

No. 657,473.

Patented Sept. 4, 1900.

J. A. WAGNITZ.
PAPER BOX.

(Application filed June 18, 1900.)

(No Model.)

2 Sheets—Sheet 1.

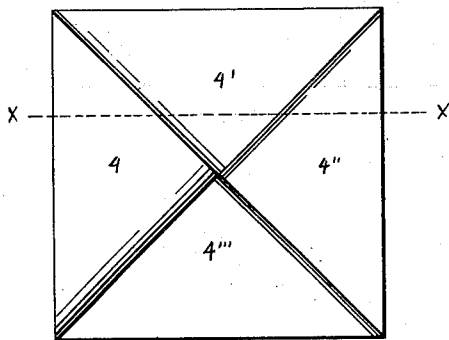


Fig. 2.

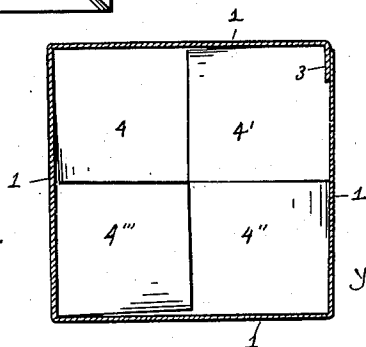


Fig. 3.

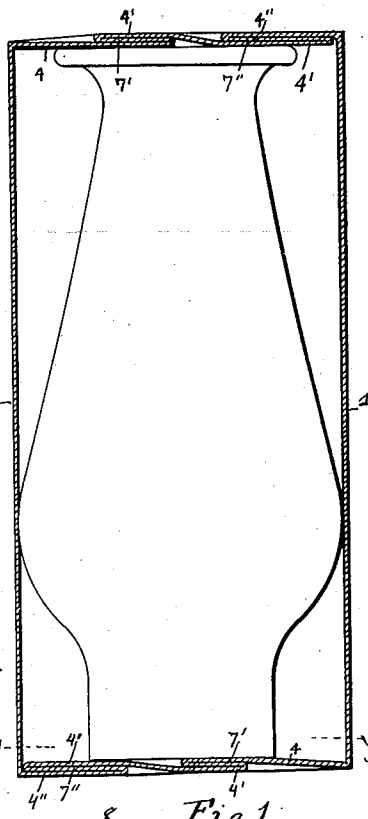


Fig. 1.

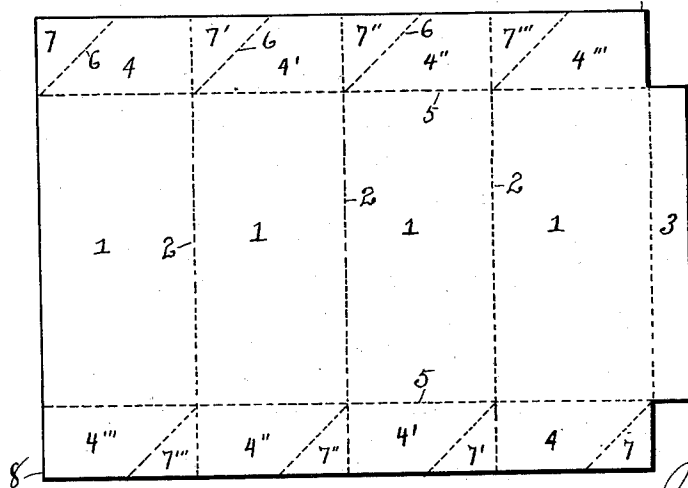


Fig. 4.

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Fig. 5.

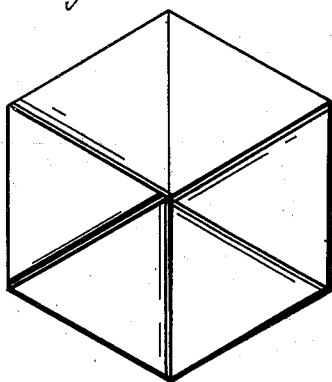


Fig. 6.

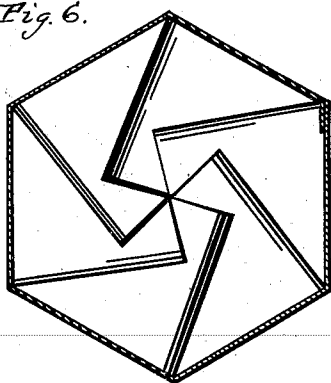
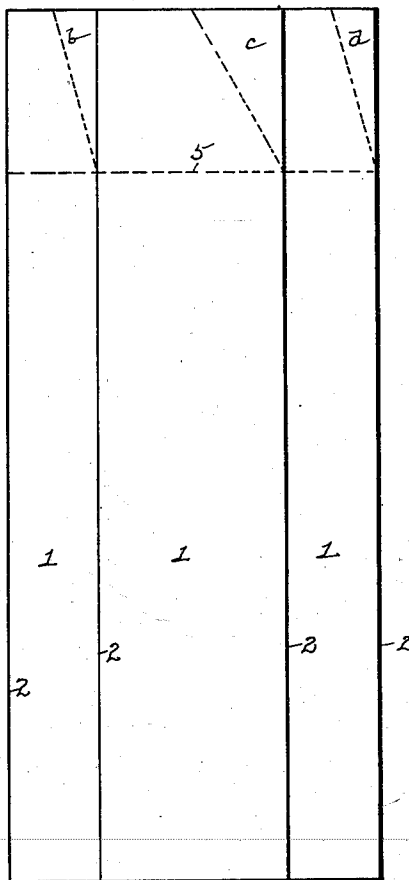
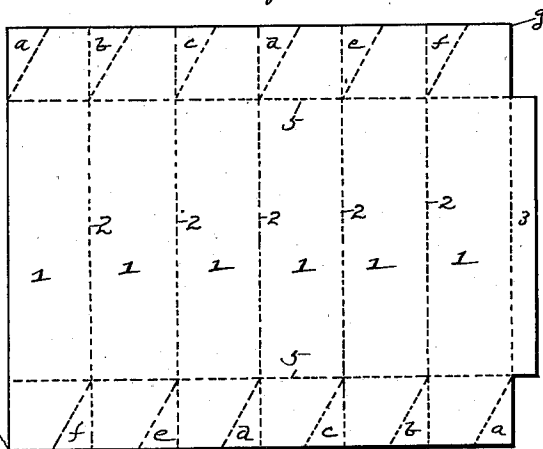


Fig. 7.

Fig. 8.



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UNITED STATES PATENT OFFICE.

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PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 657,473, dated September 4, 1900.

Application filed June 18, 1900. Serial No. 20,639. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WAGNITZ, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Paper Boxes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in paper boxes; and it consists of a paper box which is especially adapted to contain a lamp-chimney.

The object of the invention is to provide a paper box for packing and shipping lamp-chimneys and in which the lamp-chimney will be preserved from breakage.

The novel and essential characteristics of the box will be described in the following specification in connection with the accompanying drawings, of which—

Figure 1 is a vertical section of a paper box made in accordance with my invention and in which is shown a lamp-chimney. This section is on the line *xx* of Fig. 2. Fig. 2 is a plan view of the top or bottom of the box in a closed position. Fig. 3 is a transverse sectional view adjacent to the top or bottom end on the line *yy* of Fig. 1. Fig. 4 is a plan view of the blank from which the box is formed. The above figures illustrate a box that is square in cross-section. Fig. 5 is a top or bottom plan view of a box made in accordance with my invention in hexagonal form in cross-section. Fig. 6 is a transverse sectional view of the inside of the box adjacent to either end. Fig. 7 is an elevation showing one end opened. Fig. 8 is a plan view of the blank from which the hexagonal box is formed.

As will be seen by a comparison of Figs. 4 and 8, the blanks from which both forms of boxes are made are substantially the same. The only difference is that the panels 1, which form the sides of the box, are smaller in one than in the other. The said panels or walls 1 from which a square box is formed, Fig. 4,

consists of four while the panels from which the walls are formed in the hexagonal box consist of six panels. To form these panels, each blank is provided with a series of vertical parallel score-lines 2, which extend from one horizontal edge of the blank to the other horizontal edge of the blank. Each blank terminates on one side in an attaching-flap 3, by means of which the vertical edges of the blank are united. The top and bottom of the box are formed by means of a series of flaps 4 4' 4'' 4''' which are bent inwardly on the horizontal parallel score-lines 5. Each of said flaps is provided with an oblique score-line 6, which extends from the intersection of the vertical score-lines 2 and the horizontal score-lines 5 to the extreme horizontal edges of the blank. These oblique score-lines 6, in conjunction with the terminals of the score-lines 2, provide a series of triangular folds 7 7' 7'' 7''' which are inclosed by the flaps 4 4' 4'' 4''' in folding said flaps over the ends of the box. In folding over said flaps 4 4' 4'' 4''' the end triangular flap 7 is first bent inwardly on its score-lines 6 and occupies an innermost position, as shown in Fig. 1. The next adjacent triangular fold 7' is folded against flap 4, the next adjacent triangular fold 7'' is folded inwardly against its adjacent flap 4', and the next adjacent triangular fold 7''' is folded inwardly against its adjacent flap 4'', and flap 4''' is then bent inwardly. The end or corner 8 is then slipped under the first flap 4 and occupies a position beneath the triangular fold 7, and thus the entire series of inclosing flaps 4 4' 4'' 4''' and folds 7 7' 7'' 7''' are securely locked in such position. These various folds and flaps provide on the inner side of the top or bottom of the box elastic or yielding surfaces, which support the lamp-chimney at both ends and prevent the ends of said lamp-chimney from any breakage that would be liable to occur if the ends of said lamp-chimney were secured between two solid or non-elastic surfaces.

The above description is confined to the square form of box. It will be understood, however, that the hexagonal form of box contains the same idea of means, the only difference being in the greater number of inclosing folds and flaps.

Referring to Fig. 8, the letters *a b c d e f* designate the triangular folds, which are bent in the order indicated by the reference-letters thereon, the points *g* being the last or innermost fold, which I term the "locking-fold," for the entire series of folds. The elastic or yielding surfaces provided by the folds and flaps in this hexagonal form of box are greater than that provided by the folds and flaps in the square form of box. This is due, as will be readily understood, to the greater number of folds in the hexagonal box.

Having described my invention, I claim—

1. A blank as herein described for lamp chimney boxes, the same consisting of a rectangular blank of pliable material, having a series of vertical score-lines 2 intersected by two horizontal score-lines 5, the latter lines being adjacent to the horizontal edges of the blank and providing a series of inwardly-folding flaps at both ends, a series of oblique parallel score-lines 6 adjacent to the horizontal edges of the blank extending from the intersection of the score-lines 2 and 5 to the extreme horizontal edges of the blank, the terminals of the vertical score-lines 2, and the oblique score-lines 6 providing a series of triangular folds which occupy inner positions with relation to the adjacent flaps, the said triangular folds and the flaps providing inner yielding surfaces for the top and bottom of the box, substantially as shown and described.

2. A blank as herein described for a lamp chimney box, square in cross-section, the same consisting of a rectangular blank of paper having a series of vertical score-lines 2 providing four walls or panels 1, the said vertical score-lines being intersected by two horizontal score-lines 5 the latter score-lines being adjacent to the horizontal edges of the blank and providing at both ends of the box a series of inwardly-folding flaps, a series of oblique score-lines 6 extending from the inter-

sections of the score-lines 2 and 5 to the extreme horizontal edges of the blank, the oblique score-lines 6 occupying parallel positions throughout each horizontal edge of the blank, the said parallel oblique score-lines 6 at one horizontal edge of the blank being reversed to those at the other horizontal edge of the blank, the terminals of the vertical score-lines 2, and the oblique score-lines 6 providing a series of triangular folds which occupy inner positions with relation to each adjacent flap, the said triangular folds and the flaps providing inner yielding surfaces at the ends of the box, as herein shown and described.

3. A blank as herein described for a lamp chimney box, hexagonal in cross-section, the same consisting of a rectangular blank of paper having a series of vertical score-lines 2 providing six walls or panels 1, the said vertical score-lines being intersected by two horizontal score-lines 5, the latter lines being adjacent to the horizontal edges of the blank and providing at both ends of the box a series of inwardly-folding flaps, a series of oblique score-lines 6 extending from the intersections of score-lines 2 and 5 to the extreme horizontal edges of the blank, the said oblique score-lines 6 occupying uniformly parallel positions at each horizontal edge of the blank, the terminals of the vertical score-lines 2, and the oblique score-lines 6 providing a series of triangular folds which occupy inner positions with relation to each adjacent flap, the said triangular folds and the flaps providing inner yielding surfaces at the ends of the box, as herein shown and described.

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

JOHN A. WAGNITZ.

Witnesses:

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