

J. ARKELL.
Paper-Bag.

No. 204,780.

Patented June 11, 1878.

Fig. 1.

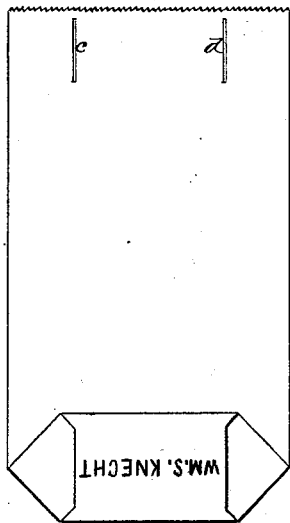


Fig. 4.

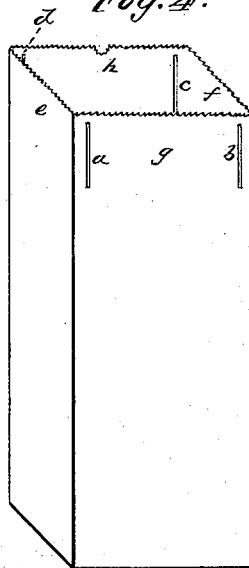


Fig. 5.

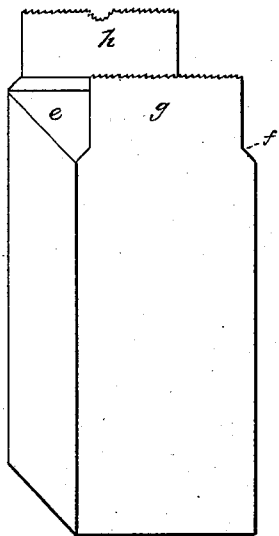
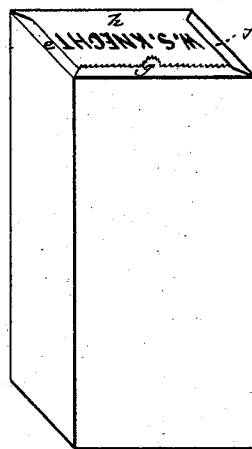


Fig. 6.



Witnesses:

E. Wolff.
Jacob Felbel

Inventor:

James Arkell.
By attorney
J. N. Mc. Intire

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Fig. 2.

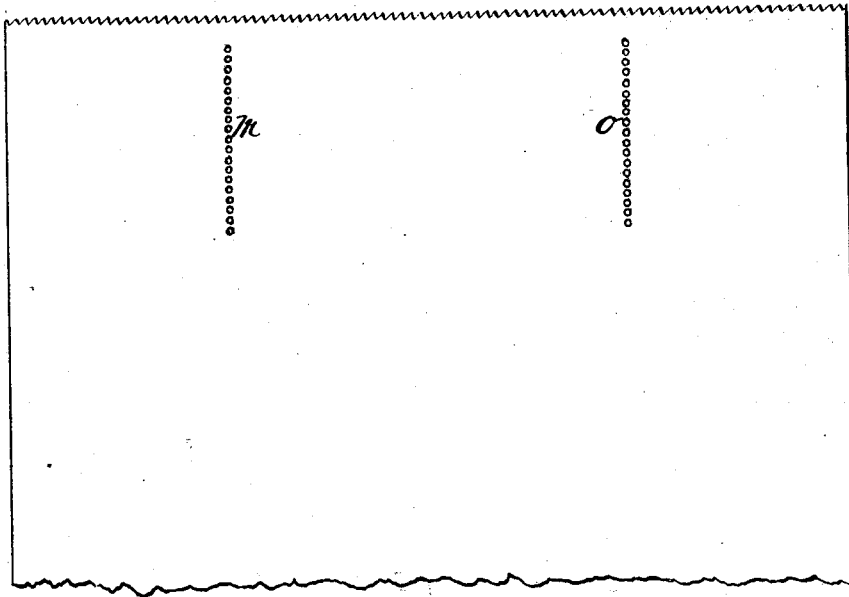
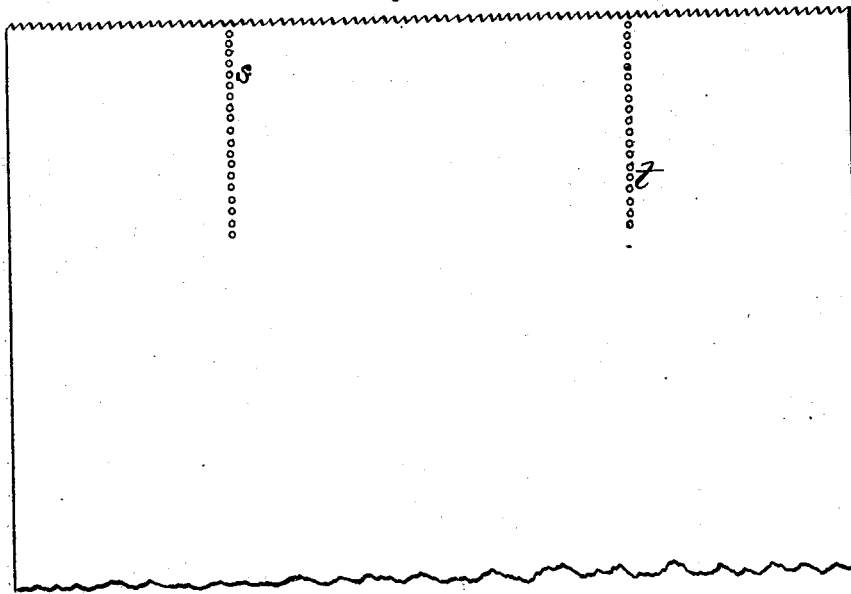


Fig. 3.



Witnesses:
E. Wolff
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UNITED STATES PATENT OFFICE.

JAMES ARKELL, OF CANAJOHARIE, NEW YORK.

IMPROVEMENT IN PAPER BAGS.

Specification forming part of Letters Patent No. **204,780**, dated June 11, 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 satchel-bottom bags or sacks, to close up the open or mouth end of the bag, after the filling of the latter, by folding over or tucking in and overlapping and pasting or otherwise fastening together the material composing the bag, in such a manner as to cause the thus-closed mouth end of the package to present a condition and appearance substantially similar to those of the ordinary satchel-like bottom end; and by an invention of mine, made the subject of an application for separate Letters Patent, a bag or sack is provided for use the mouth end of which may be folded over and fastened together, to inclose the contents of the bag, in such a manner that the closed mouth-end of the package will present a structure and appearance peculiar to that kind of satchel-bottom made the subject of Letters Patent to myself, Benjamin Smith, and Adam Smith, dated the 25th day of April 1865, and subsequently reissued February 13, 1872, and again April 30, 1878, in which the polygonal end of the package is composed of four flap-like portions of the bag material, each of which is about rectangular in contour. But in the use of the last-mentioned kind of bag a difficulty is sometimes encountered, on account of the slits or cuts in the bag-mouth, the presence of which permits the formation of the peculiar sort of package end referred to, (with the four rectangular flaps.)

It is the practice, in filling bags or sacks with flour and other analogous ingredients, at the mills or manufactories where the material to be packed in the bags is made, to perform the operation of charging or filling the bags through the medium of a mechanical appliance or contrivance of some sort, known as a "packer," in which there is a sort of implement or device which has to be placed within the mouth of the bag, and through which descends into the distended bag or sack the

requisite charge or quantity of flour or other material. Now, when this method of filling the bags is resorted to it is found that more or less difficulty is encountered in entering the filler into the slitted bag-mouth, (which alone can be used to produce the peculiar sort of package end referred to,) because portions of the slitted mouth-edge are apt to fall inward, and either fold down inside and prevent a ready filling of the bag, and subsequent closing over of the flaps properly, or (especially in the use of paper bags) are liable to catch against the filler mechanism and induce the latter to tear or mutilate the bag.

Since it is very desirable to have packages made up in the peculiar form resulting from the use of the slitted-mouth bag, and the mode of filling alluded to is very expeditious and advantageous, it will be obvious that any means by which all difficulty in filling the sort of bag-mouth mentioned by the mode and appliance for charging the bag alluded to can be overcome must be a great desideratum.

My present invention has for its object to provide for use a bag so made that while its mouth end offers the same facilities as that of the common bag-mouth for charging the bag with a filler device, it also possesses the capacity for a ready folding over and securing together of the material to form the kind of package end peculiar to the slitted bag-mouth; and to this end and object my invention consists in a bag made with either slits extending to within so short a distance of the edge of the bag-mouth that said slits may be most easily torn out to the edge by a slight pull on the material of the bag-mouth, or with rows of perforations at the localities usually slitted, which so weaken the stock at the desired lines that by the fingers of the operative the material may be very readily ruptured or severed at the lines or rows of perforations, whereby the structure of the bag is, in either case, rendered such that while it presents an unbroken or continuous mouth-edge, within which the filler may be readily entered without danger of obstruction by or damage to the bag, to charge or fill the latter, as usual, (with ordinary bags,) the slits or cuts necessary to the subsequent folding up of the mouth in the peculiar manner desired may be either completed or produced by a slight effort with the

fingers of the person who has to fold over the mouth end of the bag to inclose the material with which the sack has been charged.

To enable those skilled in the art to make and use bags embracing my invention, I will proceed to describe the latter according to the best modes of carrying out the same now known to me, and by reference to the accompanying drawings, forming part of this specification.

In the several figures I have designated the same part or device of the bag by the same reference-letter.

Figure 1 is a view showing one side of a bag in the flattened condition in which such bags are usually sent to market. Fig. 2 is a similar view of a bag, illustrating a modification of the invention exhibited at Fig. 1. Fig. 3 is another similar view, showing still another mode of carrying out the invention. Fig. 4 is a perspective view of the bag seen at Fig. 1, but in a distended condition. Fig. 5 is a similar view, but with the cuts torn out to the edge of the mouth, and the two narrower sides of the bag folded in; and Fig. 6 is a similar view, with the remaining (wider) side flaps folded in and down to completely close the package around its supposed contents.

It will be understood that in the bag shown at Figs. 1, 4, 5, and 6 the article is presented for use in a condition in which the mouth-edge of the bag is a continuous or unbroken one, and that therefore any ordinary filling device or appliances may be inserted into the mouth of the bag (or may have the latter distended over it) with the same facility that such filling mechanism can be employed in filling the ordinary bags. This is obvious by reference to Figs. 1 and 4, in which it will be seen that the improved bag presents, both in its flattened and opened-out conditions, the same structure and appearance at the mouth-edge as found in the common bag—*i. e.*, continuous or unbroken edge.

Supposing, now, the improved bag seen at Fig. 4 to have been charged with the requisite quantity of flour or other material in any usual manner, all that is necessary to be done by the operative is to tear out or extend the slits *a b c d* to the edge of the mouth, when the bag-mouth will present the peculiar conditions of structure and appearance which are necessary to the formation of a package end such as made the subject of the other application for Letters Patent by me, hereinbefore referred to, and such as will have a closed mouth end similar to the sort of satchel-bottom made the subject of the patent to which I have alluded. The operative now tucks in or breaks down and folds inward the two narrow sides *e f* of the bag-mouth into the positions seen at Figs. 5 and 6, and then folds down the portions *g* and *h* into the conditions seen at Fig. 6, when (after securely pasting or otherwise fastening together the overlapped portions) the bag-mouth will have been closed, and the thus-closed end of the package of

material will present the peculiar structure and form illustrated, with four rectangular flaps, and be like the satchel-bottom of a bag such as shown in the patent referred to.

It will be understood that if, in lieu of the slits *a b c d*, (shown at Figs. 1, 4, 5, and 6,) rows of perforations, such as seen at *m o*, Fig. 2, be used, such rows of perforations should be located at the same places, and be of the same length, as the cuts for which they are substituted, and that after the filling of the bag the operative has simply to complete the partial severance of the bag material at the localities of the perforations, and then tear the stock clean out to the edge of the mouth, when the latter may be folded over and the package closed up, just as shown in the case of the slitted mouth at Figs. 5 and 6.

If deemed expedient, the rows of perforations may be made clear out to the edge of the mouth, as shown at *s t*, Fig. 3, in which case the bag, after filling, will not require any tearing by hand, except where the stock has been already partially severed.

Of course, the amount of uncut stock left in any case will depend upon the nature of the fabric of which the bag is made, and will be a matter for the exercise of the judgment of the manufacturer, it being necessary and desirable only that just enough strength exist in the continuous edge of the mouth to withstand the strain to which the mouth-edge may be subjected by the filler device, and insure the proper filling of the bag by any of the usual appliances without such a rupture of the bag as might either destroy its efficiency or impede the closing up of the filled package in the desired manner.

Of course, other means or devices than the cuts or perforations may be adopted in place of them without departing from the principle of my invention, the gist of which rests in a bag having the material so weakened at the proper lines or places that while a continuous mouth-edge (of sufficient strength) is presented at the time of charging the bag, the bag-mouth may be separated at such lines in a manner to permit the formation of separate flap-like portions that may be severally folded inward and downward to close the end of the package; and the sizes and relative proportions of the flaps may, of course, be varied if it be desired to change the shape of the closed end to that of a rectangular figure different from that I have shown.

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

A bag having either cuts or frangible portions at the mouth end, substantially as and for the purpose described.

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'LINDA.