

PATENT NEWS especially for PLUMB BOB COLLECTORS

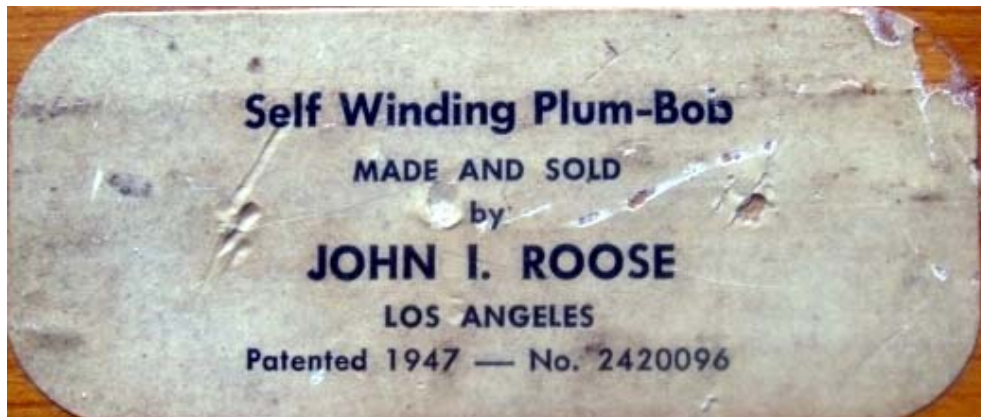
WR PATENT NEWS # 2007-41

PATENTS

US2420096 ROOSE 1947 PLUMB BOB
US1274662 ARMOUR 1918 PLUMB BOB
US1076569 GAMBLEE 1913 PLUMB BOB

Theme: mechanized plumb bobs

Our collector friend Primitivo Gonzales in Spain bought long time ago from the Bruce Cynar collection a wooden box marked as follows: Thank you very much for the pictures.



The patent is:

May 6, 1947.

J. I. ROOSE

2,420,096

PLUMB BOB

Filed Jan. 16, 1945

Inside the box we find:



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The mentioned patent is for a PLUMB BOB, but NOT FOR A SELF WINDING plumb bob as written on the label! In the patent I could not find anything "self winding", no spring, no automatic winder, only a reel that you can turn with your fingers.

ROSE did produce the plumb bob with modifications of the patent. I got a short video from Spain that showed the plumb bob working ☺☺

This patent very interesting for an analysis:

The produced plumb bob has another shape than the drawings (this you can find nearly in every patent). A lot of inventors say:

35 Various changes may be made in the details of construction without departing from the spirit and scope of the invention as defined by the appended claim.

Fig. 1.

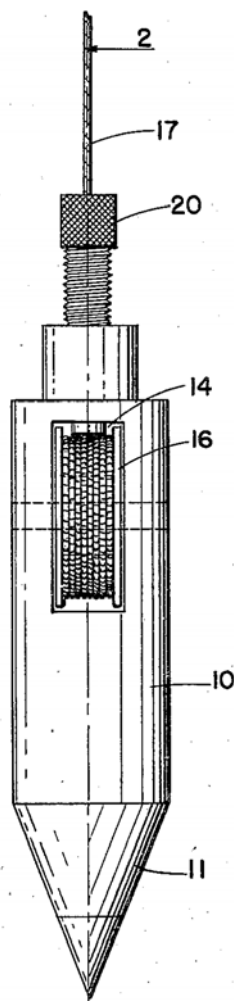
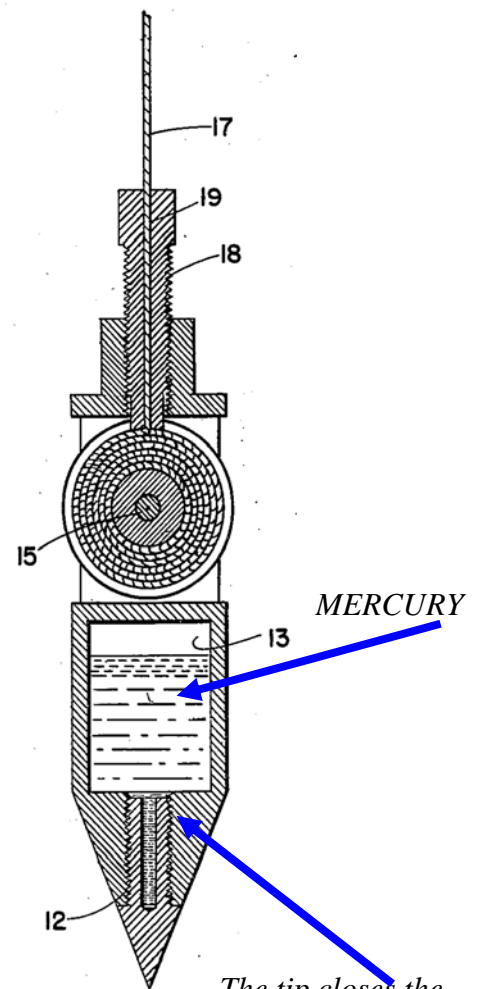


Fig. 2.

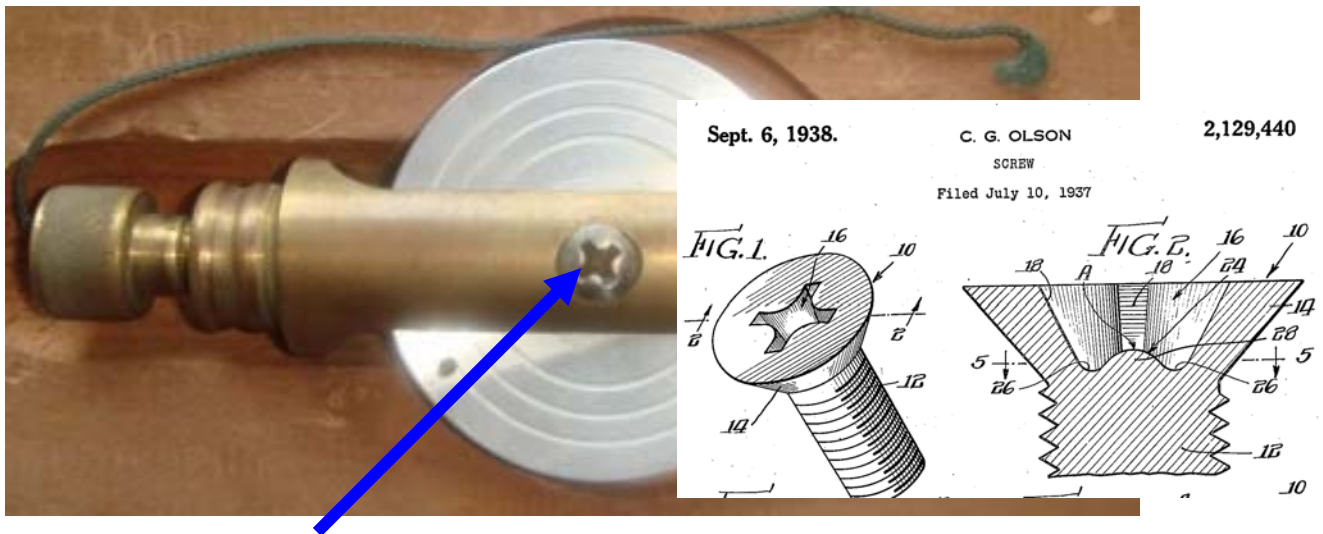


*The tip closes the hollow chamber with mercury.
DANGEROUS!*



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Let us see some details:



My first impression was: "This cross head screw is not original. It looks very modern." I thought these cross head screws were not used before the 50s, but in a quick searching for this screw type I found a patent from 1938. Perhaps there are older ones, but it shows, that this screw is (or can be) original.

The same type of screw is used to fix the BRASS body with the STEEL tip (with the MERCURY in it). Contrary to the patent drawing is the MERCURY safely inside the long tip. You can't open the mercury chamber accidental by screwing off the tip (as shown in the patent drawing).

The material of the upper part is BRASS, the reel is from ALUMINIUM and the lower part is STEEL.

The brass and the steel pieces are fixed exactly together.

When you SHAKE the plumb bob you can feel and hear that there is a liquid inside. It is mercury.

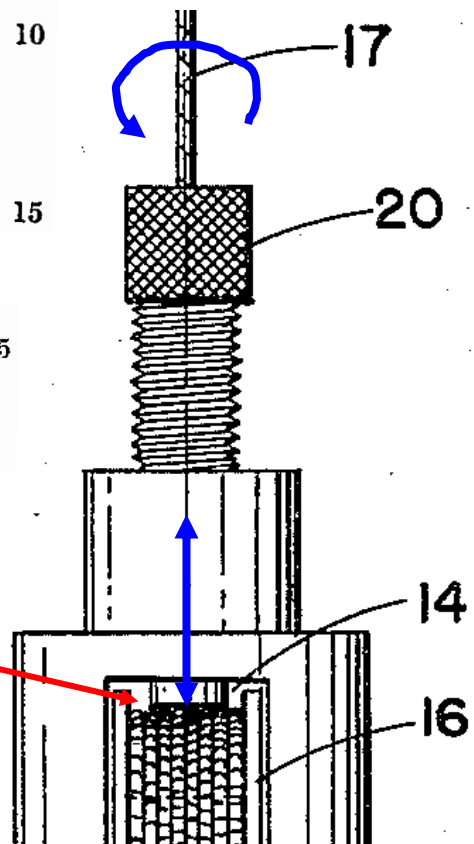


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Mechanism to stop the line /brake: This screw is designed to be tightened against the reel to lock the reel against rotation in any adjusted position so that the length of the suspension line that is paid out from the reel can be easily and quickly adjusted in the plumb bob to meet various requirements.

... and this screw preferably has a knurled head 20 by which the screw may be screwed downwardly through the body to engage the convolutions or turns of the suspension line wound upon the reel.

The screw presses the LINE, not the REEL!



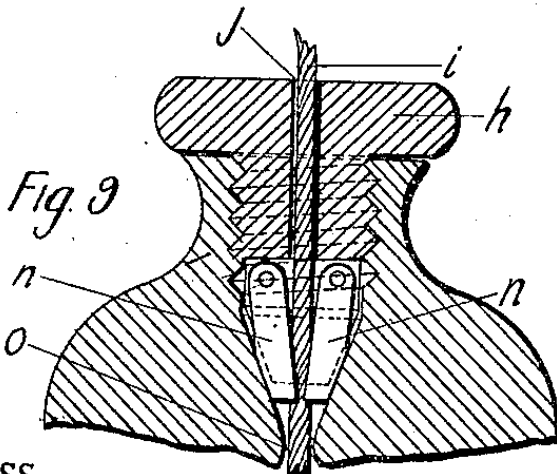
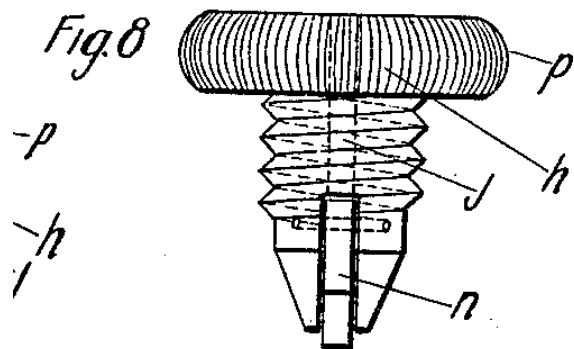
REFERENCES CITED

The following references are of record in the file of this patent:

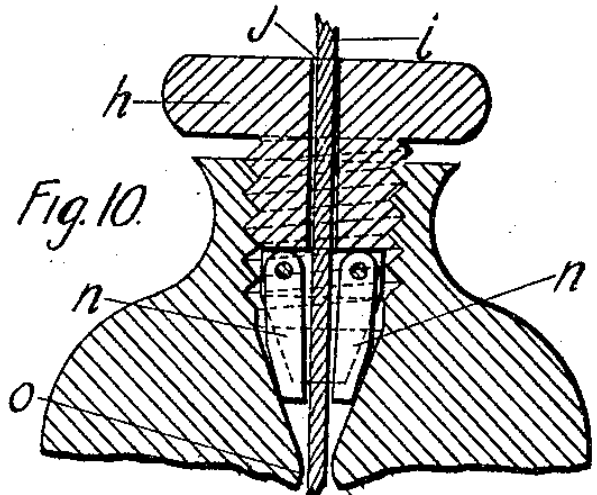
UNITED STATES PATENTS

Number	Name	Date
1,274,662	Armour	Aug. 6, 1918
1,076,569	Gambllee	Oct. 21, 1913

In the patent US1274662 ARMOUR 1918 we find the following mechanism to clutch the



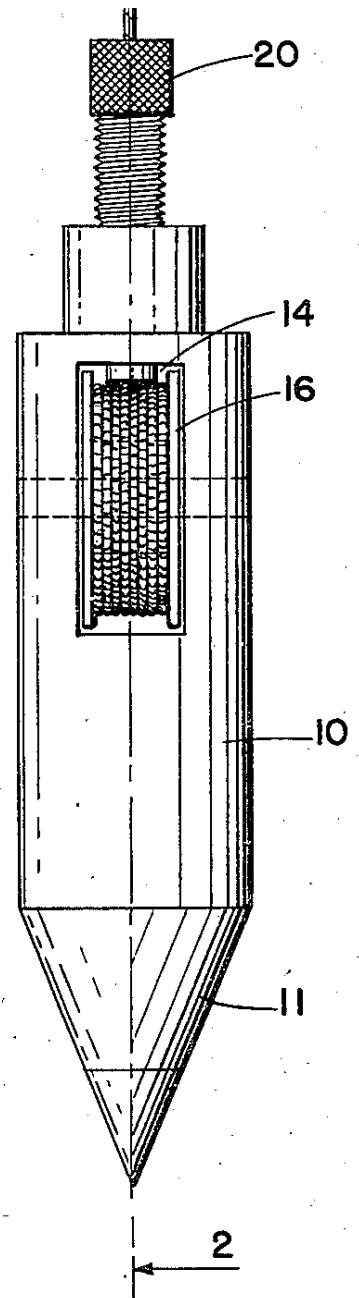
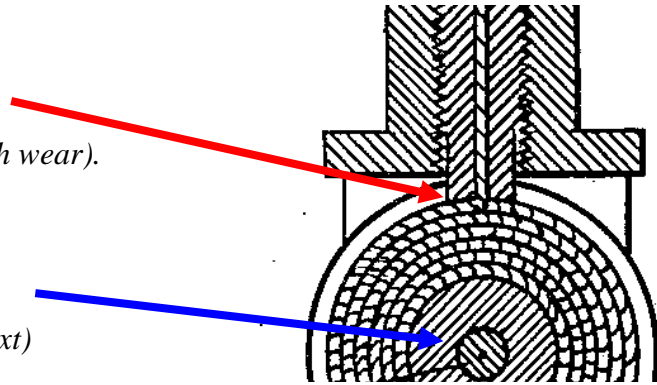
FCC.
string.



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Guiding the line into the screw will bring problems (material: brass; bend of the line 90 degrees = very high wear).

In the produced plumb bob HERE IS THE SPRING (not mentioned in the text)



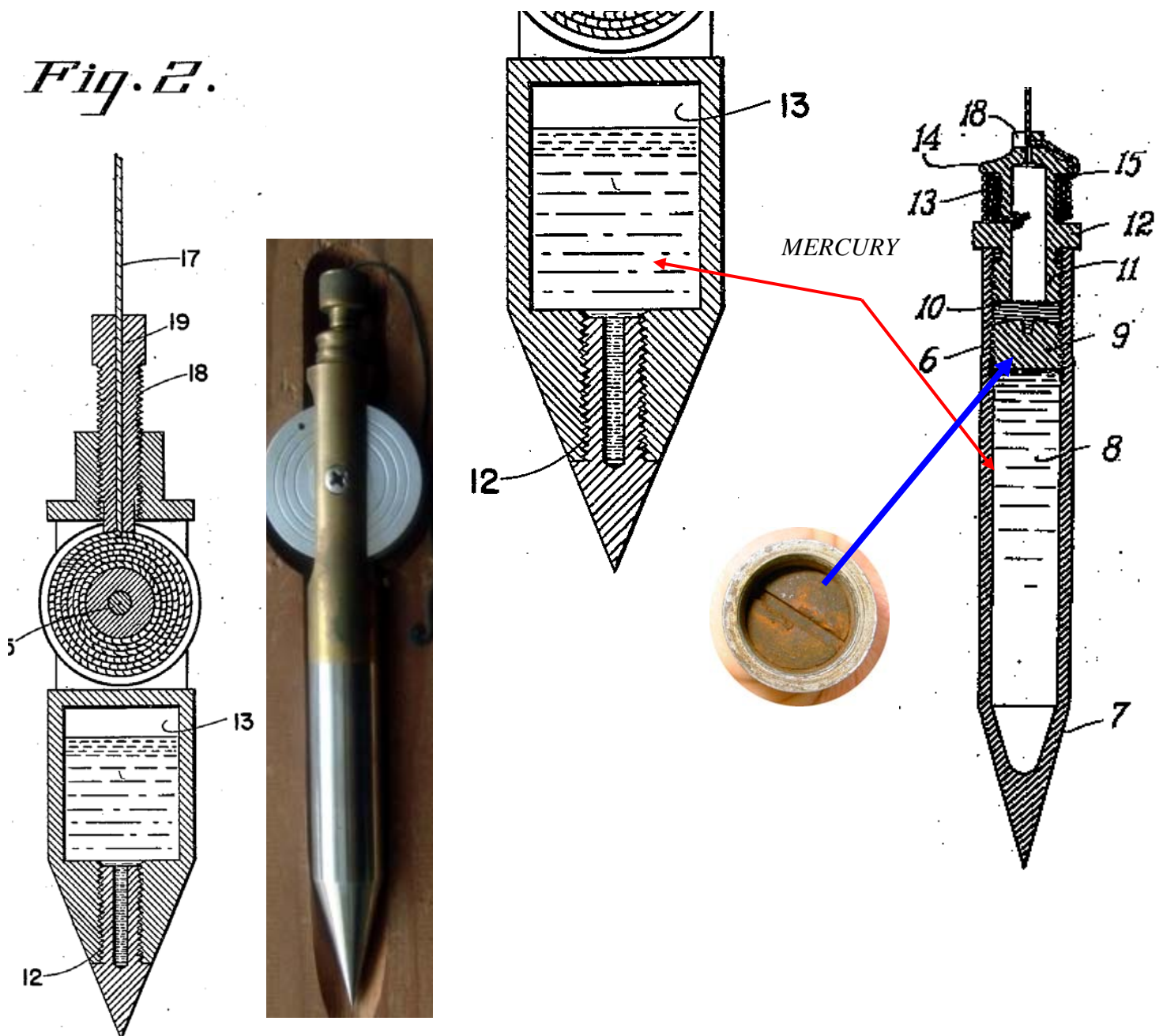
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In the patent the MERCURY is secured only with ONE SREW. If you open this one to change the tip, the toxic liquid comes directly into the environment.

The STARRETT mercury filled plumb bob (patents US833699 Starrett 1906) has 2 screws to eliminate this problem. So you can unscrew the plumb bob and the mercury is still in his reservoir.

In the same way we find the PRODUCED Roose plumb bob. (See pictures page 1 + 3)

Fig. 2.



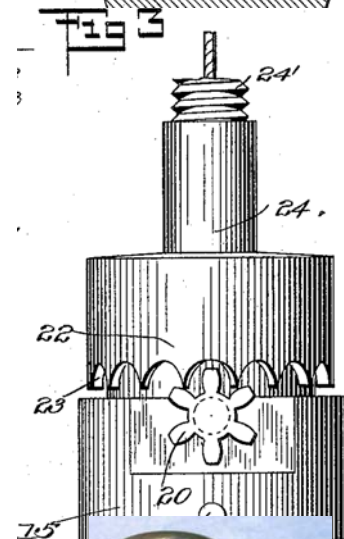
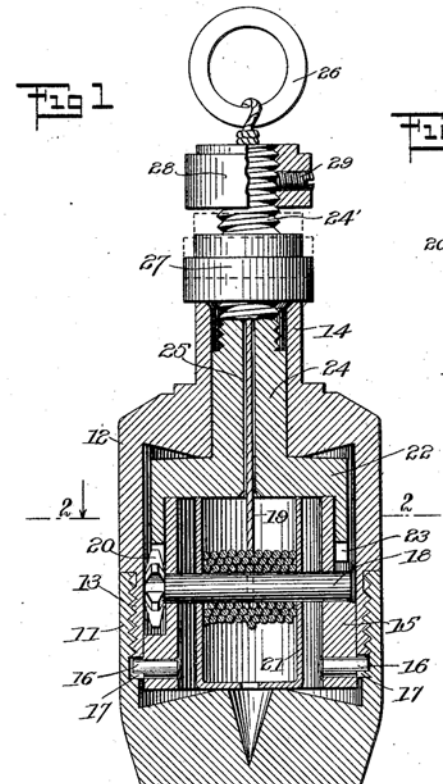
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In the other mentioned patent US1076569 GAMBLLEE 1913 we find another stopping mechanism.

1,076,569.

With the LOCK NUT 27 you can fix the turning of part 24.

As a suitable means to control the operation of the shaft 18 and therefore the length or position of the cord, I provide a crown gear 22 fitted loosely upon the upper end of the shell and having teeth 23 meshing with the teeth of the pinion 20. A hollow shank 24 extends upwardly from the crown gear with its axis coincident with the axis of the interior device and having a central bore 25 through which the cord 19 extends outwardly, terminating in a ring or hanger 26. When the crown gear is free to rotate, a pull upon the hanger 26 will draw the cord out of the bob, unwinding the same from the shaft 18. During such operation of the cord, the crown gear will be rotated by the pinion 20. I provide a lock nut 27 adjustably mounted upon the threaded portion 24' of the shank and adapted to impinge against the upper portion of the neck 14. This action of the lock nut locks the crown gear from rotation and hence prevents the rotation of the pinion and shaft. It will follow, therefore, that when the cord is drawn out as far as desired, a slight turn of the lock nut will lock the operating parts of the device and will maintain the cord at the length indicated. When it is desired, however, to return the cord within the casing, the lock nut 27 is loosened by a slight reverse movement, and then by rotating the crown gear as by operation upon the finger piece 28, the crown gear through its engagement with the pinion 20 will wind up the string within the casing. The gear 22 being so much larger than the pinion 20, a comparatively few rotations of the finger piece and shank 24 to which it is connected will suffice to wind up the maximum amount of cord. The finger piece 28 is preferably keyed to the upper end of the shank by means of a set screw 29 for convenience of assembling or disassembling.



I have in my collection (#426) a British "crown gear" plumb bob. With 1 turning of the cap you get 18 cm (7 inch) of line. The total length (7 turns) of the line is 1,25 m (50 inch). That is not very much for a mason. I don't know for what profession these plumb bobs are produced.

