

[54] **INCENDIARY DEVICE FOR DESTROYING IMPROPERLY HANDLED CLASSIFIED DATA AND THE LIKE**

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FOREIGN PATENTS OR APPLICATIONS

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[51] Int. Cl. **C06d 1/00**

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[57] **ABSTRACT**

An incendiary device for preventing adverse handling of classified material in which an incendiary container is positioned in a cylinder or the like adjacent a spring urged clamp and a firing mechanism is secured in the cylinder in alignment with the container. A splined bushing normally retains a ball to preclude the firing mechanism from being disarmed.

[56] **References Cited**
UNITED STATES PATENTS

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4 Claims, 3 Drawing Figures

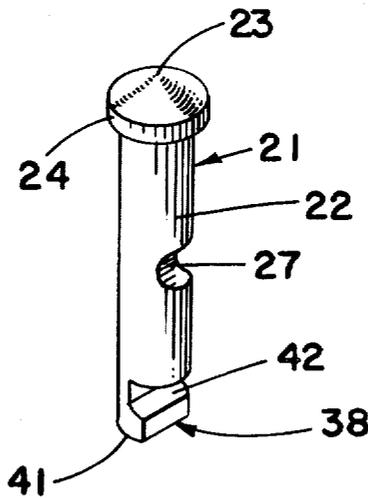


Fig. 1

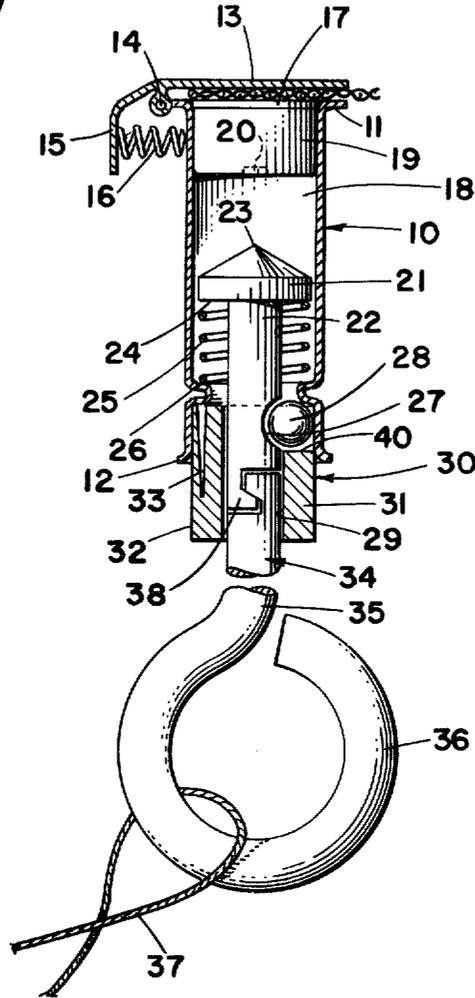


Fig. 2

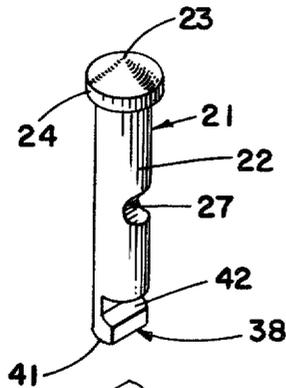
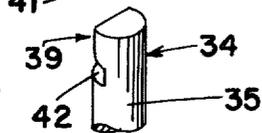


Fig. 3



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INCENDIARY DEVICE FOR DESTROYING IMPROPERLY HANDLED CLASSIFIED DATA AND THE LIKE

The invention described herein may be manufactured and used by or for the government for governmental purposes without the payment to me of any royalty thereon.

The present invention relates to an incendiary device, and particularly to a device for destroying improperly handled classified data and other combustible materials, such as fallen parachutes or the like.

Heretofore, there was no known simple device affording positive protection of classified data, documents, maps or the like against improper or unauthorized handling. For example, if a courier's attache case were stealthily removed from his person the documents therein became the unequivocal property of the taker. The resulting jeopardy to security of this possibility needs no elaboration. Historical events verify that the danger of misused data is omnipresent notwithstanding the manifestation of the highest possible degree of security precautions. Therefore, the complete protection of classified data is a goal of our security system.

Another area where security precautions are inadequate is in the destruction of cargo or load carrying parachutes dropped behind enemy lines. It was desirable to quickly destroy dropped parachutes in order to avoid their detection by the enemy. The method generally used was to burn the parachutes by igniting them with an incendiary. The incendiary was fired or actuated by an explosive through a delayed powder train in a timed setting. This method of firing the incendiary was often attended by disadvantages, including premature or late firing. Premature firing could result in damage to the load before disconnection from the parachute while late firing might permit detection by the enemy before the desired destruction occurred. Ancillary to this inherent defect in the actuating device was its complexity in construction evidenced by the necessity of a timing device.

It is, therefore, an object of the present invention to provide a simply constructed and inexpensive incendiary device which provides effective and positive protection against the improper use of classified material.

It is a further object of this invention to provide an incendiary device which will destroy, by burning, improperly handled classified material.

It is also an object of this invention to provide an incendiary protective device which will destroy, by burning, load carrying parachutes upon reaching the earth's surface, when tension on the shroud lines is released.

It is still another object of this invention to provide an incendiary device which will destroy, by burning, improperly handled classified material or load carrying parachutes upon reaching the earth's surface and which cannot be deactivated after initial activation.

In accordance with this invention a tubular member is provided on its upper end with means for attaching a document or parachute shroud line thereto. Disposed in the upper portion of the tube is a container of incendiary material having a percussion cap integral with it for firing the incendiary. An upwardly directed, spring urged firing pin is disposed in the tubular member below the incendiary and its percussion cap. Releasably connected to the firing pin is a trigger member ending in a ring outside of the tubular member. A chain or rope may be attached to the ring and firmly secured to

the wall of an attache case, filing cabinet, load attached to a parachute, etc. Means is provided in the tubular member for retaining the firing pin in a safe position before operation. Disposed in the lower end of the tubular member is an expandable bushing or the like which prevents the rod and firing pin members from re-entering the tubular member in a safe condition after an applied tension force to the rod and firing pin has been released. That is, once the device has been activated by someone improperly handling classified material or when a load bearing parachute has reached the earth's surface it cannot be deactivated and must fire the incendiary.

The invention will, however, be further understood from the following description, when considered in connection with the accompanying drawings, and its scope is pointed out in the appended claims.

IN THE DRAWINGS

FIG. 1 is a view in elevation, and partly in cross-section of an incendiary device for use in destroying improperly handled material or the like, embodying the invention;

FIG. 2 is a detail perspective view of the firing pin employed in the incendiary device;

FIG. 3 is a fragmentary perspective view of the trigger member of FIG. 1.

Referring to the drawings, in which like reference characters refer to like parts throughout the various figures and referring particularly to FIG. 1, 10 is a tubular member or casing composed of metal or any other material suitable for the purpose and having its ends outwardly flanged or flared as shown at its upper end by 11 and its lower end by 12. Arranged above the upper end of the tubular member 10 is a flat spring clamp generally designated by the reference character 13 pivotally supported near and spaced from its rear end by a hinge pin 14 or the like passing through a pair of apertured ears (not shown), projecting downwardly from a portion of the upper end flange 11. The spring clamp 13 is provided at its rear end with a downwardly bent extension 15 arranged in proximate spaced relation with respect to the tubular member 10. A helical spring 16 is disposed between the extension 15 and the tubular member 10. The ends of the spring 16 are adapted to be firmly fixed to the inner wall of the extension 15 and the outer wall of the tubular member 10 respectively. The spring 16 urges against the extension 15 pivoting the clamp 13 about the hinge pin 14 resulting in a downwardly directed force on the clamp 13. The spring 16 is compressed by depressing the extension 15 resulting in upward pivoting of the clamp 13 about the hinge pin 14. A document, parachute shroud line, etc. may be inserted between the clamp 13 and the upper end of the tubular member 10. Removal of the depressing force on the extension 15 will pivotally restore the clamp 13 to a position where it will engage the inserted document, parachute shroud line etc. and will exert a downwardly directed force sufficient to secure the objects above mentioned to the incendiary device. A change in position of the objects secured to the device will tend to carry the device along with the object.

The upper flared portion 11 of the tubular member 10 is adapted to receive a thin disc 17 composed of a burnable waterproof paper or the like. The disc 17 is disposed in the tubular member 10 and at right angles to the axis thereof and forms a continuous surface with

the upper flare 11 over the upper end of the tubular member 10. The disc 17 thereby provides a sealed inner chamber 18 of the tubular member 10.

Disposed in the inner chamber 18 and at right angles to the axis of the tubular member is a container 19 of an incendiary material. The container 19 has its side-walls in snug engagement with the inner surface of the tubular member 10 wall and its upper surface in registration with the lower surface of the disc 17. The lower portion of the container 19 contains a percussion cap 20 which when struck causes the incendiary in the container 19 to ignite.

A firing pin generally indicated by the reference character 21 is enclosed within the tubular member 10 and comprises a body portion 22 having an impinging or firing pin 23 arranged on the upper end thereof adapted to strike the percussion cap 20 as the firing pin 21 is released. A piston shaped guide member 24 is secured to the body portion 22 of the firing pin 21 and adjacent to the upper end thereof and is adapted to slide freely within the chamber 18 of the tubular member 10. Surrounding the body portion 22 of the firing pin 21 and arranged within the chamber 18 is a helical spring 25, one end of the spring being adapted to contact the guide member 24 while the other end thereof is adapted to seat upon a shoulder 26 provided therefor within the tubular member 10 and formed by a circumferential indentation of the tubular member 10. The spring 25 is of sufficient strength to cause the percussion cap 20 to be fired by the firing pin 21 when released from a retracted position.

The body portion 22 of the firing pin 21 has a recess 27 in its lower end adapted to receive a metal ball 28 or the like which registers with a portion of the shoulder 26 and a portion of the internal surface of the tubular member 10 to prevent an upward movement of the firing pin 21 thereby rendering the device safe.

The body portion 22 of the firing pin 21 is adapted to have a free sliding movement through a reduced bore 29 provided within the tubular member 10 by a metal bushing generally designated by the reference character 30. The bushing 30 is in slideable engagement with the inner surface of the tubular member 10 and comprises two half-cylinder sections integrally connected. A solid section 31 of the bushing 30 comprises half of the cylindrical structure and extends from the lower edge of the recess 27 in the body portion 22 of the firing pin 21 to below the lower flared portion 12 of the tubular member 10. The solid section 31 of the bushing 30 is integrally connected with a splined section 32 which comprises the other half of the cylindrical structure and extends from a lower portion of the shoulder 26 to below the lower flared portion 12 of the tubular member 10. The spline 33 of the splined section 32 of the bushing 30 extends downwardly approximately one-half the axial length of the wall thereof and is compressed for installation of the bushing into the tubular member 10 and circumferentially expands when the bushing 30 is moved downwardly and out of the tubular member 10. When the splined section 32 is thus expanded the bore 29 remains unchanged but the bushing 30 will be unable to re-enter the tubular member 10. The function of the bushing 30 will more clearly appear as the description proceeds.

A trigger member generally designated by the reference character 34 comprises a body portion 35 extending into the bore 29 and releasably connected to the

body portion 22 of the firing pin 21 in the manner illustrated in FIG. 1 of the drawings. The connected, spring 25 urged, firing pin 21 and the triggering member 34, and the percussion cap 20 comprise a firing assembly for the incendiary in the container 19. The lower end of the body portion 35 of the trigger member 34 has an eye 36 or some other suitable means thereon for attachment of a rope 37 or the like thereto.

As shown in FIGS. 1 and 3 the firing pin 21 and the trigger member 34 are releasably connected together within the tubular member 10 as by means of a detent 38 provided on the body portion 22 of the firing pin 21 and a complementary detent 39 provided on the body portion 35 of the trigger member 34. When the body portion 22 of the firing pin 21 and the body portion 35 of the trigger member 34 are in the bore 29 of the bushing 30, the detents 38 and 39 are held in mutual engagement by contact with the walls of the bore 29 and will remain so engaged until a predetermined tension applied to the device is released.

The device in operation is clamped onto a document, for example, and secured to an attache case or messenger's clothing by a rope 37 tied to the eye 36. If the document is attempted to be improperly removed, pulling thereon will cause the trigger member 34 to move downwardly thereby imparting a downward movement to the firing pin 21 due to the interlocking connection therebetween thus additionally compressing the spring 25 surrounding the firing pin 21 between the guide member 24 thereon and the shoulder 26 within the tubular member 10. The ball 28 urges against the shoulder portion 40 of the solid section 31 of the bushing 30 forcing the bushing 30 downwardly and out of the tubular member 10 where the spline 33 of the splined portion 32 of the bushing 30 expands circumferentially preventing return of the bushing 30 into the tubular member 10. At this position the ball 28 falls away and the firing pin 21 is free to move upwardly under the action of the spring 25. When the tension on the device is released the spring 25 urges the firing pin 21 and trigger member 34 upwardly. When the lower end 41 of the detent 38 moves past the upper end of the splined portion 32 of the bushing 30 and into the tubular member 10, the trigger member 34 will be released.

Tension of the spring 25 on the coating inclined surface 42 provided on each of the detents combined with entrance of the trigger mechanism 34 into the tubular member 10 provides sufficient room for the trigger member 34 to become disengaged from the firing pin 21. When the firing pin 21 is released under tension of the spring 25 additional force is applied thereto causing the impinging pin 23 to strike the percussion cap 20. When this occurs the incendiary inside the container 19 is ignited thereby igniting the disc 17 and the document clamped to the device.

I claim:

1. An incendiary device for destroying improperly handled classified data and the like including
 - a tubular member,
 - a spring urged clamp pivotally mounted on an upper end of said tubular member,
 - a container of an incendiary disposed within the upper end portion of said tubular member,
 - a firing assembly disposed within said tubular member,

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means operatively connected to said firing assembly for actuating said firing assembly when a predetermined tension is applied thereto, and means within said tubular member for preventing disarming of said firing assembly after said firing assembly has been armed.

2. A device as defined in claim 1 wherein said firing assembly includes a peripherally recessed firing pin member, said preventing means includes a ball engaging said recessed member, and a splined bushing in a lower end of said tubular member adjacent said ball and slidably receiving said firing pin member.

3. The structure in accordance with claim 1 in which a burnable sealing disc is positioned intermediate said container and said clamp.

4. An incendiary device for destroying improperly handled classified data or the like including a tubular member having an inwardly directed flange, a spring urged clamp pivotally mounted on an upper end of said tubular member, a burnable sealing disc closing the upper end of said tubular member, a container of an incendiary disposed in the upper end portion of said tubular member,

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a percussion cap in said container for firing the incendiary, a spring urged firing pin slidably arranged within said tubular member, said firing pin having laterally disposed means for receiving a ball adjacent the inner wall of said tubular member below said flange to act as a safety means for said device, a trigger member slidably arranged within said tubular member and releasably connected with said firing pin, a bushing slidably disposed in the lower end of said tubular member, said bushing surrounding said firing pin and said trigger member at the releasable connection thereof, said bushing adapted to expand circumferentially when removed from within said tubular member, means operatively connected to the lower end of said trigger member, said means being adapted to actuate said firing pin when a tension applied thereto is released.

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