

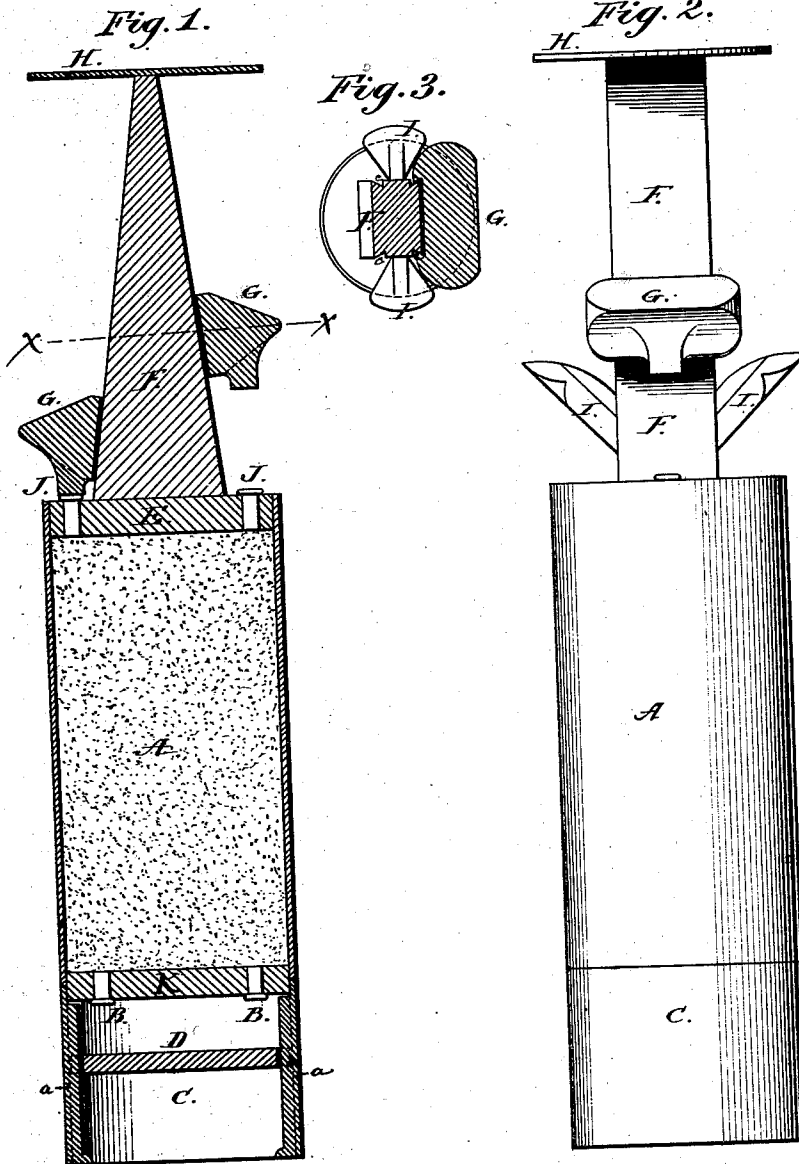
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A. P. GOTHAM.

Improvement in Automatic-Tamping Device for Torpedoes.

No. 128,299.

Patented June 25, 1872.



Witnesses.

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UNITED STATES PATENT OFFICE.

AMISA P. GOTHAM, OF TIDIOUTE, PENNSYLVANIA.

IMPROVEMENT IN AUTOMATIC TAMPING DEVICES FOR TORPEDOES.

Specification forming part of Letters Patent No. 128,299, dated June 25, 1872.

To all whom it may concern:

Be it known that I, AMISA P. GOTHAM, of Tidioute, in the county of Warren and State of Pennsylvania, have invented a new and Improved Method called a Self-Tamping Blast, for Blasting Rock, and to be exploded in oil, salt, or Artesian wells to increase the production thereof; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

Figure 1 of the drawing represents a vertical section of my cartridge. Fig. 2 is an external view, and Fig. 3 is a detail.

My invention relates to the construction of cartridges adapted for use in blasting rocks and removing obstructions to the flow of oil in oil-wells; and it consists in the novel devices hereinafter mentioned, and the arrangement thereof, by which the cartridge is partially wedged and held in the well or opening after ignition of the explosive material.

A of the drawing represents a cylinder having a head, E, and bottom K, in which are arranged the exploding-caps J and B in the manner shown. C represents a water-space below the bottom, in which is affixed the removable diaphragm D, held in position by the rods *aa*. When the shell is sunk into the water the diaphragm D is forced upward against the caps B and explodes them. F represents a triangular or wedge-shaped block attached to the top E, and is constructed with grooves *c*, as shown on Fig. 3. G G represent movable blocks that are connected with the block F, and travel up and down the oblique sides thereof, being held in position by the grooves

c. I I represent folding wings, pivoted, at their bases, in the block F. When the cartridge is being lowered within the well the blocks G move upward upon the block F and the wings I fold inward against the sides thereof and thereby form no material impediment to the descent of the shell. But when the caps B are exploded the powder in the cylinder becomes ignited, and the result is a sudden movement upward of the entire cartridge. This sudden movement not only forces the caps J against the blocks G, producing explosion, but also opens the wings I; and the blocks G, being brought down to the cylinder-head, become wedges that set against the wall, and unite with the wings in resisting the upward movement of the cartridge.

It will be observed that both the blocks G and the wings I, when brought to the position last mentioned, project outward beyond the shell of the cartridge. It is also obvious that the open space between the head E and the bottom K is intended to hold powder or other explosive substance. The letter H on the drawing represents a handle for transporting the cartridge.

I claim as my invention—

1. In a blasting-cartridge, the combination of the grooved block F and wedge-blocks G, constructed and arranged substantially as specified.

2. In a blasting-cartridge, the combination of the pivoted wings I and block F, constructed and arranged substantially as described.

AMISA P. GOTHAM.

Witnesses:

W. E. PEELOR,
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