E. R. SUTCH.

BOMB.

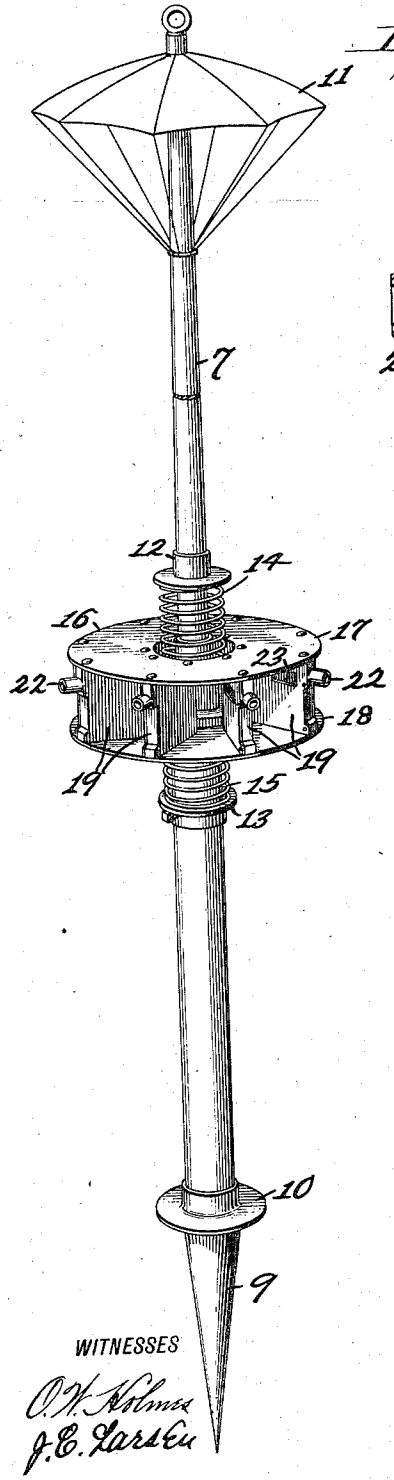
APPLICATION FILED SEPT. 6, 1916. RENEWED JUNE 27, 1918.

1,277,271.

Patented Aug. 27, 1918.

3 SHEETS—SHEET 1

Fig. 1.



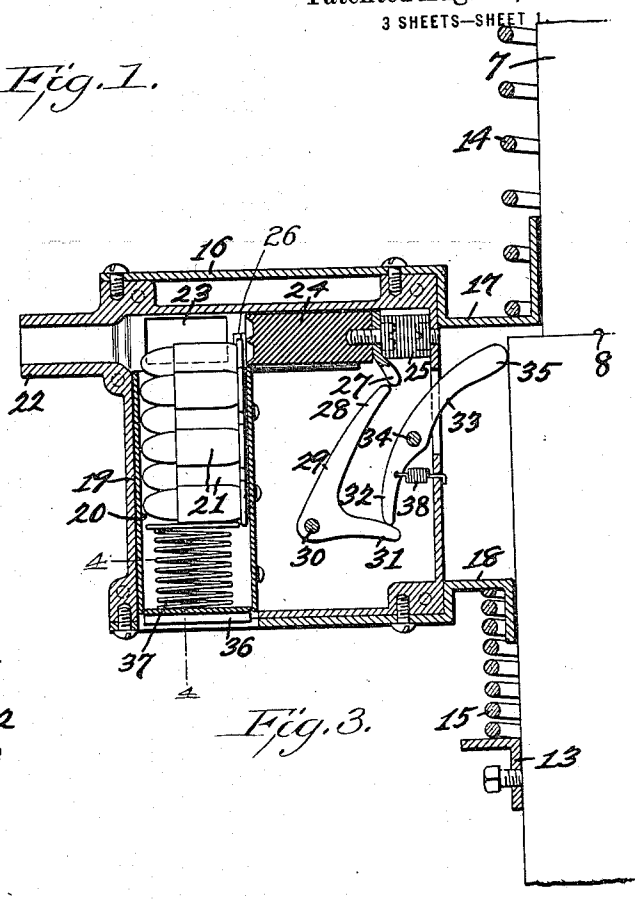


Fig. 3.

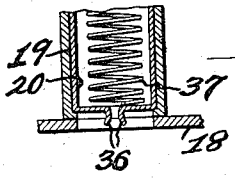


Fig. 4.

WITNESSES

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3 SHEETS—SHEET 2.

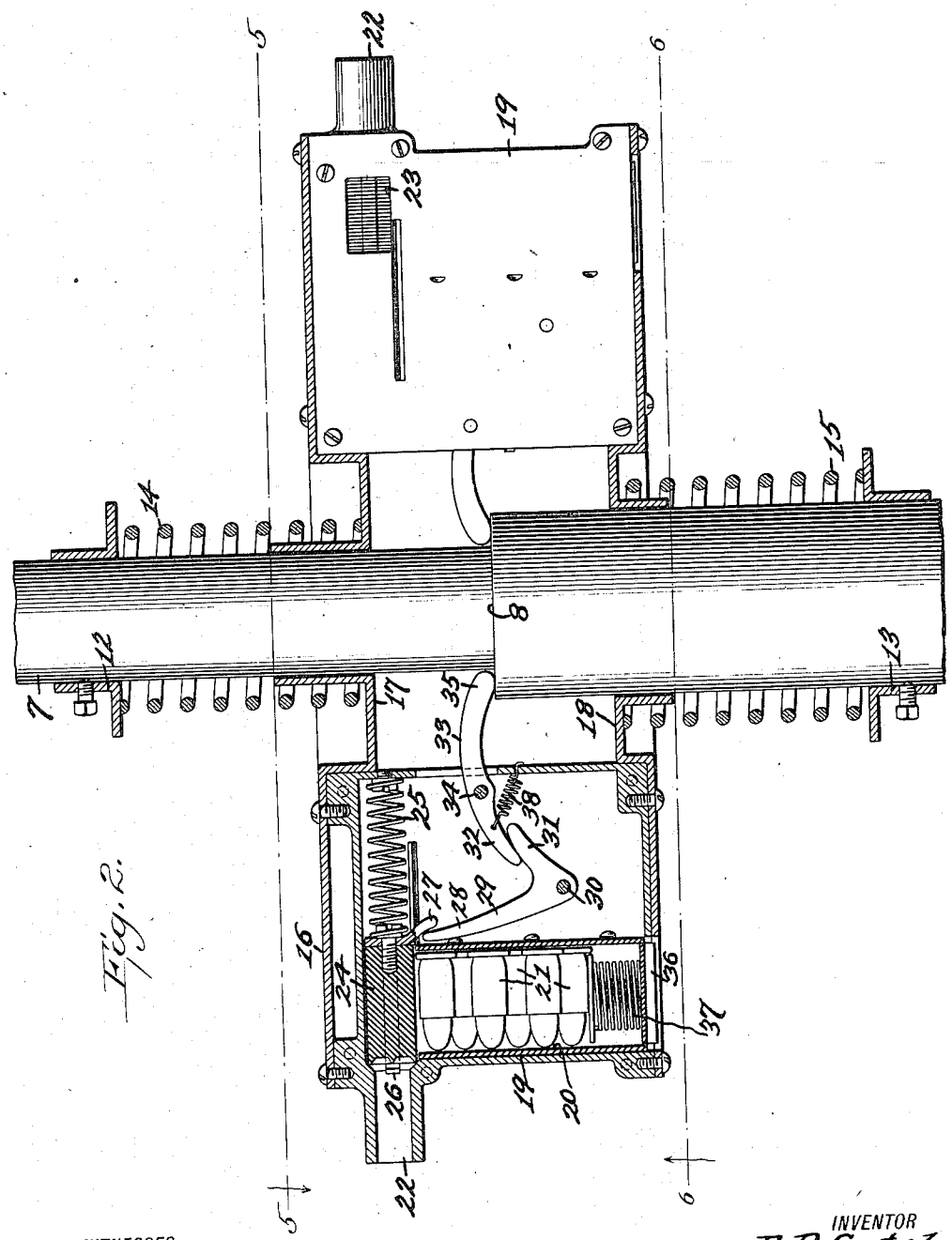


Fig. 2.

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3 SHEETS—SHEET 3.

Fig. 5.

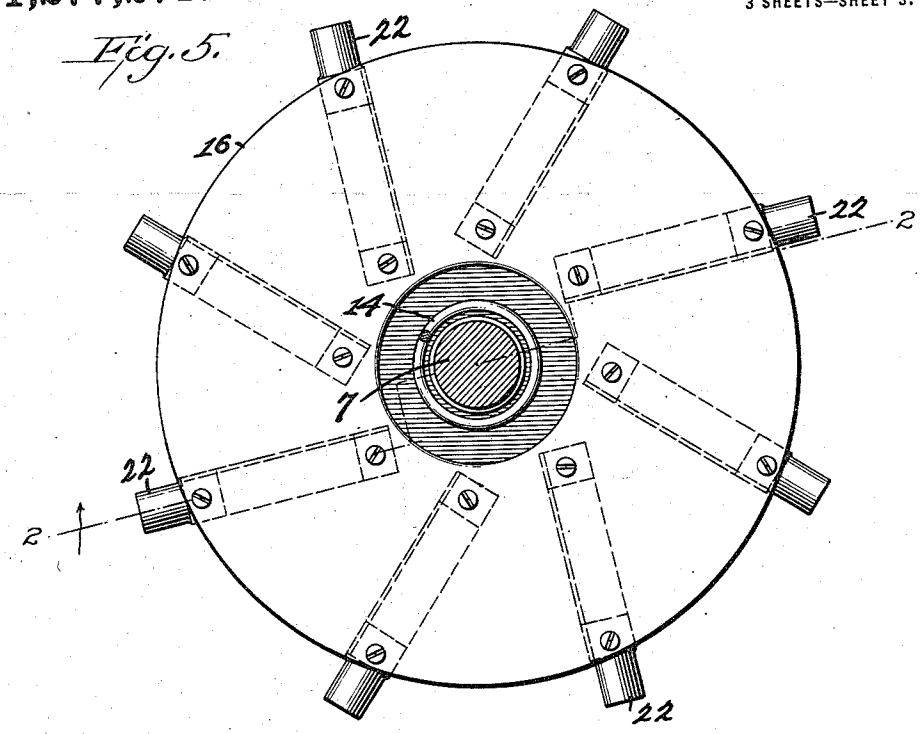
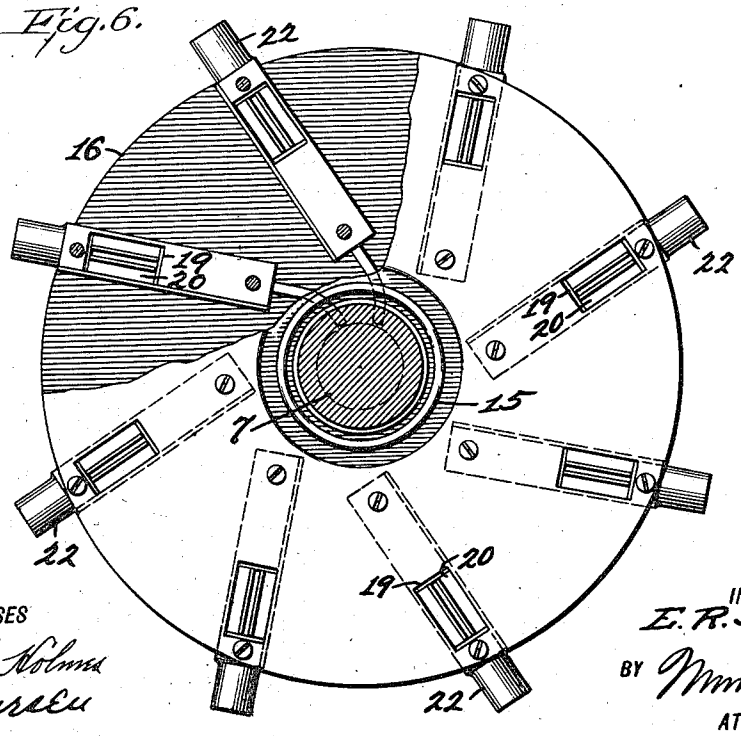


Fig. 6.



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UNITED STATES PATENT OFFICE.

ELWOOD REED SUTCH, OF PHILADELPHIA, PENNSYLVANIA.

BOMB.

1,277,271. Specification of Letters Patent. Patented Aug. 27, 1918.

Application filed September 6, 1916, Serial No. 118,669. Renewed June 27, 1918. Serial No. 242,309.

To all whom it may concern:

Be it known that I, ELWOOD R. SUTCH, a citizen of the United States, and a resident of Roxborough, Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Bombs, of which the following is a specification.

My invention relates to weapons of warfare designed to be dropped from air ships, and among the objects thereof are to provide means for maintaining the device in erect position in its descent, for holding the same in vertical position after having reached the earth, for radiating a multitude of bullets in a horizontal plane after the device has reached the earth, and for revolving the cartridge carrying member of the device during the firing of the device, to cushion the last named member while the device is being handled and thus prevent premature explosions, and to utilize cartridge clips of suitable type in the loading of the device.

My invention is fully described in the following specification, of which the accompanying drawings form a part, in which like characters refer to like parts in each of the views, and in which:—

Figure 1 is a perspective view of my invention, as in its descent from a height to the earth;

Fig. 2 is an enlarged fragmentary section therethrough, as on the line 2—2 of Fig. 5, with the parts in normal position;

Fig. 3 is a fragmentary section similar to Fig. 2 but showing the parts in operating position;

Fig. 4 is a fragmentary section taken on the line 4—4 of Fig. 3;

Fig. 5 is a reduced plan section taken on the line 5—5 of Fig. 2; and

Fig. 6 is a similar section taken on the line 6—6 of Fig. 2.

Referring to the drawings, 7 represents a spindle of a relatively great lower diameter and a relatively small upper diameter to form a shoulder 8 intermediate the length thereof, the lower end being pointed as shown at 9 to readily enter the ground as far as a flange 10, and the upper end being provided with a parachute 11 preferably of foldable type and serving to hold the spindle 7 in vertical position during its descent from an air ship.

The spindle 7 carries upper and lower adjustable collars 12 and 13 serving as bearings for coil springs 14 and 15 the other ends of which bear upon the upper and lower surfaces of a freely rotating carrier 16 for the cartridges and for the firing apparatus in such manner as to normally hold the carrier in the position shown in Fig. 2 with respect to the shoulder 8, as the said shoulder forms an important part of the device.

The carrier comprises upper and lower plates 17 and 18 between which are arranged a plurality of vertical chambers 19 designed to receive and hold cartridge clips 20 for the cartridges 21 and having, each, a barrel 22 and a cartridge shell ejecting orifice 23, together with a firing pin 24 adapted to be driven outwardly by a spring 25 into normal position, and said pin may have the shell ejector hook or tooth 26 thereon, but the particular type of cartridge clips used will require particular types of shell feeders and shell ejectors and I do not, therefore, show any details of these features inasmuch as they form no specific part of my invention.

By reference to Figs. 5 and 6 it will be seen that the axes of the barrels 22 are arranged tangentially of an imaginary circle having the axis of the spindle 7 as its center whereby, in the discharging of the cartridges, the carrier is caused to revolve around the spindle, thus discharging the bullets toward all points of a horizontal plane when the spindle 7 is held perpendicular to the earth.

Each firing pin 24 carries a downwardly directed finger 27 which normally bears against an arm 28 of a bell-crank lever 29 pivoted at 30 and the other arm of which, 31, bears against the outer end 32 of a lever 33 pivoted at 34 and the inner arm 35 of which rests upon the shoulder 8, Fig. 2, the word normally referring to the positions of the parts previous to dropping the device from a height.

The cartridges 21 may be forced upwardly in each clip by means of a spring 37 singly upon the retraction of the respective firing pin, and said clips may be provided with finger-pieces 36 enabling ready clip insertion, and I also provide a spring 38 for each of the levers 33 for a reason later explained.

When the device strikes the earth the pointed lower end thereof maintains the spindle in a vertical position which had been insured by the parachute 11, and the

impact of the flange 10 causes the carrier 16 to jump downwardly against the action of the spring 15, thereby carrying the ends 35 of all the levers 33 below the shoulder 8 and, by the rocking of the levers 33 on their pivots, also rocks the respective bell-cranks and retracts the firing pins against their springs 25, the fingers 27 thereof clearing the ends of the bell-cranks which are thereafter held in retracted positions by means of the springs 38, the springs 25 driving the firing pins toward the cartridges which had been moved in loading and firing positions by the respective springs 37, the empty shells being successively ejected upon the backward movement of the firing pins due to recoil.

In order to prevent the enemy from utilizing my bombs after they have been dropped from an air-ship or projected within the enemy's lines in any other manner, it is my intention to provide the last cartridge of special type, either in one clip 20 or in each thereof, the said cartridge or cartridges being either of exploding form or of a form adapted to direct flames against an explosive charge in one or more of the chambers 19 whereby, after all the bullets have been discharged, the bomb will be entirely destroyed and no evidence of the structure thereof will remain.

My invention is very simple in construction, safe to handle, quickly and easily loaded, and very destructive in use and, while I have shown an operative firing means, an operative ejecting means, and an operative reloading means, I do not desire to limit myself thereto, as changes may be made thereover which will be within the spirit of the invention and which will come within the scope of the appended claims.

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

1. A device of the class described adapted to be dropped from a height, comprising a spindle, means for guiding the same in its descent, means for holding the same erect upon reaching the earth, a plurality of fire arms arranged in a plane at right angles to the axis of said spindle, and means including a flange adjacent the lower end of said spindle, actuated by the impact of said flange with the earth for actuating said fire arms, said flange maintaining said firearms at a relatively great distance above the earth.

2. A device of the class described, comprising a spindle having a pointed lower end and a flange adjacent said end, means for guiding said spindle in its descent, a carrier on said spindle and rotatable thereon in a plane at right angles to the axis of said spindle, a plurality of fire arms carried by said carrier, and means for actuating said fire arms by the impact of said device with the earth.

3. A device of the class described, comprising a spindle having a pointed lower end and a flange adjacent said end, means for guiding said spindle in its descent, a carrier rotatable on said spindle, springs for holding said carrier yieldingly at a desired point intermediate the length of said carrier, a plurality of fire arms arranged in said carrier, and a trigger arrangement for said fire arms operable by the downward movement of said carrier against one of said springs upon the impact of said device with the earth.

4. A device of the class described, comprising a spindle having a pointed and flanged lower end, means for guiding the same in its descent, a carrier rotatable on said spindle and capable of axial movement thereon, springs resisting such axial movement, a plurality of fire arms carried by said carrier, and a trigger arrangement for actuating each fire arm operable by said spindle in the downward movement of said carrier upon impact of said device with the earth.

5. A device of the class described, comprising a spindle having a pointed and flanged lower end and provided with an upwardly directed shoulder intermediate its length, a carrier rotatable on said spindle and capable of axial movement thereon, springs resisting such axial movement, a plurality of fire arms in said carrier, and a trigger arrangement for each fire arm normally resting on said shoulder, said triggers being operated to actuate said fire arms in the downward movement of said carrier on said spindle upon the impact of said device with the earth.

6. A device of the class described, comprising a support having a pointed lower end and a flange adjacent said end, and means for guiding said support in its descent, a carrier rotatable on said support, automatic fire-arms horizontally mounted on said carrier with their axes offset from the axis of rotation of the carrier, and means for actuating said fire-arms by the impact of the device with the earth.

ELWOOD REED SUTCH.