

(No Model.)

2 Sheets—Sheet 1.

W. A. LORENZ.
MANUFACTURE OF PAPER BAGS.

No. 329,662.

Patented Nov. 3, 1885.

Fig. 1

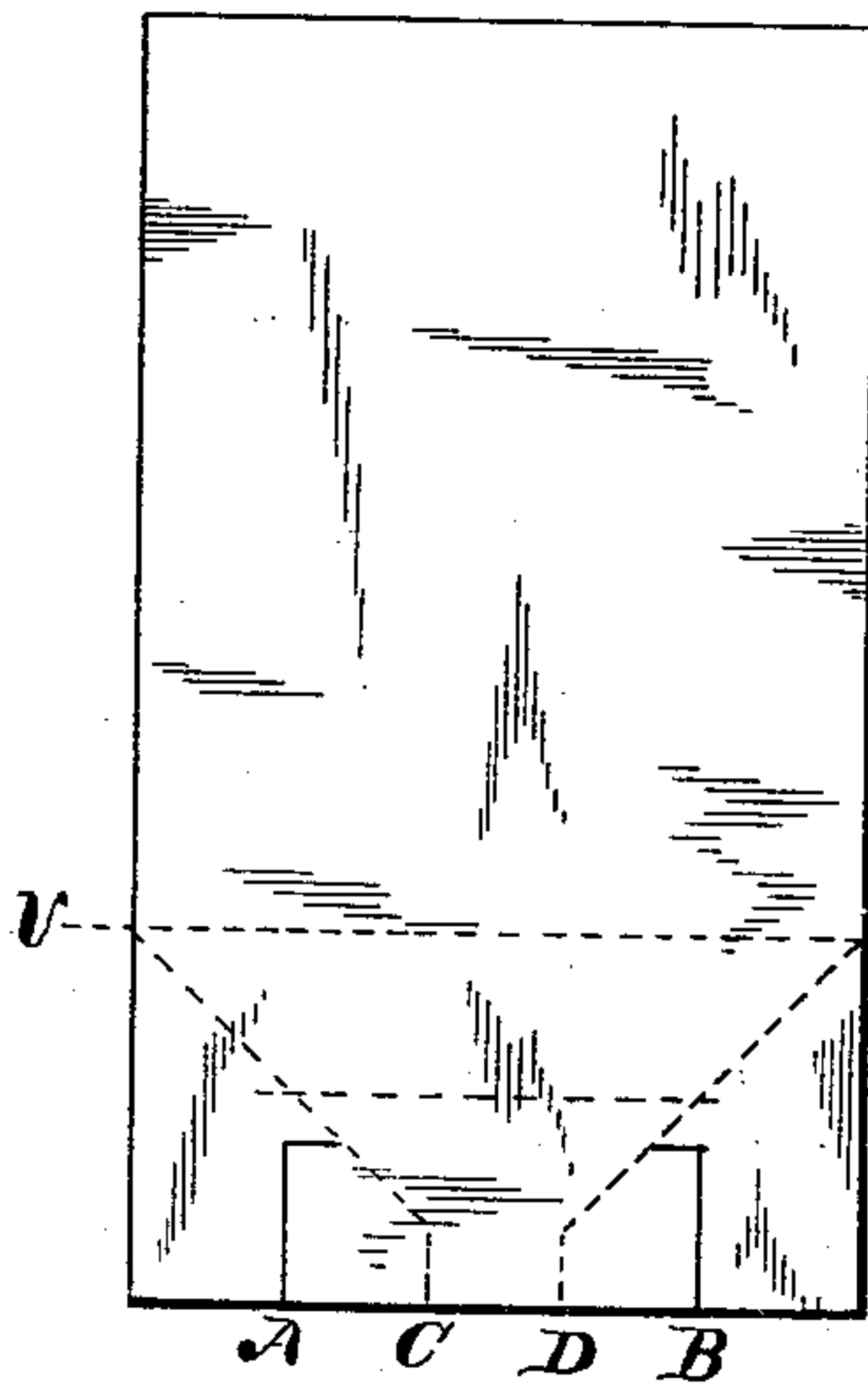


Fig. 3

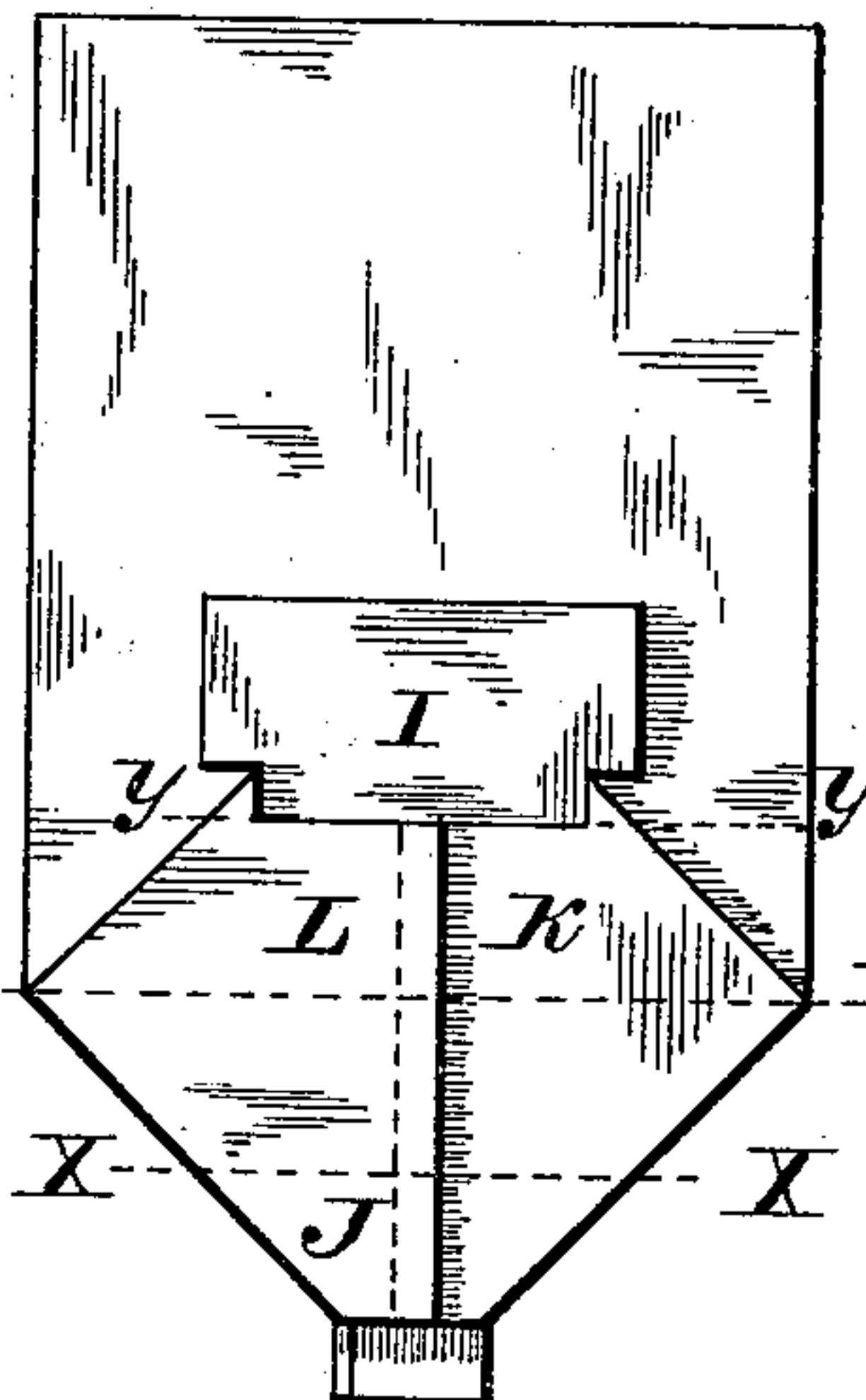


Fig. 4

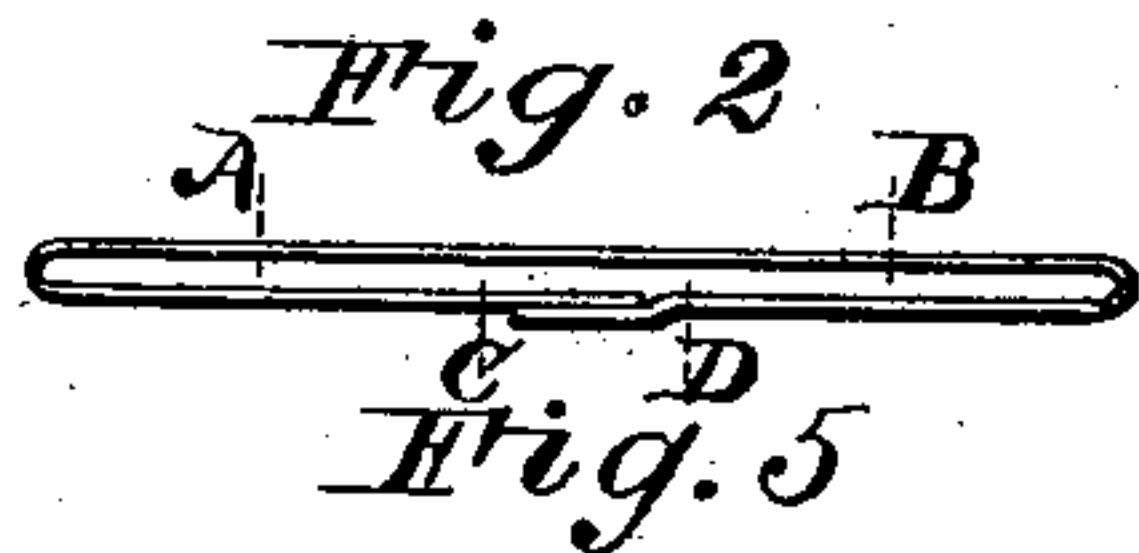
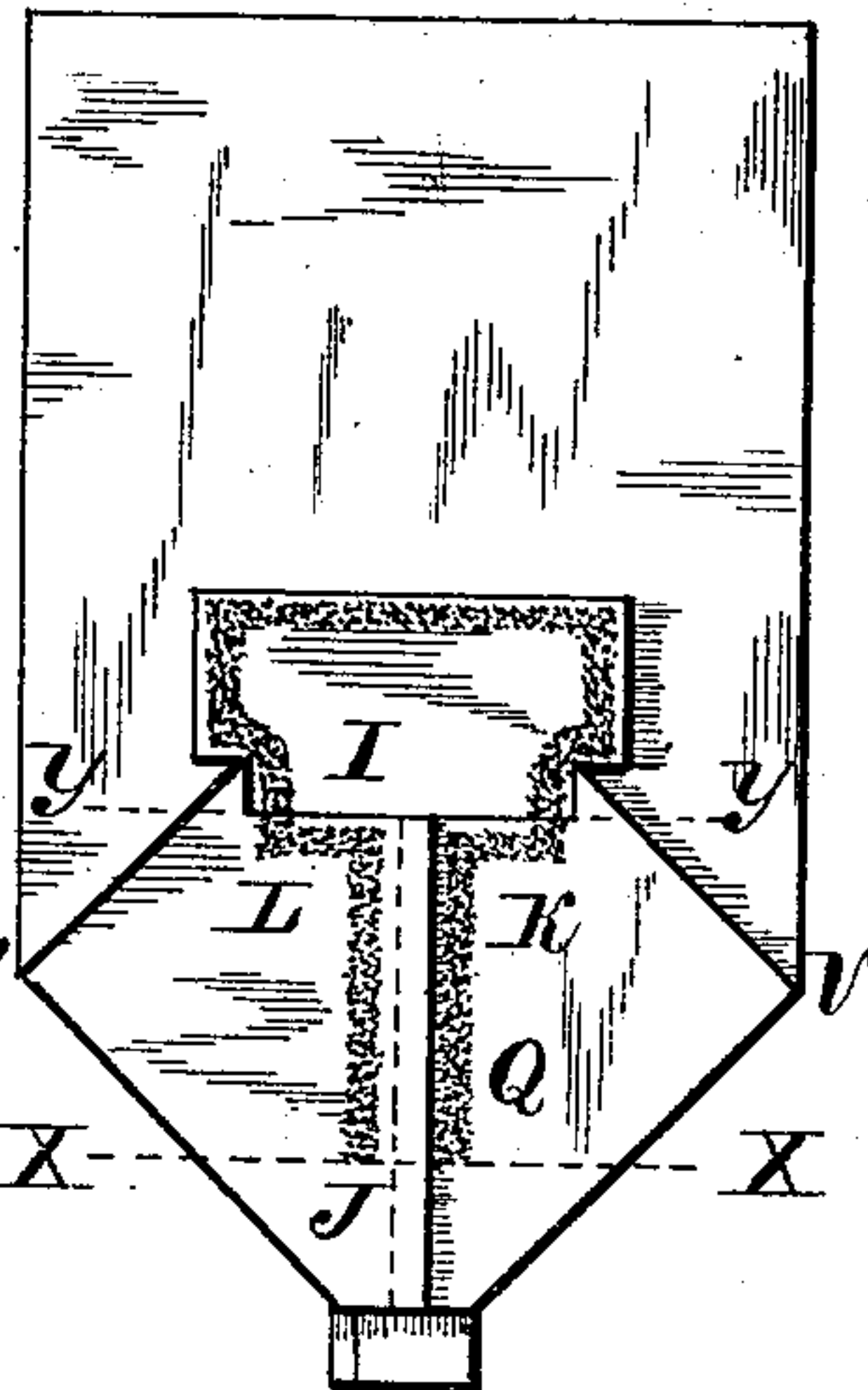


Fig. 5

Fig. 6

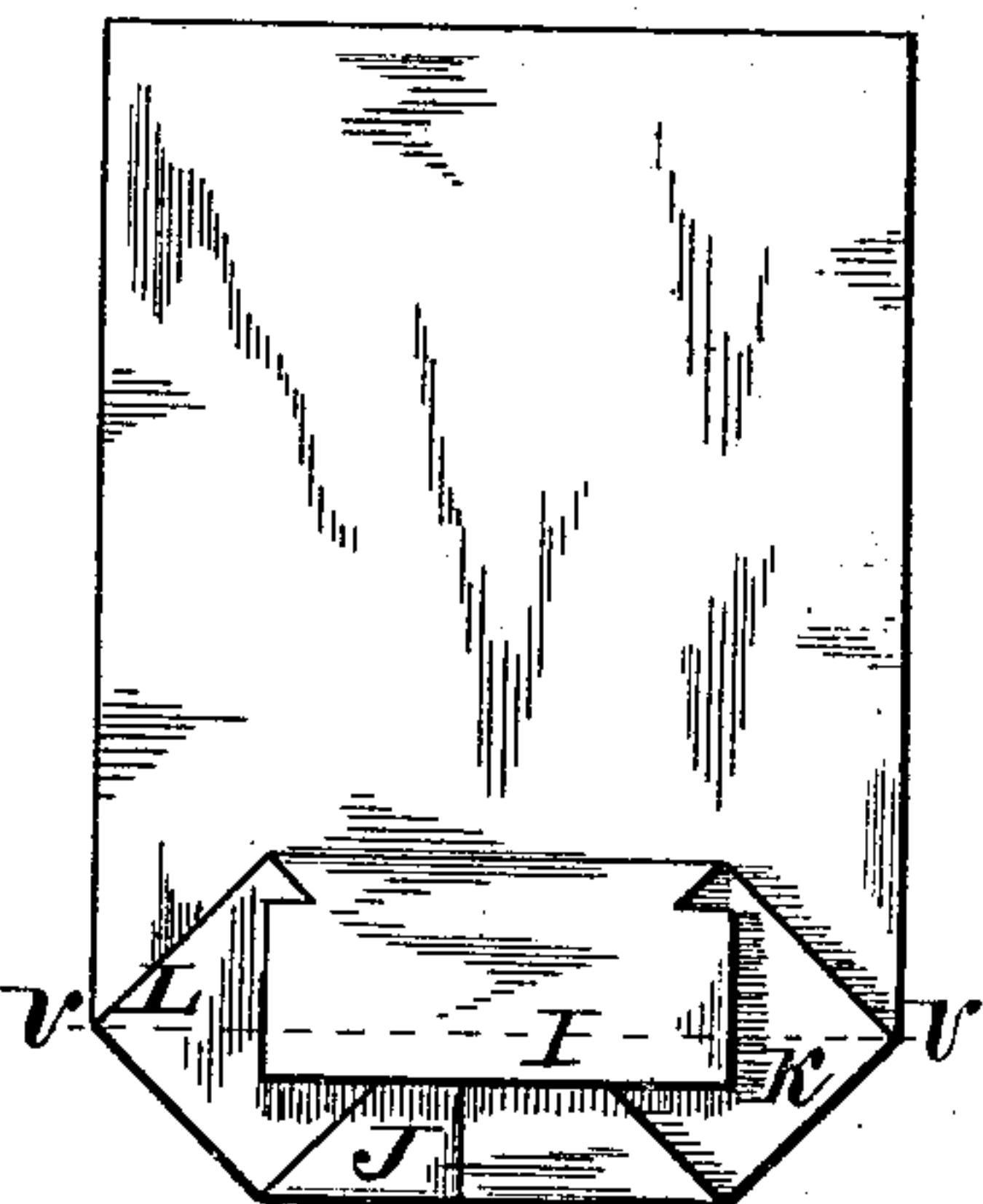
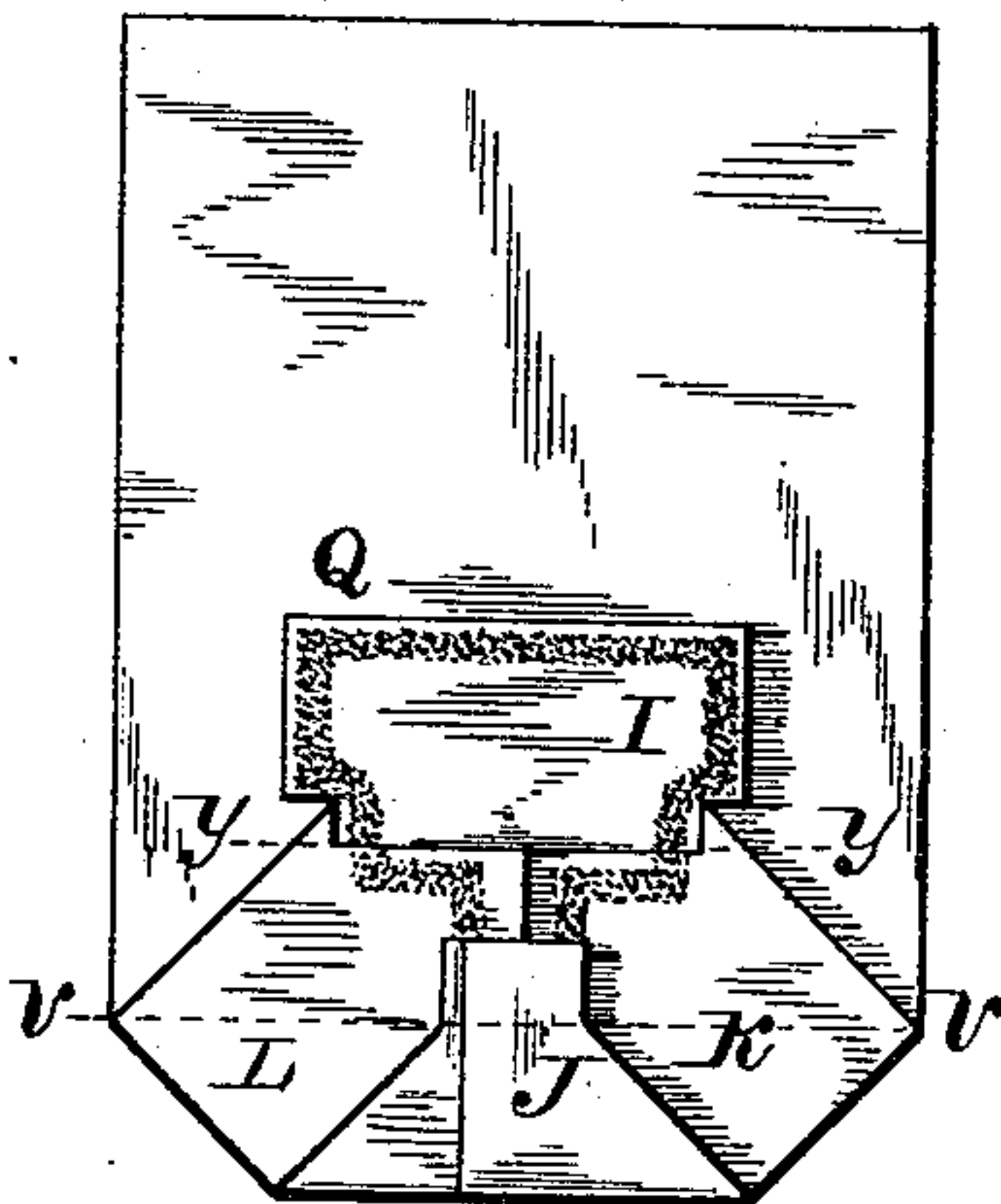
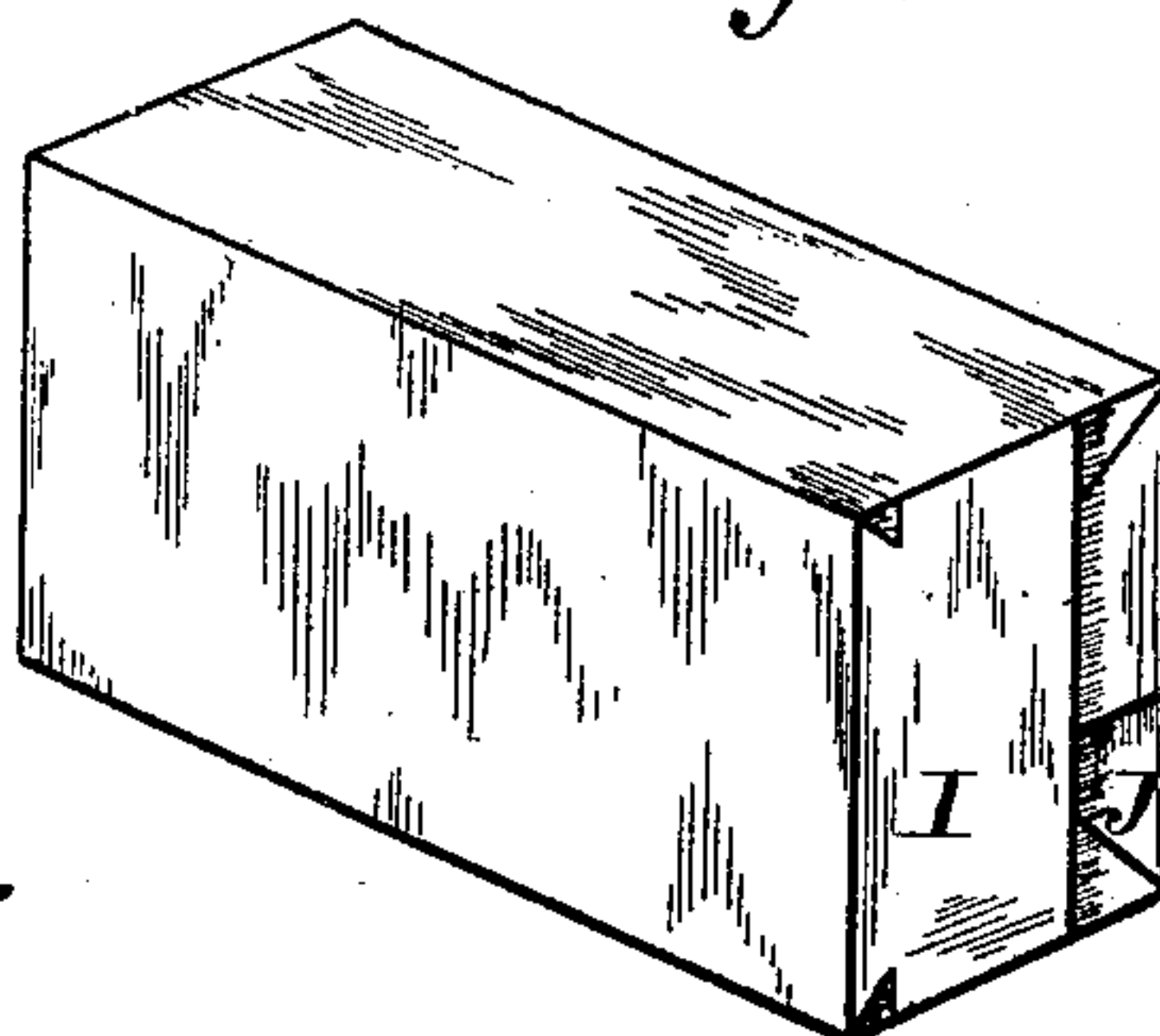


Fig. 7



Witnesses:

Frank H. Pierpont
Albert E. Walker

Inventor

William A. Lorenz

(No Model.)

2 Sheets—Sheet 2.

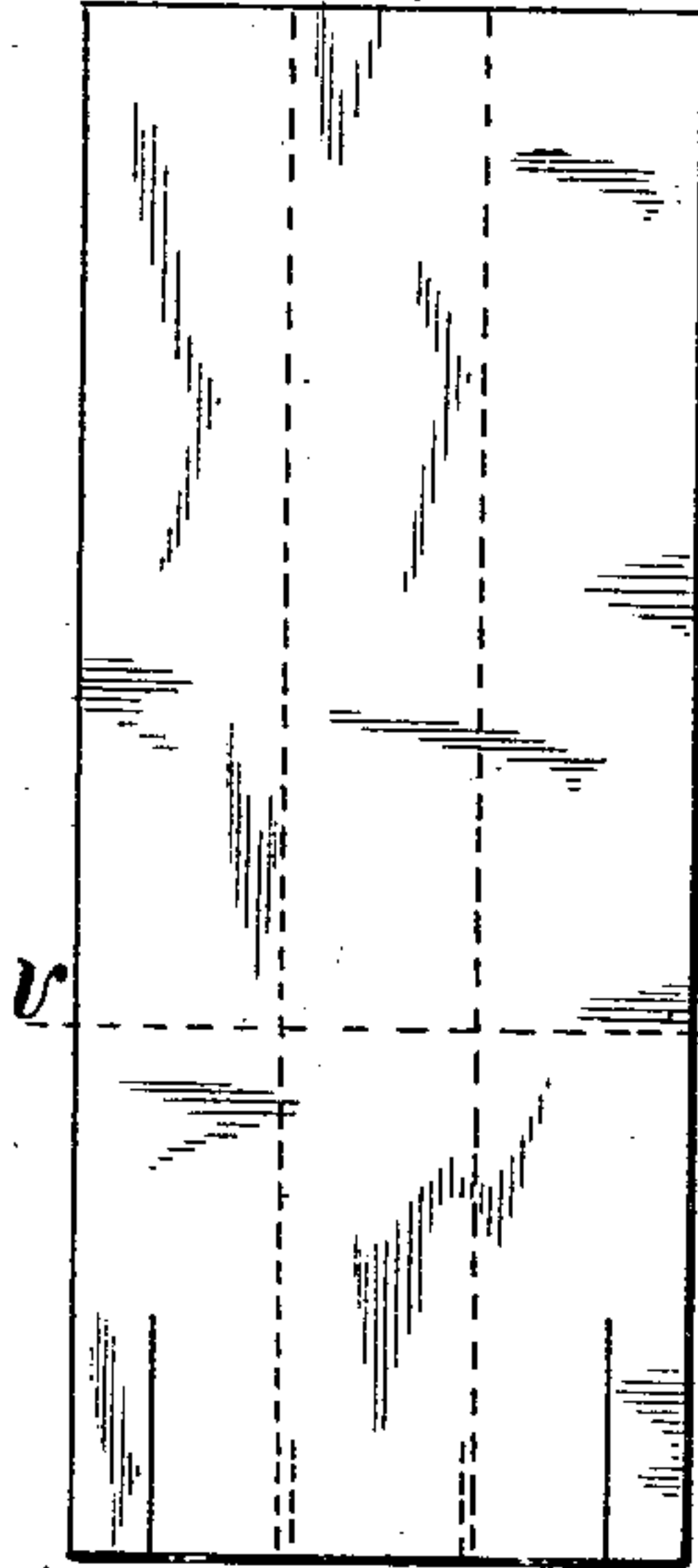
W. A. LORENZ.

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No. 329,662.

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Fig. 8



E G H F



Fig. 14

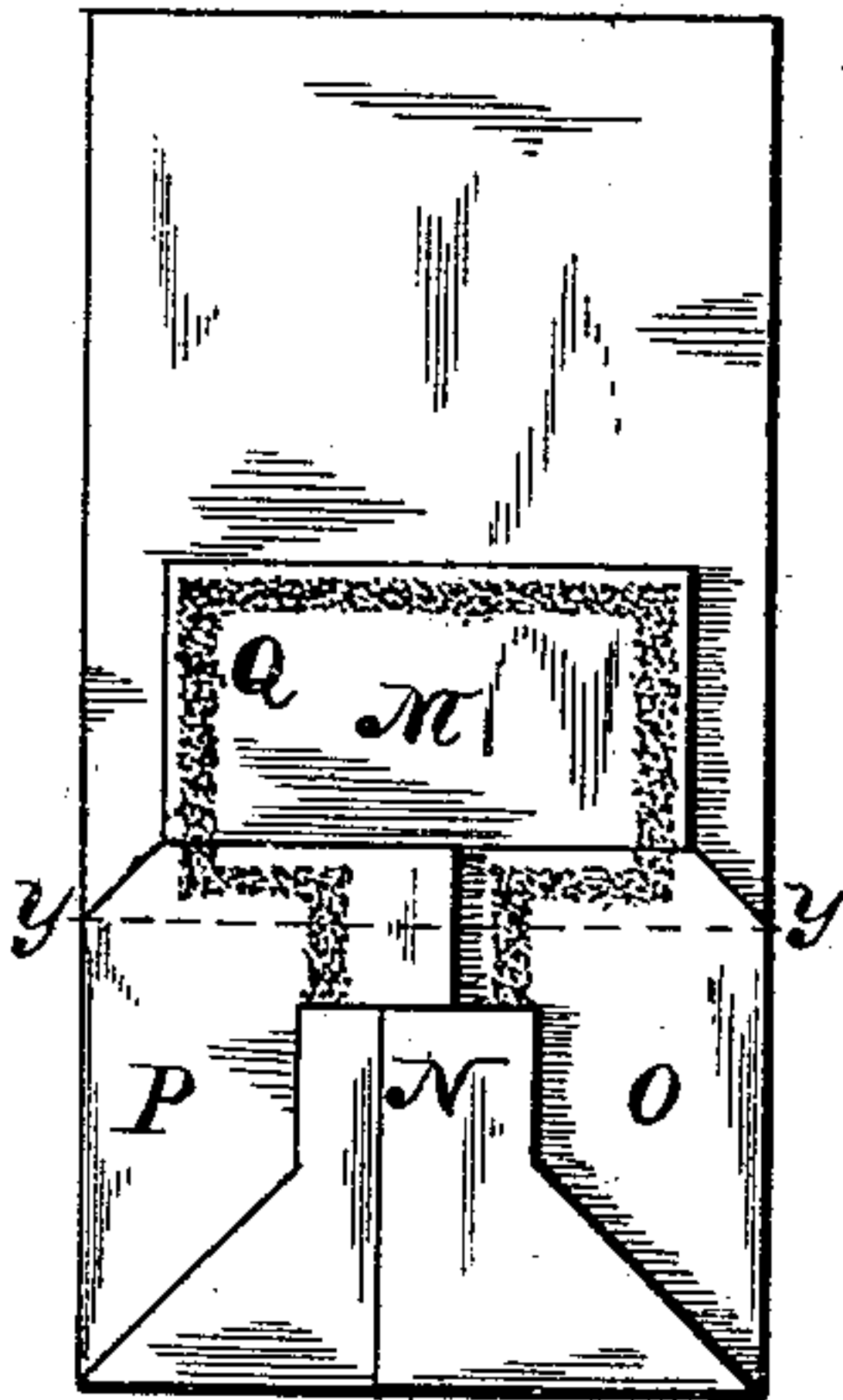


Fig. 10

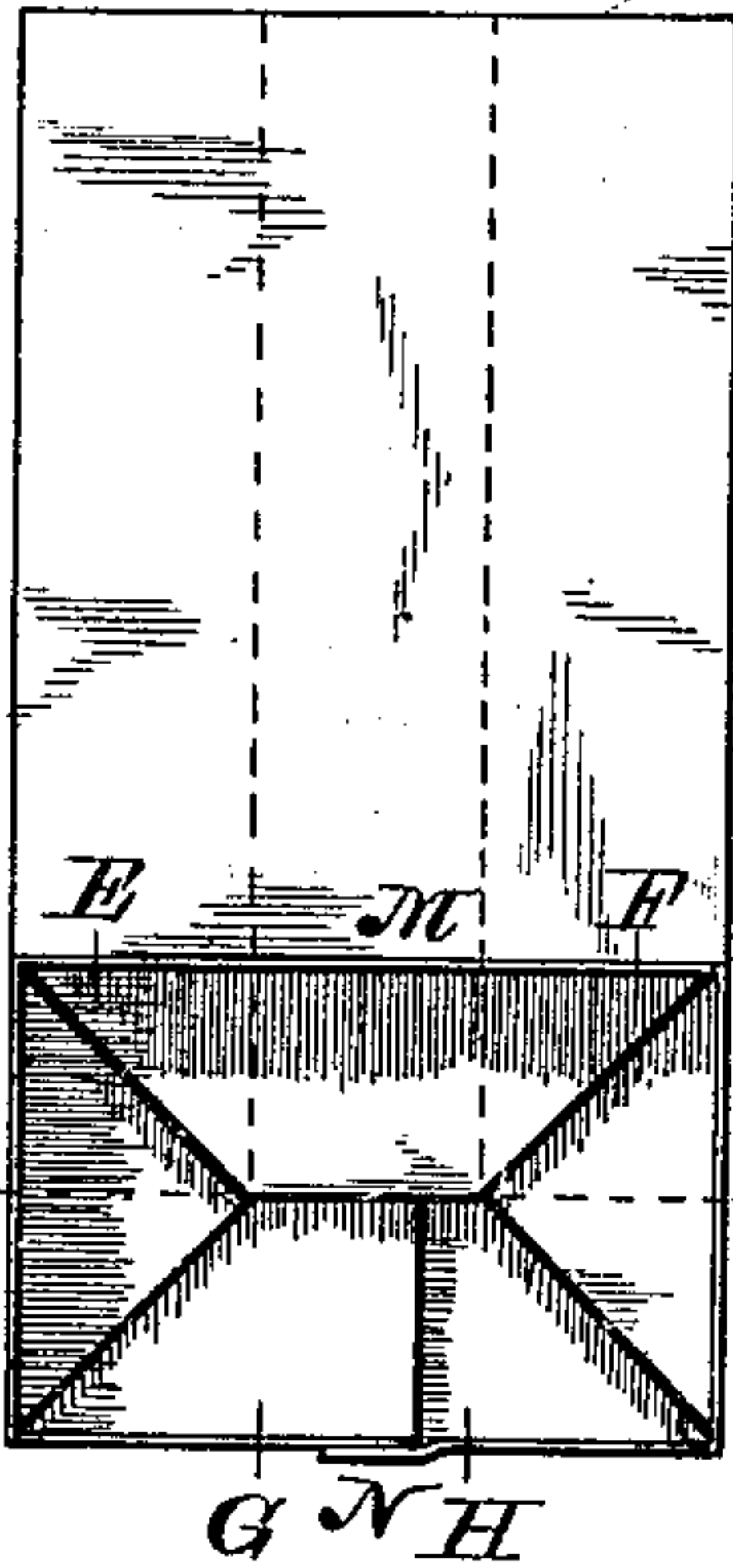


Fig. 11

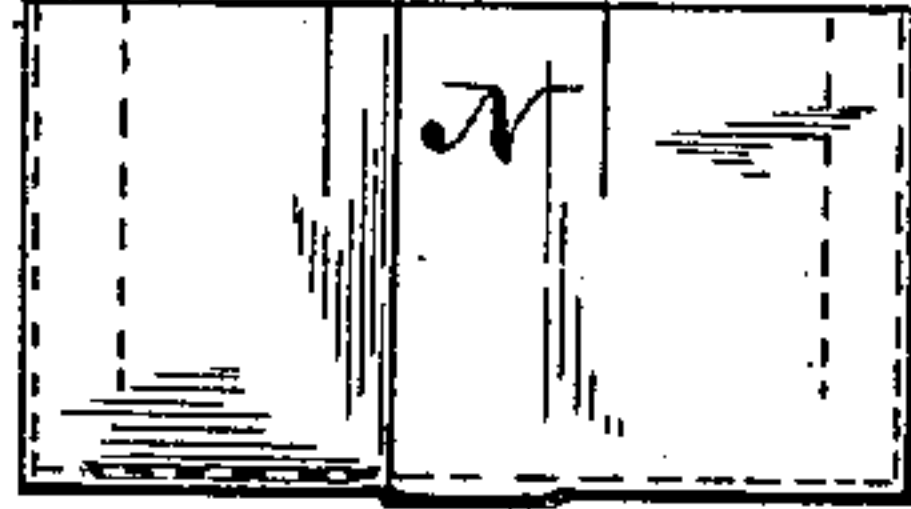


Fig. 15

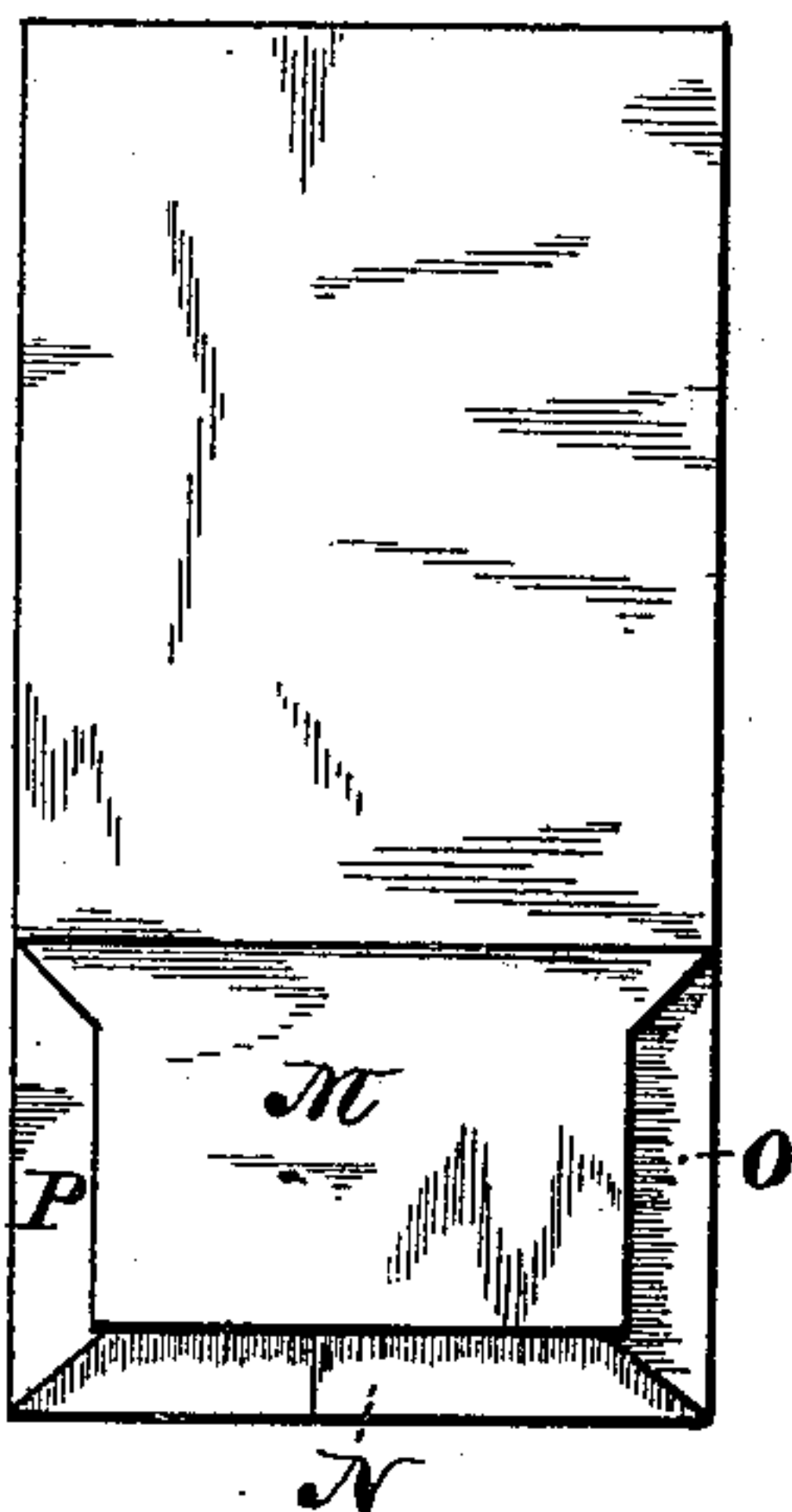


Fig. 12

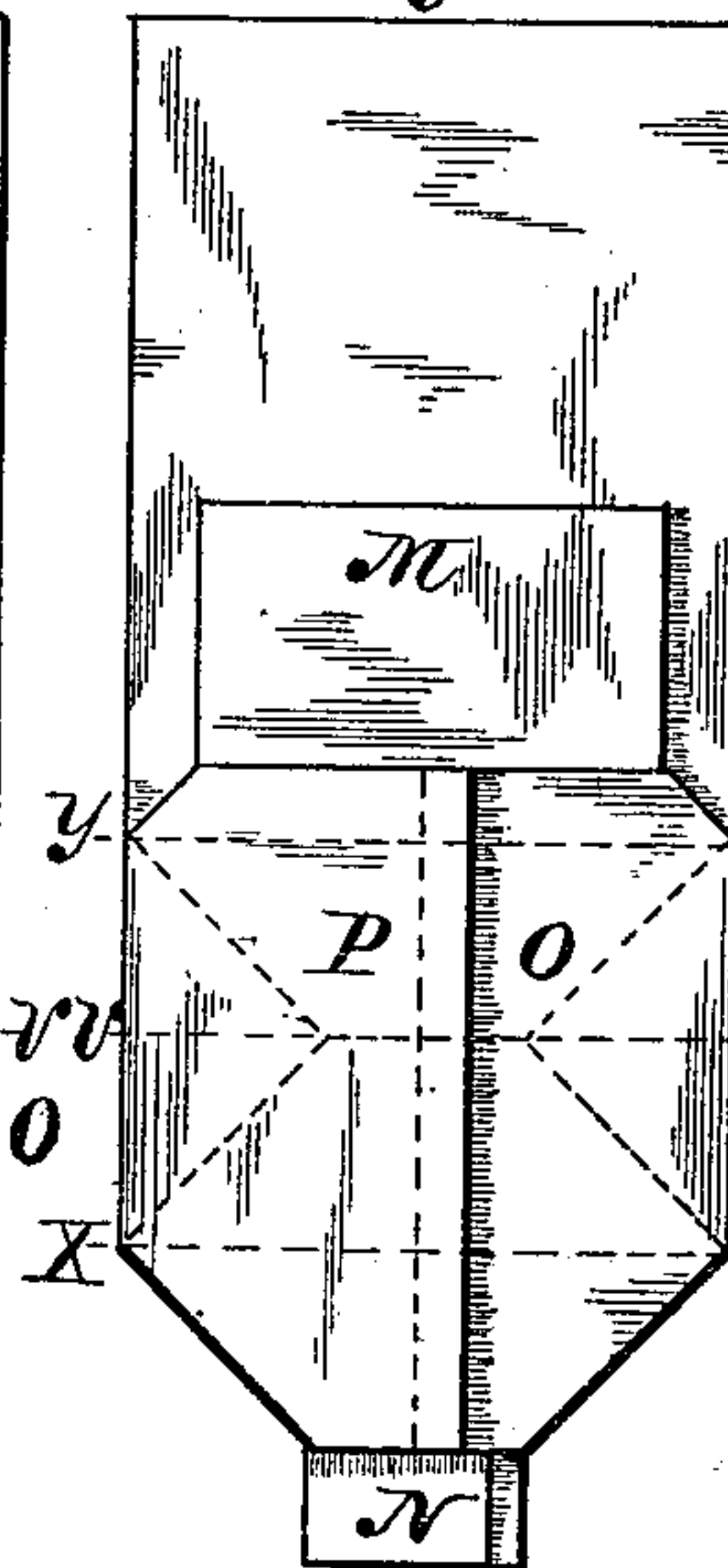


Fig. 13

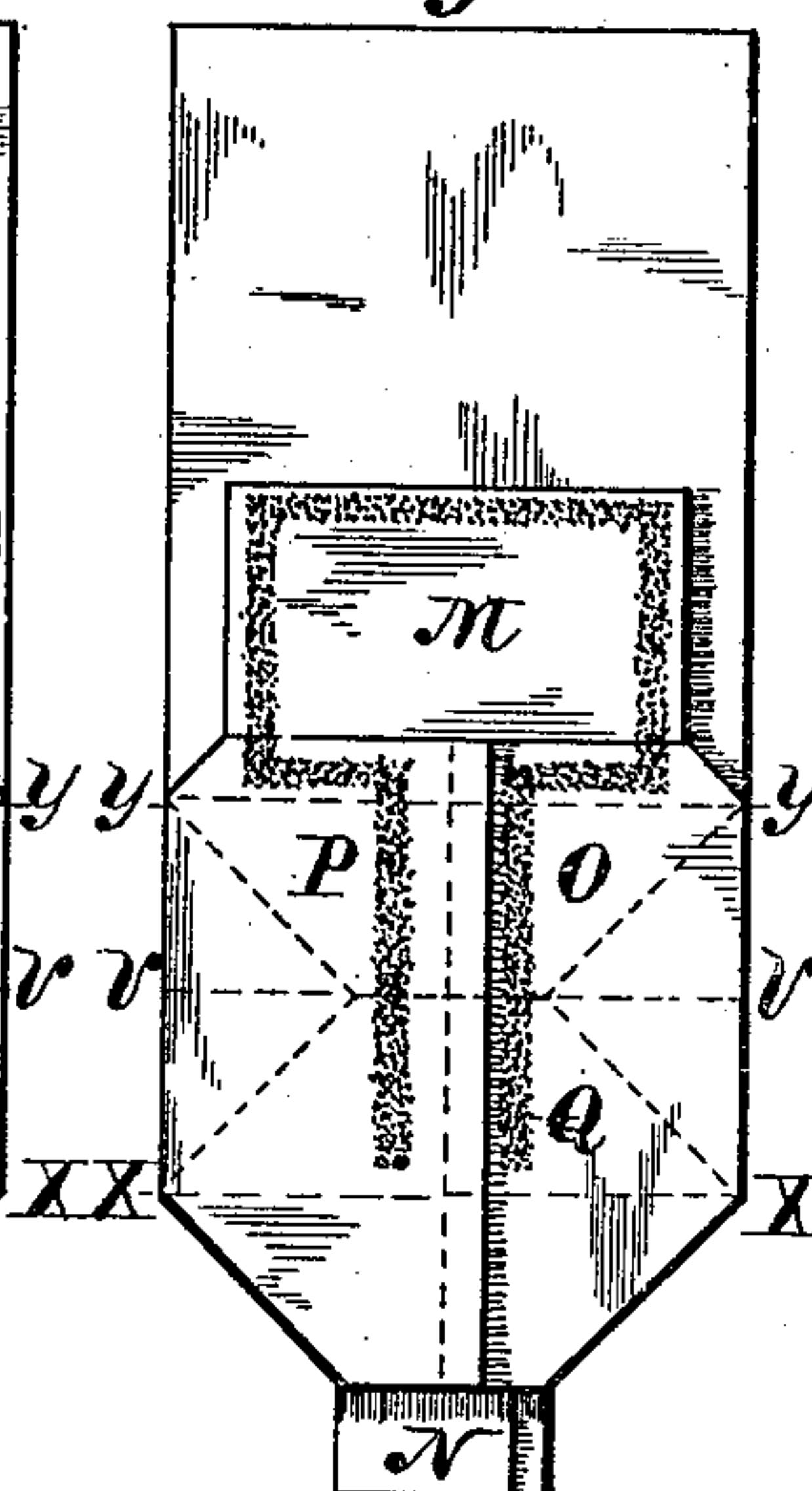
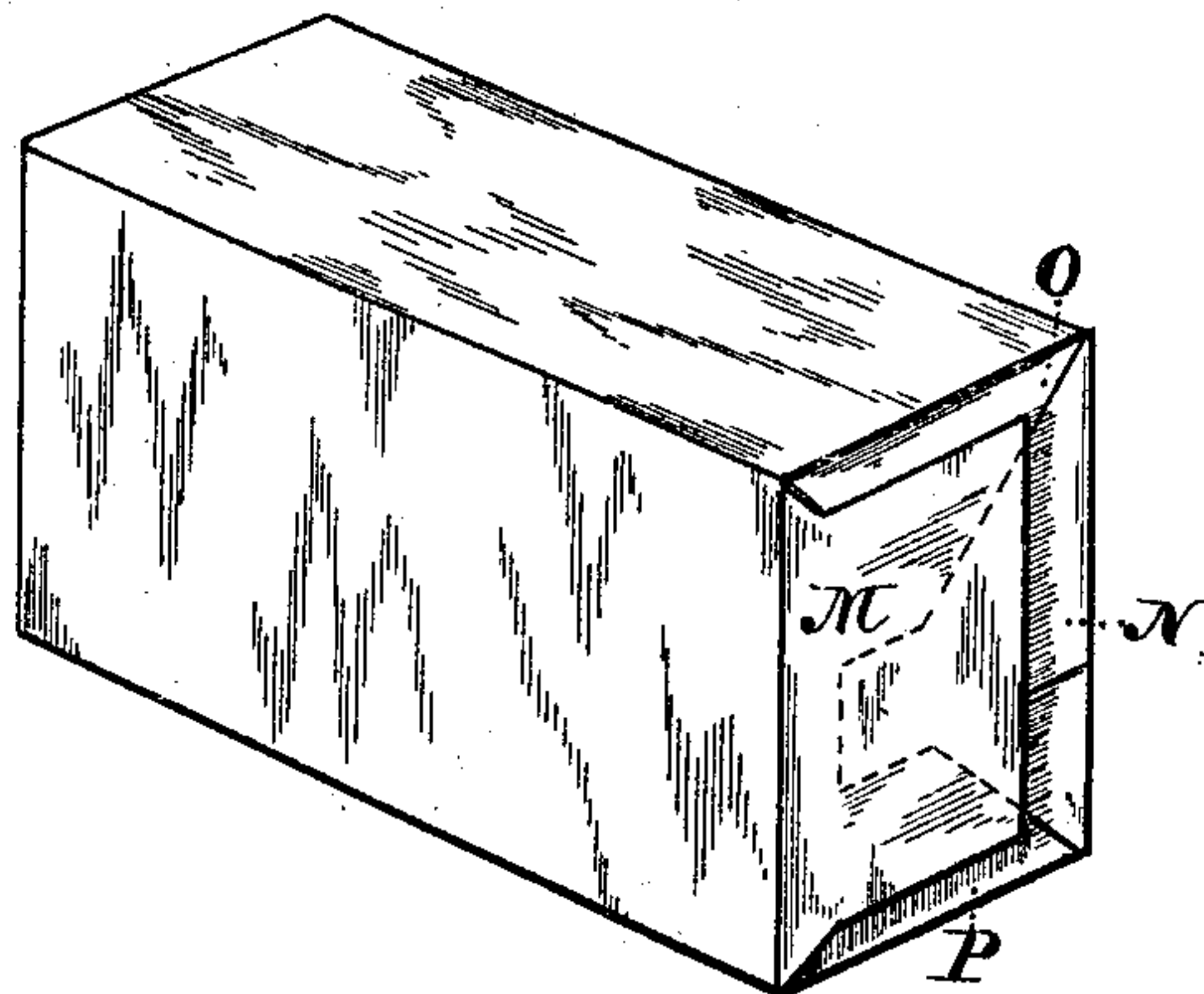


Fig. 16



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UNITED STATES PATENT OFFICE.

WILLIAM A. LORENZ, OF HARTFORD, CONNECTICUT, ASSIGNOR TO FELIX W. LEINBACH AND CLARENCE A. WOLLE, BOTH OF BETHLEHEM, PA.

MANUFACTURE OF PAPER BAGS.

SPECIFICATION forming part of Letters Patent No. 329,662, dated November 3, 1885.

Application filed October 1, 1884. Serial No. 144,458. (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 Improvement in the Manufacture of Paper Bags, of which the following description and claims constitute the specification, and which is illustrated by the accompanying two sheets of drawings.

This invention consists of a tubular paper blank having certain new and useful characteristics and suitable for making a paper bag.

Figure 1 of the drawings is a view of the upper side of a flat paper tube suitable for a satchel-bottom paper bag, and having two longitudinal right-angled slits cut in the lower edge of said upper side. Fig. 2 is a view of the lower end of the flat tube of Fig. 1, showing the position of the longitudinal part of said right-angled slits, and showing also the position of two longitudinal slits cut in the lower edge of the lower side of said flat paper tube. Fig. 3 is a view of the flat tube of Figs. 1 and 2 after the first fold in the process of folding up the bottom of the bag has been properly made. Fig. 4 is a view of the blank of Fig. 3 with paste applied to the upper flap and to other proper surfaces thereof. Fig. 5 is a view of the blank of Fig. 4 with the lower flap folded over. Fig. 6 is a view of the blank of Fig. 5 with the upper flap folded down and the bag thus completed. Fig. 7 is an isometric view of the bag of Fig. 6 after it is opened out. Fig. 8 is a view of the upper side of a tucked paper tube, suitable for a square-bottom paper bag, and having two longitudinal slits cut in the lower edge of said upper side. Fig. 9 is a view of the lower end of the tucked tube of Fig. 8, showing the position of said last-mentioned longitudinal slits, and showing also the position of two longitudinal slits cut in the lower edge of the lower side of said tucked paper tube. Fig. 10 is a view of the tucked tube of Figs. 8 and 9, with its lower end opened up, as hereinafter described. Fig. 11 is a view of the lower end of the blank of Figs. 8 and 9 when in the form shown in Fig. 10. Fig. 12 is a view of the blank of Figs. 10 and 11, with the side flaps folded down in their permanent places, and with the top and bottom flaps folded temporarily backward. Fig. 13 is a view

of the blank of Fig. 12, with paste applied to its upper flap and to other proper portions thereof. Fig. 14 is a view of the blank of Fig. 13, with its lower flap folded over to its permanent place. Fig. 15 is a view of the blank of Fig. 14, with its upper flap folded down upon its lower flap, and the bag thus completed. Fig. 16 is an isometric view of the bag of Fig. 15 opened out.

A and B are right-angled slits cut in the lower edge of the upper side of the flat paper tube of Figs. 1 and 2. C and D are straight slits cut in the lower edge of the lower side of the same flat tube and made nearer together than are the slits A and B. E and F are straight slits cut into the lower edge of the upper side of the tucked tube of Figs. 8 and 9. G and H are straight slits cut into the lower edge of the lower side of the same tube, and much nearer together than the slits E and F are. I and J are the upper and lower flaps, respectively, and K and L are the side flaps of the blank, made from the flat paper tube, while M, N, O, and P are the corresponding flaps of the blank made from the tucked paper tube. Q is the paste, which is applied to the blanks, as shown.

The process of folding up the bottom of the satchel-bottom bag shown in Fig. 6 is as follows: The lower flap, J, is held in position by any suitable implement resting upon its upper side, and substantially identical with it in width, and extending inwardly into the tube beyond the base-line of the flap. The upper flap, I, is then seized, and, together with the adjacent part of the paper tube, is folded back on the line *vv* of Figs. 1, 3, 4, 5, and 6. This operation causes the side flaps, K and L, to be folded down into place, as shown in Fig. 3, without the aid of anything pressing upon their upper surfaces. Paste is then applied to the presented surfaces, substantially as shown in Fig. 4, and then the lower flap, J, is folded over on the line *XX* of Figs. 3 and 4 into the position shown in the latter figure. Then the flap I is folded down on the line *YY* of the Figs. 1, 3, 4, and 5 into the position shown in Fig. 6.

The process of folding up the bottom of the square-bottom bag shown in Fig. 15 is as fol-

lows: The flaps M, N, O, and P of the tucked paper tube shown in Figs. 8 and 9, together with the adjacent part of that tube, are opened up into the box-like form shown in Figs. 10 and 11. Then the flap N is seized by a suitable implement, substantially identical with it in width, and, together with the adjacent part of the box-like form, is folded backward upon the line X X of Figs. 12 and 13, while the flap M is seized by another implement, and, together with the adjacent part of the box-like form, is folded back upon the line Y Y of Figs. 12 and 13. This operation causes the side flaps, O and P, to be folded down into place, as shown in Fig. 12, without the aid of anything pressing upon their upper surfaces. Paste is then applied to the presented surfaces, substantially as shown in Fig. 13. The flap N is then folded over on the line X X of Figs. 12 and 13 into the position shown in Fig. 14. Then the flap M is folded over on the line Y Y of Figs. 12, 13, and 14 into the position shown in Fig. 15, and the bag is thus completed.

This invention differs from that shown in Letters Patent of the United States No. 209,538, granted October 29, 1878, to Joseph Arkell, in the following particulars: Arkell shows a satchel-bottom bag, the last two folded down and pasted, flap-like portions of which are composed of one V-shaped and one rectangular flap.

My present invention consists of and utilizes a blank having two rectangular flaps, but of widely variant widths. By using the narrow rectangular flap where Arkell uses none I secure the same means of folding down the side flaps without pressing anything upon them which he secures, and I also secure means of making the side flaps lap over each other, whereas his side flaps do not and cannot even join each other at their edges.

This invention of mine differs from that shown in the application of William A. Lorenz and William H. Honiss for Letters Patent for an improvement in paper bags filed in the United States Patent Office June 16, 1884, in the following particulars: That application

shows a blank for a satchel bottom and one for a square-bottom paper bag having two rectangular flaps to form the last two folded down and pasted flap-like portions of the bottom of a paper bag; but those two rectangular flaps are of equal width and nearly or quite as wide as the bottom of the bag. Their manipulation for that reason does not operate to fold down the side flaps to any useful extent, and therefore those flaps require to be folded down by a suitable implement pressing upon them.

By means of the present invention I can make a paper bag like that shown in Fig. 7, or like that shown in Fig. 16, as easily and cheaply as the bag shown in the said Arkell patent can be made. The bag shown in Fig. 15 has a better bottom than that of Arkell, in that the flaps O and P overlap each other. The bag shown in Fig. 7 has the same point of superiority, and also has the superiority which results from the flap I being as wide as the bottom of the bag. The bag shown in Fig. 7 has nearly all the excellencies of that shown in the said application of June 16, 1884, while it is much easier made than that for the reasons hereinbefore explained.

The straight slits E and F may be used on the flat paper tube of Fig. 1, if desired, and the right-angled slits A and B may, in like manner, be substituted for the straight slits E and F in making the tucked paper tube of Fig. 8.

I prefer to use the right-angled slits in both the flat and the tucked tube blank, and to make their longitudinal parts on a line with two of the future corners of the bag when opened out.

I claim as my invention—

A tubular paper blank having one wide rectangular flap and one narrow rectangular flap formed by slits cut in the lower edge of its opposite sides, and otherwise adapted to be made into a paper bag, all substantially as described.

WILLIAM A. LORENZ.

Witnesses:

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