No. 647,897. Patented Apr. 17, 1900.

A. L. KRAMER.

FOLDING PAPER BOX.

(Application filed Feb. 5, 1900.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

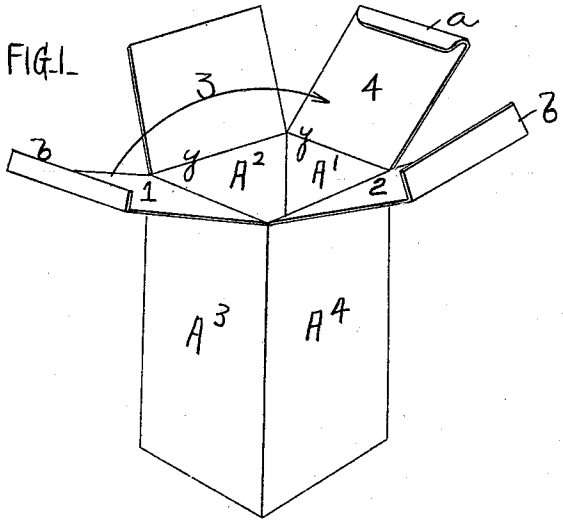


FIG. 2.

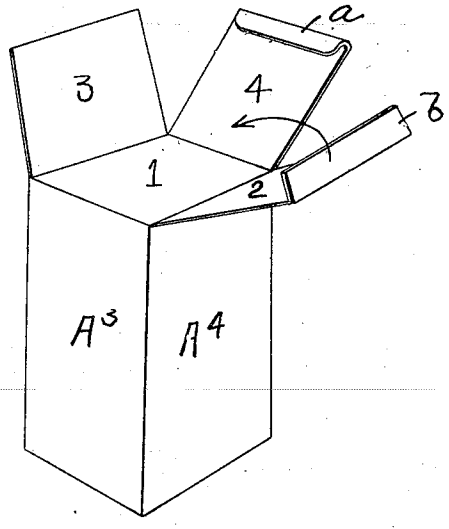


FIG. 3.

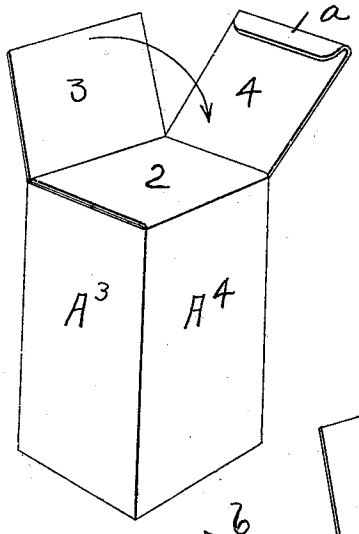


FIG. 4.

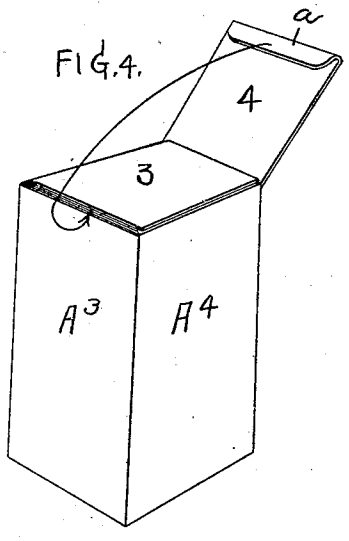
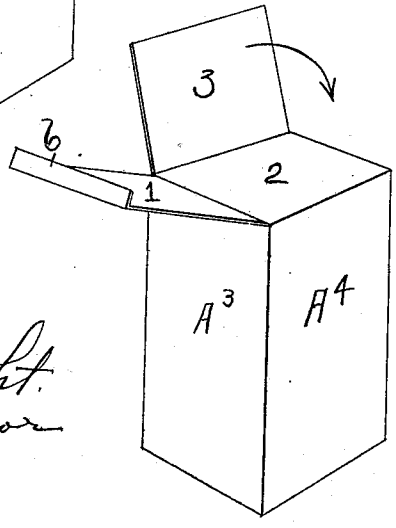


FIG. 5.



WITNESSES:

F. W. Wright.

A. C. Connor

INVENTOR

ANDREW LEWIS KRAMER

BY

Howson and Howson

HIS ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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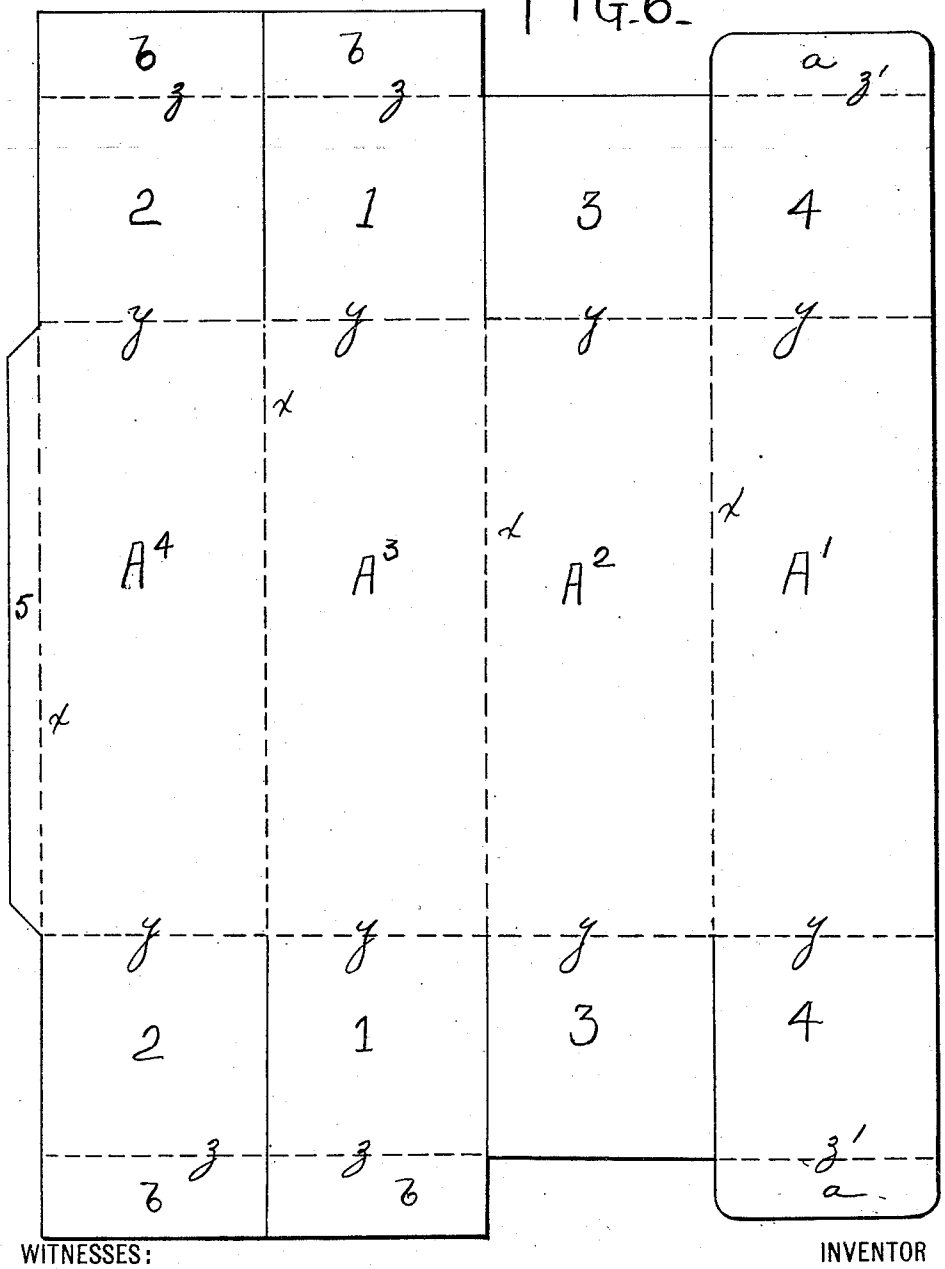
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FIG. 6.



WITNESSES:

F. W. Wright.

L. C. Connor

INVENTOR

ANDREW LEWIS KRAMER

BY

Howson and Howson

HIS ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ANDREW LEWIS KRAMER, OF NEW YORK, N. Y.

FOLDING PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 647,897, dated April 17, 1900.

Application filed February 5, 1900. Serial No. 4,027. (No model.)

To all whom it may concern:

Be it known that I, ANDREW LEWIS KRAMER, a citizen of the United States of America, and a resident of New York city, borough of Brooklyn, State of New York, have invented Improvements in Folding Paper Boxes, of which the following is a specification.

The object of my invention is to provide a simple, economically-manufactured, and durable folding paper box which without gluing or stitching the ends can be used for finely comminuted or pulverized materials—such as flour, starches, sodas, spices, &c.—without danger of the contents sifting out and which can be opened and reclosed without destroying the box and without liability of dust getting in.

In the accompanying drawings, Figure 1 is a perspective view showing the box closed at one end, but open at the other and ready to receive its contents. Figs. 2, 3, and 4 are corresponding perspective views illustrating the successive steps in the closing of the flaps. Fig. 5 is a perspective view illustrating the manner of reclosing the box without the fourth flap, and Fig. 6 is a view of the cut blank for the box.

In the drawings I have shown the blank and box as provided with my construction and arrangement of closing flaps at both ends of the box; but it will be understood that my invention may be employed at one end of the box only, preferably at what may be called the "upper" end of the box, while any other suitable construction of the sealing-flaps with or without the use of paste or glue may be employed at the other end. It will suffice in the following explanation of my invention to describe the construction and mode of manipulating the flaps at one end.

As will be seen by reference to Fig. 6, the blank for the box is cut from one sheet of paper-board or other suitable material with but very little waste. The body of the box is divided by score-lines x into five sections A′, A^2, A^3, A^4, and 5, the first four being intended to form the four side walls of the box, while the fifth section 5 constitutes a narrow flap, which is to be permanently glued or otherwise secured to the edge of section A′ at the opposite end of the blank, so as to make a tubular body for the box.

Each of the four adjoining sections, which form the walls of the box, has at the end where my invention is employed a flap which forms an extension of its section with an intermediate score or folding line y. Of these the shortest flap 3, which is shown in this case as on the section A^2, is equal in length and width to the cross-section of the tubular body of the box when it is expanded so as to present the usual rectangular cross-section. The two next flaps 1 and 2 on one side of the flap 3, in this case shown on the left of the flap 3 and as extensions of the sections A^3 A^4 of the body of the box, are of equal length with each other, but longer than the flap 3 by the length of their respective tongues b. These tongues are separated from the bodies of their respective flaps by score or folding lines z. The remaining flap 4 on the other side of the flap 3 and shown as an extension of the section A′ of the body of the box is also longer than the flap 3 to the extent of a "tuck-in" tongue a, which is preferably provided with beveled or rounded corners and may be a little shorter than the tongues b. Between this tongue a and its flap 4 is a folding or score line z'. The material of the blank is severed through between these flaps 1 2 3 4, as indicated by full lines in Fig. 6. The folding or score lines are indicated by dots or dashes.

Fig. 1 illustrates the condition of the box when its tubular body has been expanded to rectangular cross-section, and it is supposed that the bottom has been closed. To close the top, the tongued flap 1 is turned over, as indicated by the arrow in Fig. 1, until it lies at right angles to the side walls of the box, as shown in Fig. 2, when its tongue b will lie against the inner face of the opposite side wall of the box. Then the tongued flap 2 is folded over in like manner, as indicated by the arrow in Fig. 2, until it reaches the position shown in Fig. 3, the tongue b of this flap 2 being tucked in between the edge of the flap 1 and the opposite side wall, which carries the flap 3, the said tongue b of the flap 2 then bearing against the inner face of that side wall which carries the flap 3. The tongue-

less flap 3 is then folded down, as indicated by the arrow in Fig. 3 and as shown in Fig. 4, over the top of the flap 2. Finally the flap 4 is folded down over the top of the other flaps, and its tuck-in tongue *a* is introduced between the under side of the flap 2 and the first folded flap 1, so as to embrace the edges of the two flaps 2 and 3 and so lock the flaps together. This simple manner of closing and locking the box gives a very secure sealing action, and if the flaps are cut to proper proportions with reference to the cross-sectional area of the tubular box the box will be practically siftless, as well as strong and durable. Nevertheless it can be easily opened and closed again as often as desired, thereby preventing the entrance of dust or the spilling of the contents. The box when closed has all smooth sides and top and bottom, which can be lithographed or printed, as desired, and opened and closed again without destroying the printed or lithographed matter.

Should the outer flap 4 after repeated use be torn off accidentally or otherwise, the box can nevertheless be reclosed with sufficient completeness to exclude dust from the contents; but in that case the order of folding down the remaining three flaps will be changed to the extent indicated in Fig. 5—that is to say, the flap 2 will be folded down first to bring its tongue alongside the inner face of the opposite side wall of the box. Then the tongueless flap 3 will be folded down, and finally the tongued flap 1 will be folded over on the top and its tongue *b* introduced between the edges of the flaps 2 3 and the face of the side wall from which the flap 4 has been torn. In a tubular folding box in which a siftless closure is not necessary the flap 4 may be omitted in the first instance, as shown in Fig. 5, and in that case the three flaps will be folded down in the order described with reference to that figure.

I am aware that tubular folding boxes have been provided with flaps having tongues; but I believe it is new to construct a tubular folding box with the combination of flaps and tongues which I have described and which has the merit of simplicity, strength, durability, and efficiency.

I claim as my invention—

1. A tubular folding box with four side walls, one of which is provided with a tongueless flap, while an adjacent side wall and also the one opposite have flaps with tongues to bear against the side walls and the fourth side wall has a flap with a tuck-in tongue which embraces the edges of two of the other flaps.

2. A blank for a folding box having a plurality of sections to be united to make a tubular box, four of the sections having flaps to form one end of the box, two flaps 1 and 2 having tongues *b b* to bear against the inner faces of the side walls opposite, flap 3 being tongueless and the fourth flap 4 having a tuck-in tongue to embrace and lock the edges of two of the other flaps, substantially as described.

3. A tubular folding box with four side walls, one of which is provided with a tongueless flap, and another has a flap with a tongue to bear against the opposite side wall, and another has a flap with a tuck-in tongue to embrace the edges of two of the other flaps.

4. A tubular folding box with four side walls, provided at one end with a plurality of flaps to close that end of the box, one of said flaps having a tuck-in tongue to embrace and thereby lock the edges of two of the other flaps, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANDREW LEWIS KRAMER.

Witnesses:

ADELINE L. KRAMER,

HUBERT HOWSON.