(No Model.)

E. THOMPSON.

PAPER BAG.

No. 519,398. Patented May 8, 1894.

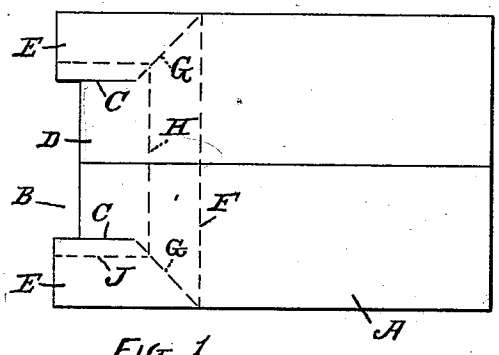


Fig. 1.

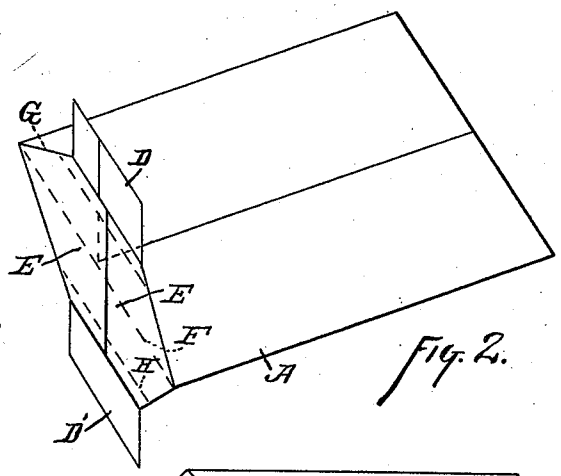


Fig. 2.

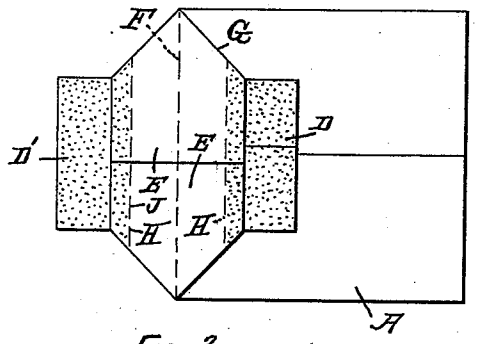


Fig. 3.

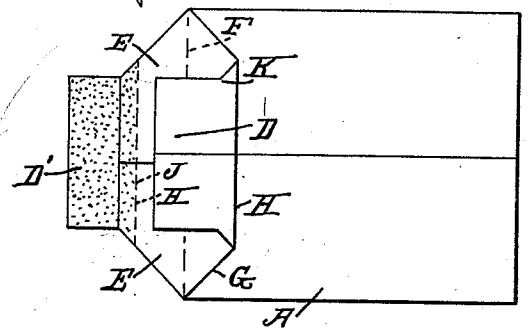


Fig. 4.

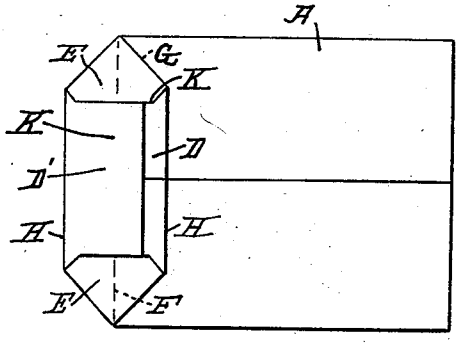


Fig. 5.

Witnesses:
P. P. Sherman.
W. S. Belden.

Edward Thompson
Inventor

by James W. See, Attorney

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD THOMPSON, OF MIDDLETOWN, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE TITUS-GARDNER PAPER AND MANUFACTURING COMPANY, OF SAME PLACE.

PAPER BAG.

SPECIFICATION forming part of Letters Patent No. 519,398, dated May 8, 1894.

Application filed September 19, 1892. Serial No. 446,355. (No model.)

To all whom it may concern:

Be it known that I, EDWARD THOMPSON, of Middletown, Butler county, Ohio, have invented certain new and useful Improvements in Paper Bags, of which the following is a specification.

This invention pertains to improvements in paper bags and my improvements will be readily understood from the following description taken in connection with the accompanying drawings, in which—

Figure 1, is a plan of the flattened tube cut in preparation for the formation of the bag in accordance with my improvements; Fig. 2, a perspective view of the same as it would appear at the first closure at the bottom; Fig. 3, a plan showing the matter of Fig. 2 when the bottom portions are flattened down into the plane of a flat tube; Fig. 4, a view similar to Fig. 3 but showing the bag when the first flap of the superbottom has been pasted down; and Fig. 5, a similar view when the second flap of the superbottom has been pasted down, completing the bag.

In Figs. 3 and 4 the speckled work indicates paste.

In paper bags of the folded bottom variety and designed to contain fine matter, such as flour for instance, considerable difficulty has been heretofore experienced in securing absolute tightness at certain portions of the bottom, due largely to the fact that the numerous thicknesses of material designed to give special strength, and well pasted together in the course of manufacture, produce a thick mass subject to extra shrinkage and lacking in flexibility, the result being the breaking loose of the pasted layers and the leaving of an intricate but nevertheless free channel out of which the contents of the bag could sift. Again, a paper bag filled with fine material, as flour, tends of course in filling to take the form of a cylinder, but this form becomes modified more or less by the form of the bottom, and it is found by experience that bottoms of such form as will greatly flatten the cylinder and produce a comparatively flat package will permit of packages which will stand fairly rough usage in handling and which will pile upon each other satisfactorily sidewise without excessive bursting tendencies and without excessive tendency to overtopple the pile. Doubling the bottoms of paper bags would presumably give increased strength and tightness to the bottoms, but the leaking tendencies which have been referred to have seriously interfered with the merit of double bottoms, and so also double bottoms, as usually constructed, have seriously interfered with the securing of bottom-shapes suited to flat packages.

My improvements secure all of the advantages of the double bottom, and guard against excessive shrinkage or pulling loose of corner folds, and provide for a bottom-form adapted for flat shapes of packages.

My improved bag is formed from the usual tubes.

In the accompanying drawings:—A, indicates the usual tube, of a length appropriate to the bag to be produced: B, a notch cut out of the bottom end of the tube: C, cuts extending in prolongation of the end margins of the notch B: D, one of the flaps thus formed by the cuts C: D′, the opposite flap: E, the flaps formed at the edges of the tube by the end margins of notch B and by the cuts C: F, G, H, and J, lines of fold.

The tube having been cut to the form shown in Fig. 1, the bottom may be folded into the forms indicated in Figs. 2 and 3, one of the flaps E lapping over and pasted to the other flap E so as to form the bottom of the bag, the folds in this formation having taken place on lines F and G. This gives a single thickness for the bottom. Paste is then applied, as indicated in Fig. 3, lines H forming the inner margins of the pasting. Flap D is then folded over onto the bottom, as indicated in Fig. 4, the folding being done on lines H. In Fig. 1 it will be observed that folding lines J are at right angles to folding lines H, but when the flaps E are brought inwardly, as in Fig. 3, then lines J will come into register with lines H. Flap D having been folded over, as in Fig. 4, and pasted down, forms the double of the bottom and at the troublesome point marked K the flap D becomes pasted down upon the single thickness of the bottom thus avoiding the massing of either paper or

paste at these corner points and insuring a sealing and maintenance of the bottom at these points. Let it be noticed in Fig. 4 that flap D does not extend far enough over the bottom of the bag to encroach upon the other pasted portion at the left. This shortage on the part of flap D is due to the cutting of notch B shown in Fig. 1, and this shortening of flaps D and D′ permits not only of lessening the number of thicknesses of paper but permits any desired narrowness to be given to the bottom, thus adapting the bottom to the formation of a flat package. Flap D′ of Fig. 4, is then to be folded over and pasted down, thus completing the bag, as indicated in Fig. 5, the four points indicated by K, marked at one of them only, being thus kept free from accumulations of paste and paper. The major portion of the bottom is then tripled in thickness while points K are kept double thickness only, and the outer face of flap D′ gives an extended surface for printing, if desired. It will be observed, from Fig. 4, that the single thickness of pasted portions of flaps D and D′ is controlled in width by the depth of notch B and cuts C of Fig. 1.

I claim as my invention—

A paper bag formed from a tube A having the cut-away notch B in one end and having cuts C extending in prolongation of the end margins of said notch, and having the flaps E overlapped and pasted and having the flaps D and D′ overlapped and pasted, as and for the purpose set forth.

EDWARD THOMPSON.

Witnesses:

ALFRED B. MUDGETT,

JNO. B. TITUS.