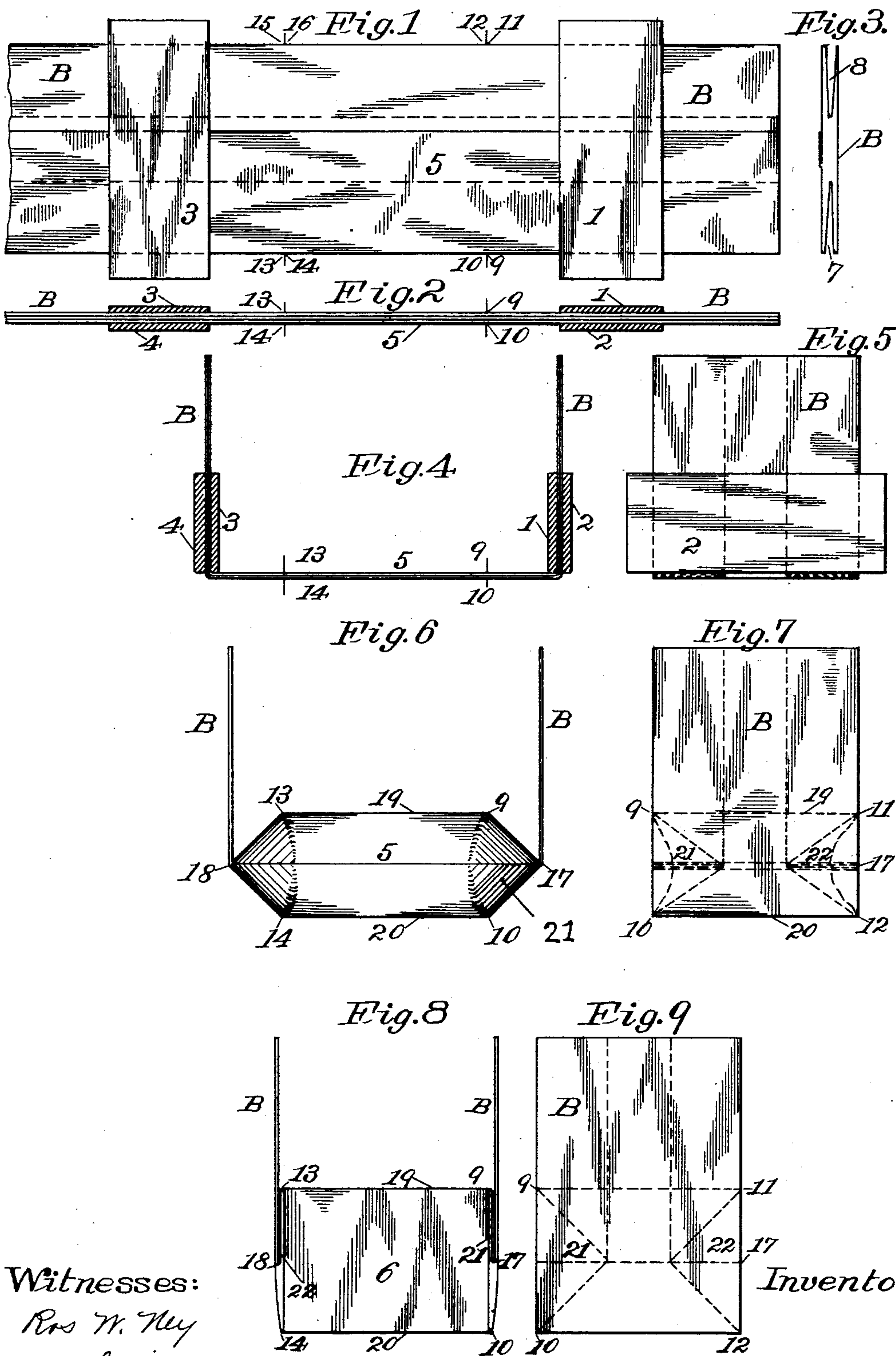


E. E. CLAUSSEN.
PROCESS OF MAKING PAPER BAGS.

No. 520,256.

Patented May 22, 1894.



Witnesses:

Ros W. Key
W. H. Honiso

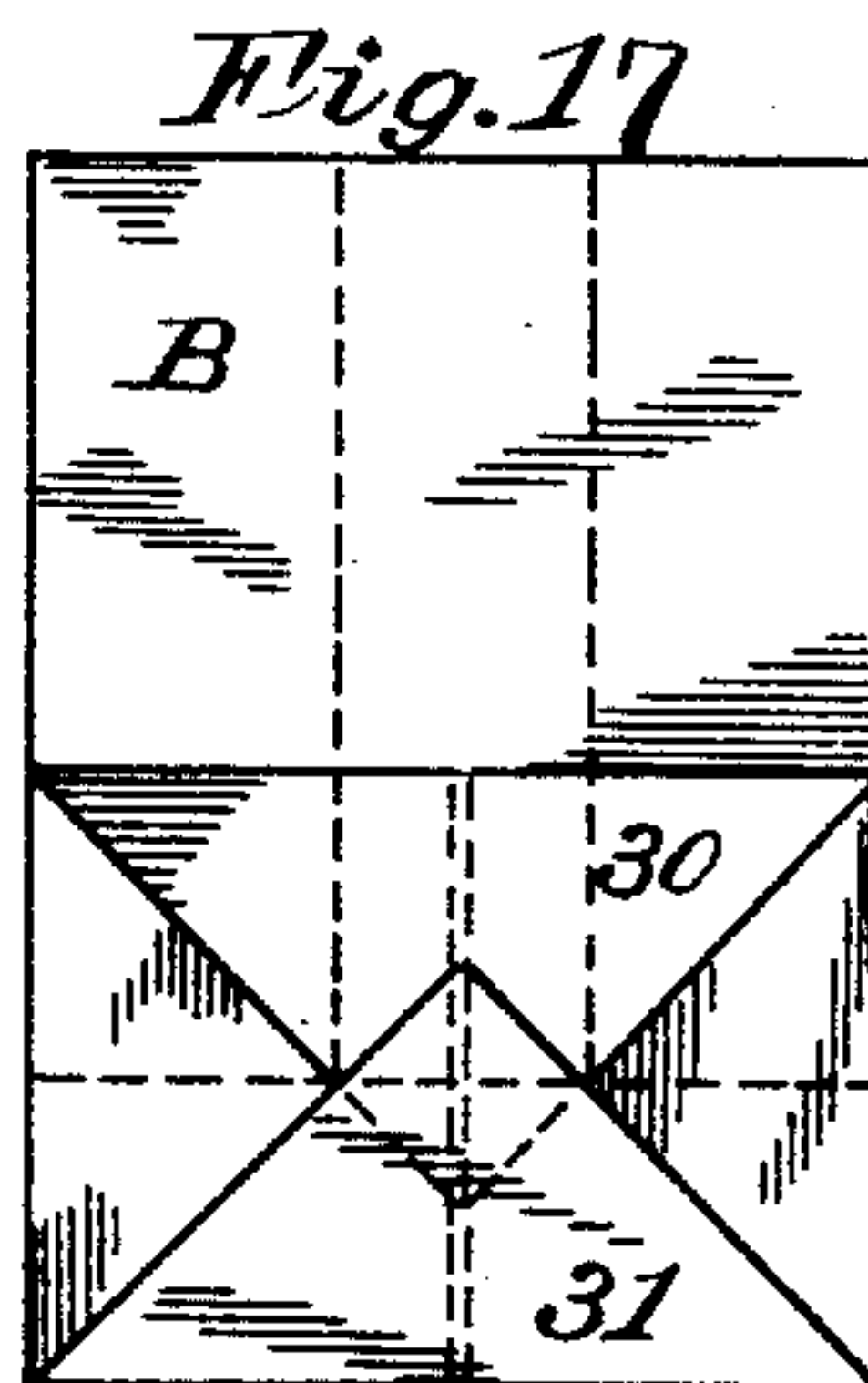
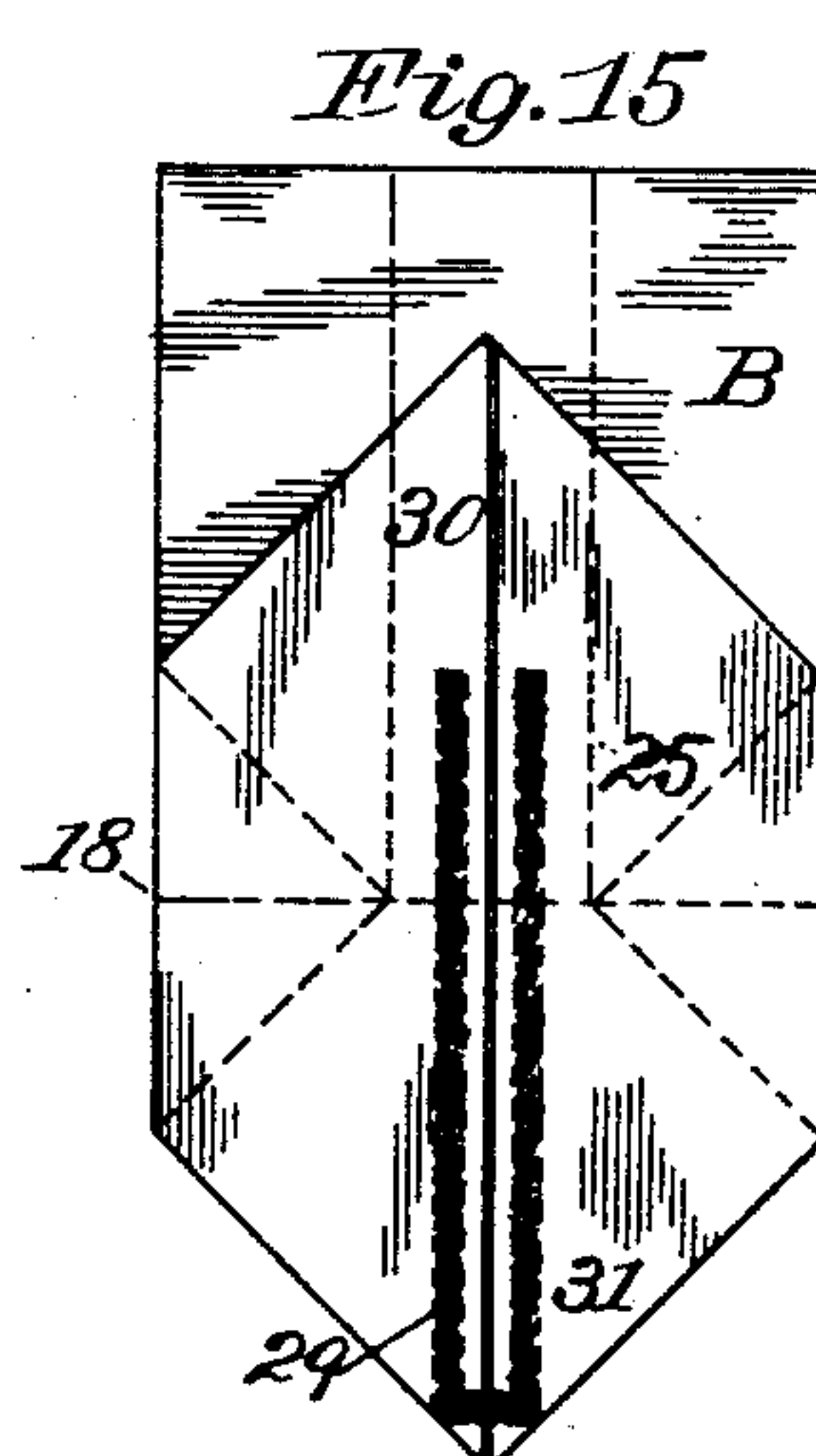
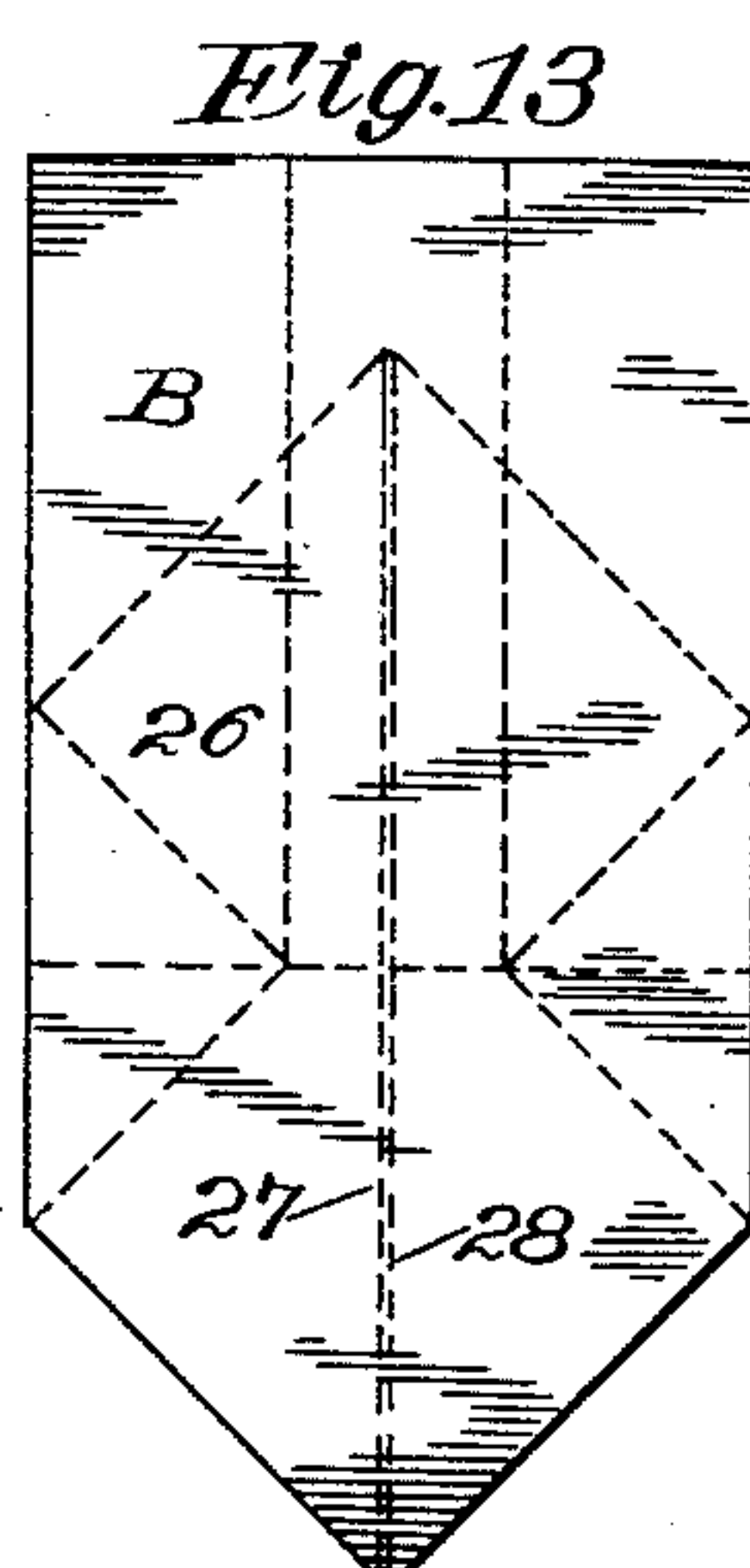
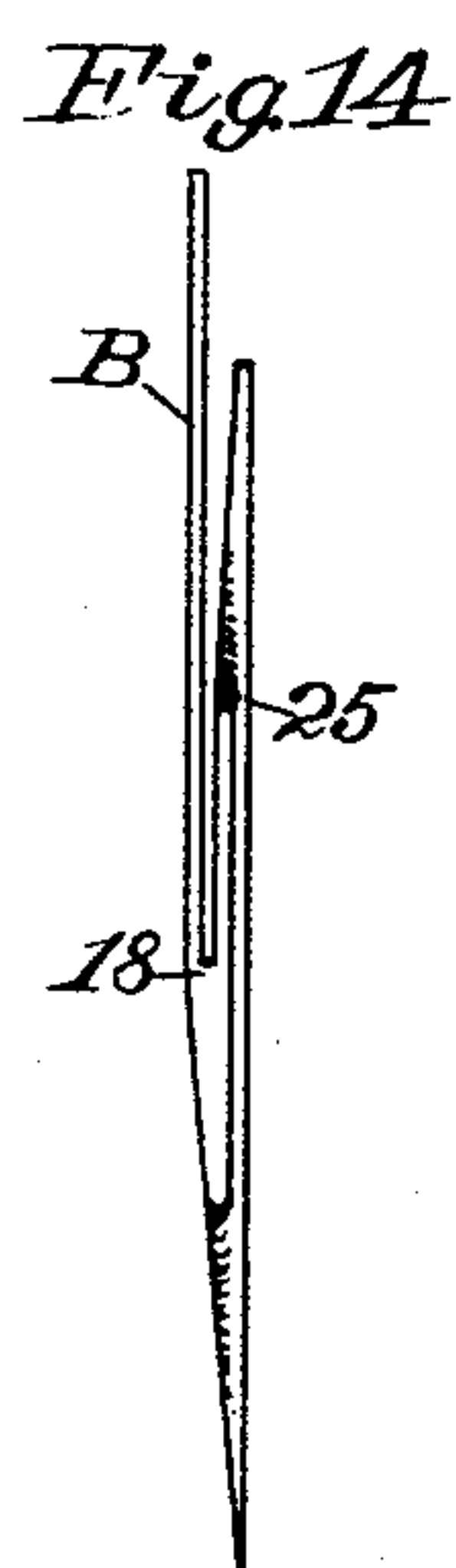
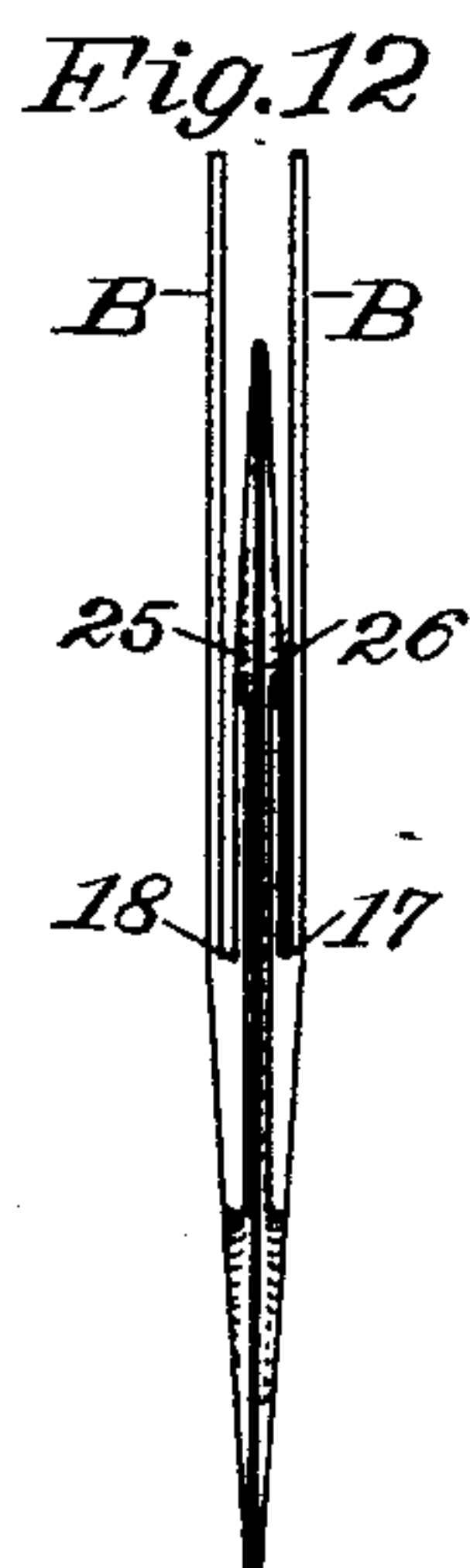
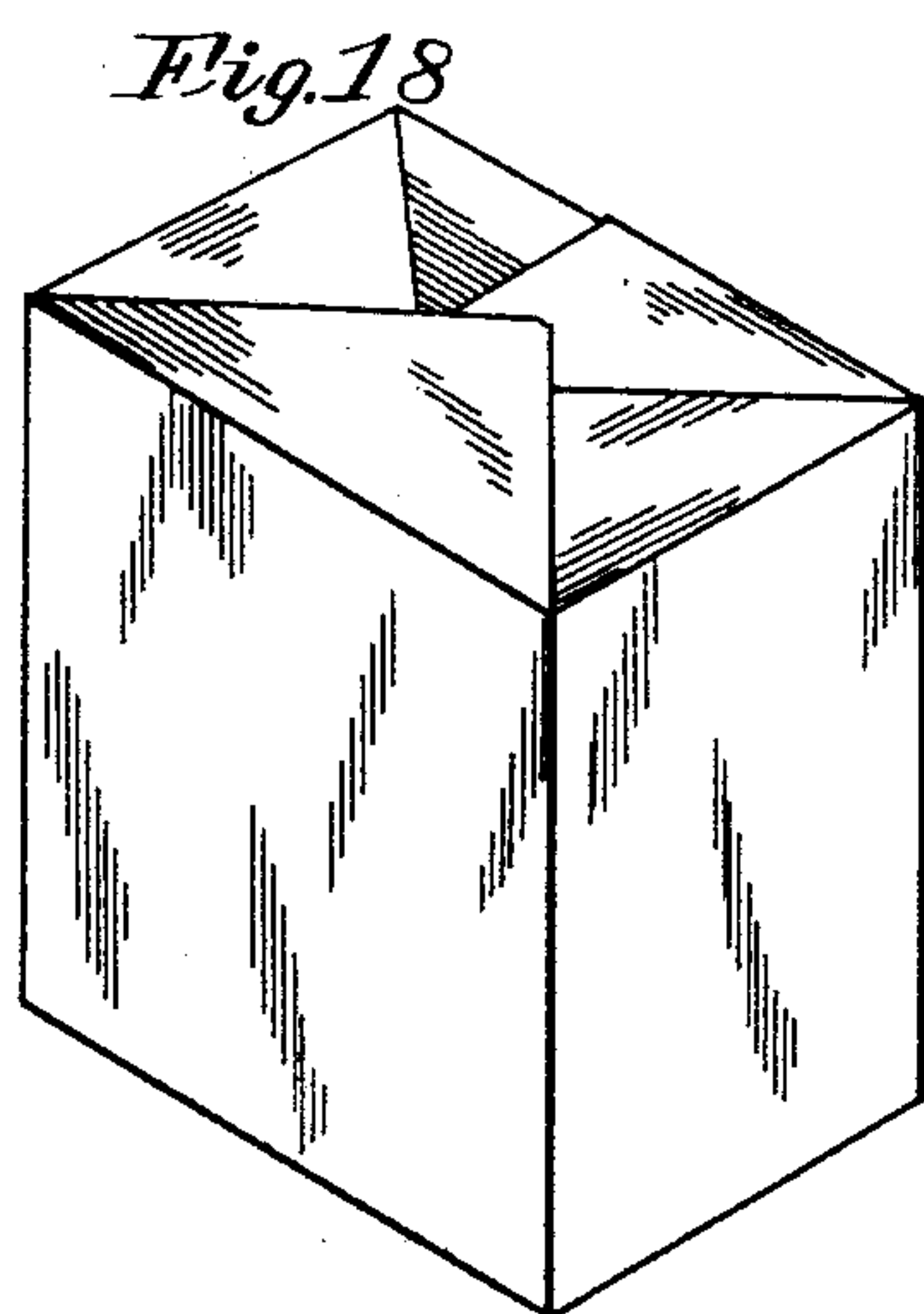
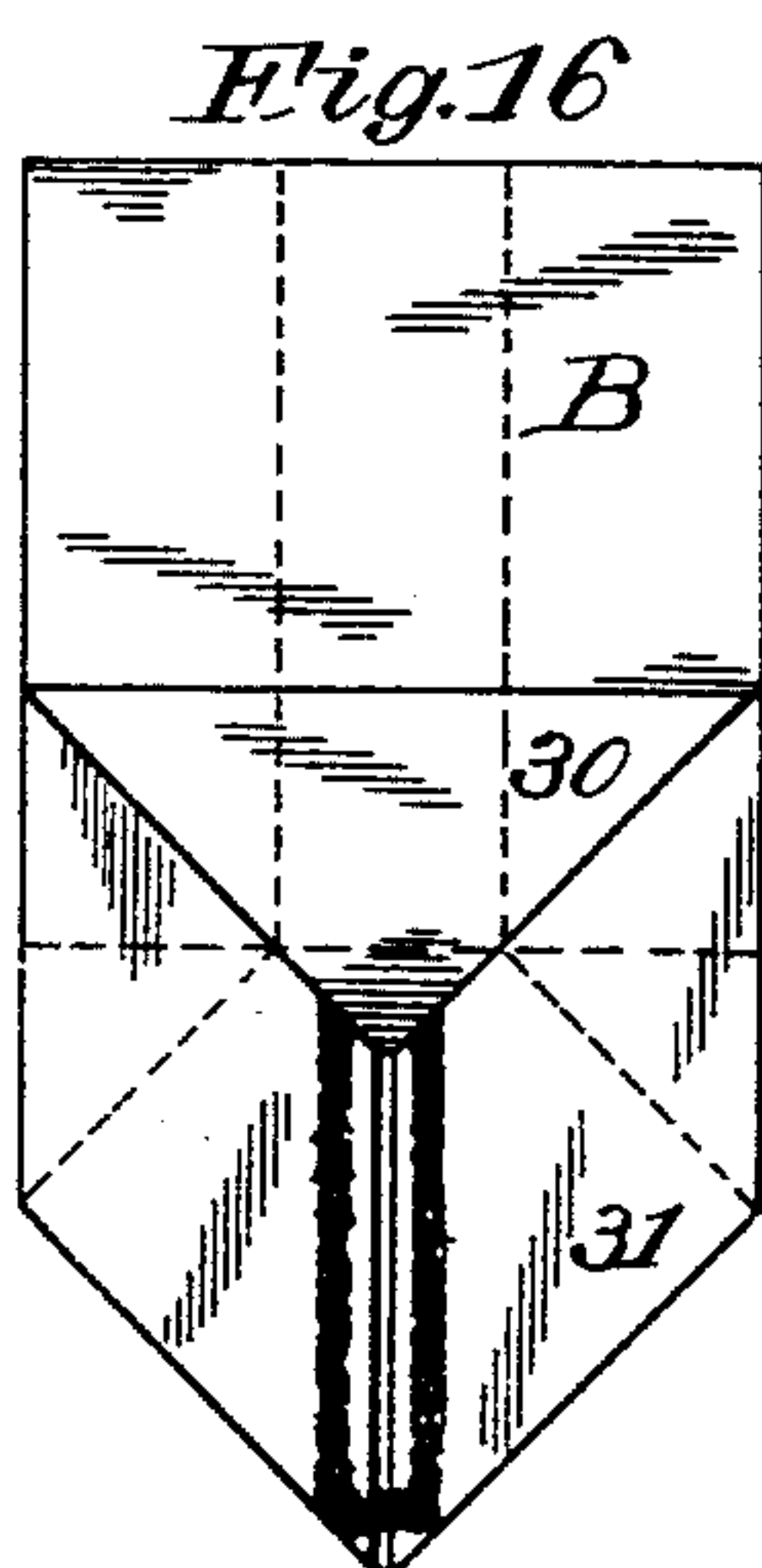
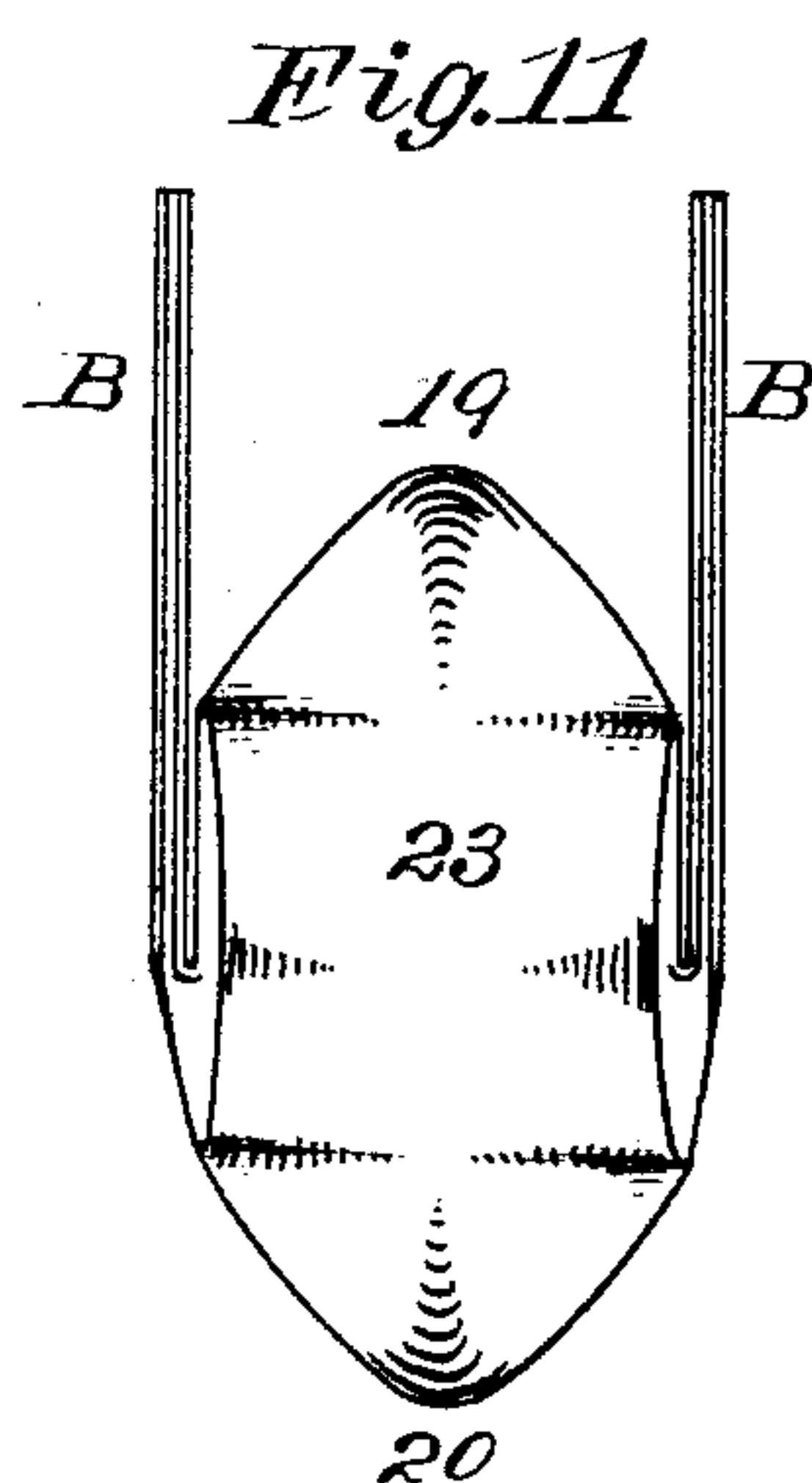
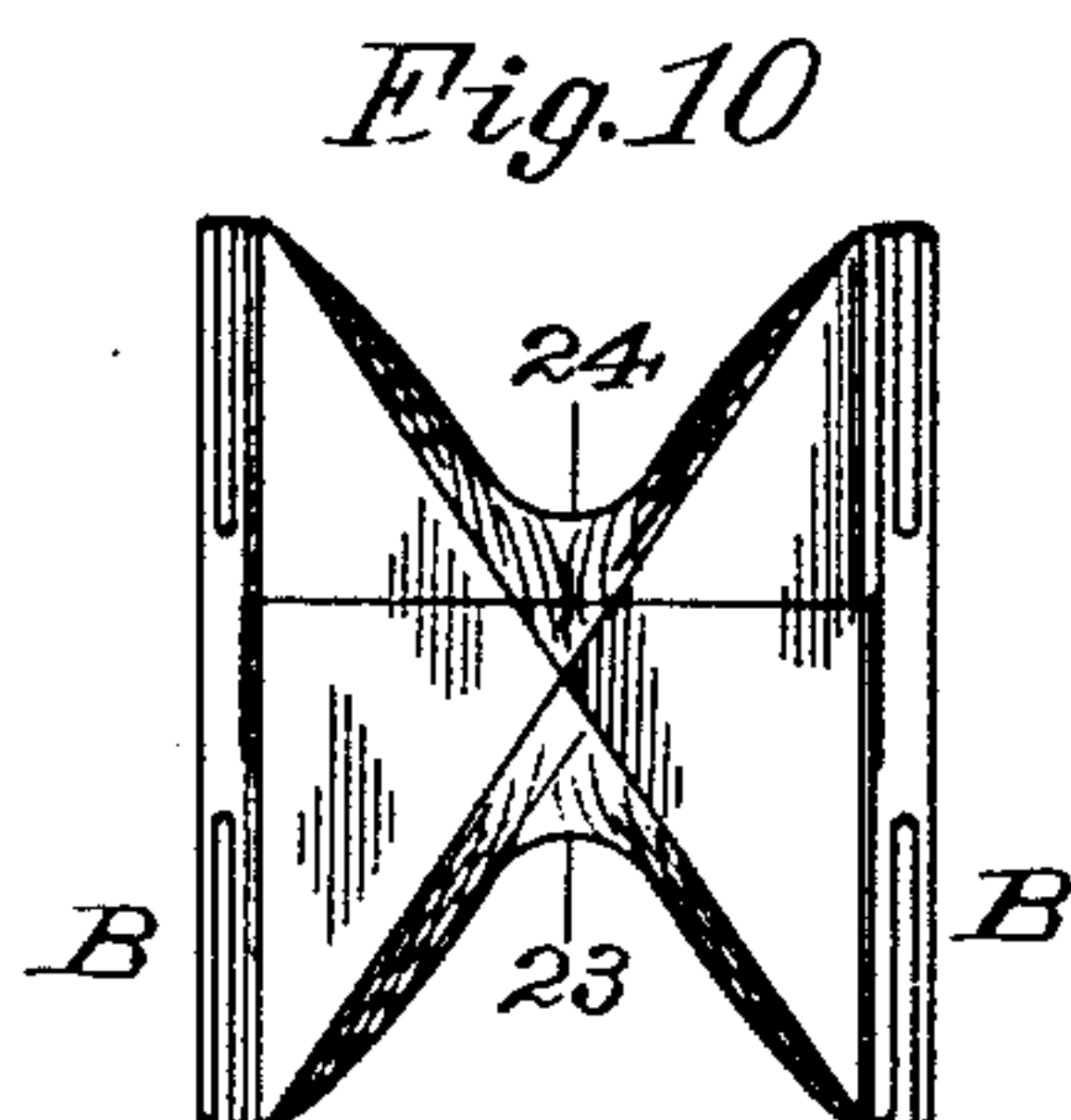
Inventor:

Edward E. Claussen

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Edward E. Claussen

UNITED STATES PATENT OFFICE.

EDWARD E. CLAUSSEN, OF HARTFORD, CONNECTICUT, ASSIGNOR TO ALBERT H. WALKER, TRUSTEE, OF SAME PLACE.

PROCESS OF MAKING PAPER BAGS.

SPECIFICATION forming part of Letters Patent No. 520,256, dated May 22, 1894.

Application filed August 18, 1892. Serial No. 443,363. (No specimens.)

To all whom it may concern:

Be it known that I, EDWARD E. CLAUSSEN, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Processes of Making Paper Bags, of which the following is a full, clear, and exact specification.

This invention is a new and useful process of making bellows sided square bottomed paper bags from tucked tubes, and in the application of this process two bags are made simultaneously.

Figures 1, 2 and 3 are a plan, an edge and a side view respectively of a length of tucked paper tubing suitable for the making of two bags by my new process. In Figs. 1 and 2 are also shown gripping plates which assist in the performance of that process. Figs. 4 and 5 are an edge and an end view respectively of the blank and plates of Figs. 1 and 2 and illustrate the first step in my process. Figs. 6 and 7 are an edge and an end view respectively of the blank of Figs. 4 and 5 after the two upturned ends of the blank have been brought nearer together and the intermediate portion partially expanded. Figs. 8 and 9 are similar views, showing the intermediate portion fully expanded into a box like form. Figs. 10 and 11 are a plan and an edge view respectively of the blank after the upturned ends have been brought still nearer together and the box like form partially flattened between them. Figs. 12 and 13 are an edge and a side view of the blank after the upturned ends of the blank have been brought quite together, flattening the intermediate portion between them. Fig. 14 is an edge view of one half of the blank of Fig. 12 obtained by cutting the blank in two on a vertical line through its center as viewed in Fig. 12. Fig. 15 is a front view of the blank of Fig. 14, showing its diamond shaped form, and showing also the position of the paste lines thereon. Fig. 16 is a front view of the blank with one flap folded, and Fig. 17 is a front view showing both flaps folded and the bag completed. Fig. 18 is a perspective view of the opened bag of Fig. 17.

Following is a description of my new process: A length of tucked tubing B, B, suffi-

cient to make two of these bags is placed between four plates, 1, 2, 3 and 4 as shown in Figs. 1 and 2, leaving between them a length, 5, of tubing sufficient to form the bottoms of two bags. The two pairs of plates are then turned up at right angles to the part 5, of the blank, as shown in Figs. 4 and 5. A distance equal to the depths of the tucks 7 and 8 is then measured from the inner edges of the plates as indicated at 9, 11, 13 and 15 on the upper ply, 19, and at 10, 12, 14 and 16 on the lower ply 20. Those plies are then separated by gripping them at the eight indicated points, meanwhile moving the pairs of plates 1 and 2, 3 and 4, toward each other to allow of the separation of those plies, and the expansion of the blank, 5, into a box like form, the points indicated by the numerals 9 to 16 being at the corners thereof.

Figs. 6 and 7 show the partially formed box and Figs. 8 and 9 represent it as fully completed. In these and in the subsequent figures, the plates 1, 2, 3 and 4 are not shown. Those portions of the tucked sides of the tube which are between the points 9, 10 and 17 of Fig. 6, and between the corresponding points in the other three corners, are by the above process of expansion of the box, converted into four triangular folds, two of which are indicated by the numerals 21 and 22 in Figs. 6, 7, 8 and 9.

The rectangular box like form of Figs. 8 and 9 which is sufficient for two bags is next collapsed by pushing inwardly the two side walls of the box at 23 and 24, and forcing outwardly the upper and lower walls at 19 and 20. At the same time the tucked end portions, B, B, of the blank are brought toward each other until the collapsing process begun as shown in Figs. 10 and 11 is completed as in Figs. 12 and 13, in which the blank is shown fully collapsed and converted into two bag blanks having diamond shaped folds, 25 and 26, which are joined together at the two fold lines 27 and 28, which extend from one apex of the diamond to the other. The blank of Figs. 12 and 13 is next equally divided by cutting through the plies 27 and 28, on a line passing vertically through the center of that blank, producing two similar diamond folded bag blanks as in Figs. 14 and 15. Paste is

then applied as at 29, to each of those blanks, and the flaps 30 and 31 are folded over and pressed down upon the diamond, completing the bag as shown in Fig. 17. It is not essential that the ends B, B, of the blank should be turned up at right angles to the central portion 5 thereof, before the box is expanded. The box may be expanded directly from the position shown in Figs. 1 and 2, and the ends, B, B, may be turned up at any time thereafter. Or the ends B, B, may remain horizontal throughout the entire process, the diamond folds being turned down on their respective bag blanks at any time after the separation of those blanks from each other.

The operation of expanding the tube, 5, into the box like form may be performed by the fingers of the hands, by mechanical means or by atmospheric pressure, in any one of several well known methods.

I claim as my invention—

The herein described process of making bel-

lows sided square paper bags from tucked tubing, which consists in gripping that tubing at or near the lines 17 and 18, leaving between them a reach sufficient to form two bag bottoms, then moving the gripped portions toward each other and expanding the intervening reach of tubing into a box like form, then pushing inwardly the side walls and forcing outwardly the upper and lower walls of the box like portion at the centers thereof, until the blank is collapsed into the form of two connected similar diamond folded bag blanks, then cutting those blanks apart and completing their rectangular bottoms by cross folding and pasting the flaps formed by the ends of the diamonds, all substantially as described.

EDWARD E. CLAUSSEN.

Witnesses:

W. J. BELCHER,

W. H. HONISS.