

J. B. HOPE.

BOMB FUSE.

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1,326,266.

Patented Dec. 30, 1919.

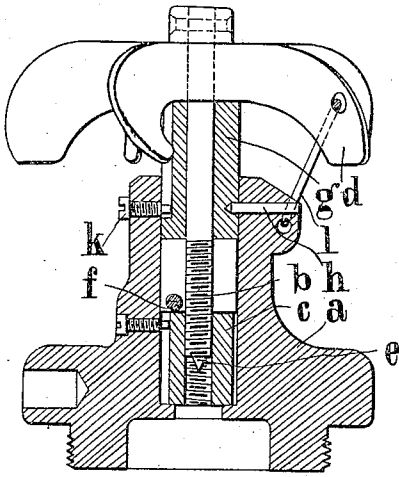


Fig. 1.

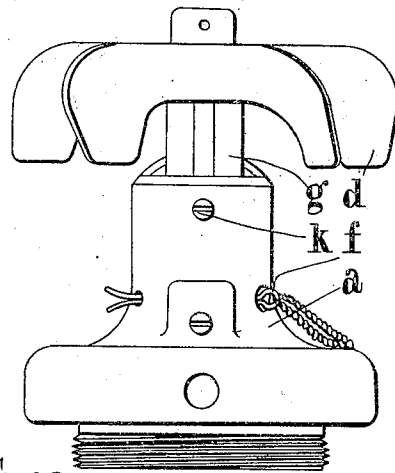


Fig. 2.

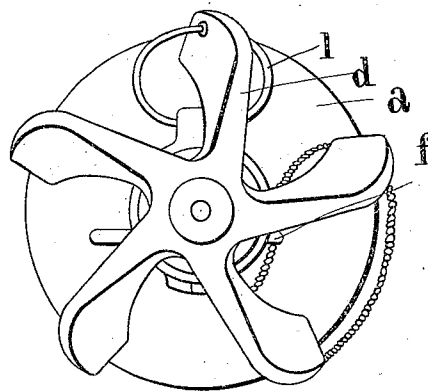


Fig. 3.

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BOMB-FUSE.

1,326,266.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN BASIL HOPE, a subject of the King of Great Britain and Ireland, and residing at Copley, St. Andrew's Road, Bedford, in the county of Bedford, England, have invented certain new and useful Improvements in Bomb-Fuses, of which the following is a specification.

The present invention relates to bomb fuses of the type in which the movement of the bomb through the air operates a device whereby the fuse is armed.

In bombs intended to be dropped from aircraft, it is usual to provide a safety device which will prevent explosion of the charge through premature landing or before the bombs have been dropped, and to provide mechanism by which the result of the motion of the bomb through the air is that after falling for a certain distance the bomb becomes armed and will detonate on impact.

The present invention consists in a safety device comprising a firing pin on which there is screwed a sleeve which in the safety position protects the firing needle, the relative movement of this sleeve on the firing pin necessary to arm the bomb being obtained by a fan rotated by the air pressure as the bomb drops, so that after dropping a short distance the firing pin projects from the sleeve into its operative position, and in such position only is ready to fire on impact.

The invention further consists in the improved fuse hereinafter described.

Referring to the accompanying drawings:—

Figure 1 is a section,

Fig. 2 an elevation, and

Fig. 3 a plan of a bomb fuse constructed in accordance with the invention.

In carrying the invention into effect as illustrated, the fuse body *a* which carries the firing pin *b* is formed hollow and the firing pin passes through the space so formed and projects through a bush *g*. On the end of the firing pin there is fixed a fan *d* adapted to be rotated by air pressure when the bomb is dropping through the air. The needle end *e* of the firing pin is screw-threaded and the safety sleeve *c* is screwed on to it, the normal

position of the sleeve when the bomb is safe being such that the needle cannot project beyond the sleeve. The sleeve is held in this position by a safety pin *f* which has to be removed before the bomb is dropped. The top bush *g* through which the firing pin projects is held in position by a shearing wire *h* and prevented from falling out of the end of the fuse by a grub screw *k* engaging with the shoulder on the bush. There is also provided a wire *l* preventing rotation of the fan until the bomb is required for use.

The operation of the above described device is as follows:

Before dropping the bomb, the wire *l* holding the fan *d* is cut, and the pin *f* holding the sleeve *c* in the safety position is removed. The bomb is then dropped and the air pressure causes the fan to rotate, rotating also the firing pin *b* so that the safety sleeve *c* screwed on the end of the firing pin is screwed along the pin allowing the point of the needle to project. On striking the ground the shearing wire gives way and the impact forces the firing pin *e* against the detonator, thus exploding the charge.

In the modification above described, the sleeve moves relatively to the firing pin and the rest of the bomb to bring the needle into the armed position. I may, however, cause the needle itself to move forward so that it projects from the sleeve.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

A time fuse comprising a firing pin with a fan attached thereto rotatably mounted on a bush normally fastened to the fuse body, a safety sleeve screwed on the firing pin and prevented from rotating but capable of axial movement relative to the fuse body as the fan and firing pin are rotated when the bomb moves through the air, and a shearing wire normally holding the said bush in relation to the fuse body but designed to give way upon impact permitting the bush to move axially relative to the fuse body.

In testimony whereof I have signed my name to this specification.

JOHN BASIL HOPE.