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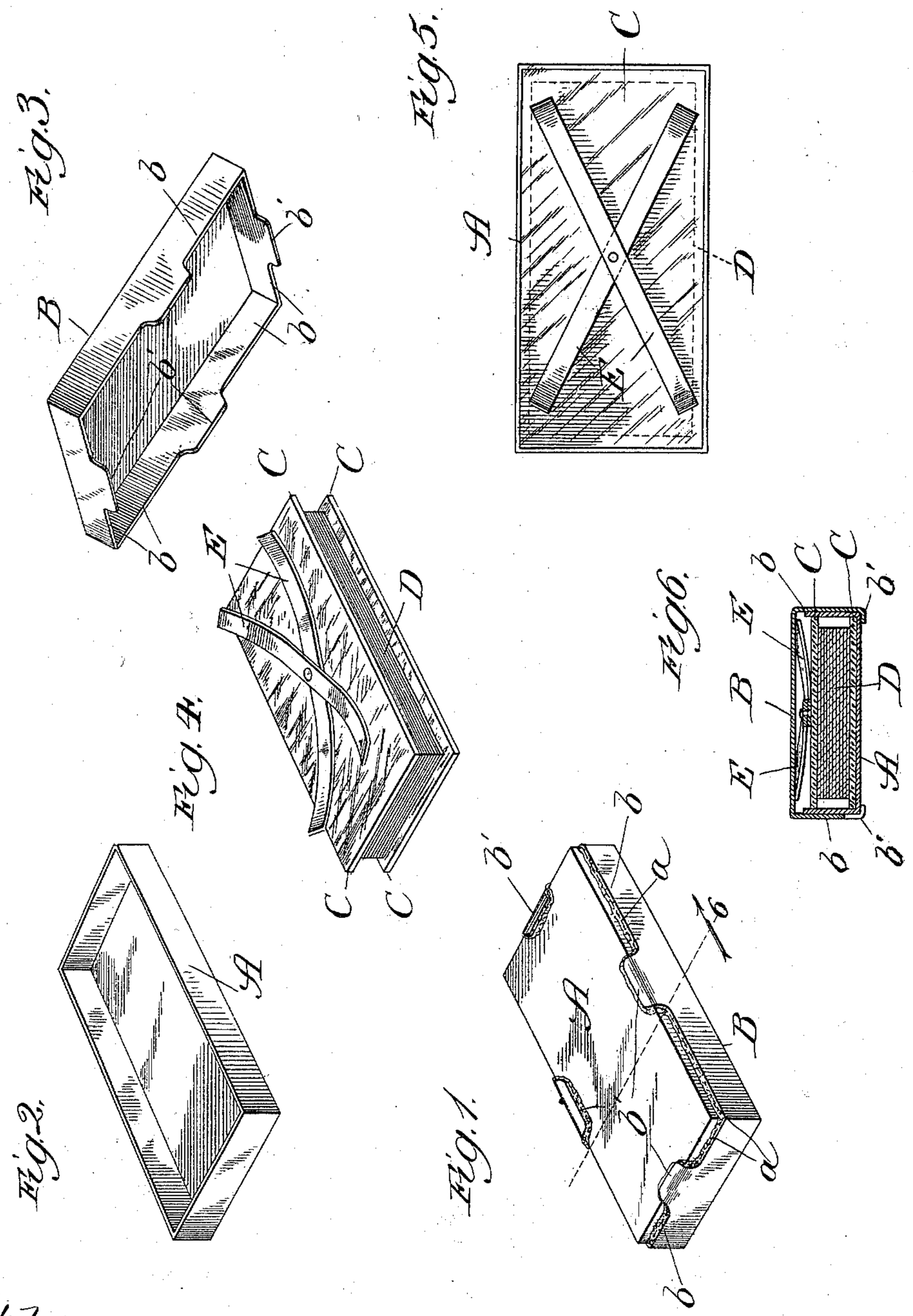
M. J. STEFFENS.

PROCESS OF AND BOX FOR PACKING SENSITIZED MATERIAL.

(Application filed Oct. 3, 1898.)

(No Model.)



Witnesses:
Chas. E. Gaylord,
Luther S. Alter,

Inventor:
Mathew J. Steffens,
By Manning & Manning & Sheridan,
Attys.

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UNITED STATES PATENT OFFICE.

MATHEW J. STEFFENS, OF CHICAGO, ILLINOIS.

PROCESS OF AND BOX FOR PACKING SENSITIZED MATERIAL.

SPECIFICATION forming part of Letters Patent No. 619,097, dated February 7, 1899.

Application filed October 3, 1898. Serial No. 692,469. (No model.)

To all whom it may concern:

Be it known that I, MATHEW J. STEFFENS, a citizen of the United States, residing at Chicago, Illinois, have invented a new and useful Improvement in Processes of and Boxes for Packing Sensitized Material, of which the following is a specification.

In the accompanying drawings, Figure 1 is a bottom perspective view of my improved packing-box, the outer parts being clamped and sealed together; Fig. 2, a perspective view of the bottom portion of the box; Fig. 3, a perspective view of the cover; Fig. 4, a perspective view of the contents of the box removed therefrom; Fig. 5, a plan view of the box with the cover removed, showing the contents in position; and Fig. 6, a transverse sectional view on line 6 of Fig. 1.

In packing sensitized paper, plates, and similar material for use or shipment according to the present practice there is no way of preventing the air and moisture from coming into contact therewith, and consequently no way of preventing the same from being injured and spoiled.

The object of my invention is to obviate this difficulty; and, stated generally, the invention consists in practically excluding air and moisture from the boxes or packages containing the sensitized material through the agency of heat, and thereby permitting the packing and shipping of the same.

In making my improved packing-box I make one part A, which I call the "bottom" or "lower" part, of suitable size, shape, and material, and another part B, which I call the "top" or "cover," in form to fit over the same, its sides and ends *b* extending down so that the bottom portion may be practically inclosed therein. The lower edges of the top or cover are provided with lips or flanges *b'*, preferably one at each side and end, in position to be turned inwardly, so as to firmly and securely clamp the box and cover together, as shown in Fig. 1.

As shown in the drawings, the contents of the box consist, essentially, of two plates C, made of glass, fiber, hard rubber, or other suitable material, sensitized paper, plates, or other material D between the plates C, and a spring or springs E between one of said plates and the bottom or cover of the box. The construction and arrangement of these parts will be apparent from the drawings, particularly Fig. 4; but of the springs it may be said that I prefer to make them in the form shown, so that their central portion will rest against one of the plates C and their ends extend upwardly or downwardly, so as to come in contact with the cover or bottom near the several corners thereof. This arrangement of the springs prevents them from bulging or bursting out the top or bottom when the parts are pressed and clamped together. As shown, two separate springs are used crossing each other diagonally but these springs may be riveted or otherwise fastened together, or different forms of springs may be used, as desired—as, for instance, vertical coil-springs. If desired, springs may be used on each side of the plates C, so as to come in contact with both the bottom and cover; but generally a spring or springs on one side will be sufficient.

In putting in the contents I first put one of the plates C in the bottom portion of the box and on this plate put the sensitized plates, paper, or other material, which is preferably made of a slightly-smaller size, as shown in Fig. 4, so as to not come in contact with the sides of the box. The sensitized paper, plates, and material being thus put in, I put the second plate C thereon and place the springs in position on this plate. I then put on the cover, the sides and ends of which fit down over the bottom portion of the box, as above described, and the cover being forced down to the desired position I turn the lips or flanges inwardly and down into contact with the bottom of the box, thus clamping all the parts closely and firmly together, as shown in Fig. 1. The box and plates C should, of course, be kept warm while the sensitized material is being put in, and when everything is in place, as above described, the box should, of course, be sealed, as at *a*, before cooling, so as to prevent the entrance of air. When it is desired to take out the contents, the seal is destroyed and the lips or flanges unclamped, after which all the parts may be readily separated or taken apart.

It will be apparent to those skilled in the art that my device differs in principle from those employed in the hermetic packing of food compounds in that in the latter cases the

air is excluded and the heat is employed to get rid of the germs of fermentation, while in my case the air is excluded and heat is applied for the purpose of getting rid of the moisture in or on the sensitized material, which, as is well known, will, if present, soon destroy the same. I accomplish this result by first applying a suitable pressure, which excludes most of said moisture, and then heating the paper and plates, which expels the remaining portion, and then by suitably sealing the box or package the contents are preserved for an indefinite time.

I claim—

1. The process of preserving sensitized material which consists in packing the same, heating the package and sensitized material to exclude moisture and hermetically sealing the same, substantially as described.

2. The process of preserving sensitized material which consists in packing the same, subjecting the sensitized material to pressure, heating the package and sensitized material and hermetically sealing the same, whereby substantially all moisture is prevented from entering said package, substantially as described.

3. A package containing sensitized material and consisting of plates for holding said material, means for excluding moisture and for holding the same under pressure and for hermetically sealing said package whereby substantially all moisture is prevented from reëntering the same, substantially as described.

4. A packing-box comprising a body portion, a covering portion fitting over the body portion and having lips or flanges turned inwardly thereon and securely clamping and holding the two portions together, two plates inside the box, one at each side of the sensitized material, and a spring or springs for compressing said material, and means for excluding moisture and preventing the reëntrance of the same into the box, substantially as described.

5. In a packing-box, the combination of two plates, one at the bottom and one at the top of the box, sensitized material between the plates of a size slightly smaller than the same, and a spring or springs for compressing the same and means for excluding moisture by heating and preventing the reëntrance of the same into the box, substantially as described.

6. In a package for holding sensitized material, the combination of a top and bottom portion, two plates formed of glass or similar material arranged in the package one at the top and one near the bottom thereof, sensitized material between the plates of a size slightly smaller than the plates, and a spring or springs inside the package and between one of the plates and the top or bottom portion, and means for heating and sealing the package, whereby moisture is expelled and prevented from reëntering the same, substantially as described.

7. In a package for holding sensitized material, the combination of two plates formed of glass or similar material arranged one at the top and one at the bottom thereof, sensitized material between the plates of a size slightly smaller than the plates, and means for heating and holding the plates with the interposed material under pressure and sealing the package, whereby moisture is expelled and excluded from the same, substantially as described.

MATHEW J. STEFFENS.

Witnesses:

EPHRAIM BANNING,
ANNIE C. COURTENAY.