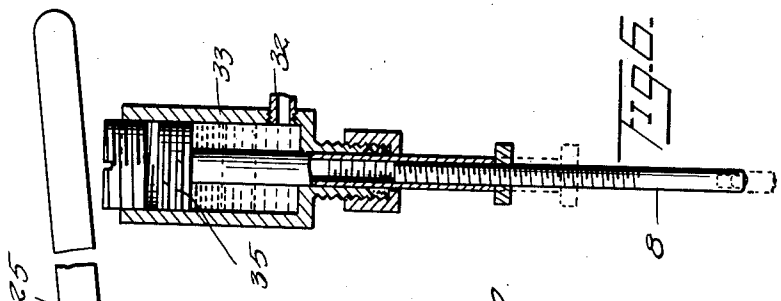
Oct. 5, 1943. A. A. ERICSON 2,331,017

FIRE PREVENTION DEVICE FOR AEROPLANES

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FIG. 6.



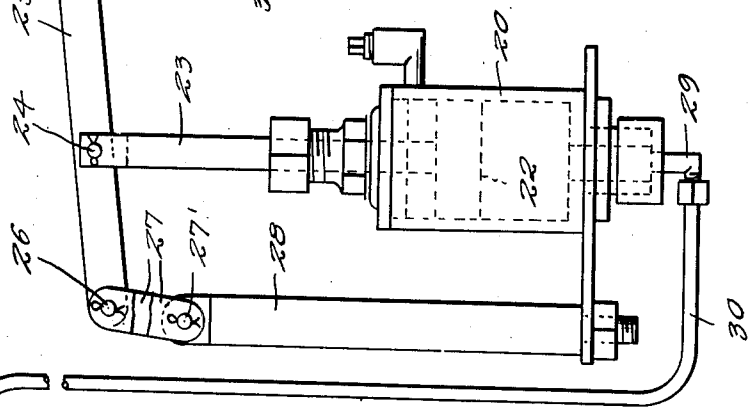
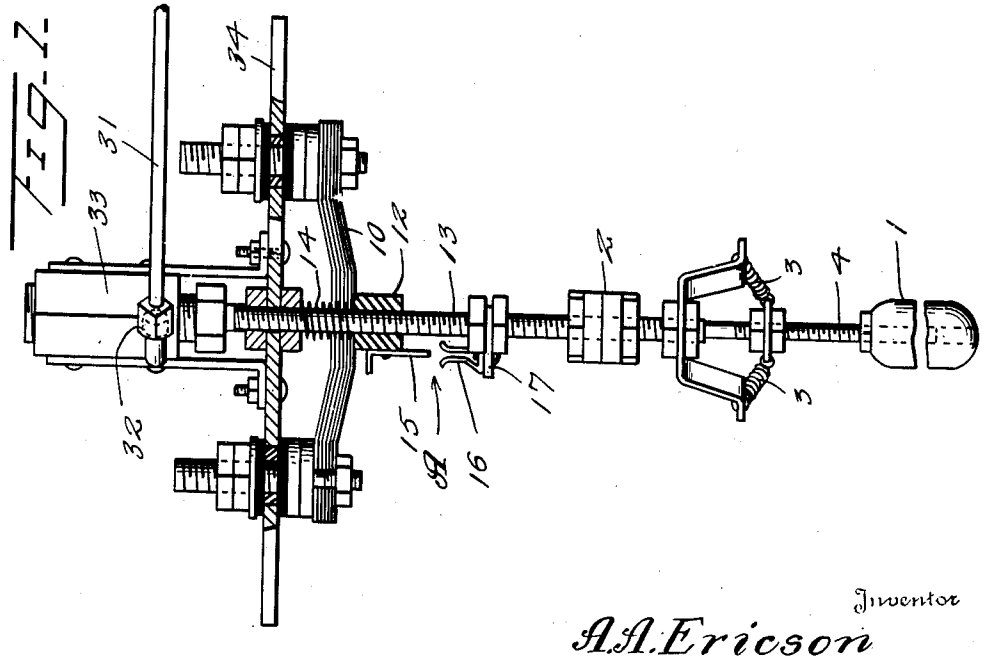


FIG. 7.



Inventor

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FIRE PREVENTION DEVICE FOR AEROPLANES

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Fig. 2.

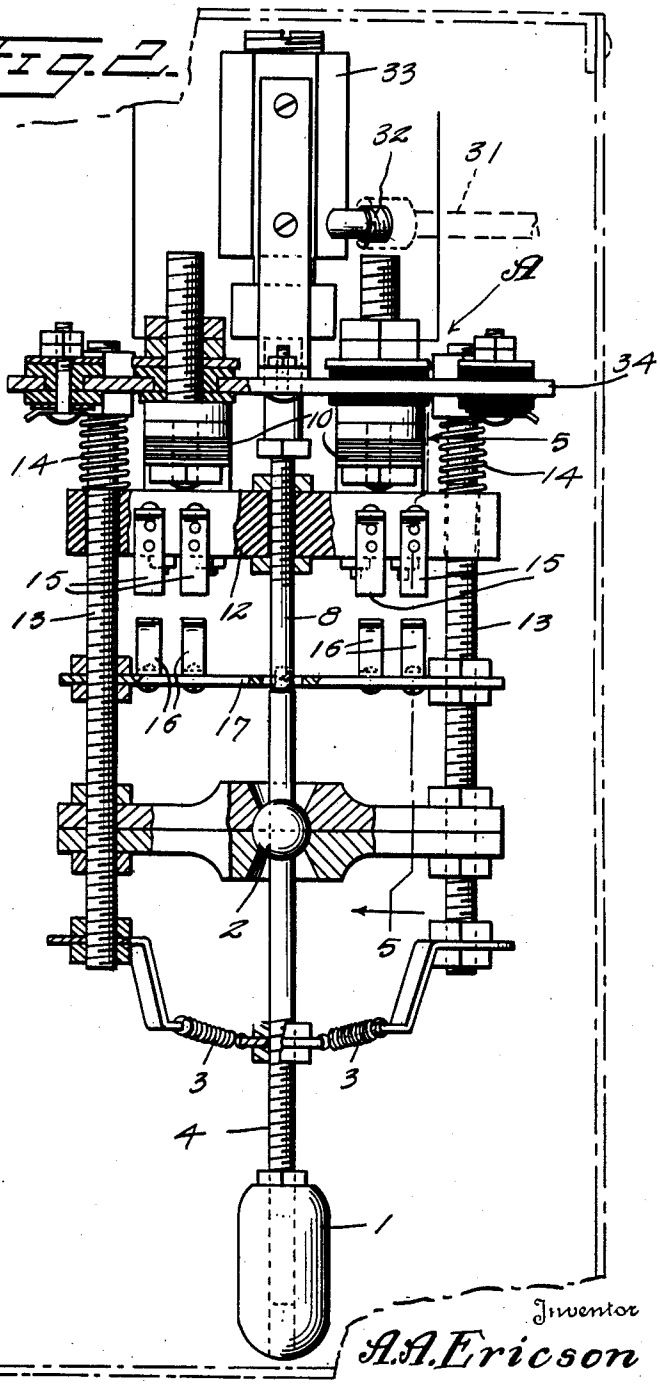
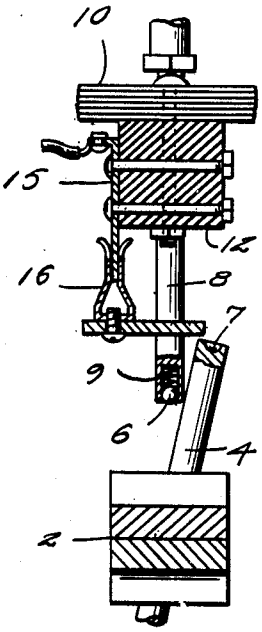


Fig. 5.



Inventor
A. A. Ericson

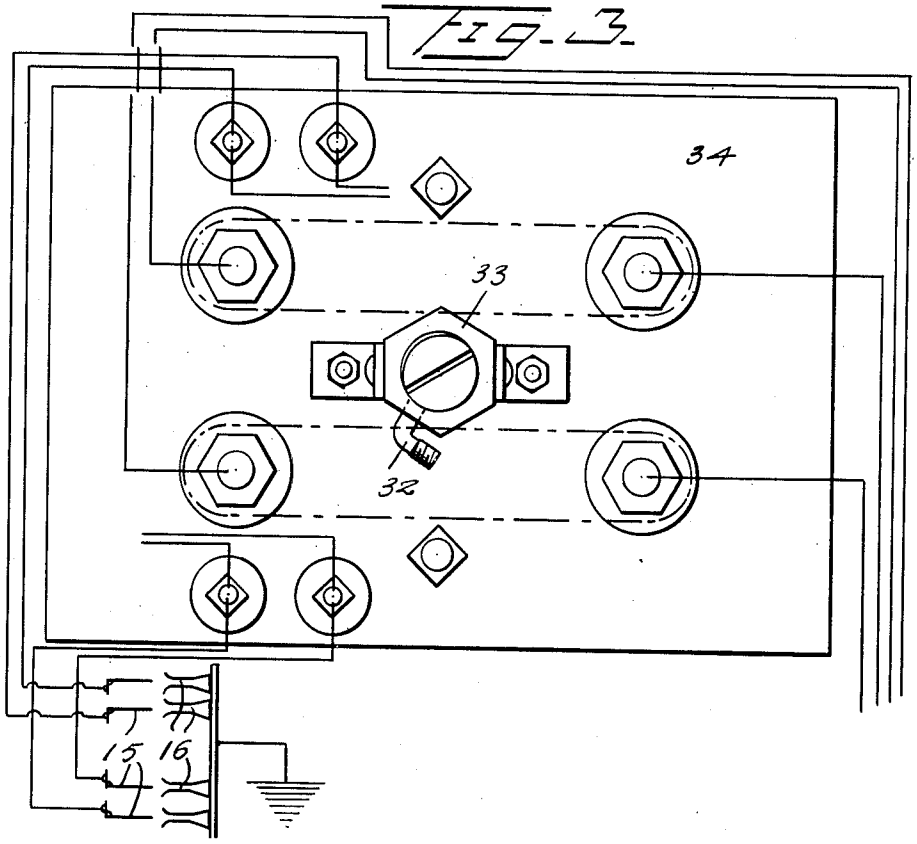
By J. Hughes Attorney

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FIRE PREVENTION DEVICE FOR AEROPLANES

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Fig. 3.



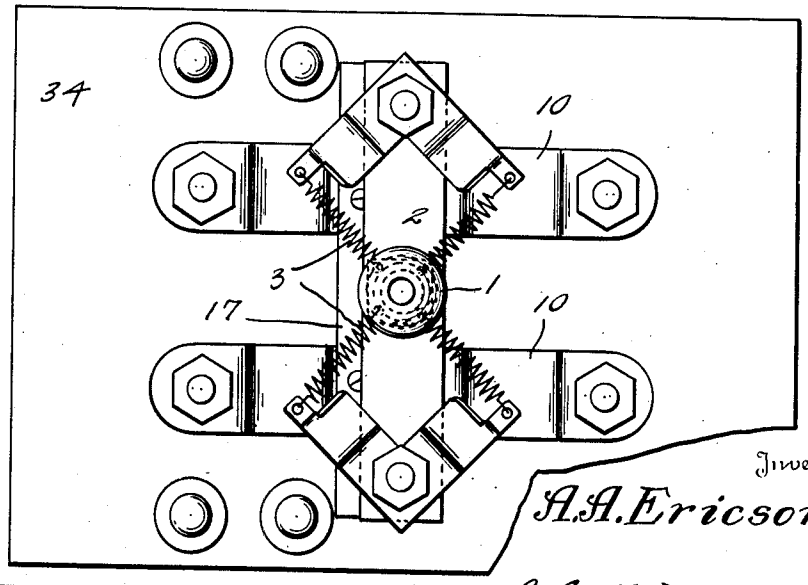


Fig. 4.

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Patented Oct. 5, 1943

2,331,017

UNITED STATES PATENT OFFICE

2,331,017

FIRE PREVENTION DEVICE FOR AIRPLANES

Albert A. Ericson, Lindenhurst, N. Y., assignor of one-fourth to Harry Reynolds, Jr., Rochester, one-fourth to Junius B. Tompkins, Babylon, Long Island, and one-fourth to Charles Vanderveer, Jr., Hempstead, Long Island, N. Y.

Application March 16, 1942, Serial No. 434,947

1 Claim. (Cl. 200—52)

This invention relates generally to airplanes, and more especially to a fire prevention device for airplanes.

The primary object of my invention is to provide a device of this character which will positively prevent fire in the event of a crash, by breaking the battery connections and thereby opening all electrical circuits, and simultaneously closing specially provided contacts to ground out the magnetos and instantly stop the motors.

A further object of my invention is to provide a device of this character which is simple and economical in construction, highly efficient and durable in use and may be easily and readily installed in an airplane.

With the foregoing and other objects in view that will appear as the nature of my invention is better understood, the same consists in the novel features of construction, combination and arrangement of parts illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

In the accompanying drawings, which are for illustrative purposes only and are therefore not drawn to scale:

Figure 1 is a side elevation, of a fire prevention device, embodying my improvements.

Figure 2 is an enlarged longitudinal section, taken through the pendulum, circuit making and breaking means and associated parts.

Figure 3 is a diagrammatic view, illustrating the ground strip, battery connections and circuits.

Figure 4 is an enlarged bottom plan view of the pendulum and the coil springs for maintaining the latter in normal position for re-set.

Figure 5 is an enlarged detail sectional view, showing the ball and spring assembly for holding the pendulum in normal position against casual displacement, and Figure 6 is a detail sectional view of the end-wise movable shaft disposed in alinement with the pendulum shaft, and associated parts.

Referring to the drawings for a more particular description of my invention, and in which drawings like parts are designated by like reference characters throughout the several views. A designates my improved fire prevention device, as a whole, which is designed to break the battery connections and thereby open all electrical circuits, and at the same time ground out the magnetos and instantly stop the motors in the event of a crash, as will more fully hereinafter appear.

Specifically, the device comprises the pendulum 1, supported in the ball socket 2 and maintained in normal position for re-set, regardless of the position of the airplane, by the four coil springs 3 or other equivalent means. The threaded shaft 4 of the pendulum 1 permits adjustment of the latter to compensate for the weight of the pendulum.

In carrying out my invention, the inner end 5 of the horizontal pendulum shaft 4 is made hollow to receive the ball 6, which is normally held in engaged relation with the seat 7 formed in the corresponding end of the shaft 8 by the coil tension spring 9. The ball and spring assembly above described hold the pendulum in normal position against casual displacement or any other disturbance except shock. The horizontal shaft 8 also serves as connection for the hydraulic re-set device, as will hereinafter appear.

Flexible copper contacts 10 of arcuate form, normally establish contact between the binding posts 11 of the battery (not shown). The inner central portions of the contacts 10 bear against the transverse micarda bar 12 carried by the horizontal shaft 8, with the ends of said bar slidably mounted on the longitudinal supporting rods 13. The bar 12 is normally held in its outermost position by the shaft 8, but when the ball 6 is released from the inner end of the former, by the shock incident to a crash, the bar 12 is moved inwardly or retracted by the action of the coil springs 14 disposed around the rods 13 and releases the contacts 10. This breaks the battery connections and opens all electrical circuits, as heretofore stated. At the same time, the contacts 15 carried by the bar 12 engage the contacts 16 of the stationary transverse ground strip 17, and ground the magnetos.

The hydraulic re-set device, comprises the cylinder 20, mounted on the instrument panel of the machine or other suitable support, in which cylinder is arranged the piston 22. The piston 22 is carried by the plunger 23 connected at its outer end, as at 24, to the manually operated lever 25. One end of the lever 25 is pivotally connected, as at 26, by means of the parallel links 27, to the outer end, as 27, of the bearing post 28. The inner end of the cylinder 20 is provided with the elbow-shaped discharge nipple 29 to which is connected one end of the flexible conduit 30, whose opposite end, as 31, is connected to the nipple 32 of the cylinder 33. The cylinder 33 is mounted on the rectangular supporting plate 34 and receives the piston 35, car-

ried by the inner end of the horizontal shaft 8. In practice, when the free end of the lever 25 is pushed inwardly by the operator, the action of the hydraulic fluid will bring sufficient pressure to bear on the piston 35 to accomplish the re-setting of the device against the tension of the coil springs 44.

All terminals are to be fitted for Breeze patented shields.

The entire assembly is enclosed in a hermetically sealed steel box to prevent ignition of any inflammables which might be thrown about in a crash.

From the foregoing description taken in connection with the drawings, it is thought that the construction, operation and advantages of my invention will be readily understood, without requiring a more extended explanation.

Various changes in the form, proportions and minor details of construction may be resorted to without departing from the principles or sacrificing any of the advantages of my invention, as defined in the appended claim.

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

In a fire prevention device of the character specified, a pendulum shaft, an adjustable pendulum screwing on the outer end of said shaft, a ball socket for the inner end of the pendulum shaft, a second end-wise movable shaft disposed in alinement with the inner end of the pendulum shaft, a spring pressed ball carried by the free end of the second shaft for holding the inner end of the pendulum shaft against casual displacement, but permitting said inner end to be released should a crash occur, a plurality of radially disposed springs for holding the pendulum in normal position for re-set regardless of the position of the airplane and a hydraulic re-set device for the pendulum shaft, said re-set device comprising a cylinder containing hydraulic fluid, a piston working in said cylinder, manually operated means for said piston, a second piston carried by the upper end of the second mentioned shaft, a casing for said second piston and a flexible connection between the lower end of the cylinder and the casing.

ALBERT A. ERICSON.