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CONTAINER FOR PROJECTILE FUSES

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Fig. 1.

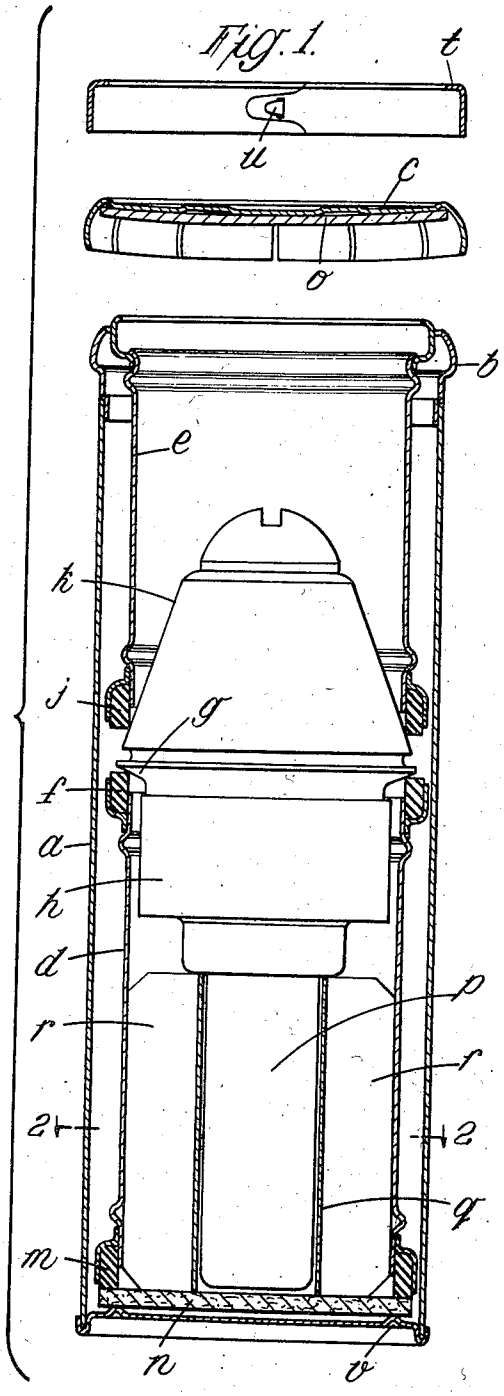
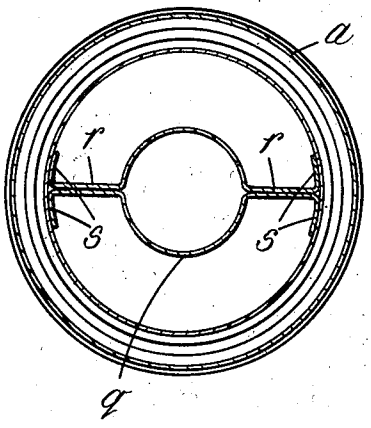



Fig. 2.




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## CONTAINER FOR PROJECTILE FUSES

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7 Claims. (Cl. 206—3)

It is known to pack the fuse for a projectile in a sealed container separately from the projectile itself by screwing the base of the fuse into a female thread formed in the lid of the container so that, when said lid is positioned on the container, the fuse may be supported, apex downwards, the container being afterwards sealed. It is also known to pack a fuse in a container in which is fitted a spool to engage a shoulder on said fuse, said spool resting on the bottom of the container and supporting the fuse, which is held down in position by the engagement of the nose thereof by a cap, either directly or through a distance piece, said cap being a push fit into the container and being soldered thereto. The object of the present invention is to provide a simple form of container into which the fuse may be placed readily and which may be closed and sealed in such a manner that, when required, the fuse may be removed with equal facility.

To these ends and in accordance with this invention a cylindrical container, the mouth of which is formed to receive a closure such as is described and claimed in the specifications of Letters Patent Nos. 23,843 of 1912 and 105,547, is provided with tubular distance pieces each of which has at one end an annular rubber gasket projecting beyond said end, one of said distance pieces being intended to receive on its rubber gasket a shoulder on the fuse, whilst the rubber gasket on the other distance piece is intended to fit around the tapered nose of the fuse, the other ends of said distance pieces being intended to abut, one against the bottom of the container, and the other against a packing disc of suitable material, such as india rubber, located in the closure above mentioned and arranged to be pressed thereby against the end of the distance piece and against the mouth of the container.

The bottom or closed end of the container may be lined with a disc of cardboard or the like, or a ring of india rubber may be disposed thereon, whilst the periphery of the closure may be surrounded by a so-called sealing-ring, i. e. a split ring of flat U-section the ends of which may be united by a tongue and slot or other convenient form of junction.

In some cases the tubular distance piece which is to rest on the bottom of the container may be fitted with a gaine support, i. e. a central tube carried by longitudinal ribs, one or more spider frames, or like means for supporting the gaine or like part projecting from the base of the fuse, and this gaine support may be fitted friction-tight in said tubular distance piece. This tubular distance piece may be provided with projecting annular rubber gaskets at both ends, so that when the distance pieces and the fuse are located in the container the top edge of the upper distance piece will project slightly above the level of the top edge of the container and the gaskets will have to be compressed when the closure is applied; thus a double seal is formed by said closure and care is taken of any slight inaccuracies in length of the fuse, the distance pieces and/or the container.

It is to be understood that the diameters and lengths of the container and the of tubular distance pieces correspond as nearly as possible with the diameters and lengths of the appropriate parts of the fuse so that when a fuse is placed in the container with the tubular distance pieces and the closure properly located, the fuse is held immovably in the container, and the latter, moreover, is hermetically sealed so as to protect the fuse against the detrimental effects of atmospheric conditions, whilst the nature of the closure is such as to enable the container to be opened with great facility to give access to the fuse, when required. In order to obviate undue frictional resistance between the contiguous surfaces of the container and the tubular distance pieces the latter may be formed at their ends to fit closely within the container whilst intermediate of their ends they may be of reduced diameter.

One form of the invention is illustrated by the accompanying drawing in which Figure 1 is a central sectional elevation showing the parts in the positions they occupy prior to the application of the closing device and Figure 2 is a sectional plan of a detail on the line 2—2, Figure 1.

As shown *a* is a cylindrical metal container, closed at the bottom and the mouth of which is provided with a rim *b* to receive a closure *c* such as is described and claimed in the specifications of Letters Patent Nos. 23,843 of 1912 and 105,547. In the container *a* are two tubular distance pieces *d* and *e*, of which the distance piece *d* has projecting beyond its upper end an annular rubber gasket *f* intended to receive a shoulder *g* on a fuse *h*, whilst the distance piece *e* has projecting beyond its lower end an annular rubber gasket *j* intended to fit around the tapered nose *k* of the fuse *h*. The lower end of the distance piece *d* has a similar gasket *m* which, when the parts are assembled as shown in Figure 1, abuts against a liner *n* at the bottom of the container *a*. The liner *n* may be in the form of a disc, as shown, or in the form of a ring and may be of card-

board, cork, india rubber or other suitable material. The upper end of the distance piece *e*, when the closure *c* is applied, abuts against a packing disc *o* of suitable material, such as india rubber, located in the closure *c*, said disc *o* being pressed by said closure against the upper end of the distance piece *e* and also against the upper edge of the rim *b* around the mouth of the container *a*, and it is to be observed that before the closure *c* is applied the upper edge of the distance piece *e* projects slightly above the level of the top edge of the container *a*. Hence, when the closure *c* is applied, the gaskets *f*, *j*, and *m* will have to be compressed and a double seal is formed by the closure *c*, i. e. against the top of the container *a* and against the top of the distance piece *e*, and, at the same time care is taken of any slight inaccuracies in length of the fuse *h*, the distance pieces *d*, *e* and/or the container *a*.

Within the distance piece *d* is fitted a support for the gaine *p* of the fuse *h*, said support comprising a central tube *q* (Figure 2) carried by longitudinal ribs *rr* having out-turned feet or flanges *s* . . . whereby the support as a whole may be fitted friction-tight in the distance piece *d*. For the sake of convenience the tube *q*, the ribs *rr* and the out-turned feet or flanges *s* . . . are formed from two similar halves secured in juxtaposition, e. g. by soldering before the gaine support is placed in the distance piece *d*.

As shown in Figure 1, the distance pieces *de* are formed near their ends to fit closely within the container *a* whilst intermediate of those parts they are of reduced diameter, thus obviating undue frictional resistance between said distance pieces and the wall of the container *a*.

*t* is a so-called sealing-ring of known type consisting of a split ring initially of L-section and the ends of which are united by a tongue and slot connection at *u*, which is applied in that shape, after the closure *c* has been caused to engage the rim *b*, and, thereafter its lower edge is forced inwards by known means under the rim *b* so that ultimately the sealing-ring *t* is of flat U-section.

It is desirable that the liner *n* at the bottom of the container *a* should be supported by a concentric rib *v* pressed out from said bottom.

The improved container is intended to receive any of the fuses of a range of sizes and differences of length may be taken up by means of discs or rings of rubber, cork or other suitable material interposed between the top of the upper distance piece *e* and the closure *c*, or if desired at the bottom of the container *a*.

We claim:

1. An improved container for a projectile fuse comprising a cylindrical container having a closed bottom and an open mouth, said mouth having an external bead, a closure cap having marginal gripping-fingers engaging said bead and a central portion formed with a resilient bulge, said closure cap being releasable from said container by pressing said bulge inwards, two tubular spacer sleeves of slightly less outside diameter than the interior diameter of the container and having an overall length less than that of the container so as to provide a space between their adjacent ends for supporting the fuse therebetween, said sleeves being positioned within said cylindrical container, each of said sleeves having at their adjacent ends an annular resilient gasket projecting beyond said ends, and a packing located in said closure, the resilient gasket on one of said sleeves contacting a shoulder on the fuse, the resilient gasket on the other of said sleeves contacting a tapered nose on said fuse adjacent the base of the nose, while the other ends of said sleeves respectively abut against the closed bottom of the cylindrical container and against the packing located in said cap, said packing being pressed against the adjacent end of a sleeve and against the mouth of said container by said cap.

2. An improved container for a projectile fuse, as claimed in claim 1, wherein the sleeve abutting against the bottom of the cylindrical container is fitted with a gaine support.

3. An improved container for a projectile fuse, as claimed in claim 1, wherein that sleeve which abuts against the bottom of the cylindrical container is fitted with a gaine support in the form of a central tube having supporting means, said supporting means having a friction-fit in said sleeve.

4. An improved container for a projectile fuse as claimed in claim 1, wherein that sleeve which abuts the bottom of the cylindrical container is fitted with a gaine support in the form of a central tube having external longitudinal ribs with friction-fit in said sleeve.

5. An improved container for a projectile fuse comprising a cylindrical container having a closed bottom and an open mouth formed with an external bead, a cap having marginal fingers gripping said bead and a central portion formed with a resilient bulge, said cap being releasable from said container by pressing said bulge inwards, two spacer sleeves of slightly less outside diameter than the interior diameter of the container and having an overall length less than that of the container so as to provide a space between their adjacent ends for supporting the fuse therebetween, said sleeves being positioned within said cylindrical container, one of said sleeves having at one end an annular resilient gasket projecting beyond said end and the other of said sleeves having at both ends annular resilient gaskets projecting therebeyond, and a packing located in said cap, the resilient gasket at one end of the second mentioned sleeve contacting a shoulder on the fuse, the resilient gasket on the other of said sleeves fitting around the tapered nose on said fuse, while the other ends of said sleeves respectively abut against the closed bottom of the cylindrical container and against the packing located in said cap, said packing being pressed against the adjacent end of a sleeve and against the mouth of said container by said cap.

6. An improved container for a projectile fuse comprising a cylindrical container having a closed bottom and an open mouth formed with an external bead, a cap having marginal gripping-fingers gripping said bead and a central portion formed with a resilient bulge, said closure being releasable from said container by pressing said bulge inwards, two spacer sleeves of slightly less outside diameter than the interior diameter of the container and having an overall length less than that of the container so as to provide a space between their adjacent ends for supporting the fuse therebetween, said sleeves being positioned within said cylindrical container, one of said sleeves having at one end an annular resilient gasket projecting beyond said end and the other of said sleeves having at each end an annular resilient gasket projecting therebeyond, a packing located in the closed bottom of said container, and a packing located in said cap, the resilient gasket

at one end of the second mentioned sleeve contacting a shoulder on the fuse, the resilient gasket on the other of said sleeves fitting around the tapered nose on said fuse, while the other ends of said sleeves respectively abut against the packing located at the closed bottom of the cylindrical container, and against the packing located in said cap, said last mentioned packing being pressed against the adjacent end of a sleeve and against the mouth of said container by said cap.

7. An improved container for a projectile fuse comprising a cylindrical container having a closed bottom and an open mouth formed with an external bead, a cap having marginal gripping-fingers gripping said bead and a central portion formed with a resilient bulge, said cap being releasable from said container by pressing said bulge inwards, two spacer sleeves of slightly less outside diameter than the interior diameter of the container and having an overall length less than that of the container so as to provide a space between their adjacent ends for supporting the fuse therebetween, said sleeves being positioned within said cylindrical container, one of said sleeves having at one end an annular resilient gasket projecting beyond said end and the other of said sleeves having at each end an annular resilient gasket projecting therebeyond, an inwardly projecting annular rib formed on the closed bottom of said container, a packing located on said annular rib, and a packing located in said cap, the resilient gasket at one end of the second mentioned sleeve contacting a shoulder on the fuse, the resilient gasket on the other sleeve fitting around the tapered nose on said fuse, while the other ends of said sleeves respectively abut against the packing located on said annular rib on the closed bottom of the cylindrical container and against the packing located in said cap, said last mentioned packing being pressed against the adjacent end of a sleeve and against the mouth of said container by said cap.

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