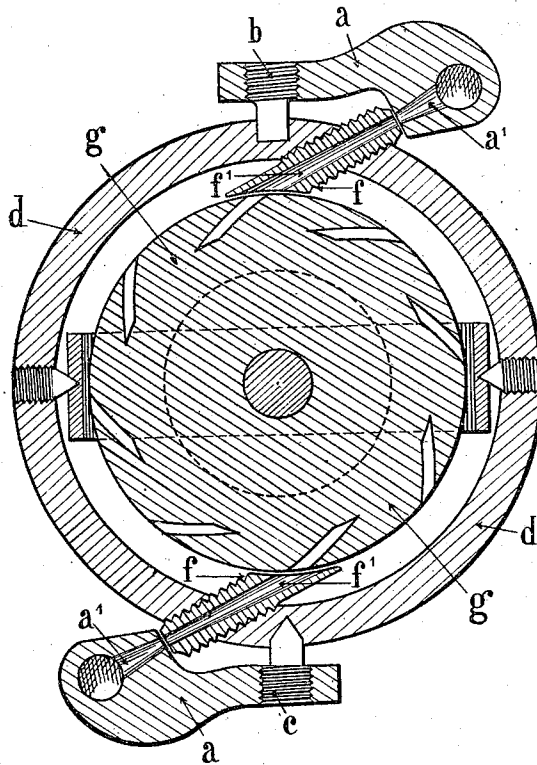


A. E. JONES.
GYROSCOPE FOR AUTOMOBILE TOPEDOES.
APPLICATION FILED APR. 14, 1911.

1,025,747.

Patented May 7, 1912.



WITNESSES

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UNITED STATES PATENT OFFICE.

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WHITEHEAD AND COMPANY, OF FIUME, AUSTRIA-HUNGARY, A CORPORATION.

GYROSCOPE FOR AUTOMOBILE TORPEDOES.

1,025,747.

Specification of Letters Patent.

Patented May 7, 1912.

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To all whom it may concern:

Be it known that I, ALBERT EDWARD JONES, a subject of the King of Great Britain, and a resident of Fiume, Austria-Hungary, have invented certain new and useful Improvements in and Relating to Gyroscopes for Automobile Torpedoes, of which the following is a specification.

This invention has for its object controlling means for the flywheels of gyroscopes of automobile torpedoes by means of a jet or motor fluid supplied through two diametrically opposite twyers and the invention is particularly intended for obtaining a diminution of weight and bulk.

It is known to control the flywheel of the gyroscope of an automobile torpedo by means of two diametrically opposite compressed air twyers resting upon the two pivots of the vertical ring. Heretofore efforts have been mainly directed to maintaining the relative position of twyers and the flywheel invariable while insuring freedom of movement for this ring relatively to the twyers which pass through it. The result of this arrangement has been to impart a considerable width to the ring where it is traversed by the twyers thereby increasing the weight and volume of the system. Now as the duration of the impulsion of the compressed air upon the flywheel is very short as is well known it is not necessary to maintain invariable the relative position of the flywheel and the twyer except during the impulsion period, while during the running of the torpedo it is immaterial because the admission of the motor fluid is cut off whether the parts in question occupy a given relative position or not. This being so the twyer can be connected with or be dependent upon a gyroscope element which is movable relatively to the flywheel. In accordance with this invention this movable element is the vertical ring of the gyroscope. The arrangement is illustrated in the accompanying drawing.

The invention consists in dividing each of the two diametrically opposite twyers into two parts of which the part *a* is mounted upon the pivot *b* or *c* of the vertical ring

d of the gyroscope and connected with the members supplying the motor fluid while the other part *f* is mounted upon this vertical ring *d* which is capable of rotation relatively to the flywheel *g*.

When the flywheel is at rest the two passages *a'* and *f'* of each twyer are arranged opposite each other and maintained in this position by the usual locking mechanism until the torpedo is launched. After the flywheel has been started the ring *d* and the portion of the twyer carried by it can be displaced relatively to the flywheel *g* without inconvenience.

This arrangement presents the advantage of not necessitating any modification in the form of the ring *d* which merely presents a slight protuberance at the place through which the twyer passes, thereby effecting an important reduction of volume as compared with the usual two twyer devices in which the ring comprises a very large protuberance with curved slot permitting of its displacement around the fixed twyers. The arrangement also permits of preserving the usual pin formation for the lower pivot *e*.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In a gyroscope for automobile torpedoes, the combination with a pivoted member of a gyroscope, and a turbine wheel, of a twyer formed of two members, one mounted on a fixed part of the gyroscope and connected with the motor fluid supply and the other mounted in the said member.

2. In a gyroscope for automobile torpedoes, a fly wheel in the form of a turbine wheel, an outer vertical ring, an inner horizontal ring, two pivots for the vertical ring, two twyers attached to the said vertical ring, diametrically opposed to each other and two motor fluid supplying members opposite to the twyers, attached to the upper and lower pivot of the vertical ring respectively, substantially as described.

3. In a gyroscope driven by air or other motive fluid under pressure, a pivoted ring, a fly wheel in the form of a turbine wheel,

two twyers for imparting motion to the fly wheel, diametrically opposed to each other, each twyer being divided into two parts, one attached to the vertical ring of the gyro-
5 scope, and the other to the corresponding pivot of the said ring, substantially as described.

In testimony whereof I have hereunto placed my hand, at Fiume, this 29th day of March 1911.

ALBERT EDWARD JONES.

In the présence of two witnesses—

C. DE MEICHTURY,

J. FERGOLLERY.