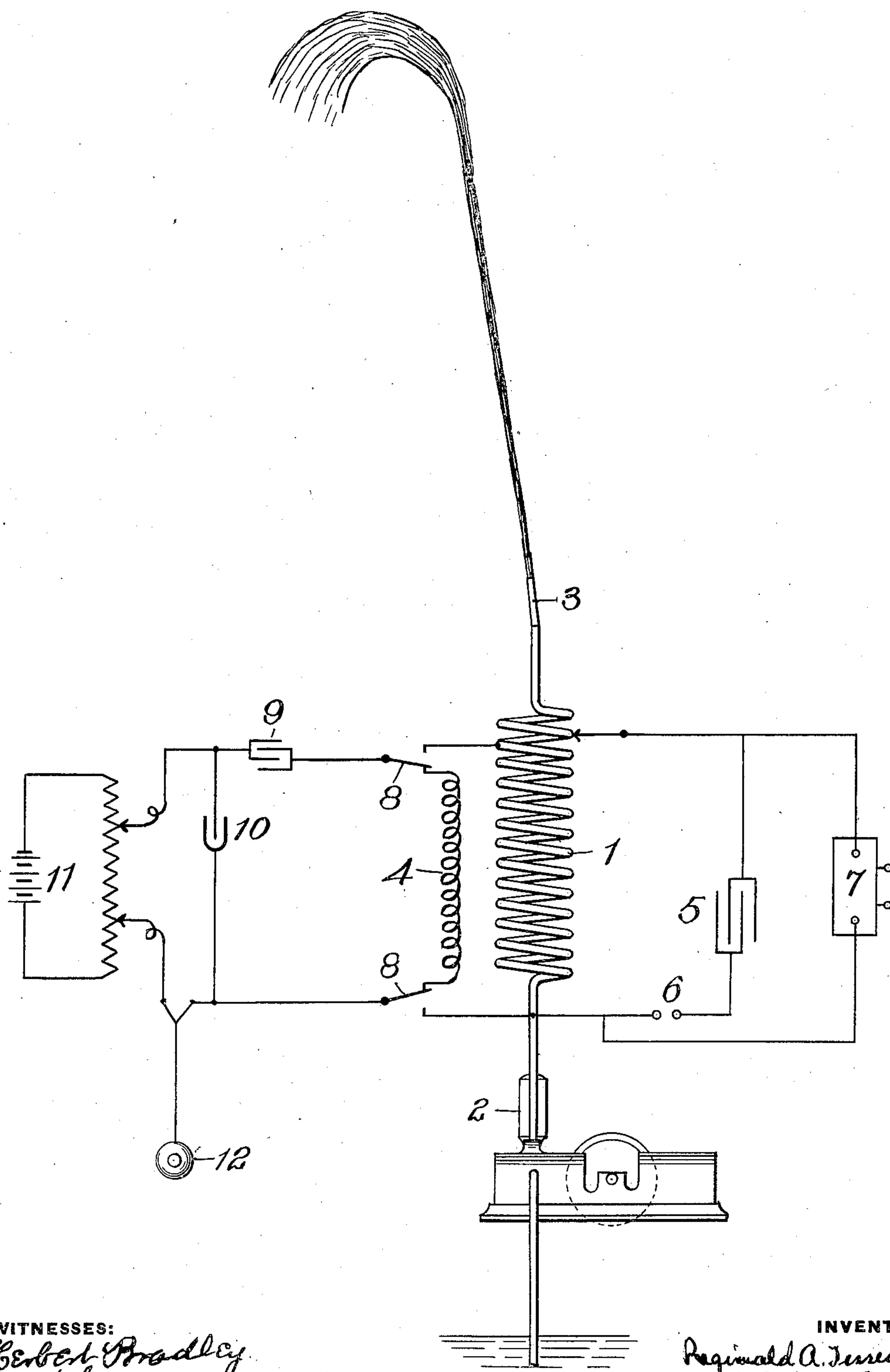


No. 793,718.

PATENTED JULY 4, 1905.

R. A. FESSENDEN.
WIRELESS TELEGRAPHY.
APPLICATION FILED MAR. 30, 1905.



WITNESSES:

Herbert Bradley
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INVENTOR

Reginald A. Fessenden
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UNITED STATES PATENT OFFICE.

REGINALD A. FESSENDEN, OF WASHINGTON, DISTRICT OF COLUMBIA.

WIRELESS TELEGRAPHY.

SPECIFICATION forming part of Letters Patent No. 793,718, dated July 4, 1905.

Application filed March 30, 1905. Serial No. 252,943.

To all whom it may concern:

Be it known that I, REGINALD A. FESSENDEN, a citizen of the United States, residing at Washington, District of Columbia, have invented or discovered certain new and useful Improvements in Wireless Telegraphy, of which improvements the following is a specification.

The invention described herein has for its object the provision of an antennæ to be used on board ships where the masts have been shot away, or long distances are required on fortifications where a permanent mast is not desired, and for other places where an aerial is desired.

In general terms the invention consists in employing a stream of water projected into the air and suitably connected to generating and receiving apparatus, as the aerial therefor.

In the accompanying drawing forming a part of this specification is illustrated diagrammatically a form of apparatus adapted to this purpose.

While a great variety of means may be employed both for producing the liquid aerial and also for connecting it electrically to the generating and receiving apparatus, it is preferred to connect a coil of pipe 1 to a pump 2 having sufficient power to force the water preferably salt through the nozzle 3 connected to the opposite end of the coil, to the desired height in the air. The coil 1 may be of any desired number of turns and may be employed as an inductance or as a primary of a transformer having a secondary 4 as shown. In practice this coil forms a part of a local oscillating circuit, having a condenser 5, a spark-gap 6 and a source of voltage preferably a transformer 7 therein. For receiving a transformer may be used in the usual manner, the primary thereof being formed by a

coil 1 or by shifting the switches 8 as shown a condenser 9 and receiver 10 with its potentiometer 11 and telephone 12 may be connected directly across the coil, which in this case forms the inductance.

While I have shown and described certain specific forms and combinations of generating and receiving apparatus it will be understood by those skilled in the art that any suitable generating and receiving apparatus may be employed and operatively connected in any suitable manner to the aerial.

I claim herein as my invention—

1. A system of signaling by electromagnetic waves having an aerial formed by a column or stream of liquid.

2. A system of signaling by electromagnetic waves having in combination a generating apparatus, a receiving apparatus and an aerial formed by a column or stream of liquid.

3. A system of signaling by electromagnetic waves having in combination a coiled pipe provided with a discharge-outlet means for forcing a liquid through the coil, a receiving apparatus and a generating apparatus in operative relation to the coil.

4. A system of signaling by electromagnetic waves having in combination a transformer having its primary formed by a tubular coil provided with an outlet, means for forcing liquid through the coil and receiving apparatus operatively connected to the secondary of the transformer.

In testimony whereof I have hereunto set my hand.

REGINALD A. FESSENDEN.

Witnesses:

THOMAS P. BROWN,
JESSIE E. BENT.