

C. DAVIS.  
SHELL OR CASING FOR STANDARD TORPEDOES.  
APPLICATION FILED DEC. 5, 1907.

901,157.

Patented Oct. 13, 1908

Fig. 1.

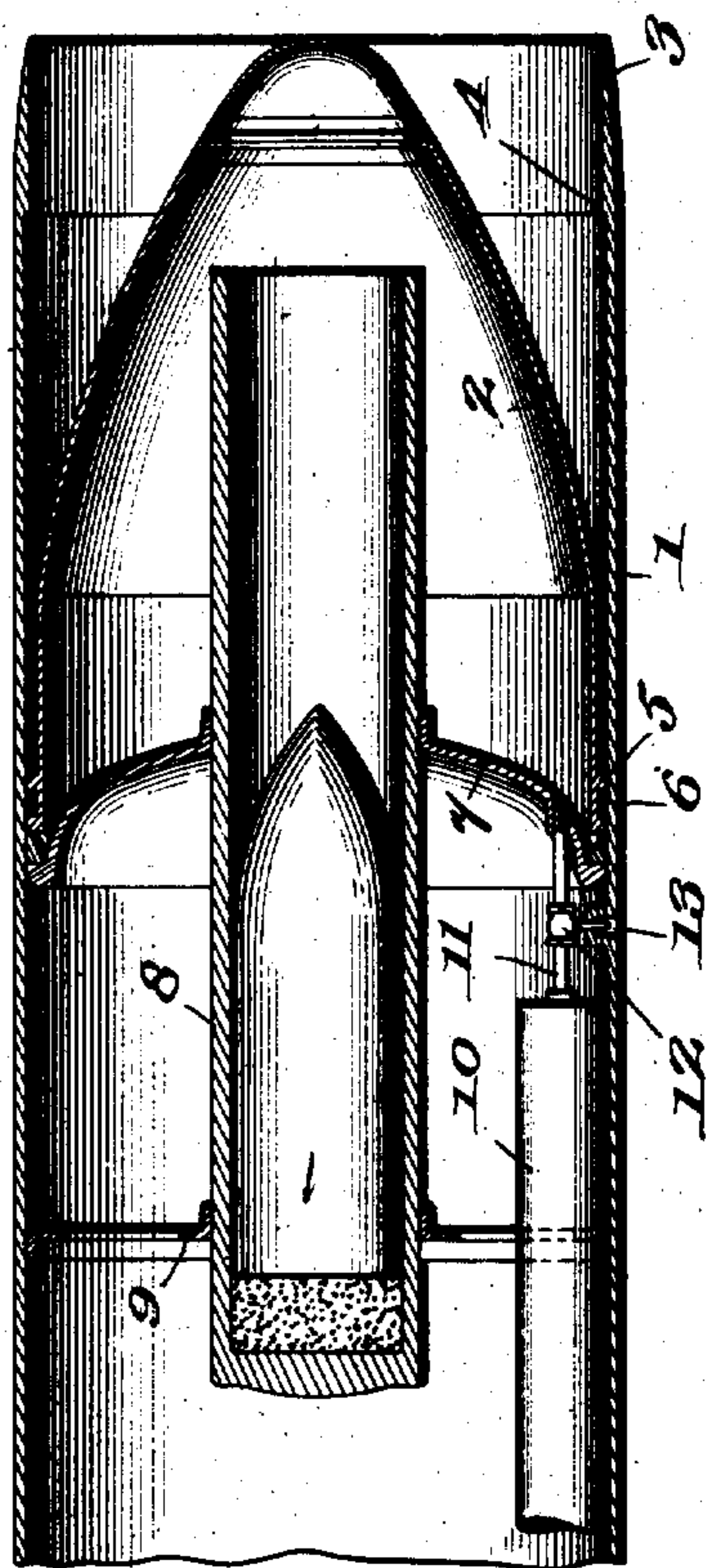
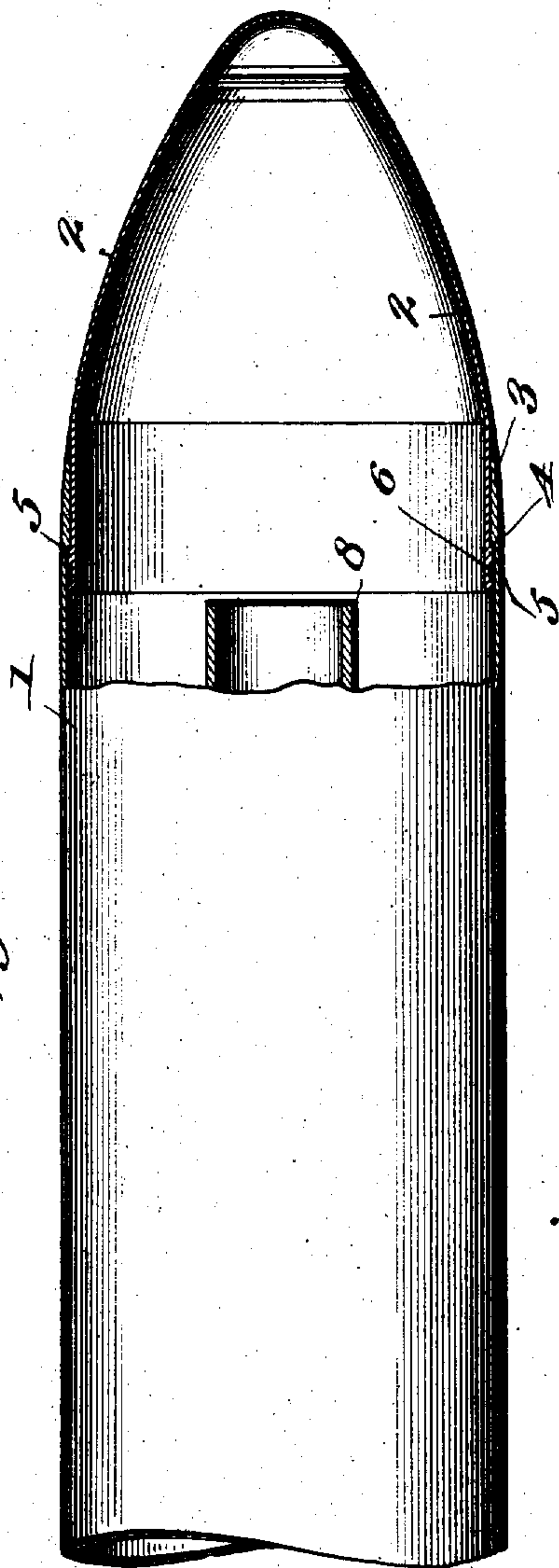


Fig. 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

CLELAND DAVIS, OF THE UNITED STATES NAVY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO  
NATIONAL TORPEDO COMPANY, OF NEW YORK, N. Y., A CORPORATION OF MAINE.

## SHELL OR CASING FOR STANDARD TORPEDOES.

No. 901,157.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed December 5, 1907. Serial No. 405,263.

*To all whom it may concern:*

Be it known that I, CLELAND DAVIS, lieutenant-commander, United States Navy, and a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Shells or Casings for Standard Torpedoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to shells or casings for standard torpedoes, and the object of my invention is to provide such a shell or casing with means whereby its length may be readily increased, and thereby its speed as well as its displacement.

It is well known that it is only practical to make standard torpedo shells of a certain length, and it is equally well known that if this length could be increased at the time of firing, that the displacement would be greater; that the lines of the war head could be made finer and sharper, and that therefore a greater weight could be carried by said torpedo while its possible speed could be very greatly increased.

More precisely stated, the object of my invention is to so increase the carrying capacity of a standard torpedo, without disturbing its ballistics, as to enable it to carry a gun and a projectile much heavier than it would be possible to carry were its war head simply removed and said gun and projectile substituted therefor.

To these ends my invention consists in providing the shell of a torpedo with a telescoping head, adapted to be extended and thereby complete the contour of a torpedo at the time of, or just before, firing the same.

Referring to the accompanying drawings forming a part of this specification;—Figure 1, represents a longitudinal view of the casing of a standard torpedo provided with a gun and a projectile, and showing the head of said torpedo telescoped within said shell or casing. Fig. 2, is a view partly in section of a torpedo shell with the head extended and occupying the position it has during flight.

Like numerals refer to like parts in all the views.

1, represents the cylindrical portion of a standard torpedo casing; and 2, the head

thereof. The casing 1, is provided with the taper 3, at its extreme forward end, and the shoulder 4, as shown. The head 2, is provided at its rear end with the annular ring or projection 5, having the packing 6, and tightly fits the inner surface of the casing 1.

7, represents the usual diaphragm employed in standard torpedoes, provided with a central orifice to receive the gun 8, and 9, represents any other suitable support for said gun.

10, represents an air tank or other source of fluid pressure, and 11, a pipe connecting the same with the interior of the head 2.

12, represents a suitable valve provided with a stem 13, adapted to be operated by key or other suitable means. This stem 13, may be operated automatically, if desired, by any of the well known means suitable for contacting therewith when the torpedo is fired, or the said stem may be turned by hand immediately before firing, as desired. When said stem is turned, fluid pressure from the tank 10, enters the head 2, and forces the same outward into the position shown in Fig. 2. When the head is in this position, the torpedo will have its buoyancy added to by an amount equal to the displacement of the head 2. That is to say, the standard shell 1, will be made of standard length, and the distance the head 2, projects beyond the same will constitute a length of the torpedo in addition to the standard length, and the buoyancy added to said torpedo by this head 2, may be utilized in providing the torpedo with a gun, projectile and charge very much heavier than has heretofore been possible.

All the lines of the torpedo being preserved intact, and the weights properly distributed as heretofore, the ballistics of the torpedo will not be disturbed in the least; but the speed of the same will be somewhat increased owing to the greater length of the body portion.

If desired, the head 2, may be somewhat lengthened and sharpened in its lines, and the same increase of buoyancy may be likewise obtained along with a much greater speed, and also without disturbing the ballistics of the torpedo.

The operation of my device will be clear from the above, and need not be here repeated beyond stating that all that is necessary to do in order to force the head 2, 1



- into its firing position, is to turn on the air from the tank 10, by means of the valve 12, and this may be done either automatically or by hand. When said head is in its firing position, its outer curvature or lines form a continuation of the tapered portion 3, of the shell proper, and therefore no unusual resistance is offered by the joint between the said head and body portion.
- 10 I do not wish to be limited to the exact details of construction and arrangements of parts herein shown, for it is evident that the same may be widely varied without departing from the spirit of my invention.
- 15 Having now described my invention what I claim is:—
1. A torpedo casing provided with a sliding telescoping head adapted to be completely housed in said casing, and means to extend the same, substantially as described.
  2. A torpedo shell of standard length provided with a telescoping head adapted to be completely housed within said shell, substantially as described.
  - 25 3. A torpedo shell of standard length provided with a head adapted to slide and to be completely housed therein, and means to force said head outward into its firing position, substantially as described.
  - 30 4. A torpedo shell of standard length tapered at its forward end, and provided with a telescoping head adapted to be housed inside said shell and to slide outward and form a continuous curve with the tapered portion of said shell, substantially as described.
  - 35 5. A torpedo shell of standard length provided with a tapered portion and a shoulder at its forward end, in combination with a telescoping head provided with an annular shoulder 5, adapted to contact with said shoulder 4, and to have its contour form a

continuous curve with the tapered portion of said shell, substantially as described.

6. In a torpedo the combination of a cylindrical shell; a gun carried thereby; and a telescoping head adapted to be housed inside said shell, substantially as described. 45

7. In a torpedo the combination of a cylindrical shell; a gun fixed therein; and a head adapted to slidingly telescope and to be housed therein, substantially as described. 50

8. In a torpedo the combination of a shell or casing; a gun fixed therein; a head adapted to telescope in said shell or casing; and means for forcing said head outward into its firing position, substantially as described. 55

9. In a torpedo the combination of a casing of standard length provided with a tapered forward portion; a gun fixed therein; a head telescoping in said casing provided with a contour coinciding with the taper of said casing when the said head is in its firing position; and fluid pressure means for forcing said head outward into its firing position, substantially as described. 60

10. In a torpedo the combination of a cylindrical casing of standard length having a tapered portion and shoulder at its forward end; of a gun fixed in said casing; an air tank also fixed in said casing; a head slidingly fitted in said casing provided with a ring adapted to contact with the shoulder on said casing; and a valve controlling the admission of air into said head, substantially as described. 65

In testimony whereof, I affix my signature, in presence of two witnesses. 75

CLELAND DAVIS.

Witnesses:

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