Dec. 30, 1941. E. E. BENTON 2,268,179

WIND AND DRIFT INDICATOR

Filed Aug. 12, 1940

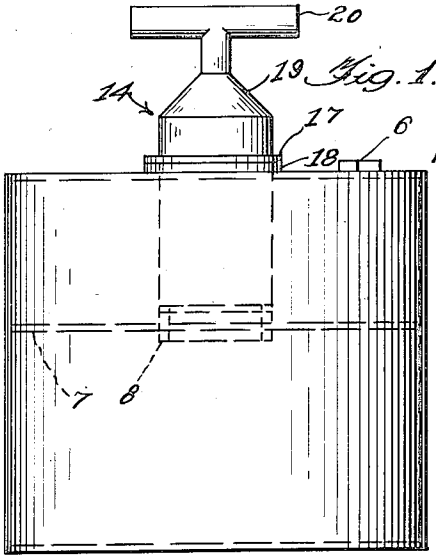


Fig. 1.

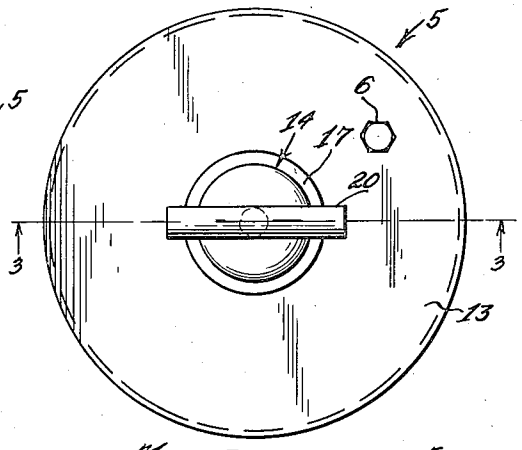


Fig. 2.

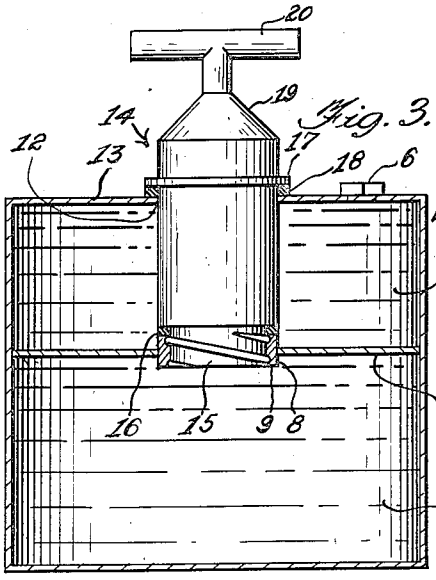


Fig. 3.

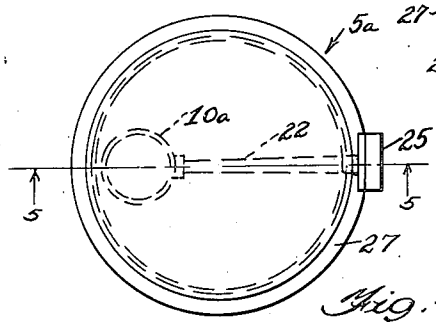


Fig. 4.

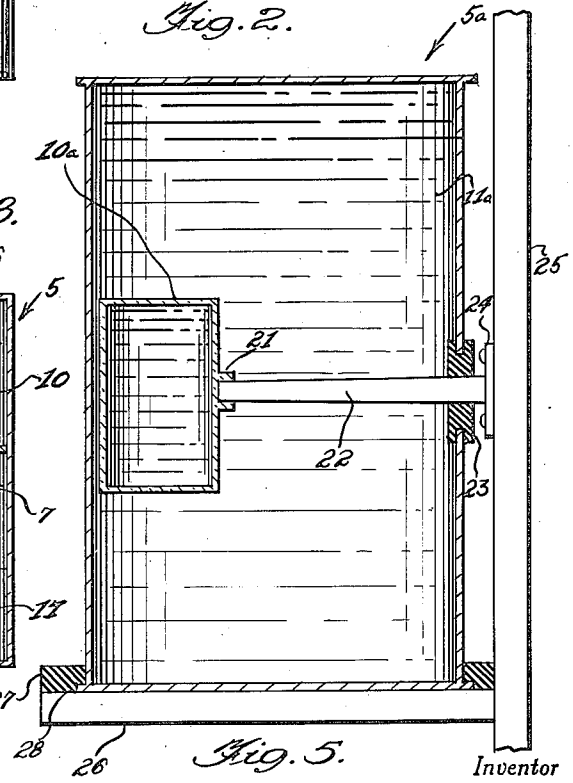


Fig. 5.

Inventor

Edward E Benton

By Clarence A. O'Brien

Attorney

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2,268,179

WIND AND DRIFT INDICATOR

Edward E. Benton, Corpus Christi, Tex.

Application August 12, 1940, Serial No. 352,345

4 Claims. (Cl. 252—359)

My invention relates to means to be thrown from an aeroplane in flight to indicate to the pilot the wind direction and the plane drift for navigation and landing purposes, and particularly to chemical bombs especially adapted to produce a highly visible smoke when brought into use, for visually indicating by the creation of smoke streams in the air, the direction of the wind and the position of the plane relative to such direction, and the primary object of my invention is to provide simple, inexpensive, and efficient arrangements of this character.

Other important objects and advantages of my invention will be apparent from a reading of the following description taken in connection with the drawing, wherein for purposes of illustration I have shown preferred embodiments of my invention.

In the drawing:

Figure 1 is a general side elevational view of the preferred embodiment of the invention showing structural details in phantom lines.

Figure 2 is a top plan view of Figure 1.

Figure 3 is a general transverse vertical sectional view taken through Figure 2 approximately on the line 3—3 and looking upwardly in the direction of the arrows.

Figure 4 is a top plan view of Figure 5.

Figure 5 is a general transverse vertical sectional view taken through another embodiment of the invention.

Referring in detail to the drawing, and first to the preferred embodiment shown in Figures 1 through 3, the numeral 5 generally designates a preferably cylindrical metal container in the form of a short drum having a filling plug 6 in one end and having interiorly a partition 7 spaced from the ends of the drum and provided at its approximate center with an annular nut 8 provided with a wide internal screw thread 9, the nut being secured in place in some suitable manner in a hole in the partition 7 which is capable of establishing communication between the upper compartment 10 and the lower compartment 11. Snugly telescoped through an opening 12 in the top 13 of the casing 5 is the cylindrical plug which is generally designated 14 and which has a reduced externally threaded lower part 15 in screw-threaded engagement with the nut 8. The plug has a flange 17 on the part thereof which projects above the top of the casing, the flange 17 being adapted to engage a sealing washer 18 of compressible material when in closure relation to the casing. The upper part of the plug is tapered as indicated by the numeral 19 and the apex of this portion has attached thereto a T-shaped handle 20 which facilitates placing and removing the plug.

The upper compartment 10 is filled with chemical in fluid form through the plug 6, the lower compartment 11 having first been filled with suitable fluid chemical through the openings 12 and the opening in the nut 8 with the plug 14 removed, the chemicals being of such a nature that when commingled they produce a highly visible smoke.

To operate the described embodiment of the invention the plug 14 is grasped by the handle 20 and screwed out so that the chemical in the upper compartment can pass through the opening in the nut 8 to mingle with the chemical in the lower compartment 11, whereupon the casing is thrown overboard from the aeroplane and in falling releases the wind and drift indicating smoke.

Referring now to the embodiment of the invention shown in Figures 4 and 5, the numeral 5 generally designates a vertically elongated cylindrical casing comprising a single compartment 11*a* containing a chemical and having supported therein a vertically elongated glass or similarly frangible material relatively small cylinder 10*a* which has a socket 21 in one side which supportably receives the small end of a tapered rod 22 which is projected through one side of the casing 5*a* through a rubber or similar material gasket and seal 23, the outer and larger end of the rod 22 being affixed to a bracket 24 which, in turn, is fastened to a support 25 such as the side of the cockpit of the aeroplane. A shelf 26 also attached to the support member 25 has the casing 5*a* resting thereon and secured removably in place by a fairing 27 which overhangs the flange 28 on the lower edge of the casing. The frangible chemical container 10*a* is located closely adjacent to the wall of the casing opposite the rod 22, so that when it is desired to use the present embodiment of the invention the casing 5*a* is pressed toward the support 25 so as to cause the rod 22 to break and puncture the frangible container 10*a* and thereby release chemical from the frangible container 10*a* to mingle with the chemical in the casing 5 so as to produce smoke for indicating purposes when the casing 5 is thrown overboard from the aeroplane, the smoke issuing from the opening from which the rod 22 is withdrawn in the act of moving the casing from its support.

Although I have shown and described herein preferred embodiments of my invention, it is to

be definitely understood that I do not wish to limit the application of the invention thereto, except as may be required by the scope of the subjoined claims.

Having described the invention, what I claim as new is:

1. A wind and drift indicator for an aeroplane, said indicator comprising a casing having two compartments containing chemicals adapted to produce indicating smoke when commingled, means on said casing preventing communication between said compartments, said means having a portion extending through and sealing an opening in the wall of said casing, said means being operative upon being moved relative to said casing to establish communication between said compartments and uncover said opening to permit the smoke to escape from the casing.

2. A device of the character described, said device comprising a casing having a partition dividing the interior of the casing into two different chemical containing compartments, said partition being formed with an opening to establish communication between the compartments to permit the chemicals therein to commingle and produce indicating smoke, a removable plug passing through an opening formed in the wall of said casing and adapted to close the opening in the partition.

3. A device of the character described, said device comprising a chemical containing casing, a frangible chemical container within said casing, means supporting said container within said casing, said means having a part extending through an opening formed in the wall of said casing for connection to a support, said casing and said container containing chemicals adapted to form indicating smoke when commingled, said casing being arranged to be moved relative to said part in one direction so as to cause said part to puncture said frangible chemical container and release the chemical therein into the chemical in said casing, said casing being arranged to be moved relative to said part in another direction to withdraw said part from said opening and permit the smoke to escape from said casing through said opening.

4. A device of the class described comprising a casing having an opening therein, means for forming two compartments in the casing, said compartments containing chemicals adapted to produce smoke when commingled and means for establishing communication between the compartments, such means including a member removably connected to one compartment and passing through the other and also through the hole in the casing, said member normally holding the hole closed but opening the hole when the member is removed from the casing to permit the smoke to pass from the casing.

EDWARD E. BENTON.