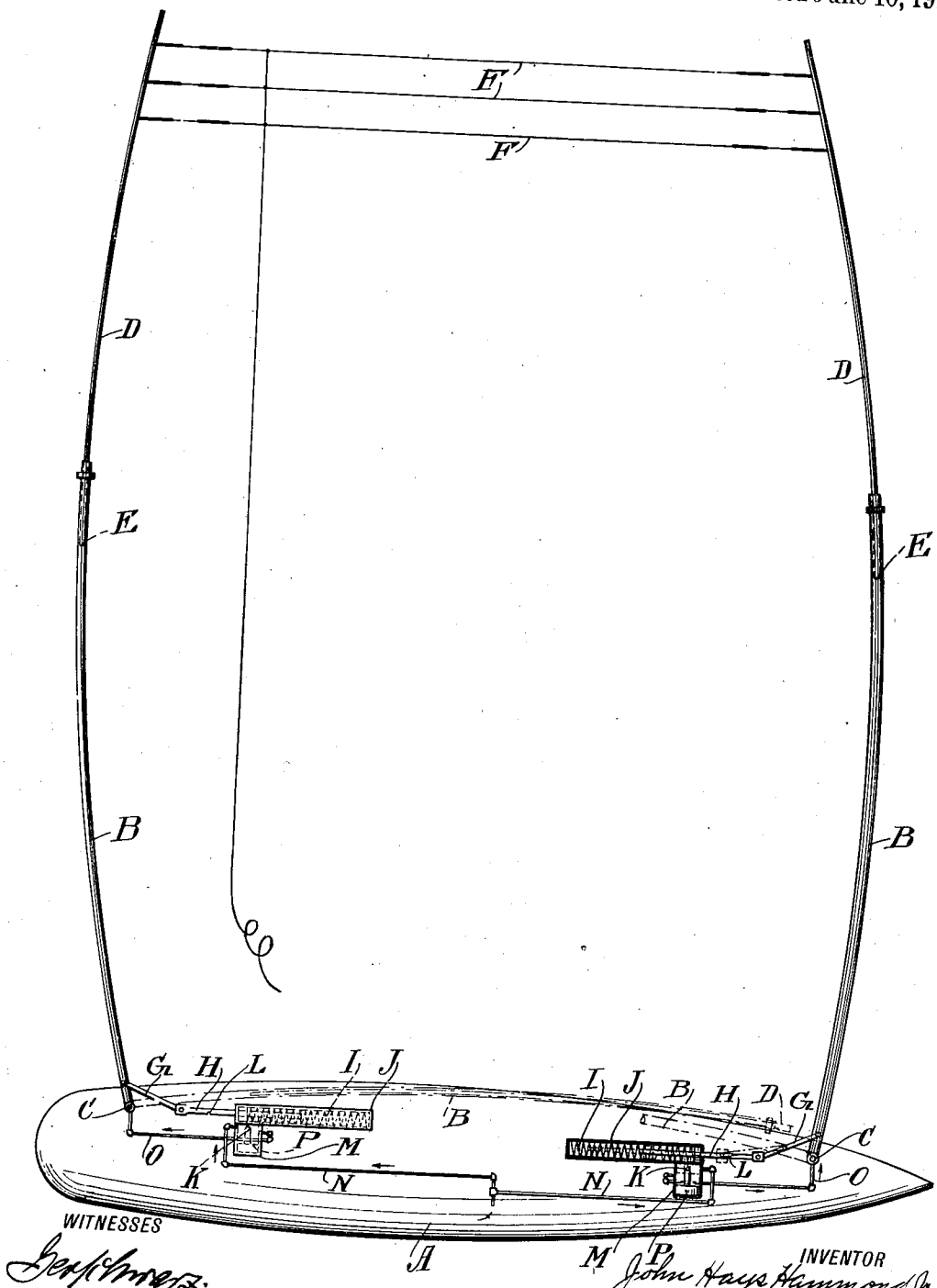
J. H. HAMMOND, JR.

AERIAL FOR AUTOMOBILE TORPEDOES.

APPLICATION FILED MAR. 15, 1912. RENEWED OCT. 30, 1918.

1,306,145.

Patented June 10, 1919.



WITNESSES

Geo. H. Graves.

J. H. Boechler

INVENTOR

John Hays Hammond Jr

BY

Messmer & Austin

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN HAYS HAMMOND, JR., OF GLOUCESTER, MASSACHUSETTS.

AERIAL FOR AUTOMOBILE TORPEDOES.

1,306,145. Specification of Letters Patent. Patented June 10, 1919.

Application filed March 15, 1912, Serial No. 684,073. Renewed October 30, 1918. Serial No. 260,379.

To all whom it may concern:

Be it known that I, JOHN HAYS HAMMOND, Jr., a citizen of the United States, residing at Gloucester, in the State of Massachusetts, have invented certain new and useful Improvements in Aerials for Automobile Torpedoes, of which the following is a specification.

The primary object of my invention is to provide a carrier or conveyance of any kind with an electrical capacity which may normally lie in a folded position and which may be automatically raised to an upright position to receive electrical waves or impulses.

A further object of the invention is to provide a carrier such as an automobile torpedo with a mass of aerials which occupy comparatively little space in their folded position but may be automatically extended or lengthened, either while being raised or after they have reached their upright position.

The various other objects of the invention will be more fully set forth in the following description of one form of apparatus embodying my invention, which consists in the new and novel features of constructions and combinations of parts hereinafter set forth and claimed.

The carrier such as the torpedo A may be of any preferred or well-known construction, and is provided with the capacities such as the two hollow rods or masts B which are pivoted as at C to the torpedo body in any well-known manner. An extension D is normally contained within each mast which is provided with a head E at one end, forming a piston or plunger. The outer or free end of the extension provides a support for receiving wires F or other receiving means adapted to receive etheric impulses.

At or near their pivoted ends each mast is connected by a suitable rod G with a reciprocating member H, which is actuated by a spring I, preferably mounted in a barrel or casing J, and secured to the member H so that the spring will remain in its coiled condition when the masts are closed or lowered, and so that the member H will be forced out of its casing and the mast raised under the normal action of the spring. The member H may be held in its retracted position with the spring under tension by means of the pin or trigger K which is adapted to engage with a notch L provided in the plunger rod H. Said pin is secured to or formed integral with the head or piston P movable in a cylinder M. Said cylinder is in communication by means of the pipe N with any suitable source of power, such as compressed air or liquid under pressure.

The interior of each mast B is also in communication with the source of power through a suitable pipe O which preferably communicates with the cylinder M, whereby a suitable fluid under pressure may be introduced into the mast, and thus cause the extensions to move upwardly and outwardly from their closed or telescoped position.

In operation the masts normally rest close to or in contact with the torpedo body as indicated by dotted lines with the extension inside the masts. In this position the springs are under tension and are locked by means of the pins K. As soon as pressure is exerted through the pipe N, however, the heads or pistons P are forced downward thus releasing the springs which cause the masts to assume their upright position. The pressure is communicated from the cylinders M to the pipes O, as soon as the pistons P have been forced downward and the ports into said pipes uncovered, and thus cause the extensions to be forced outward into their open or extended position.

By means of this construction the aerials can be arranged so as to occupy very little space, although, by reason of the extensions they may be lengthened to a considerable length. In their closed position the aerials will not interfere with the firing of the torpedo and it will be noted also that the same power utilized in operating the aerials may also be used in driving or propelling the torpedo.

Although I have shown two masts connected by wires, it is obvious that the wires may be connected and the masts themselves form electrical capacities, or that only a single mast may be used either with or without wires as desired.

I claim as my invention:

1. In an aerial for automobile torpedoes, the combination of a pivoted mast, an extension telescoped in said mast, means for automatically raising said mast into an upright position, and fluid-operated means for actuating said extension.

2. An aerial for automobile torpedoes comprising a pivoted member, an extension mounted on and movable with respect to said member, means for automatically moving said member into its operative position,

and fluid-operated means for actuating said extension.

3. In an aerial for automobile torpedoes, a combination of a movable mast, a spring operatively connected to said mast and adapted to force same into its raised position, means for holding said spring under tension, and means for automatically releasing said spring.

4. In an aerial for automobile torpedoes, a combination with a pivoted mast, a spring operatively connected therewith, a pin adapted to engage said spring and hold same in its retracted position, a plunger secured to said pin, and means for automatically moving said plunger to release the spring.

5. In an aerial for automobile torpedoes, the combination with an aerial comprising two members, one being telescoped within the other, means for automatically raising said aerial into an upright position, means for holding the aerial in its non-operative position, releasing mechanism, and means for supplying pressure against said telescoped member automatically controlled by said releasing means substantially as described.

6. The combination with a dirigible carrier, of an element possessing electrical capacity pivoted to said carrier and adapted to lie in a folded position, and fluid-operated means for automatically unfolding and extending same.

7. The combination with a hollow mast arranged to swing about a predetermined axis, of an extension telescoping therewith, means automatically operative to swing said mast about said axis, means to retain said mast in a predetermined position, and means controlled by said retaining means to move said extension longitudinally of said mast.

8. The combination with a hollow mast arranged to swing about a predetermined axis, of an extension telescoping therewith, means responsive to radiant energy carried by said extension, means automatically operative to swing said mast about said axis, means to retain said mast in a predetermined position, and means controlled by said retaining means to move said extension longitudinally of said mast.

9. The combination with a movable member, of an extension carried thereby and movable with respect thereto, means automatically operative to move said member, movable means operative to retain said member in a predetermined position, and means controlled by said retaining means for moving said extension with respect to said member.

10. The combination with a hollow movable mast, of an extension telescoping therewith and movable longitudinally thereof, means automatically operative to move said mast, movable means operative to hold said mast against the action of said moving means, and means controlled by said holding means for moving said extension longitudinally of said mast.

11. In an aerial, the combination with two members arranged to swing respectively about two predetermined axes, of means for receiving radiant energy connecting said members, and means automatically operative to swing said members simultaneously about said axes.

12. In an aerial, the combination with two masts arranged to swing about two axes respectively, of two extensions telescoping with said masts respectively, means for receiving radiant energy connecting said extensions, and means operative to swing said masts in contrasting directions.

13. In an aerial, the combination with two masts arranged to swing about two substantially parallel axes respectively, of two extensions telescoping with said masts respectively, means for receiving radiant energy connecting said extensions, and means operative to swing said masts simultaneously in contrasting directions.

14. The combination with a mast arranged to move through a predetermined path, of an extension carried by and movable with respect to said mast, means automatically operative to move said mast through said path, movable detaining means operative to hold said mast against the action of said first mentioned means, and means controlled by said detaining means for moving said extension with respect to said mast.

15. The combination with a mast arranged to move through a predetermined path, of an extension carried by and movable with respect to said mast, yielding means automatically operative to move said mast through said path, movable detaining means operative to hold said mast against the action of said first mentioned means, and means controlled by said detaining means for moving said extension with respect to said mast.

16. In an aerial, the combination with two masts arranged to swing about two substantially parallel axes respectively, of two extensions telescoping with said masts respectively, means for receiving radiant energy connecting said extensions, and means automatically operative to swing said masts simultaneously in opposite directions.

17. In an aerial, the combination with two masts arranged to swing about two substantially parallel axes respectively, of two extensions telescoping with said masts respectively, means for receiving radiant energy connecting said extensions, and means automatically operative to swing said masts simultaneously in opposite directions and to move said extensions outwardly with respect to said masts.

18. In an aerial, the combination with two masts arranged to swing about two axes respectively, of two extensions carried by and movable longitudinally of said masts respectively, means for receiving radiant energy connecting said extensions, and means automatically operative to swing said masts simultaneously about said axes respectively.

19. In an aerial, the combination with two masts arranged to swing about two axes respectively, of two extensions carried by and movable longitudinally of said masts respectively, means for receiving radiant energy connecting said extensions, and yielding means automatically operative to swing said masts simultaneously about said axes respectively.

20. In an aerial, the combination with two masts arranged to swing about two axes respectively, of two extensions carried by and movable longitudinally of said masts respectively, means for receiving radiant energy connecting said extensions, and means automatically operative to swing said masts simultaneously about said axes respectively and to move said extensions simultaneously outwardly with respect to said masts respectively.

21. The combination with a movable mast, of yielding means arranged to move said mast, retaining means operative to hold said mast against movement under the action of said yielding means, an extension carried by said mast and movable with respect thereto, and means operative to cause said extension to move longitudinally of said mast as a result of the release of said mast by said retaining means.

22. The combination with a mast arranged to swing about a predetermined axis, of yielding means arranged to swing said mast about said axis, retaining means operative to hold said mast against movement as a result of the action of said yielding means, an extension carried by said mast and movable with respect thereto, and means operative to cause said extension to move with respect to said mast as a result of the release of said mast by said retaining means.

23. The combination with a mast arranged to swing about a predetermined axis, of yielding means arranged to swing said mast about said axis, retaining means operative to hold said mast against movement as a result of the action of said yielding means, an extension carried by said mast and movable longitudinally with respect thereto, and means operative to cause said extension to move longitudinally with respect to said mast as a result of the release of said mast by said retaining means.

This specification signed and witnessed this 27th day of February A. D. 1912.

JOHN HAYS HAMMOND, Jr.

Witnesses:

Albert W. Sioussa,

Mary C. King.