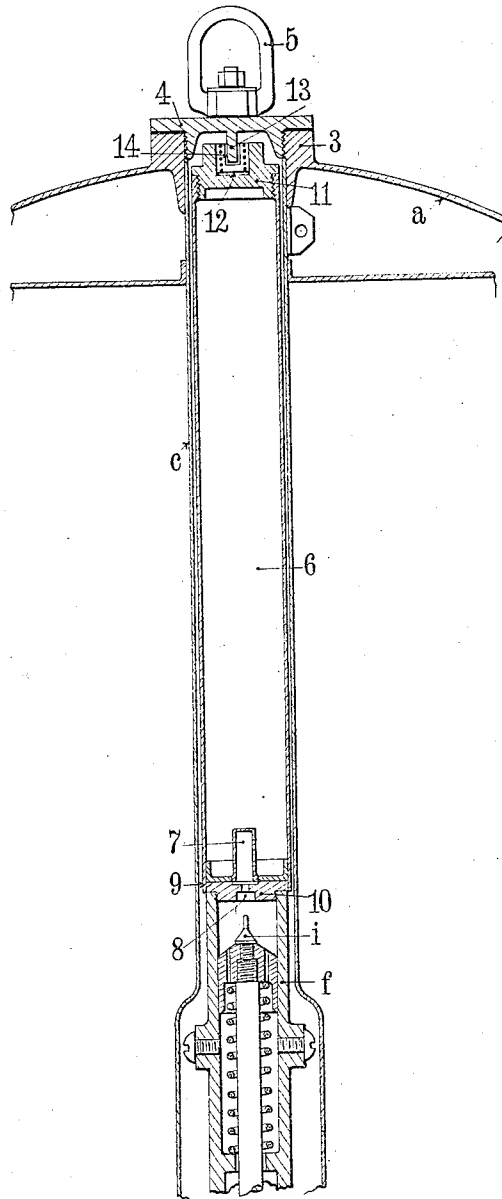


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 AUTOMATIC SUBMARINE MINE.
 APPLICATION FILED JAN. 31, 1913.

Patented Apr. 22, 1913.

1,059,850.



WITNESSES

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UNITED STATES PATENT OFFICE.

GIOVANNI EMANUELE ELIA, OF PARIS, FRANCE, ASSIGNOR TO VICKERS LIMITED,
OF LONDON, ENGLAND.

AUTOMATIC SUBMARINE MINE.

1,059,850.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed January 31, 1913. Serial No. 745,405.

To all whom it may concern:

Be it known that I, GIOVANNI EMANUELE ELIA, a citizen of Italy, and residing at Hôtel Crillon, Place de la Concorde, Paris, France, have invented certain new and useful Improvements in and Relating to an Automatic Submarine Mine, of which the following is a specification.

An automatic submarine mine has been described in which the ignition cartridge is integral with the guide cylinder of the striker which renders it necessary to dismount the whole of the percussion system in order to inspect or charge the ignition cartridge.

The improvement has for its object a constructional form of this mine in which the cartridge carrying the detonator is readily detachable, independently of the percussion system.

The firing cartridge in position in a mine is illustrated in partial vertical section in the accompanying drawing.

The tube *c* is fixed at its upper part to a collar 3 integral with the casing *a* of the mine and can be closed by a screwed plug 4 provided with a shackle 5.

The ignition cartridge 6, which may contain dry cotton powder, comprises a priming 7 which comes opposite the detonator 8 and the cartridge is held in this position by a circular flange 9 fitting the head 10 of the cylinder *f* for guiding the striker *i*.

At its outer end the cartridge 6 is closed by the threaded plug 11, in a central perforation 12 of which a pin 13 enters; this pin is integral with the plug 4 and rests upon the cap 11 by the intermediary of a spiral spring 14.

The advantages are as follows: The car-

tridge 6 containing the charge of fulminate 7 is independent of the percussion mechanism, in such a manner that the mine can be stored and transported without containing this cartridge 6 whereby safety in manipulation is increased. At the moment at which the mine is to be utilized, it is only necessary to unscrew the plug 4 and to introduce the cartridge 6 with its priming 7 which is held in correct position by the pin 13 of the plug 4 after the latter has been replaced in position.

The detonator 8 and the priming 7 may be of any desired pattern and the cartridge 6 can be charged with any appropriate material. The charge of this cartridge will of course be localized in proximity to the bursting charge of the mine itself and the cartridge can be maintained in correct position by screwing upon the cylinder *f*, for example, or merely by fitting as represented.

What I claim is:

In an automatic submarine mine, a tube, percussion mechanism in the tube, a cartridge in the tube and supported on the percussion mechanism, a plug closing the cartridge and having a recess in its outer face, a plug for closing the tube having on its inner face a pin projecting into the recess of the plug of the cartridge, and a spiral spring interposed between the pin and cap of the cartridge.

In testimony whereof I have hereunto set my hand, at Rome, Italy, this 18th day of January, 1913.

GIOVANNI EMANUELE ELIA.

In the presence of two witnesses:

GIOVANNI VALATELLI,
FORRELLO FOUPANI.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."