

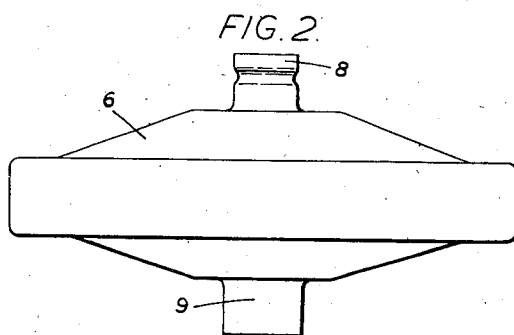
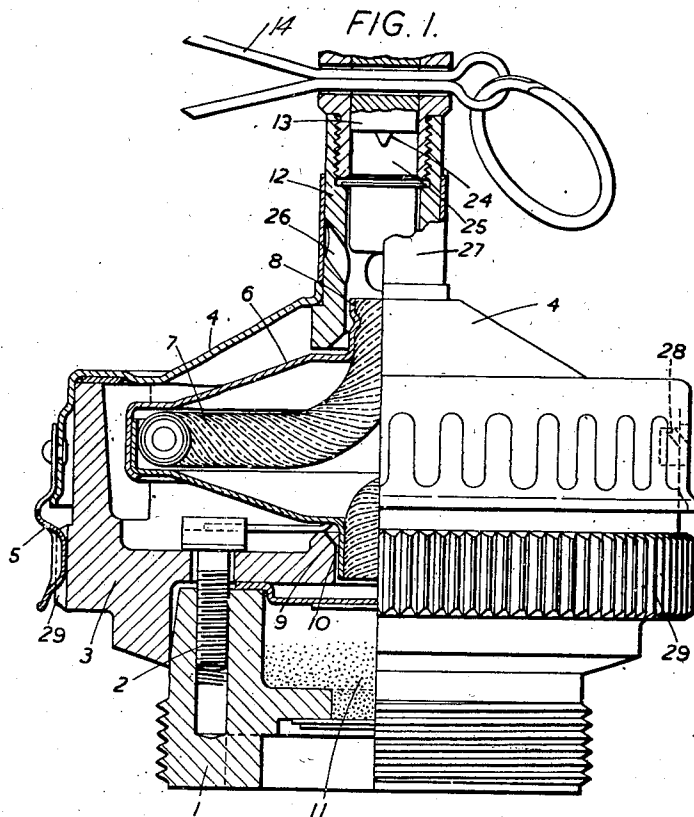
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DETONATING DEVICE

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DETONATING DEVICE

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3 Claims. (Cl. 102—85.6)

This invention relates to detonating devices for aircraft pyrotechnic devices, bombs and the like and has for its object to provide an improved detonating device of much simpler construction than those hitherto in use which is readily adaptable for mass production and much cheaper to produce.

It has in the past been customary to use detonating devices for the purposes stated which had the characteristics of shell fuzes. In cases where such devices, when dropped from aircraft, are intended to explode at a predetermined height the robust and complicated construction of a shell type of fuze is no longer necessary and the present invention is designed to enable the base only of the detonating device to be of robust construction.

According to the invention detonating mechanism for aircraft pyrotechnic devices, bombs and the like is provided including a casing having a removable cover of light gauge metal adapted to house a fuze capsule constructed as an independent unit and arranged when inserted within the said cover to be operatively positioned in relation to a detonating cap and striker pin and to communicate with a flare charge or bursting charge.

Reference will now be made to the accompanying drawing which illustrates by way of example a construction according to the invention and in which:

Fig. 1 is an elevation, partly in section showing a detonating device with the parts in the inoperative positions and

Fig. 2 is a detail view of the fuze capsule.

In the construction illustrated, the base plug 1 of the detonating device has secured thereto by screws 2, a fuze body 3 over which a cover 4 is removably mounted. The base plug 1 which is adapted to be screwed into the casing of the flare or the like and the body 3 are formed as castings but the cover 4 is of light gauge sheet metal. The cover 4 is adapted to be secured in position by providing it with internally projecting studs 28 which enter vertical grooves in the fuze body 3. By partially rotating the cover thereafter the studs 28 enter inclined portions of the said grooves and thereby engage the cover to the fuze body. The cover is prevented from being unintentionally detached by a spring locking finger 5 which engages serrations 29 formed on the exterior of the fuze body 3. The cover 4 houses a fuze capsule 6 also of light gauge metal, which is circular in plan and comprises two truncated conical portions united by a central cylindrical portion as shown in Fig. 2. The capsule 6 houses

a length of fuze 7 which may be, for example, of the Bickford type and whose length determines the time period which elapses between the detonating action and the ignition or explosion of the main charge. The ends of the fuze 7 extend respectively into central bosses 8 and 9 formed in the capsule 6, the lower boss 9 seating in a recess 10 in the body 3 which communicates with an ignition or other charge 11. The upper boss 8 seats within the lower end of a striker tube 12 fixed centrally within the cover 4.

13 indicates the striker which is normally held in-operative by a safety pin 14. The base of the striker terminates in a pin 24 disposed above a firing cap 25 housed within the lower end of the striker tube 12 and spaced from the upper end of the fuze 7, the space between cap and fuze being provided with ports 26 normally sealed by a wrapping 27 of water proof paper or other combustible material.

When the safety pin 14 is withdrawn, the striker 13 is propelled by any suitable known means to detonate the firing cap 25 which ignites the fuze 7 which, after a predetermined lapse of time, is completely burnt and explodes or ignites the main charge of the bomb or flare.

To enable the time of operation of the device above described to be varied, different lengths of fuze may be accommodated in separate capsules all of standard dimensions so that the time of operation can be controlled by the selection of a suitable capsule.

In addition to the advantages which this type of fuze possesses in respect to ease of manufacture it also has the added advantage that the filling is reduced to such a simple operation that it is not necessary to carry it out at a regular filling factory but that it can readily be done in the factory in which they are made, thereby obviating the transfer of empty fuzes from one factory to another.

I claim:

1. A fuze capsule for detonating mechanism comprising two frusto-conical metal pressings, means for inter-engaging the peripheral portions of said pressings, a hollow boss formed centrally of each pressing and integral therewith and a length of fuze coiled within said capsule with its ends projecting into said bosses.

2. Detonating mechanism, comprising a base plug adapted for attachment to an aircraft pyrotechnic device, bomb or the like, a cover removably connected to the base plug, said cover having a tubular component, a striker, cap and striker release mechanism housed in said tubular com-

ponent, and a fuze capsule inserted as a unit between the base plug and cover and comprising two annular casing components adapted for peripheral engagement, a length of fuze disposed within the capsule, and means for holding the ends of the fuze operatively positioned in relation to the striker, cap and striker release mechanism and to the pyrotechnic device, bomb or the like.

3. Detonating mechanism for aircraft pyrotechnic devices and the like, comprising a casing, 10

a light gauge metal cover connected to said casing, striker mechanism housed in said cover, a base plug fixed in said casing and adapted for attachment to the pyrotechnic or other device, and a fuze capsule disposed within said casing and comprising cooperating light gauge metal pressings having bosses disposed centrally thereof, and a fuze coiled within the capsule and having its ends enclosed by said bosses.

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