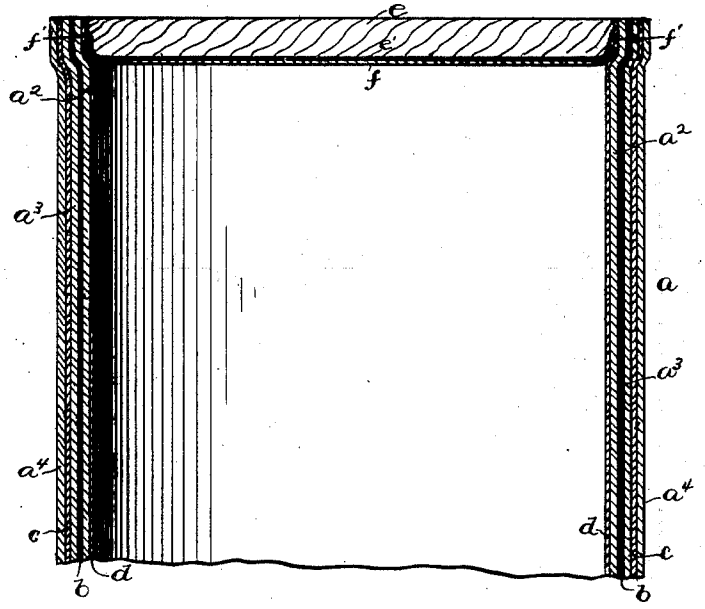
(No Model.)

A. T. CWERDINSKI.

PAPER CAN.

No. 485,158. Patented Oct. 25, 1892.

Fig. 1



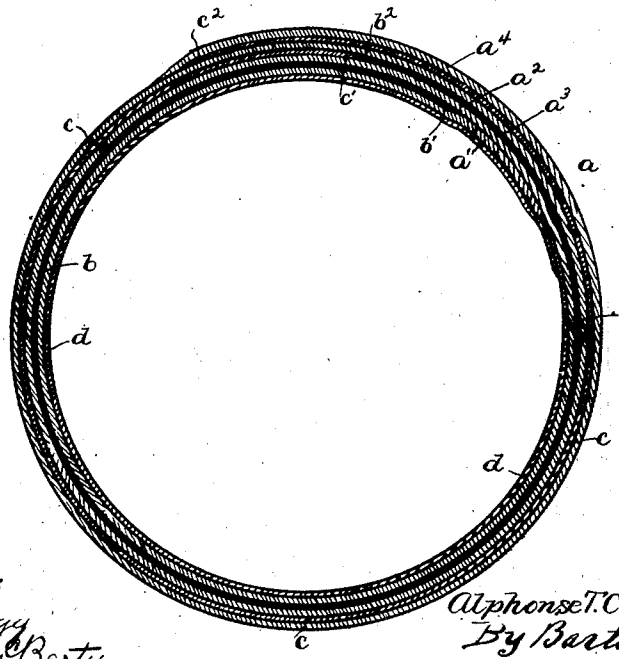


Fig. 2

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UNITED STATES PATENT OFFICE.

ALPHONSE T. CWERDINSKI, OF CHICAGO, ILLINOIS.

PAPER CAN.

SPECIFICATION forming part of Letters Patent No. 485,158, dated October 25, 1892.

Application filed December 15, 1891. Serial No. 415,112. (No model.)

To all whom it may concern:

Be it known that I, ALPHONSE T. CWERDINSKI, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Paper Cans, (Case No. 1,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to cans or boxes for holding articles of food, such as jelly, sirup, and lard—in fact, anything which it may be found convenient to put up and sell in original packages. Heretofore glass jars and tin cans have been most extensively used for this purpose.

The primary object of my invention is to produce as an article of new manufacture a cylindrical case having paper sides composed of several layers or convolutions of paper and having rigid ends composed, preferably, of wood, though stiff paper-board like that made from paper-pulp might be employed. Heretofore it has been attempted to construct such cases from paper, and in some instances paraffine-paper has been employed as a lining or inside layer. Parchment or waterproof paper has also sometimes been employed, this parchment-paper having been formed into the desired shape and placed within the outer portion of the box or casing, composed, usually, of straw or Manila paper.

My invention is of special utility in the manufacture of cases designed to contain foods which are placed therein when hot or heated, which would ooze through the paper when arranged as has been common heretofore. Thus where the inside lining has been of paraffine-paper the paraffine, becoming melted, would rise to the top of the heated contents of the case.

My invention consists more particularly in forming the cylindrical sides or portions of the can out of a strip of paper wound upon itself and interposing between the layers thereof, first, a winding of paraffine-paper, and next and preferably after the next convolution a layer of waterproof paper. In connection with this arrangement I preferably employ a lining of parchment or waterproof paper, this being desirable, for example, if the can or case is intended for holding substances which might be injuriously affected by coming directly in contact with the straw or other paper forming the principal portion of the body of the can. As many convolutions of the straw paper may be continued outside the outer layer of parchment-paper as may be desired to give strength to the cylinder. The heads or ends of the case are preferably made slightly greater in diameter than the diameter of the opening of the cylinder, and the inner edge of each of these heads being rounded off, these heads may be forced into the ends of the cylinder, and the paper expanding somewhat tight joints will be formed. These heads I preferably coat with paraffine and lay a piece of paper over them, which will turn over the edges thereof a short distance. The outer portion of the edge of each head or end piece is brought directly in contact with the interior of the cylinder, and I preferably make the joint more secure by means of suitable cement or paste.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a central vertical section of a paper can or case embodying my invention, the lower end thereof being broken away. Fig. 2 is a horizontal sectional view of the same.

Like parts are indicated by similar letters of reference throughout the different figures.

The cylindrical portion of the can is formed, as shown most clearly in Fig. 2, of a piece a of strong cheap paper, as straw paper, wound upon itself in several convolutions $a' a^2 a^3 a^4$, &c. These convolutions constitute the main body or framework of the cylindrical portion of the case. The inner convolution a', as shown in Fig. 2, is pasted or glued for a proper distance to the convolution a^2. The distance these two convolutions are directly in contact may vary according to circumstances. I have found that if the two convolutions are cemented together for the distance

of two inches or even less it is usually sufficient, though I have sometimes let the inner convolution a' touch the next convolution a^2 for a distance equal to half or more than one-half the circumference of the cylinder. I then interpose or "interleave," so to speak, a convolution b of paraffine-paper. The ends b' b^2 of this paraffine-paper preferably overlap or pass by one another, so as to break joints on opposite sides the convolution a^2, as shown. Next in order I interleave the convolution c of parchment-paper, which is practically impervious to paraffine, though the paraffine may be melted. Parchment-paper is also practically waterproof, though not in the sense or to the degree that paraffine-paper is waterproof, for moisture will work through parchment-paper to a limited extent. The ends c' c^2 of the parchment-paper preferably pass by one another to break joints, as shown.

As many additional convolutions of the main piece or body of the cylinder are added as may be desired to give the cylinder proper strength.

As shown in the drawings, I preferably provide an inner layer or convolution d of parchment-paper to more securely protect the contents of the case from contact or commingling in the slighest degree with the paraffine or any deleterious substance that might by chance be present in the straw or other coarse paper.

The manner of constructing the heads or end pieces will be most readily understood by reference to Fig. 1. It will be seen that the head e is made to fit the interior of the cylinder. The inner face e' thereof I preferably coat with paraffine. The paper disk f is preferably of parchment paper and of only sufficient size to allow the edge f' to lap over the rounded inner edge of the stopper or head e, so that the outer portion of the edge of the stopper may come directly against and be cemented directly to the lining d or the inner portion of the cylinder, whatever it may be. The other head or end of the case may be constructed and secured in place the same as described with respect to the head e. Heretofore heavy paper or pasteboard has been used for pails and cans or cases, as is shown in Letters Patent No. 140,148, granted Robert Mansure June 24, 1873; No. 156,694, granted George H. Chinnock November 10, 1874, and No. 336,963, granted James Tomlinson March 2, 1886. In the said Tomlinson patent a scroll of wood is employed wound upon itself, and a strip of cloth or paper is inserted between the convolutions or turns. In the Chinnock patent a shell of wood or paper is provided, between which an internal layer of inodorous and tasteless paper and an intermediate air and water proof layer of shellac, paraffine, or equivalent is interposed. In the patent to Mansure the paper is cemented together and lined with tin-foil. Neither form of these prior cases or pails would answer for preserving articles of food which must be kept for a considerable period of time. I have attempted to use the forms shown in the Mansure and the Chinnock patents, but without success, because the article of food, as fruit-preserves, would work through and become damaged in a short time. By completely surrounding the interleaved paraffine-paper with an interleaved layer of parchment-paper, there being between the parchment-paper and the paraffine one or more layers or turns of the pasteboard, I produce a case that is found entirely satisfactory.

My case as thus constructed is adapted to receive articles of food or anything it may be desired to put up in this way while hot and in a liquid or plastic condition. The top or upper stopper being inserted and made tight, the contents will be secured against moisture and kept from evaporating for an indefinite period of time. My paper can, thus constructed, is adapted for most of uses to which tin cans have been put heretofore and is found cheaper and much more convenient to open.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The can or case consisting of the cylinder formed of the continuous piece of paper wound upon itself and interleaved paraffine-paper between the inner convolutions and the interleaved parchment-paper exterior to the convolutions between which the paraffine-paper is placed, in combination with rigid heads or end pieces inserted in the ends of the cylinder and forming tight joints therewith, substantially as specified.

2. As an article of new manufacture, a paper can or case consisting of a cylindrical portion having the body or main portion a thereof formed of a piece of stiff paper wound in convolutions upon itself, the inner convolution a' being cemented for a distance to the next convolution a^2, the interposed enveloping-convolution of paraffine-paper b, and the parchment c, exterior to the paraffine-paper and separated therefrom by a convolution of the said stiff paper, and a lining b, of parchment-paper, in combination with end pieces adapted to be inserted in said cylinder to close the same, substantially as specified.

3. The head or stopper e, paraffined upon its under surface e', in combination with the disk f, having its edge f' overlapping the rounded inner edge of said stopper, said stopper being inserted in the end of the cylinder and cemented at its outer edge directly to the inner edge of the cylinder, said outer edge of the stopper being slightly larger than the inner diameter of the cylinder to enlarge the same when inserted, as specified.

4. The cylinder adapted to form the sides of a can, said cylinder consisting of layers of

stiff paper, in combination with a layer of paraffined paper inclosed between the layers of stiff paper, said paraffined paper being surrounded by a convolution of parchment-paper placed exterior thereto and separated therefrom by the stiff paper, substantially as specified.

In witness whereof I hereunto subscribe my name this 12th day of December, A. D. 1891.

ALPHONSE T. CWERDINSKI.

Witnesses:
GEORGE P. BARTON,
GEORGE L. CRAGG.