

(No Model.)

A. H. ZUGALLA.

3 Sheets—Sheet 1.

PAPER BOX.

No. 381,050.

Patented Apr. 10, 1888.

Fig. 1.

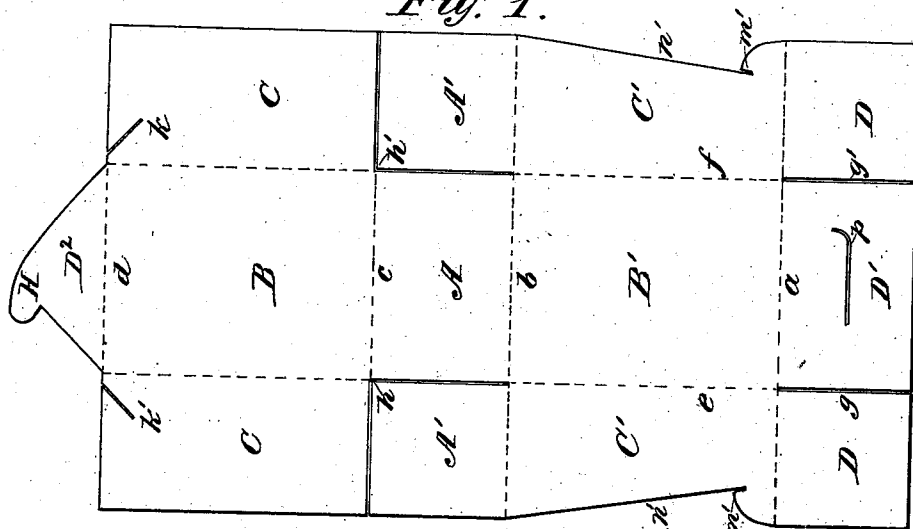
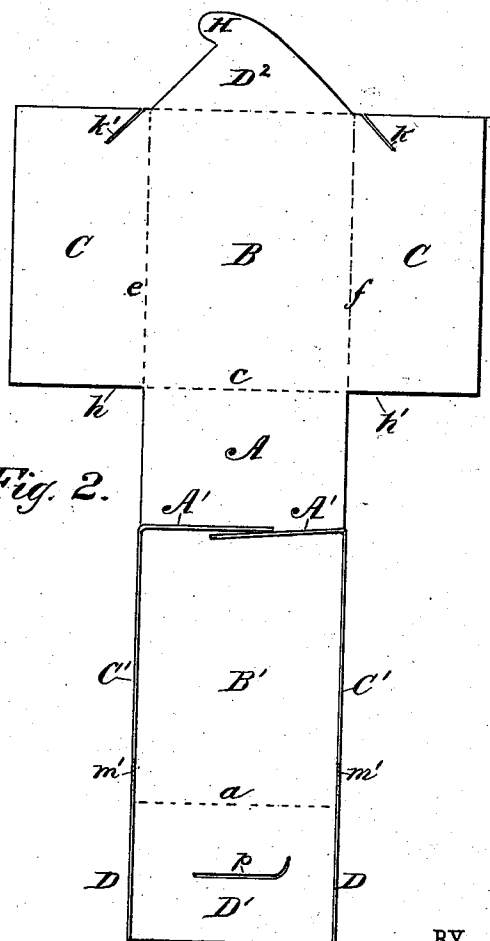


Fig. 2.



WITNESSES:

Chas. Lurcott
C. Sedgwick

INVENTOR:

A. H. Zugalla
Munn & Co.
ATTORNEYS.

BY

(No Model.)

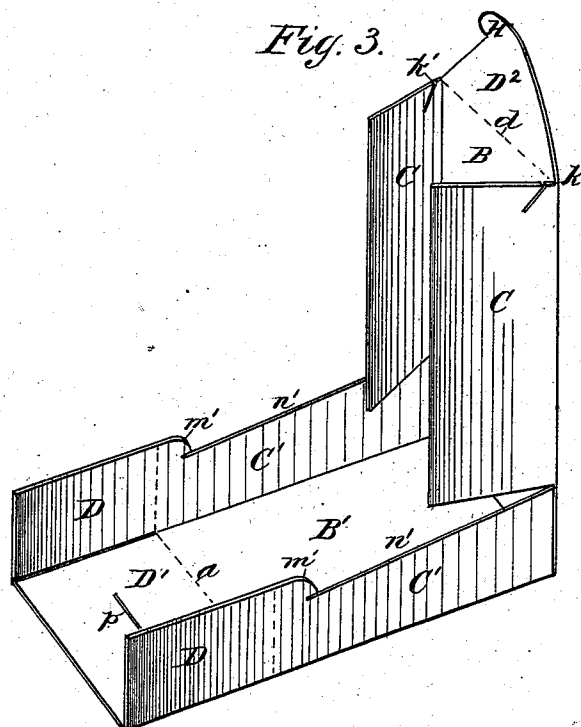
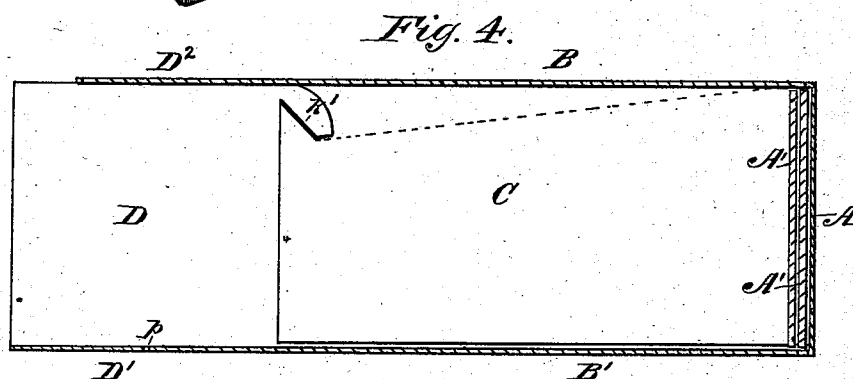
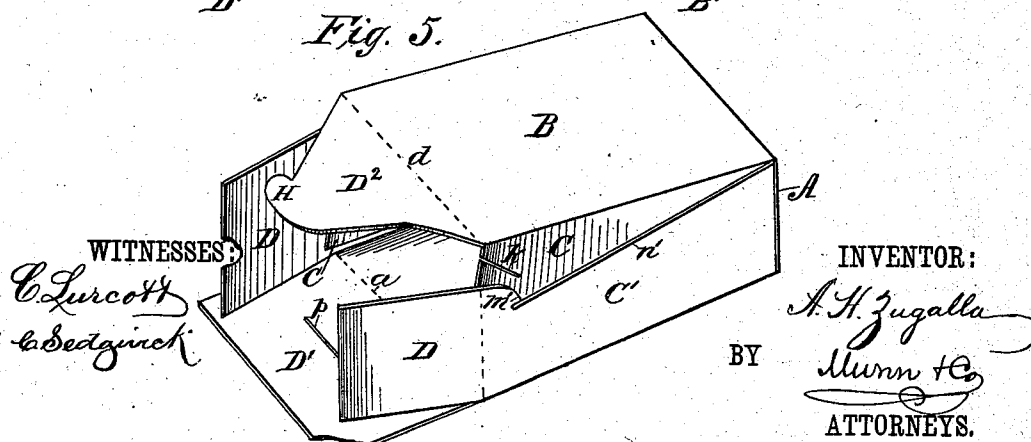
3 Sheets—Sheet 2.

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3 Sheets—Sheet 3.

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Fig. 6

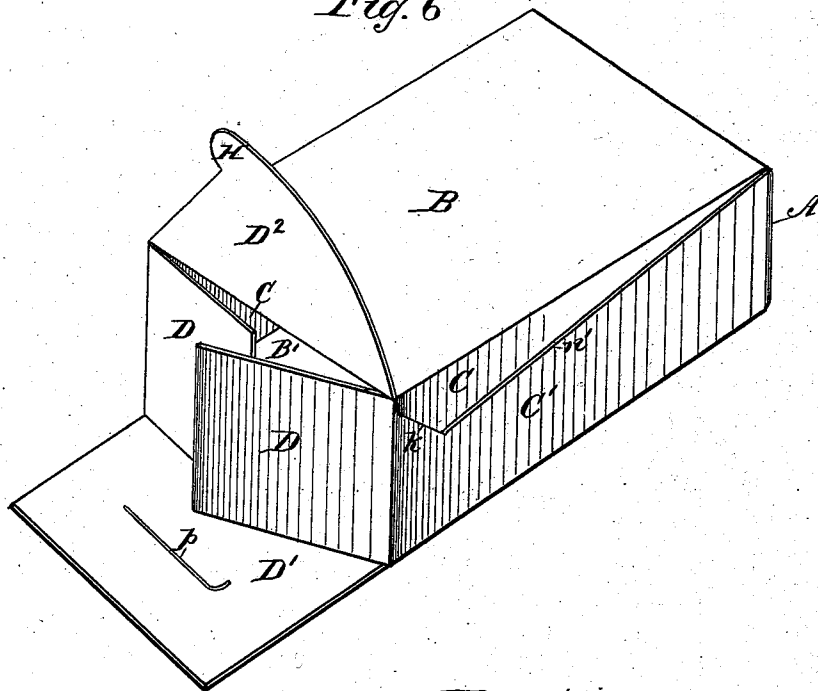
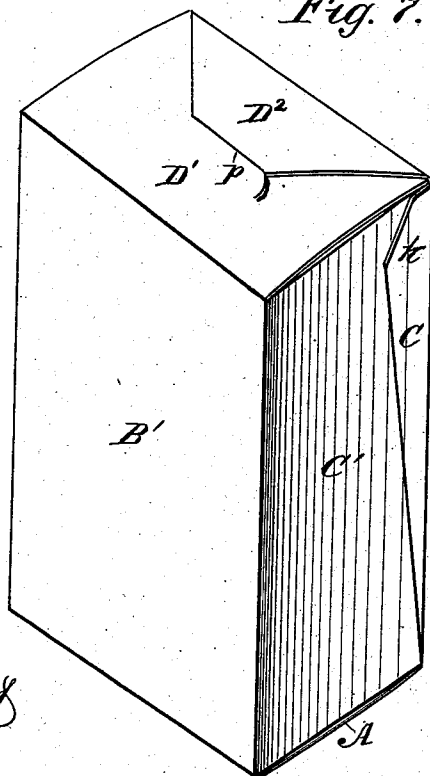


Fig. 7.



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UNITED STATES PATENT OFFICE.

ALBERT H. ZUGALLA, OF BROOKLYN, NEW YORK.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 381,050, dated April 10, 1888.

Application filed May 24, 1887. Serial No. 239,231. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. ZUGALLA, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Paper Boxes, of which the following is a full, clear, and exact description.

My invention relates to an improvement in folding boxes cut and folded from a single piece of suitable material, which, when folded and properly interlocked, will form a complete box; and it has for its object to dispense with all fastening or gluing of the parts.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents the cut and scored blank ready for folding, and Fig. 2 is a plan view of the blank when given the first fold. Fig. 3 is a perspective view of the blank when given the second fold, and Fig. 4 is a central longitudinal section through the box when folded complete with the end open. Fig. 5 represents the third fold of the blank in perspective view, and Fig. 6 is a perspective view of the folded box with the end partly closed. Fig. 7 is a perspective view of the complete and closed box.

The blank represented in Fig. 1 may be made of any suitable pliable material, and of a size proportioned to the box to be made, the heavy lines representing the cuts and the dotted lines the grooved or scored surface.

At a distance from the straight end of the blank representing the width of the box a score, *a*, is produced transversely from side to side, and measuring from the score *a* to agree with the desired height of the box a second transverse score, *b*, is made, also extending from side to side.

At a distance from the score *b* equal to the width of the box and corresponding with the distance between the score *a* and the straight end of the blank, a third score, *c*, is made, also extending from side to side. Measuring from the said score *c* a distance to agree with the height of the box, and also the distance between the scores *a* and *b*, another score, *d*, is

made, reaching to and from the scores *e* and *f*, hereinafter described.

At a distance that will agree with the width of the desired box from one side a longitudinal score, *e*, is produced, extending from the straight end of the blank, crossing the scores *a*, *b*, and *c*, to an intersection with the score *d*, and at the same distance from the other side a second longitudinal score, *f*, is made parallel with the score *e*, also crossing the scores *a*, *b*, and *c*, and intersecting with the opposite end of the score *d*.

Upon the score *e*, from the straight end of the blank to an intersection with the score *a*, a cut, *g*, is made, and a similar cut, *g'*, is produced upon the score *f*.

From each side of the blank, upon the score-line *c* to its intersection respectively with the scores *e* and *f*, another cut is produced, which cut is continued in each instance along the respective score-lines *e* and *f* to an intersection with the score-line *b*, whereby two right-angular cuts, *h* and *h'*, are made, one at each side.

In cutting the outline of the blank, which is substantially rectangular, at the end opposing the straight end, reaching from one score-line, *e*, to the score-line *f*, and divided from the body by the score-line *d*, a flap-section having the usual lip, *H*, is formed, and at each side of the scores *e* and *f*, at the end of the blank carrying the lip *H*, equal cuts *k k'* are made, extending at an inclination from the said end downwardly and outwardly.

Each side edge of the blank commencing at the score-line *a* is provided with a segmental cut inward, whereby the lips *m' m'* are produced, adapted when the box is folded to neatly enter the inclined cuts *k k'*, and the side edges, from the inner curve line of the lips *m' m'*, are cut to form the inclined lines *n' n'*, which terminate at the score *b*. The various cuts and scores have now formed the blank into numerous divisions or sections, which, for convenience in describing the operation of folding, are lettered *A A'*, *B B'*, *C C'*, *D D'*, and *D²*, the section *D'* being provided with the usual cut, *p*, adapted to receive the lip *H* of the section *D²*.

In the operation of folding, the sections *C' C'* are brought to a vertical position, as shown in Fig. 2, at right angles to the section *B'*, and the sections *A'* are carried inward to overlap

upon the score-line *b*. The section A is then carried upward to bear against the overlapping sections A', and the sections C are carried inward upon the scores *e* and *f*, as shown in Fig. 3, so that they will project inside the folded sections C' C'. The sections B and B' are then carried toward each other, as shown in Fig. 5, the side sections C being inside the side sections C', and the lips *m' m'* are made to enter the inclined cuts *k k'*, as shown in Fig. 6. The box is now made up with the exception of being open at the top. To close the same the flap-sections D are folded in, one upon the other, as shown in Fig. 6, and section D' is then folded down upon them. The lip H of the tying-section D² is thereupon entered in the cut *p* on the section D', as shown in Fig. 7, and the perfect box is formed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A box-blank provided with the spaced

transverse scores *a, b, c*, and *d*, the longitudinal scores *e* and *f*, the straight cuts *g g'*, the angular cuts *h h'*, the side recesses, *n' n'*, whereby segmental lips *m' m'* are produced, the inclined cuts *k k'*, adapted to receive said lips, and a flap-section centrally at one end of the said blank adapted to be folded and fastened, substantially as herein set forth.

2. A substantially rectangular box-blank cut and scored as herein set forth having an integral flap centrally at one end and provided with recessed edges *n' n'*, segmental aligning lips *m' m'*, and oppositely-inclined cuts *k k'*, adapted to receive said lips, substantially as shown and described, whereby the box is securely fastened without the use of adhesive material, as set forth.

ALBERT H. ZUGALLA.

Witnesses:

J. F. ACKER, Jr.,
EDGAR TATE.