

E. E. SWETT.
Weight for Exploding Torpedoes.

No. 215,408.

Patented May 13, 1879.

Fig. 1.

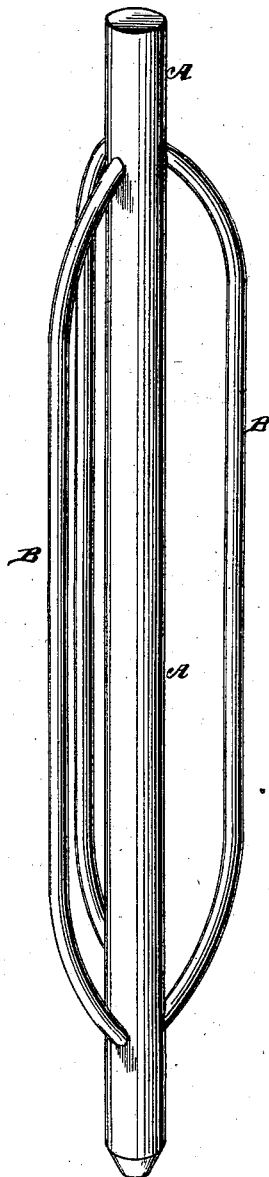
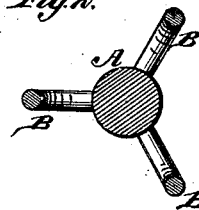


Fig. 2.



WITNESSES
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IMPROVEMENT IN WEIGHTS FOR EXPLODING TORPEDOES.

Specification forming part of Letters Patent No. **215,408**, dated May 13, 1879; application filed February 27, 1879.

To all whom it may concern:

Be it known that I, EDWARD E. SWETT, of Olean, Cattaraugus county, and State of New York, have invented a new and useful Improvement in the Process or Means for Exploding Oil-Well Torpedoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 is a cross-sectional view.

My invention relates to means for exploding torpedoes, blast-charges, and the like; and it consists in a novel apparatus having a central bar and attached guiding-wires, adapted for passing vertically down an oil-well or other similar opening, and to fall, by the force of its gravity, upon the firing end of a torpedo or the cap or fulminate of a blasting-charge, and thereby explode the same.

Heretofore torpedoes and blasting-charges have usually been exploded by means of fuses or falling weights, the latter always connected with a line which is not released until the explosion occurs.

The difficulties attending the use of such lines consist in the fact that by the explosion the line is often rolled into a nearly solid ball inside the well or opening, thereby destroying it, and, furthermore, with the fragments of rock bridging or closing the opening altogether.

In order to avoid these difficulties I have constructed the apparatus herein described.

It consists of a central metallic bar, (marked A on the drawings,) which is preferably of solid iron. To this bar I attach, by solder or otherwise, three or more guide-wires (marked B,) in such manner that their sides shall be adapted to graze the walls of the well without being wedged therein, and guide the point of the central bar upon the cap or fulminate connected with the torpedo, blasting-charge, or magazine to be exploded.

By these means the annoyance and expense attending the use of fuses and lines are obviated, inasmuch as the work may be successfully accomplished by simply placing the apparatus in the opening and permitting it to fall by its own gravity.

It is obvious that for igniting a blasting-

charge in a mine or other rocks when only a shallow opening is prepared a line may be attached to my apparatus in such manner that the operator may actuate it at a safe distance.

I advise in such case that the line be arranged for breaking by a sharp pull when the apparatus is safely within the walls of the opening.

It is apparent that the torpedo or blasting-charge in a well or deep opening must be lowered by a suitable line, and the latter released therefrom by tripping or otherwise before my apparatus is introduced.

My method of procedure in exploding torpedoes in oil-wells is as follows: I first lower the torpedo to its bed at the bottom of the well by a suitable line. I then release the line from the torpedo and remove it entirely from the well. Finally, I drop the apparatus shown into the well and the work is accomplished.

I am aware that a drop-hammer provided with spring-guides, and having a sliding point, upon which the cap is placed, has been connected to a rod, by which the torpedo has been lowered, and placed within the shell of the torpedo in such a manner that at the proper time the hammer will descend within the shell and drive the cap upon an anvil located below it, and thereby explode the cartridge, as shown in Patent No. 194,621, of August 28, 1877; but I make no claim to this construction.

I claim—

1. The apparatus for exploding torpedoes and blasting-charges herein described, consisting of the single solid central bar, A, extending both above and below the guiding-wires B, and in combination therewith, substantially as specified.

2. The process of exploding torpedoes in oil-wells herein described, consisting in first lowering the torpedo to its proper bed, then disconnecting and removing the lowering-line, and finally exploding the torpedo by the gravitating independent device shown, as and for the purpose set forth.

EDWARD E. SWETT.

Witnesses:

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