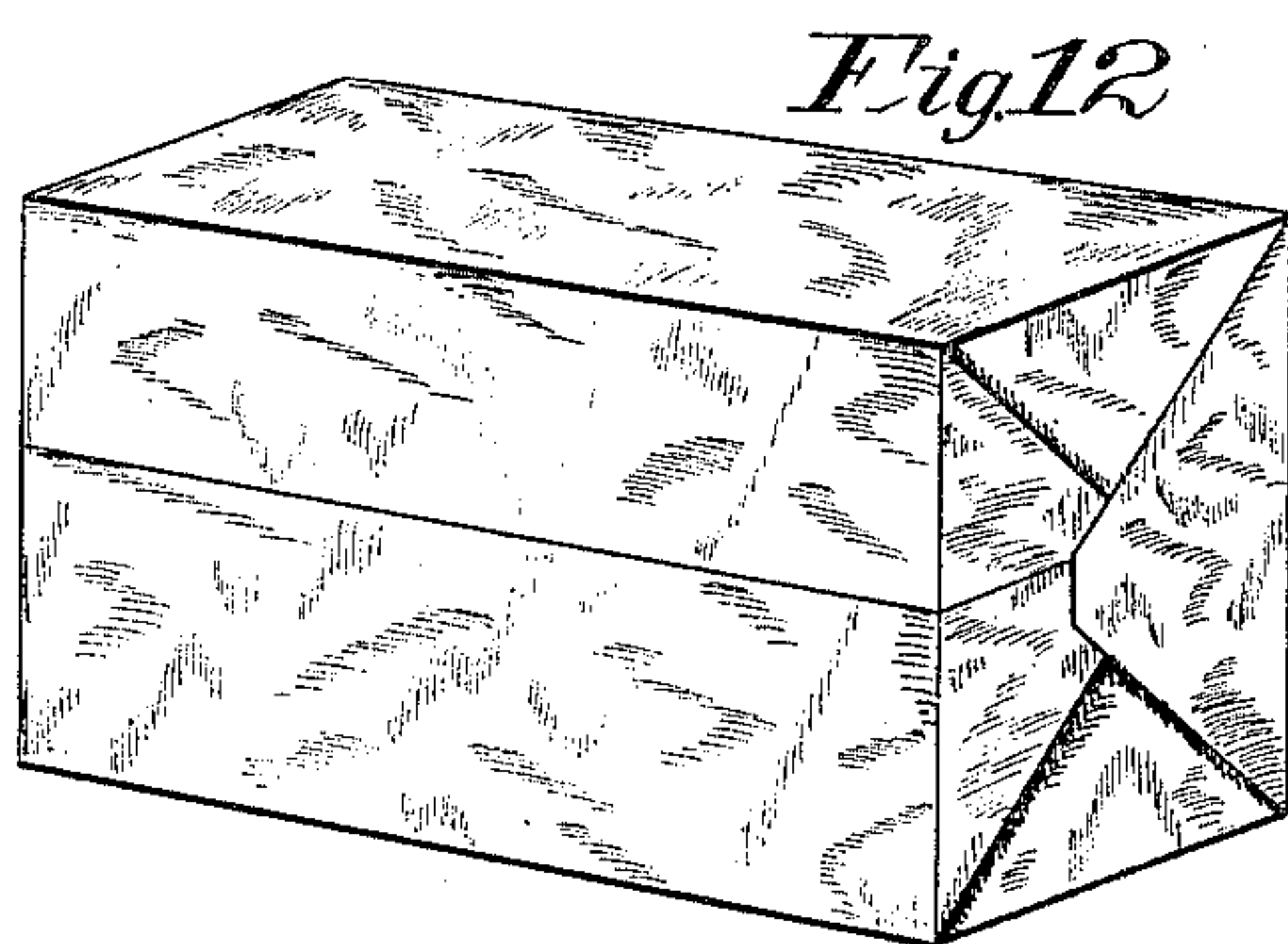
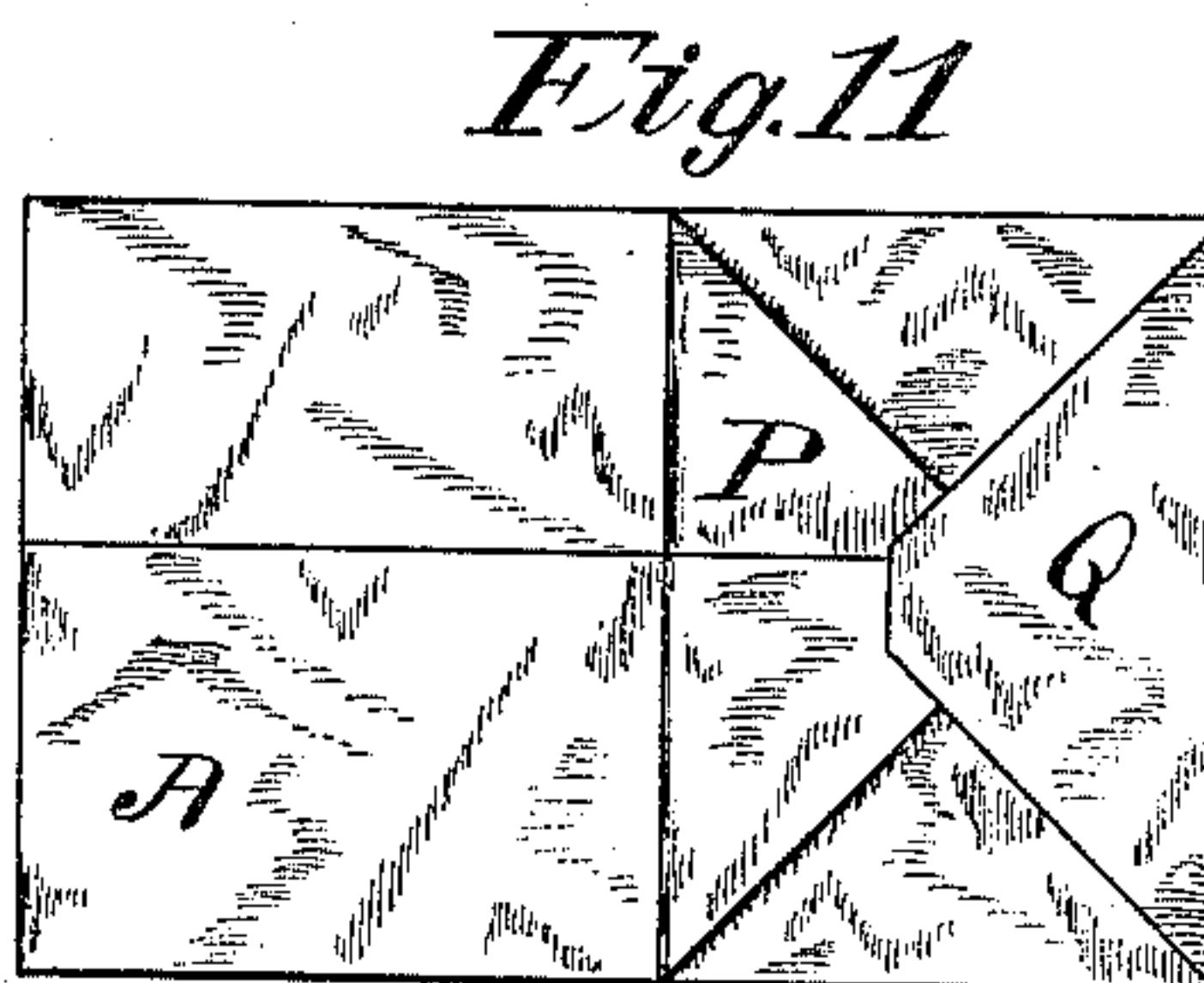
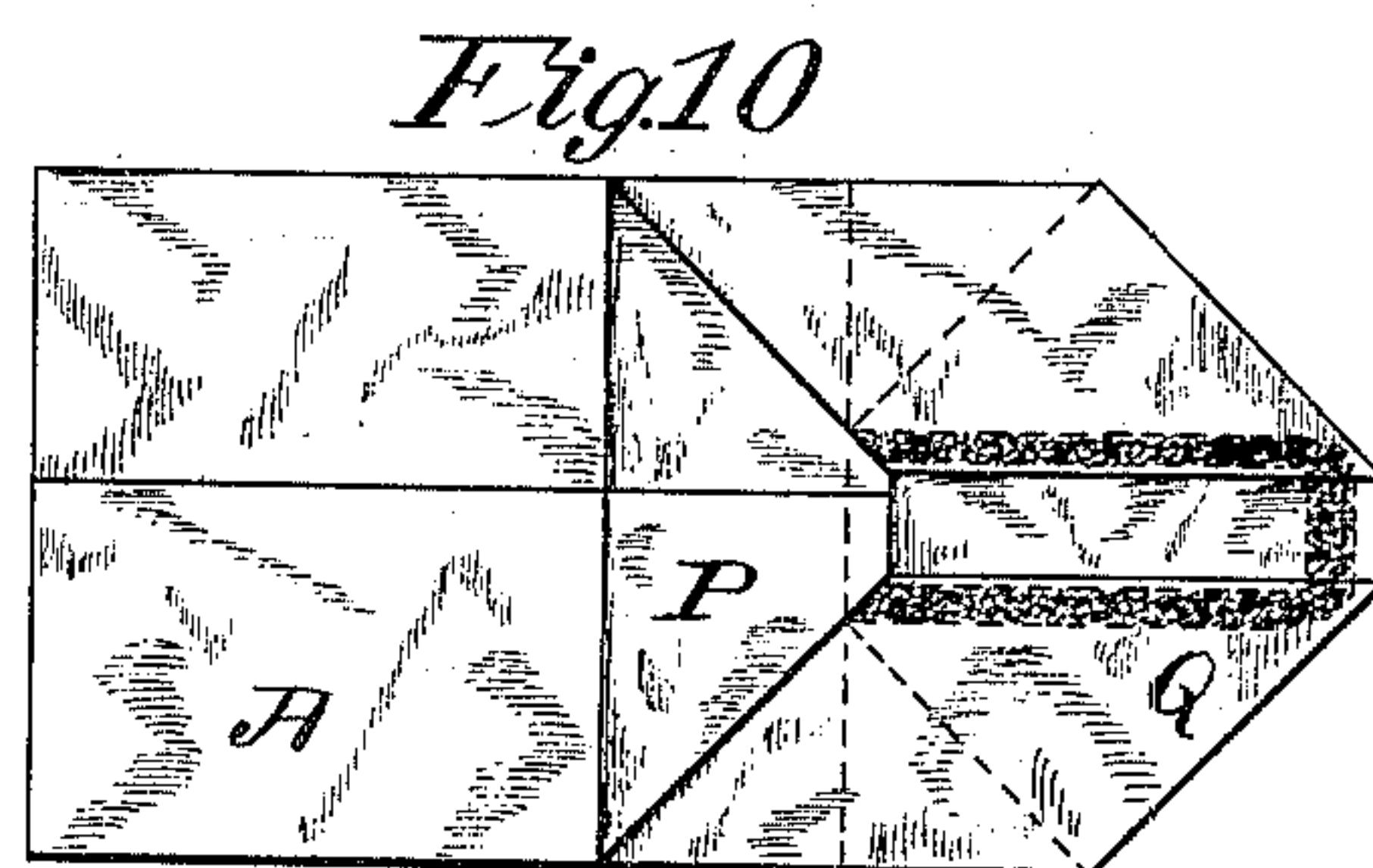
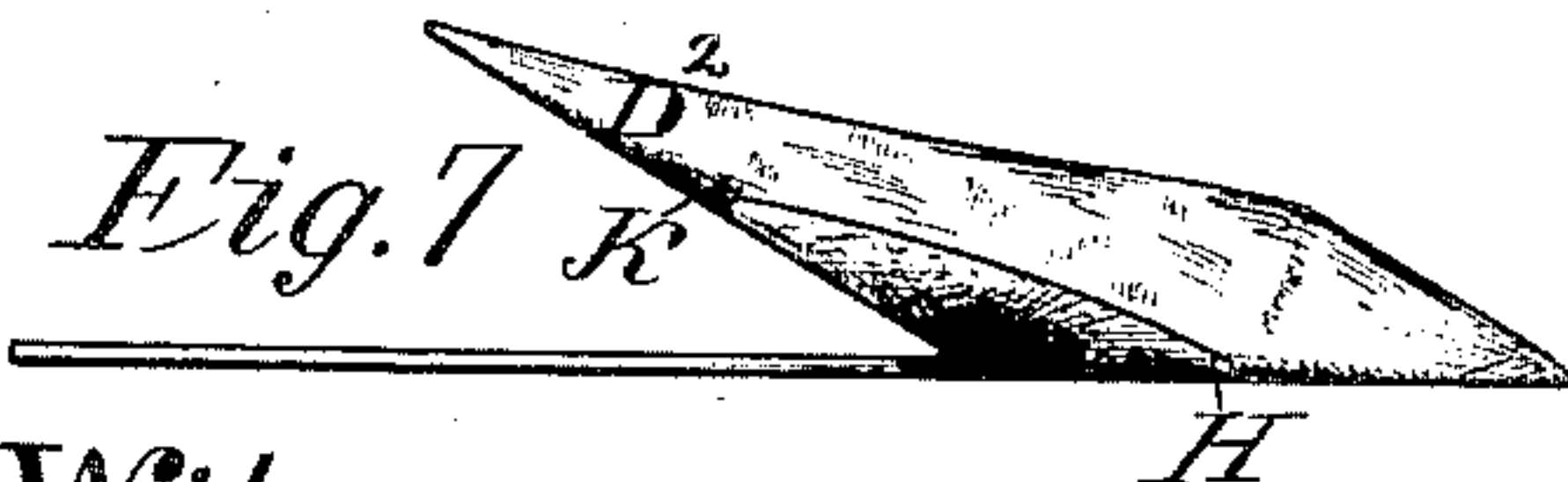
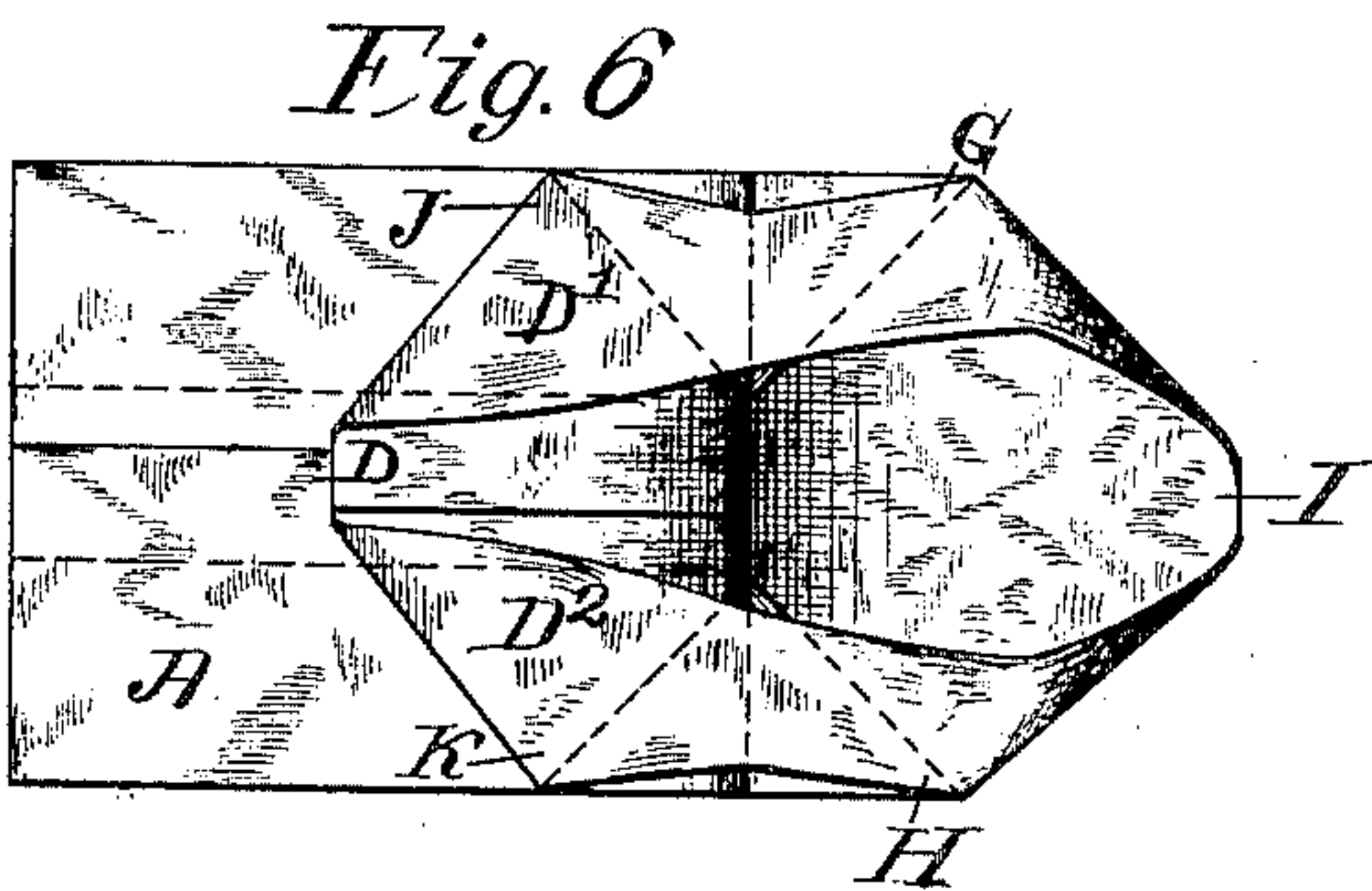
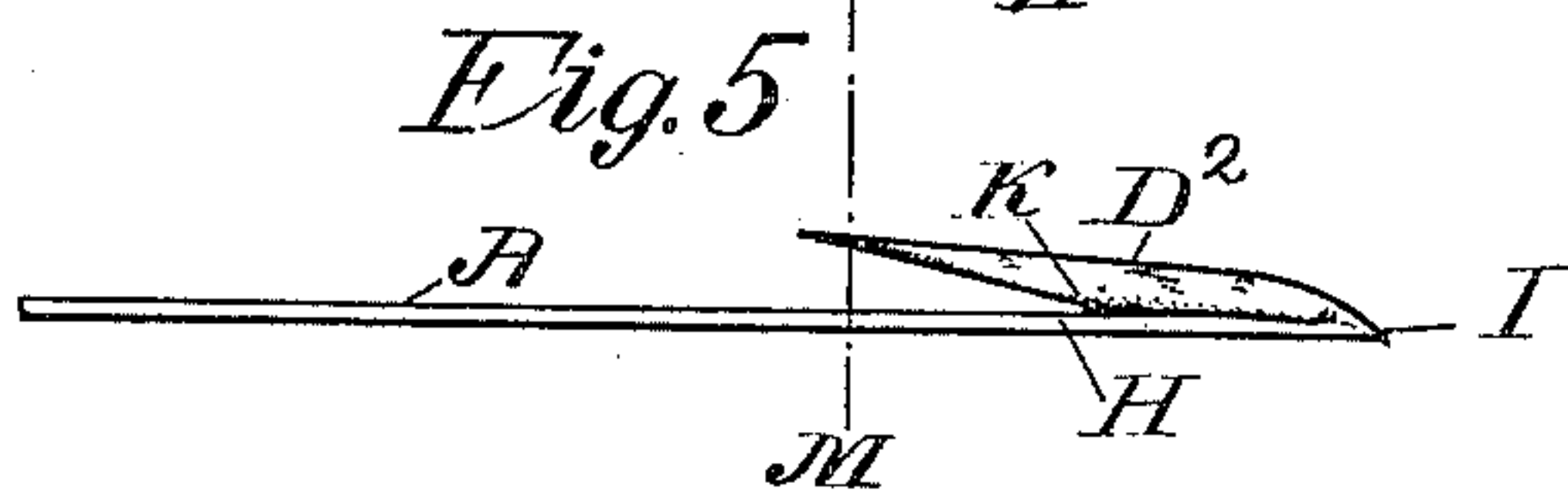
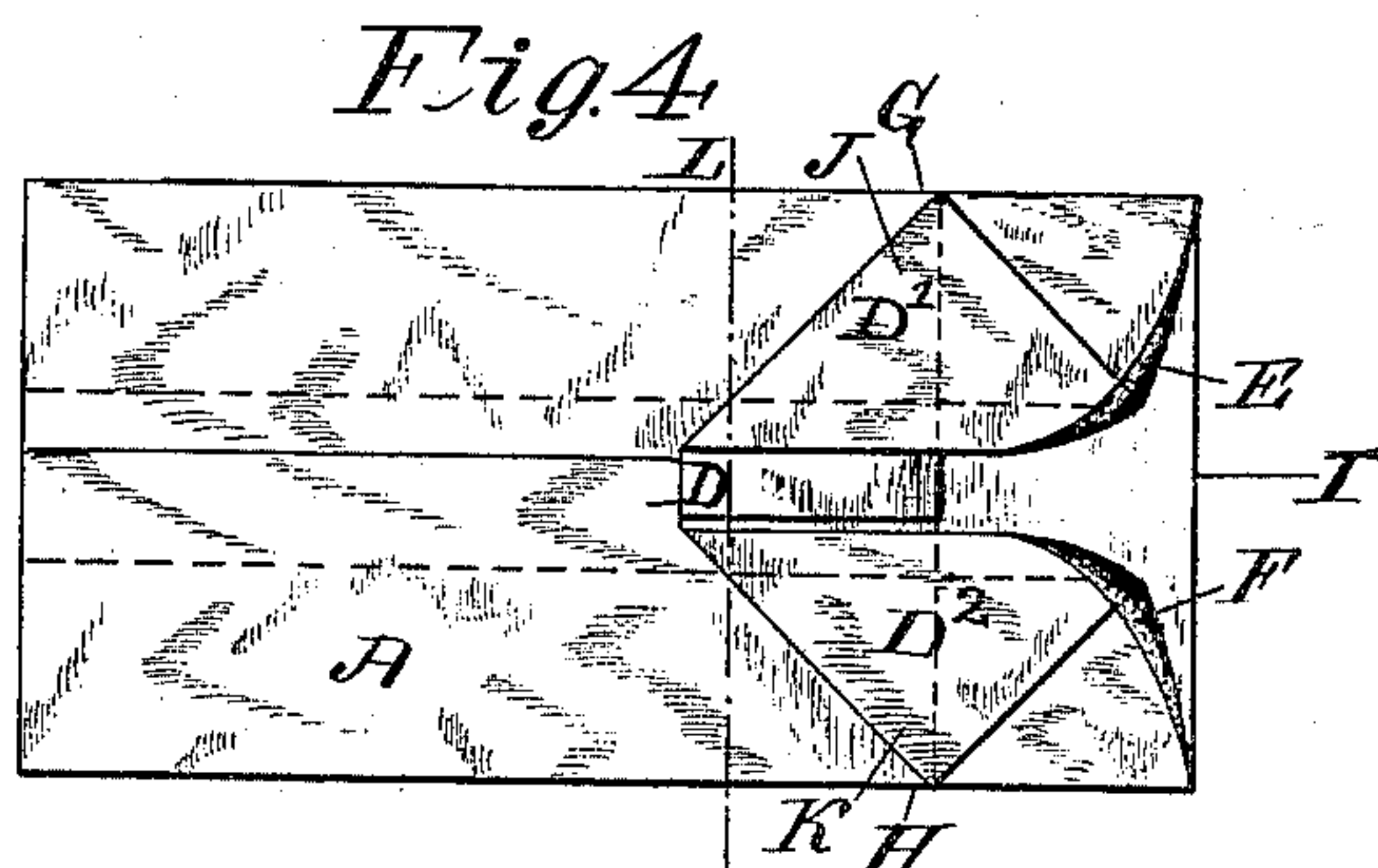
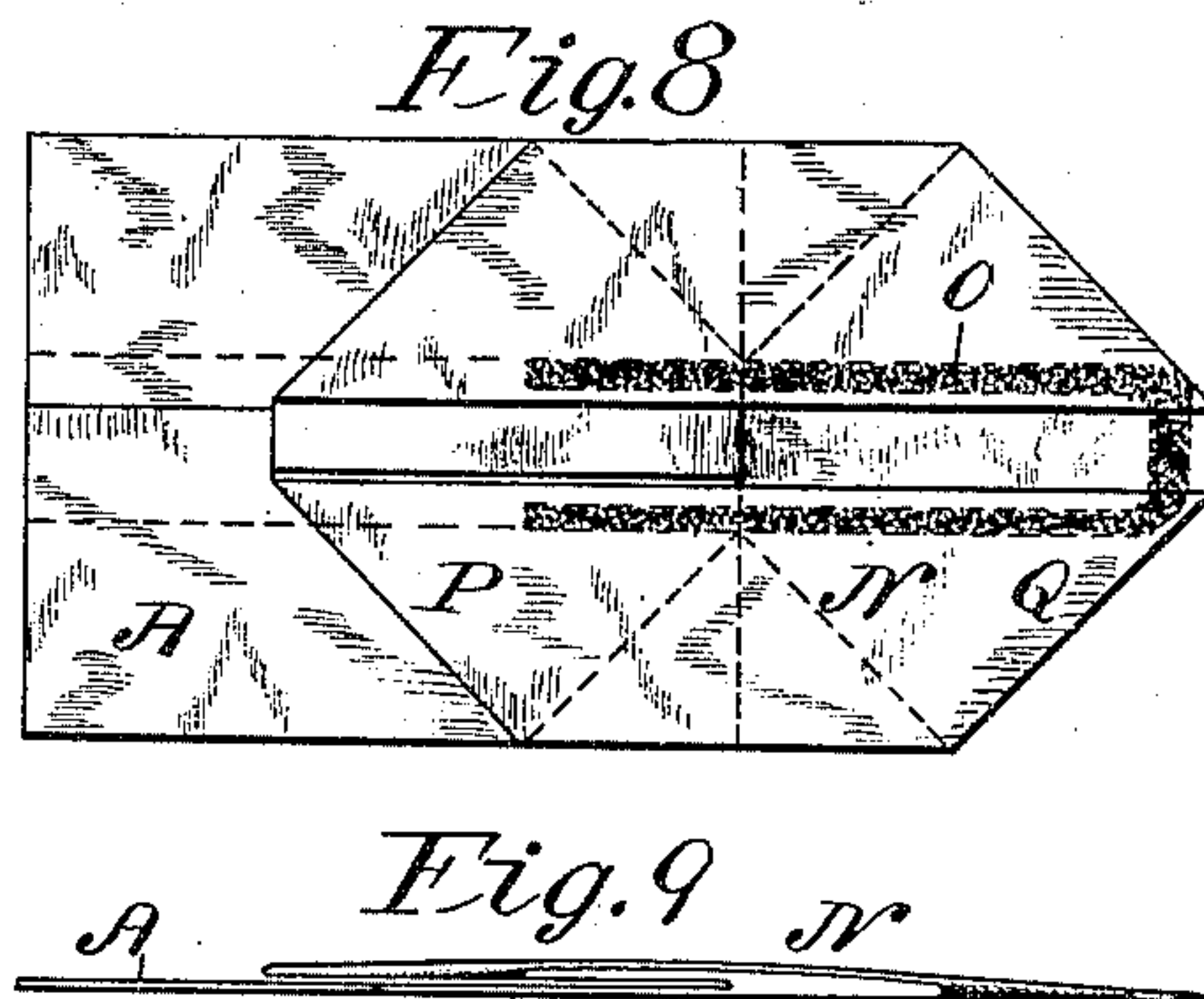
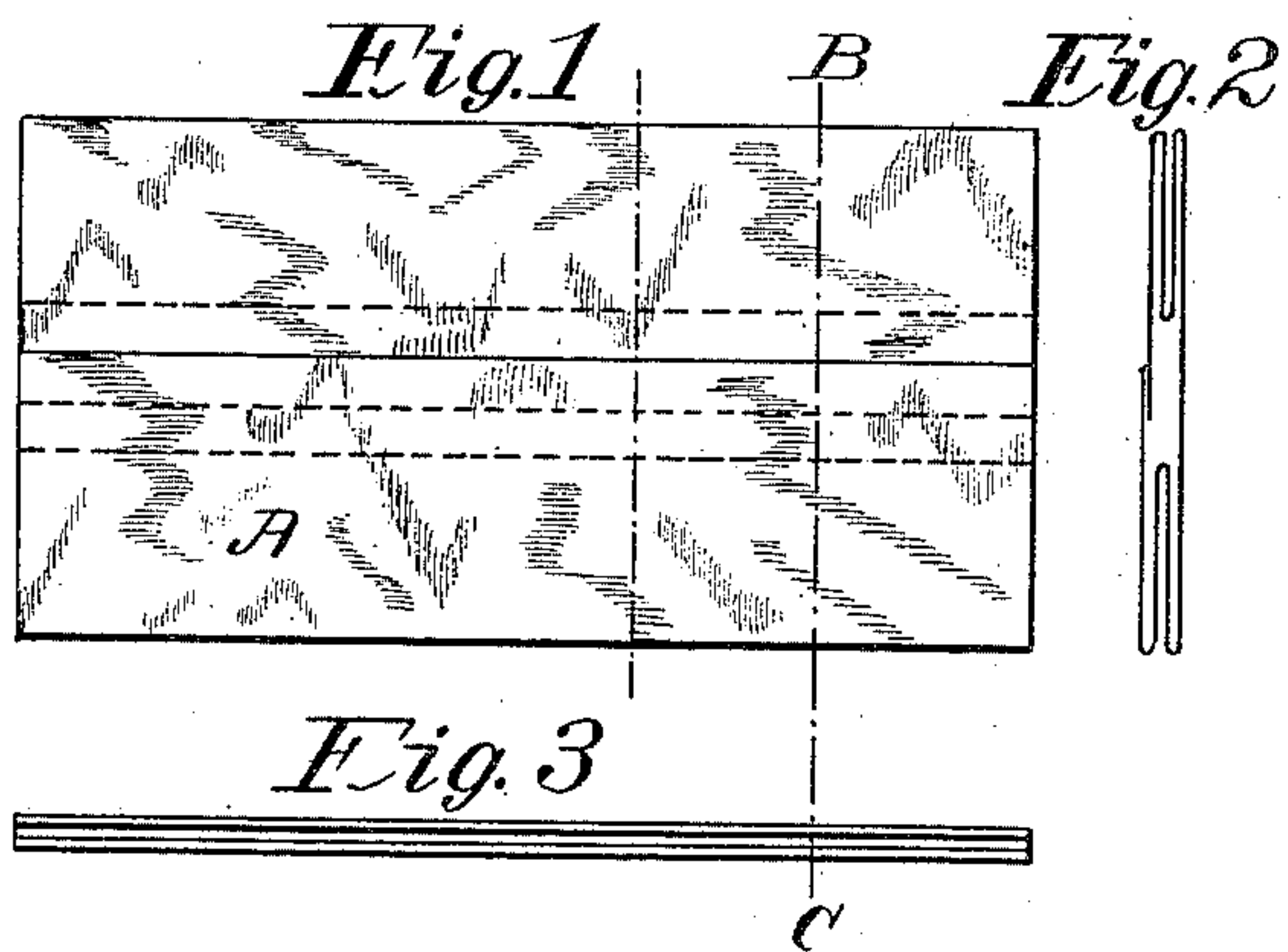


(No Model.)

W. A. LORENZ.
MAKING PAPER BAGS.

No. 411,288.

Patented Sept. 17, 1889.



Witnesses:
Edward E. Claussen,
Albert H. Walker.

Inventor:
William A. Lorenz.

UNITED STATES PATENT OFFICE.

WILLIAM A. LORENZ, OF HARTFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF TO EDWARD E. CLAUSSEN, OF SAME PLACE.

MAKING PAPER BAGS.

SPECIFICATION forming part of Letters Patent No. 411,288, dated September 17, 1889.

Application filed June 26, 1889. Serial No. 315,664. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. LORENZ, of Hartford, Connecticut, have invented a new and useful Process of Making Paper Bags, of which the following description and claim constitute the specification, and which is illustrated by the accompanying sheet of drawings.

This invention is a new and useful process of making such paper bags as that described and shown in reissue Letters Patent No. 10,083, of April 11, 1882.

Figure 1 is a view of a length of tucked-paper tube, such as has long been well known in the art of making such bags. Fig. 2 is an end view thereof, and Fig. 3 is a view of one edge of the same. Fig. 4 is a plan view of the blank of Figs. 1, 2, and 3 after the first step of my new process has been performed thereon; and Fig. 5 is a view of the lower edge of Fig. 4. Fig. 6 is a plan view of the blank of Figs. 4 and 5 when the second step in my new process is being taken, and Fig. 7 is a view of the lower edge of Fig. 6. Fig. 8 is a plan view of the blank of Figs. 6 and 7 after the second step in my new process has been completed, and Fig. 9 is a view of the lower edge of Fig. 7. Fig. 10 is a plan view of the blank of Figs. 8 and 9 after one of the truncated triangular ends of the diamond-formed portion of that blank has been folded and pasted down upon the center of that diamond form. Fig. 11 is a view of the blank of Fig. 10 after the other truncated triangular end of that diamond form has been folded and pasted down upon its fellow and the bag has thus been completed. Fig. 12 is an isometric view of the completed bag opened out into a rectangular form.

My new process is as follows: The upper ply of the tucked tube A is folded backward on the cross-line B C, so as to produce the truncated triangular fold D and the right-angled triangular folds D' and D² above it, with the raised and rounded edges E F uniting these latter folds to the under ply of the tube A. These raised and rounded edges result from the fact that the distance from the line B C to the nearest end of the tucked tube is greater than the depth of the tucks,

and that distance requires to be greater than that depth in order to make the final flaps P and Q of the bottom of the bag long enough to mutually lap. Then the lower ply of the blank of Fig. 4 and the lower plies of the tucks of that blank are held down upon any flat surface beneath them by implements inserted in the tucks at the points G and H, respectively, and the front end of the blank is similarly held down at the place marked I. Then the fold D and the folds D' and D², respectively, are clasped by any suitable grippers at the places J and K respectively. Then those grippers are carried backward through an arc of a circle of which the line L M is the center, to the positions indicated by the letters J and K in Figs. 6 and 7, and thence still farther to the positions indicated by those letters in Figs. 8 and 9. Thus the diamond form of those figures is completed; and then paste is applied thereto, as indicated by the letter O, after which the flaps P and Q are folded over, as shown in Figs. 10 and 11, and the bag of the latter figure is thus completed.

Some modifications may be made in this process without altering its essential character. For example, the fold D and those parts of the folds D' and D² which lie above it in Figs. 4 and 5 need not be turned so far backward as those figures indicate before they are respectively clasped at the places J and K, and the blank need not be clasped at the place I during the backward foldings of the other parts of the forward end of the blank of Fig. 4, and the whole of the blank A may be carried forward around the grippers, which clasp it at the places J and K, instead of carrying those grippers backward, as heretofore explained.

The characteristic features of this process consist of the indicated steps which are taken in folding the blank of Figs. 1, 2, and 3 into the blank of Figs. 8 and 9.

I claim as my invention—

That process of making a paper bag having two tucked-in sides and a flat rectangular bottom, which consists in first folding one end of the upper ply of the tucked-paper tube backward on the lateral line B C, and

thus producing the folds D, D', and D², and
in then carrying those folds, together with
the adjacent part of the upper ply of the
tucked-paper tube, backward around the lat-
5 eral line L M as a center, and thus producing
the diamond form of Figs. 8 and 9, and then
in folding the truncated ends of that dia-
mond form toward each other and down upon

the center of the thus completed rectangular
bottom of the bag, all substantially as de- 10
scribed.

Hartford, Connecticut, June 18, 1889.

WILLIAM A. LORENZ.

Witnesses:

ALBERT H. WALKER,
PHEBIE A. PHELPS.