No. 848,512. PATENTED MAR. 26, 1907.

R. TORRAS.

DEVICE FOR INSERTING EXPLOSIVE CHARGES.

APPLICATION FILED JUNE 26, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

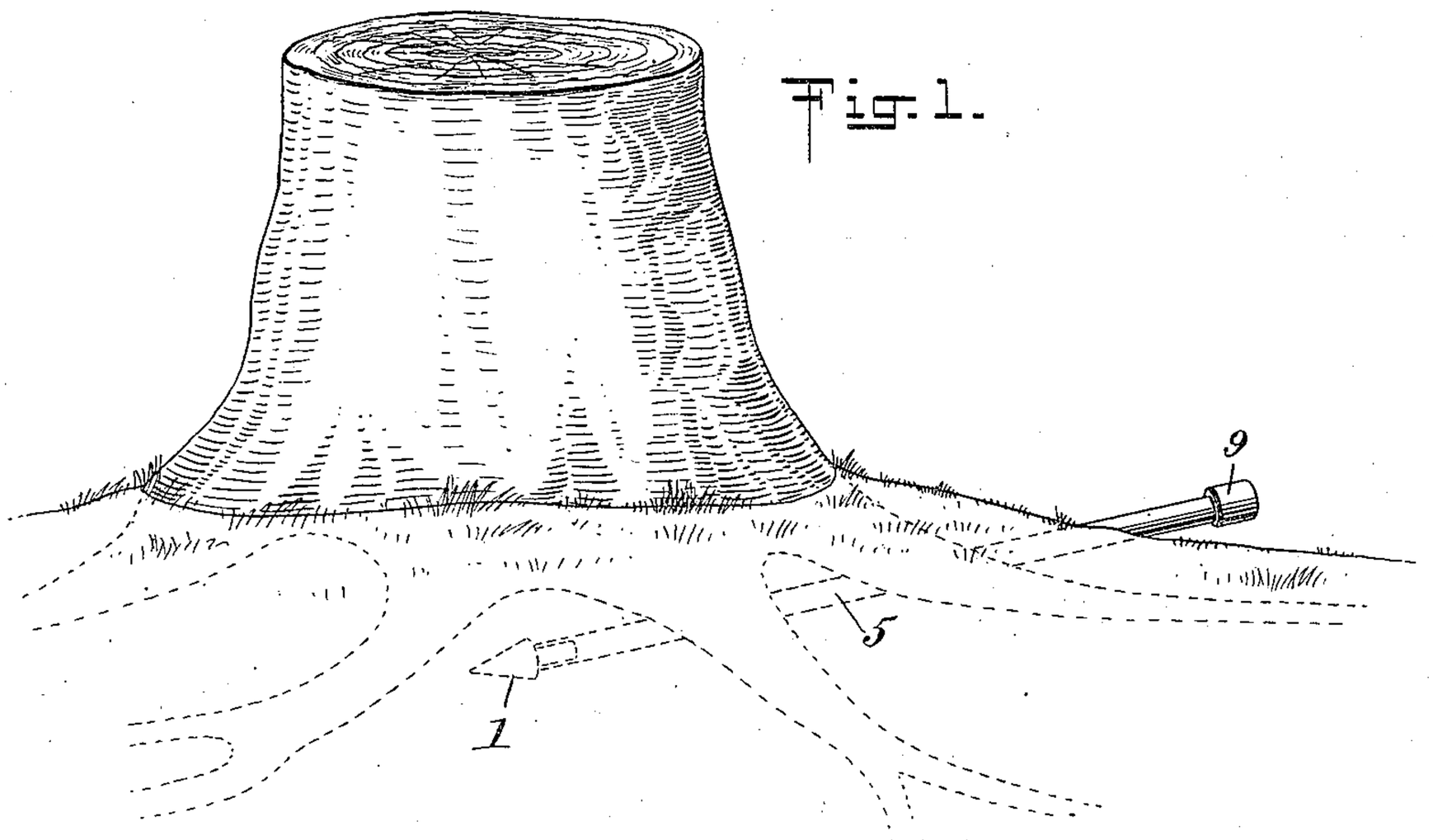
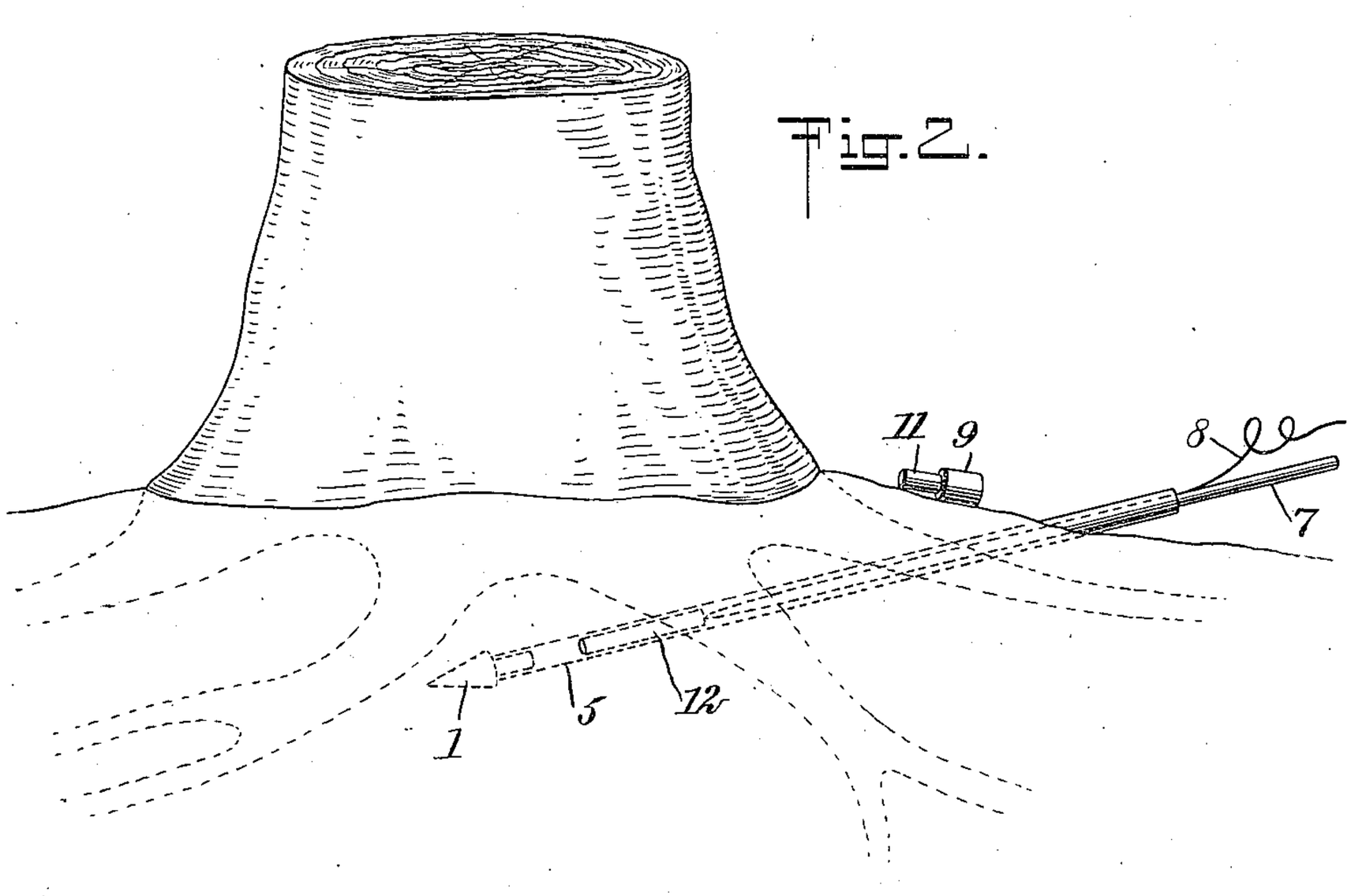


Fig. 2.



WITNESSES

INVENTOR

Rosendo Torras

BY Munn & Co

ATTORNEYS

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Fig. 3.

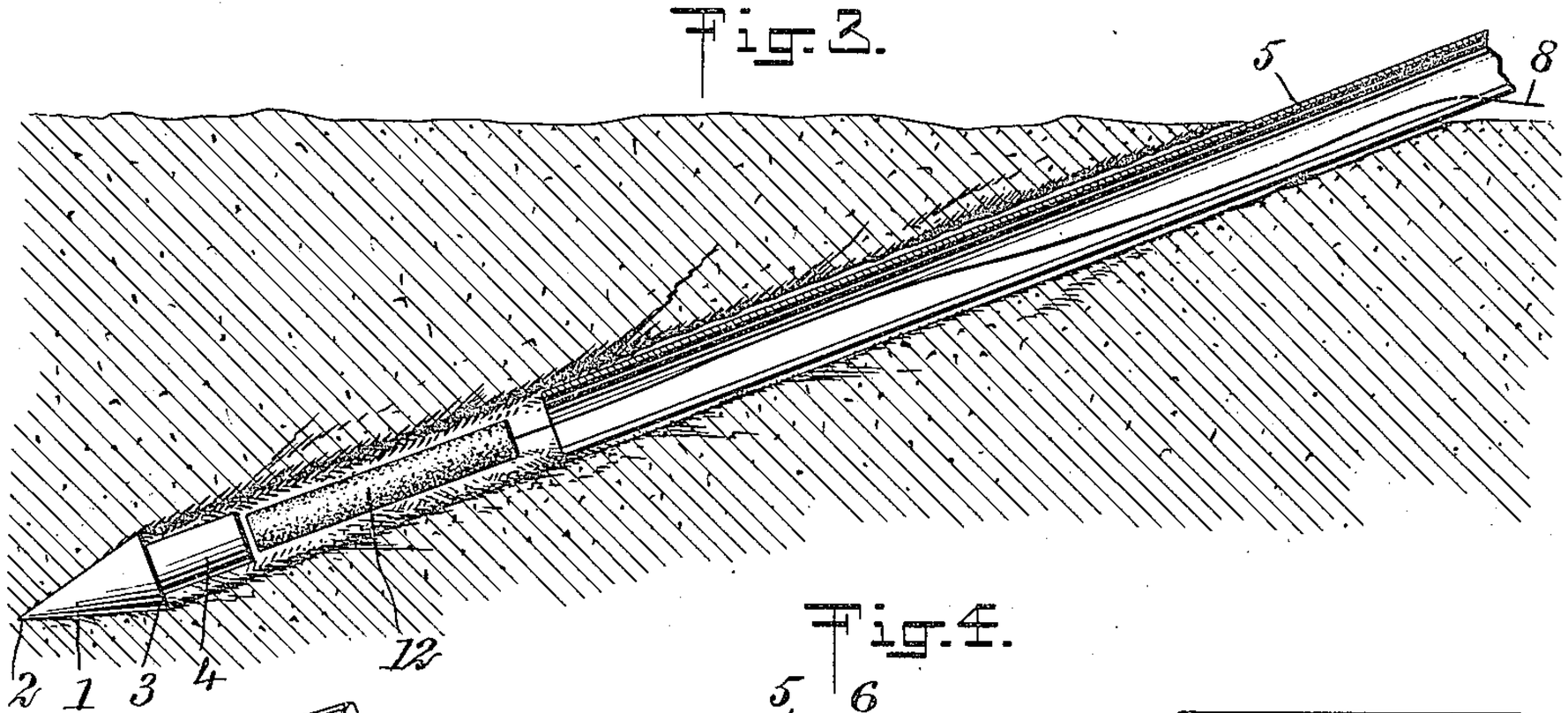


Fig. 4.

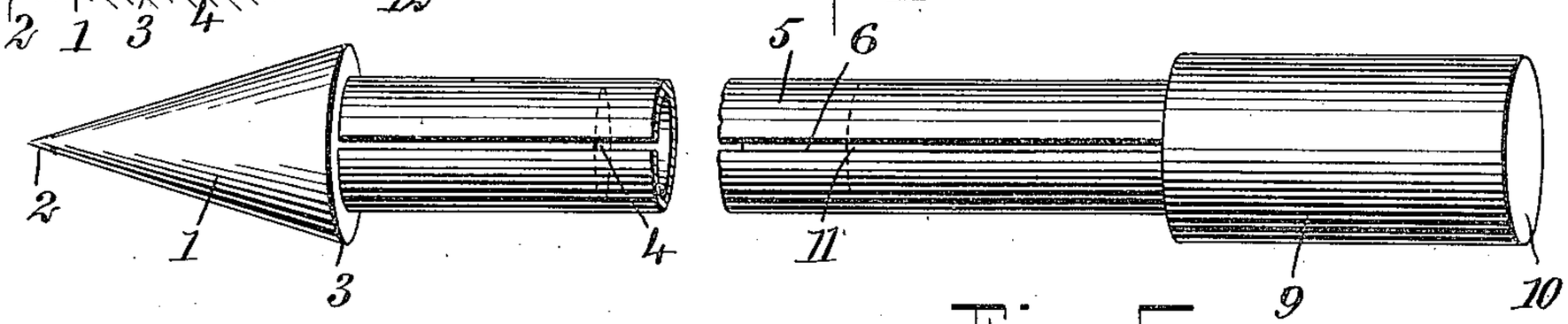


Fig. 5.

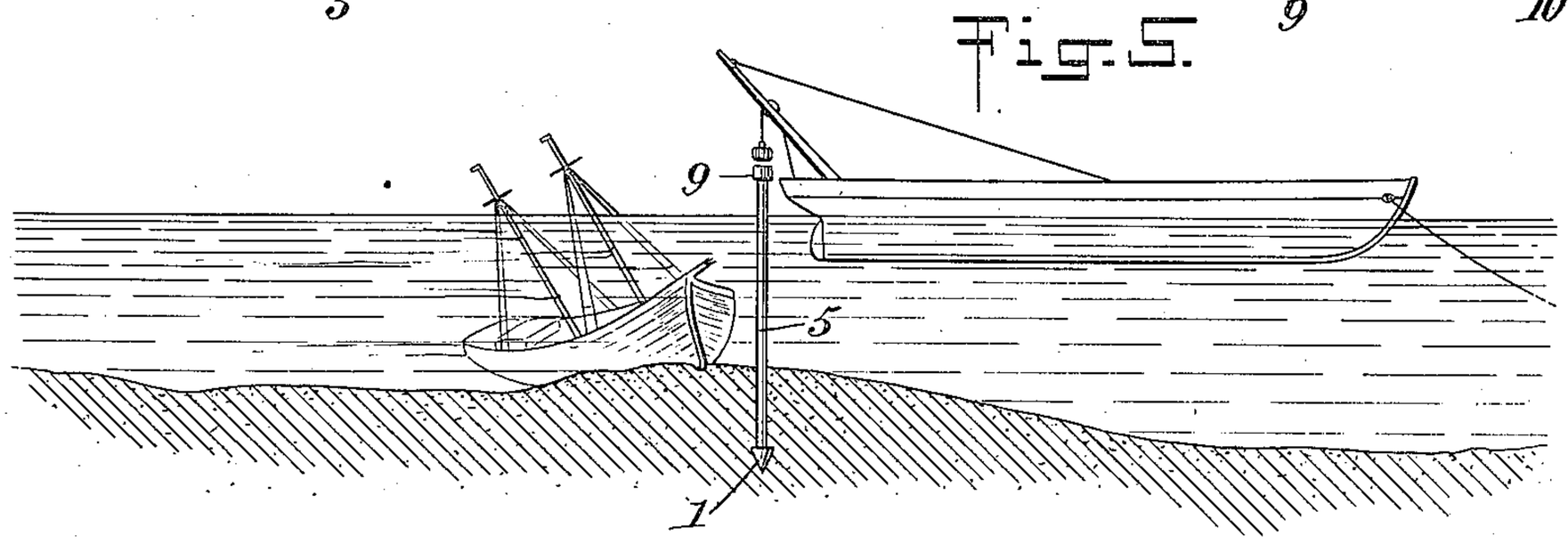
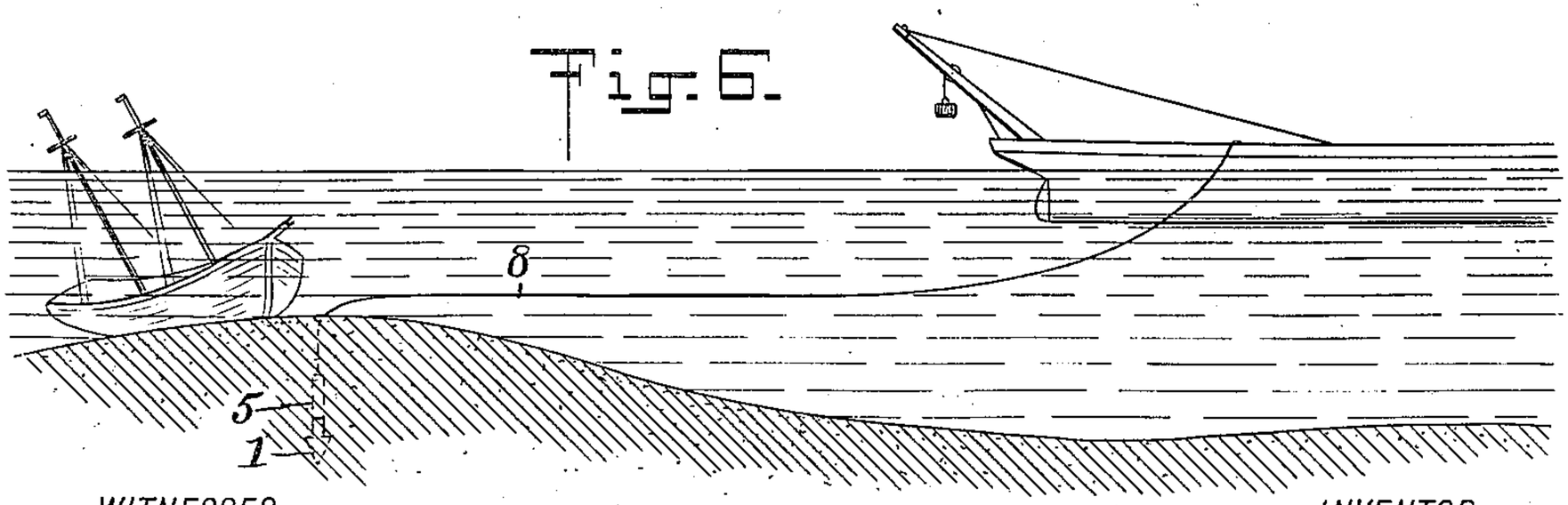


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

ROSENDO TORRAS, OF BRUNSWICK, GEORGIA.

DEVICE FOR INSERTING EXPLOSIVE CHARGES.

No. 848,512. Specification of Letters Patent. Patented March 26, 1907.

Application filed June 26, 1906. Serial No. 323,473.

To all whom it may concern:

Be it known that I, ROSENDO TORRAS, a subject of the King of Spain, and a resident of Brunswick, in the county of Glynn and State of Georgia, have invented a new and Improved Device for Inserting Explosive Charges, of which the following is a full, clear, and exact description.

This invention relates to a new and improved device for use in connection with the insertion of explosive charges beneath stumps, rocks, sunken ships, or other bodies which it is desired to remove; and the object thereof is to provide a device simpler in construction and easier to operate than any heretofore known.

Reference is to be had to the accompanying drawings, which form part of this specification, in which drawings like characters of reference indicate corresponding parts throughout the views, and in which—

Figure 1 is a perspective view of a stump having my improved device inserted beneath the same. Fig. 2 is a view similar to Fig. 1, but showing the explosive charges being inserted within the device. Fig. 3 is a sectional view showing the explosive charge in place and the tube partially removed. Fig. 4 is a perspective view of the complete device. Fig. 5 is a view showing my device when used for exploding sunken vessels, and Fig. 6 shows the same about to be exploded.

The device constituting my invention involves three constituent parts. First, a tube adapted to be driven into the ground; second, a pointed head for closing the end of the said tube, and, third, a cap for the outer end of the tube. The tube 5 which I employ is provided with a slit or groove 6, extending the entire length thereof for facilitating the removal of the tube without disturbing the fuse or electric wire used to explode the charge. On one end of the tube I provide a removable head 1, having a sharp point 2, a sharp angular flange 3, and a cylindrical shank portion 4. The shank portion 4 extends within the end of the tube, while the angular flange 3 is slightly larger in diameter than the outer wall of the tube. On the outer end of the tube I employ a cap 9, having an enlarged head 10 and a cylindrical shank portion 11, adapted to fit within the tube 5.

In the use of my improved device the parts are assembled in the relationship shown in Fig. 4, and the same are driven beneath the body which it is desired to remove. When the head 1 reaches a point slightly beyond the place where it is desired to locate the charge, the cap 9 is removed from the outer end of the tube, and a cartridge 12 or other similar charge of explosive is inserted within the tube and forced to the lower end thereof by means of a small rod 7. Attached to the charge is a suitable fuse or electric wire 8 for exploding the same, and the slit or groove 6 in the tube is of the width sufficient to allow the fuse or wire to pass therethrough. When the charge 12 is in place, the tube 5 is removed, while the fuse or wire passes downward through the groove or slit, as shown in Fig. 3, thus leaving the pointed head 1 and the explosive charge buried beneath the body to be destroyed. The hole left by the removal of the tube may then be closed up, if desired, to prevent the escape of explosive gases in this direction, while the entire force of the charge is utilized to accomplish the object sought.

One of the numerous advantages derived from the use of my device results from the groove or slit 6, for were the tube 5 not provided with this groove or slit it would be necessary in removing the same to break or cut the fuse in order that the tube could be removed therefrom; but by providing the groove shown the fuse or wire may be passed down through the groove as the tube is removed, thus avoiding the necessity of cutting or breaking the fuse or wire. The advantage gained by this will be readily apparent from an inspection of Figs. 5 and 6, in which my invention is shown as applied to the removal of sunken vessels. It is necessary that a long electric wire be connected to the charge, so that the vessel used to locate the charge may be removed to a considerable distance from the scene of operation before the charge is exploded, and it will be very inconvenient to break or disconnect the wire to remove the tube were the slit or groove omitted.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A device for inserting explosive charges, comprising a tube having a groove the entire length thereof, a pointed head detachably connected to one end of the tube, and a cap detachably secured to the other end thereof.

2. A device for inserting explosive charges, comprising a long cylindrical tube having a

groove or slit extending the entire length thereof, a head having a sharp point, a cylindrical shank portion fitting within one end of the tube and a shoulder fitting the end of the tube, and a cap adapted to be inserted in the other end of the tube.

3. A cylindrical tube having a slit or groove extending the entire length thereof, a detachable means for closing the end of the said tube, an explosive charge having a fuse or wire secured thereto, and means for inserting said charge within the tube, whereby the tube may be removed without displacing the charge or necessitating the cutting of the wire.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROSENDO TORRAS.

Witnesses:

HOYT W. GALE,

A. E. LEYBOURNE.