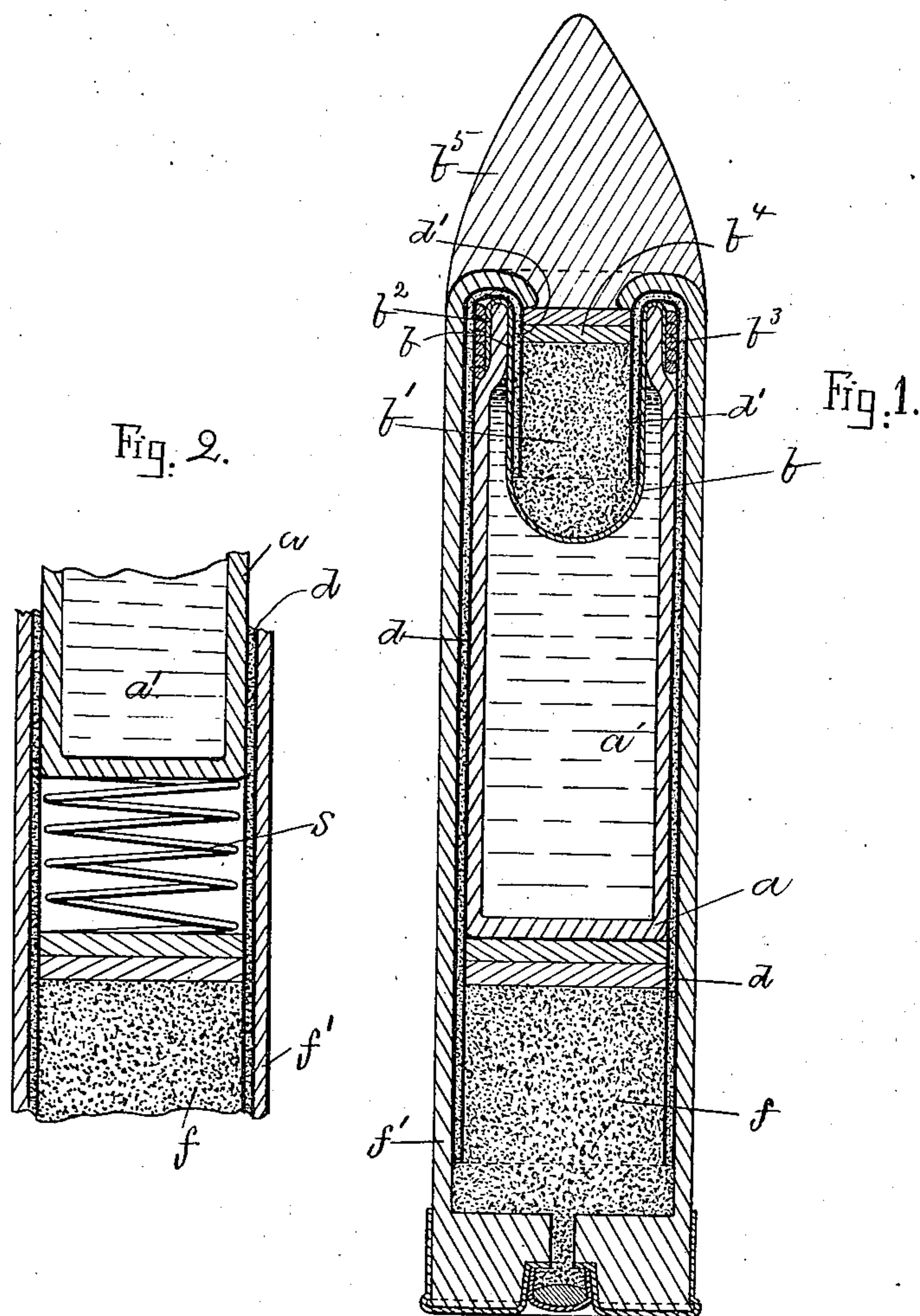


(No Model.)

E. SHERLOCK & J. MCINTYRE.
PROJECTILE.

No. 459,417.

Patented Sept. 15, 1891.



Witnesses.

Lauritz W. Molen.
John R. Snow.

Inventors
Edward Sherlock
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James McIntyre
by their attorneys
Wagman & Beach

UNITED STATES PATENT OFFICE.

EDWARD SHERLOCK AND JAMES MCINTYRE, OF BOSTON, MASSACHUSETTS.

PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 459,417, dated September 15, 1891.

Application filed June 2, 1890. Serial No. 353,973. (No model.)

To all whom it may concern:

Be it known that we, EDWARD SHERLOCK and JAMES MCINTYRE, both of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Projectile, of which the following is a specification.

Reference being had to the accompanying drawings, Figure 1 shows a longitudinal section of one form of projectile embodying our invention, and Fig. 2 a modification of the same.

Our invention consists in the combination of a cartridge, an oil-reservoir, a reservoir for an explosive at the front of the oil-reservoir, and a fuse connecting the cartridge with the explosive at the front of the oil-reservoir, as more fully set forth hereinafter.

In the drawings, *a* is a reservoir, say, of glass or some other liquid-proof but comparatively easily broken material, and *b* is a reservoir, say, of sheet-lead, containing an explosive *b'*.

The best way now known to us of combining the reservoirs *a* and *b* with their respective contents is that shown, although it is obvious that they may be combined in various ways to form our new projectile. As shown, the reservoir *b* is a thimble fitted snugly in the mouth of reservoir *a*, with extensions *b*² bent over the outer surfaces of reservoir *a* and wrapped with a few turns of wire *b*³. In practice we also smear the contact-surfaces of the reservoirs *a* and *b* with liquid-proof cement, so as to prevent, as far as possible, the escape of the oil from its reservoir. The explosive *b'* (ordinarily gunpowder) is confined in reservoir *b* by any suitable wads or filling, or both, wads *b*⁴ and a filling *b*⁵ of clay being preferably used. The explosive-reservoir is provided with any suitable means for discharging the explosive, in this case with a fuse *d*, (preferably tubular in form,) having an end *d'* turned over the edge of reservoir *b* into the explosive, the main portion of the tubular fuse surrounding (when a tubular fuse is used) the projectile and reaching into the explosive *f* in cartridge *f'*, the construction of which is too well known to re-

quire description. The outer surface of the fuse is best coated with some suitable waterproof composition; but this is by no means essential. It is, for well-known reasons, desirable to form the projectile with a conical tip, and this is readily done by using a surplus of clay filling for that purpose, shaping the clay as shown in the drawings; but this is not essential.

The object of our invention is to provide a projectile to be sent by suitable guns from vessels and shores against breakers for the purpose of oiling and thereby calming the waters. Our projectile in its present form is exploded by means of the fuse and explosive *b'*, the fuse being ignited when the cartridge is fired and burning into the explosive *b'* during the flight of the projectile. When the explosive in the projectile explodes, the oil-reservoir is broken and the oil escapes. This projectile is especially useful against waves coming toward the bow or sides of vessels, and which cannot for that reason be reached by the use of oil-dripping pans sometimes suspended from the stern.

In Fig. 2 a spring *S* is interposed between the explosive in the cartridge and the projectile *a b*.

We are aware of Garrick's patent, No. 322,275, dated July 14, 1885; Gordon's patent, No. 303,507, dated August 12, 1884, and Baker's patent, No. 272,400, dated February 20, 1883, and disclaim all that is shown in them.

What we claim is—

The combination of a cartridge with an oil-reservoir, a reservoir for an explosive, and a fuse, the reservoir for the explosive being at the front end of the oil-reservoir and the fuse connecting the explosive of the cartridge with the explosive in the reservoir at the front end of the oil-reservoir, substantially as and for the purpose set forth.

EDWARD SHERLOCK.
JAMES MCINTYRE.

Witnesses:

EDWARD S. BEACH,
JOHN R. SNOW.