June 26, 1923. 1,459,793

M. C. A. H. PAPE

WATER BOMB

Filed Sept. 30, 1920

Fig. 1.

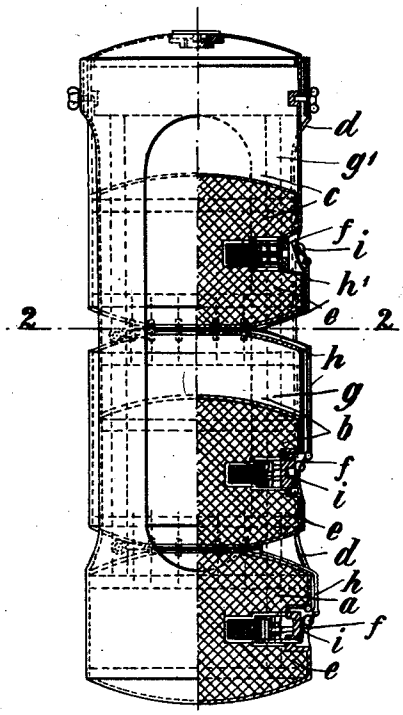


Fig. 2.

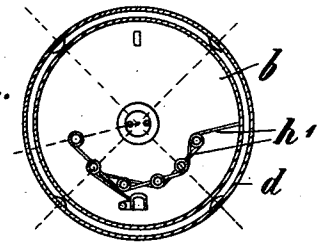
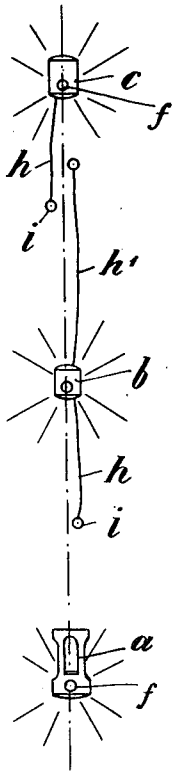


Fig. 3.



Inventor:

Max Carl August Hermann Pape

By Lawrence Langner

Attorney.

Patented June 26, 1923. 1,459,793

UNITED STATES PATENT OFFICE.

MAX CARL AUGUST HERMANN PAPE, OF NEUMUHLEN-DIETRICHSDORF, NEAR KIEL, GERMANY, ASSIGNOR TO THE FIRM OF CARBONIT AKTIENGESELLSCHAFT, OF HAMBURG, GERMANY.

WATER BOMB.

Application filed September 30, 1920. Serial No. 413,885.

To all whom it may concern:

Be it known that I, MAX CARL AUGUST HERMANN PAPE, citizen of the German Republic, residing at Neumuhlen-Dietrichsdorf, near Kiel, Germany, have invented certain new and useful Improvements in Water Bombs (for which I have filed application in Germany, Oct. 21, 1918; Sweden, Dec. 20, 1919; Finland, Feb. 6, 1920; Spain, Dec. 13, 1919; Czechoslovakia, Feb. 14, 1920), of which the following is a specification.

The so-called water bombs serve, as is known, for damaging or destroying submerged articles, particularly hostile submarine boats, when allowed to fall from above.

The water bombs known heretofore were single bodies which in predetermined depths explode, whereby the distance of the submerged object is estimated from the water level. Evidently, such estimation is subject to errors which will endanger the effect, particularly since submarine boats are able to change their depths of submersion.

The idea of the present invention is to make use of a composite water bomb in such manner that the bomb as a whole will be thrown off, but will be divided into sections below the water level in such manner that the different parts can explode in different depths. By these means a greater likelihood is given that a submarine boat will be damaged or destroyed in any depth on the place where the bomb is dropped.

Figure 1 of the drawing is an elevation of the composite water bomb, one half in vertical section.

Figure 2 is a section drawn to the line 2—2 of Fig. 1.

Figure 3 shows the bomb in its working position to a smaller scale.

In the construction shown the water bomb consists of three sections: *a*, *b* and *c*, which are placed one above the other, the sections *b* and *c* lying loose in a tubular projection *d* of the lowest section *a*. During transport the tubular projection *d* may be fastened to the highest section *c* by wing-nuts d^1. Each section is provided with a charge of combustion *e* and a fuse *f* and, moreover, the sections *b* and *c* are provided with floating chambers *g* and g^1, of which g^1 is larger than *g*. The section *a* is not provided with any floating chamber and therefore will have less buoyancy than the two upper sections. Owing to this arrangement the speed with which the three bodies or sections will sink is different and will diminish from the lower section *a* to the upper sections. There is no necessity of attaching the tubular part *d* exactly to the lowest section, because the same effect will take place, no matter on which section tubular parts are arranged embracing the other sections. *h* are slip-ropes or pulling-ropes which extend from the upper section to the metal-tearing plate or sheet *i* hiding the fuse of the next lower section. The tearing plate of the uppermost section *c* which is not provided in the construction shown with any part for retarding the sinking speed, is connected with the next lower section *b* by the rope h^1 to enable the metal plate or sheet being torn, and thus expose the fuse. The length of this rope will depend on the depth in which the fuse is intended to act.

For a fuse in the example shown a hydraulic pressure-fuse of special construction is used which will act when the tearing sheet is torn on account of the fact that the water penetrating into the fuse will exert a pressure suddenly on the flat head of the striker with the complete pressure owing to the column of water above the bomb-section, whereby the holding means which are designed to the corresponding pressure, are severed, so that the striker will be driven against the compression-cap similar to a hammer.

The operation is as follows:

After dropping the bomb, the different sections will separate from one another in the water according to their divers sinking speeds and owing to their loose connection. During the sinking and after the separation has taken place, the tearing ropes will take up their slack and tighten and remove the tearing sheets or plates from the fuses. The latter will now start their action and will either cause a momentary ignition or retarding ignition by the aid of retarding means. According to the corresponding sinking speeds and the predetermined measure of time of the retarding means, the explosion of the sections can be regulated according to the desired depth at will, so that the bomb can be used in all depths as far as they are used by submarine boats.

The number of sections of the water bomb depends on circumstances.

In order to enable the water bomb to operate when by chance it drops on a submarine boat of less depth than to which it is normally adjusted, the lower section or even several sections may be provided with percussion-fuses.

I claim:

1. A water bomb comprising a number of superposed sections detachably connected with one another to form a single unit, each section having a fuse and a charge of explosives, the sections becoming detached from one another on being dropped into the water to adjust themselves one above the other.

2. A unitary water bomb comprising a number of sections adapted to be dropped as a whole, each section having a fuse and a charge of explosives, some of the sections being provided with a floating chamber, the floating chambers of the different bomb sections being of different size to give the various sections different buoyancies.

3. A water bomb comprising a number of sections adapted to be dropped as a whole, each section having a fuse and a charge of explosives, some of the sections being provided with a floating chamber, the floating chambers of the different bomb sections being of different size to give the various sections different buoyancies, tearing ropes for connecting the superposed sections with one another, hiding-plates in front of the fuses to which the tearing-rope is attached and adapted to expose the fuse when the tearing-rope is tightened.

MAX CARL AUGUST HERMANN PAPE.

Witnesses:

PETER LAMBRECHS,

HANS GLINDMEIER.