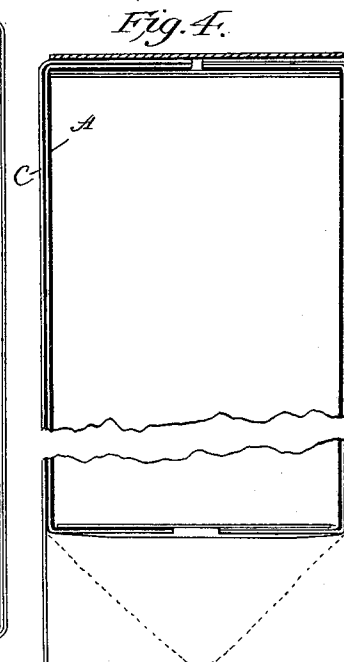
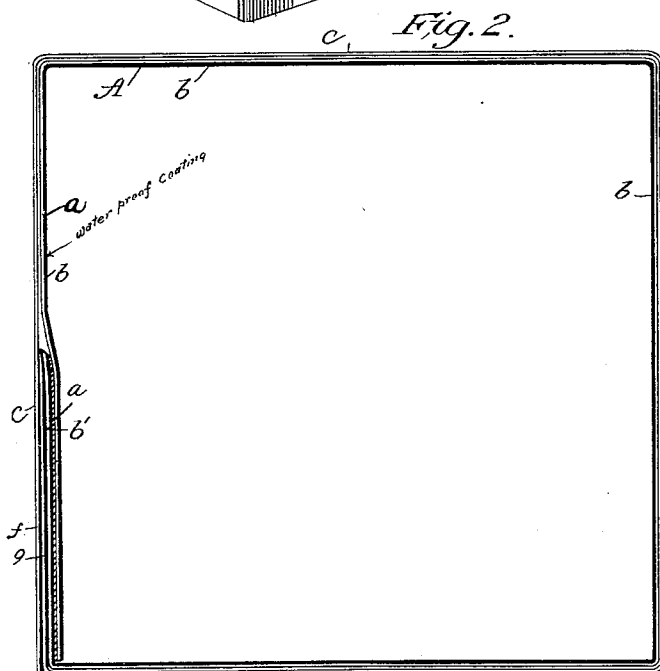
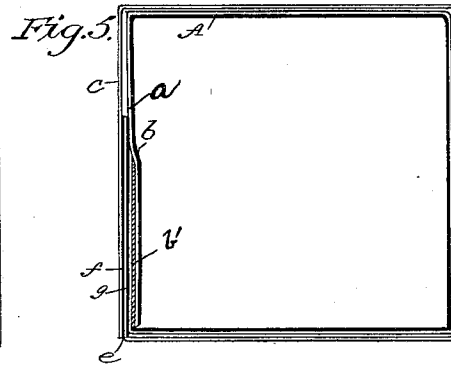
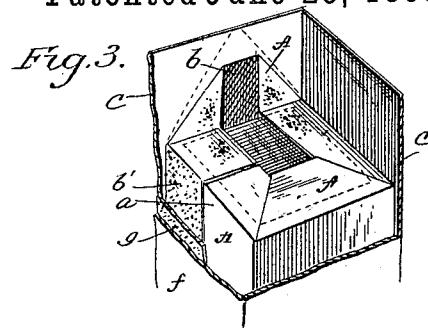
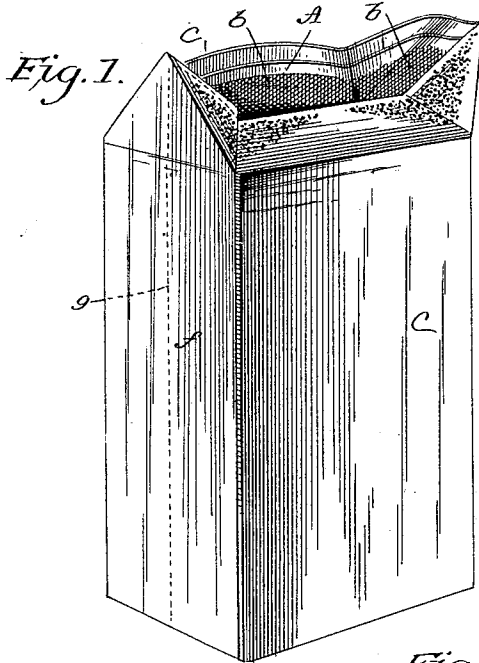


(No Model.)

M. B. CHURCH.
WATER PROOF PACKAGE.

No. 405,871.

Patented June 25, 1889.



Attest
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UNITED STATES PATENT OFFICE.

MELVIN B. CHURCH, OF GRAND RAPIDS, MICHIGAN.

WATER-PROOF PACKAGE.

SPECIFICATION forming part of Letters Patent No. 405,871, dated June 25, 1889.

Application filed December 31, 1887. Serial No. 259,456. (No model.)

To all whom it may concern:

Be it known that I, MELVIN B. CHURCH, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Improvement in Water-Proof Packages; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to water-proof-paper packages. It is designed especially for putting up preparations of pulverized material—such as anti-calculine; but it is adapted for any similar substances which it is desirable to put in water-proof packages. In putting up such packages it has been found necessary to use paste, and where the paper in which the material is wrapped is not water-proof the ordinary paste may be used without difficulty; but when the paper is water-proof or of an oily nature ordinary water-paste will not adhere to it. A non-drying cement or paste will adhere to the water-proof surface, and so will a heated gummy or resinous paste which dries by cooling; but it is impracticable to use a non-drying paste, glue, or cement, for the reason that a non-drying paste or glue composed of oils and gums or similar substances will not harden at all, and will draw apart, and the quick-drying glue or cement or paste or one which dries or hardens by cooling becomes hard and will break.

My invention is designed to overcome these objections; and it consists of an interior wrapping of paper waterproofed on one side, the folds of which are held together by an adhesive non-drying mixture, cement, or glue, in combination with an outer wrap of non-water-proof material, the folds of which are made to adhere by an ordinary water-paste. The result of these combinations is that the inner water-proof wrapper retains the material free from exposure to atmospheric dampness, being made tight by the adhesiveness of the non-drying cement, paste, or glue upon its folds, while the outer package serves to hold the folds of the inner wrap together, and prevents the folds held together by the non-drying or soft cement or glue from slipping or drawing apart.

I have shown in the accompanying drawings, in Figure 1, a package in perspective, the folds at one end being open to show the

inner wrapper. Fig. 2 shows a horizontal section through the inner and outer wrappers. Fig. 3 is a perspective view of the bottom of the package, partly broken away and unfolded. Fig. 4 is a vertical section. Fig. 5 is a modification.

In the drawings A represents the inner wrapper. This is coated with water-proof material *b*, constituting a waterproofed surface on the inside only. The folds *a b'* of the so-surfaced inner wrapper are caused to adhere by a soft or non-drying adhesive material. This may be made in any of the well-known ways, as by a mixture of oil and gums or resins which will adhere to the water-proof surface and will cause the folds to adhere so as to exclude the air and moisture from the contents. Over the inner wrapper I place another *c*, of paper or other similar or equivalent material not waterproofed, and the folds of this I paste by any ordinary water-paste, as shown at *e*, between the folds *f* and *g*. This outer wrapper retains and holds together the inner, and renders the package secure for handling.

The inner wrapper A, having the inner coated surface, is first folded, preferably in the shape shown in Fig. 2, in section with its folds *a b'* overlapping and held together by the non-drying adhesive material, and then the outer wrapper *c* is placed around the inner with one fold *g* pasted to the outer face of the fold *b'* of the inner wrapper. Then the outer wrapper is folded entirely around the inner wrapper, and its opposite fold *f* or margin is folded over upon the margin *g*, and secured thereto by a drying or water paste. Instead of folding the outer wrapper, as shown in Fig. 2, I may, as in Fig. 5, paste the margin *g* of the outer wrapper to the inner wrapper, so as to cover the joint made by the junction of the part *b'* with the body of the inner wrapper by pasting the margin *g* of the outer wrapper partly to the body of the inner wrapper and partly to the fold *b'*, the margin *f* of the outer wrapper being secured in the same manner described in connection with Fig. 2.

The paste on the overlap *f* of *c* closes the edge of the double wrapper, securely sealing the same.

The ends of the double wrapper, formed as above described, are folded down and pasted with a non-drying paste, glue, or cement, mak-

ing a water-proof end. In order to strengthen this end, I place over it a label or suitable piece of paper or other material, which is held by any ordinary outer holding-paste. I do not
5 limit myself in respect to the adhesive material further than this, that the inner and outer must be of the two distinct characters specified.

It will be understood that the inner wrapper, being coated upon one side with a water-proofing material, will not take the ordinary water-paste, and if sealed with any drying-paste which would act upon the water-proof surface this would soon become dry and brittle, and in handling would be likely to separate. For this reason I use a non-drying paste, which remains moist and has a sealing effect, so as to prevent the entrance of moisture, but does not become hard or brittle against separation of the folds; but as it is possible, in view of the fact that it remains moist, to cause the two pasted faces to slip by pulling them apart laterally, I obviate all strain of this kind by the second or outer wrapper, which
25 is folded around the inner, and this outer wrapper is held by ordinary water-paste, which is so adhesive as to prevent all slipping. For the non-drying paste I prefer to use a mixture of castor-oil and rosin cooked together.
30

I claim as my invention—

1. A wrapping for material requiring water-proof packing, consisting of an inner wrapper having a water-proof interior, a non-drying

adhesive and water-proof material between 35 its folds to hold them together, an outer non-water-proof wrapper inclosing the inner, one lap of said outer package being secured to the inner package, and the other or over lap being pasted over the first or under lap, the
40 ends of said inner and outer package being folded down and secured by adhesive material, substantially as described.

2. A wrapping for material requiring water-proof packing, consisting of an inner wrapper 45 having a water-proof interior, a non-drying adhesive and water-proof material between its folds, an outer non-water-proof wrapper inclosing the inner, one lap of said outer package being secured to the inner package 50 at its joint and covering the same, and the other or over lap being pasted over the first or under lap, substantially as described.

3. A wrapping for material requiring to be packed water-proof, consisting of an inner 55 wrapper having a waterproofed surface, a non-drying adhesive material between its folds, and an outer non-waterproofed wrapper having its folds secured by ordinary paste, substantially as described. 60

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MELVIN B. CHURCH.

Witnesses:

A. D. RATHBONE,
O. F. POWELL.