

A. MAYERSON.

BOMB.

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1,382,307.

Patented June 21, 1921.

2 SHEETS—SHEET 1.

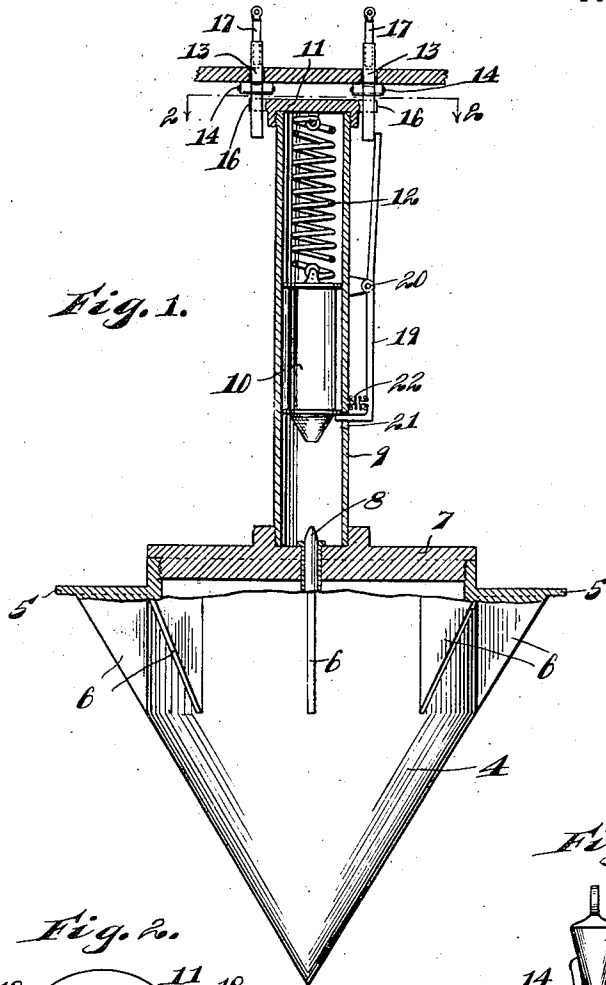


Fig. 1.

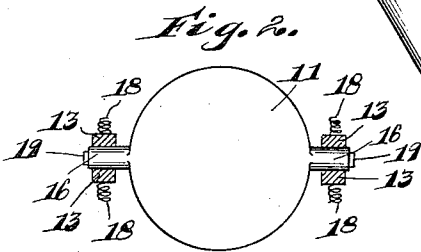


Fig. 2.

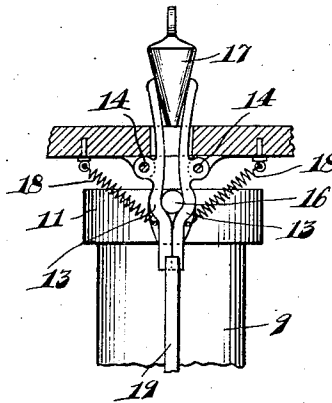


Fig. 3.

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Fig. 4.

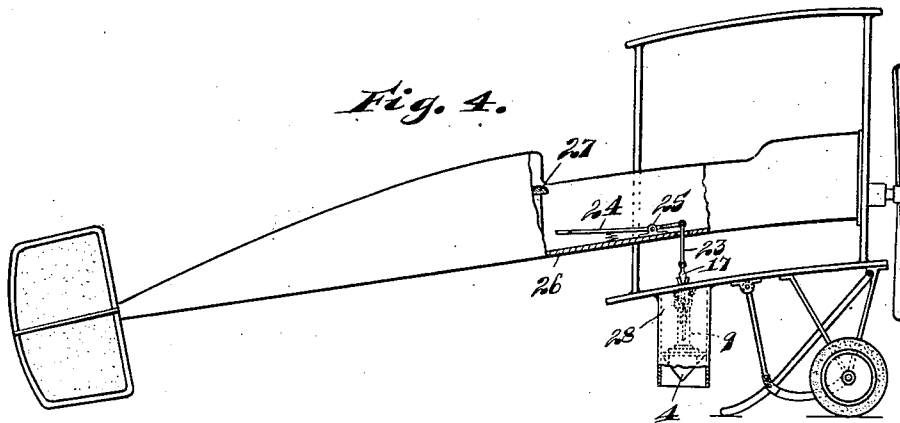
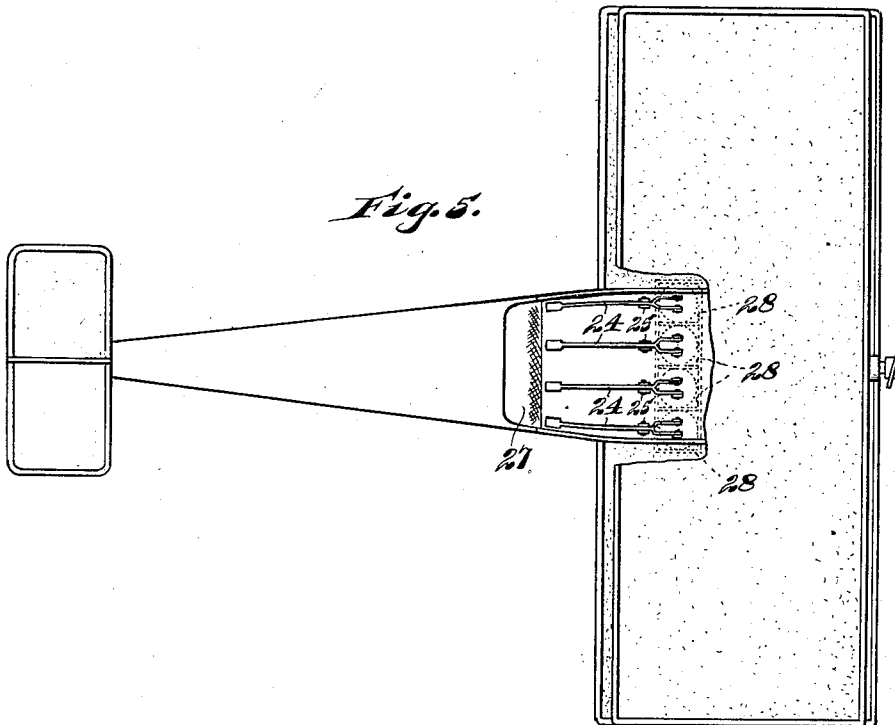


Fig. 5.



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UNITED STATES PATENT OFFICE.

ABI MAYERSON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO J. STANLEY CONROY, OF CHICAGO, ILLINOIS.

BOMB.

1,382,307.

Specification of Letters Patent. Patented June 21, 1921.

Application filed June 20, 1918. Serial No. 240,938.

To all whom it may concern:

Be it known that I, ABI MAYERSON, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Bombs, of which the following is a specification.

My invention relates to improvements in bombs of the aerial type, and has for its object the production of a bomb of this character, the exploding mechanism of which will be of durable and economical construction and reliable in use.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1, is a central section through a bomb, embodying the invention, the explosive carrier of the bomb being shown partly in elevation,

Fig. 2, an enlarged section taken on line 2—2 of Fig. 1,

Fig. 3, a vertical section showing the means employed for supporting or suspending the bomb preparatory to dropping of the same,

Fig. 4, is a partially sectional side elevation of an aeroplane equipped with bomb mechanism embodying the invention, and

Fig. 5, a top plan view of Fig. 4, the upper plane of the aeroplane being broken away.

The preferred form of construction, as illustrated in the drawings, comprises an explosive carrier 4 in substantially inverted conical form, the upper end thereof being provided with a horizontal outwardly projecting annular flange 5 adapted for engagement with the surface of the water, when the bomb is dropped over water, to insure sufficient resistance to effect explosion of the bomb, as hereinafter described. Brace webs or flanges 6 are provided for reinforcing the flange 5.

The upper side of the member 4 is provided with a removable cap 7, in which is slidably mounted a depressible vertically extending centrally positioned exploding element 8, the arrangement being such that upon depression of the member 8 the bomb will be exploded. In threaded connection with and projecting upwardly from the plate

7 is a tubular stem 9, the upper end of element 8 projecting centrally into the lower end of said stem. Freely slidable in the stem 9 is a striker 10, which is adapted, when brought to its lower terminal of movement, to engage with the exploding element 8 and effect depression or actuation thereof. In order to insure free sliding of striker 10 in the stem 9, the central portion of said striker is cut away, so that the same will engage with the inner surface of the stem only at the ends, it being apparent that with this arrangement friction is reduced to a minimum.

The upper end of the stem 9 is closed by a cap 11 in threaded connection therewith, and said cap is connected by means of a helical tension spring 12 with the upper end of striker 10, said spring serving normally to yieldingly hold said striker in an elevated position above the exploding element 8.

The bomb is carried upon the aeroplane or other aerial craft, from which the same is to be dropped by means of two pairs of jaws 13, which are fulcrumed intermediate their ends at 14. Said jaws are of such formation as to be adapted to engage with laterally projecting diametric studs 16 formed upon the cap 11, as clearly seen in Fig. 3. Said jaws are held in operative relation with each other by means of wedges 17, springs 18 being provided to move the jaws to releasing position upon removal of the wedges.

In order to insure against premature explosion of the bomb, the striker 10 is locked in elevated position, during the time the bomb is carried by or suspended from the aeroplane, by means of a latch 19, pivoted intermediate its ends at 20 upon the side of stem 9. The lower end of said latch is so formed as to be adapted to project through an opening 21 provided in one side of stem 9 into the path of the striker 10, in order to prevent downward movement of the same, as clearly seen in Fig. 1. The arrangement is such that when the bomb is carried by or suspended from the aeroplane, the upper end of latch 19 will engage against one of the pairs of supporting jaws 13, with the result that the latch will thus be held in operative position, that is, a position preventing descent of the striker, and hence, premature explosion of the bomb. Immediately upon release of the bomb, a helical compression spring 22 engaging with the lower end of said latch will automatically rock the

latch to releasing position so as to permit of uninterrupted downward movement of the striker. The striker will, however, be held in elevated position by the spring 12 until the lower end of the bomb strikes an obstruction such as the ground or water, in which event the downward movement of the bomb will be arrested. When the movement of the bomb is thus arrested, the inertia of the striker 10 will be sufficient to carry the same downwardly against the resistance of the spring 12 into contact with the exploding element 8, so that immediately upon the bomb striking an obstruction as mentioned, explosion thereof will take place.

In the actual use of bombs of the character described, in connection with an aeroplane, as seen in Figs. 4 and 5, the wedges 17 cooperating with each bomb will be connected by links 23 with a pedal 24 fulcrumed at 25 in the body 26 of the aeroplane adjacent the operator's seat 27. With this arrangement, there will be one pedal for each bomb, and as each bomb is to be dropped, it is only necessary for the operator to depress the corresponding pedal 24, as will be readily understood. Also, in the actual use of the bomb mechanism, each bomb is preferably inclosed in a downwardly opening tube or casing 28 arranged at the under side of the aeroplane framework, members 28 serving as guides for the bombs and preventing any swinging or relative movement thereof while the aeroplane is in flight and prior to the dropping of the bombs.

The mechanism described is extremely simple and economical, the same may be readily and easily adjusted and manipulated, and will be found highly efficient in use.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I

therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A bomb having a depressible exploding element; a vertically movable striker adapted to engage with and depress said exploding element; means for yieldingly holding said striker in elevated position; means for releasably locking said striker in elevated position; diametric laterally projecting lugs on the bomb; a pair of jaws adapted to releasably engage with each of said lugs to support the bomb preparatory to dropping of the same; and a wedge cooperating with each pair of jaws to hold the same in operative position, substantially as described.

2. A bomb having a depressible exploding element; a vertically movable striker adapted to engage with and depress said exploding element; means for yieldingly holding said striker in elevated position; means for releasably locking said striker in elevated position; diametric laterally projecting lugs on the bomb; a pair of jaws adapted to releasably engage with each of said lugs to support the bomb preparatory to dropping of the same; a wedge cooperating with each pair of jaws to hold the same in operative position; and means for automatically moving said jaws to releasing position upon removal of the wedges, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ABI MAYERSON

Witnesses:

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HELEN F. LALLIS.