J. T. DOUCETTE.

ATTACHMENT FOR FLYING MACHINES.

APPLICATION FILED NOV. 9, 1914.

1,187,981.

Patented June 20, 1916.

3 SHEETS—SHEET 1.

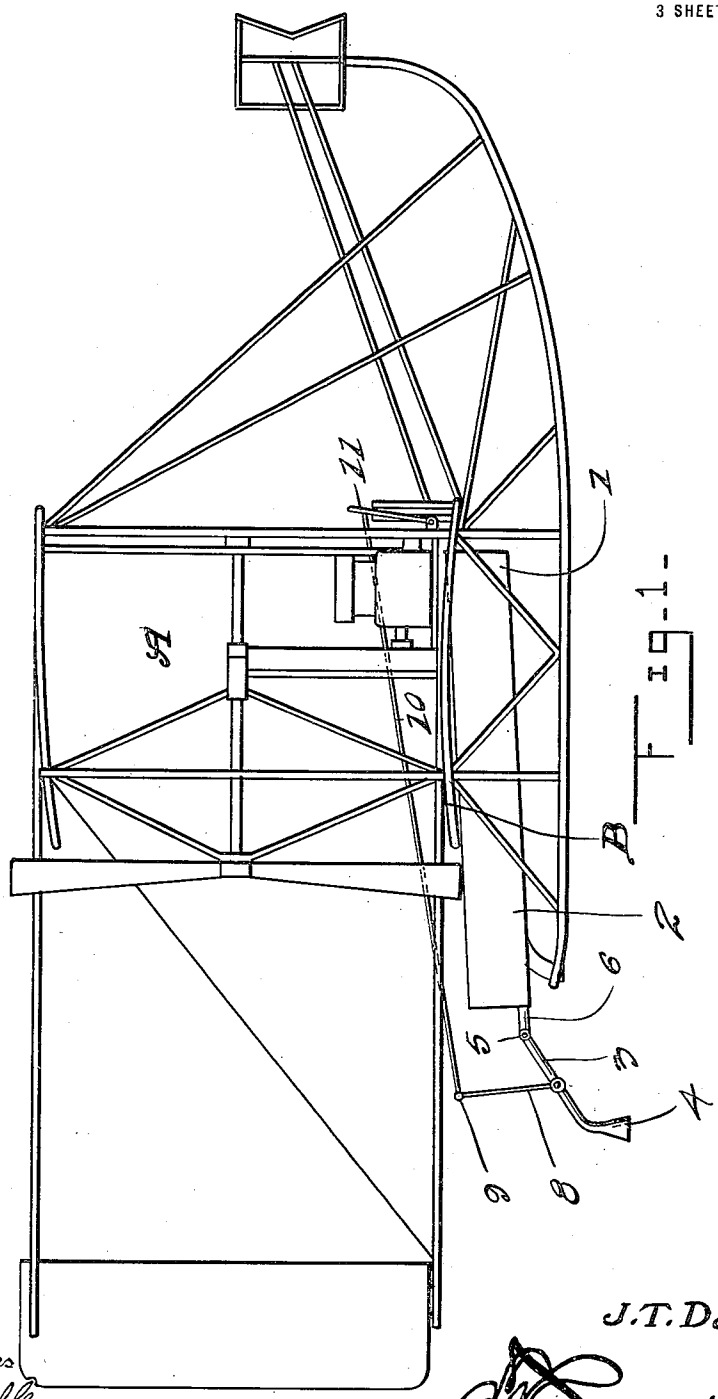


Fig. 1.

Witnesses

C. R. Beall.

Chas. J. Thurn

Inventor

J. T. Doucette.

By A. Landreth, Jr.

Attorney

J. T. DOUCETTE.

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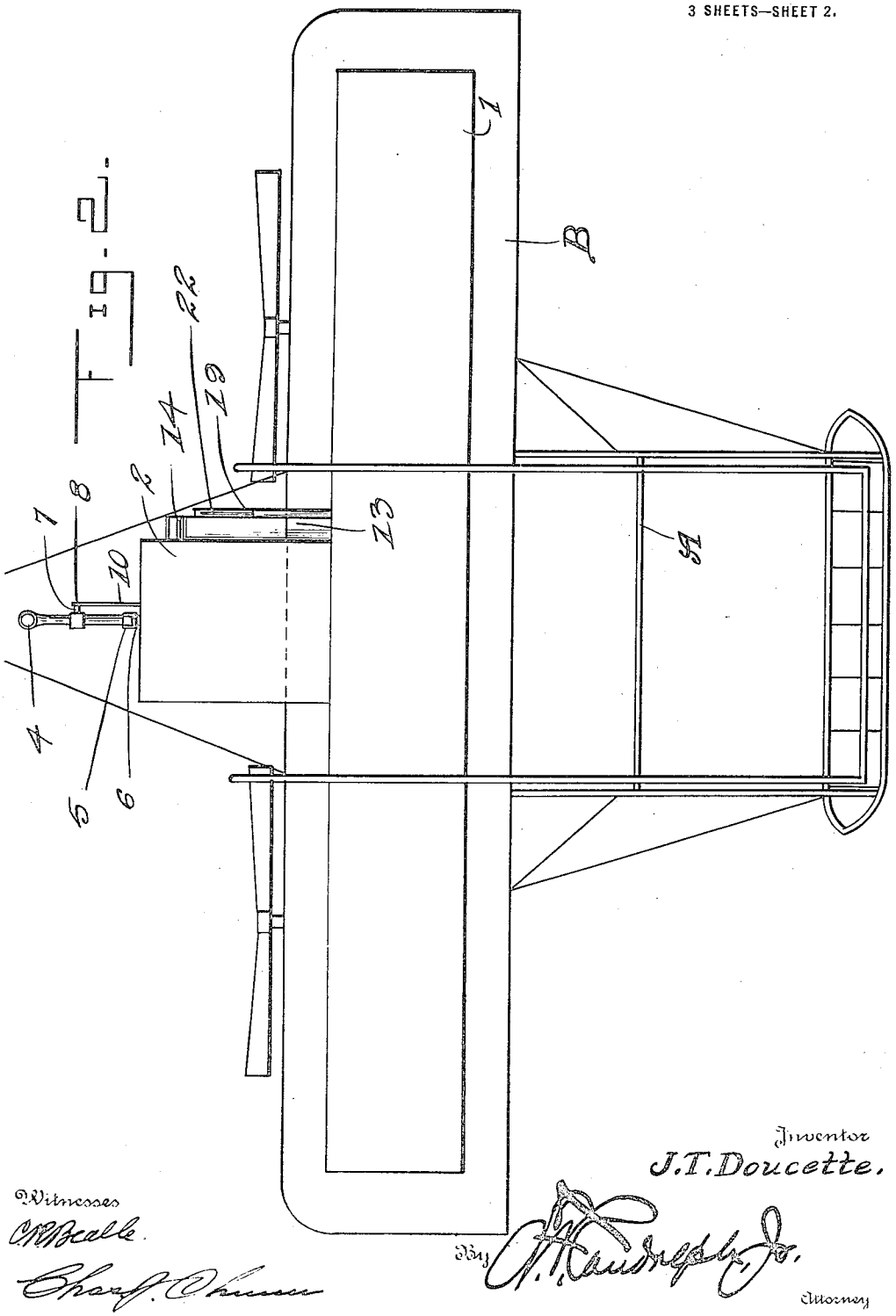
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3 SHEETS—SHEET 2.

Fig. 2.



Witnesses

C. M. Beale.

Chas. J. Thum

Inventor

J. T. Doucette.

By A. Lawrence Jr.

Attorney

J. T. DOUCETTE.

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3 SHEETS—SHEET 3.

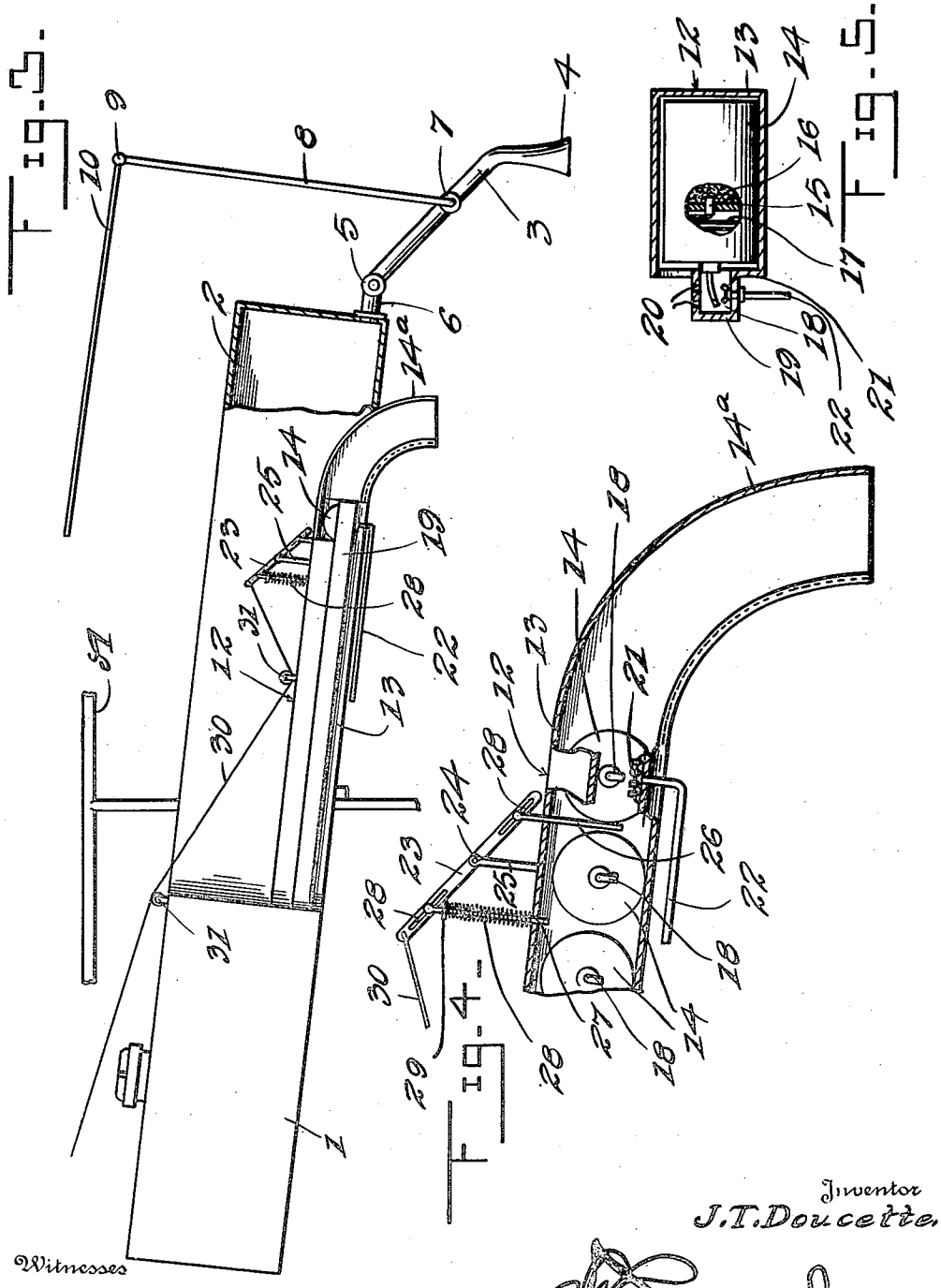


Fig. 4.

Fig. 5.

Witnesses

C. W. Beall.

Chas. J. Thum

Inventor

J. T. Doucette.

By A. L. Ramsey Jr.

Attorney

UNITED STATES PATENT OFFICE.

JOHN T. DOUCETTE, OF NEWTON LOWER FALLS, MASSACHUSETTS.

ATTACHMENT FOR FLYING-MACHINES.

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To all whom it may concern:

Be it known that I, JOHN T. DOUCETTE, a subject of the King of Great Britain, residing at Newton Lower Falls, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Attachments for Flying-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in flying machines such as aeroplanes and dirigibles and resides in the provision of means for rendering an airship a medium of destruction in times of war.

The primary object of my invention is to provide means of the character described in the form of an attachment which may be readily fitted upon a flying machine of any suitable character and is operated to first drop a suitable quantity of highly combustible and explosive liquid upon the enemy's territory, for example railroad tracks, and then ignite or cause the liquid to be exploded through the medium of bombs to be dropped by the attachment from the flying machine.

Another and more specific object is to provide an attachment of the character described which comprises a tank to be secured upon the flying machine and arranged so that a highly combustible and explosive liquid may be contained and dropped therefrom at will, also a casing carrying a number of bombs arranged so that one bomb may be dropped at a time.

The above and additional objects are accomplished by such means as are illustrated in the accompanying drawings, described in the following specification and then more particularly pointed out in the claim.

With reference to the drawings, wherein I have illustrated the preferred embodiment of my invention as it is reduced to practice, and throughout the several views of which similar reference numerals designate corresponding parts, Figure 1 is a side elevation of an aeroplane showing my attachment in use, Fig. 2 is a bottom plan view of an aeroplane showing my attachment thereon, Fig. 3 is an enlarged side elevation of my attachment being broken away in part, Fig. 4 is a fragmentary detail longitudinal sectional view showing the means for regulating the dropping of the bombs, and Fig. 5 is a transverse sectional view illustrating the means for igniting the fuses of the bombs in detail.

Referring to the drawings by characters of reference, A designates as an entirety a flying machine, and in this instance an aeroplane of the biplane type.

Carried upon the under face of the lower plane B of the aeroplane A, is an elongated metallic tank 1 provided centrally with a right angularly and rearwardly extended portion 2. This tank 1 is designed to contain a suitable quantity of a highly combustible and explosive liquid. In attaching the tank 1 to the under face of the lower plane B of the aeroplane A, the extension 2 is disposed preferably in the center so as to enable the proper balancing of the machine. A downwardly and rearwardly inclined discharge nozzle or spout 3 provided with a flared discharge end 4 is hingedly connected as at 5 at its upper end to the outer end of a short length of pipe 6 that is secured to the outer end of the extension 2 and communicates with the tank. The member 3 is jointed so that upon the aeroplane's alighting it will be moved upwardly by contact of the ground and not become deranged. Any suitable means may be provided for limiting the downward swing of the hinged discharge nozzle or spout 3 so as to maintain the same practically in a fixed position with relation to the tank and aeroplane when the latter is above the surface of the ground.

I provide preferably a rotatable valve 7 that is mounted within the discharge nozzle 3 intermediate the ends of said nozzle and arranged to cut off the supply of liquid. The valve 7 is provided with an upstanding stem 8 that is suitably connected as at 9 to one end of an operating rod 10. The operating rod 10 is directed forwardly over the lower plane B of the aeroplane and connected with a suitable operating lever 11.

Carried upon one side of the extension 2 of the tank 1 is a containing and dropping mechanism designated 12 as an entirety which comprises an elongated casing 13 in which are mounted a plurality of cylindrical bombs 14. The tank 1, ex-

tension 2 and casing 13 are inclined rearwardly and downwardly and the rear end of the casing 13 is curved outwardly and downwardly to provide a discharge spout or nozzle 14ª from which the bombs 14 are to be dropped and will discharge by force of gravity. The bombs 14 consist of a cap 15 communicating with the explosive containing compartment 16 and connected with a fuse 17. The fuse 17 has one end 18 disposed outwardly relative to the casing of the bomb 14 and arranged to be ignited.

In this connection it will be noted that the casing 13 is provided with an extension 19 on the outer face thereof, said extension being approximately rectangular in cross section preferably and provided in its upper wall with a plurality of ventilating openings 20. An acetylene burner 21 is mounted within the extended portion 19 of the casing 13 at a point adjacent to the inner end of the discharge nozzle or spout 14ª and consists of a number of jets so that the flame therefrom will ignite the bomb passing thereby when said bomb is released from the main supply thereof so that it may be dropped from the spout 14ª. A pipe 22 leads from the burner 21 to a suitable source of fuel supply, not shown, to be carried upon the frame work of the flying machine.

As a means for releasing the bombs 14, one at a time, I provide a lever 23 that is pivoted approximately centrally of its ends as at 24 upon an upstanding support 25. The support 25 is carried by the top wall of the casing 13 preferably. Pivotally connected at their upper ends with the lever 23 at points adjacent the ends of the lever are releasing and retaining pins 26 and 27. Slots 28 are provided adjacent the ends of the lever 23 and the connecting pins or elements for the pins 26 and 27 are slidable in said slots. The pins 26 and 27 are slidable through openings in the top wall of the casing 13 and extend into said casing so as to retain the supply of bombs within the casing. The pin 27 has mounted thereon an expansive helical spring 28 which engages at its upper end a stop pin 29 carried upon the pin 27 adjacent to the upper end thereof and the top wall of the casing 13. This spring 28 normally holds the inner end of the lever in up position.

As shown in Fig. 4 the rearmost of the bombs 14 is in position for dropping and is at a point where the flame from the burner 21 will ignite the fuse 18 as said bomb passes the burner on its way to the discharge spout 14ª and the rearmost pin 26 is in down position so as to prevent the next adjacent bomb from dropping. A flexible element or operating cord 30 is connected with the inner upper end of the lever 23 and is guided by means of suitable pulleys 31 to a point suitably adjacent the operating mechanism of the flying machine so that the bombs may be dropped at will. When it is desired to release one of the bombs a pull is communicated to the element 30 which owing to its connection with the pulley 31 and the disposal of its secured end relative to the lever causes the lever to be moved downwardly relative to the upper end and withdraws the pin 26 from within the casing allowing the rearmost of the bombs to roll by force of gravity into the discharge spout 14. When the above mentioned action takes place the pin 27 is forced downwardly and holds in check the balance of the bombs. Upon release of tension upon the element 30 the spring 28 forces the pin 27 into up position and the pin 26 into down position, therefore allowing the pin 26 to hold in check the remainder of the supply of bombs as clearly shown in Fig. 4.

In operation, assuming that an attack is to be made upon the enemy or property thereof, for example, it is desirous of destroying one of the enemy's railway lines, the flying machine pursues a course along the track and the operator through the medium of the rod 10, lever 11 and valve 7 allows a suitable quantity of the explosive and combustible liquid to be dropped upon the track through the nozzle 3.

When it is desired to ignite the liquid so that it will burn and explode, the mechanism for releasing the bomb is operated as previously described so that a bomb may be dropped at a suitable point where the combustible and explosive liquid has been previously placed. Upon the explosion of one of the bombs 14, the saturated territory will burn and explode.

With reference to the foregoing description and accompanying drawings it will be observed that an aeroplane equipped with my improved attachment will be of great service in times of war in the medium of destruction and in offensive moves.

In practice, I have found that the form of my invention, illustrated in the drawings and referred to in the above description, as the preferred embodiment, is the most efficient and practical; yet realizing that the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize the fact that various minor changes in details of construction, proportion and arrangement of parts may be resorted to, when required, without sacrificing any of the advantages of my invention, as set forth.

What is claimed is:—

The combination with a flying machine, of a casing carried by the flying machine and provided at one end with a discharge terminal or outlet, said casing being also provided at one side with a longitudinal extension communicating with the casing and

adapted to receive fuses of bombs or explosives contained in the casing, means for controlling the discharge of bombs or explosives from the casing and means located in the said extension in the path of the fuses for lighting the same after the bombs or explosives have been released.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN T. DOUCETTE.

Witnesses:
JOHN WHITE,
E. TAMPLIN CHILD.