

June 18, 1929.

B. S. CLARK

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PROCESS OF APPLYING COMPOUND PAPER GASKETS

Filed April 4, 1921

Fig-1

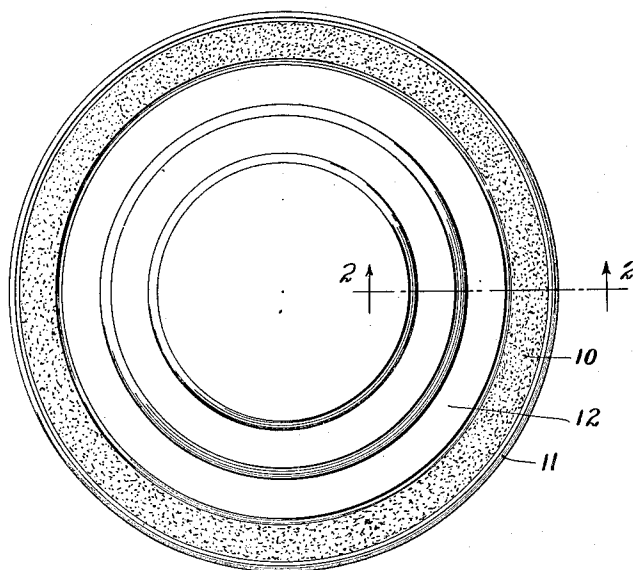
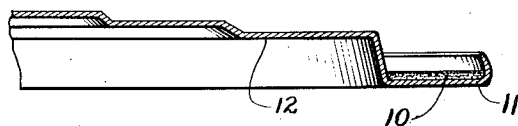


Fig-2



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UNITED STATES PATENT OFFICE.

BERTON S. CLARK, OF MAYWOOD, ILLINOIS, ASSIGNOR TO AMERICAN CAN COMPANY,
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PROCESS OF APPLYING COMPOUND PAPER GASKETS.

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This invention relates in general to can end seams, and has more particular reference to the provision of a gasket to be included in the seam of a sanitary can which will insure, in greater degree than has been heretofore possible, the production of hermetic seaming.

The cans referred to are of the sanitary character in which no solder is employed in the seaming, complete sealing being sought through the tight interfolding of flanges upon the end and body with an interposed gasket. Cans of this character are used largely in the packaging of food products and are completely processed and seamed to provide a vacuum within the can as an incident to the cooling and condensation of the contents, which vacuum must be preserved to insure against spoilage. So long as the vacuum be maintained germ-laden air cannot enter the can to start fermentation or decay.

In the past two characters of gaskets have been employed, namely: a compound of rubber material, and a fibre or paper ring, and each requires extreme accuracy of setting of the seaming rolls, and even when the seaming rolls are accurately set a small percentage of leaks occur.

The invention has for its principal object the provision of a gasket for this purpose, which will reduce the leakage to a minimum and which will not require the now necessary accuracy of roll adjustment. In this connection it is to be remembered that in the manufacture of tin cans for the packing of food products and for other purposes one end of the can is secured to the body at the can factory and the other by closing machines operated by packers themselves and these packers frequently lack operatives highly skilled in the handling of the closing machines and particularly in the maintenance of roll adjustment.

A frequent source of can leakage occurs on account of the slight wrinkling of the edge of the can cover when it is curled around the flange of the can body by the interfolding action of the seam forming roller. This wrinkling is present to some extent in almost all seams and the little ridges formed thereby tend to press unevenly on the paper gasket if they are not completely ironed out in the final rolling operation which fully closes and completes the interfolding of the

cover and body flanges to form the completed seam. When a plastic compound is used it cannot be applied in sufficient quantity to fill up any such wrinkling that may exist, because of its plasticity, which will permit it to exude into the can when subjected to sufficient pressure to thoroughly iron out the small wrinkles.

The invention therefore contemplates the provision of a compound in which is incorporated a body material that will impart to the composition a certain amount of compressibility but will prevent it from flowing under the pressure necessary to properly close the seams in which it is used. By being compressible and resilient and not having a tendency to flow under pressure, it will be placed under a tension when enclosed in a double seam and will thus have a tendency to continually conform itself to the spaces in the seam and follow their contraction and expansion if there is any, and always thereby maintain a hermetic seal. The material that seems the best from present practice and advice is of a wood pulp or paper fibre nature combined with a compound of a character similar to that already in use.

Another object of the invention is the provision of a material of this character, but sufficiently fluid in its preparation to be handled in the ordinary compound lining machines now in use for lining can ends with the ordinary compound, and to be dried in the machines now used for drying lined ends, so that its advantages may be obtained without the necessity of replacing already installed equipment.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawing,

Figure 1 is a top plan view of a lined can end embodying my present invention; and

Fig. 2 is an enlarged section on the line 2—2 of the same.

The compound selected as an embodiment of the invention is shown at 10 on the usual flange 11 of the can end 12.

This compound itself has the usual properties of the compound heretofore employed in lining can ends. The basis for this is

rubber and I contemplate the production of an emulsion of rubber and fibre or wood particles from which the rubber and wood particles may be deposited upon the can end without requiring too great drying effort. I have found that a suitable emulsifier having a unit formula as follows is effective:—To 100 cubic centimeters of water is added 5 grams of zinc chloride and 20 cubic centimeters of ammonium hydroxide. To this emulsifier is added 50 cubic centimeters of benzole and 300 cubic centimeters of 6% rubber solution. To this is added the wood fibre to the amount of from probably 10 to 20 grams of 60 mesh fibre wood screenings, the whole is thoroughly shaken and it will be found that the wood fibres stay in suspended condition. The zinc chloride and the rubber form a colloidal solution and it is believed that through colloidal action they hold the wood fibres in suspended emulsified condition in the liquid. The liquid has a specific gravity less than the wood. This material may be applied to the flange of the can end in the ordinary compound lining machine and the cans thus lined may be passed through the drier of a lining machine and stacked away for a few days in the open air to season. After the liquid contents of the emulsion have evaporated the desired gasket composed of the rubber constituents and the fibrous material remains in the can end and forms the desired gasket.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the formulas above set forth for the purposes of illustration without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A flange lining material for forming a gasket to be included between interfolded flanges in the formation of an hermetic double seam between a flanged can end and a flanged can body, comprising an emulsified rubber solution, containing fibres, and zinc chloride.

2. A flange lining material for forming a gasket to be included between interfolded flanges in the formation of an hermetic double seam between a flanged can end and a flanged can body, comprising a rubber solution, wood fibres, and zinc chloride.

3. The process of preparing can ends for hermetic sealing, which consists in making an emulsion containing water, zinc chloride, ammonium hydroxide, benzole, rubber and fibrous material, applying the emulsion to the sealing portions of the can ends, and drying the emulsion.

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