box end, so as to present no loose or free end projecting within the box.

Various forms of this invention are shown herein. In Figs. 1 to 4 the end flaps C D have a central portion removed to provide openings, as O P. The end flaps A F are each provided with an angular incision, as 13 14, and the extensions J K are fashioned to provide each with a central locking-tongue suited to the width of the openings O P. The inner extremities of the incisions 13 14 correspond in position with the respective corners 15 16 of the openings 13 14, and when two of the end flaps, as C A, are folded inwardly and the flap, as A, is placed astride of the flap, as C, the angular incision 13 will enable

the major part of said flap to be passed through the openings 11 and cause the two flaps, as A C, to be drawn closely together, as in Fig. 2, thus forming a lock, holding in place the parts of these flaps so lapped over each other and preventing their disengagement by lateral pressure. In this relation the flaps A C provide a tucking-pocket the width of which from the corners, as 15 17 or 16 18, of the opening, as O or P, is equal to the width of the locking-tongue, into which pocket the locking-tongue, provided upon the extension, as J or K, of the end flap, as B or E, may, when that flap is bent up and folded over the triple end thus formed, be entered and so snugly or substantially fit therein as not only to hold the flap B or E and its extension, as J or K, in their overlapped positions, but provide, by contact of the sides of the locking-tongue with the corners 15 17 or 16 18 and one side of the incision, as 13 or 14, an additional lock against lateral displacement of the end flaps A C or D F, as in Fig. 3, and additionally envelop or secure the end of the locking-tongue, so that it presents no loose or free part projecting into the box.

The flaps constituting both ends of the box or cover and the means for and mode of interlocking them are the same, and hence will be readily understood from the foregoing explanation and an inspection of the finished box shown in Fig. 4.

It will be understood from slight consideration that incisions may be made in the flaps C and D only upon the lines 11 15 and 12 16 and the lines 20 17 and 21 18 be creased, thus making a flap that fills what have been called "openings" O P. This will also provide the essential element of the tucking-pocket—namely, the incision—from the points 15 17 or 16 18, said flap being then pushed aside, when the flaps A C or D F are interlocked and finally become embraced between the flap A or F and the tongued extension J or K.

In the modified structure shown at the left-hand end of Fig. 5, and correspondingly in Fig. 6, the flap D has the rectangular opening P and the flap F has the incision 14, by which these flaps are locked together; but instead of the flap K being provided with a narrow central tongue to enter a pocket, as in Figs. 1 to 4, said flap K is fashioned to form a wide tongue, the corners of which may enter angular slots 31 30, provided in the flaps D F. As shown in the right-hand end of these figures, the flaps A C are shaped to form hook-like interlocking parts, being respectively provided with angular slots 33 32 for the reception of a similar wide tongue, into which the flap J is fashioned.

In Figs. 7 and 8 the left-hand end of the blank is fashioned so as to provide its flap D with a tongue 35, that will engage a slot, as 36, in the flap F, as in Fig. 8, and the flaps D and F are respectively provided with angular slots 37 38, into which the corners of the wide tongue which flap K forms may enter. The right-hand end of this same blank has its flap A provided with a hook-like projection 39, that is adapted to enter the slot 40 of and thus interlock with the flap, and these flaps A C are respectively provided with the slots 41 42, into which the side tongue which flap J provides may enter.

By these constructions embodying the present improvements a strong and durable structure is not only obtained and one which when its parts are set up and locked in box form has a stiffness enabling a box and cover to be readily put together and form a closed receptacle, but such an interlocking of the parts composing the box ends that no ordinary handling or outward pressure of contents will separate the said ends and admit of the box end separating or becoming bulged.

What is claimed is—

1. A box formed from a blank cut and creased to constitute its end or ends with three closing flaps, the two side flaps whereof overlap one another and are provided with means for interlocking each other, and the outermost or end flap of which overlaps the upper edges of both side flaps and has its end secured within the folds forming the box end, so that no free end is left to project into the box, substantially as described.

2. A box formed from a blank cut and creased to provide its ends with three closing flaps, the two side flaps whereof are provided with means for interlocking each other, and the end flap whereof is provided with tongues entering each of said side flaps, whereby the three flaps are combined together and braced one by the other and a box end of great strength is secured, substantially as described.

3. A box formed from a blank cut and creased to provide opposite ends closed by three flaps, one of which flaps has an incision, as 11, 15, 17, and another incision, as 13, whereby two of said flaps are interlocked and provide a locking-pocket as 15, 17, and the third of which flaps carries an overlapping extension having a locking-tongue adapted to enter said pocket, whereby said opposite ends are constituted by flaps two of which are held together laterally and the third of which overlaps the inner ones and is engaged therewith by a tongue entering said pocket, substantially as described.

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

HARVEY S. MUNSON.

Witnesses:
J. J. KENNEDY,
G. M. BORST.