

J. T. FERRES.
 PACKING OR SHIPPING BOX.
 APPLICATION FILED APR. 28, 1909.

974,871.

Patented Nov. 8, 1910.

3 SHEETS—SHEET 1.

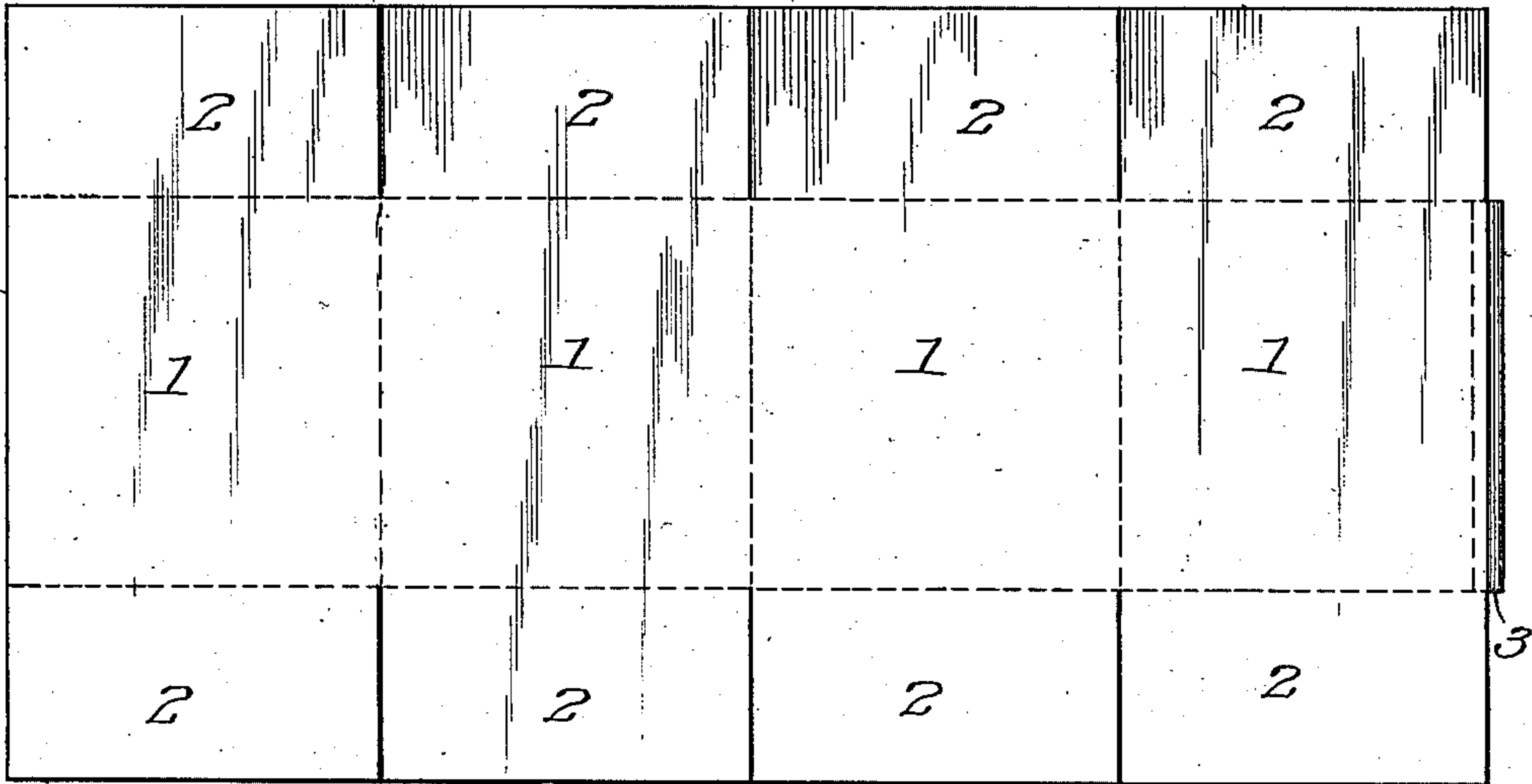


Fig. 1

Fig. 2

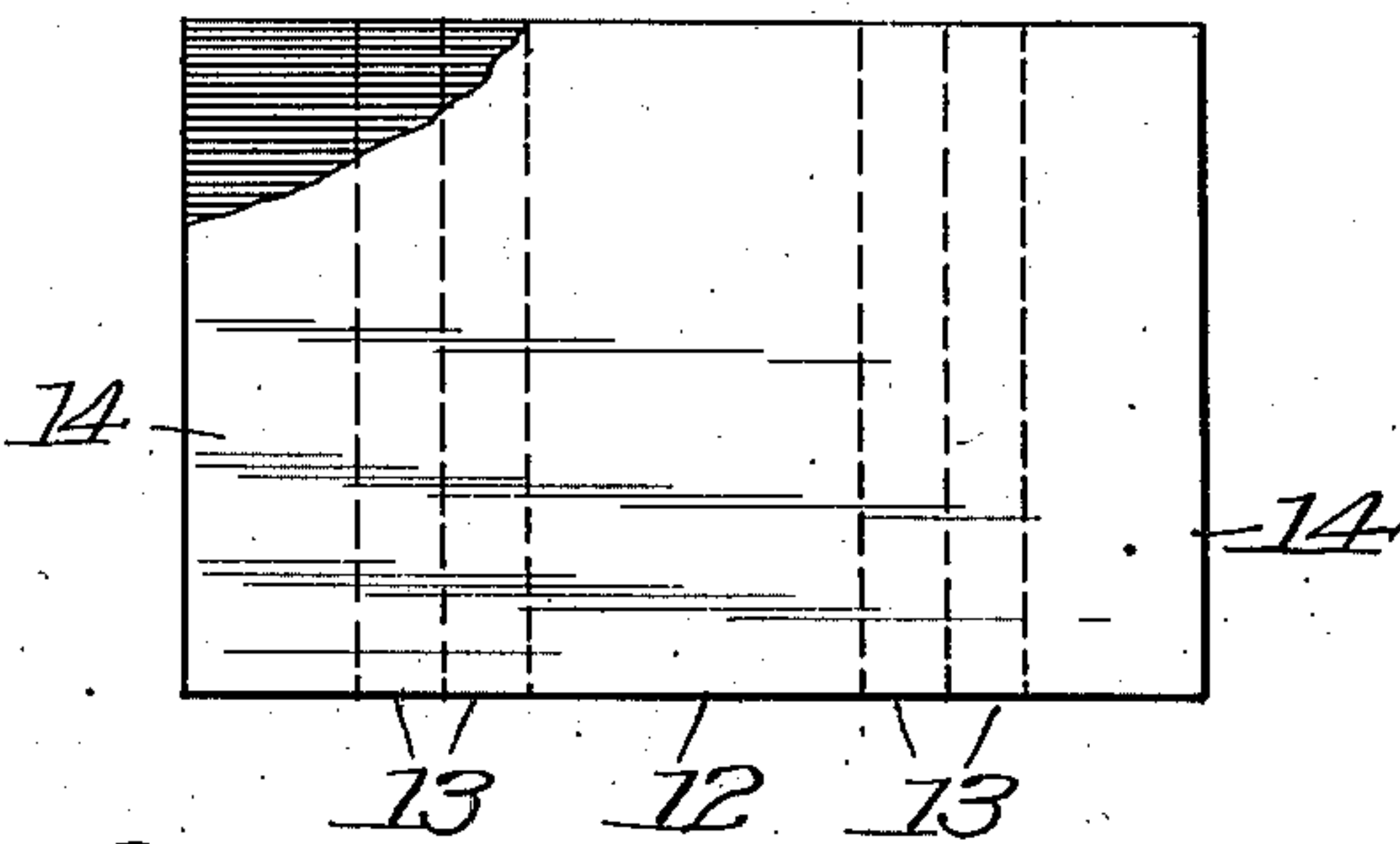


Fig. 3

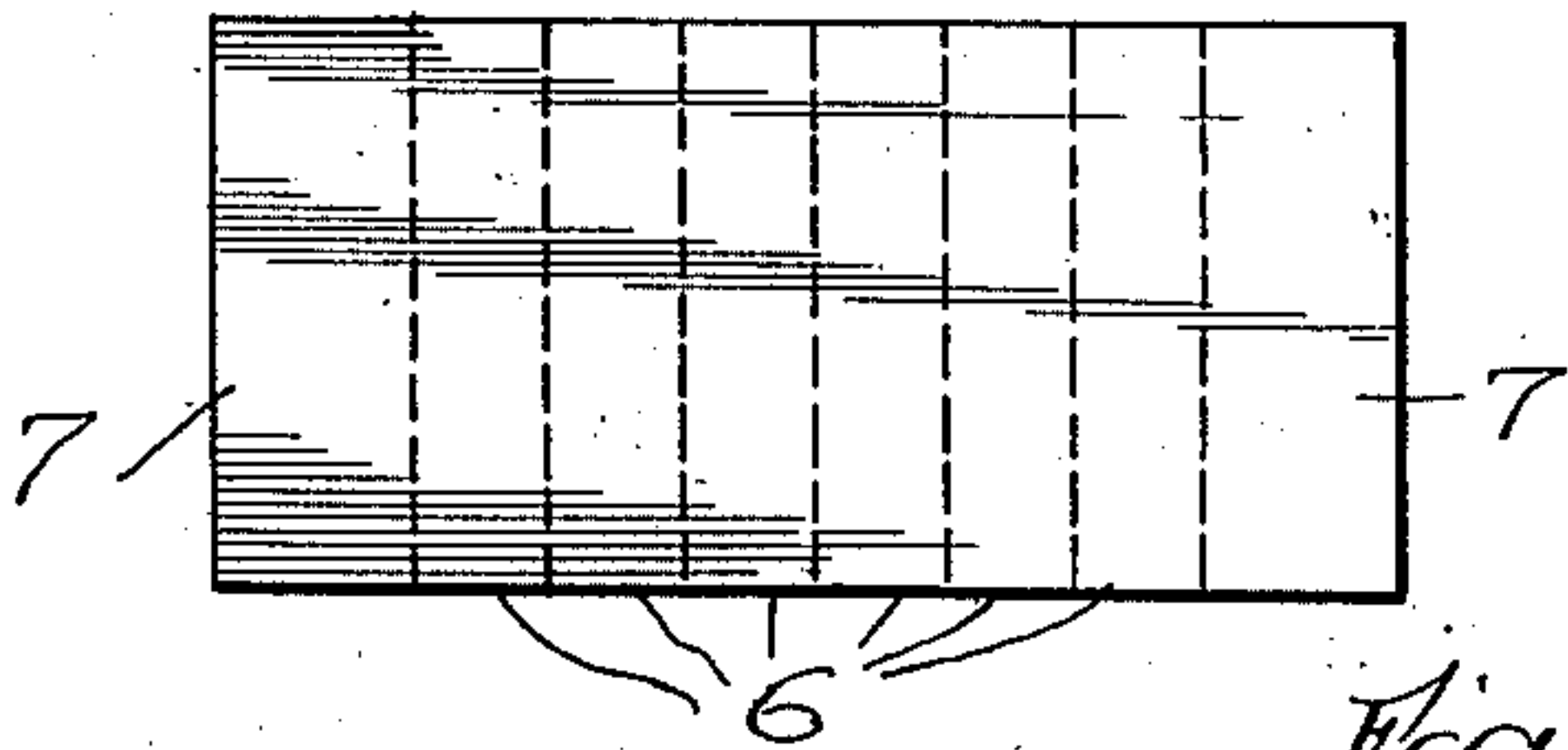


Fig. 4

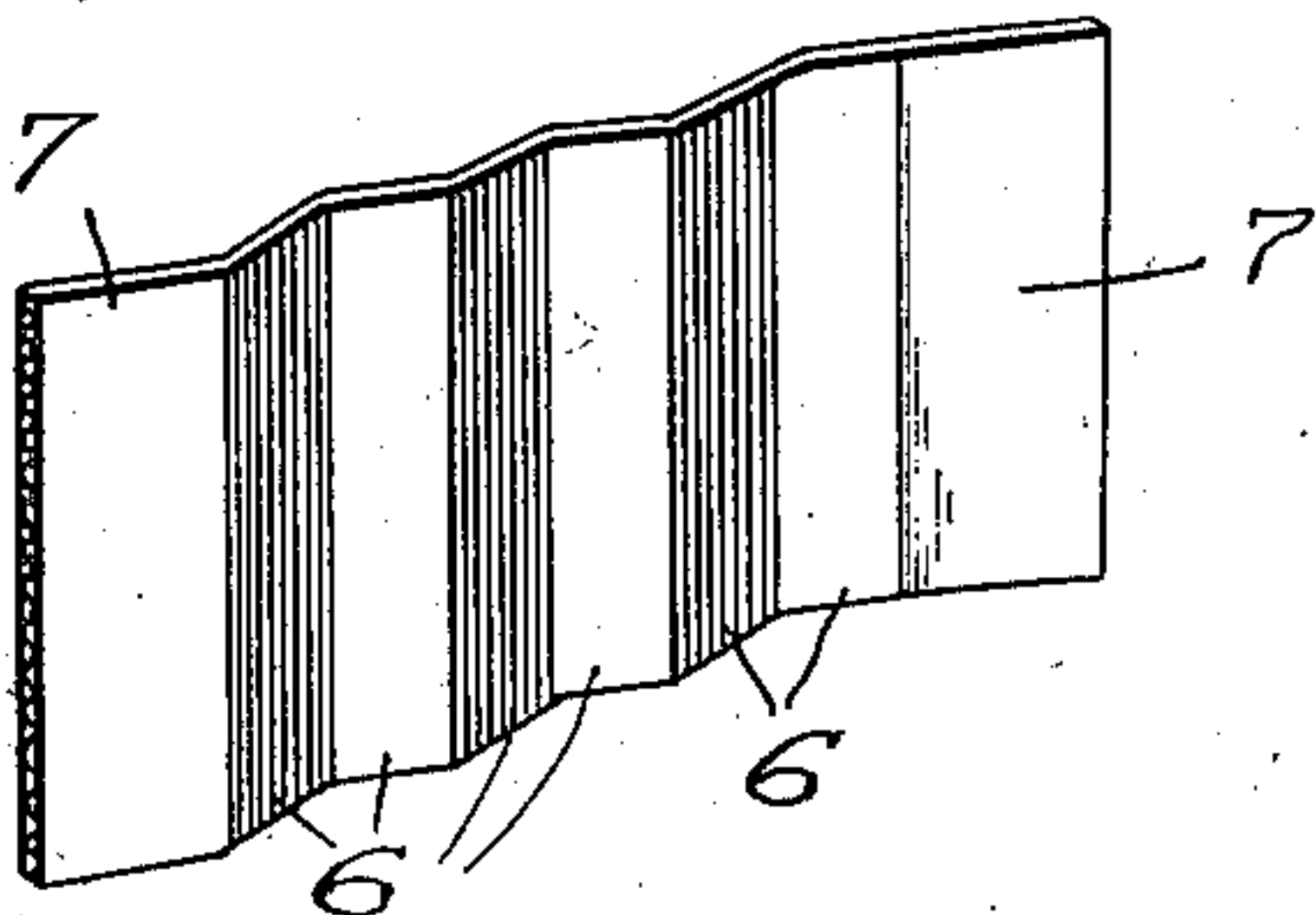
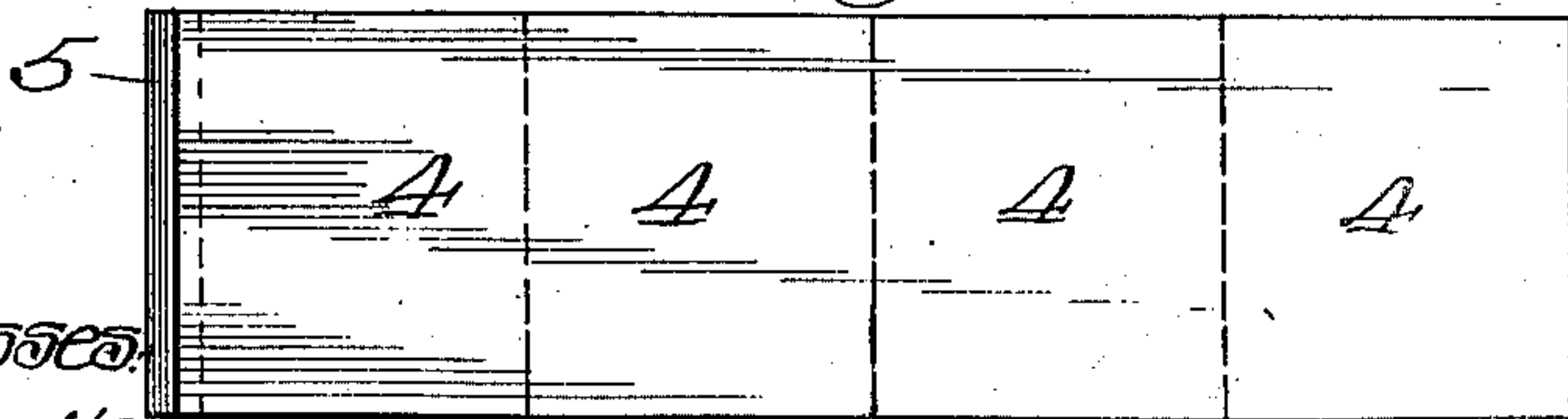


Fig. 5



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Fig. 6.

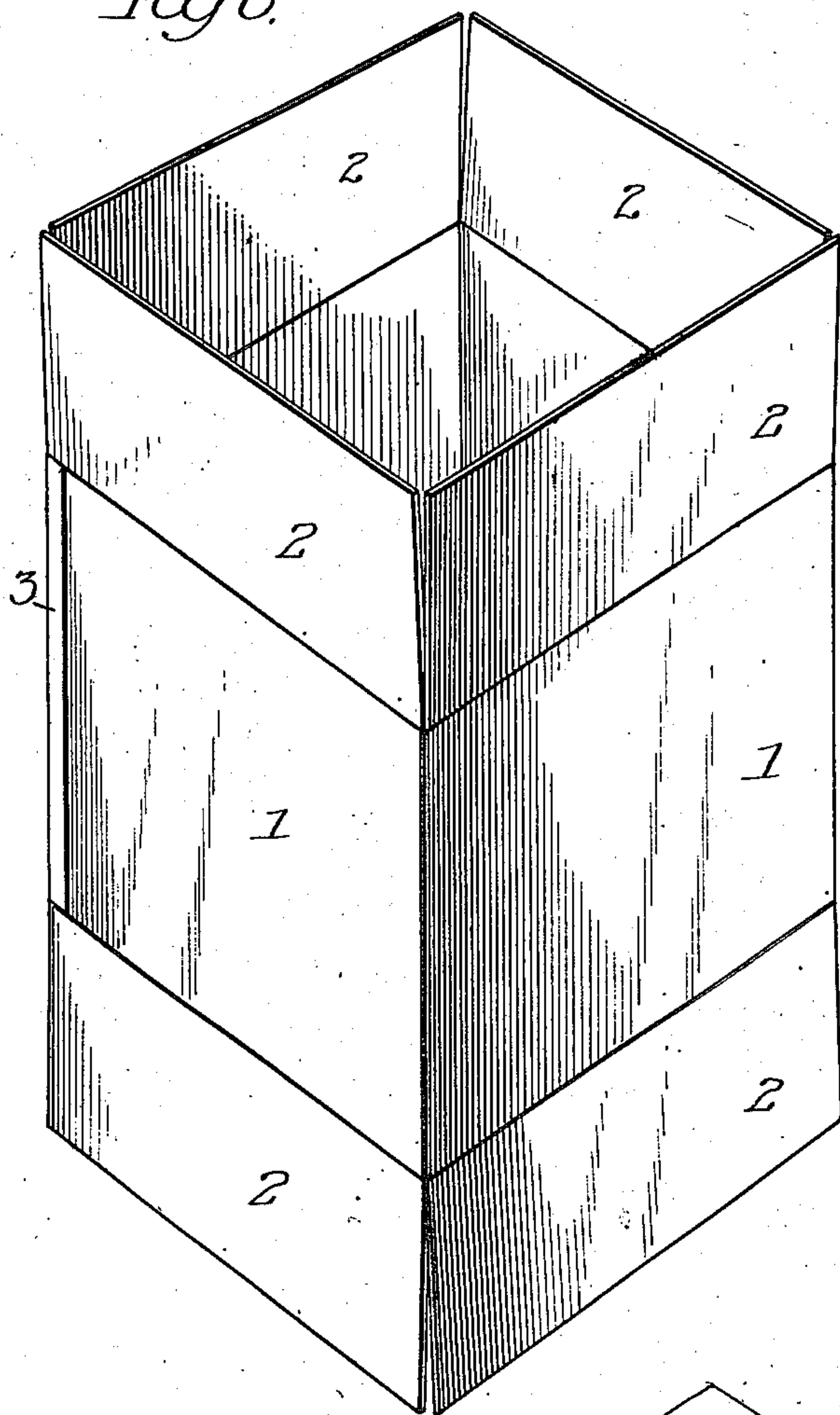


Fig. 7.

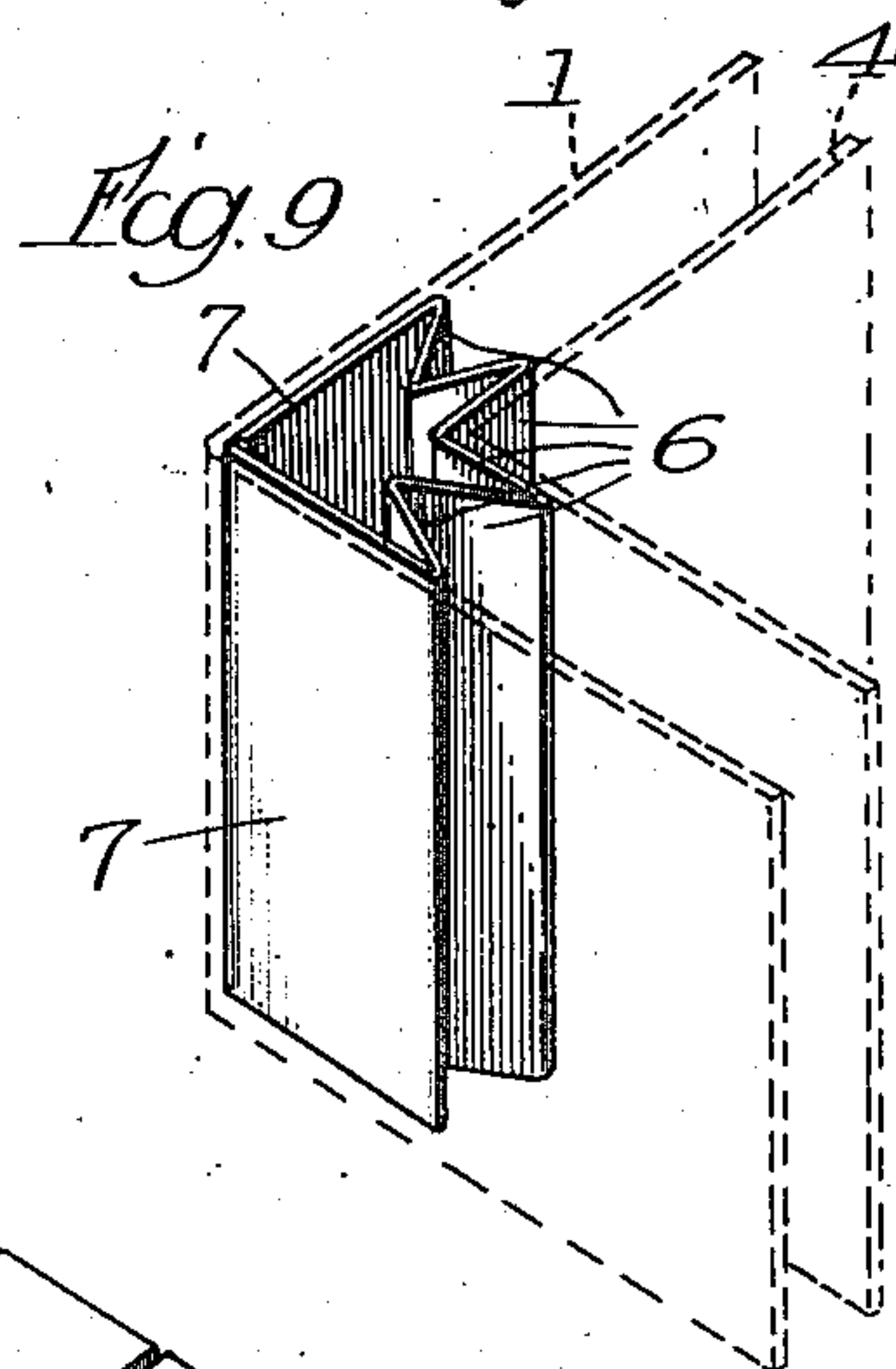
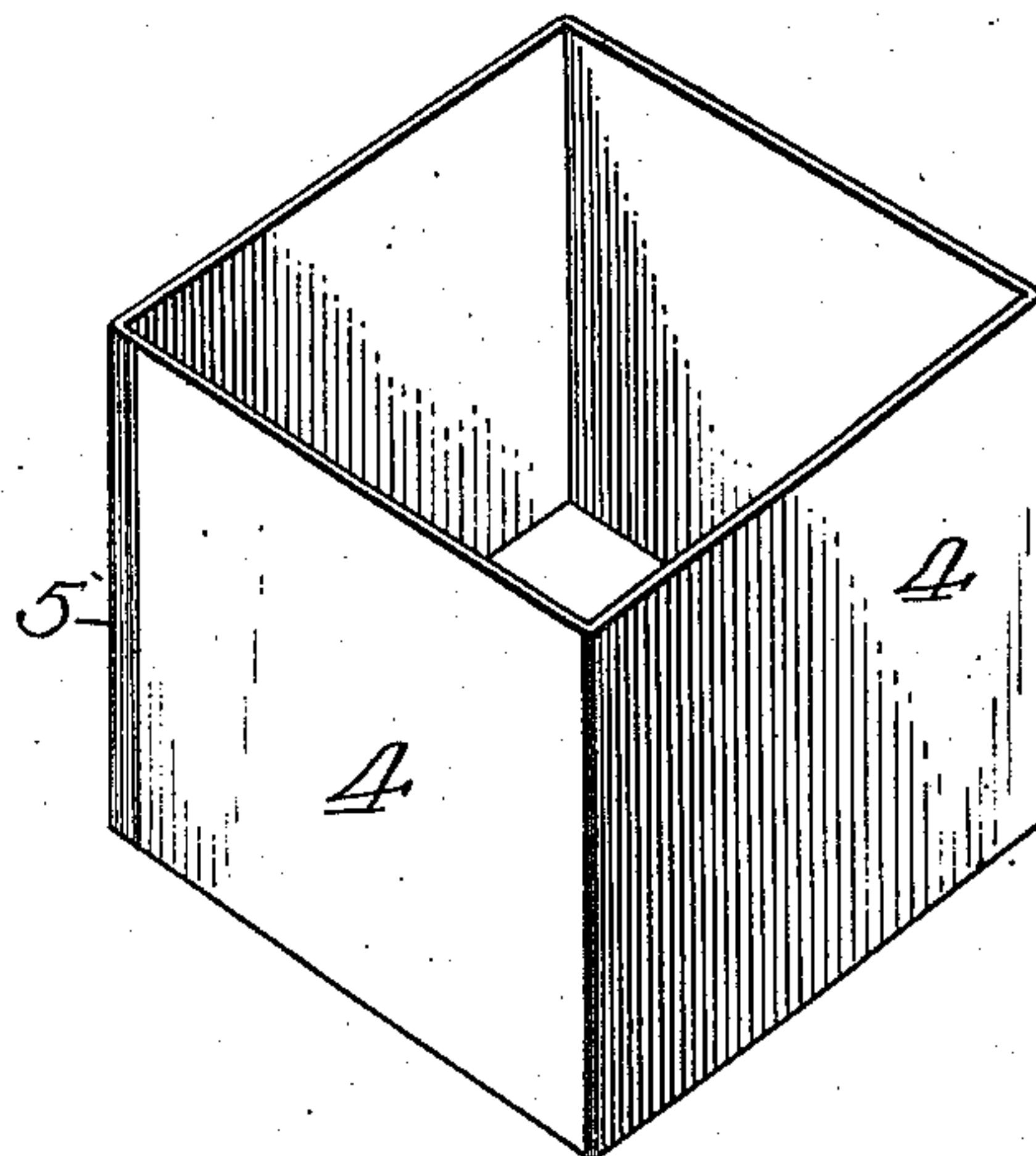
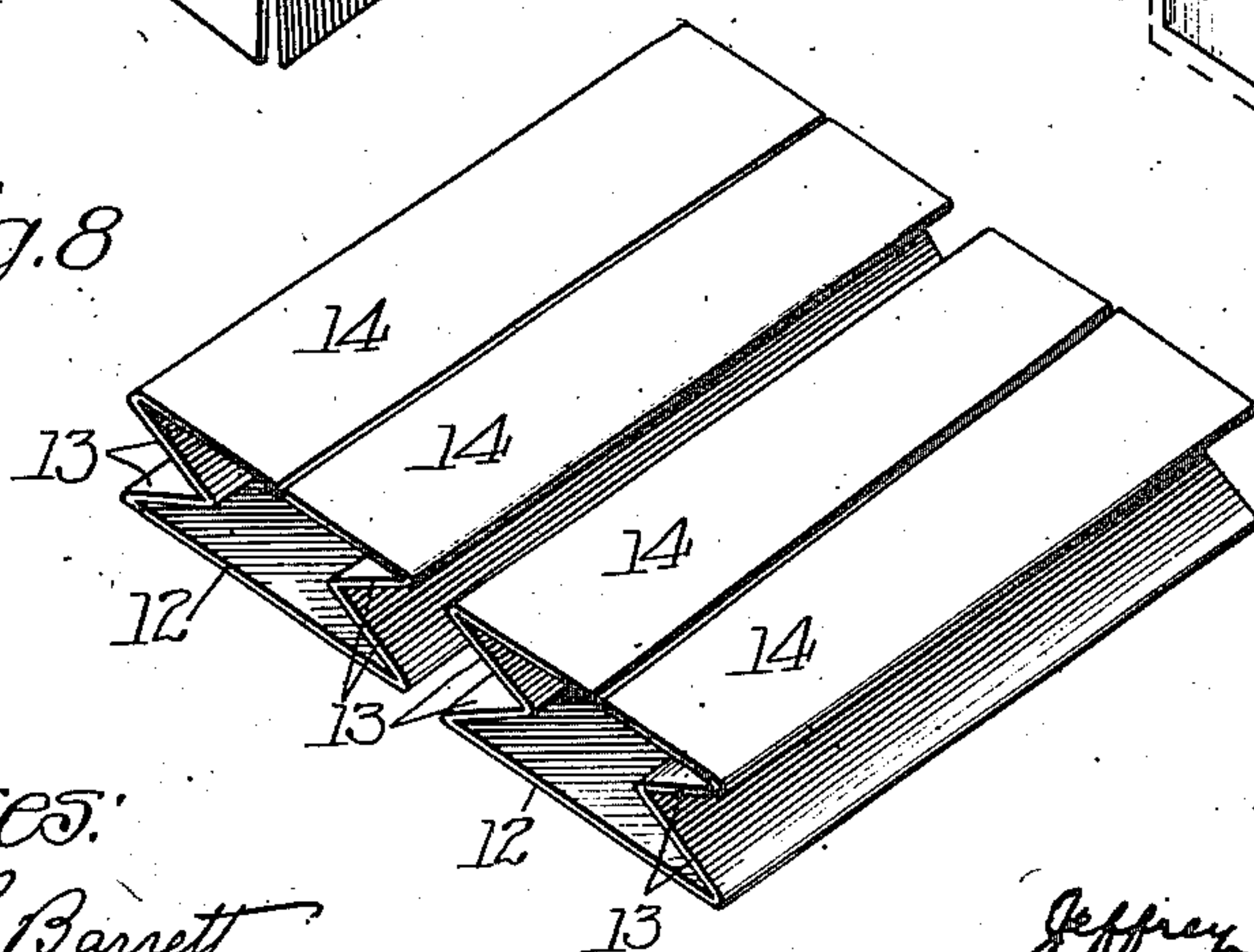


Fig. 8.



Witnesses:

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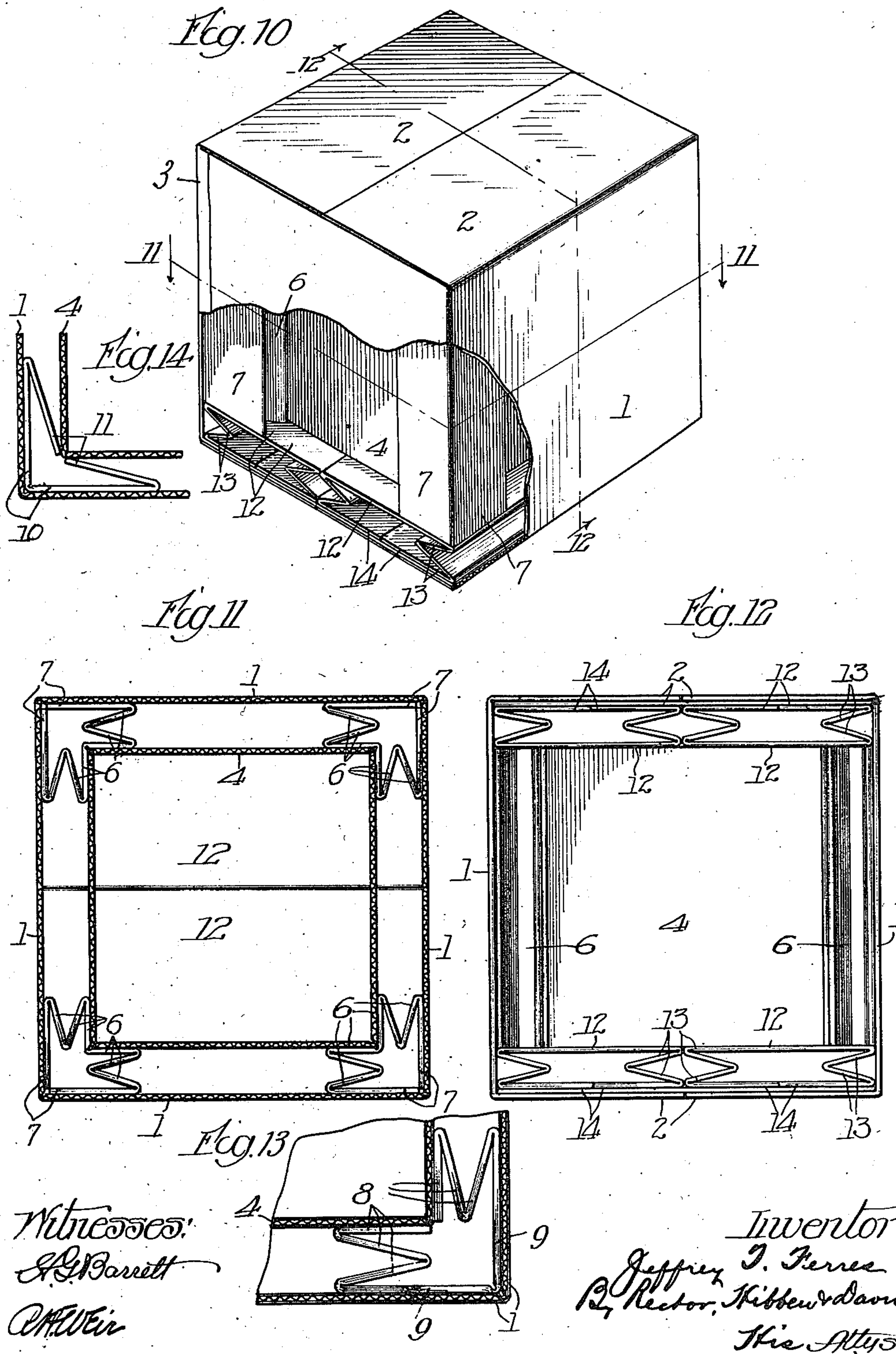
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

JEFFREY T. FERRES, OF ANDERSON, INDIANA, ASSIGNOR TO THE SEFTON MANUFACTURING COMPANY, OF ANDERSON, INDIANA, A CORPORATION OF INDIANA.

PACKING OR SHIPPING BOX.

974,871.

Specification of Letters Patent.

Patented Nov. 8, 1910.

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To all whom it may concern:

Be it known that I, JEFFREY T. FERRES, a citizen of the United States, residing at Anderson, Madison county, Indiana, have invented certain new and useful Improvements in Packing or Shipping Boxes, of which the following is a specification.

My invention relates to what are generally known as packing or shipping boxes made of paper board and intended for the packaging and shipment of articles or goods.

The object of my invention is to provide such a box with means whereby fragile articles, such as glassware, crockery, tungsten lamps, etc., may be safely packaged and transmitted without danger of breakage or injury.

Speaking in general terms, my invention consists in providing between the body of the box and the article or goods a buffer or series of buffers of novel construction and arrangement and preferably made of the same material as the box itself, that is what is generally known as double faced corrugated paper board, such buffers receiving and absorbing all shock or jar and preventing the same from being transmitted to the article or articles contained therewithin and thereby serving as an efficient protection against injury or breakage.

In the drawings, Figure 1 is a plan view of a blank from which the body of the box is formed; Fig. 2 a plan view of a blank from which one of the sets of buffers is formed; Fig. 3 a similar view of one of the other sets of buffers; Fig. 4 a perspective view illustrating the preliminary folding or bending of the scored blank of Fig. 3; Fig. 5 a plan view of a blank for an open-ended interior shell which may, if desired, be employed; Fig. 6 a perspective of the box proper formed from the blank shown in Fig. 1 but on a larger scale; Fig. 7 a perspective of said interior shell formed from the character of blank illustrated in Fig. 5 but on a larger scale; Fig. 8 a perspective of two similar buffers made from blanks of the character illustrated in Fig. 2; Fig. 9 a perspective of one of the other buffers formed from the blanks illustrated in Figs. 3 and 4 showing in dotted lines the position of the box proper and shell with respect to such buffer; Fig. 10 a perspective of the complete box with a portion broken away to expose the interior construction thereof; Fig.

11 a horizontal section of such complete box; Fig. 12 a vertical section thereof; and Figs. 13 and 14 detail views showing modified arrangements of one of the corner buffers.

Referring to the present embodiment of my invention, the material which I prefer to use throughout the box including the box proper, interior shell and buffers, is what is known as double-faced corrugated board, the same giving the requisite strength to the box structure and also affording sufficient resiliency with respect to the parts which for convenience I will hereinafter refer to as buffers. Moreover, inasmuch as my invention relates to the said buffers, the particular construction of box proper is immaterial so long as it is such as to properly cooperate with such buffers.

Referring to the particular construction shown in the drawings, the box proper is made from a blank properly cut and scored so as to form four similar side walls 1 and opposite end flaps or extensions 2, the outermost end walls being brought and hinged together in suitable manner as by means of the tape 3, resulting in the box body illustrated in Fig. 6, it being understood that the end flaps or extensions forming the top and bottom of the box are folded inwardly and preferably sealed in closing the box. By preference I employ an interior open-ended shell for directly containing the articles to be packaged, such shell being formed from the blank illustrated in Fig. 5, which is properly scored to form the four similar side walls 4, the outermost ones of which are hinged together in suitable manner as by means of the tape 5, thereby forming the complete shell illustrated in perspective view in Fig. 7. In the shipment of many fragile articles it is sometimes preferable that this inner shell 4 be constructed with a bottom or with bottom and top or the same may be made and sealed in the same manner as the outer box, as will be obvious. Moreover, if desired, such shell may be provided at either or both top and bottom with a loose cover of paper board.

The buffers forming the principal feature of my invention are interposed between the four corners of the shell and the corners of the box body as illustrated in Figs. 10 and 11. These buffers are similar in construction, each being made from a single piece

or blank of double-faced corrugated paper board which is scored or creased as illustrated in Fig. 3. As shown in said latter figure, the blank is creased so as to form a series of these parallel strips 6 in the intermediate portion of such blank and two end strips 7 which are here shown as slightly wider than the strips 6. In practice the strips 6 are reversely bent or folded upon each other in the general manner indicated in Fig. 4 and are finally brought to their proper or folded condition illustrated in Fig. 9, which shows a completed corner buffer in the form and condition which it occupies when in actual use. These corner buffers are placed in the four inner corners of the box proper and the shell 4 is placed in position with its corners fitting snugly in the right-angle formed by the two innermost strips 6 of the buffer as clearly indicated in Fig. 9. The pair of strips 6 on each side of these two innermost strips are resilient, that is have spring action, and tend to cushion or resist any blow or jar from the outside. The outermost strip 7 of each corner buffer rests flat against the adjacent side walls 1 of the body of the box, their outer free edges meeting at the inner corner itself of such box. In this manner and by these means the shell 4 is held in its central position within the body of the box with a yielding pressure imparted to it at its four corners, each buffer being capable of yielding movement to some extent in several directions, thereby affording cushions for the article or articles contained within the box. Moreover the particular construction shown provides for an intimate bearing between each corner buffer and the corner of the shell 4, the same furthermore mutually supporting each other. It is not essential that the blank of the corner folds be scored in the manner indicated in Fig. 3, for, as shown in Fig. 13, the narrower strips 8 may be formed at the opposite ends of the blank with the wider strips 9 formed at the intermediate portion thereof. In this form of corner buffer the outer or end edges thereof will be positioned adjacent a corner of the shell 4 as shown in Fig. 13 instead of the corner of the body of the box as in Fig. 9, but the action of the two kinds of buffers remain substantially the same. Moreover, if desired, the corner buffers may be made with a less number of sections as shown in Fig. 14, although the other constructions are preferred. According to said modification of Fig. 14, each corner buffer comprises strips 10 bearing against the side walls of the box and resilient strips 11 hinged thereto and bearing against the inner shell 4.

In addition to the corner buffers, buffers may be employed at the top and bottom of the box, there being a pair of such buffers

herein shown at the bottom of the box and a similar pair at the top of the box. Each of these four end buffers is made from a blank as shown in Fig. 2 which is suitably creased or scored so as to be bent or folded into the form illustrated in Figs. 8, 10 and 12, these latter buffers serving to cushion the contents of the box from blows or shocks against the ends of the box so that the same will not be communicated to such contents to cause injury or breakage. As shown the blank is creased to form the middle strip 12, similar narrow strips 13 in two pairs, and the end strips 14 the blank being folded into flattened tube form (Fig. 8) with the strips 13 infolded at the sides to provide resilient action.

By preference the end flaps or extensions of the box are closed and sealed so as to make the box practically air-tight and likewise the interior construction, particularly the buffers, are made close fit so that they may have a pneumatic action or function in addition to their resilient action, with the result that a blow or jar may be cushioned as well by the air contained within a buffer as by the resilient action itself of the buffer or buffers.

By means of a box constructed as above described, the most fragile articles, for example tungsten lamps, may be transported safely and without danger from injury or breakage, which has heretofore been a serious problem in the shipment of said articles which are of the most fragile character.

I claim:

1. A packing or shipping box comprising a box body and corner buffers therein each formed from a strip of corrugated paper board folded transversely of the corrugations to form portions fitting the inner corners of the box and presenting toward the goods within the box reentrant other portions having resilient action.

2. A packing or shipping box comprising a box body and corner buffers therein each formed from a strip of double-faced corrugated board transversely folded with the different portions at angles to each other, one pair of such portions fitting against the box at a corner, another pair thereof being presented toward the goods within the box, and two similar pairs being arranged between the other two pairs to provide resilient action.

3. A packing or shipping box comprising a box body, a shell therewithin of less dimensions than the box body, and buffers arranged between the corners of the box body and the shell, each composed of a strip of suitable material transversely folded to form portions resiliently hinged to each other and comprising portions fitting the inner corners of the box body and other portions fitting the outer corners of the shell.

4. A packing or shipping box comprising a box body, a shell therewithin of less dimensions than the box body, and buffers arranged between the corners of the box body and the shell, each composed of a strip of corrugated paper board transversely folded to form portions resiliently hinged to each other and comprising portions fitting the inner corners of the box body and other portions fitting the outer corners of the shell.

5. A packing or shipping box comprising a box body, a shell therewithin of less dimensions than the box body, and buffers arranged between the corners of the box body and the shell, each composed of a strip of double-faced corrugated paper board transversely folded with the different portions at angles to each other, one pair thereof fitting against the inner corner of the box body, another pair against the adjacent outer corner of the shell and two pairs thereof arranged intermediate the other pairs to provide resilient action.

6. A packing or shipping box comprising a box body, a shell therewithin of less dimensions than the box body, and buffers arranged between the corners of the box body and the shell, each composed of a strip of

double-faced corrugated paper board transversely folded with the different portions at angles to each other, the middle pair thereof fitting against the inner corner of the box body, the outermost pair thereof against the adjacent outer corner of the shell, and the intermediate two pairs being inwardly folded to provide resilient action.

7. A packing or shipping box comprising a box body, a shell therewithin of less dimensions than the box body, and buffers arranged between the corners of the box body and the shell, each composed of a strip of suitable material transversely folded to form portions resiliently hinged to each other and fitting the inner corners of the box body and the outer corners of the shell, and end buffers arranged between the top and bottom of the shell and the box body, each of which is composed of a strip of double-faced corrugated paper board flattened tube with opposite sides folded inwardly to provide resilient action.

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Witnesses:

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