

Oct. 24, 1972

YOSHIKATSU SATO

3,700,524

METHOD OF SEALING THE SEAMING PORTIONS OF A CAN

Filed May 26, 1969

FIG. 1

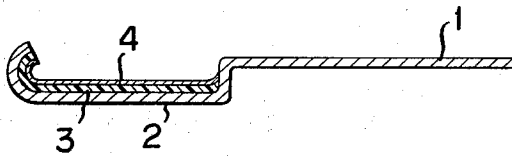


FIG. 2

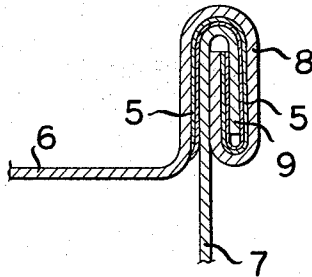
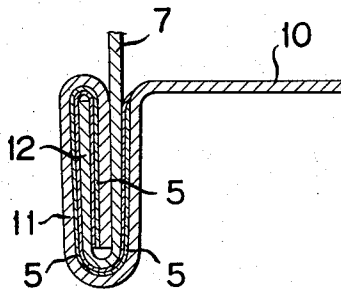


FIG. 3



INVENTOR.  
*Yoshikatsu Sato*  
BY *Armand J. Montague*  
Attorney

1

2

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**METHOD OF SEALING THE SEAMING PORTIONS OF A CAN**

Yoshikatsu Sato, Yokohama-shi, Japan, assignor to Toyo Seikan Kabushiki Kaisha, Tokyo-to, Japan

Filed May 26, 1969, Ser. No. 827,716

Claims priority, application Japan, June 4, 1968, 43/37,785

Int. Cl. B29d 23/00

U.S. Cl. 156—218

2 Claims

**ABSTRACT OF THE DISCLOSURE**

A can body is sealed to the top or bottom plate by applying a rubber compound to the periphery of the plate, then applying a film of urethane resin to the rubber to improve the resistance to solvents which may be in the can contents, and then rolling up the laminated portion of the plate overlappingly with the end of the can in such a way that a triple rolled up layer of the laminated portion mates with a U-shaped inverted fold of the can body.

**BACKGROUND OF THE INVENTION**

As the sealing method for a can, heretofore, the can barrel and the top plate, and/or the can body and the bottom plate are seamed by means of a seaming device, and a rubber compound, the main components of which being styrene, butadiene, isoprene, neoprene, etc., are applied on the inside periphery of the top plate and the bottom plate, and the periphery parts of both plates lined with rubber compound are to be wound together with both upper or lower end of the can body. In such a case and when the contents of the can are such substances which are mainly of organic solvents such as gasoline additives, engine cleaner, anticorrosive agent, etc., the rubber compounds are deteriorated by the contents of the can, and dissolving out to result in lack of sealing effect, which causes leaking of the content of the can or deterioration of compound by the content of the can, and the deteriorated particles may float in the contents in the can, thus adversely affect the content of the can. Accordingly, it has been necessary to effect soldering as a sealing means at the seaming portions of the can body with the top plate and/or of the can body with the bottom plate when the contents of the can are, for example, gasoline additive, engine cleaner, anticorrosive agent, etc., the main component thereof being organic solvents as stated above.

The present invention provides a means for seaming of a can which are free from said soldering, which is troublesome and uneconomical, even when the contents of the can are, for example, gasoline additive, engine cleaner, anticorrosive agent, etc., the main component thereof being organic solvents.

**SUMMARY OF THE INVENTION**

The present invention relates to an improvement in a method applicable on seaming portions of a can body with the top plate and/or a can body with the base plate using rubber compounds, the main component thereof being styrene, butadiene, isoprene, neoprene, etc.

An object of the present invention is to provide a method of sealing at seaming portions of a can which maintains the same lining property as possessed heretofore by conventional rubber compounds, and the sealing effect is not interfered by the content of the can, even if the contents in the can may be, for example, gasoline additives, engine cleaners, anticorrosive agents, the main component of which being organic solvents.

A further object of the present invention is to provide a method of sealing at the seaming portions of a can which comprises the steps of lining or applying a conventional rubber compound on the can material, and after the surface has been dried, coating on the surface of the rubber compound with a non-dissolving paint such as urethane resin to form a film, and rolling up the laminated portion formed by the rubber compound and urethane resin into the end portion of the can.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a sectional view of the essential part for explaining the method of the present invention,

FIG. 2 is a sectional view showing a case where the method according to the present invention is applied on the seaming portion of the can body and the top plate, and

FIG. 3 is a sectional view showing a case where the method according to the present invention is applied on the seaming portion of the can body with the bottom plate.

**DESCRIPTION OF THE PREFERRED EMBODIMENTS**

The invention will now be described of embodiment examples referring to the drawings.

In FIG. 1, a rubber compound is applied on the seaming portion 2 of the can material 1 so as to form a rubber compound layer 3, and on this rubber compound layer 3 is coated with a urethane resin paint so as to form a film 4. In this manner a laminated portion 5, formed by the rubber compound layer 3 and the film 4, is provided on the seaming portion 2 of the can material 1. When the seaming is to be effected between the periphery at the upper end of a can body and the periphery of a top plate, said lamination 5 is formed on the periphery at the upper or lower surface of the top plate 6 as shown in FIG. 2, and rolling up the periphery of the top plate 6 and the peripheral upper end of the can body 7 so that the laminated portion 5 is interposed at the junction of rolled portion 8 of the periphery of the top plate 6 and the rolled portion 9 of the can body 7 by seaming.

When it is required to seam the periphery of the bottom plate 10 with the peripheral lower end of the can body 7 similar to the case of FIG. 2, the lamination 5 is formed on the upper surface or lower surface of the bottom plate 10, rolling up the peripheral lower end of the can body 7 so that the laminated portion 5 is interposed at the junction between rolled portion 11 of the periphery of the bottom plate 10 and the rolled portion 12 of the can body 7 by seaming.

The quantitative proportion of the rubber compound and the urethane resin film for forming the laminated portion of the rubber compound and the urethane resin film is preferably selected at 4:1 through 4:3.

The object of the present invention is to provide a can and a sealing method at the seaming portion of a can which has seaming portions provided both with elasticity owing to the rubber compound and an anti-solvent property due to urethane resin paints. As compared with the conventional means of using solder, rubber compounds and urethane resins are both inexpensive, so that it is excellent in view of economical standpoint.

What is claimed is:

1. A method of sealing a can body at seaming portions, comprising the steps of forming, at the seaming portions of the can material, on one side of a top or bottom plate of a can, adjacent the periphery thereof, a laminated portion comprising in combination the steps of applying a

3

rubber compound layer on said top or bottom plate and coating a film of urethane resins on said periphery of said top or bottom plate and completely covering said rubber compound layer, and rolling up said laminated portion including said periphery of said top or bottom plate overlappingly together with a peripheral upper or lower end, respectively, of the can body for the sealing thereof, and thereby forming with said periphery and said laminated portion a triple rolled up layer of three parallel layers complementarily mating with a U-shaped inverted fold of the corresponding end of the can body, substantially entirely disposed inside said triple rolled up layer and abutting said laminated portion.

2. The method as set forth in claim 1, wherein the quantitative proportion of said rubber compound layer and said urethane resin film for forming said laminated portion is set within a range from 4:1 to 4:3.

4

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U.S. Cl. X.R.

156—310, 314, 315; 220—67