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E. SCHMIDT

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SEALING MEANS FOR SHEET METAL CONTAINERS

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Fig. 1

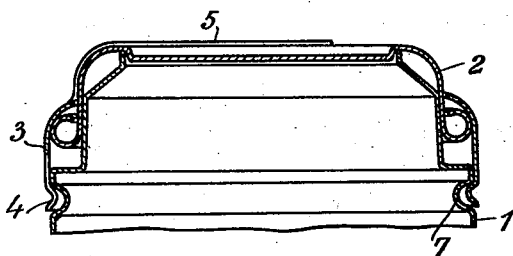


Fig. 2

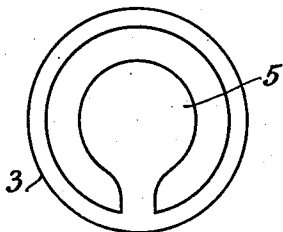


Fig. 4

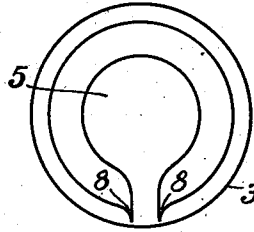


Fig. 3

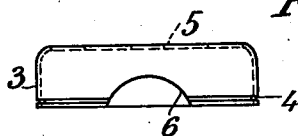
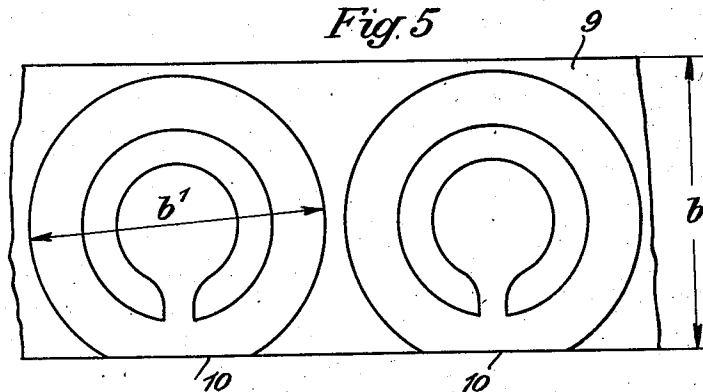


Fig. 5



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SEALING MEANS FOR SHEET METAL
CONTAINERS

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2 Claims. (Cl. 220-61)

This invention relates to a sealing means for sheet metal containers.

It is already known for this purpose to employ a strip ring, which is placed over the cap and engages with the neck of the container. This ring requires to be resilient or expansible. To secure the ring in position on the neck of the container it has heretofore been necessary to employ a special tool, which folds over the lower edge of the ring to such extent that the ring cannot be withdrawn. The manufacture of a ring of this nature is a relatively complicated matter whilst, as stated above, special means are required for its attachment.

This disadvantage is overcome according to the invention by constructing the lower edge of the one-piece ring in the form of an inwardly pressed groove. This groove engages with a corresponding groove in the neck of the container when the ring is placed in position. In place of the groove in the neck of the container there may also be provided a corresponding abutment, projection or the like. The inner diameter of the ring is somewhat smaller than the outer diameter of the neck of the container. When the ring is applied to the container the same, and more particularly the lower edge thereof, requires to expand. According to the invention, a recess is provided in the cylinder jacket of the ring and extending to the lower edge. There may, however, also be provided a plurality of these recesses. The recess is situated in the cylinder jacket of the ring at the point of location of the stripping tab, which latter adjoins the upper edge of the ring.

The recess accordingly fulfils a double purpose. The ring is able to expand in resilient fashion, whilst upon actuation of the stripping tab the upper edge of the ring is torn through in ready and simple fashion down to the recess in the jacket portion for the purpose of releasing the seal.

One or more recesses in the cylinder jacket of the ring are produced according to the invention by the fact that the stamped-out annular blank is cut away tangentially in a straight line at one or more points of its circumference. If the width of the strip of metal from which the rings are stamped and simultaneously drawn is selected to be smaller than the diameter of the ring blank itself, there are formed in the finally drawn ring the recesses above referred to. One single recess is sufficient at the point of location of the stripping tab. The strip of metal from which the blanks are cut is conducted in this

case in such fashion below the stamping and drawing tool that the ring blank on the one side of the strip forms a tangent with the longitudinal edge of the strip, whilst the blank completed to form a disc is cut away on the other side in segmental fashion by the opposite bounding edge of the strip.

The invention is illustrated by way of example in the accompanying drawing, in which

Fig. 1 shows a longitudinal section through a seal equipped with the sealing ring according to the invention.

Fig. 2 is a plan view of the ring.

Fig. 3 is an elevation.

Fig. 4 is a plan view of a somewhat modified form of embodiment of the sealing ring.

Fig. 5 shows diagrammatically the production of the sealing ring.

In the drawing 1 is the neck of a sheet metal container, for example a canister, which is closed by a lid or cap 2 either slipped over the neck or secured by a thread. The locking means for this seal is constituted by the cylindrical ring 3, which possesses at its lower edge an inwardly directed groove 4. At its upper edge the ring is furnished with a stripping tab 5, which in the known manner may be furnished with a firm label, stamp or the like. Below the tab there is provided in the cylinder jacket of the ring 3 a recess 6. The neck of the container 1 also possesses at a suitable point an inwardly directed groove 7. In place of this groove the container may also be set off, or furnished with a projection.

When fitting the ring 3 in position on the neck of the container 1 the cylinder jacket of the ring expands, owing to the recess 6, to such extent that the ring, moved downwards, springs with its groove 4 into the groove 7 in the neck of the container 1. Release of the ring by movement in the opposite direction is impossible. By reason of the ring the cap 2 is covered, or in other words the seal secured, to such extent that the container cannot be opened until the sealing ring has been destroyed. Upon the application of a tensile force to the tab 5 the upper edge of the ring 3 and a part of the cylinder jacket is torn away down to the recess 6, that is to say—the previously closed ring is released and may be removed from the neck of the container.

Fig. 4 shows a somewhat modified form of embodiment of the ring, the inner edge of the ring, at the point where the tab 5 adjoins the upper edge of the ring 3, being bent to a certain extent outwards to facilitate the tearing of the metal at this point. The same object may also be ac-

complicated by providing an elevated or recessed portion at this point in the upper edge of the ring.

The recess 6 in the ring is not specially cut or stamped out, but is produced upon the stamping and drawing of the ring, as illustrated in Fig. 5. The strip of metal 9, from which the rings are stamped and drawn in succession, possesses the width b . The diameter of a ring blank, however, amounts to b^1 . If now b is made to be smaller than b^1 , the ring blank is cut away at 10 along a straight line, this portion forming the recess 6 upon the drawing of the ring. It is naturally also possible to employ a die or cutting tool to produce this straight portion, since as already stated there may be a plurality of recesses, and accordingly a corresponding number of straight cuts 10.

It will be understood that no limitation is made to the particular forms of embodiment shown in the drawing, which have been quoted solely by way of example, and that numerous embodiments are quite possible within the meaning of the above description and the annexed claims without departing from the spirit of the invention.

What I claim as new and desire to secure by Letters Patent is:

1. In a sealing device for sheet metal containers, a sealing ring adapted to fit over the lid of the container and engage with the neck of the container, a groove about the lower edge of the said ring adapted to engage with a correspondingly shaped portion in the neck of the container, and a tab for tearing the said ring upon the application of a tensile force, the said ring at the point situated below the said tab having a recess extending down to the lower edge of the ring.

2. In a sealing device for sheet metal containers, a sealing ring adapted to fit over the lid of the container and engage with the neck of the container, an inwardly pressed groove about the lower edge of the said ring adapted to engage fully in a corresponding inwardly pressed groove in the neck of the said container, and a tab for tearing the said ring upon the application of a tensile force, the said ring at the point situated below the said tab having a recess extending down to the lower edge of the ring.

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