L. W. COLE.

FOLDING BOX.

APPLICATION FILED SEPT. 13, 1918.

1,311,047.

Patented July 22, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

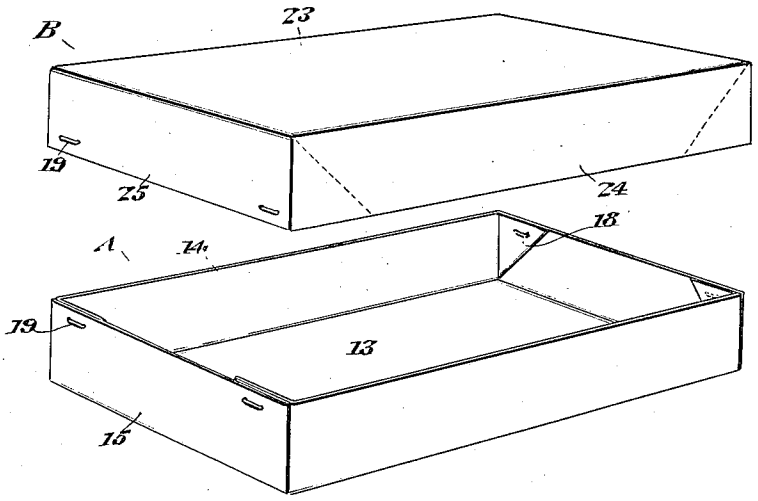


Fig. 2.

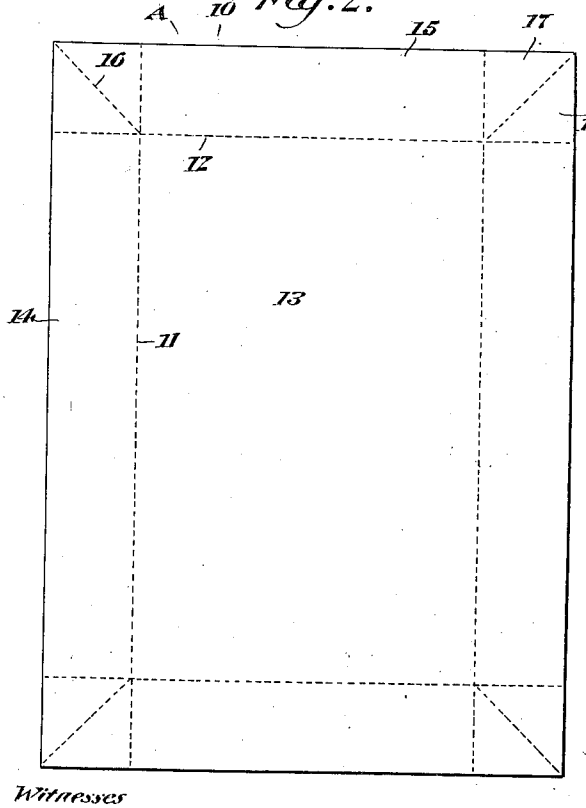
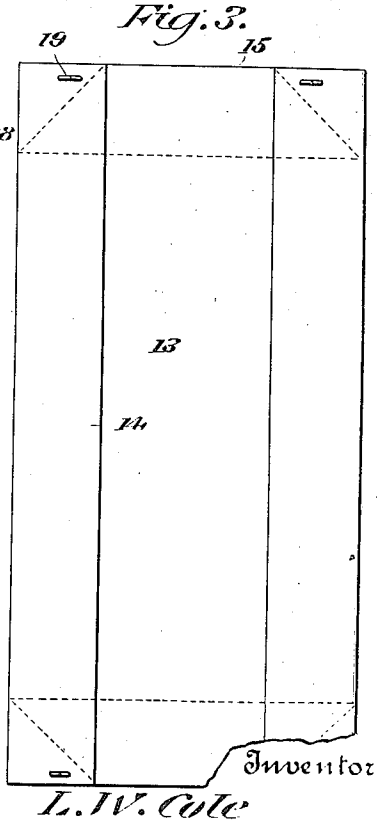


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

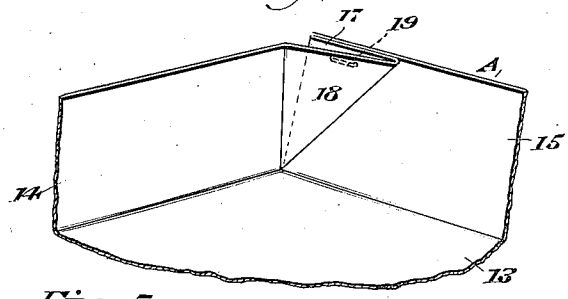


Fig. 5.

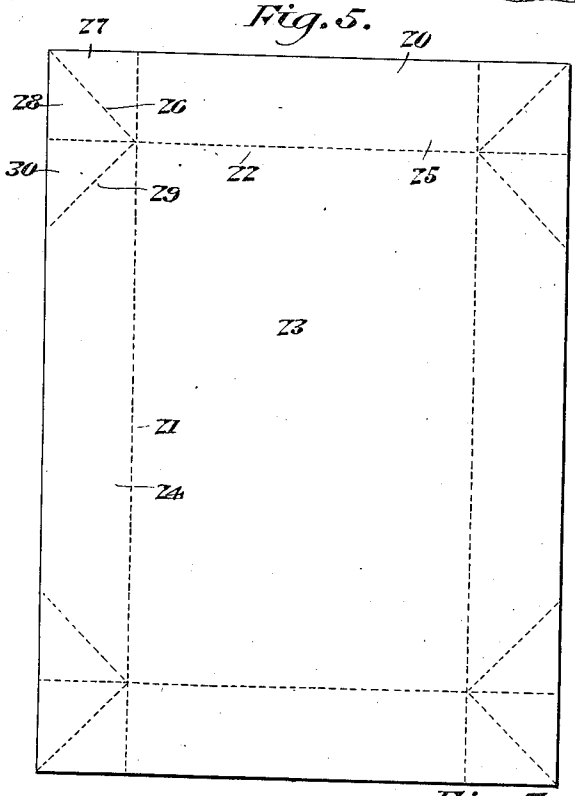


Fig. 6.

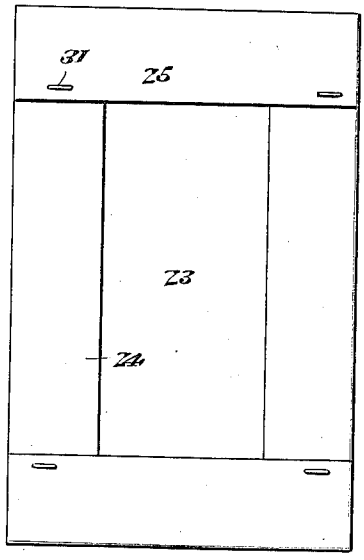
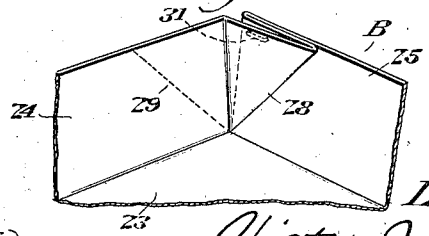


Fig. 7.



Witnesses

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FOLDING BOX.

1,311,047. Specification of Letters Patent. Patented July 22, 1919.

Application filed September 13, 1918. Serial No. 253,936.

To all whom it may concern:

Be it known that I, LYTLE W. COLE, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, have invented new and useful Improvements in Folding Boxes, of which the following is a specification.

This invention relates to folding boxes and has for its object the provision of a box formed of separate bottom and cover sections each formed of a single sheet of material scored and folded to provide flaps which are permanently secured, and each section having its side and end portions foldable upon the body portion to lie flat so that the box will occupy a minimum space for convenience in transportation and storage.

An important object is the provision of a box of this character in which the end portions of one section are foldable outwardly and the end portions of the other section are foldable inwardly whereby the unfolding tendency of the sections, owing to the natural resilience of the material from which they are formed, will tend to hold the sections in assembled relation.

Another object is the provision of a folding box of this character which will be extremely simple and inexpensive in manufacture, efficient in use, durable in service and a general improvement of the art.

With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of the sections in extended position and separated from each other.

Fig. 2 is a view of the blank from which the bottom section is formed.

Fig. 3 is a plan view of the bottom section in its folded position.

Fig. 4 is a fragmentary perspective view of one corner of the bottom section in partly extended position.

Fig. 5 is a view of the blank from which the cover section is formed.

Fig. 6 is a plan view of the cover section in folded position, and

Fig. 7 is a fragmentary perspective view of one corner of the cover section in partly extended position.

Referring more particularly to the drawings the letters A and B designate the bottom and top sections of the box, respectively. The bottom section A is formed from a single sheet of material 10, which is rectangular in shape, and which is longitudinally scored along the lines 11 and transversely scored along the lines 12 to provide a bottom 13, sides 14 and ends 15. The sheet 10 is further scored along the lines 16 from the outer corners of the sheet to the junctures of the lines 11 and 12. The provision of the lines of scoring 16 diagonally of the rectangular areas defined by the lines 11 and 12 at the corners of the sheet defines lapping portions 17 and 18. When the bottom section A is assembled, the side portions 14 are folded inwardly upon the bottom portion 13, after which the lapping portions 17 are secured to the end portions 15 by suitable staples 19 or other similar fastening devices. This assembly of the bottom section is clearly shown in Fig. 3 of the drawing.

The cover section B comprises a sheet of material 20, which is rectangular in shape, and which is longitudinally scored along the lines 21 and transversely scored along the lines 22 to define a bottom 23, side portions 24 and end portions 25. The sheet 20 is further scored along lines 26 which extend from the corners of the sheet to the junctures of the lines 21 and 22. These lines 26 define lapping portions 27 and 28 at the corners of the sheet. The sheet is furthermore provided with lines of scoring 29 which extend from the junctures of the lines 21 and 22 to the side edges of the sheet at an angle of 45 degrees thereto. These lines 29 define other lapping portions 30.

In assembling the cover section the end portions 25 are folded to extend at right angles to the bottom 23 and the side portions 24 are similarly folded. The lapping portions 27 will then be disposed against the inner faces of the end portions 25 and the lapping portions 28 will be disposed against the outer sides of the lapping portions 27. These lapping portions 27 and 28 are then secured to the respective end portions 25 by means of staples 31 or other suitable securing devices. After the cover section is thus assembled, it is collapsed by folding the end portions 25, carrying with them the lapping portions 27 and 28, inwardly, at the same time folding the side portions 24 inwardly

upon the bottom 23. The lines of scoring 29 permit this inward folding of the end portions and the lapping portions 30 will be disposed flat upon the side portions 24. This collapsed position of the cover section is clearly shown in Fig. 6 of the drawings.

The use of the box is as follows:—The bottom section A being assembled and being in its collapsed position as shown in Fig. 3, in order to form it into a receptacle it is merely necessary that the operator grasp the folded down side portions 14 and swing them outwardly, whereupon the end portions 15 will be drawn upwardly. The operator then grasps the end portions 15 and the lapping portions 18 and presses them firmly together. The bottom section will then assume a position forming a rectangular receptacle with the side portions 14 and end portions 15 extending at right angles to the bottom 13. The articles to be boxed are placed within the receptacle thus formed. In order to extend the cover section it is necessary that the operator grasp the folded-down end portions 25 and swing them outwardly, whereupon the side portions 24 will also be drawn outwardly. The cover section will then assume the position and shape of a rectangular inclosure and may be engaged upon the extended bottom section A as will be obvious.

It will be noted from the foregoing description and a study of the drawings that I have thus provided a folding box which is formed of two sections which are separable from each other and each of which is formed from a single sheet of rectangular shape merely by scoring and folding and without any necessity for cutting away any portion of the material and without the provision of interengaging tongues and slots. In view of the fact that the lapping portions are permanently secured to the end portions by means of staples or other fastening means, all the disadvantages of tongues engaging within slots are avoided and the sections may be moved into their extended positions with the maximum ease and with the minimum expenditure of time. This construction of the folding box is extremely simple and will be obviously inexpensive and from the disclosure it will be apparent that a box thus formed will be extremely strong and serviceable and will naturally remain in extended position when once set up owing to the natural tendency of the end portions 15 of the bottom section to swing outwardly and the natural tendency of the end portions 25 of the cover section to swing inwardly, these end portions consequently cooperating with each other for forming a rigid structure and for holding each other in extended position.

Having thus described my invention I claim:

A folding box comprising complementary bottom and cover sections each formed from a single sheet of material longitudinally and transversely scored to define a bottom portion and side and end portions, each sheet being scored from its corners to the adjacent juncture of the line of longitudinal and transverse scoring to define lapping portions, the lapping portions adjacent the end portions being permanently secured thereto and the lapping portions adjacent the side portions being unsecured thereto, the side portions of the sheet forming one section being further scored from the junctures of the lines of longitudinal and transverse scoring to the adjacent free side edges of the sheet at an angle of 45° thereto to define other lapping portions whereby said end portions and the lapping portions secured thereto may be folded inwardly onto the folded side portions and the bottom portion, the natural resilience of the material from which said sections are formed causing a normal outwardly moving tendency of the side and end portions of the first section and inwardly moving tendency of the side and end portions of the other section whereby the assembled sections will remain in frictional contact, both of said sections being foldable while the securing members are in position.

In testimony whereof I affix my signature.

LYTLE W. COLE.