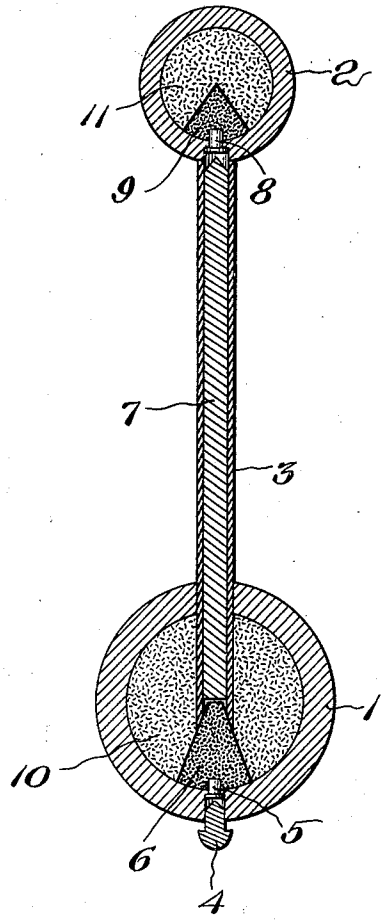
W. B. D. GAY.

ORDNANCE DEVICE.

APPLICATION FILED OCT. 8, 1917.

1,343,557. Patented June 15, 1920.



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UNITED STATES PATENT OFFICE.

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ORDNANCE DEVICE.

1,343,557. Specification of Letters Patent. Patented June 15, 1920.

Application filed October 8, 1917. Serial No. 195,257.

To all whom it may concern:

Be it known that I, WILLIAM B. D. GAY, a citizen of the United States, and resident of Brookline, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Ordnance Devices, of which the following is a specification.

This invention relates to ordnance and more particularly to any aerial device adapted either to be dropped from aircraft or to be projected through the air in other suitable manner.

In military and naval operations, both offensive and defensive, there are many situations where it is desirable to produce an explosion at a given point and at substantially the same time to produce another explosion at a point somewhat removed from the first point but in the same vicinity, as for example in bombarding boats, navy yards, ammunition dumps, artillery positions, trenches, etc., where there is a central object and scattered objects surrounding the central object, the destruction of the central object requiring a heavy explosion and the destruction of the scattered objects requiring a shower of shrapnel or liquid fire or a cloud of gas. In bombarding an artillery position from aircraft, for example, a heavy explosion immediately at the artillery piece is required to wreck the gun mechanism and in order to destroy the enemy company operating at the position, at various distances from the gun, it is necessary to produce a shower of shrapnel or the like above the gun a distance depending upon the extensiveness of the position. The latter is particularly necessary for the reason that the force of an explosion at or slightly above the surface of the earth is largely expended downwardly, resulting merely in wrecking the object struck or blowing a crater in the ground. In bombing a boat from aircraft it is desirable to produce an explosion at or in the boat to disable and sink it and at the same time to bring down a shower of shrapnel or the like to destroy the enemy on the deck of the boat.

In realization of the above-mentioned requirements the present invention has for its principal object the production of a plurality of explosions at spaced points in the same vicinity at substantially the same time. Corrolarial objects of the inventions will appear from the following description and the accompanying drawing which represents a central longitudinal sectional view of the preferred embodiment of my invention.

In accordance with the principal object of the invention I provide two bombs 1 and 2 joined together so as to strike in predetermined spaced relationship. The device is so shaped and weighted that in dropping from an aircraft or in being projected through the air in other suitable manner one bomb will travel ahead of the other a predetermined distance depending upon the length of the connection between the bombs, the forward bomb being constructed to produce a heavy explosion for destroying the boat, artillery piece, or the like, and the trailing bomb being constructed to produce a shower of shrapnel or liquid fire or a cloud of gas or the like. My preferred method of causing one bomb to travel ahead of the other consists in making the specific gravity of the forward bomb greater than that of the trailing bomb although air resistance devices or other steering means may be employed. The connection between the bombs is preferably rigid and in the preferred embodiment illustrated in the drawings the connection comprises a tube 3.

Inasmuch as the principal desideratum of the present invention is to explode the bombs when the forward bomb hits its mark, I provide detonating means actuated by the forward bomb contacting with an object. Any means actuated by the shock of a collision may be employed for detonating the respective bombs but I prefer to employ means such as illustrated whereby a contact detonator in the forward bomb actuates a detonator in the trailing bomb. The illustrated means for this purpose comprises a firing pin 4 slidingly mounted in an opening in the forward end of the forward bomb, a detonating charge 5 behind the pin 4, a charge of high-explosive 6 around the detonating charge 5, a firing shaft 7 slidingly mounted in the connecting tube 3, a detonating charge 8 mounted in an opening in bomb 2 at the end of tube 3, and a charge of high-explosive around the detonating charge 8. The material 10 and 11 within the bombs may comprise any suitable composition or mixture such a shrapnel, gas or liquid fire.

From the above description the operation of my improved device will be apparent. The uses to which the device may be put are

innumerable and the above mentioned uses are merely illustrative. For example, the device may be employed effectually to bomb troops marching along a highway or across a bridge, the forward bomb serving to blow a crater in the highway so as to render the road impassable, or to destroy the bridge, and the trailing bomb serving to decimate the troops.

I claim:

1. An ordnance device comprising a plurality of spaced bombs and means including a rod extending between the bombs for exploding one bomb when the other bomb explodes.

2. An ordnance device comprising a plurality of spaced bombs, a tube joining the bombs together and means including a rod reciprocatably mounted in the tube for exploding the bombs simultaneously.

3. An ordnance device comprising an elongate tube, a bomb at each end of the tube, the device being so shaped and weighted that in falling one bomb will travel ahead of the other, a detonator in each bomb, and a firing shaft extending through said tube into coöperative relationship with the detonators, whereby the forward bomb explodes when it strikes the earth and the other bomb explodes above the earth at a distance determined by the length of said tube.

Signed by me at Boston, Massachusetts, this 5th day of October, 1917.

WILLIAM B. D. GAY.