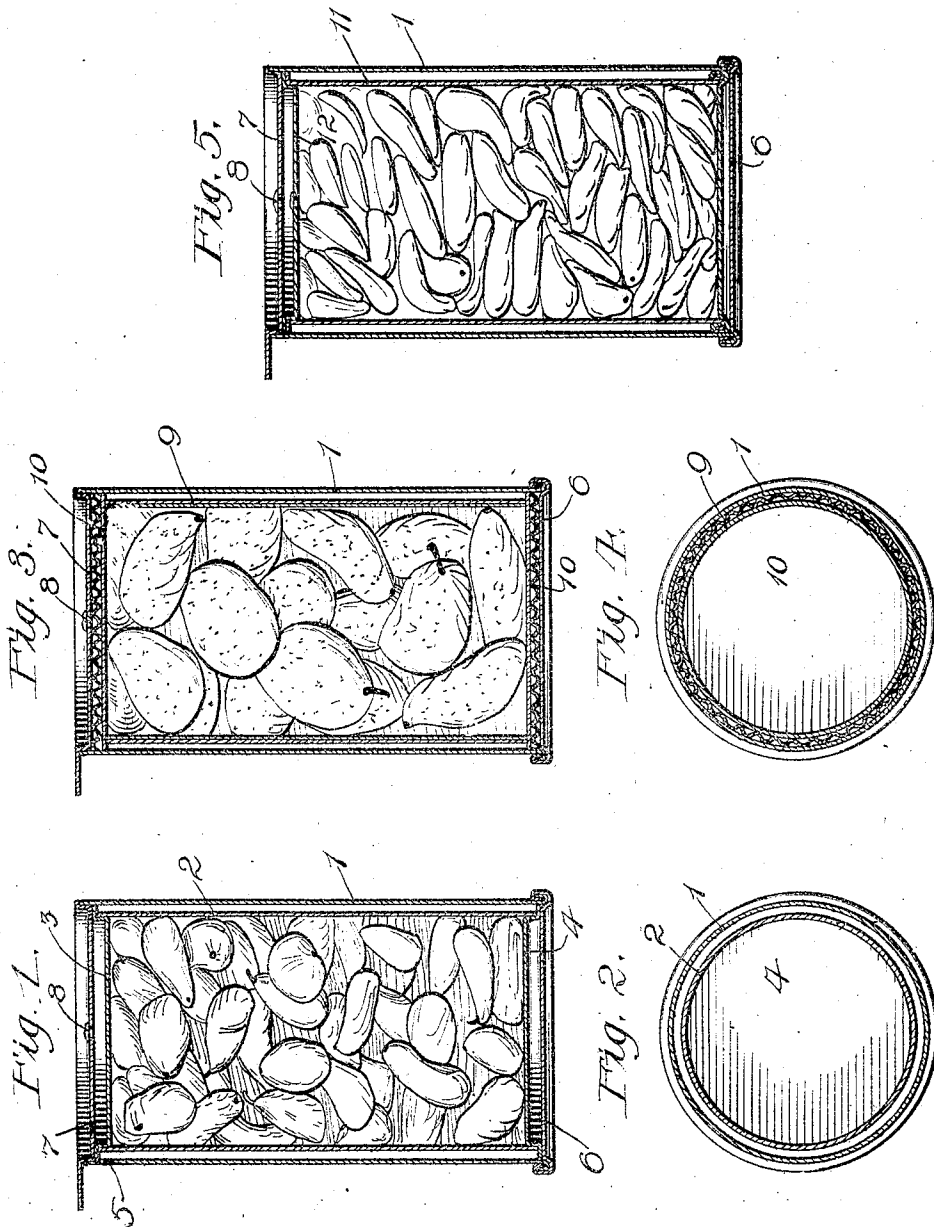


F. P. McCOLL.
PACKAGE.
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UNITED STATES PATENT OFFICE.

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PACKAGE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANCIS P. McCOLL, a subject of the King of Great Britain, residing at St. Andrews, Province of New Brunswick, Dominion of Canada, have invented a certain new and useful Improvement in Packages; and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to the art of packaging food products or other perishable goods or goods which deteriorate in one way or another when exposed to air, moisture or heat and it has for its object to produce a package which shall preserve the contents for a long time in the condition in which the contents were when placed in the package, regardless of the state of the weather or the climate.

There are several features to my invention and these may be used alone or in combination with each other.

Viewed in one of its aspects my invention may be said to have for its object to produce a simple container which shall be cheap enough to be employed commercially in the same way as the ordinary tin can and at the same time give to the contents the protection of a vacuum space around the contents.

Viewed in another of its aspects my invention may be said to have for its object to produce a simple and novel container in which the contents are kept out of contact with the metal of which the outer shell of the container is made and are at the same time insulated effectively against the free transmission of heat thereto from said outer shell.

Viewed in a further aspect, my invention may be said to have for its object to produce a simple package in which the contents do not touch any metal parts and at the same time are inclosed within a protective housing.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following

detailed description taken in connection with the accompanying drawing; wherein:

Figure 1 is a vertical section through a package arranged in accordance with one form of my invention; Fig. 2 is a transverse section through the aforesaid package; Fig. 3 is a view similar to Fig. 1, illustrating a modification; Fig. 4 is a view similar to Fig. 2, illustrating the modification of Fig. 3; and Fig. 5 is a view similar to Figs. 1 and 3, illustrating a still further modification.

In the arrangement shown in Figs. 1 and 2 of the drawings, 1 represents a receptacle of any suitable or preferred shape or construction, that illustrated being a simple round roll top can. In the interior of the receptacle 1 is an inner receptacle preferably of some material which is a non-conductor of heat and which will not injure nor be injured by the goods which are to be packaged in the container. Ordinarily the inner container may conveniently be made of strong paper which may be suitably treated to resist the action of moist or greasy goods, if necessary. The inner container may conveniently consist of a cylinder, 2, somewhat smaller in diameter than the outer container, together with cup shaped heads or ends, 3 and 4, each having an annular projecting flange, 5, of a diameter equal to the diameter of the interior of the outer container and adapted to rest upon the ends of the cylindrical body 2. The parts are so proportioned that the inner container fits between the heads, 6 and 7, of the outer container, so that the inner container cannot shift about and thus become injured. The goods to be packaged are placed in the inner container either while the latter is in the outer container or before assembling and, after the filled inner container and outer container are assembled, the outer container is closed by securing thereon a head, such as a roll top head, 7, which was left off in order to permit the contents to be inserted. It will be seen that the contents of the inner container are in contact only with the material of the inner container which is wholly surrounded by a free space except throughout the small areas at the extreme ends or corners of the inner container. In this condition of the package the goods are protected against the action of the metal of which the outer container is made and are

also protected by a heat insulating cushion of air completely surrounding the same. A still further protective effect may be produced by withdrawing the air from the interior of the package so as to place the goods in a more or less complete vacuum. This can be accomplished by pumping the air out through a small opening in one of the heads of the outer container and then sealing the opening with a drop of solder as indicated at 8. The inner container is not hermetically sealed and therefore the act of exhausting the air from the outer container serves also to withdraw the air from the inner container. Consequently the goods are protected by an enveloping vacuum and, by reason of the absence of air in the package, are protected against oxidation.

In Figs. 3 and 4 the arrangement is substantially that of Figs. 1 and 2 except that the inner container is made of a strip of corrugated material bent into the form of a cylinder, 9, fitting within the outer container and closed at its ends by disks, 10 and 11, of the corrugated material. The corrugated material illustrated is ordinary corrugated paper board composed of a layer of corrugated material and another layer of uncorrugated material; but this arrangement may be varied. It will be seen that the corrugations provide numerous air cells forming a complete inclosing envelop for the goods within the inner container. The air may be exhausted from the container, if desired, as heretofore explained.

In Fig. 5 there is illustrated an arrangement in which the outer container is the same as in the other forms while the inner container is a can or receptacle, 11, complete in itself; the arrangement being such that there is an air space between the inner container and the outer container substantially as illustrated in Fig. 1. By making the inner container of metal, the contents may be processed after they are packed in the inner container, a vacuum may be produced in the inner container or in the outer container independently of each other, or there may be a vacuum both in the inner container and in the outer container. The inner container may conveniently be a roll top can so that access to the contents of the package may be had by first rolling off the cover or top of the outer can and removing the inner can, and then rolling off the top, 12, of the inner can.

While I have illustrated and described with particularity only a few preferred forms of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the terms employed in the definitions of my invention constituting the appended claims.

I claim:

1. In a package, a hermetically sealed container made of metal, a wall of heat insulating material within the container in position to engage the contents and hold them away from the walls of the container and at the same time leave between the walls of the container and the contents a free space enveloping the contents; the interior of the container, including said free space, having the air exhausted therefrom; and the wall of heat insulating material being mechanically strong enough to maintain said free space.

2. In a package, a hermetically sealed container, a wall of heat insulating material within the air-tight container for engaging the contents and spacing them apart from the walls of the container with a free space between the walls of the container and the contents and enveloping the latter; the interior of the container, including the free space, having the air exhausted therefrom; and the wall of heat insulating material being mechanically strong enough to maintain said free space.

3. In a package, a hermetically sealed metal can, a thick lining of corrugated heat insulating material in the can; said lining engaging the contents and spacing them apart from the body of the can and at the same time providing a free space enveloping the contents and lying between the contents and the body of the can, the interior of the can, including said free space, having the air exhausted therefrom; and said lining being mechanically strong enough to maintain said free space.

4. In a package, a container having double walls spaced apart from each other, the air being exhausted from the interior of the container and also from the space between the double walls; and the outer of said walls, at least, being of material which makes the container airtight.

In testimony whereof, I sign this specification.

FRANCIS P. McCOLL.