Jan. 2, 1945. R. C. HITT 2,366,261

DAYLIGHT FLOATING SMOKE SIGNAL

Filed Feb. 10, 1943

Fig. 1

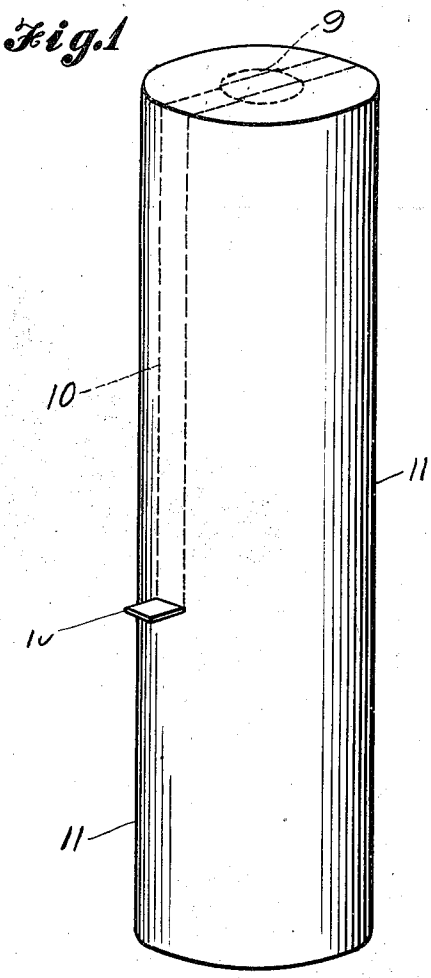


Fig. 2

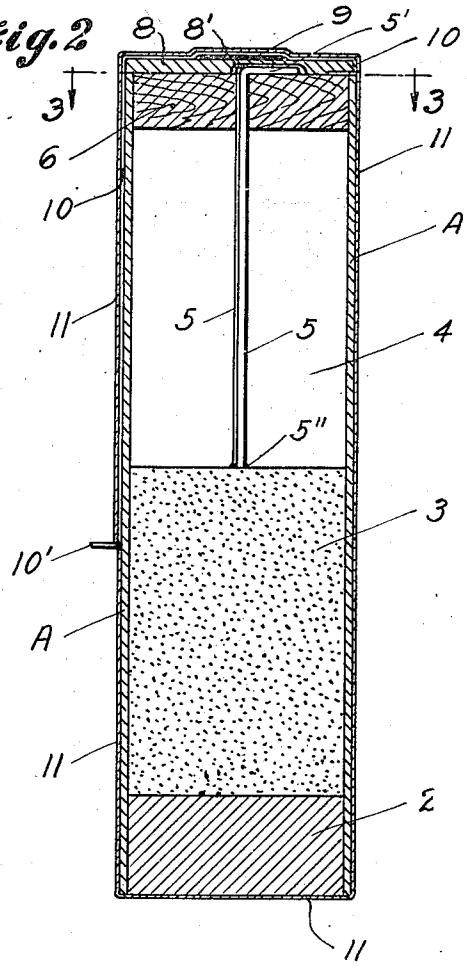
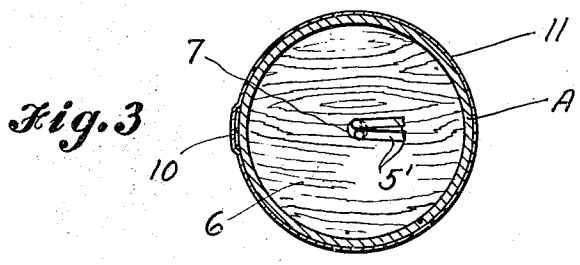


Fig. 3



INVENTOR.
Raymond C. Hitt
BY G. Ward Kemp
ATTORNEY.

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DAYLIGHT FLOATING SMOKE SIGNAL

Raymond C. Hitt, Seattle, Wash.

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1 Claim. (Cl. 9—8)

This invention relates to smoke signals, and particularly to signals to be operated in the day time on the high seas, as in cases following shipwrecks.

During war times, small boats carrying survivors from wrecks sometimes drift many days or weeks without being discovered by searching ships and planes, because the small boats can only be seen for a relatively few miles, It is, therefore, important to provide signals that may be observed from great distances and particularly from great heights above such boats. Smoke has been found of special value for such signals and in preparing small boats for emergency use it is important that all articles to be carried shall be as strong and compact as practicable, and also that the signal devices for providing smoke shall be sufficiently buoyant to support themselves on the water even among waves; and it is also important that such signals may be cast overboard and continue to float and provide sufficient smoke for signals until the contents have been exhausted.

It is, therefore, among the objects of this invention to provide a device for producing smoke when desired which will meet the needs above stated and which may be easily constructed with little expense, with few parts, and be readily maintained or packed in boats ready for emergency and particularly life boats and all ships' boats. With these and other objectives to be hereinafter stated, I have illustratively exemplified my invention by the accompanying drawing of which: Figure 1 is a perspective view of the device complete, Figure 2 is a vertical cross section of the device and Figure 3 is a cross-section view taken on lines 3—3 Figure 2.

Like characters on the different figures represent like parts. Reference character, A, represents a casing or tube preferably of metal or strong material to withstand rough transportation. One end of the tube, which, for descriptive purposes will be called the bottom, is closed with clay 2 or suitable weighty material for protecting the contents and for causing that end to sink and sustain the tube upright while the upper end will protrude above the water surface, because of buoyancy provided by air or gas in a central chamber 4 above the smoke producing contents. The top or mouth of the tube is closed by a cover or plug 6 of any suitable material such as wood, and it is provided with a relatively small aperture or hole 7, preferably through the center thereof, for the insertion of ignition fuses or quick matches 5 and for the exit of smoke when the powder or chemical for smoke purposes is ignited. Preferably there are two fuses for certainty of ignition, and their upper ends 5' are flattened down against the plug and their lower ends 5'' are pressed upon the surface of the powder or chemical 3 for igniting the same.

For the purpose of igniting the upper ends of the fuses, a disc or cap 8 is provided with a supply of material such as phosphorus 9 on the upper side, and a counter bore 8' on the under side of the cap for closing down over the ends of the fuses. This cap is normally retained in position over the plug and fuses for ready use for igniting the fuses by a thin strip of any suitable material such as tape, 10, which may be attached to the base of the cap by one end and carried thence over the phosphorus for its protection and thence down along one side of the tube a substantial distance.

A waterproof sheathing 11 is then cemented over the entire assembly of the parts described except over the lower end of tip 10' of the tape. This tip is extended outward for manual grasp when necessary to use the device for producing smoke. The powder is composed of suitable chemicals for combustion and for producing dense smoke of any desired color, and is solidly pressed into tube A leaving a substantial open area above the same for air or gas.

The operator who may be without tools or implements simply grasps the protruding end of the tape 10' and pulls it upward, thus tearing through the sheathing and loosening the cap which may be then inverted and the phosphorus rubbed against the ends 5' of the fuses whereby they will be quickly ignited and thereby the powder contents below will be quickly ignited. The cap member is preferably sufficiently thick to provide a grip for the fingers so that they will be above the line of fire from the phosphorus. The size of the hole 7 through the cap is suitable to permit a small stream of gas and smoke to escape for signal but not large enough to permit sufficient air to enter the chamber to enable the powder to blaze. The oxygen in the chamber is quickly burned and the chamber then filled with gases to maintain the buoyancy of the device after the air is exhausted and the stream of gas when rushing out through the same aperture prevents any water from entering the chamber, hence the device may be cast overboard and may even sink at first below the surface, but the buoyancy will cause it to emerge and the gas and smoke continue to flow for a signal until

the powder is exhausted. Owing to the relatively small compass of the entire structure, several may be easily packed and carried in all boats for emergency use.

Having described my invention, I claim as new the following:

A floatable device for providing a smoke signal for daylight use at sea, comprising a tube, a relatively heavy base for maintaining the tube in perpendicular position while floating and for closing the lower end of the tube, a charge of smoke producing chemicals over the said heavy base, said tube having an open space centrally disposed within the same above and adjacent to the chemicals to provide buoyancy for the device, a fuse for igniting the charge, a cover for the upper end of the tube provided with a relatively small opening sufficient for retaining the fuse and for the escape of smoke from the chemicals and chamber, said fuse being extended from the charge through the opening, a cap for covering the fuse with a supply of ignition material on the cap, a fabric strip attached to the cap for a covering for the ignition material and carried down along the outer wall of the tube, a waterproof sheath enclosing the entire device excepting the lower end of the fabric strip.

RAYMOND C. HITT.