

Nov. 15, 1927.

1,648,904

C. KESSES

FLYING TORPEDO

Filed June 23, 1926

3 Sheets-Sheet 1

Fig. 1.

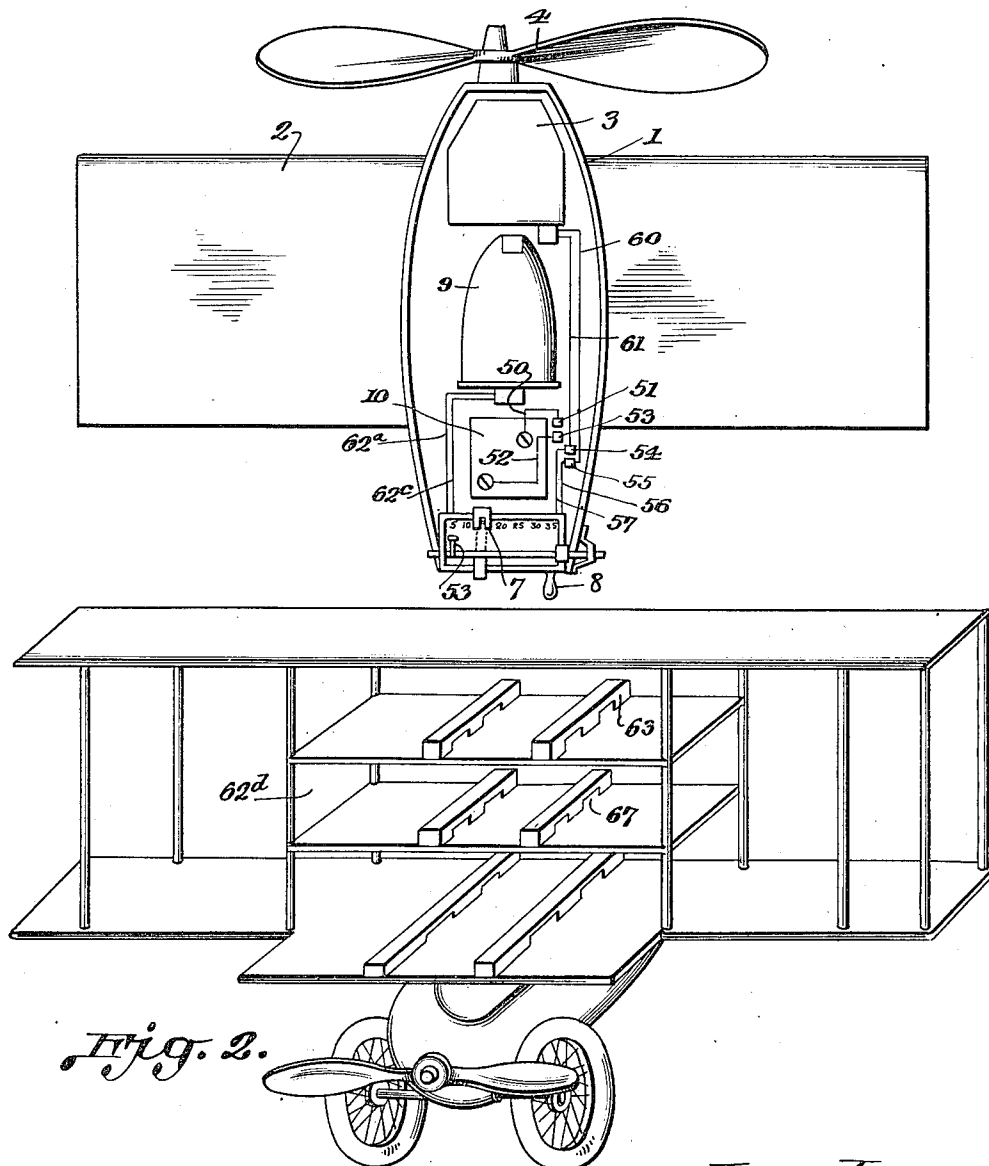


Fig. 2.

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Fig. 3.

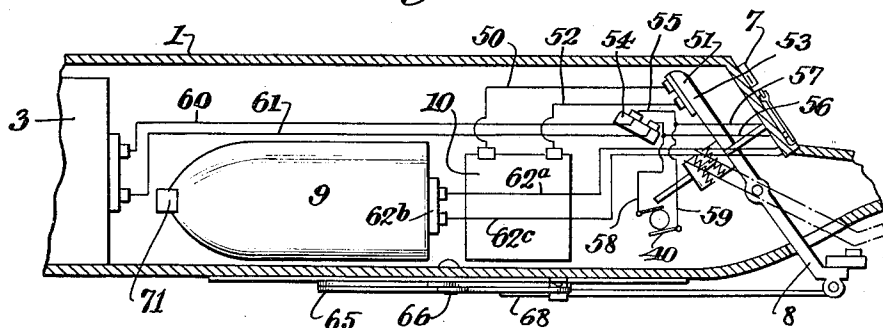


Fig. 4.

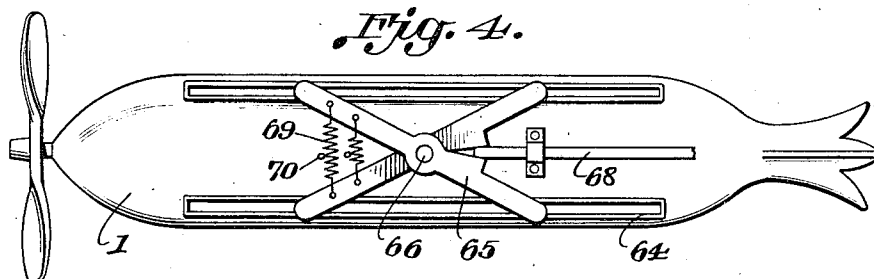
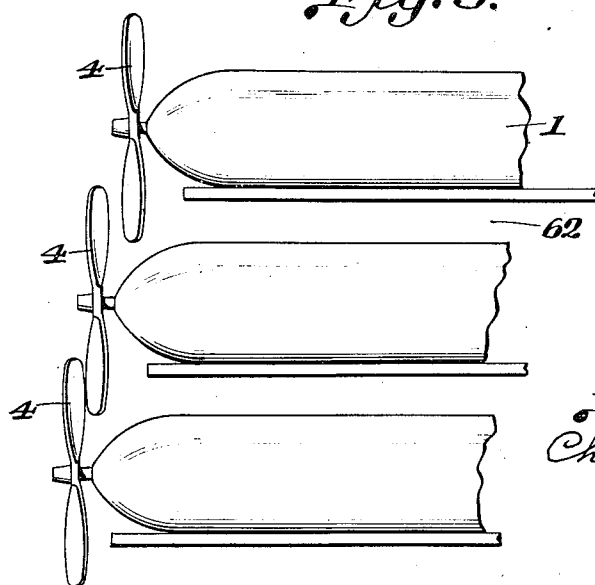


Fig. 9.



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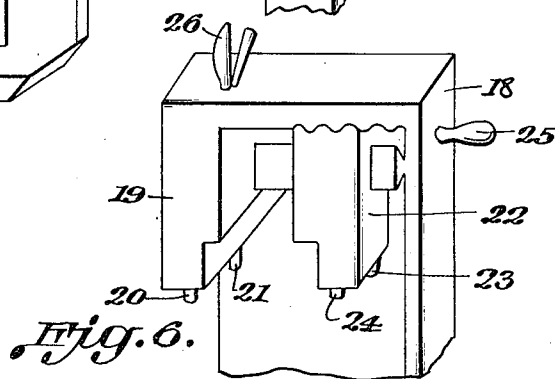
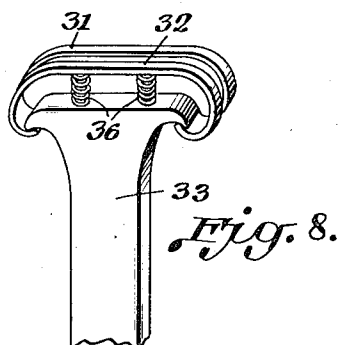
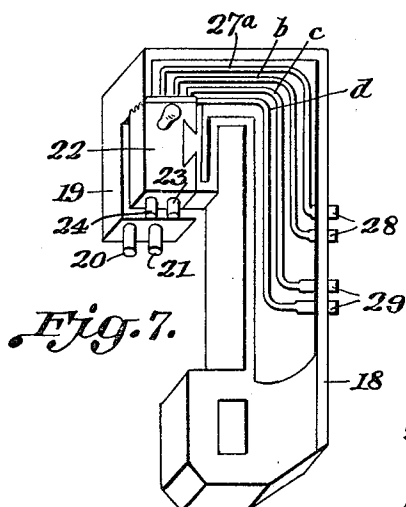
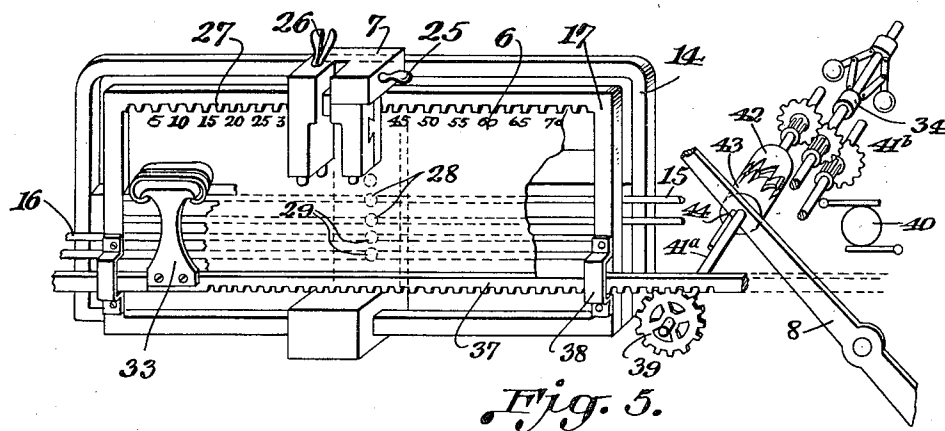
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE.

CHARLES KESSES, OF NEW YORK, N. Y.

FLYING TORPEDO.

Application filed June 23, 1926. Serial No. 118,005.

The objects of my invention are:

First, to have a powerful engine of war, which can fly at a short notice to any part of the country to protect the nation in the air, on the land and on or in the sea.

Second, to have means to destroy any size enemy engine of war from a long distance, on its side where it cannot be protected for this purpose.

Third, to have an aeroplane arranged for carrying in its center a few flying torpedoes one on top of the other for balancing the aeroplane by the carrying of said torpedoes to a high altitude.

Fourth, to have a timing device arranged to explode an explosive at a predetermined time and a second means to explode said explosive when it strikes.

Fifth, to have safety switches on the timing device for the safety of the operator.

Sixth, to have a controlling lever arranged for operating said torpedo, means are carried on said lever to start the different mechanical movements of the devices for the controlling and sending off of the torpedo. First to have means on said lever to start the engine for the driving of the propeller, second to connect the driving mechanism to the electric switch device to start the timing device. Third, to connect the electric current to the timing device for the controlling of the switches and fourth, to unlock and release the flying torpedoes to slide out of said aeroplane.

Seventh, to have the dial of the timing device in a straight form so to move with the greatest quickness the switches to the correct position.

Eighth, to have the timing device in an inoperative condition till the electric circuits are closed to said timing device by the pulling of the controlling lever, arranged for the safety of the operator.

Ninth, to have sliding and locking means arranged for the torpedoes in the aeroplane, to be unlocked by the controlling lever to slide the torpedoes out of the aeroplane.

Tenth, to have the positions for the aeroplane torpedoes with its wings close together, one above the other and means to prevent the interference of the propellers of said torpedoes with others to prevent topheaviness of the aeroplane.

The co-operation of the several parts throughout a complete cycle of movement involved for using this device of a flying

torpedo is described in two complete pages, page 14 and page 15 in my pending application for a signal clock, Serial No. 464,949, filed April 27, 1921.

This application is related to my Patent No. 1,384,528 for a photographic exposure clock, and to my applications for signal clocks, Serial No. 464,949 filed April 27, 1921, Serial No. 499,066 filed Sept. 7, 1921, Serial No. 756,262 filed Dec. 16, 1924. I attain these objects by the mechanism illustrated in the accompanying drawings in which

Fig. I is a plan view of a half cut of a flying torpedo shown from above.

Fig. II is a perspective view of an aeroplane arranged for holding centrally a few flying torpedoes one on top of the other.

Fig. III is a side view of a half cut of said flying torpedo.

Fig. IV is a view from below of said flying torpedo.

Fig. V is a perspective view of a timing device having its dial in a straight form.

Fig. VI is a perspective view of one of the electrical contact members of the timing device.

Figure VII is a perspective view partially in section of the member of Figure VI.

Figure VIII is a view in perspective of a travelling contact member.

Figure IX is a view in side elevation showing the vertical alignment of the flying torpedoes on the aeroplane.

Similar letters refer to similar parts throughout the several plan views.

A hollow member 1 constitutes the frame work of the torpedo its wings 2 being secured in a suitable manner to said member. A powerful engine or an electric motor 3 for driving a propeller 4 is secured in said member. A timing device 5 for controlling said torpedo is secured in the rear of the device in such a position to extend its dial 6 and its switch 7 out of an opening in said hollow member. A lever 8 for controlling said torpedo is operatively secured to said timing device and must extend out of said hollow member in such a manner to be moved by the operator. An explosive 9 and a storage battery 10 is secured in the bottom of said hollow member in such a manner and position to balance said torpedo in every direction. A second view of said timing device is shown in Fig. V. Said timing device is provided with a dial 6. A frame 14 is se-

cured in the hollow member 1 and is arranged to carry the electric contact rails 15 for the current to and the contact-rails 16 for the return current from said switches in a straight direction in a hard rubber plate. Said dial is secured with a frame 17 in such a position to the frame 14 to allow moving of the switch carrying members 18 between said frames. The switches 7 which control the device are made from hard rubber, separate views of said switches are shown in Figs. VI, VII and VIII. Said switches consisting of a member 19 which is carrying the contacts 20 and 21; a second member 22 is arranged for moving in said first named member to different positions. Said members carry the contacts 23 and 24. A spring button 25 secures said second member in said first named member to various selective positions. The switches 7 are slidably arranged on the top and on the bottom of the frame, 17, arranged for moving said switches in a straight direction to any part on the dial 6 to be secured with a spring button 26 in the grooves 27 which are arranged on the frame 17. Two contacts 28 are secured in the switch carrying member 18 in such a position to press on to be in connection each one with one of the contact rails 15 wherever said switches are moved. Two contacts 29 in said member are connected in the same manner to the contact rails 16. An electric current conduit 27^a is arranged between the upper contact 28 and the contact 20 in the switch member 19, a second conduit 27^b between the lower contact 28 and the contact 21 in said switch member, a third conduit 27^c between the upper contact 29 and the contact 23 in the movable switch member 22 and a fourth conduit 27^d between the lower contact 29 and the contact 24 in said switch member, thereby connecting the circuit for the current to and the return current from said switches with the contact rails 15 and 16.

Bridging contacts 31 and 32 (separate view is shown in Fig. VIII) are arranged to control said switches. Said bridging contacts are carried by an arm 33 which is operatively connected to a timing device 34. Springs 36 arranged between said arm and said bridging contacts to give with said contacts good circuit connections to the switch contacts 20, 21, 23 and 24. A gear rail 37 for carrying said arm is slidably arranged in brackets 38 which are removably secured to the frame 17, arranged for resetting said gear rail to a fixed position. Said gear rail is meshed to a gear wheel 39 which is secured to the main shaft 41 of the driving mechanism 34 to move by the operation of said mechanism the bridging contacts 31 and 32 to control both switches in one operation. A motor 40 is provided to control said driving mechanism and a chain of pin and gear

wheels connects said motor to the main shaft 41 of the timing device. Said main shaft is in two parts, part 41^a and part 41^b. A clutch 42 is secured to the shaft 41^b and is meshed to a clutch 43 which is slidably arranged on the shaft 41^a. A rail 44 is secured to said shaft and is fitted in a corresponding opening in the clutch 43. A controlling lever 8 is secured in such a manner to the clutch 43 to move said clutch members together by the movement of said lever to connect or to disconnect the driving mechanism from the electric switch device by the moving of said lever.

The electric current conduits to operate the flying torpedoes with the timing device are shown in Fig. I to operate a motor 40 for the driving of the clock mechanism.

Two contacts 51 and 53 are carried by the controlling lever 8. Separate electric conduits 50 and 52 are provided between one each of said contacts with one each of the poles of the storage battery 10. Two contacts 54 and 55 are secured in the member 3 and positioned in such a manner to press on and be in contact with each one with one of the contacts 51 and 53 by the pulling of the lever 8. Two conduits 56 and 57 are arranged to close the circuits, each one separate with one of the contacts 54 and 55 and one of the contact rails 15 to close the circuit to the switch device, two conduits 58 and 59 between said contacts and the motor 40 to control the driving mechanism, and two conduits 60 and 61 between said contacts and the motor 3 for driving the propeller 4.

If an engine is used then the propeller 4 must be started by hand, or said last named conduits must be secured to a small motor which is arranged to control a self starter for said propeller. To explode the explosive 9 a conduit 62^a is arranged to close the circuit between one of the contact rails 16 and any suitable electric device 62^b which is suitable to explode said explosive, and a conduit 62^c to close the circuit between the second one of said contact rails and to said device.

To explode said explosive without any electric device it is necessary to connect the conduit 62^a and 62^c in a powder charge to explode the explosive.

An aeroplane a view of which is shown in Fig. II is arranged for carrying a few of said flying torpedoes to a high altitude. Compartments 62^d are provided one above the other in the center of the aeroplane, each one for holding one of said torpedoes with its wing 2. Rails 63 are arranged in each one of said compartments. Said rails must fit in grooves 64 which are provided on the bottom of each one of said torpedoes. A separate view of said bottom is shown in Fig. IV. Two levers 65 are arranged mov-

ably and crossways with a pin 66 to the hollow member 1 in such a position that the ends of each one of said levers must fit in openings 67 which are arranged in the rails 63 in the compartments 62. A member 68 is slidably arranged in suitable brackets which are secured to the bottom of the hollow member 1. Said members must be in such a position to press against both of the levers 65, to hold the ends of said levers secure in the openings 67. Said member is operatively connected to controlling lever 8 in such a way to release the levers 65 by the pulling of the lever 8. Springs 69 are secured with a pin 70 in the middle of the hollow member 1; its other ends are secured to the levers 65 to pull said levers together thereby releasing the flying torpedoes from the aeroplane by the pulling of the controlling lever 8.

A second means to explode the explosive 9 is arranged in the front of said explosive. A projectile 71 is secured in such a manner in the head of said explosive to explode said explosive when it strikes.

Special positions are provided in the aeroplane for the flying torpedoes; a view of said positions are shown in Fig. IX. The first one of said torpedoes must be secured in one of the compartments 62, the second torpedo in the compartment next to said first torpedo and in such a position to extend the propeller in front of the propeller of said first named torpedo, and the third one must extend in the same manner, to make each one of the compartments as low as possible to prevent topheaviness of the aeroplane.

Now I show the cooperation of the several parts throughout a complete cycle of movements involved for the controlling of the flying torpedoes with the timing device to explode at a predestinated time an explosive and means for carrying said torpedoes to a high altitude. The torpedoes are inserted in the compartments 62 in the aeroplane in the manner shown and secured with the levers 65 on the rails 63. When the aeroplane is lifted to a high altitude it is ready to send the torpedoes under its own power, one after the other, against any enemy engine of war, which is in the air, on the land or in the sea, then direct the aeroplane at full speed in a straight direction against said enemy engine. Set the switch 7 with the spring button 26 in the grooves 27 at a predestinated time position, pull the controlling lever 8, thereby connecting first, the current by the contacts 51 and 53, 54 and 55 to the timing device; second, to the electric motor or powerful engine 3 arranged for the driving of the propeller 4; third, connecting the clutch members 42 and

43 to connect the driving mechanism 34 to the electric switch device, and fourth, moving the member 68 thereby releasing the levers 65 from the opening 67 in the rails 63 which are provided in the aeroplane. The flying torpedo released and driving under its own powerful engine 3 slides and flies like an arrow out of the aeroplane which is now run at reduced speed. The torpedo travels for the distance required, the bridging contacts 31 and 32 moving to the switches 7 to the predetermined time set, to close the circuit current 47 and 49 on said switches to explode the explosive 9 with the timing device. If the flying torpedo strikes before said predestinated time to solid surface, the said explosive is exploded with a projectile 71.

What I claim as my invention to be secured by Letters Patent is—

In flying torpedoes having in combination, an aeroplane carrier arranged for carrying said torpedoes, a device arranged for sliding and for locking said torpedoes in said aeroplane carrier, wings arranged for flying said torpedoes, a propeller mounted to propel said torpedoes, an engine arranged to drive said propeller, a selfstarter provided to start said engine, an explosive charge arranged in said torpedoes, a source of electric power, a timing device for exploding said explosive at a predetermined time; said timing device consisting of a motor for a speed driving mechanism for rotating a shaft, an arm carrying two bridging contacts arranged for moving in a straight line by said shaft, a slidable contact member in the path of said arm, said member having contact elements for contacting the bridging contacts on the arm, a clutch interposed between said driving mechanism and said shaft, a manually operated lever for engaging said clutch, a member interposed in said locking device arranged on said lever to hold said torpedoes secure in said rails, two contact elements mounted on said lever, two line closed circuits to said contact elements including the source of power, a second pair of contact elements arranged in such a position to press on said last named elements by the pulling of said lever, electrical connections from said second named contact elements to said selfstarter, to said speed driving mechanism, to said timing device and from said timing device to the explosive charge; the selfstarter for the engine, the timing device, the engaging of said clutch and the releasing of said torpedo from said carrier being started in operation by the movement of said lever.

Signed at New York city, in the county of New York and State of New York this 22 day of June A. D. 1926.

CHARLES KESSES.