

Aug. 8, 1939.

H. E. COLE

2,169,065

FOLDING BOX

Filed June 22, 1936

2 Sheets-Sheet 1

Fig. 1

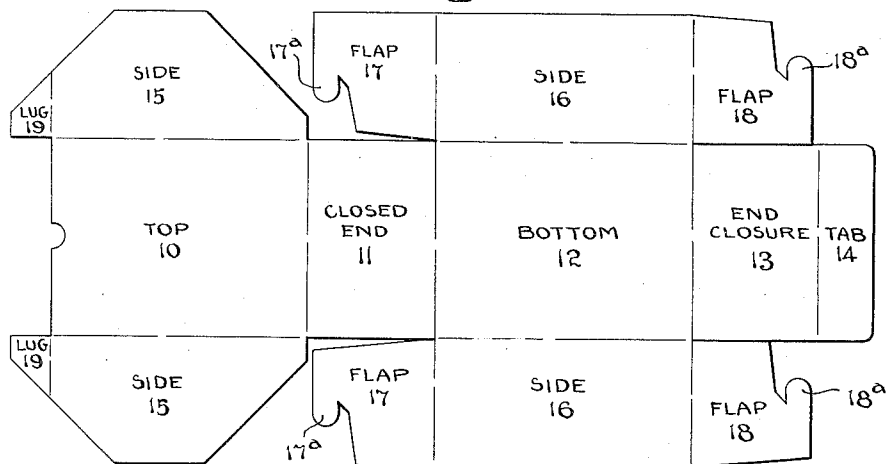
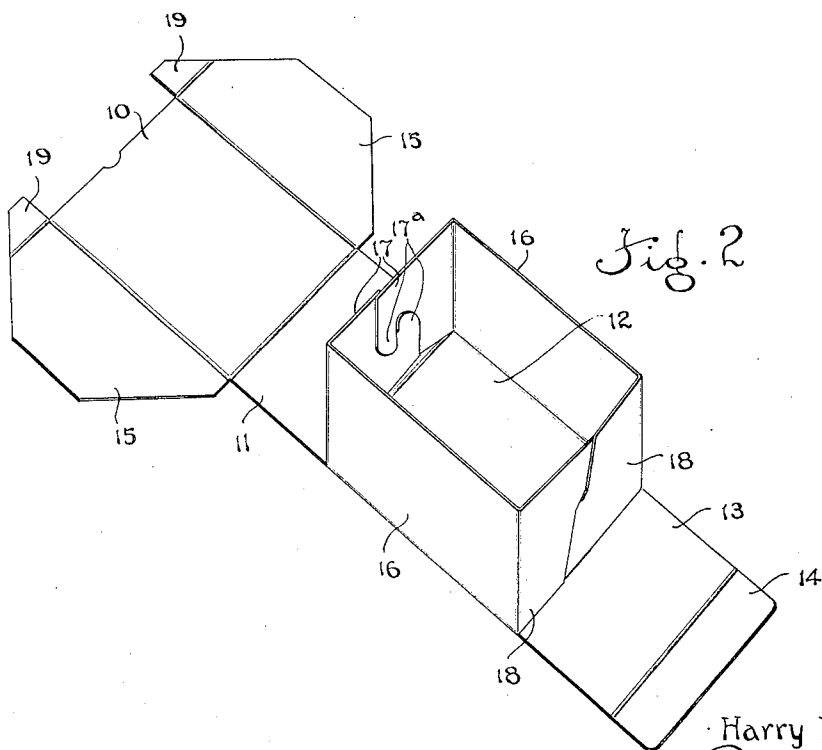


Fig. 2

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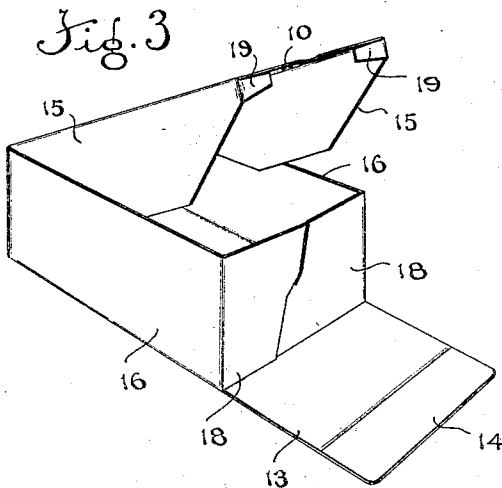
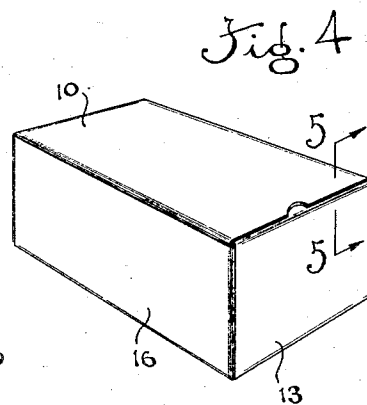


Fig. 5

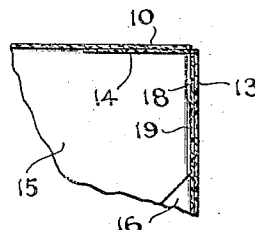
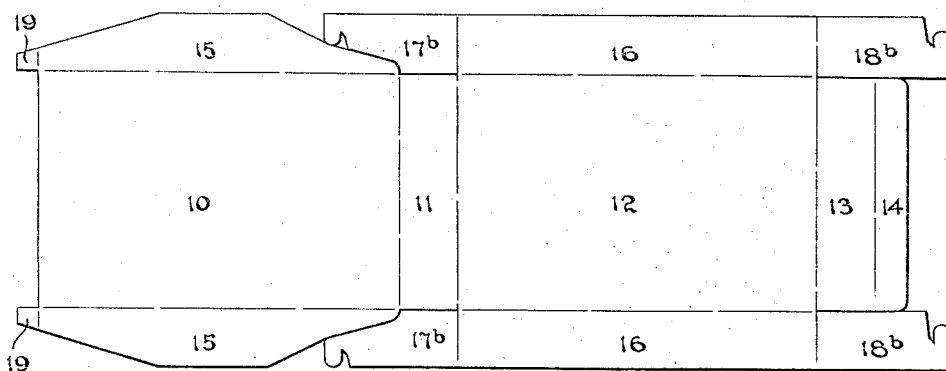


Fig. 6



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FOLDING BOX

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Application June 22, 1936, Serial No. 86,447

7 Claims. (Cl. 229—36)

This invention relates to folding boxes.

One object of the invention is to provide a simple, inexpensive folding box construction that can be quickly folded to box form from a single blank for use in the rapid packaging of articles.

Another object of the invention is to provide a box of this type in which during the initial stages of folding a receptacle is provided to receive and enclose about all sides an article to be packaged.

Another object of the invention is to provide a box of this type effectively operable regardless of the dimensions of the box, there being no limitation on the width, length, or height of the box by reason of its folding construction.

Another object of the invention is to provide a box of this type in which there is a considerable saving in material.

Still another object of the invention is to provide a box of this type in which the sidewalls are reinforced to prevent collapsing of the top.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

Embodiments of boxes made according to this invention are shown in the accompanying drawings, in which:

Figure 1 is a plan view of a box blank embodying this invention.

Figure 2 is a perspective view showing the box after the first step in the folding operation.

Figure 3 is a perspective view illustrating the second step in folding operation.

Figure 4 is a perspective view illustrating the completion of the folding operation.

Figure 5 is a cross-section on the line 5—5 of Figure 4 illustrating the closure locking means.

Figure 6 is a view similar to Figure 1 illustrating a blank for a box of comparatively wide dimension.

Referring to Figure 1 of the drawings, the box blank is stamped out to shape in the usual way from a suitable material, such as cardboard, and scored as indicated by the broken lines. The numeral 10 designates the top, 11 the closed end, 12 the bottom, 13 the end closure, and 14 the locking tab, all of which are in a line through the center of the blank. At the sides of the top 10 and the bottom 12 are the parallel side walls 15, 15 and 16, 16 respectively. The side 16, 16 are provided with interlocking flaps 17, 17 at the closed end and similar flaps 18, 18 at the closure end. The sides 15, 15 may be suitably extended to provide locking lugs 19, 19. These are short free

lugs extending from the outer ends of the top sidewalls 15.

In folding the box the first step is to fold the sides 16, 16 upwardly and the flaps 17 and 18 inwardly, these being interlocked across the ends of the box by means of cooperating hook members 17^a and 18^a. As will be seen from Figure 2, this provides a receptacle closed on four sides and capable of retaining an article to be packaged.

The second step in the folding operation is to fold the sides 15 upwardly and the lugs 19 inwardly, then fold the closed end 11 upwardly and the top 10 over the opening, at the same time inserting the lugs 19 and the sides 15 into the receptacle until the bottom edges of the sides 15 rest on the bottom 10. This step is best illustrated in Figure 3.

The final step in the operation is to fold the end closure 13 upwardly and the tab 14 inwardly, and insert the latter between the top 10 and the upper edges of the lugs 19 to firmly lock the top 10 and the end closure 13 in the closed condition illustrated in Figures 4 and 5.

In boxes of this character as heretofore constructed the width of the box, as compared with its height, has been limited since it was necessary that flaps interlocking across an end of the box be not greater in length than the height of the box. As will be seen in Figure 6, the present type of box may be constructed in any width irrespective of its height, since flaps 17^b corresponding to flaps 17 of Figures 1 to 5 inclusive may be made any desired length so as to interlock across any desired width of box, by being cut from material which would otherwise comprise portions of the sides 15^b. Of course, the corresponding flaps 18^b at the closure end of the box of Figure 6 present no problem, it being only necessary to extend the length of the blank sufficiently to permit cutting them to the same length as the flaps 17^b. The box in Figure 6 is otherwise identical in construction with that shown in Figures 1 to 5 and is folded or set up in the same manner as described above.

It will be apparent from the foregoing description and the drawings that by the invention a more simple inexpensive box, economical in the use of material in its manufacture, has been provided. The box is capable of being more effectively used in the packaging of articles in that in the initial stages of folding the box a receptacle is formed to receive the article or goods and to enclose the same against displacement during the final stages of folding.

Modifications of the invention may be resorted

to without departing from the spirit thereof or the scope of the appended claims.

What is claimed is:

1. A folding box, comprising a one-piece blank including a top, a closed end, a bottom, and an end closure, in line through the center of the blank, a pair of side walls on said bottom, interlocking flaps on the opposite ends of said side walls, a second pair of side walls on said top, short free lugs on the outer ends of said second pair of side walls, and a tab on said end closure adapted to engage between said lugs and said top whereby the box may be securely locked in folded position.

2. A folding box, comprising a one-piece blank including a top, a closed end, a bottom, and an end closure, in line through the center of the blank, a pair of side walls on said bottom, interlocking flaps on the opposite ends of said side walls, said flaps being adapted to be interlocked across the ends of the box to form, in the initial stages of the folding, a receptacle open at the top, a second pair of side walls on said top, free lugs on the outer ends of said second pair of side walls, and a tab on said end closure adapted to engage between said lugs and said top whereby the box may be securely locked in folded position.

3. A folding box, comprising a one-piece blank including a top, a closed end, a bottom, and an end closure, in line through the center of the blank, a pair of side walls on said bottom, interlocking flaps on the opposite ends of said side walls, a second pair of side walls on said top, the bottom edges of said second pair of side walls being adapted to engage with said bottom to reinforce the box and prevent collapsing, free lugs on the outer ends of said second pair of side walls, and a tab on said end closure adapted to engage between said lugs and said top whereby the box may be securely locked in folded position.

4. A folding box, comprising a one-piece blank including a top, a closed end, a bottom, and an end closure, in line through the center of the blank, a pair of side walls on said bottom, a second pair of side walls on said top, interlocking flaps on the opposite ends of said side bottom walls, said flaps being adapted to be interlocked across the ends of the box to form, in the initial stages of the folding, a receptacle open at the top, said flaps being longer than the height of the box, the material for the additional length of the closed end flaps being derived from material which would otherwise comprise portions

of said second pair of sides, free lugs on the outer ends of said second pair of side walls, and a tab on said end closure adapted to engage between said lugs and said top whereby the box may be securely locked in folded position.

5. A folding box, comprising a one-piece blank including a top, a closed end, a bottom, and an end closure, in line through the center of the blank, a pair of side walls on said bottom, a second pair of side walls on said top, interlocking flaps on the opposite ends of said bottom side walls, said flaps being longer than the height of the box, the material for the additional length of the closed end flaps being derived from material which would otherwise comprise portions of said second pair of side walls, said flaps being adapted to be interlocked across the ends of the box to form, in the initial stages of the folding, a receptacle open only at the top, the bottom edges of said second pair of side walls being adapted to engage with said bottom to reinforce the box and prevent collapsing, lugs on the outer ends of said second pair of side walls, and a tab on said end closure adapted to engage between said lugs and said top whereby the box may be securely locked in folded position.

6. A folding box, comprising a one-piece blank including a top, a closed end, a bottom, and an end closure, in line through the center of the blank, a pair of side walls on said bottom, interlocking flaps on the opposite ends of said side walls, said flaps being longer than the height of the box, a second pair of side walls on said top, said side walls being of a width substantially equal to the height of the box and a means for securing said end closure in a closed position.

7. A folding box, comprising a one-piece blank including a top, a closed end, a bottom, and an end closure, in line through the center of the blank, a pair of side walls on said bottom, interlocking flaps on the opposite ends of said side walls, said flaps being longer than the height of the box, the material for the additional length of the closed end flaps being derived from material which would otherwise comprise portions of said second pair of sides, said flaps being adapted to be interlocked across the ends of the box to form, in the initial stages of the folding, a receptacle open only at the top, a second pair of side walls on said top, the bottom edges of said second pair of side walls being adapted to engage with said bottom to reinforce the box and prevent collapsing, and means for securing said end closure in a closed position.

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