B. S. MORGAN.

PAPER BOX AND METHOD OF MAKING PAPER BOXES.

APPLICATION FILED MAR. 17, 1909.

943,034. Patented Dec. 14, 1909.

3 SHEETS—SHEET 1.

Fig. 1.

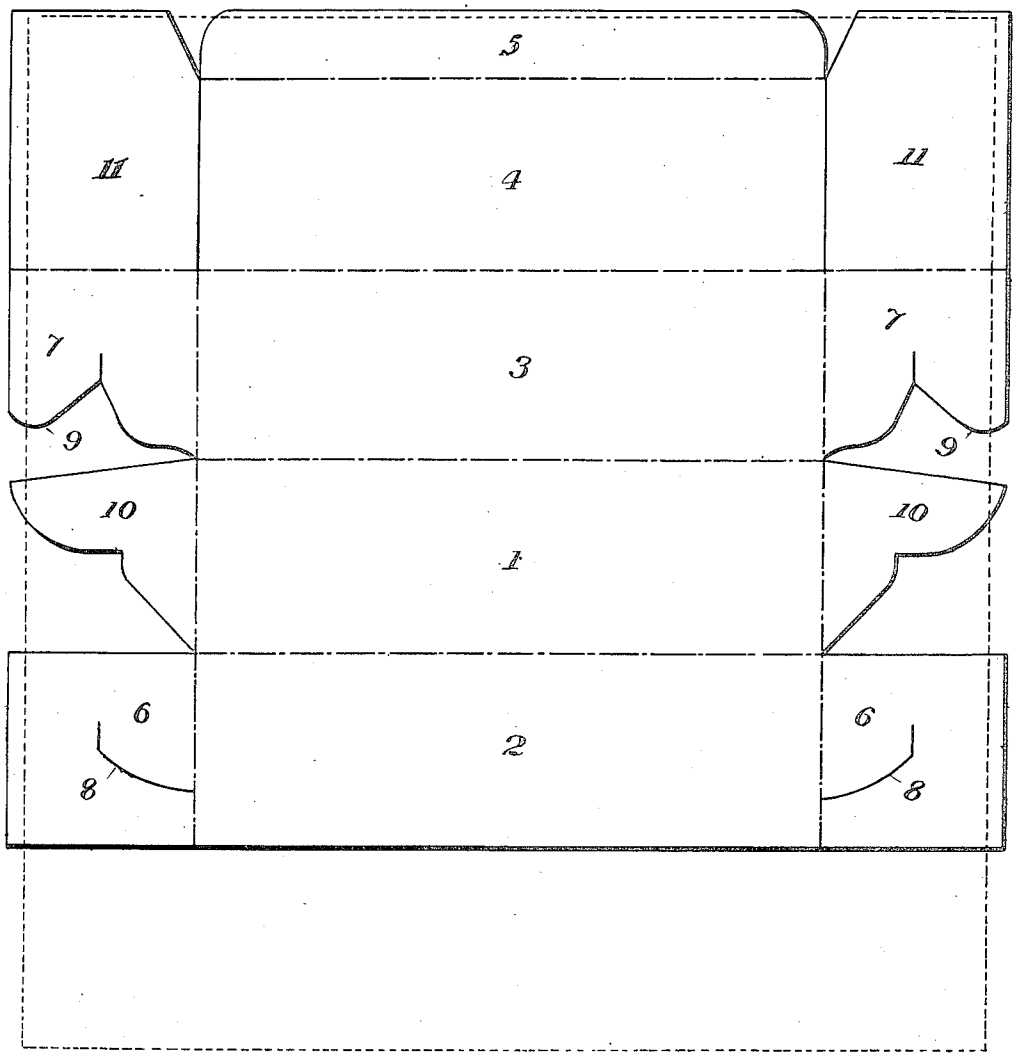
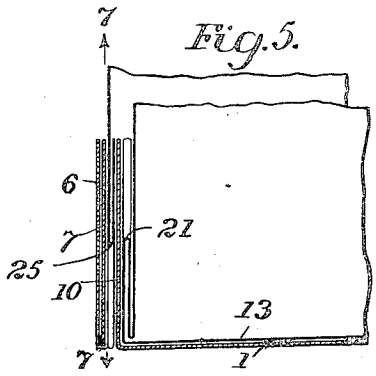


Fig. 5.



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3 SHEETS—SHEET 2.

Fig. 2

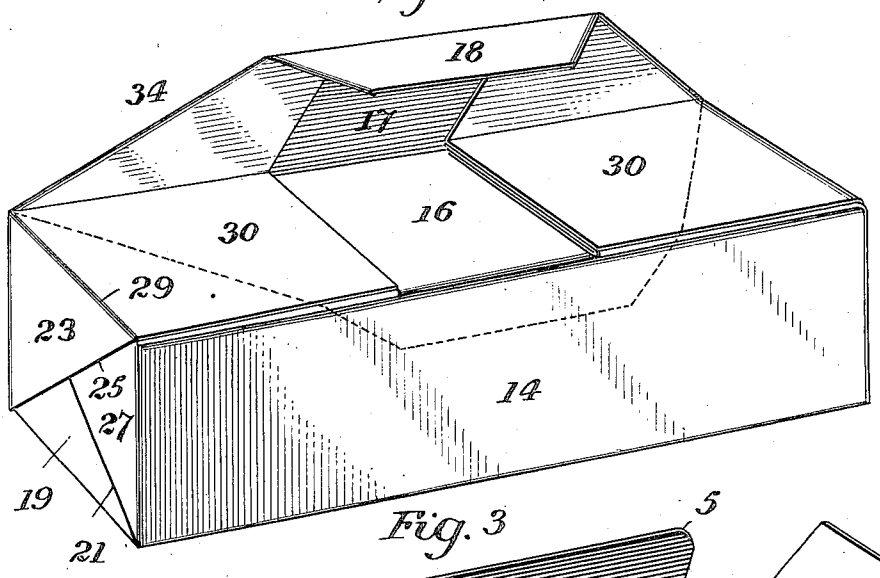
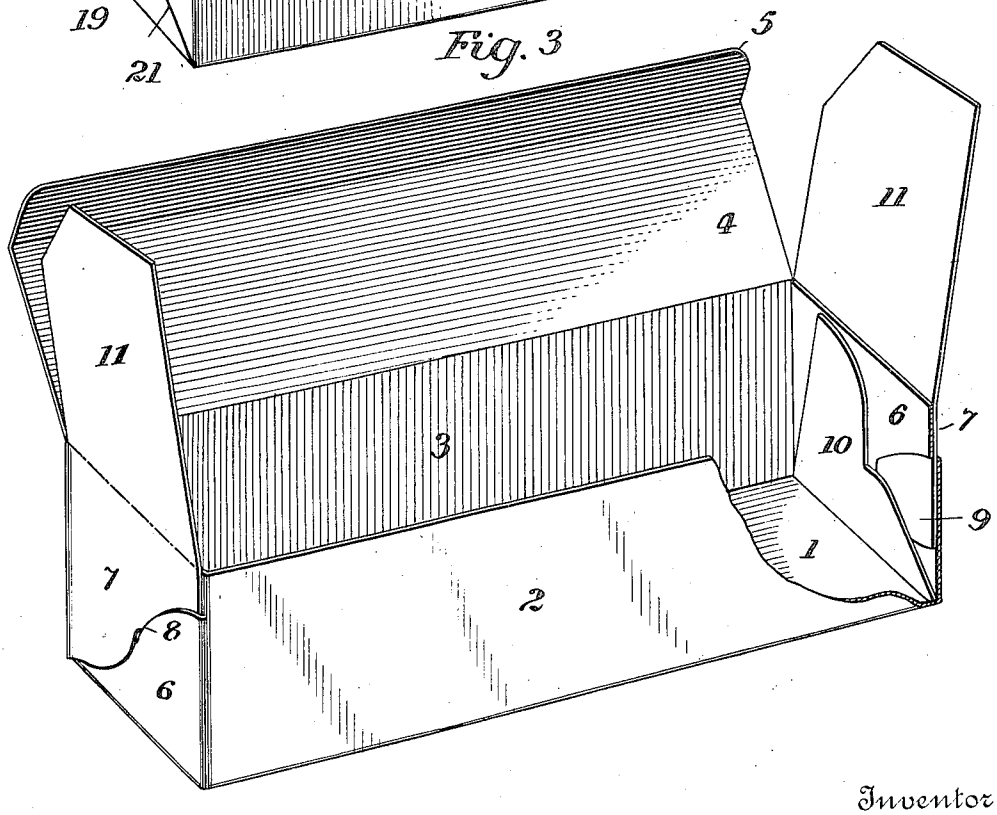


Fig. 3



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3 SHEETS—SHEET 3.

Fig. 4.

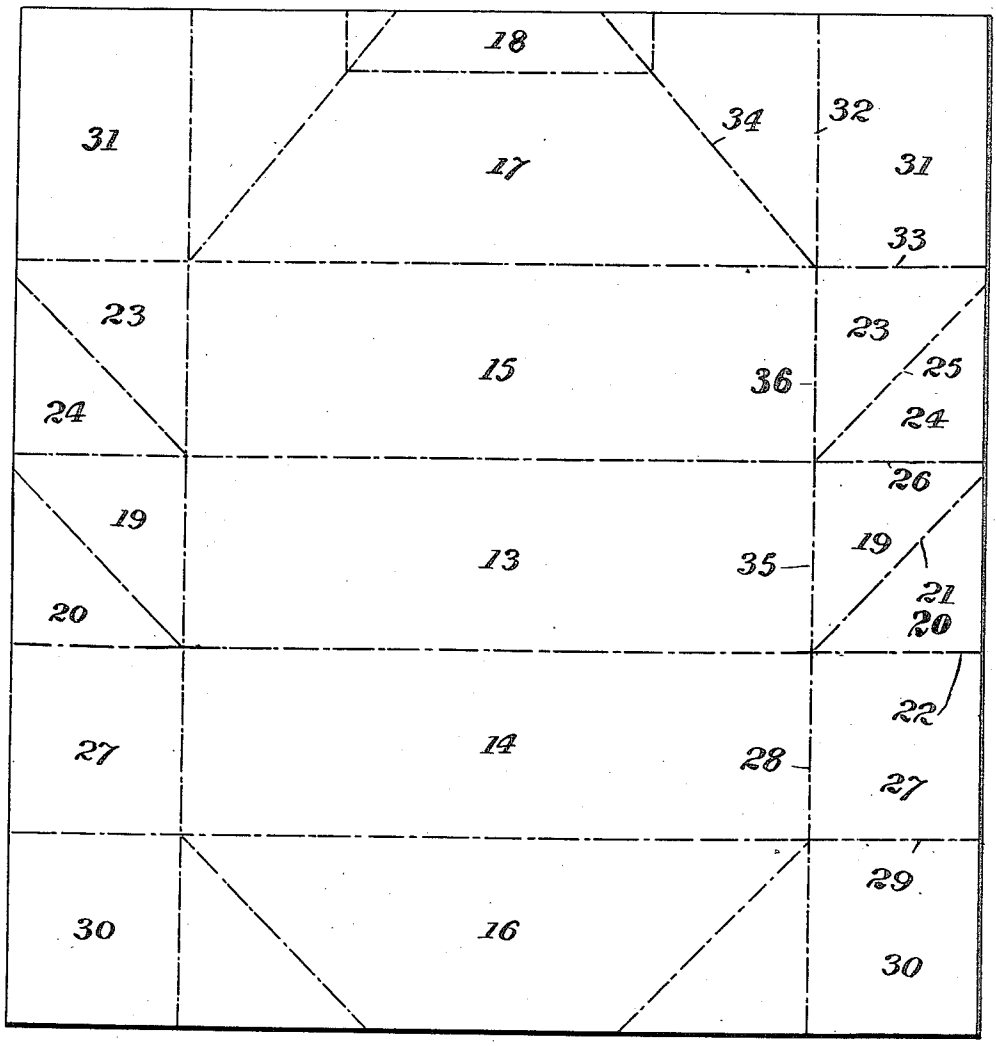

Fig. 6.

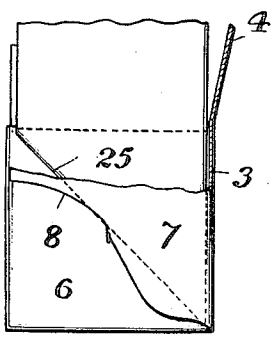

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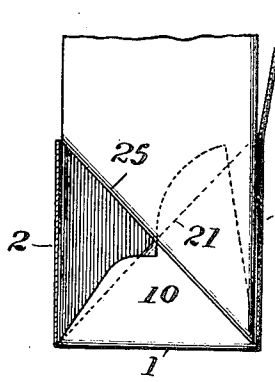
Fig. 7.



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UNITED STATES PATENT OFFICE.

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PAPER BOX AND METHOD OF MAKING PAPER BOXES.

943,034. Specification of Letters Patent. Patented Dec. 14, 1909.

Application filed March 17, 1909. Serial No. 483,957.

To all whom it may concern:

Be it known that I, BROOKS S. MORGAN, a citizen of the United States, and resident of Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Paper Boxes and Methods of Making Paper Boxes, of which the following is a specification.

This invention relates to paper boxes provided with an interior lining of thin material, and it has particular reference to collapsible boxes formed from a single blank having interlocking end flaps adapted to hold biscuit. Linings have been used in boxes of this class and they have been folded into the box blanks in such way that the end folds of the linings were interlocked with the interlocking ends of the blanks, and the linings could not be removed without taking apart the boxes by unlocking their ends. It is of advantage to have the lining held in the box so that it will not accidentally fall out, but at the same time it is desirable to be able to remove the lining without taking the box to pieces. When the lining is interlocked with the box against removal, part of the contents of the box cannot be conveniently removed without handling the individual biscuit, whereas if the lining can be removed part of the contents may be poured from the lining, and it may be replaced in the box without handling the remaining part of the contents.

According to my invention, the lining is yieldingly held in place, but can be removed. The lining furthermore is made in such way that it can be folded over the entire contents, thus forming with the box a substantially air-tight package.

The novel features of my invention will be apparent from the following description taken in connection with the accompanying drawings.

In the drawings:—Figure 1 is a plan view of the box blank and lining, the blank being shown in full lines and the lining in dotted lines; Fig. 2 is a perspective view of the lining in folded position; Fig. 3 is a perspective view of the box blank folded in the form of a box and having the lining removed; Fig. 4 is a plan view of the lining showing the lines upon which it is to be folded; Fig. 5 is a longitudinal sectional view through one end of the box and lining. Fig. 6 is an end view partly broken away, showing the end flaps of the box interlocked and the lining in place ready to be folded down on the contents of the box; and Fig. 7 is a sectional view upon the line 7—7 of Fig. 5.

As shown in these drawings the box blank is made in one piece of suitable stiff paper which is adapted to be bent upon the dotted lines, as indicated in Fig. 1. This blank is composed of a bottom section 1, side sections 2 and 3, and a top section 4, which is provided with the marginal flap 5. The side sections 2 and 3 have at their ends the extensions 6 and 7 forming flaps which are adapted to fold together in order to make the ends of the box, and the flap 7 is provided with a point 9 which is adapted to enter the slot 8 in the extension 6. The bottom section 1 has end flaps 10 which are adapted to stand vertically within the box, and while these flaps are shown in the drawing as of the peculiar shape which adapts them to fit between the flaps 6 and 7 when they are interlocked, it will be understood that for the purposes of the present invention the particular shape of the flap 10 is not material. The flap 7 has a portion 11 extending upwardly therefrom when it is folded, and this portion is adapted to be folded down upon the contents of the box before the cover 4 is brought into closing position.

The lining, as shown in Fig. 4, may be made of thin material such as waxed paper, and it is provided with the bottom section 13, side sections 14 and 15 and top sections 16 and 17. The top 17 is provided with a flap or extension 18, which is adapted to be tucked into the box with the flap 5. It will be understood that this lining is formed in one continuous piece and is merely folded upon the dotted lines in Fig. 4. The bottom section 13 has at its ends portions composed of the sections 19 and 20 adapted to fold on the dotted line 21 which is at an angle to the sides of the box. The lines 22 and 26 indicate the other folds of this extension. The side section 14 and top section 16 have the end sections 27 and 30 which fold upon

the horizontal line 29 and the vertical line 28. The side section 15 has an end section composed of the parts 23 and 24 which fold upon the diagonal line 25, and the top section 17 has the end section 31 which is adapted to fold on the lines 32, 33 and 34. In order to bring this blank shown in Fig. 4 into the folded condition, as shown in Fig. 2, the side 14 is bent to an upright position and the sections 19 and 20 are bent on the lines 21 and 35 until they lie against each other in an upright position, the lining being also bent on the line 22 so that the section 27 stands in a vertical position against sections 19 and 20. The side 15 is brought to an upright position, and the sections 23 and 24 are folded on lines 25 and 36 so that they stand vertically at the end of the package. I prefer to fold the section 20 inwardly or, in other words, so that it will lie between the section 19 and the interior of the package, and to fold the section 23 outwardly so that it will lie on the outer side of the section 24, but it will be understood that this is not absolutely essential. When in this position it will be seen that the package formed by the lining has an open top and that it may be closed by folding the top 16 into place, and also the parts 30, 31 and 17, thus producing a package which is entirely closed. It will be observed that the ordinary way of folding the lining would be to fold both the part 20 and the part 23 outwardly, thus overlapping them on the outer side of the extension 19, and that by folding one of these parts inwardly and the other outwardly a different arrangement is produced which has certain advantages hereafter explained.

In ordinary practice I do not fold the lining and box separately, but place the lining on the box blank as shown in Fig. 1, and by means of a former or otherwise fold the various parts into position. I first bend into an upright position the side 2 carrying with it the lining 14 and then fold the section 20 inwardly, bending upon lines 21 and 22 until the section 27 stands vertically as the end of the package. The flap 10 is then bent to an upright position and the side 3 is also brought into upright position. The section 24 is then folded on the lines 25 and 26 against the outer face of the flap 10 and the flaps 6 and 7 are brought into position and interlocked. This leaves the sections 23, 24 folded on line 36 between the flap 10 and the interlocking flaps 6 and 7. It will be observed that by this arrangement the lining is not interlocked with the flaps constituting the ends of the box, but nevertheless it is held between the flaps 10 and 6 by friction and by a slight clamping action due to the resiliency of the flap 10. This engagement of the lining with the flap 10 prevents displacement, but at the same time permits the entire lining with its contents to be drawn vertically from the box and to be replaced therein at pleasure.

As shown in Fig. 3, when the box is folded the extension 10 stands vertically within its end and is not interlocked with the extensions 6 and 7. The lining as shown in Fig. 2 has an outer end fold upon the line 21 and the extension 10 enters this fold from below and lies between it and the other folds at the end of the lining when the parts are combined.

I have described successive steps which may be used in folding the box blank and lining, but it is to be understood that the invention is not confined to that particular succession of steps and those skilled in the art will understand that the folding may be done in other ways so as to have one or more folds between the loose flap 10 and the interlocked end of the box.

Having thus described the invention, what is claimed is:

1. In a device of the class described, the combination with a paper box, of a thin lining folded to fit therein, and means for yieldingly clamping a fold of said lining to said box permitting its withdrawal from the box in folded condition.

2. In a device of the class described, the combination with a paper box, of an interior upwardly projecting tongue against each end of said box, and a thin lining folded at its ends to fit in said box, one of the folds of said lining at each end embracing one of said tongues and fitting between it and the box.

3. In a device of the class described, the combination with a paper box having ends formed by interlocking sections, of interior upwardly bent extensions of the bottom of said box lying freely against the ends of said box, and a thin lining folded at its ends to fit in said box having one of the folds at each end embracing one of the said bent extensions.

4. In a device of the class described, the combination with a paper box formed from a single piece of material, the ends of said box being formed by bent interlocking extensions of the sides, and an upwardly bent extension of the bottom lying freely against each end of a thin lining folded at its ends to fit in said box, one of the folds of said lining at each end embracing one of said upwardly bent extensions and fitting between it and the box.

5. In a device of the class described, the combination with a paper box formed from a single piece of material, the ends of said box being formed by bent interlocking extensions of the sides, and an upwardly bent extension of the bottom lying freely against

each end, of a thin continuous lining within said box having side margins, and folds in said lining making it fit the ends of said box, one of the side folds at each end being made inwardly so as to lie between the contents of the package and the free extension of the box and the other fold being made outwardly so as to extend around and behind the said free extension and to lie between it and the interlocked extensions.

In testimony whereof I affix my signature in presence of two witnesses.

BROOKS S. MORGAN.

Witnesses:
A. W. GUTHRIE,
H. H. CHAPMAN.