

WR PATENT NEWS # 2007-31

PATENT US833699 STARRETT 1906 PLUMB BOB US787896 CONVERSE (PERFECTION) 1905 PLUMB BOB

Theme: MERCURY OR LEAD FILLED

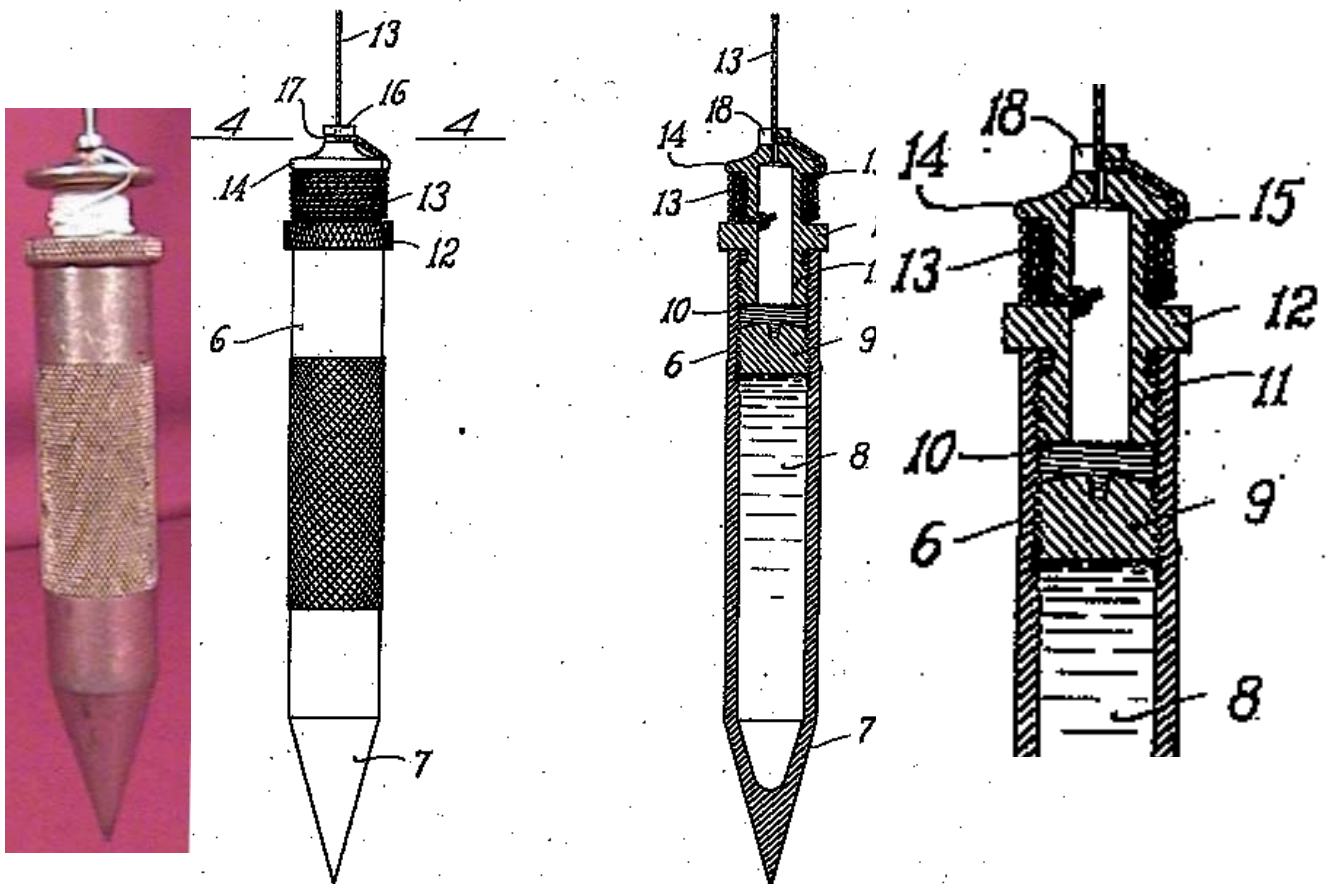
To get a higher weight with the same shape some plumb bobs are filled with LEAD, LEAD SHOT or MERCURY. I found 2 patents with interesting information. Well known is the STARRETT. You have seen this plumb bob already in WR PATENT NEWS 2007-16, but for the patented cap to fix the string. This time we talk about the MERCURY inside the plumb bob.

No. 833,699.

PATENTED OCT. 16, 1906.

L. S. STARRETT.
PLUMB BOB.

APPLICATION FILED FEB. 7, 1906.



PATENT NEWS especially for PLUMB BOB COLLECTORS

His invention and his claim:

The body 6 of this device is a slender cylinder of steel formed with a hardened conical tip 7, the axis of which coincides with that of the body 6. In its best form, as shown in Fig. 2, these parts are accurately bored axially to form a receptacle for mercury 8, which, being nearly twice as heavy as the steel displaced, adds materially to the weight without increasing the bulk of the device. Moreover, the excess of weight is located near the lower end, which is advantageous.

The mercury is retained in place by means of a screw-plug 9 engaging internal screw-threads 10, formed in the cavity-walls and treated with a suitable cement before screwing the plug down to the mercury to prevent its leakage or movement. Above plug 9 is a hollow cap 11, having a threaded engagement with the same internal screw-threads 10 and formed with a collar 12, which bears against the end of body 6 when fully screwed



2. The improved plumb-bob described, comprising the hollow cylindrical body and conical lower end portion, adapted to receive a filling of mercury and a plug serving to confine the same, in combination with a cap portion engaging said body, recessed and notched peripherally to receive the suspending-cord and having a slotted tip portion axially perforated for frictional engagement with the uncoiled portion of the cord.

This type is sold as #87A, B, C, D = mercury filled and as #177 = steel only. See next page.

We know several other dealers or sellers of mercury filled plumb bobs i.e. BROWN & SHARP 790 (This newer one has a six-sided top = CAN'T ROLL)



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Some years ago I made a listing of the marks:

Different marks on STARRETT No87 mercury filled plumb bobs

1) Plumb bob from USA **round head**, knurled
Ebay item 3201278613 22.01.03

10,33cm = 4 1/16 "length
1,27 cm = 1/2 " diameter
3 1/2 oz ; 95 g (**size 87 A**)

THE L.S. STARRETT CO.
ATHOL. MASS. U.S.A.
PAT. OCT 16'06

2) Plumb bob from USA **No-Roll-Head-Hexagonal Head Prevents Rolling #87B**
removable point sure grip knurling on Body (like in STARRETT-catalogue No 27)
ebay item 2304419386 02.02.03

13,87 cm = 5 1/2 "length
1,57 cm = 5/8 "diameter
6 oz ; 165g (**size 87 B**)

STARRETT
=No 87=

3) Plumb bob from GERMANY **round head**, knurled, similar to 1)
ebay item 3308574668 05.02.02

10,47cm = 4 1/8 "length
1,27 cm = 1/2 "diameter
<3 1/2 oz ; 90g (**size 87 A**)

L.S.Starrett Co.
Athol. Mass. U.S.A.
Pat. Oct. 16. 1906



4) Plumb bob from USA round head knurled ebay item 3208845244 24.02.03
15,70cm =5 11/12 " length
2,6 cm =1" diameter
17 3/4 oz = 500g (**size 87 D**)

L.S. Starret Co.
Athol.Mass.U.S.A.
Pat. Oct. 16. 1906.

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5) Plumb bob from USA round head knurled ebay item 3210349306 23.02.03
Type 177, not filled with mercury

16,00cm = 6 " length
2,5 cm = 1" diameter
15 oz = 430g (**size 177 D**)

THE L.S. STARRETT CO.
ATHOL. MASS. U.S.A.
PAT. OCT. 16. 1906
No 177

6) Plumb bob from USA round head knurled; ebay item 3214917261 23.03.03

14,0cm = 5 1/2 " length
2,25 cm = 7/8" diameter
12 oz = 350g (**size 87 C**)

THE L.S. STARRETT CO.
ATHOL. MASS. U.S.A.
PAT. OCT. 16. 1906
No87

7) Plumb bob from USA round head knurled ebay item 3216857405 07.04.03

15,70cm = 5 11/12 " length
2,6 cm = 1" diameter
16oz = 450g (**size 87 D**)

THE L.S. STARRETT CO.
ATHOL. MASS. U.S.A.
PAT. OCT. 16. 1906
No87



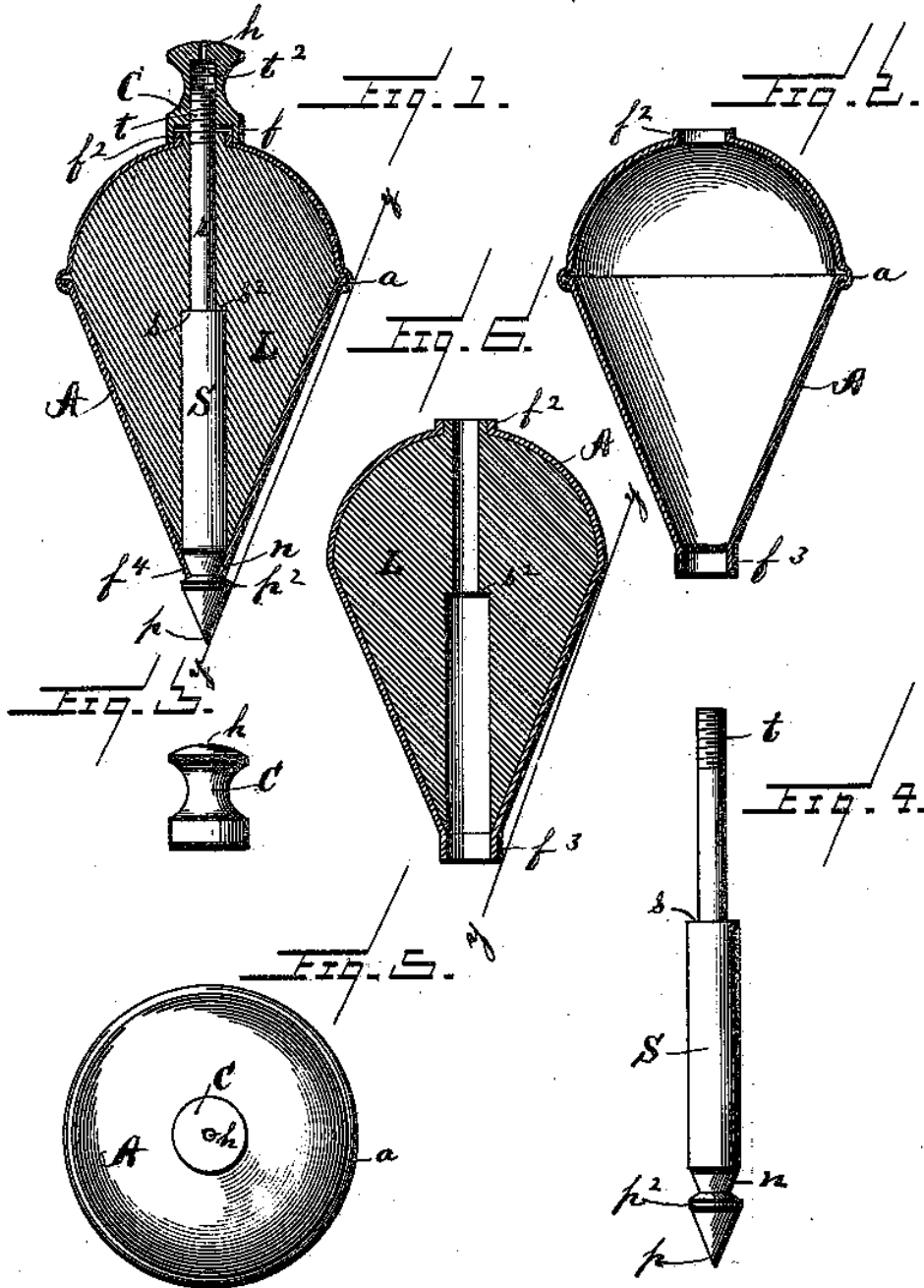
PATENT NEWS especially for PLUMB BOB COLLECTORS

No. 787,896.

PATENTED APR. 25, 1905.

M. D. CONVERSE.
PLUMB BOB.

APPLICATION FILED DEC. 9, 1903.



WITNESSES:
Wm. T. Doyle.
John V. Berry

INVENTOR
M. D. Converse

PATENT NEWS especially for PLUMB BOB COLLECTORS

This plumb bob looks very simple, but after reading the patent exactly I have found some interesting details.

Let's read some phrases in the text.

1) SITUATION BEFORE THE INVENTION: 2) HIS INVENTION

Heretofore in making plumb-bobs with hollow interiors to be filled with lead or other weighty metal the shells have been molded or cast, usually of brass, and the chambered interior formed by means of a sand core. In this process the cores usually sag or "wash," with the result that the plumb-bob shells have unequal thickness of wall, one side being thin and the opposite thick, and but rarely, if ever, can be cast with a perfectly uniform thickness of shell throughout, so that when shells thus defective are filled with lead a preponderating quantity of the latter runs to the larger side of the chamber, which of course is on the side where the shell is thinnest, and hence the center of gravity is not, as it should be, through the vertical longitudinal axis, and consequently the point of the plumb-bob will when suspended for use gyrate and fail to come to rest promptly. Furthermore, shells so made are troublesome and expensive to turn up, machine, and finish. These difficulties my present invention wholly overcome, as will be seen, because the shell being of uniform thickness in any given zone and equidistant from the longitudinal axis causes equal distribution of lead when filling, and having already a smooth exterior surface my improved plumb-bobs do not require to be turned at all, but may be polished and finished with facility.

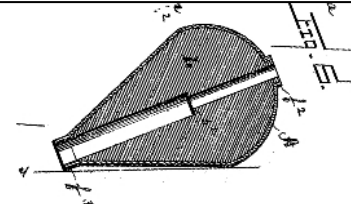
My invention relates to plumb-bobs, and particularly to those types that have been made with an interior chamber filled with lead or other metal of great specific gravity.

My invention is comprised in certain novel forms of parts and details of construction and in their combination; and the objects of my invention are to overcome certain difficulties heretofore experienced in the manufacture of plumb-bobs, to cheapen the cost of manufacture, to insure greater perfection in such implements, and to render them more efficient and less liable to injury or derangement in use, all which will be hereinafter fully described and distinctly claimed.

3) HOW TO PRODUCE the shell:

A is the shell or case, which I make of a uniform gage of metal, usually sheet-brass, by spinning or stamping, and which may be made in two or more parts and joined by a seam forming a bead or otherwise, as at *a*, (see Figs. 1, 2, and 5,) or may be made seamless, as in Fig. 6.

Did anyone see this „seamless“-Type?????



4) SPECIAL CONSTRUCTION OF THE BEAD AND TIP

I prefer to construct my plumb-bob with the annular bead *a* at the broadest diameter (see Fig. 1) and to make the conical point so that at *p*² the base of its cone will extend beyond the exterior surface of the shell in order that when the plumb-bob is placed upon its side on a level surface (see line *y y* in Figs. 1 and 6) it may contact at two points only, and thus be afforded some protection against marring or bruising of the body of the same.



The "PROTECTION" does not work. Most of the plumb bobs are damaged, because the surface in a box is not as level/flat as expected and the thin brass shell is not very resistant.

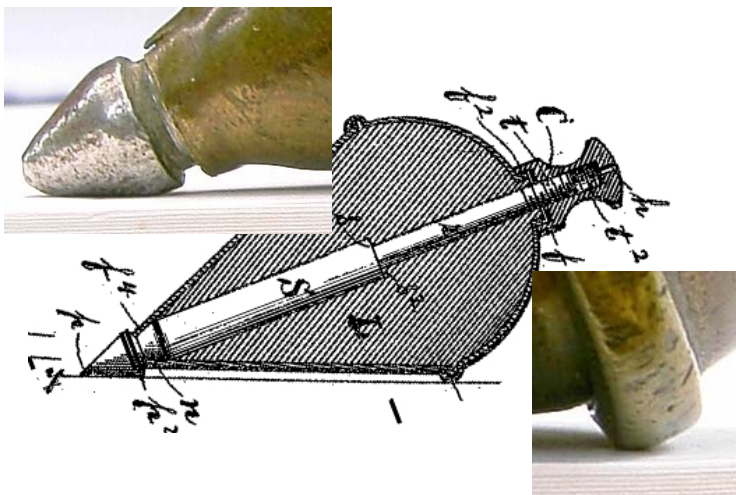
PATENT NEWS especially for PLUMB BOB COLLECTORS

5) HOW TO FILL THE PLUMB BOB WITH LEAD. 6) I CLAIM:

In filling the shells of my improved plumb-bobs I prefer to arrange them upon false or temporary stems having the same diametral dimensions as the permanent ones and also formed with a like suitably-located shoulder *s*, then withdraw the former to insert the latter. It will be seen and understood that in so doing the shoulder *s* of the stem abuts the shoulder *s*², formed in the lead filling, and that the latter is arranged to be at about where the greatest volume of filling and consequent greatest resistance against displacement occurs, so that when the cap *C* is screwed down the whole is securely assembled, and then by crowding the shell at *f*³ into the neck, as at *f*⁴, all parts are further made firm.

3. A plumb-bob comprising a shell of uniform thickness of wall in any given zone, having a bead at its greatest diameter, and open at top and bottom, a filling pierced vertically by a hole having a reduced diameter along its upper part, a stem conformed to the shape of this hole having a conical point with a neck at the base thereof and screw-threads at the opposite reduced end, in combination with a correspondingly screw-threaded cap.

For better understanding I made some pictures and modified the drawing of the patent:



Often the brass near the tip is broken, because the screw pulls the tip against the thin brass shell or when the plumb bobs touched the bottom.



PATENT NEWS especially for PLUMB BOB COLLECTORS

Sold was the PERFECTION in a wooden box that protected it very good.



At least here are 2 excellent examples and 1 very damaged. (Nelson, thanks for the pictures).



PERFECTIONS
207-208-209B

