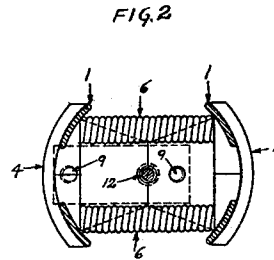
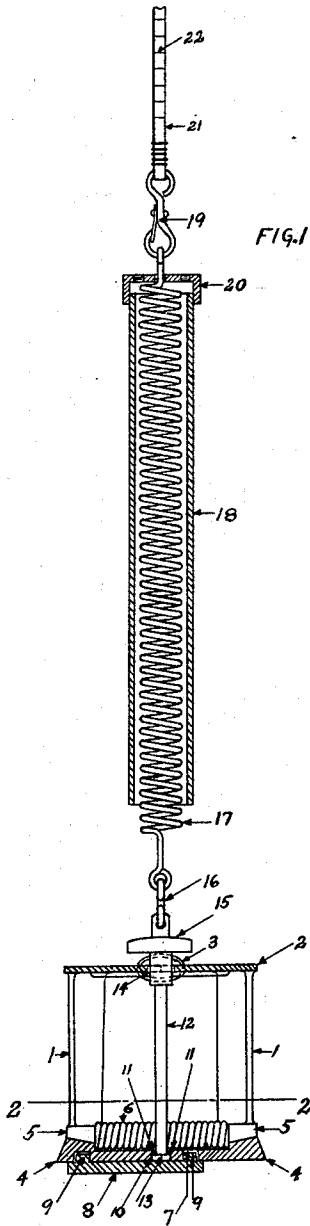


C. A. WAITZ.
ANCHOR MECHANISM.
APPLICATION FILED MAY 4, 1917.

1,258,834.

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ANCHOR MECHANISM.

1,258,834.

Specification of Letters Patent.

Patented Mar. 12, 1918.

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To all whom it may concern:

Be it known that I, CHARLES A. WAITZ, a citizen of the United States, residing at Rouseville, in the county of Venango and State of Pennsylvania, have invented new and useful Improvements in Anchor Mechanisms, of which the following is a specification.

This invention relates to anchor mechanisms and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

In order to shoot a well it has been customary to place an anchor in the well adjacent to the position that it is desired to have the torpedo explode. Devices of this character have been formed so that they might be lowered into the well and the anchor disengaged from the line with which it is lowered and tripped so as to engage the side walls of the well by some means such as a weight, dropped from the top of the well. An example of such an anchor is shown in the patent to Straub #615,321, dated Dec. 6, 1898. In the use of the anchor shown in the Straub patent it has been customary to lower it with a line other than a measuring line and get an approximate position and locate the torpedo by some support extending up from the anchor a sufficient distance to properly position the torpedo. The reason for this is that the ordinary measuring line will not sustain the shock of a weight dropped in this manner so that the operation has required the lowering of the anchor, the dropping of the weight to release it, the removal of the line and then the measuring of the position of the anchor, and the filling in of the support so as to sustain the torpedo at the usual height.

With the present invention the anchor is released by means acting through the line with which it is lowered. In the exemplification of the invention as shown this is accomplished by manipulating the line. This does away with the double operation in that the measuring line may be used for lowering the anchor and the anchor can be accurately placed and measured by a single operation.

The invention is illustrated in the accompanying drawings as follows:—

Figure 1 is a vertical central section of the device.

Fig. 2 a section on the line 2—2 in Fig. 1. 1—1 marks the expanding members of the

anchor, 2 the top plate, 3 the hinge between the top plates, 4 the engaging points of the members 1—1, 5 studs arranged on the insides of the members 1—1, 6 springs arranged on the studs 5, 7—7 shoulders on the bottom of the members 1—1, these shoulders being slightly undercut and formed by perforations in the bottom, and 8 a trigger by which the members are locked in closed position, the trigger having the shoulders 9—9 operating in connection with the shoulders 7—7. In a general way these parts are similar to the parts shown in the Straub patent and operate in the manner therein described.

A pocket 10 is arranged in the members 1—1 at their meeting edges, the pockets having the lips 11. A releasing pin 12 has the shoulder 13 which is arranged in the pocket 10 and engages the lips 11. When the members 1—1 are in their closed position the pin 12, therefore, will support the anchor. The pin 12 extends through an opening 14 in the top 2 and terminates in a head 15.

A link 16 is arranged between the head 15 and a spring 17. The spring 17 is arranged in a weight 18, the weight being in the form of a pipe surrounding the spring. A snap 19 is secured to the upper end of the spring, the upper end of the spring extending through a cap 20 on the top of the weight 18 so that the weight 18 is carried in this manner. A measuring line 21 having the graduations 22 is secured to the snap.

The operation of the device is as follows: The members 1—1 are closed. With the pin 12 in place the members are locked in this closed position by the trigger 8. The measuring line 21 is hooked on to the upper end of the mechanism and the anchor is then lowered into the well to the position desired. The line is then given a short, quick upward movement and suddenly released. As a result the spring 17 is first expanded and as the line is released the recoil of the spring brings the weight down on the pin and this blow acting on the pin forces the trigger off the bottom of the anchor, thus releasing the anchor members 1—1. These anchor members are immediately expanded bringing the points 4—4 into engagement with the side walls of the opening and positively locking the anchor in place in the well. This same opening of the members 1—1 releases the pin 12 as the lips 11—11 pass off the shoulder 13.

After the disengagement of the anchor,

the head 15 will be in direct engagement with the bottom of the weight 18 so that there is a rigid extension of known length on the bottom of the line and also a sufficient weight to properly manipulate the line. The position of the anchor can then be measured exactly without lifting and changing the line. It will be seen, therefore, that not only can the location of the anchor be determined after it is set without changing the lines but that the locating of the anchor may be controlled with great accuracy.

What I claim as new is:—

1. In an anchor mechanism, the combination of an anchor having devices for engaging the walls of a well normally locked out of engaging position; a line for lowering the anchor; and means acting through energy communicated through the line for releasing said devices.

2. In an anchor mechanism, the combination of an anchor having devices for engaging the walls of a well and for attaching the same to a line said devices being normally locked out of engaging position; a line for lowering the anchors; and means acting through energy communicated through the line for releasing said devices.

3. In an anchor mechanism, the combination of an anchor having devices for engaging the walls of a well normally locked out of engaging position; a line for lowering the anchor; and means actuated by the manipulation of the line for releasing said devices.

4. In an anchor mechanism, the combination of an anchor; a releasing trigger; a line for lowering the anchor into a well; and a device connecting the line and anchor acting on the trigger for releasing the anchor.

5. In an anchor mechanism, the combination of an anchor having expanding members; a spring for expanding the members when released; a trigger locking the members in closed position; a line for lowering the anchor; and a device connecting the line and anchor acting on the trigger for releasing the anchor.

6. In an anchor mechanism, the combination of an anchor having expanding mem-

bers; a trigger for locking the members in closed position; a spring for expanding the members; and an attaching rod acting on the trigger, said rod being released with the opening of the members.

7. In an anchor mechanism, the combination of an anchor; a line; a spring between the line and anchor; and devices actuated to release the anchor through the manipulation of the line to expand the spring.

8. In an anchor mechanism, the combination of an anchor; a line; a spring between the line and anchor; and devices actuated to release the anchor by the expansion and recoil of the spring.

9. In an anchor mechanism, the combination of an anchor; a line; a weight on the line; a spring between the line and anchor; and devices actuated to release the anchor by the expansion and re-coil of the spring bringing the weight into contact with parts of the anchor.

10. In an anchor mechanism, the combination of an anchor having devices for engaging the walls of a well and for attaching it to a line said devices being normally locked out of engaging position; a measuring line for lowering the anchor to which the anchor is attached; and means acting through energy communicated through the line for releasing said devices.

11. In an anchor mechanism, the combination of an anchor having expanding members; a spring for expanding said members; a trigger arranged on the bottom of said members; an attaching rod extending through said members and against the trigger; said rod being locked in position as the members are closed and released as the members are opened; a head on the top of the rod; a spring secured to the head; a line carrying the spring; and a weight carried by the line and adapted to contact the head on the re-coil of the spring to release the anchor.

In testimony whereof I have hereunto set my hand.

CHARLES A. WAITZ.

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