

No. 751,806.

PATENTED FEB. 9, 1904.

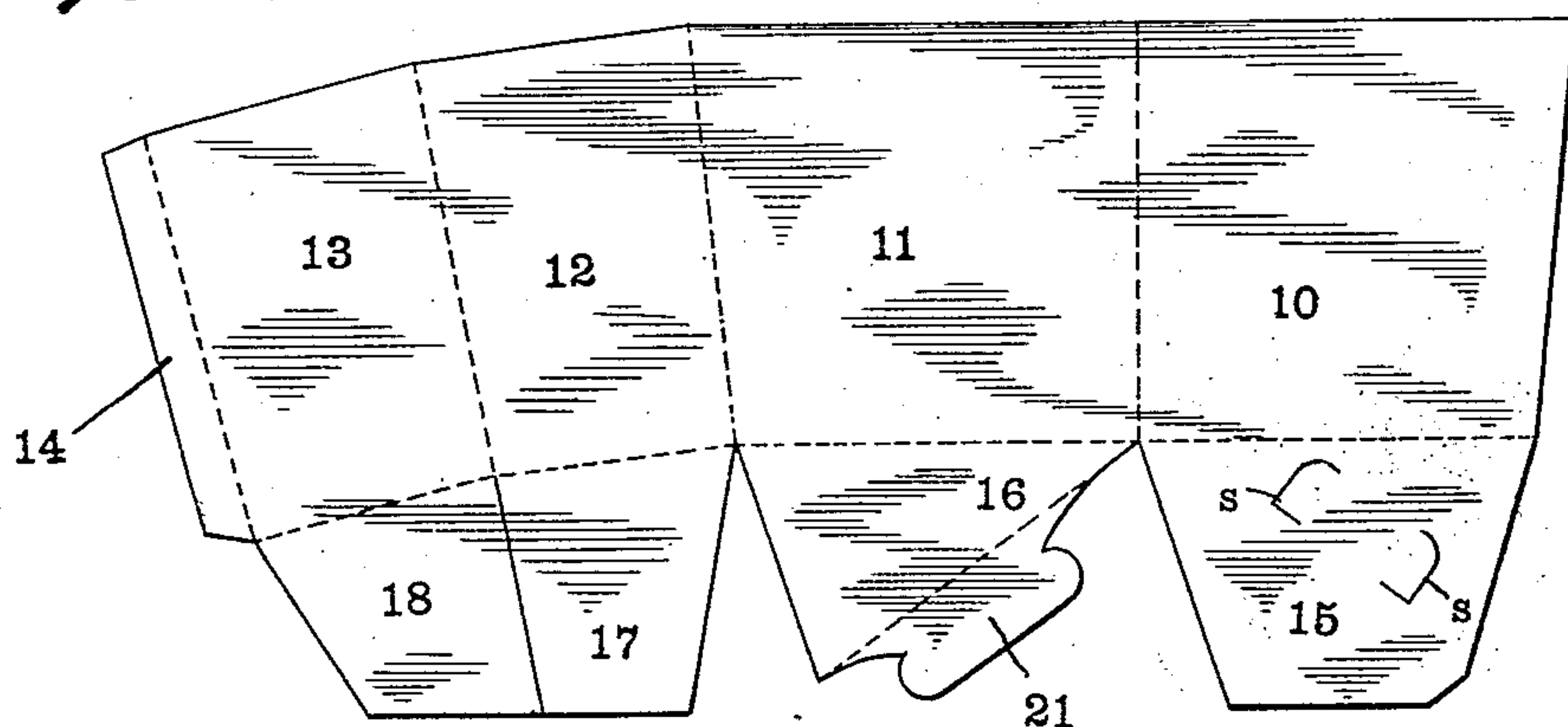
A. H. PLUMMER & M. HESS.

PAPER BOX.

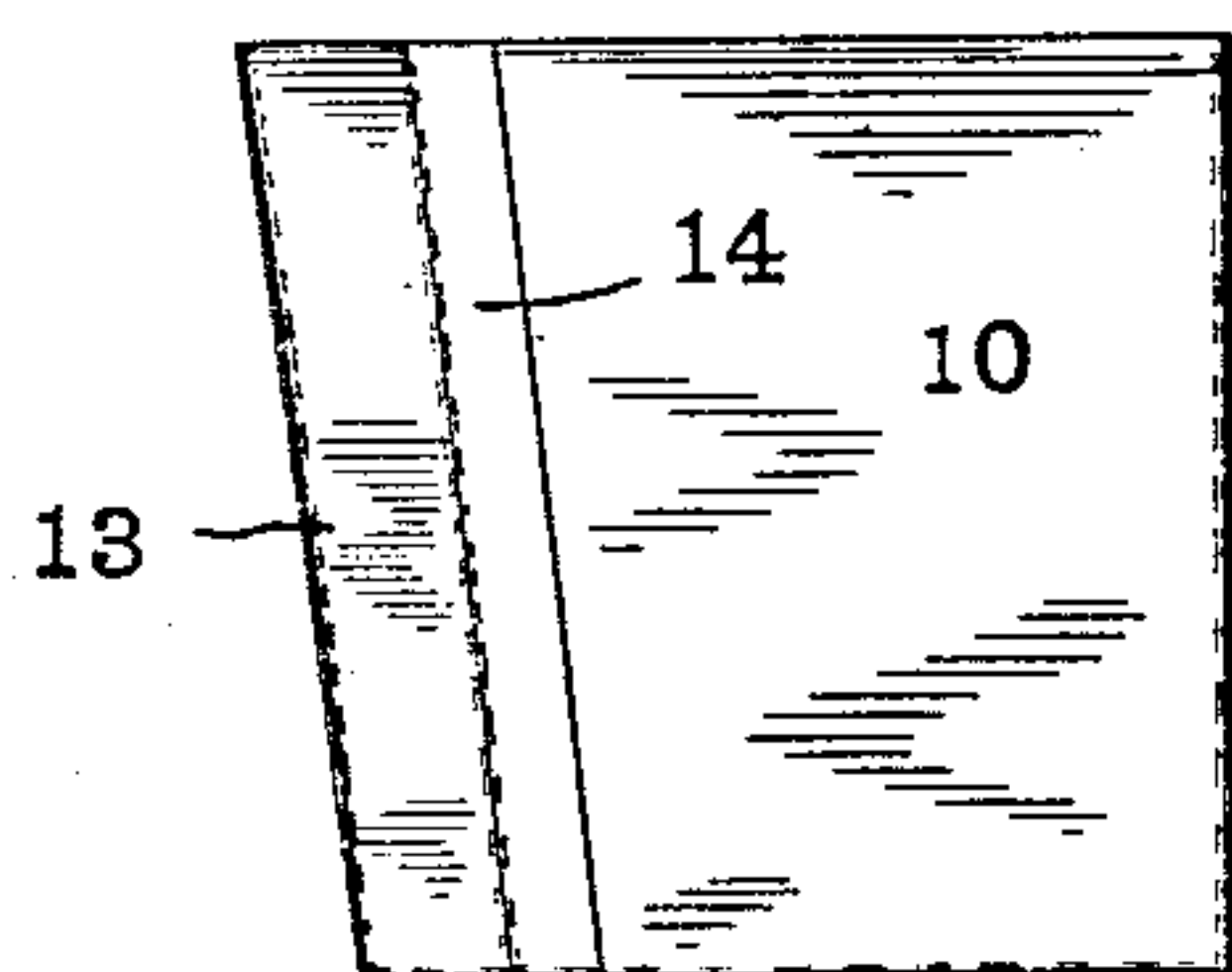
APPLICATION FILED FEB. 25, 1903.

NO MODEL.

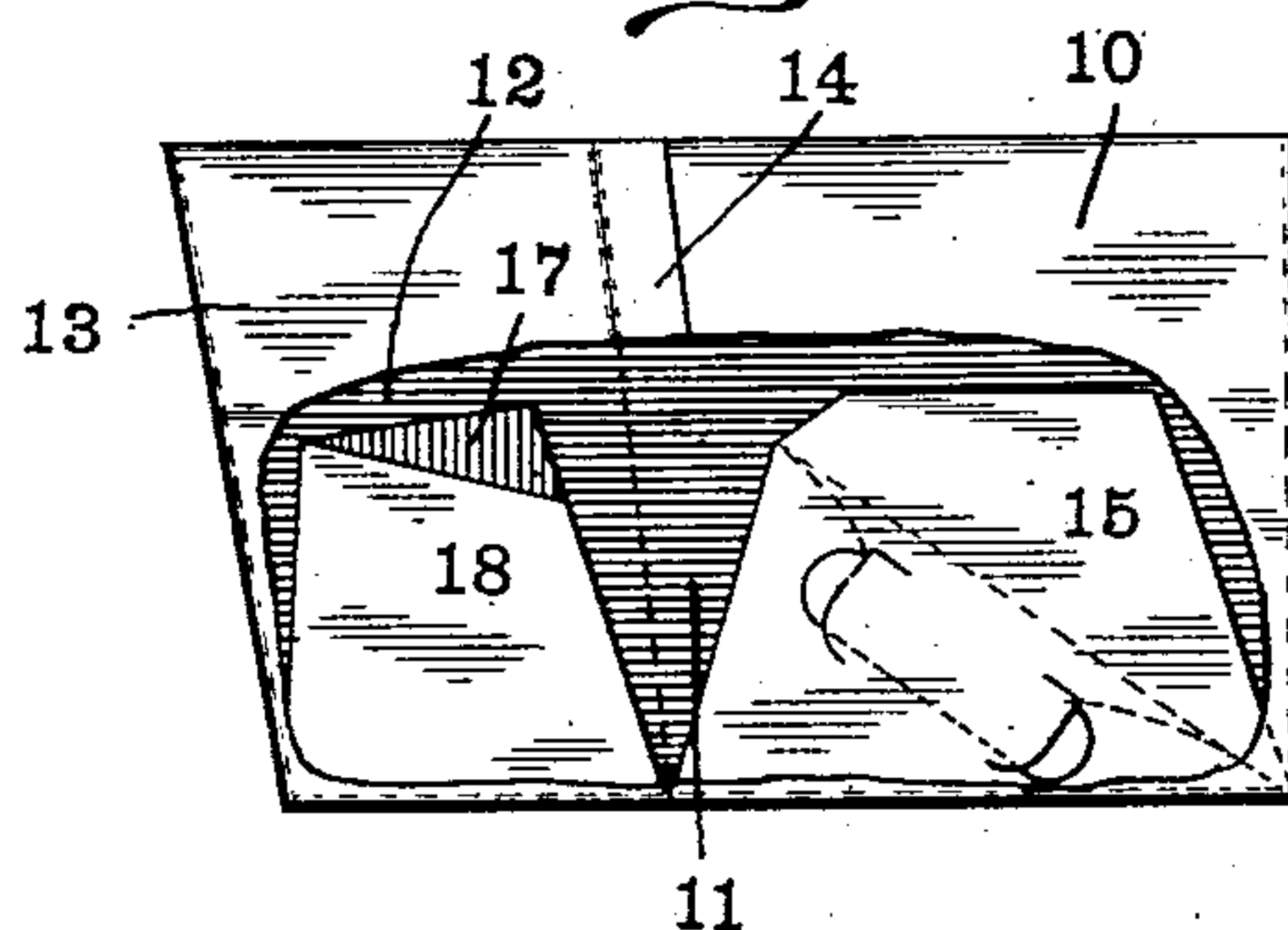
*Fig. 1.*



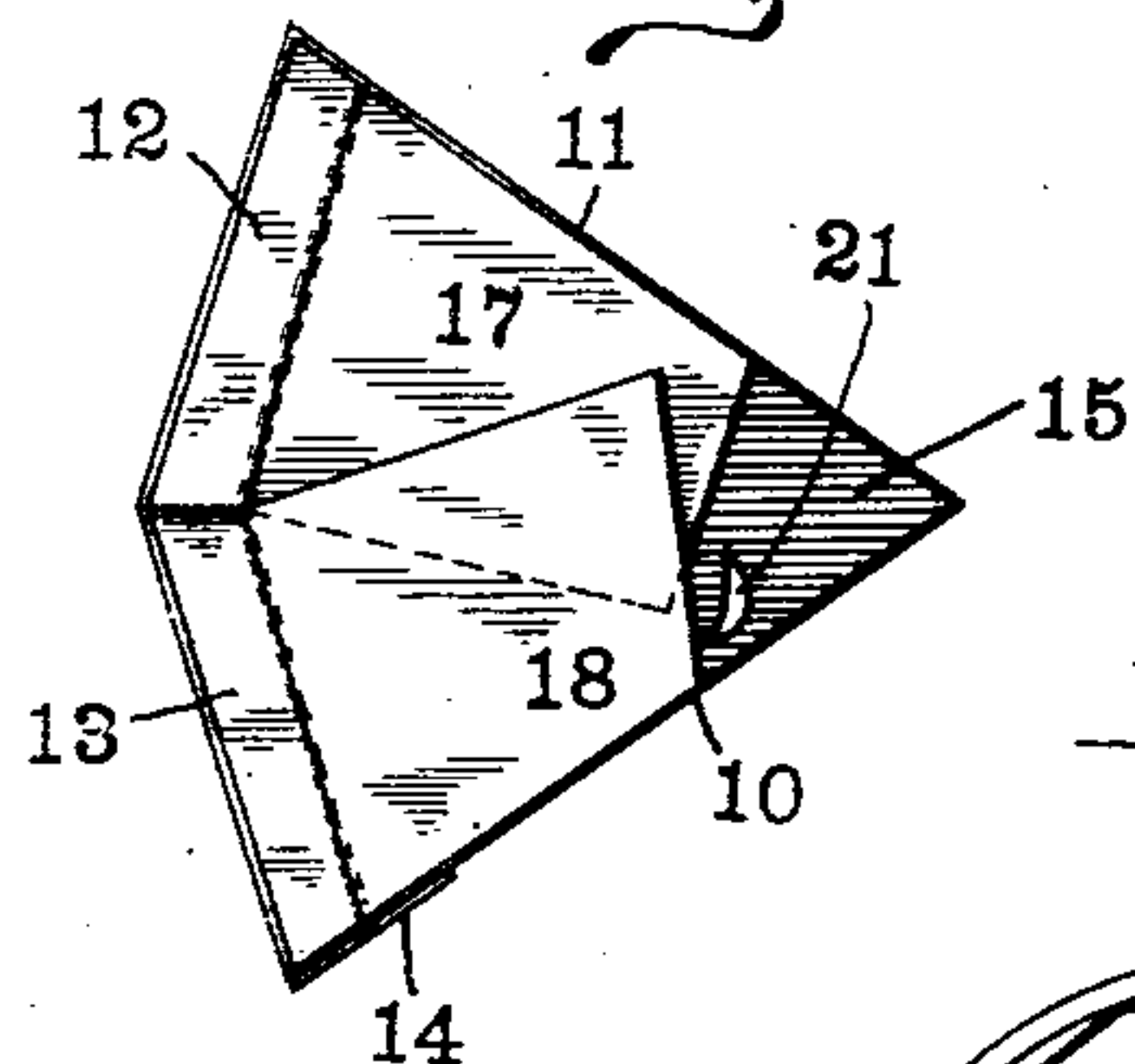
*Fig. 2.*



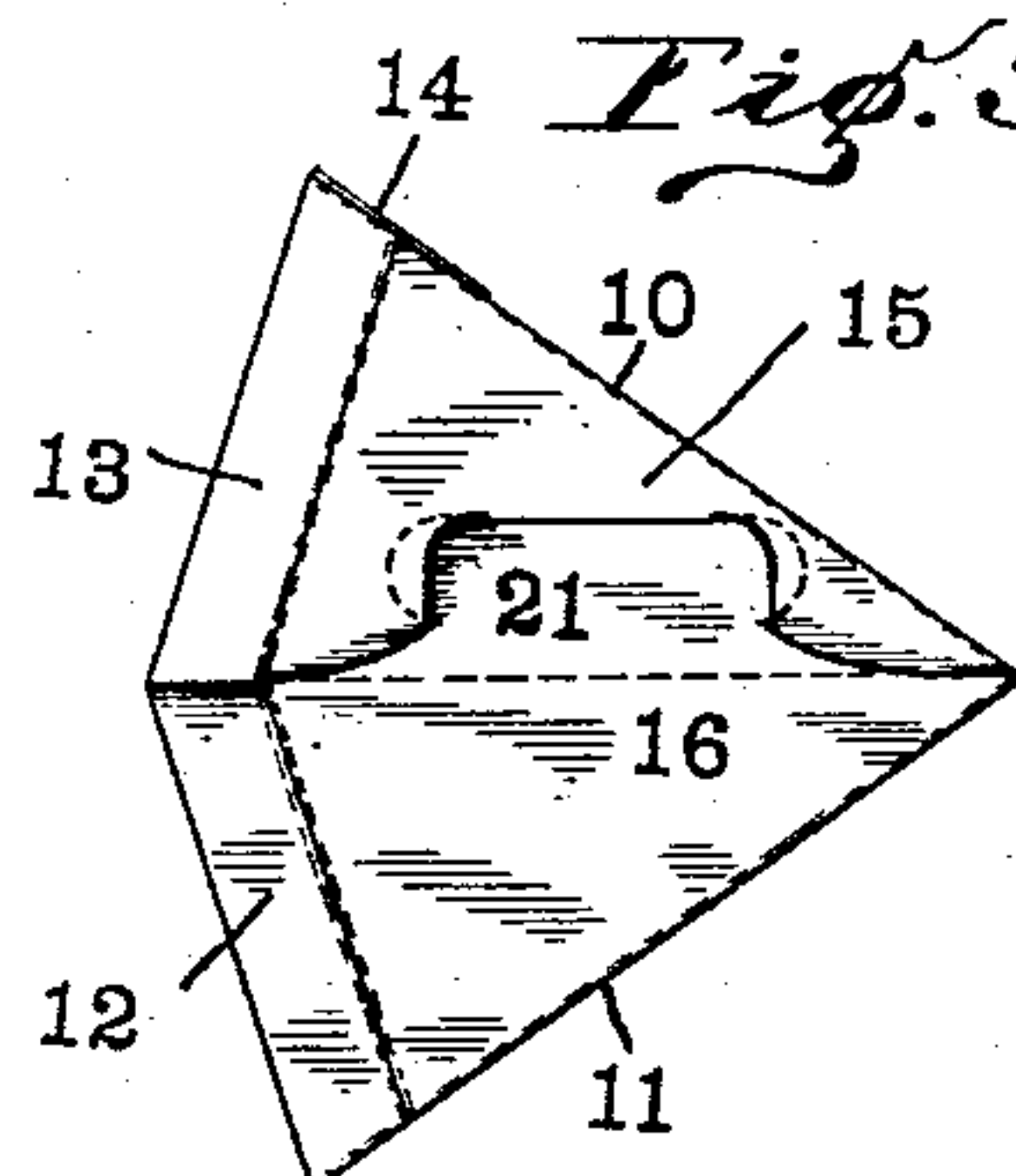
*Fig. 3.*



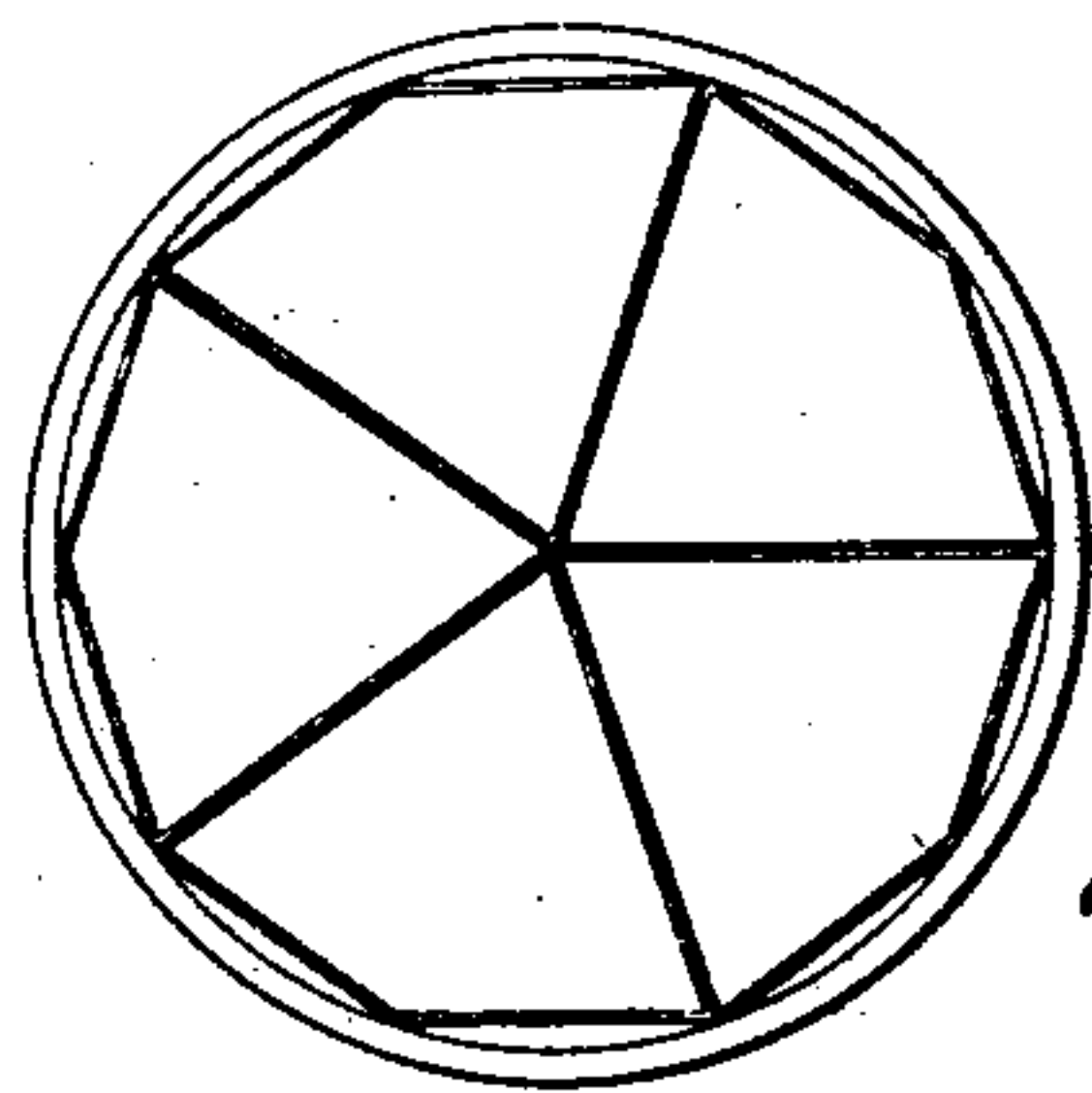
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

ALVIN H. PLUMMER AND MICHAEL HESS, OF NEWCASTLE, INDIANA,  
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COMPANY, OF NEWCASTLE, INDIANA, A CORPORATION OF INDIANA.

## PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 751,806, dated February 9, 1904.

Application filed February 25, 1903. Serial No. 145,101. (No model.)

*To all whom it may concern:*

Be it known that we, ALVIN H. PLUMMER and MICHAEL HESS, citizens of the United States, residing at Newcastle, in the county of Henry and State of Indiana, have invented certain new and useful Improvements in Paper Boxes, of which the following is a specification.

Our present invention consists in an improved form of that class of paper boxes which are adapted to be "collapsed" or folded flat together for transportation and afterward easily opened or expanded at the time the same are desired for use. Such boxes, generally speaking, are well known, and our invention therefore consists in certain features of construction and form by which some advantages in the way of economy and convenience are attained, as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters indicate similar parts, Figure 1 is an outline or plan view of a blank prepared ready to form a box embodying our present invention, the points at which said blanks are usually "scored" being indicated by dotted lines; Fig. 2, a side elevation of a complete box, ready for use, formed from such a blank; Fig. 3, a side elevation of such a box collapsed or folded together, a portion of the side being broken away to show the positions of the parts forming the bottom as they lie when folded up into collapsed or flat condition; Fig. 4, a top or plan view of the said box ready for use as in Fig. 2; Fig. 5, an under side plan view of the same; Fig. 6, a top view of a number of fillers radially grouped in a pail.

We have chosen to illustrate our invention as embodied in that variety of boxes or receptacles known as "pail-fillers," which are designed to be as nearly as possible sector-shaped, and the blank is formed accordingly; but it will be understood that if the box is desired to be of another shape the blank will be varied accordingly. This blank is divided by scores and cuts into what may be described as nine sections or portions. Of these the parts

10 and 11 constitute two sides of the box, the parts 12 and 13 (in the sector-shaped box shown) the back, or, as it is sometimes called, the "arc" side. The part 14 is merely a lap for pasting, and the parts 15, 16, 17, and 18 form the bottom. The sides in their general form and arrangement are much like those of boxes of this same general variety as heretofore made, except that the union or pasting point is at the rear end of one of the sides proper instead of, as in most cases, at the middle of the back or at the point—that is, the pasting-flap 14 unites the adjacent edges of the sections 13 and 10 instead of either the sections 13 and 12 or 10 and 11. This is of some importance in the present form, as will be readily apparent upon an inspection of the drawings and an understanding of the operations as the various parts are folded and unfolded in collapsing and expanding the same.

The part 15 substantially or nearly covers the entire bottom of the box when the same is opened. It is scored so as to fold against or away from one of the sides 10 or 11. It contains a slit *s* for a tuck formed on its companion side 16. The part 16 is scored to hinge toward or away from the other one of the sides 10 or 11 and is provided with a tuck 21, which is adapted to enter the slit in the part 15 when the parts are assembled, as shown. This part 16 is cut from the point of the box back to where the portion which carries the tuck begins and is scored thence in a straight line continuous with the cut back to its rear side. In collapsing the box this part doubles on its score-mark, as shown in the drawings. It is therefore unnecessary to withdraw the tuck from the slit after the boxes are made, but boxes can be completely collapsed and expanded at will without disengaging these parts. In so far as the collapsing and expanding of the box are concerned the part 15 might also be scored correspondingly to the part 16; but this is unnecessary, as the part will fold inside the structure just as well flat as doubled, and it has the advantage when unscored of forming a stiffer and better bottom part for the box.



The parts 17 and 18 are adapted to fold back, respectively, against the parts 12 and 13 when the box is collapsed and to fold down inside of the box over the part 15 when it is expanded or made ready for use. These parts simply reinforce or strengthen the bottom, which (at its central and otherwise weakest point) is composed of four thicknesses.

By reason of the peculiar form of blank of which this box is composed substantially all the stock is utilized, only a very trifling amount being cut away in forming it, while the remainder folds in, as shown and stated, to lend strength and stability to the structure.

Having thus fully described our said invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A blank for a collapsible box comprising four wall-sections and a paster-section formed continuously, and a bottom section extending out from each of the wall-sections, one of said bottom sections being provided with a slit and the adjacent section with a tuck adapted to enter and remain in said slit when the box is formed, the section bearing the tuck being scored and foldable whereby the bottom thus united is adapted to be folded and unfolded in collapsing and expanding the box without disengaging the tuck, substantially as set forth.

2. A blank for a collapsible paper box formed of a continuous fabric divided into

side, back and bottom sections, the side sections having extensions which are adapted to overlap each other when the box is assembled, one containing a slit and the other bearing a tuck, and the rear or arc side centrally creased and having flaps extending out therefrom, said flaps being adapted to fold up against the respective rear portions when the box is collapsed and to be folded down within and onto each other when the box is expanded and form the inner or upper portion of said bottom, that portion of the bottom bearing the tuck having a crease enabling it to be folded in collapsing the box, substantially as set forth.

3. A paper box having two pairs of non-parallel sides of unequal length the point of union being at a point where one of the shorter and one of the longer sides come together, and having also a bottom composed of two pairs of folding sections carried by the sides, one pair of said bottom sections being united by a tuck-and-slit connection, and the other pair being adapted to form reinforcing linings for said bottom.

In witness whereof we have hereunto set our hands and seals at Newcastle, Indiana, this 9th day of February, A. D. 1903.

ALVIN H. PLUMMER. [L. S.]  
MICHAEL HESS. [L. S.]

Witnesses:

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