

1,302,236.

Patented Apr. 29, 1919.

Fig. 1.

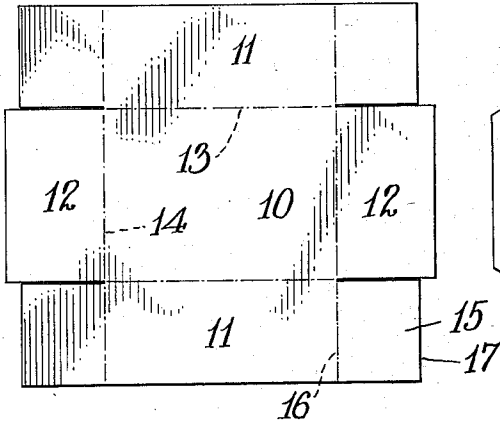


Fig. 2.

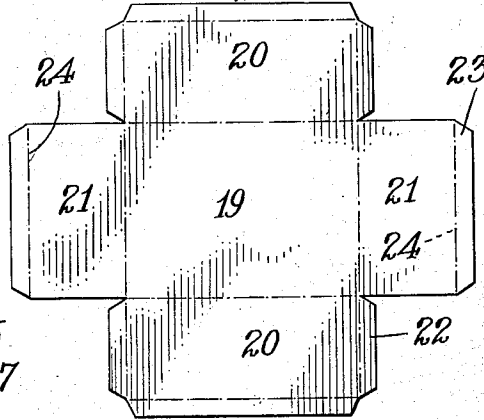


Fig. 3.

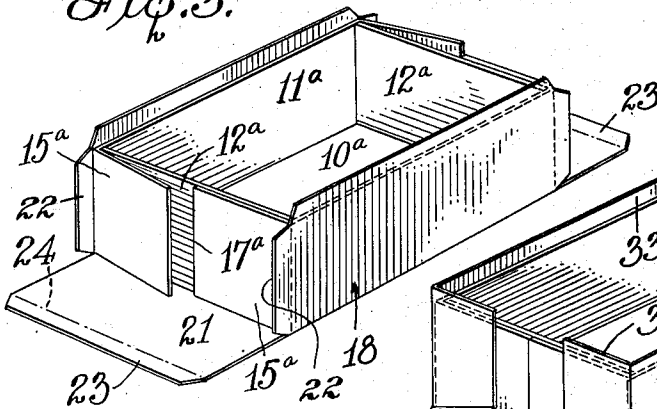


Fig. 5.

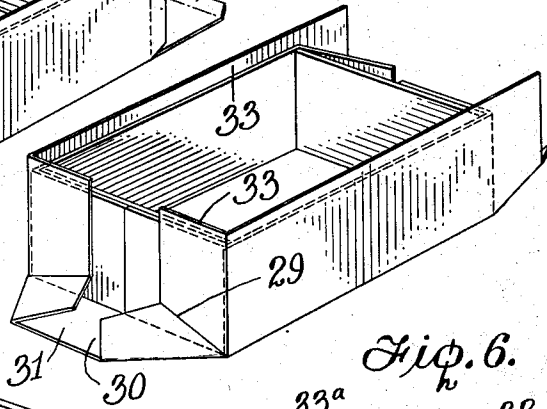


Fig. 4.

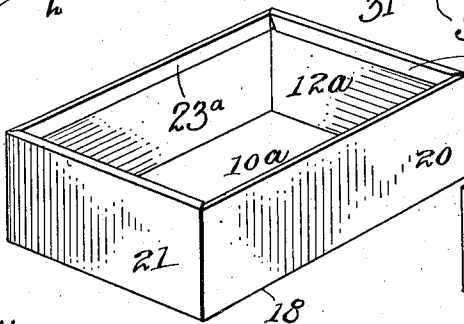
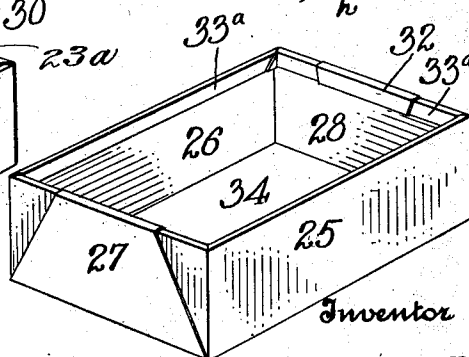


Fig. 6.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## COVERED BOX.

1,302,236.

Specification of Letters Patent.

Patented Apr. 29, 1919.

Application filed May 4, 1915. Serial No. 25,878.

*To all whom it may concern:*

Be it known that I, HARRY B. SMITH, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Covered Boxes, of which the following is a specification.

This invention relates to permanently "set up" covered boxes and particularly to covered box shells such as may telescope together to form a complete box or such as may be used with a lid to form a complete box.

Such a permanently "set up" box shell is usually formed of a blank of boxboard or cardboard which has integral wings or flaps which are folded up and secured at their corners to hold them in a fixed relation, that is, to hold the parts permanently in box form or shell form. In order to do this, it is a common practice to stay the corners of the box with wire or adhesively applied strips. A type of box has been produced in which the board blank is provided with end laps which come against each end wing of the blank when folded up into the shell form and form reinforcements for the end walls and corners of the shell. These end laps were always, prior to my invention attached together and held in the "set-up" condition by staples or eyelets because on account of the resiliency of the material the blank tends to move its flaps back to their normal flattened condition. In another type of box these end laps were held in place by means of strips secured to the inner side of the end wall extending over the exposed edge of the end wall and covering the end laps on the outside of the end wall. This adhesive strip, of course, held the end laps against the end wings of the blank which formed the shell, but in every case, so far as I am aware, when the box had end laps in addition to end wings forming a box with multiply ends, the plies at such ends have been secured together by separate fastening means of some kind, which fastening means served to hold the shell in its "set-up" condition.

After the box shell was formed or "set-up," constructed in any of the ways suggested, the box was then completed by covering it with a wrapper.

The staying of the corners or the securing of the end laps before covering the box shell entails a distinct operation which materi-

ally increases the cost of a complete covered box shell, and it is this additional operation I propose to eliminate by my improved construction.

A principal object of the present invention is to produce a non-stayed permanently "set up" covered box shell which will be strong enough at its corners to serve the purposes of a stayed corner box, but which is of a construction such that the wrapper or covering of the shell performs the function of permanently holding the folded up wings or flaps and the end laps of the board blank in a "set-up" condition, or in fixed relation with respect to each other and with respect to the body portion of the blank of which they form an integral part.

More specifically, the object of the invention is to produce a strong and serviceable covered box having reinforced or multiply end walls which can be constructed and maintained in its "set-up" condition without necessitating the operation of staying the corners or of securing the end laps by a distinct operation, or in other words, provide for assembling the box blank and covering wrapper in superposed relation in a non "set-up" condition and thereafter folding into complete box form, whereby the wrapper constitutes the sole means for holding the side wings and end laps of the shell blank in fixed relation.

Further objects of the invention will appear more fully hereinafter.

The invention consists in the general combination of parts and in those details hereinafter described, all of which contribute to produce an efficient covered box shell.

A preferred embodiment of my invention will be particularly described in the following specification, while the broad scope of my invention will be pointed out in the appended claims.

In the drawings,

Figure 1 is a plan of a cardboard or boxboard blank of a form which is well adapted for producing a box having the features of my invention.

Fig. 2 is a plan of a wrapper which may be applied to the box shell.

Fig. 3 is a perspective showing the box shell partly covered so as to clearly illustrate its construction.

Fig. 4 is a perspective of a completely covered box shell embodying my invention.

Fig. 5 is a perspective similar to Fig. 3

but showing what is usually termed a "loose wrapper" partly applied to the uncovered box shell.

Fig. 6 is a perspective similar to Fig. 4 showing the complete covered shell when covered with a wrapper such as illustrated in Fig. 5.

Referring more particularly to the parts, a box shell is most conveniently formed from a blank having the features illustrated in Fig. 1 and preferably comprising a substantially rectangular body portion 10 having integral side wings 11 and integral end wings 12. These wings or flaps are intended to fold up on the boundary lines 13 and 14 of the body portion 10 in such a way that the blank will assume an open box form or shell form such as illustrated in Fig. 3 in which the body portion 10 forms the bottom 10<sup>a</sup> of the box, and the end wings 12 become parts of the end walls 12<sup>a</sup> of the box. The blank is also preferably provided with end laps 15 which, if desired, may be extensions of the side wings 11 and arranged to fold upon the side wings on the line 16 which are preferably extensions of the lines 14 which form the boundaries of the body portion 10.

In folding up the blank into box form or shell form, as will presently appear these end laps 15 are preferably infolded so that they will overlie the outer faces of a pair of opposite wings, for example the end wings 12, and form the outer parts or reinforcements 15<sup>a</sup> of the multiply end walls. It should be understood that the fundamental purpose of these end laps 15<sup>a</sup> is to reinforce the corners of the box around which they are folded and to obviate the necessity for staying the corners. If desired, however, the end laps 15 may be of sufficient length to enable their edges 17 in the blank to meet at the point 17<sup>a</sup> in the box shell. Of course, when the board blank is folded up into shell form, all the wings or laps are disposed in planes at right angles to the plane of the body portion 10, but they simply form a box shell with unstayed or unfastened corners, and if the parts were not held in this relation, the shell would immediately open and tend to assume again the flat blank form illustrated in Fig. 1. In other words, an end wing 12 and its adjacent end laps 15, constitute a two-ply or multiple-ply end wall when the blank is folded, the plies being in facial contact but unsecured to each other, a condition which permits the plies to move relative to each other. However, in order to prevent this, I cover the shell while in this unstayed form with a wrapper 18. This wrapper may be either a tight or adhesive wrapper or a loose wrapper. By way of example, I have illustrated in Fig. 3 a tight wrapper partly applied to the shell. A preferred form for this wrapper is to produce it from a one-piece

blank such as illustrated in Fig. 2, said blank preferably having a body portion 19 corresponding in shape and dimensions to the body portion 10 of the board blank, and having also side wings 20 and end wings 21 which correspond respectively to the side wings 11 and end wings 12 of the board blank.

In the wrapper blank, however, the side wings 20 have extensions 22 at their ends which are to form corner laps in covering the shell, and all of the wings 20 and 21 are preferably provided with marginal edges 23 intended to fold on the corresponding wing portions 21 on the lines 24. This wrapper is preferably completely covered on one face with an adhesive such as paste or mucilage. The wrapper is applied to the uncovered and unstayed box shell in the manner indicated in Fig. 3 with the bottom 10<sup>a</sup> of the box shell resting on the body portion 19 of the wrapper blank, or the two blanks assembled in superposed relation. The completely covered and "set-up" box shell has substantially the appearance illustrated in Fig. 4, each of the sides of the box shell being adherently covered by the corresponding portions of the wrapper. The marginal portions 23 of the wrapper extend over the edges of the shell and extend into the interior of the shell and are adhesively applied along the faces of the side walls and end walls as indicated at 23<sup>a</sup>, see Fig. 4. The wrapper then performs the function of permanently holding the sides and the ends of the shell in a fixed relation with respect to the body portion of the blank which then forms the bottom 10<sup>a</sup> of the shell, or in other words, maintains the box blank in its "set-up" condition. At the same time this covering or wrapper performs the regular function of a cover or wrapper and also serves to maintain the infolded end laps 15 flat against the outer faces of the end wings as 12.

It is evident that a covered box shell constructed as described will have strong corners and ends giving substantially the effect of a stayed corner box without necessitating a separate operation of staying the corners and without necessitating any separate operation of fastening the end laps in position, thus materially reducing the cost of manufacture of the boxes and simplifying the "setting-up" operation since the folding up and covering operations are carried on while the blank and its wrapper are in assembled relation and unstayed. In this form of box shell, it should be understood that the wrapper preferably adheres at all points to the exterior of the shell.

My invention may be practiced with different types of wrappers, for example, I may produce a loose wrapped box shell embodying my invention. Such a shell is illus-

trated in Fig. 6. In this form of shell the wrapper blank does not coincide so closely in outline with the shape of the board blank but is formed so that after the sides of the wrapper 25 are applied to the side walls 26 of the shell, the ends of the wrapper may be folded in to form gusset folds 27 on the end walls 28 of the shell. Fig. 5 illustrates one manner in which these gusset folds may be formed by producing a crease or edge near each corner of the box, as indicated at 29, so that a doubled flap 30 may be formed at the end of the wrapper. These doubled flaps are then folded up against the end walls of the box and their margins 31 which are adhesive are folded into the interior of the box and secured to the inner faces of the end walls, as indicated at 32, and so that they adhere to the end walls. The margins 33 of the wrapper at the side are also adhesive on their inner faces so that when they are folded into the interior of the box, they will also adhere as at 33<sup>a</sup> to the inner faces of the end walls and side walls, see Fig. 6. In a box shell of this form, of course, the wrapper is loose at all exterior points of the shell, but by reason of the attachment on the points 32 and 33<sup>a</sup> the wrapper holds the walls of the shell in a permanently fixed relation with respect to the bottom wall 34, or in other words, maintains the shell in a "set-up" condition.

While I have referred to the walls 10<sup>a</sup> and 34 of the two shells as "bottom" walls, of course, this is merely for convenience, and, if desired, these walls may be considered the top walls of the shell or box. If it is desired to form a complete box from this box shell, two such box shells may be produced of slightly different dimensions and telescoped together; or a box lid of any desired form may be provided and suitably attached to the covered box shell.

It is understood that the embodiment of the invention set forth herein is only one of

the many embodiments or forms the invention may take, and I do not wish to be limited in the practice of the invention nor in my claims to the particular embodiment set forth.

What I claim is:

1. As a new article of manufacture, a permanently "set up" non-stayed covered box shell formed from a foldable one-piece board blank and a covering wrapper, said blank having side and end wings, the side wings having end laps, the said blank and wrapper being assembled in superposed relation in a non "set-up" condition and thereafter folded into box form with marginal portions of the wrapper infolded over the edges of and adhesively attached to the inner faces of the side and end walls of the box, whereby the wrapper constitutes the sole means for permanently holding the side wings and end laps of the shell in fixed relation.

2. As a new article of manufacture, a permanently "set up" non-stayed covered box shell formed from a foldable one-piece board blank and an adhesively coated covering wrapper, said blank having side and end wings, and the side wings having end laps, the said blank and wrapper being assembled and adhesively attached together in superposed relation in a non "set-up" condition and thereafter folded into box form with marginal portions of the wrapper infolded over the edges of and adhesively attached to the inner faces of the side and end walls of the box, whereby the wrapper constitutes the sole means for permanently holding the side wings and end laps of the shell in fixed relation.

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

HARRY B. SMITH.

Witnesses:

ASPERT FRANKDRAW,  
ERVIN NEUHUT.