March 29, 1949. F. A. SANDERS 2,465,755

INK PACKAGE HAVING AN ADJUSTABLE SEALER

Filed May 23, 1946 2 Sheets-Sheet 1

FIG. 1

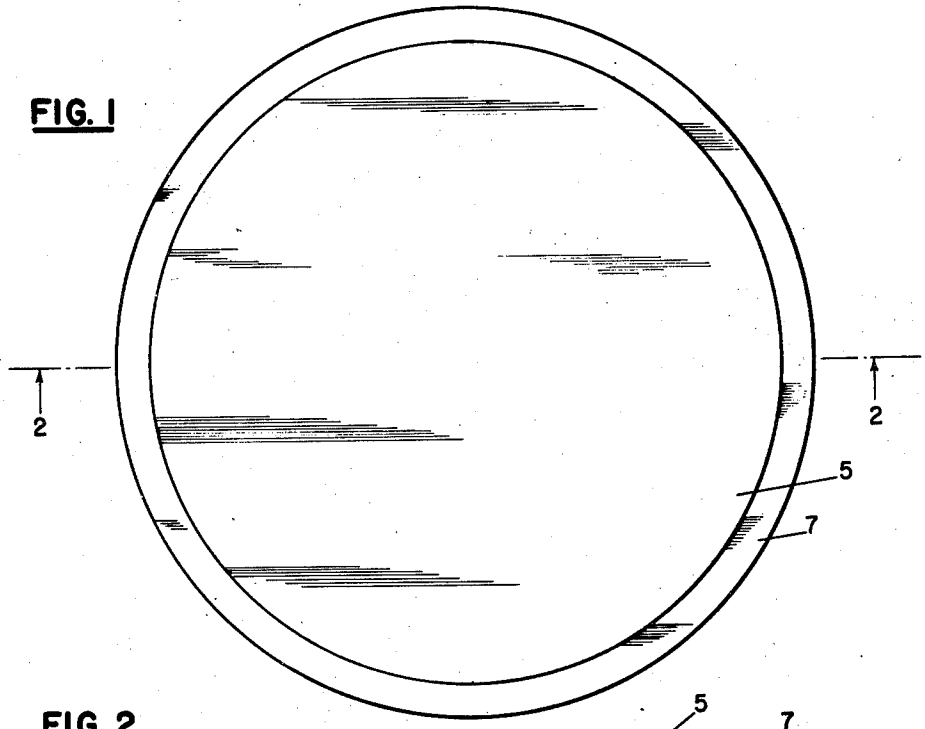


FIG. 2

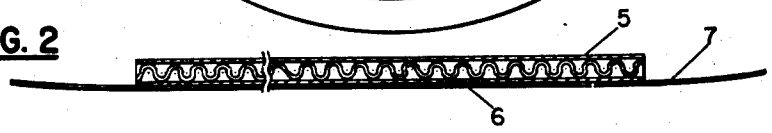
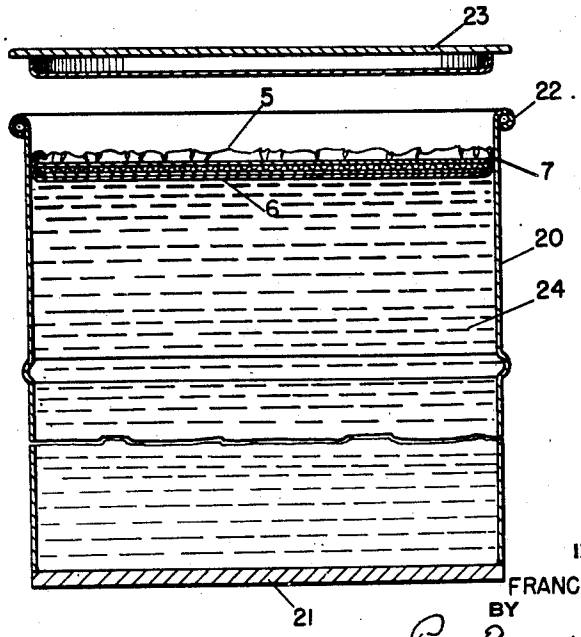


FIG. 5



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FIG. 3

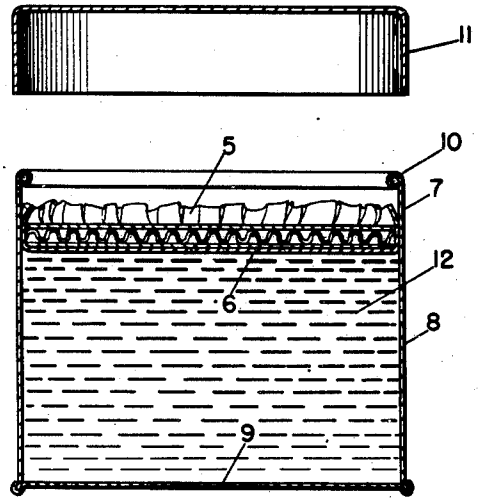
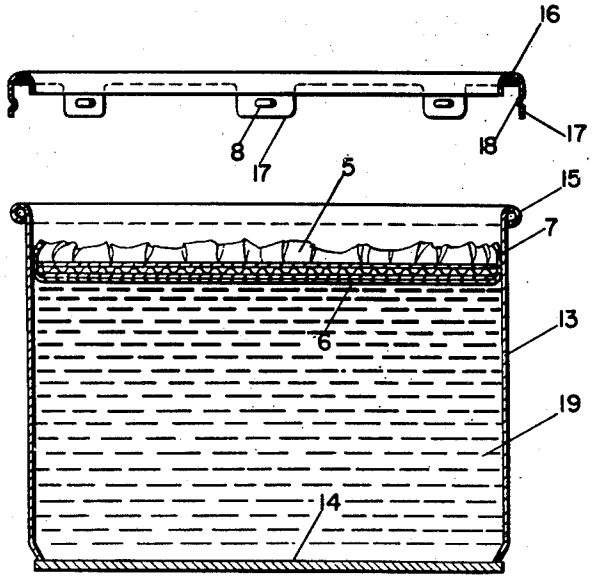


FIG. 4



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Patented Mar. 29, 1949 2,465,755

UNITED STATES PATENT OFFICE

2,465,755

INK PACKAGE HAVING AN ADJUSTABLE SEALER

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Application May 23, 1946, Serial No. 671,733

1 Claim. (Cl. 206—46)

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This invention relates to containers, and more particularly to a sealer adapted for use in printing ink containers to avoid contact of atmospheric oxygen with the ink during shipment and storage.

Printing inks are generally more or less viscous liquids consisting of oily or resinous vehicles in which suitable coloring agents are suspended. The vehicles are quite susceptible to surface oxidation and resultant skinning when exposed to the atmosphere.

To avoid such oxidation, it has been the practice to place a sheet of paper over the ink in the container before the cover is applied. The cans, pails or drums in which the ink is shipped are often tilted or rolled on their sides during handling and shipping. As a result, the ink flows around the edges of the sheet and onto the top thereof. Frequently the paper becomes submerged in the ink and an attempt to remove it leaves small pieces of paper immersed in the ink body. An oxidized skin may form on the ink, and this skin is often broken into pieces which are mixed with the ink. This contamination may cause difficulty in the distributing system of the printing press on which the ink is used.

It is the object of the present invention to provide a more satisfactory sealer to protect the surface of the ink, avoiding the difficulty experienced in the use of a simple sheet of paper.

Other objects and advantages of the invention will be apparent as it is better understood by reference to the following specification and the accompanying drawing, in which

Fig. 1 is a plan view of a sealer embodying the invention;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a vertical sectional view of an ink can and cover showing the sealer in place;

Fig. 4 is a similar view of an ink pail and cover; and

Fig. 5 is a similar view of an ink drum and cover.

Ink is packed for shipment in cans, pails or drums. The cans are relatively small, cylindrical containers, usually less than eight inches in diameter and depth, although they may vary in size up to about three gallons capacity. Pails are larger containers, similar in form to the cans, but capable of holding usually three gallons or more of ink. Drums are large cylindrical containers normally having a capacity of about fifty-five gallons of ink. Obviously the particular size of the container has no importance in respect to the invention, which is applicable to ink containers of any shape and size.

The sealer, according to the invention, includes a relatively stiff member of any suitable light-weight material. I prefer to employ corrugated board, although cardboard, pressboard,

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fiberboard or any similar material may be used. Plywood, metal or plastic could also be used for the stiff member. The member is shaped to conform to the form of the container and is slightly smaller so that it may slip readily into the mouth of the container. To the underside of the stiff member a sheet of ink-impervious paper or like material is suitably secured. The dimensions of the sheet are such as to provide a projecting skirt about the periphery of the stiff member. Waxed Kraft paper is suitable for the purpose, but other waxed, parchmentized or similarly treated paper, "cellophane" or glassine may be used. A fabric treated with a plastic such as "Koroseal" could also be used. The object of treating the paper is to prevent loose fibers from the paper from separating and contaminating the ink.

Referring to the drawing, 5 indicates the stiff member which, as shown, is circular in form for use in a cylindrical container, and is made of corrugated board which is preferred because of its relative stiffness in proportion to weight. To the underside of the member 5, a sheet 6 of suitable material, as hereinbefore described, is secured with a skirt 7 projecting beyond the periphery of the stiff member. The skirt is distortable so that when the sealer is introduced into the container above the ink therein, the skirt will project upwardly against the wall of the container.

The application of the invention is illustrated in Figs. 3–5 inclusive. In Fig. 3, 8 indicates a cylindrical can of metal or other suitable material having a bottom 9, a rolled edge 10 and a removable cover 11. Above the body of ink 12 therein, is a sealer consisting of the member 5 and the sheet 6 with the skirt 7 upwardly directed and resting against the wall of the container.

In Fig. 4, a cylindrical pail 13 is provided with a bottom 14, a rolled edge 15, and a cover 16, the latter having depending ears 17 with indentations 18 which are adapted to snap over the beaded edge 15 to hold the cover in place. Within the pail, above the body of ink 19 therein, the sealer comprises the stiff member 5, the sheet 6 and the skirt 7 projecting upwardly against the wall of the pail.

In Fig. 5, I have illustrated the application of the invention to a drum 20 having a bottom 21 and a beaded edge 22. A friction cover 23 is adapted to be inserted in the mouth of the drum. Above the body of ink 24 in the drum, the sealer, consisting of the stiff member 5, the sheet 6 and the skirt 7, is inserted with the skirt 7 projecting upwardly against the surface of the drum.

In each of these applications of the invention, which differ merely in respect to the size of the container, the stiff member 5 prevents buckling

of the sealer if the container is shifted from its vertical position. The sheet 6 protects the surface of the ink from contact with the atmosphere and, being impervious to the ink, prevents any of it from reaching the upper surface. The skirt 7, engaging the wall of the container, prevents the ink from flowing around the edges of the sealer and thus overflowing the upper surface thereof. Experience has demonstrated that with a sealer as herein described the cans, pails or drums may be shifted from vertical position and even rolled on their sides without permitting the sealer to sink into the ink or to become distorted. When the ink is to be used, the sealer is rapidly removed without any possibility of contaminating the ink, and if all of the contents are not immediately used, the sealer may be reinserted to protect the ink from atmospheric oxidation.

Various changes may be made in the form and dimensions of the container as well as in the particular structure and materials of the sealer without departing from the invention or sacrificing the advantages thereof.

I claim:

A package comprising a container, a cover for the container, a body of ink in the container, a sealer extending transversely of the container between the end thereof and said body of ink and resting upon the upper surface of the body of ink and sealing it from exposure to the air, said sealer comprising a relatively stiff sheet-like member shaped to conform to the cross-section of the space defined by the walls of the container, but slightly smaller, and a sheet of flexible ink-impervious material secured to the under side of the stiff member, said sheet being of larger surface area than said member and forming a distortable skirt which extends upwardly about the entire periphery thereof and engages the inner periphery of the container, said skirt lying wholly within the confines of the container the size of said member relative to the cross section of the container being such that it forces the upwardly-extending portion of said sheet into such frictional contact with the inner periphery of the container that the sealer will normally maintain its position in contact with the surface of the ink but may be removed to give access to the ink.

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