

J. ARKELL.
Bag.

No. 208,138.

Patented Sept. 17, 1878.

Fig. 1.

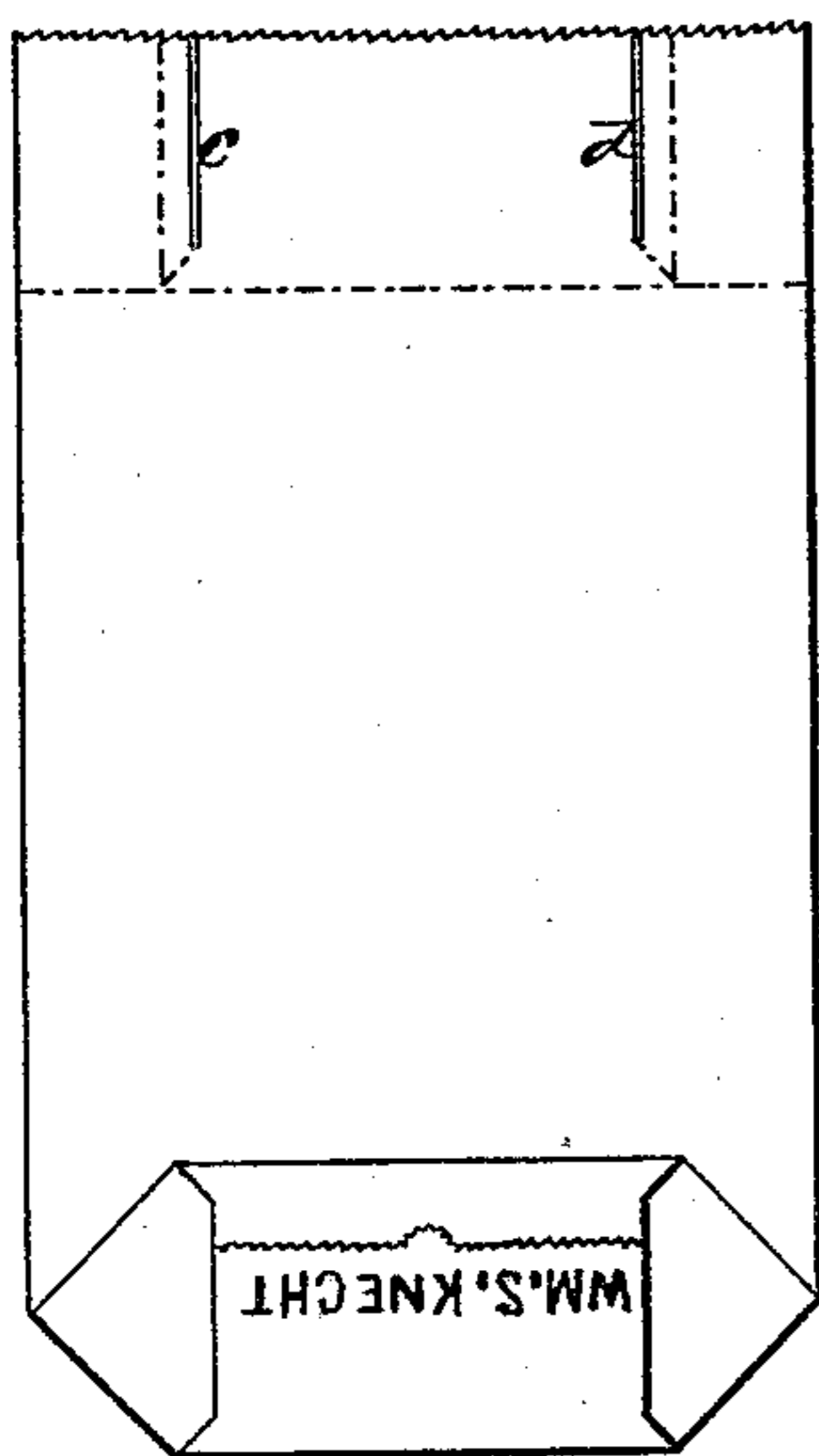


Fig. 2.

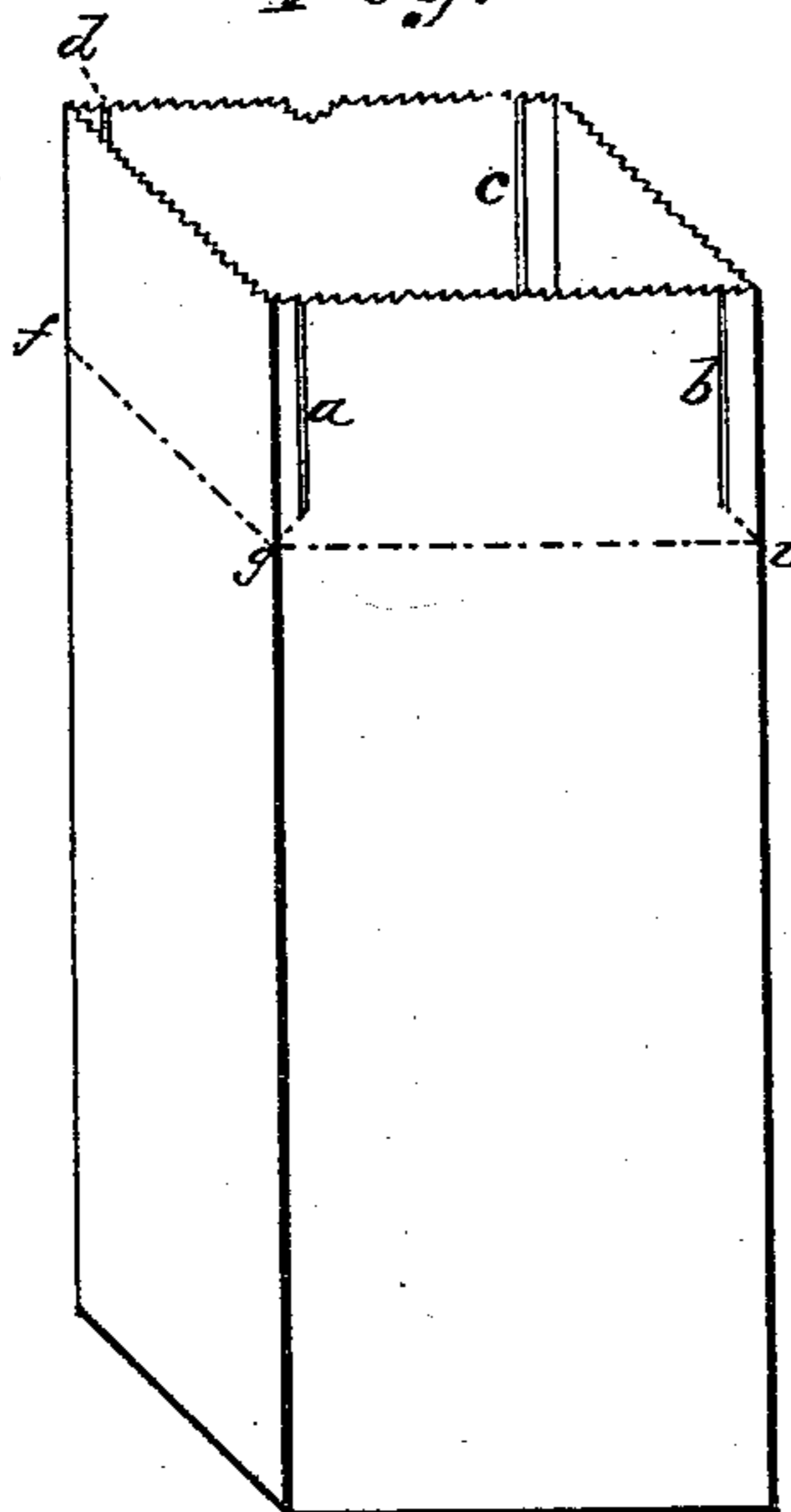


Fig. 3.

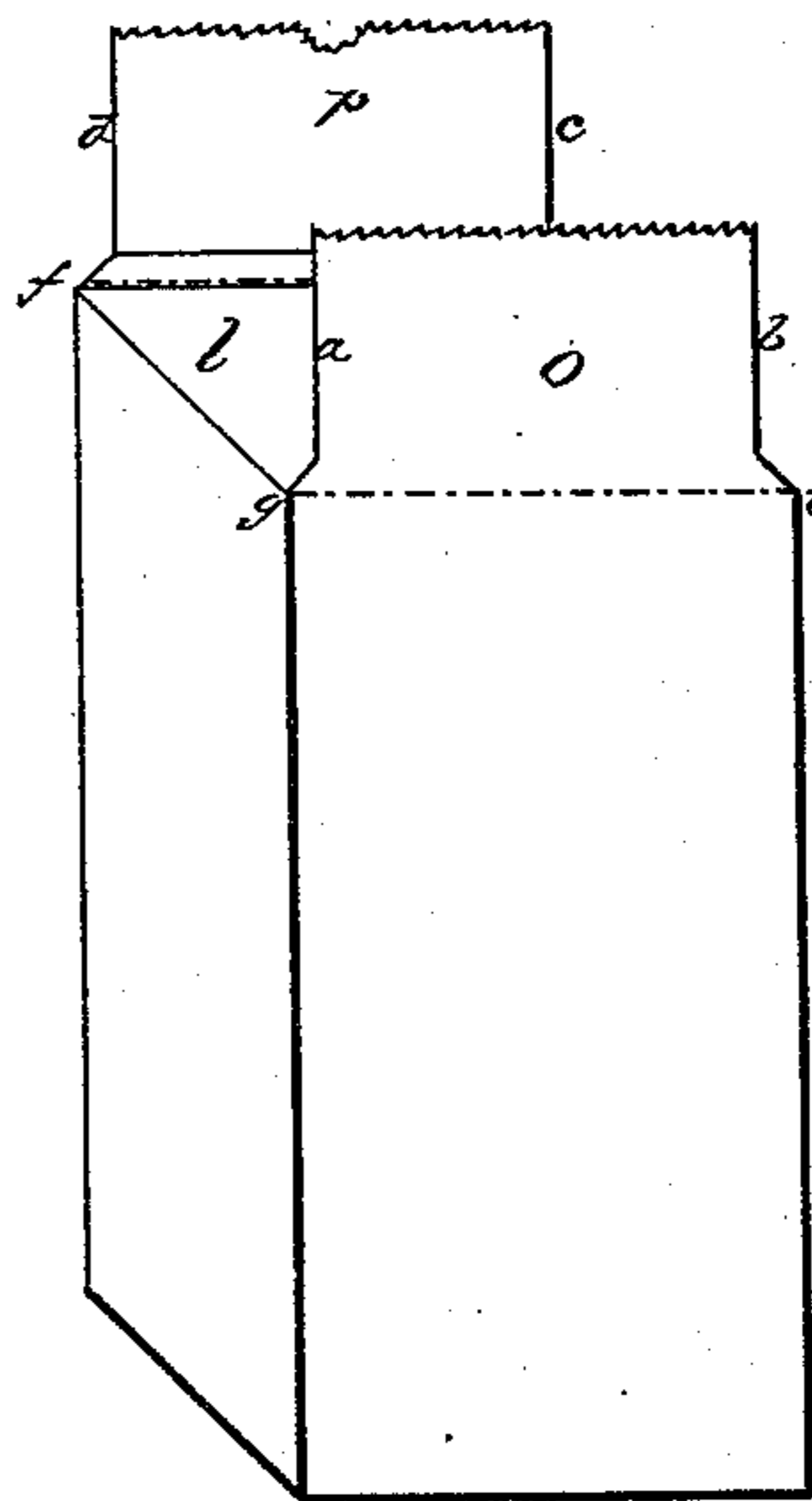


Fig. 4.

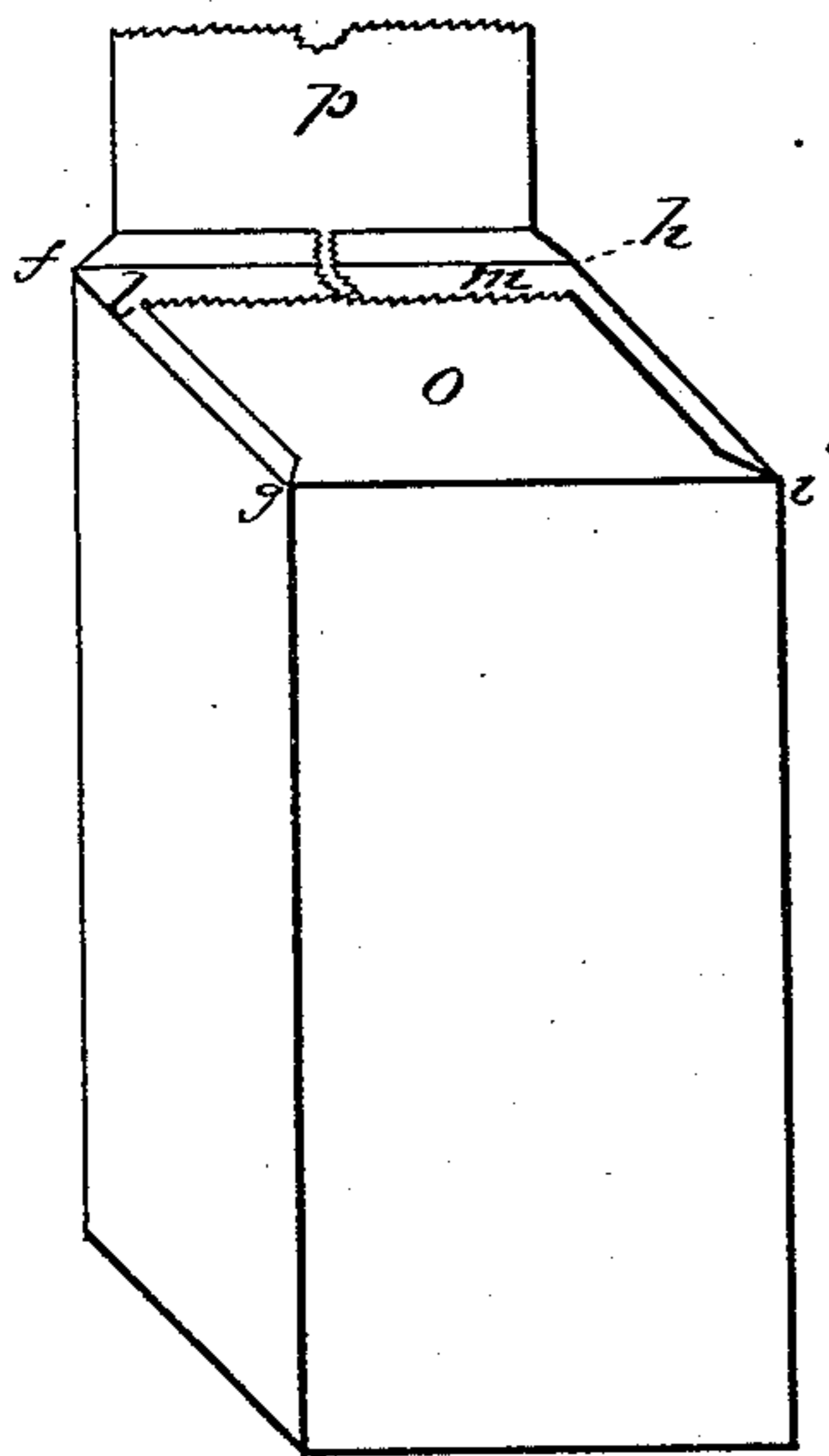
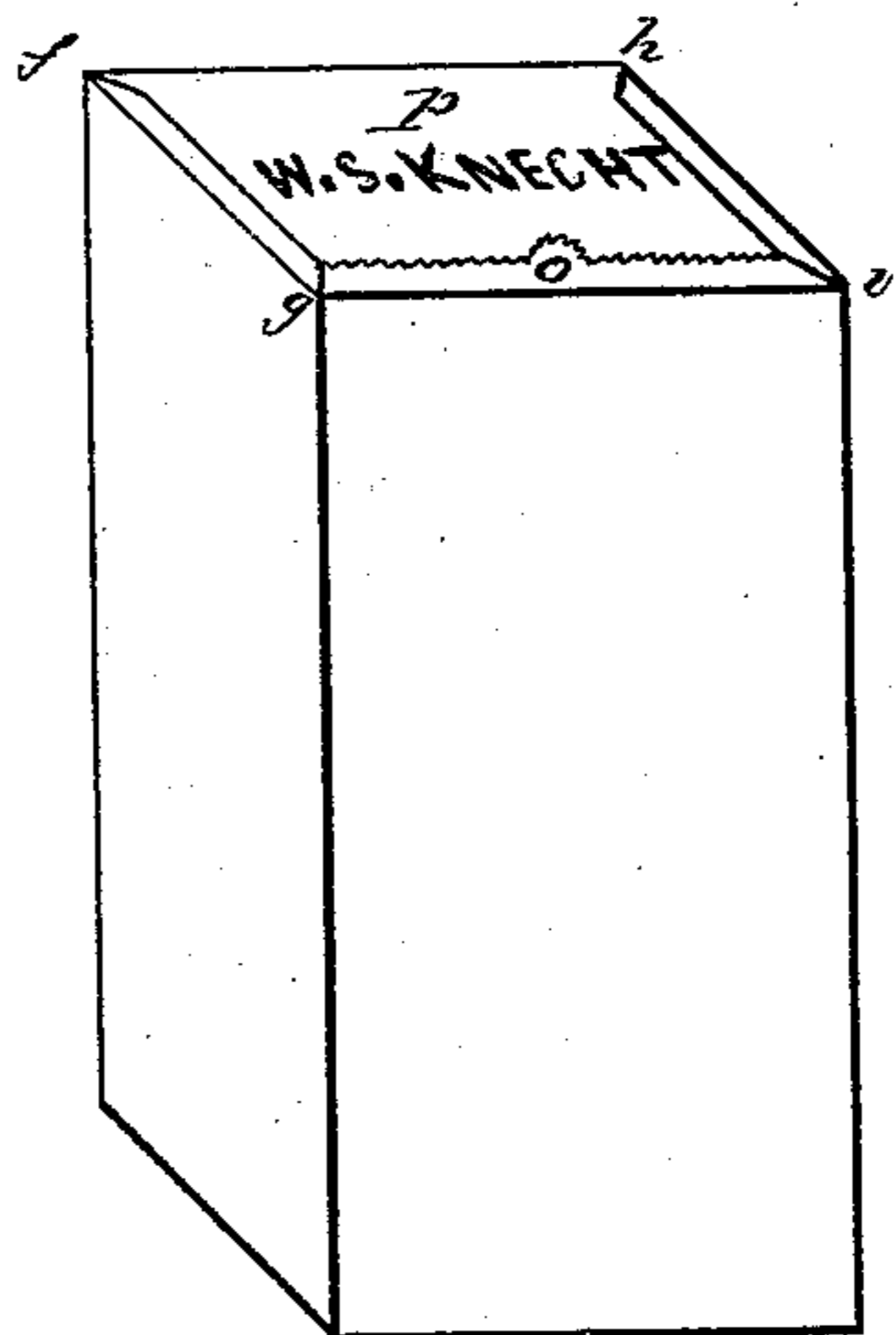


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES ARKELL, OF CANAJOHARIE, NEW YORK.

IMPROVEMENT IN BAGS.

Specification forming part of Letters Patent No. **208,138**, dated September 17, 1878; application filed May 21, 1878.

To all whom it may concern:

Be it known that I, JAMES ARKELL, of Canajoharie, in the county of Montgomery and State of New York, have invented a new and useful Improvement in Bags; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Previous to my invention it has been customary, in the use of paper and other satchel-bottom bags or sacks for the putting up of flour and other ingredients for the market, to close up the mouth of the bag by folding over onto itself and pasting or otherwise securing in place the material composing the bag, so as to produce a package such that the mouth end, or end closed after the filling of the bag, would be substantially like the bottom of the latter—that is, somewhat resembling the polygonal bottom of a satchel; and by an invention lately made by me, and constituting the subject-matter of an application for separate Letters Patent, bags may be produced with which this mode of closing up the mouth of the bag (so as to present a square or rectangular ended package) may be practiced with great facility and advantage.

By an invention for which Letters Patent of the United States were granted to myself, Benjamin Smith, and Adam Smith, on the 25th day of April, 1865, which were reissued on the 13th day of February, 1872, and again reissued on the 30th day of April, 1878, a satchel-bottom bag of peculiar and desirable structure is produced, one that has been very extensively manufactured, and used with great satisfaction to the consumer; and a similar structure or form for the closed mouth end of a bag or sack would be, it is well understood, most desirable for many reasons, among which may be mentioned the following: A bag-mouth closed up in this form would not only present a package having a very strong and durable structure at the mouth end, but one in which this end (like the patented bottom referred to) would present, by reason of its rectangularly-shaped flaps, a very smooth, neat appearance, and a condition peculiarly adapted to the labeling or marking of the mouth end of the

package according to the present prevalent practice in a similar manner to the labeling of the bottom of the bag, to indicate the brand or other peculiarity of the contents of the closed sack; but it is not possible to close up the mouth end of a bag or sack in such manner as to produce the form and structure of package end made the subject of the said Letters Patent without making certain cuts in the bag-mouth at given localities and of given lengths, since upon the presence of an accurate location and the equal and precise lengths of these cuts depends, as much as upon the manner of folding together and securing the stock, the peculiarity of structure which makes the said patented bag-bottom different from other satchel-bottoms. To cut the mouths of such satchel-bottom bags at the time of filling them, and during the operations of folding over, closing up, and sealing the mouth of the filled bag, would be scarcely practicable either by hand or mechanism; but all the advantages alluded to may be gained by the use of a bag so manufactured as to possess the capacity, by a simple folding over into shape and securing together of the parts of the stock, to present a closed end similar in structure to the said patented bag-bottom; and my invention has for its object the accomplishment of this end.

To this end and object my invention consists in a bag or sack made with cuts or slits in its mouth end or portion of the proper length, and so located that when the material composing the bag shall be properly folded in and pasted or otherwise fastened to completely envelop the contents of the bag, the closed mouth end shall present the peculiarity of structure (a package end composed of several thicknesses of material about rectangular in contour) made the subject of the said patent on the bag-bottom.

To enable those skilled in the art to make and use bags involving my said invention, I will now proceed to more fully explain the latter, referring by letters to the accompanying drawings, making part of this specification, and in which—

Figure 1 is a view of a paper bag or flour-sack having a bottom such as is set forth in the Letters Patent to which I have referred,

and embracing also my present invention, the bag illustrated being in the flattened condition in which paper bags are usually manufactured. Fig. 2 is a perspective view of the said bag in a distended condition—that is, about as it would appear when supplied or packed with the intended quantity of flour or other material to be enveloped by or sealed up in the sack. Fig. 3 is a similar view of the bag and its contents, but with the material partially folded over at the mouth end, the two narrower sides having been folded down. Fig. 4 is another like view, with an additional fold made by turning inward and downward one of the broader sides; while Fig. 5 is still another view of the same, with the final fold made and the end of the package closed and fastened.

In the several figures I have indicated the same parts and devices of the bag by the same letter of reference.

As illustrated at Fig. 1, the satchel-bottom of the bag shown is of that kind set forth in the Letters Patent I have referred to, and from the drawings and the following explanations it will be learned that the mouth end of the bag is closed up so as to present precisely the same structure and appearance as presented by said satchel-bottom.

At the mouth of the bag the material is slitted or cut down at four places, *a*, *b*, *c*, and *d*. These cuts are of equal length, and are of such a length and so arranged that when the filled sack has those portions between two pairs of these cuts and at the narrower sides of the bag folded inward and downward at the lines *fg* and *hi*, as shown at *l* and *m*, Figs. 3 and 4, the portions *op* between two other pairs of the cuts and at the wider sides of the bag shall present two flaps substantially rectangular in contour. One of the flaps, *o*, is now folded inward and downward on the line *gi* onto the two previously-folded flaps, as seen at Fig. 4, after which the remaining flap, *p*, may be folded down, as seen at Fig. 5, and the last two mentioned flaps having been properly pasted to the flaps *l* and *m* and to each other, a closed package end is produced similar in structure and appearance to the peculiar kind of satchel-bottom seen at Fig. 1, and set forth in the patent referred to.

In thus closing the mouth end of a bag so as to present the structure and appearance shown and described, it may be found expedient to have the manufactured bag made with either marks, creases, or other devices to indicate the precise localities at which the folds should be made and facilitate (in bags of heavy or stiff material) the breaking down or bending over and folding of the stock at such localities, according to another invention of mine made the subject of an application for separate Letters Patent.

Any person skilled in the art and having a knowledge of the patented bag-bottom referred

to will understand that in the mere matter of cementing or otherwise securing together the folded-over stock the pasting may be done at the same places as in the formation of the patented bag-bottom, or in any other manner deemed expedient.

The main advantages of a bag made so that the mouth end can be folded and closed up, as shown and described, are the superior strength afforded to the completed package, the neat appearance of the end of the package, and the greater facility afforded by this sort of package end for the labeling or marking of both ends of the package. The last-mentioned advantage is a very important one wherever it is desired by the user of the sacks to have his trade-mark, brand of contents, or other sign made on the ends of the package, because with this structure or form of closed end not only is a single surface of material of the greatest possible extent offered or presented for any label or mark that may be wanted on the end of the package, but it is almost impossible for any one to open the end of the package and reclose it on an inferior article (to the prejudice and detriment of the original seller of the goods) without so mutilating the marked flap that the package will not pass current as if from the source where it was originally filled—this because the rectangular flaps of one thickness each may be thoroughly cemented to each other, and cannot be pulled apart without mutilation of the outer surface, as may be the flaps of that kind of satchel-like package end in which the outer flap or flaps is or are composed of several thicknesses of material.

Of course my invention may be embodied in bags of various materials and under variations of the bag as to size and the proportions of its parts almost infinite, and where it is deemed expedient so to do, the proportions and sizes of the rectangular flaps may be varied from what I have shown.

In practicing the manufacture of bags embracing my invention, I have so far made the cuts by machinery adapted to the purpose during the making of the flattened tubular blanks used in making the bags, and I have, by preference, applied also to the bag-mouth creases to facilitate the folding into shape of the slitted mouth; but the manner in which and the means by which the cuts are made are, of course, no part of my present invention; nor is it material to the latter whether the bag be made with the preliminary creases to facilitate the folding in of the mouth, this feature forming the subject-matter of an application for separate Letters Patent, though it is capable of use with much advantage in the manufacture of bags embracing the invention made the subject of this application.

The invention made the subject of this application should not, of course, be confounded with the improvement made the subject of an-

other application filed by me simultaneously with this, and which shows the slits or cuts stopped short of the upper edge or mouth of the bag.

What I claim herein as new, and desire to secure by Letters Patent, is—

A bag made with slits or cuts at its mouth end, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal this 13th day of May, 1878.

JAMES ARKELL. [L. S.]

In presence of—

W. N. SMITH,

P. D. VAN O'LUIDER.