No. 610,474. Patented Sept. 6, 1898.

A. B. COWLES.

BOX.

(Application filed Apr. 15, 1897. Renewed Feb. 5, 1898.)

(No Model.) 4 Sheets—Sheet 1.

Fig. 1.

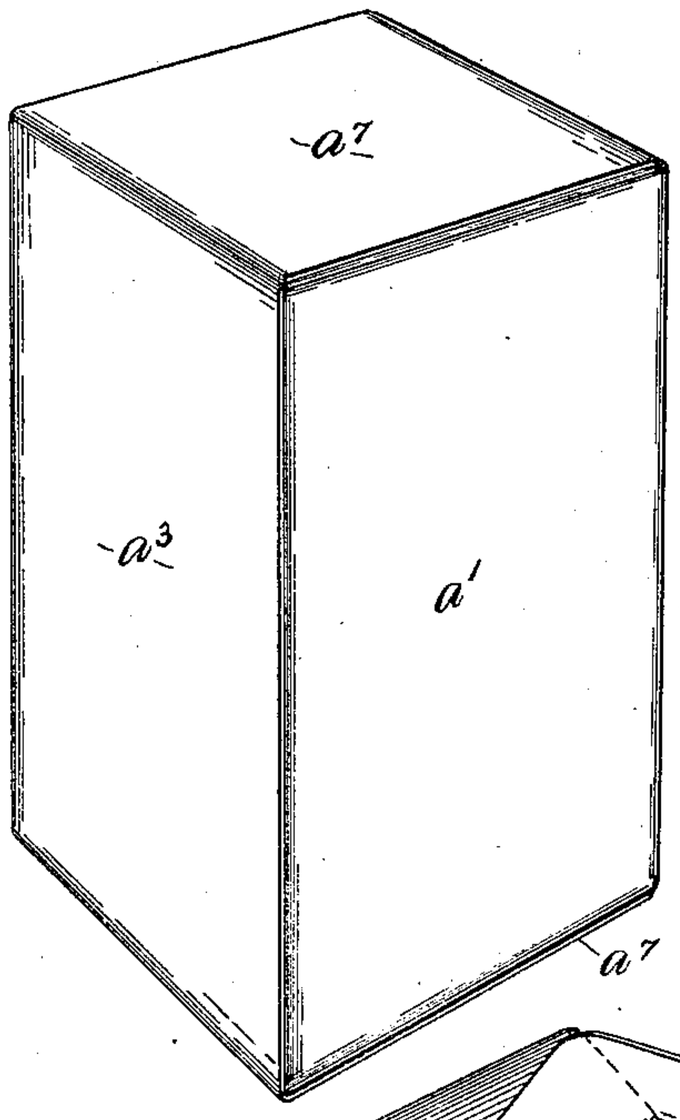


Fig. 2.

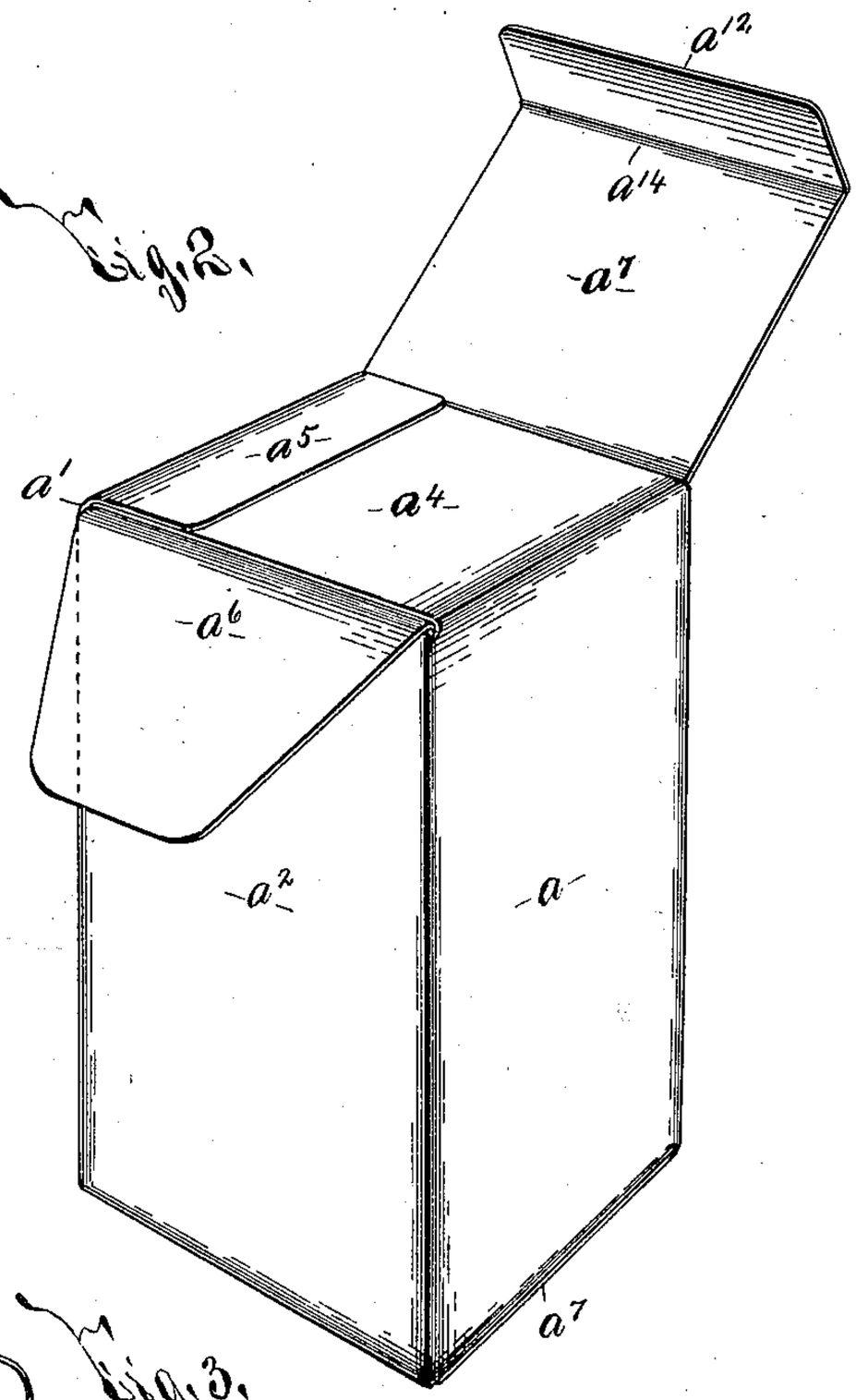
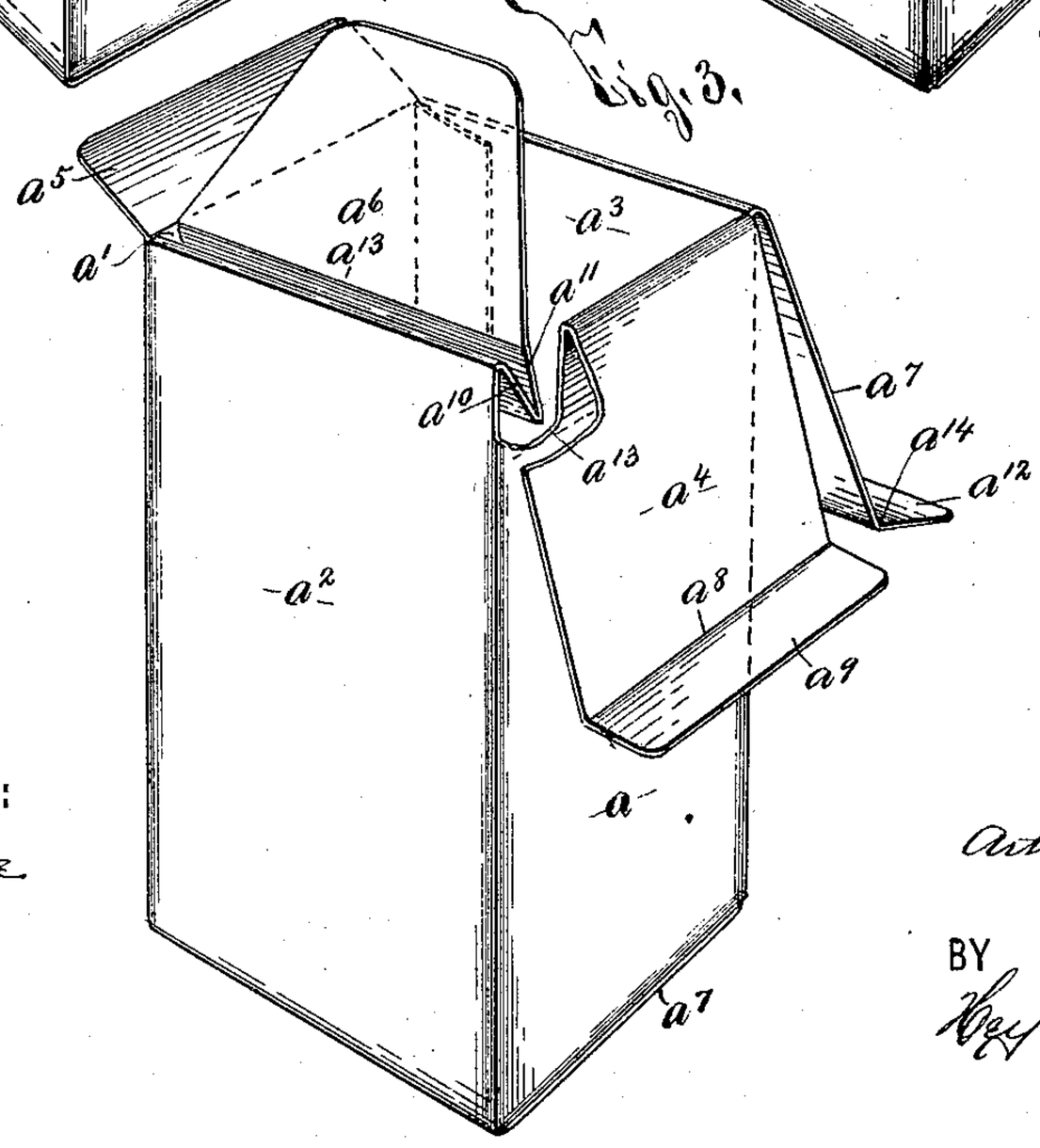


Fig. 3.



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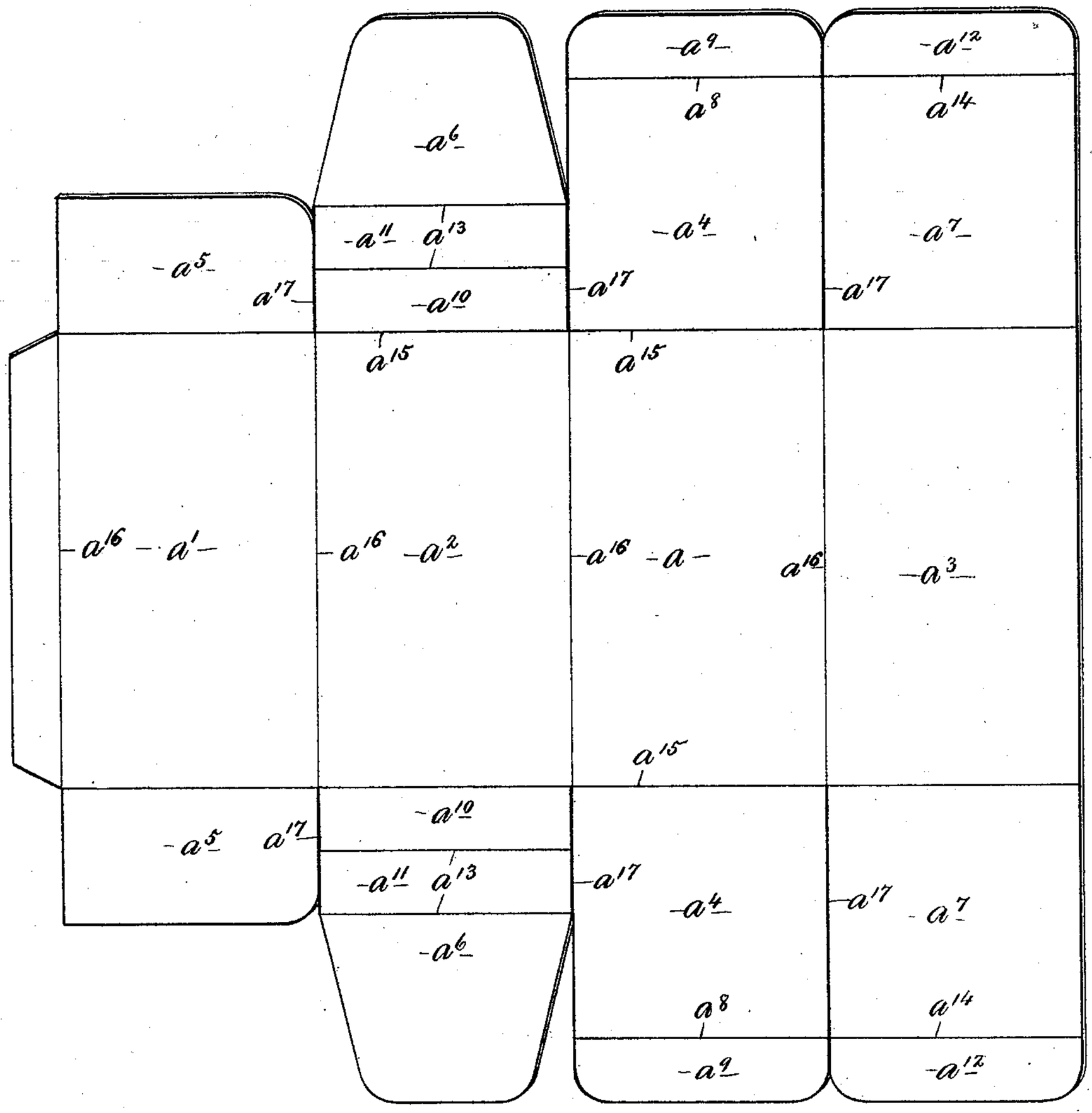
(No Model.) 4 Sheets—Sheet 2.

Fig. 4.



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(No Model.) 4 Sheets—Sheet 3.

Fig. 6.

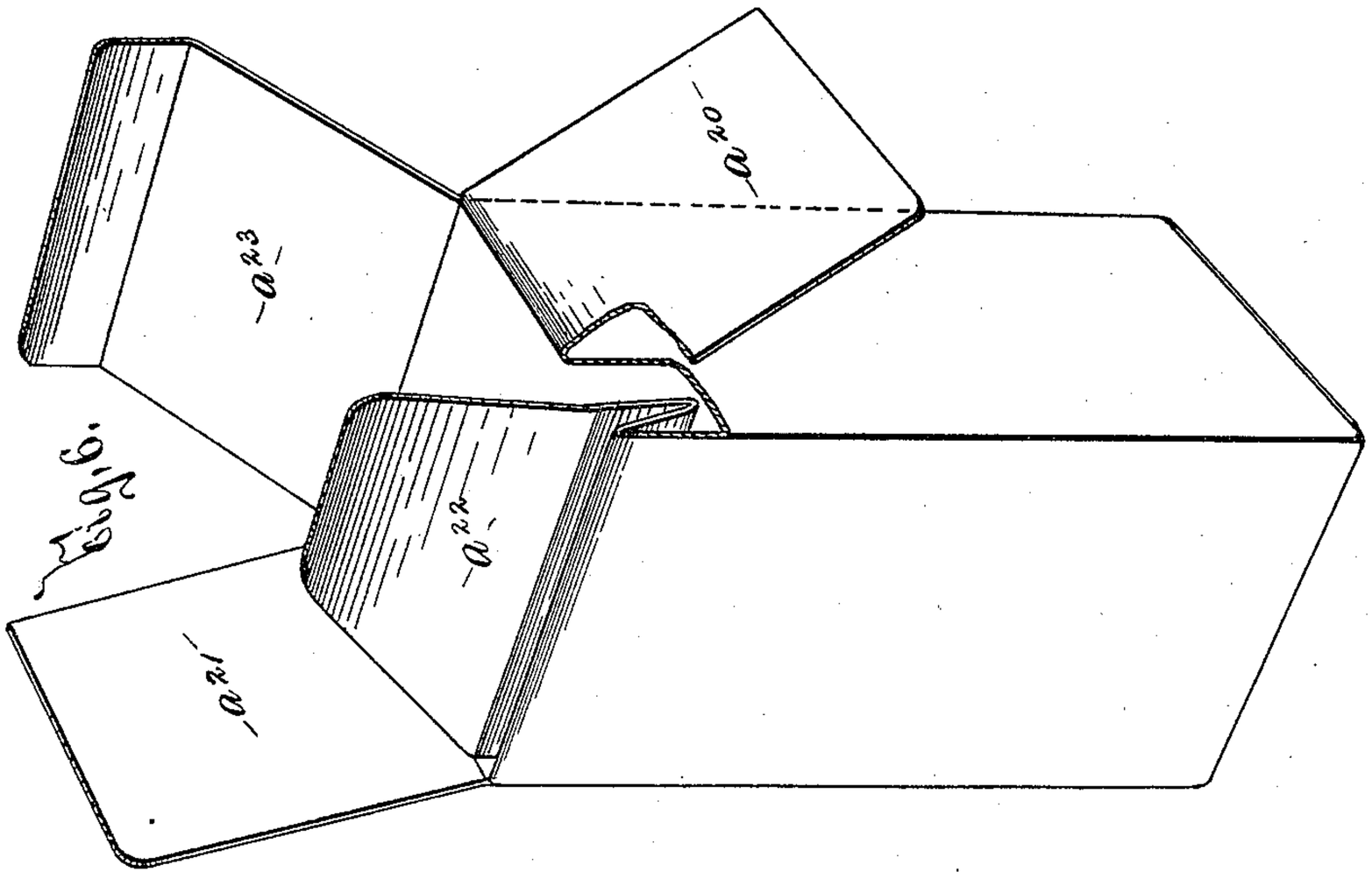
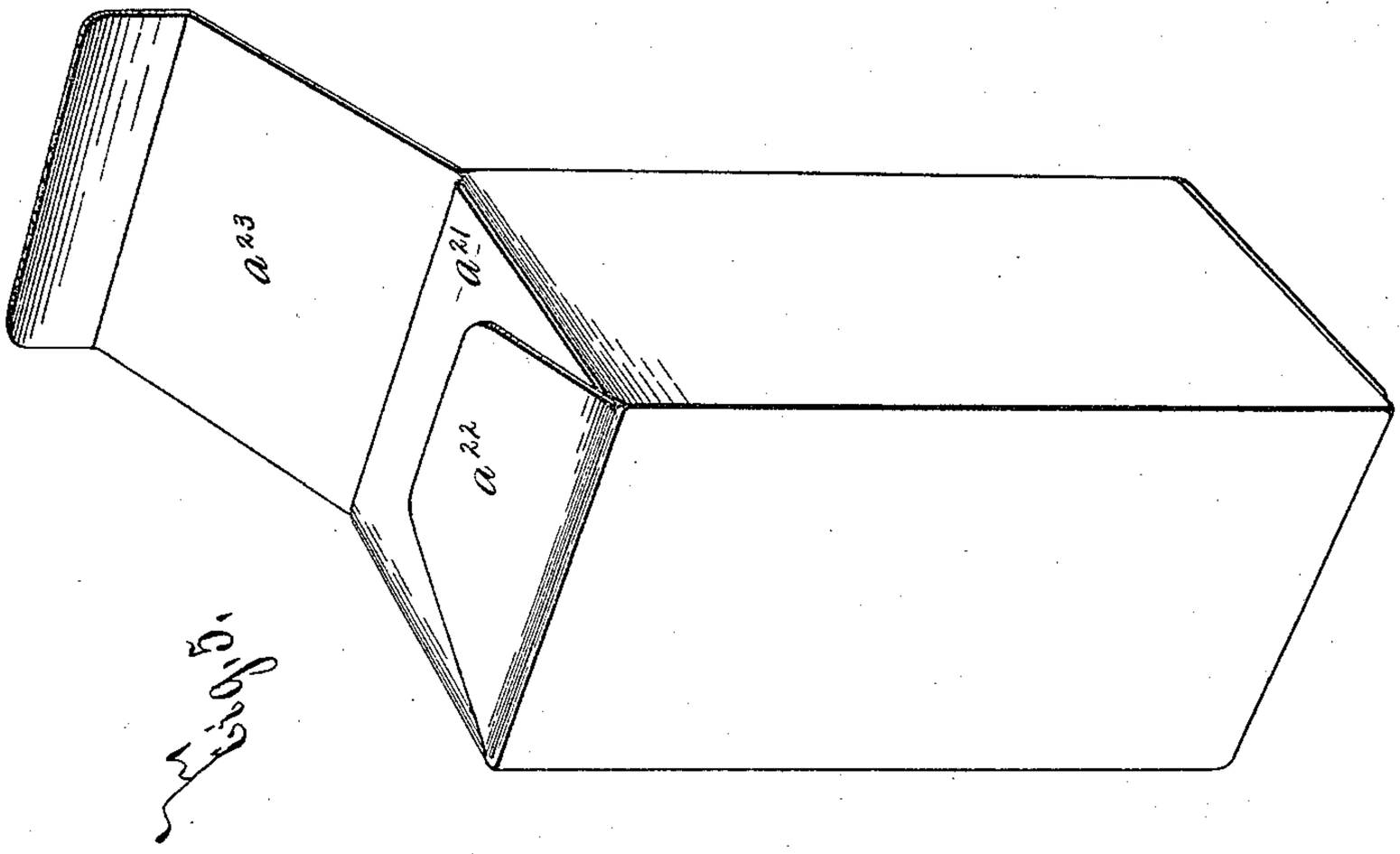


Fig. 5.



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No. 610,474. Patented Sept. 6, 1898.

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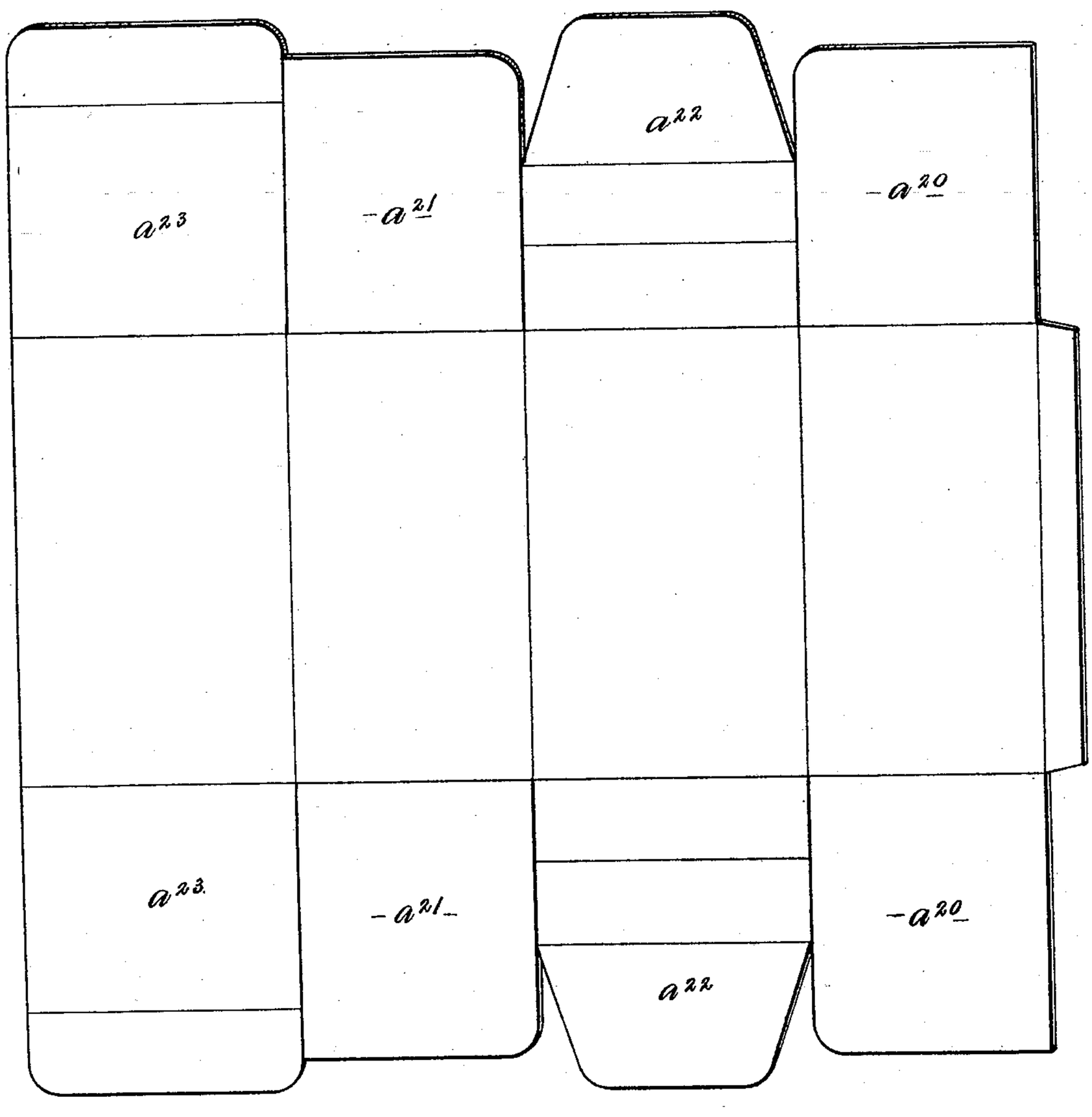
BOX.

(Application filed Apr. 15, 1897. Renewed Feb. 5, 1898.)

(No Model.) 4 Sheets—Sheet 4.

Fig. 7.



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UNITED STATES PATENT OFFICE.

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BOX.

SPECIFICATION forming part of Letters Patent No. 610,474, dated September 6, 1898.

Application filed April 15, 1897. Renewed February 5, 1898. Serial No. 669,279. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR B. COWLES, of Rochester, in the county of Monroe, in the State of New York, have invented new and useful Improvements in Boxes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in folding boxes, and has for its object the production of a device which is economically manufactured, is readily formed, and may be packed for storage and transportation with the utmost economy of space; and to this end the invention consists in the general construction and formation of a folding box, as hereinafter fully described, and pointed out in the claims.

In describing this invention reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 is a perspective view of my improved folding box shown as closed. Figs. 2 and 3 are perspective views showing the box as partly open. Fig. 4 is a plan view of the blank for forming the preferable construction of my improved box. Figs. 5 and 6 are perspective views of a slightly-modified form of my improved box, and Fig. 7 is a plan view of the blank for forming the box shown in Figs. 5 and 6.

My improved box may be formed of any suitable material, is preferably rectangular in form, and consists of lengthwise sides or walls a a' a^2 a^3 and end flaps a^4 a^4, a^5 a^5, a^6 a^6, a^7 a^7. The sides or walls a a' a^2 a^3 are formed of substantially uniform length and are flexibly united at their longitudinal edges. The flaps a^4 a^4, a^5 a^5, a^6 a^6, a^7 a^7 form the end sides or walls of the box and are flexibly united to the ends of the sides or walls a a' a^2 a^3. It is obvious, however, that only one end of my improved box may be closed by flaps a^4 a^5 a^6 a^7 and that its other end may be closed by any other suitable means or may remain open. The flaps a^4 a^4 a^5 a^5 project from oppositely-arranged sides or walls a a', and the flaps a^6 a^6 a^7 a^7 project from additional oppositely-arranged sides or walls a^2 a^3. The flaps a^4 a^4 are preferably formed at their free ends with transverse creases or scores a^8 a^8 and with extensions or tongues a^9 a^9, which normally extend inwardly from the creases or scores a^8 a^8 and are arranged in close proximity to the opposite sides or walls a'. The flaps a^5 a^5 are usually formed of less length than the flaps a^4 a^4 and are lapped thereupon, as best seen in Fig. 2. The flaps a^6 a^6 are formed with inwardly-extending transverse portions a^{10} a^{11}, which are normally arranged side by side at the adjacent lengthwise edges of the flaps a^4 a^4 a^5 a^5 and form pockets for receiving inwardly-extending tongues or extensions a^{12}, provided upon the free ends of the opposite flaps a^7 a^7. The inner edges of the transverse portions a^{10} a^{11} are flexibly united together, and, as best seen in Fig. 3, the outer edges of the portions a^{10} are flexibly united to the end edges of the side or wall a^2 of my improved box. The outer edges of the portions a^{11} are flexibly united to the free extremities of the flaps a^6 a^6, and said extremities extend at substantially right angles to the side or wall a^2 and are lapped upon the flaps a^4 a^4 a^5 a^5 beneath the flaps a^7 a^7. The intermediate portions of the flaps a^6 a^6 are formed with crosswise creases or scores a^{13} a^{13} for forming the longitudinal edges of the inwardly-extending portions a^{11} of said flaps, and the extremities of the flaps a^7 a^7 are provided with crosswise creases or scores a^{14} for facilitating inward bending of the tongues or extensions a^{12}.

My improved box is preferably formed from a single piece or blank of suitable material, which, as shown in Fig. 4, is provided with lengthwise and transverse creases or scores a^{15} a^{15} a^{16} a^{16} a^{16} a^{16} for forming, respectively, the end and lengthwise edges of the sides or walls of the box and is also provided with short lengthwise creases or scores a^8 a^8 a^{13} a^{13} a^{13} a^{13} a^{14} a^{14}, previously described, and suitable transverse slits a^{17} a^{17} a^{17}, extending outwardly from the lengthwise creases or scores a^{15} a^{15} in alinement with the transverse creases or scores a^{16} a^{16} a^{16} a^{16} for forming the side edges of the flaps a^4 a^5 a^6 a^7. In the formation of my improved box the blank is folded at the transverse creases or scores a^{16} a^{16} a^{16} a^{16}, its opposite ends are suitably secured to-

gether by glue or other means, and the flaps a^4 a^4 a^5 a^5 a^6 a^6 a^7 a^7 are folded as described.

The construction of my improved box may obviously be somewhat varied without departing from the spirit of my invention, and in Figs. 5, 6, and 7 I have shown a modified construction of said box and a blank for forming the same. This modified box is provided with oppositely-arranged end flaps a^{20} a^{21} of similar construction and size and additional oppositely-arranged end flaps a^{22} a^{23} similar to the flaps a^6 a^6 a^7 a^7 previously described.

The construction and operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings.

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

1. The herein-described box, consisting of angularly-arranged sides or walls, and flaps projecting from the ends of opposite sides or walls, one flap having portions thereof extended inwardly and united at their inner edges for forming a pocket, and the other flap being lapped upon the first flap and provided with a tongue normally inserted into said pocket, substantially as and for the purpose specified.

2. The herein-described box, consisting of angularly-arranged sides or walls, a pair of flaps projecting from the ends of opposite sides or walls and lapped upon each other, a second pair of flaps projecting from the ends of additional opposite sides or walls and lapping upon the former flaps, one of the second pair of flaps having portions thereof extended inwardly at the lengthwise edges of the former flaps for forming a pocket, and the other of said second pair of flaps being provided with a tongue or inward extension normally inserted into said pocket, substantially as and for the purpose set forth.

3. The herein-described box, consisting of angularly-arranged sides or walls, and flaps projecting from the ends of opposite sides or walls, one of the flaps being formed with a transverse portion extended inwardly from the end of the side or wall provided with said flap, and a second transverse portion extended inwardly at the side of the first transverse portion and having its inner edge united to the corresponding edge of the first transverse portion, said flap having its extremity arranged at substantially right angles to said side or wall, and the other flap being lapped upon the first flap and provided with a tongue or inward extension normally arranged between the inwardly-extending transverse portions of the first flap, substantially as and for the purpose set forth.

4. The herein-described box, consisting of angularly-arranged sides or walls, a pair of flaps projecting from the ends of opposite sides or walls and lapped upon each other, the inner flap being provided at its extremity with an inward extension or tongue arranged in close proximity to the opposite side or wall, and a second pair of flaps projecting from the ends of additional opposite walls, one of the second pair of flaps being formed with a transverse portion extended inwardly from the end of the wall provided with said flap, and a second transverse portion extended inwardly at the side of the first transverse portion and having its inner edge united to the corresponding edge of the first transverse portion, said flap having its extremity arranged at substantially right angles to said side or wall and lapped upon the first pair of flaps, and the other of said second pair of flaps being lapped upon the former flaps and provided with a tongue or inward extension normally arranged between the inwardly-extending transverse portions of the first additional flap, substantially as and for the purpose described.

5. The herein-described box, consisting of angularly-arranged sides or walls a' a^2 a^3, flaps a^4 a^4, a^5 a^5, projecting from the opposite ends of the sides or walls a a', the flaps a^4 a^4 being formed at their extremities with inward extensions or tongues a^9 a^9 normally arranged in close proximity to the side or wall a', and the flaps a^5 a^5 being formed of less length than the flaps a^4 a^4, and flaps a^6 a^6, a^7 a^7, projecting from the opposite ends of the sides or walls a^2 a^3, the flaps a^6 a^6 being formed with transverse portions a^{10} a^{11} extending inwardly at the longitudinal sides of the flaps a^4 a^4, a^5 a^5 and having their inner edges united, said flaps a^6 a^6 having their extremities lapped upon the flaps a^4 a^4, a^5 a^5, and the flaps a^7 a^7 being lapped upon the former flaps and provided at their extremities with tongues or inward extensions a^{12} normally arranged between the inwardly-extending transverse portions a^{10} a^{11} of the flaps a^6 a^6, substantially as and for the purpose specified.

6. As a new article of manufacture, the herein-described blank for boxes, the same consisting of a sheet of suitable material provided with longitudinal and transverse creases or scores a^{15} a^{15}, a^{16} a^{16} a^{16} a^{16} forming respectively the end and lengthwise edges of the sides or walls of the box, transverse slits a^{17} a^{17} a^{17} a^{17} extending outwardly from the lengthwise creases or scores a^{15} a^{15} for forming the end flaps a^6 a^6 a^7 a^7, lengthwise creases or scores a^{13} a^{13} arranged one in advance of the other between the inner ends of the slits a^{17} forming the end flaps a^6 a^6, and lengthwise creases or scores a^{14} arranged between the outer ends of the slits a^{17} forming the end flaps a^7 a^7, substantially as and for the purpose described.

7. As a new article of manufacture, the herein-described blank for boxes, the same consisting of a sheet of suitable material provided with longitudinal and transverse creases or scores a^{15} a^{15}, a^{16} a^{16} a^{16} a^{16} forming respectively the end and lengthwise edges of the sides or walls of the box, transverse slits

a^{17} a^{17} a^{17} a^{17} extending outwardly from the lengthwise creases or scores a^{15} a^{15} for forming the end flaps a^4 a^4, a^5 a^5, a^6 a^6, a^7 a^7, lengthwise creases or scores a^8 a^{14}, arranged between the outer ends of the slits a^{17} forming the end flaps a^4 a^4, a^7 a^7, and lengthwise creases or scores a^{13} a^{13} arranged one in advance of the other between the inner ends of the slits a^{17} forming the end flaps a^6 a^6, substantially as and for the purpose set forth.

In testimony whereof I have hereunto signed may name, in the presence of two attesting witnesses, at Rochester, in the county of Monroe, in the State of New York, this 18th day of March, 1897.

ARTHUR B. COWLES.

Witnesses:
S. D. NICHOL,
CLARA M. PERKINS.