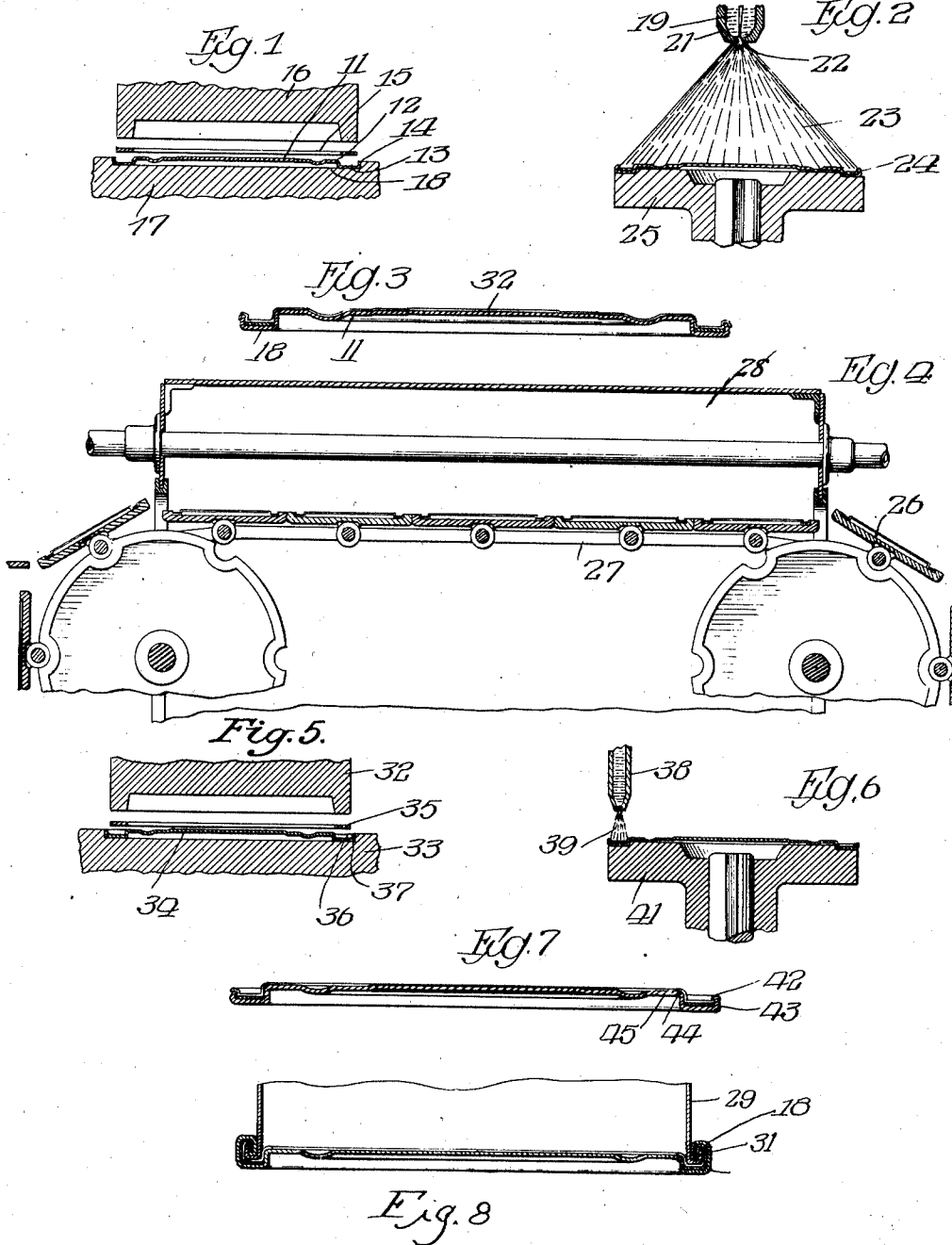


F. EBERHART.
PROCESS OF PREPARING SANITARY CAN ENDS.
APPLICATION FILED JUNE 8, 1918.

1,373,060.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FELIX EBERHART, a citizen of the United States, residing in Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Processes of Preparing Sanitary Can Ends, of which the following is a specification.

This invention relates in general to hermetically sealed containers or cans and more particularly to the gasket-lined sanitary can, in which a paper or fibrous gasket liner is applied to the flange of a flanged can end, to be interfolded with the flange of a flanged can body to form a permanent hermetic joint or seam. This character of can is used largely in the packaging of food products, vegetables, fruit and the like, which have a liquid or syrupy content. Where cans of this character are filled and closed by automatic machinery the liquid sometimes comes in contact with the paper of the gasket after the end is applied and before final closure of the seam, occasionally causing it to swell and endangering the certain subsequent formation of a hermetic double seam in the interfolding of the flanges of the end and body with the gasket between them. If too much moisture is absorbed by the gasket before the double seam is fully and tightly formed water-pockets may occur in the seam through the collection of small quantities of moisture retained in the seam, which in time evaporate, leaving a porous spot and resulting in a leak. Sometimes also this moisture produces a drop in the seam, which, being incompressible, interferes with the perfect forming of the double seam.

This invention has for its object the prevention of absorption by the gasket of some of the liquid of the content of the can, and this without detracting from the fibrous nature of the gasket or its flexibility and sealing qualities in the seam. The invention contemplates the provision of a new method or process of closing cans of this character, a new method or process of preparing a can end for the forming of a closure, and the provision of an improved lined can end.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description when considered in connection

with the accompanying drawing illustrating a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a partial section through an apparatus for assembling a gasket liner upon a can end;

Fig. 2 is a similar view through a form of apparatus for applying the proofing material to the can end after it has received the gasket;

Fig. 3 is a section through a can end prepared in accordance with and embodying my present invention;

Fig. 4 is a partial section through an apparatus for drying or baking the proofing compound upon the can ends;

Figs. 5, 6 and 7 represent a slightly different application of the invention, Fig. 5 being like Fig. 1 in showing the application of the gasket liner to the can end, Fig. 6 showing a slightly different application of the proofing material, and Fig. 7 is a view, like Fig. 3, of a can end resulting from the second application of the invention;

Fig. 8 is a view showing the end seamed to a can body.

Considering first the form of the invention shown in Figs. 1 to 4 and 8, it will be noted that in Fig. 1 the can end generally indicated at 11 consists of a central portion 12 having an offset flange 13 terminating in an upwardly and slightly inwardly bent or curled edge 14. A paper or fibrous ring or gasket 15 is provided and this ring or gasket is adapted to be forced past the curled over edge 14 of the can end. Fig. 1 shows a mechanism for accomplishing this and comprising a plunger 16 cooperating with a holding member 17 for the can end, the end being placed in a recess 18 of the member 17 and the gasket above the can end and below the plunger 16. The plunger on moving down by any suitable mechanism forces the gasket past the curled edge and the parts are preferably so constructed that the gasket is compressed slightly in entering into the groove past the curl of the can end, so that its outer edge expanding is disposed beneath the curled over edge 14 of the end. The can end after the gasket has been assembled with it receives a coating of elastic lacquer or rubber compound upon its exposed portions, which coating extends over onto adjacent parts of the can end and in the present instance over the entire adjacent surface.

This lacquer or rubber proofing material is contained at 19 within a suitable reservoir 21 having a spraying aperture 22 at its bottom for spraying the material, as indicated at 23, over the lined can end 24, which for the purpose is carried upon a suitable support such as a rotating chuck 25. After the can end and gasket have received this coating the treated can end is put upon a receiving plate 26 of a continuously moving conveyer 27 passing through a drying box 28, which dries or sets the coating. The end thus prepared is complete and is subsequently positioned upon a container body 29 (Fig. 8) having a flange 31 adapted to be interfolded with the flange 13 of the can end 11, the proofing remaining in the present instance in the form of a coating 32 over the gasket to prevent absorption of the contents prior to final formation of the double seam, formed by interfolding flanges 18 and 31. The application of the invention shown in Figs. 5 to 7 is the same as that already described, except that the coating instead of being applied over the entire can end is applied in the form of an annulus or ring on the gasket and extending over onto the material of the end at each side, as seen in Fig. 7.

Viewing Fig. 5, reference character 32 indicates the assembling plunger, and reference character 33 the cooperating member for carrying the can ends 34 when the gasket 35 is seated in the channel 36 of the end flange 37.

Fig. 6 shows a nozzle 38 for spraying coating or proofing material 39 over a part only of the can end—i. e., the part occupied by the gasket, the coating extending onto the edge of the flange and adjacent portion of the body of the end. The end during this operation is carried in a chuck 41, like the chuck 25.

Viewing Fig. 7, it will be noted that the coating thus applied has a part 42 extending over the curled edge 43 of the can end and the portion 44 extending up onto the body or central part 45 of the end. This last application of the invention accomplishes a saving of material, lacquer or rubber compound, and for a great many uses is

amply sufficient. However, some cans are completely lacquered internally and by the use of the earlier application of the invention the lacquering of the end and the complete end with the gasket can be a single operation.

It is thought that the invention and many of its attendant advantages will be better understood from the foregoing description and it will be apparent that various changes may be made in the form, construction and arrangement of the parts 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. The herein described process which consists in providing a can end having a peripheral flange adapted to be seamed into a double seam with the flange of a can body, seating a fibrous flexible gasket on said can end flange, and coating said gasket on its outer face with a liquid proofing material which is elastic and rendering said gasket proof against the absorption of liquid and also leaving it flexible to be doubled and formed into an hermetic seam without cracking.

2. The herein described process which consists in providing a can end having a peripheral flange adapted to be seamed into a double seam with the flange of a can body, seating a fibrous flexible gasket on said can end flange, and coating said gasket on its outer face with a liquid proofing material which is elastic and rendering said gasket proof against the absorption of liquid and also leaving it flexible to be doubled and formed into an hermetic seam without cracking, and seaming together the flanges of the can end and can body and with said gasket interposed, whereby is formed an hermetic seam which will not be rendered imperfect by leaks in said gasket.

Signed in the presence of two subscribing witnesses.

FELIX EBERHART.

Witnesses:

C. W. GRAHAM,

F. X. BECKMAN.