WOLF'S PLUMB BOB NEWS 2010

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100 YEAR ANNIVERSARY, PLUMB BOB PATENTS

Editor: Wolf Ruecker

www.plumbbobcollectors.info

# 100 Year Anniversary, Plumb Bob (and Chalk Line) Patents

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### 0. INTRODUCTION

Dear Fellow Collector,

As a specialist in patents and patented plumb bobs, I feel I must devote at least one issue a year to the subject of patents. Unfortunately I forgot it last year ☺.

Today we will see those patents celebrating their centennial birthday, filed or issued in the year 1909 or 1910. These patents were issued for plumb bobs or instruments which incorporate a plumb bob.

Since I am also collecting CHALK LINES I added some CHALK LINE HOLDER PATENTS.<sup>A</sup> Only few of the following patents were mentioned in my WR PATENT NEWS 2007, so the rest is new material to my faithful readers.

- FR 406122 SCHOTT (France) 1909 fil à plomb rationnel. The rational plumb line.
- US932218 WILSON 1909 REEL FOR PLUMB BOBS
- US995938 AIRESMAN filed 1910 PLUMB BOB
- US995872 JOICE filed 1910 PLUMB BOB
- US971752 HULL 1910 LEVELLING AND GRADING INSTRUMENT
- US944654 BERGER 1909 MINING TRANSIT CENTER FINDER
- US916608 SCHMIDTKE 1909 PLUMB BOB

- US922171 LOEVEN 1909 PLUMB BOB
- US953131 FERRIS 1910 SHAFT CENTERING DEVICE
- US909846 CAVILEER 1909 PLUMB BOB AND CHALK LINE HOLDER
- GB18557 CAVILEER 1909 IMPROVED COMBINED PLUMB BOB AND CHALK LINE HOLDER
- US921302 STARR 1909 LINE CHALKER
- US947892 EASTMAN 1910 CHALK-LINE HOLDER
- US927790 HALL 1909 CHALK LINE HOLDER
- US1004443 LAUT 1911 CHALK LINE HOLDER

I was unable to find pictures for some of the devices that were actually made and have survived the century. Like most ideas that are patented, one is never sure if that idea was ever made or survived as a prototype or even more unlikely, achieved any level of commercial success. Nevertheless these patents remain important artefacts in the evolution of plumb bobs.

If anyone knows of any of these patented instruments, please let me know.

Thanks.

Wolf

If you want to know more about other PATENTED PLUMB BOBS, see

<u>www.plumbbobcollectors.info</u> on page PATENTS. There you can see and download **all 50 articles**, written in 2007.

# 1. FR 406122 SCHOTT (France) 1909 fil à plomb rationnel. The rational plumb line

RÉPUBLIQUE FRANÇAISE.

OFFICE NATIONAL DE LA PROPRIÉTÉ INDUSTRIELLE.

#### BREVET D'INVENTION.

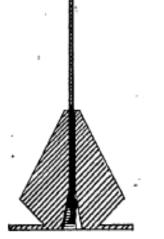
 XII. — Instruments de précision, électricité.
3. — Poids et mesures, instruments de mathématiques, compteurs et procédés d'essai.

N° 406.122

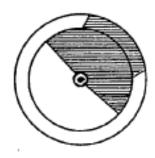
#### Fil à plomb rationnel.

M. MAX SCHOTT résidant en France (Seine).

Demandé le 14 août 1909. Délivré le 1<sup>er</sup> décembre 1909. — Publié le 22 janvier 1910.







#### **Original text** :

Le fil à plomb rationnel est un instrument qui permet d'établir un plan horizontal renferment l'oeil de l'observateur. Il est basé sur le principe suivant: Un cercle horizontal a pour image apparente une ellipse chaque fois

qu'il est situé dans un plan horizontal plus élevé que l'oeil de l'observateur.

Sa forme apparente est encore une ellipse quand il es situé dans un plan horizontal lus bas que l'oeil de l'observateur. A la meme hauteur que l'oeil de l'observateur, son image apparente est une ligne droit horizontale. Cette ligne droite horizontale détermine dans l'espace le plan horizontal qui renferme l'oeil de l'observateur.

Le fil à plomb rationnel, est construit en tout métal et en toutes dimensions. Il se compose (fig.1), d'un cercle perpendiculaire à l'axe du cone qui le surmonte.

Il sert, aux dessinateurs à trouver sur la nature la hauteur de la ligne d'horizon, aux architectes, aux ingénieurs militaires, etc., à opérer des nivellements, à apprécier des hauteurs et des altitudes, à tracer le profil des routes et à déterminer l'éloigement d'un point à un autre.

#### Translation

plumb line" The "rational is an instrument which makes it possible to establish horizontal plane а containing the eye of the observer. Ιt is based the following on

*principle:* A horizontal circle has as an image

an **ellipse** each time it is located in a horizontal plan **higher** than the eye of the observer. Its apparent form is still an **ellipse** when it is located in a horizontal plane **below** the eye of the observer.

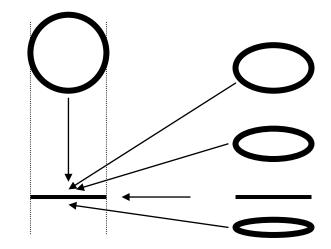
With the same height as the eye of the observer, its image apparent as a horizontal line right. This horizontal straight line determines in space the horizontal plane which contains the eye of the observer.

The "rational plumb line" is built in any metal and all dimensions. It is composed of a circle perpendicular to the axis of the cone which surmounts it.

It is useful for the **draughtsmen** to find on nature the row height of horizon, for the **architects**, the **military engineers**, etc, to operate levellings, to appreciate heights and altitudes, to trace the profile of the roads and to determine one point with another.

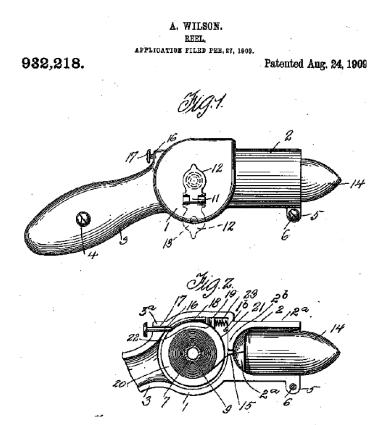
#### I understand it as follows:

(The arrow shows the direction of viewing)



DID ANYONE SEE THIS PLUMB BOB?

### 2. US932218 WILSON 1909 REEL FOR PLUMB BOBS



To all whom it may concern:

Be it known that I, AUGUST WILSON, a subject of the King of Sweden, residing at Wilson, in the county of Allegheny and State

- 5 of Pennsylvania, have invented certain new and useful Improvements in Reels, of which the following is a specification, reference being had therein to the accompanying drawing.
- 10 This invention relates to plumb-bobs and is particularly designed for determining vertical planes and also depths and one of the objects thereof is to provide a plumb-bob in the manner as hereinafter set forth with a
- 15 casing for housing and protecting the line when not in use.

Further objects of the invention is to provide a plumb-bob with means in a manner as hereinafter set forth for <u>controlling the</u>

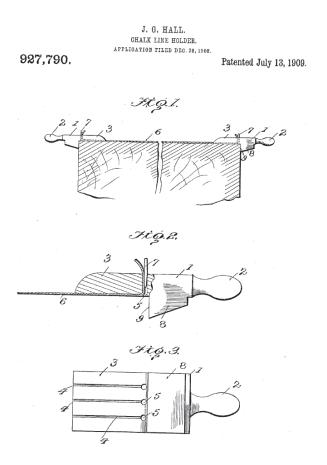
- 20 paying out of the line and for rewinding the line when occasion so requires; and a further object is to provide the plumb-bob in a manner as hereinafter set forth with a support for the plumb-bob body or weight.
- 25 Further objects of the invention is to provide a plumb-bob which shall be simple in its construction, durable, efficient in its use, conveniently carried and <u>handled by stone</u> masons, brick layers, and scamen, and com-

30 paratively inexpensive to manufacture. plumbbobwolf@t-online.de - 115 - What he claims is:

I claim as new, is :----1 A plumb-bob comprising a casing formed of two sections detachably connected together and embodying a weight housing a spool chamber and a handle, a sleeve journaled in the sections of said casing, a spool mounted upon said sleeve, a collar carried by said sleeve at one side of said casing, a handle hinged to said collar, a crank carried by said-handle and adapted to extend into said sleeve when said handle is closed; a line attached to and wound upon said spool and having one end thereof extending into said housing, a weight carried by the end of said line within said housing, a brake lever extending into said casing, a shoe carried by said brake lever for engaging said spool, and a spring arranged within said casing for normally holding said shoe in engagement with said spool.

Who saw this invention ?????

### 3. US927790 HALL 1909 CHALK LINE HOLDER



To all whom it may concern:

Be it known that I, JAMES G. HALL, citizen of the United States, residing at O'Fallon, in the county of St. Clair and State of Illinois,

5 have invented certain new and useful Improvements in Chalk-Line Holders, of which the following is a specification.

This invention relates to chalk line holders, and has for its object to provide a device

- 10 of this kind so constructed that one or a plurality of chalk lines can be quickly and easily attached thereto or removed therefrom, and also one which when secured in an operative position will hold the lines taut to permit
- 15 their manipulation in transferring a working line to the work under operation. A further object of the invention is to pro-

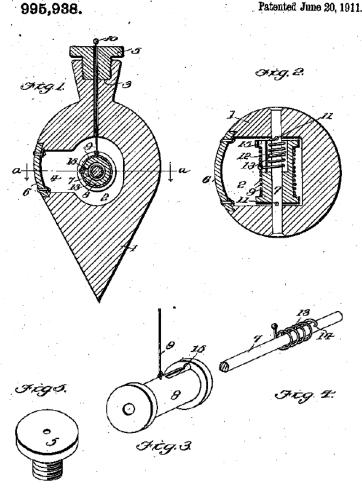
vide a simple, constructively cheap and officient running line holder which may be used

- 20 upon all character of construction work, and which may be securely held in any desired position to properly retain the ends of the line without the use of nails or other attaching means.
- 25The invention comprises essentially, a body portion provided with a handle at one end and having its opposite end extended longitudinally from the handle and provided with a series of longitudinally disposed
- 30 grooves terminating in openings, and a transversely thickened portion intermediate said extended end and handle, the shoulder To all whom it may concern: formed thereby being adjacently located to the openings.

# 4. US995938 AIRESMAN filed 1910 PLUMB BOB

This is one of the "build in reel" plumb bobs that was never produced. Or do you know one?

If you want to see more mechanical patented plumb bobs, see www.plumbbobcollectors.info on page "PATENTS OF PLUMB BOBS" or download on page "THE PLUMB LINE continuum" the full issue.



Be it known that I, HARRY D. AIRESMAN, a citizen of the United States, residing at Somerset, in the county of Somerset and State of Pennsylvania, have invented certain new and useful Improvements in Plumb-Bobs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in plumb bobs, and has for an object the provision of a device of this character, the supporting cord of which is contained upon a drum located within the said bob, which is so balanced and constructed that when it is picked up by the said supporting cord this cord will unwind, lowering the bob, and when the said cord is released it will automatically rewind again upon the drum.

Another object of this invention is the provision of a plumb bob which will be comparatively simple in construction and consequently cheap to manufacture.

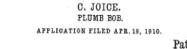
H. D. AIRESMAN. PLUME BOB, APPLICATION FILED OCT. 19, 1910.

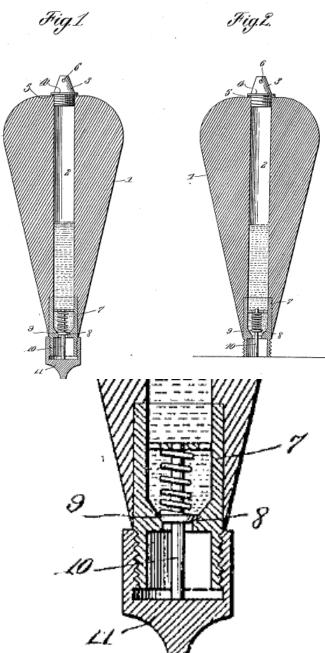
### 5. US995872 JOICE filed 1910 PLUMB BOB

This patent was already mentioned in WOLF'S PATENT NEWS 2007-11 MARKING PLUMB BOBS

At the first view I didn't see that the tip was formed for marking.....

995,872.





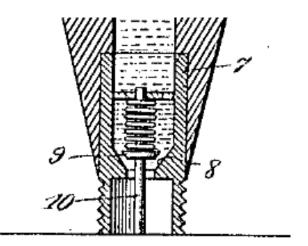
I claim:---

A plumb bob comprising a member formed with a central bore, a plug closing one end of the bore and detachably engaged 60 therein, the bore being enlarged at its opposite end, a member fitted in the enlarged end of the bore and constructed to form a valve seat, the said member having an outwardly extended hollow threaded portion, the said 65 member having an opening establishing communication between the opening in the hollow threaded portion of the second named member and the bore of the first Patented June 20, 1911, named member, a spring controlled valve 70 movably mounted in the second named member, the spring operating to normally hold the valve against the said seat to close the opening in the said second named member, a stem extending through the hollow thread- 75 ed portion of the said second named member, and a cap detachably engaged with the said threaded extended portion of the second named member.

In testimony whereof I affix my signature 80 in presence of two witnesses.

CHESLEY JOICE.

The valve member is threaded exteriorly for the reception of an interiorly threaded cap 11. When the cap 11 is engaged with the valve member the plumb bob may be used as in the ordinary manner.



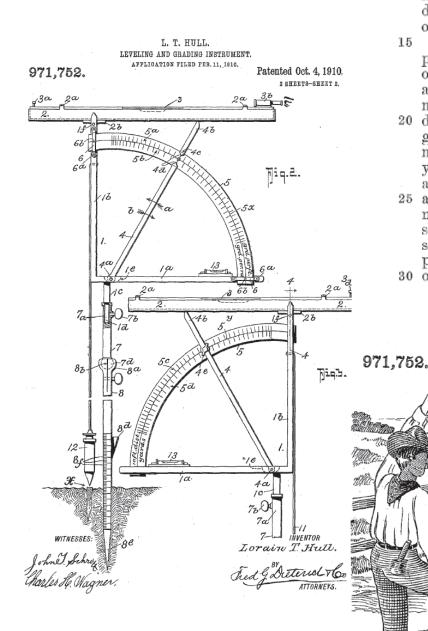
# 6. US971752 HULL 1910 LEVELLING AND GRADING INSTRUMENT

#### UNITED STATES PATENT OFFICE.

LORAIN T. HULL, OF ADA, OHIO.

LEVELING AND GRADING INSTRUMENT.

971,752. Specification of Letters Patent. Patented Oct. 4, 1910. Application filed February 11, 1910. Serial No. 543,391.



This invention is not so interesting for plumb bob collectors, but I like the drawing with the two surveyors. See drawing below

#### To all whom it may concern:

Be it known that I, LORAIN T. HULL, residing at Ada, in the county of Hardin and State of Ohio, have invented certain new

5 and useful Improvements in Leveling and Grading Instruments, of which the following is a specification.

My invention is an improved leveling and grading instrument which generically has

- 10 for its object to provide an instrument of this character that can be easily and cheaply manufactured and which will be of strong durable construction and accurate in its operation.
- <sup>15</sup> More specifically the invention resides in providing a support or frame in the form of a right angle to which a level is pivoted and which removably carries a curved segment plate that is graduated on one side in
- 20 divisions representing grade per foot and grade per rod, and on the other side the segment is graduated in divisions representing yards and ten foot intervals; a hinged arm assists in supporting the level in its various
- 25 adjusted positions on the support and has means for clamping to the arc or curved segment to retain the arm and level in its set positions, the arm having indicating pointers to cooperate with the graduations

30 or scales on the arc or curved segment.

Diql.

Patented Oct. 4, 1910.

Start WINDON/ ALDREW.

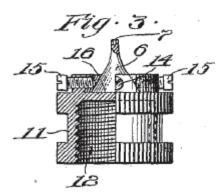
2 SHEETS-SHEET 1.

L. T. HULL.

LEVELING AND GRADING INSTRUMENT, APPLICATION FILED FEB. 11, 1910.

# 7. US944654 BERGER 1909 MINING TRANSIT CENTER **FINDER**

W. A. BERGER. MINING TRANSIT CENTER FINDER. APPLICATION FILED SEPT. 26, 1908. 944,654. Patented Dec. 28, 1909. 2 SHEETS-SHEET 1 16 Fig·L 11



To all whom it may concern:

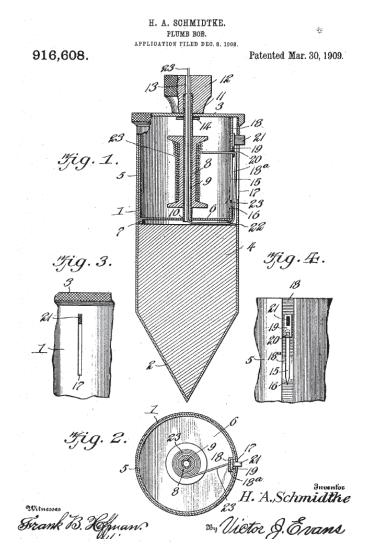
Be it known that I, WILLIAM A. BERGER, a citizen of the United States, residing at Boston, in the county of Suffolk and State

5 of Massachusetts, have invented an Improvement in Mining-Transit-Center Finders, of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the draw-10 ings representing like parts.

My invention is a device for enabling the mine surveyor to locate the center of his instrument more readily than heretofore with relation to an overhead object; and with this

- 15 end in view, my invention consists in pro-viding means at the intersecting point of the line of collimation and of the transverse axis for coöperating with a plumb bob or the like suspended from overhead, whereby the surveyor can determine quickly and accu-
- rately the desired center.

# 8. US916608 SCHMIDTKE 1909 **SENKLOT**



To all whom it may concern:

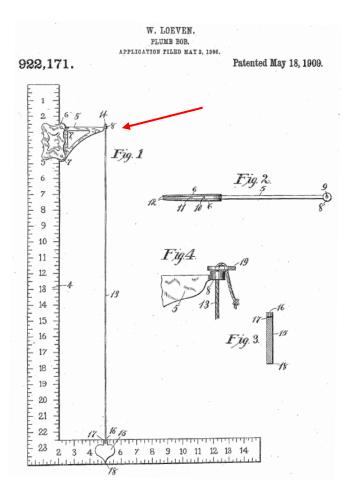
Be it known that I, HERMAN A. SCHMIDTKE, a citizen of the United States, residing at San Francisco, in the county of San Fran-s cisco and State of California, have invented new and useful Improvements in Plumb-Bobs, of which the following is a specification.

This invention relates to plumb bobs, and 10 the particular object of the invention is to provide a plumb bob having a reel contained therein and on which the plumb line may be wound and from which any length or portion of the line may be unwound as occasion re-

15 quires, thus preventing the line from becoming snarled or tangled and enabling it to be wound up and inclosed so as to be out of the way when the bob is not in use.

A further object of the invention is to pro-20 vide a novel construction of chambered bob and mode of mounting the reel, as well as novel means for winding the line, permitting unwinding of the length of line desired, and locking the line from movement, whereby a 25 simple and efficient plumb bob of this character is produced.

### 9. US922171 LOEVEN 1909 PLUMB BOB



#### To all whom it may concern:

Be it known that I, WILLIAM LOEVEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Ulippin how invested contain new and we

5 Illinois, have invented certain new and useful Improvements in Plumb-Bobs, of which the following is a specification.

This invention relates to devices for ascertaining whether parts of a building structure are at a true perpendicular and if not,

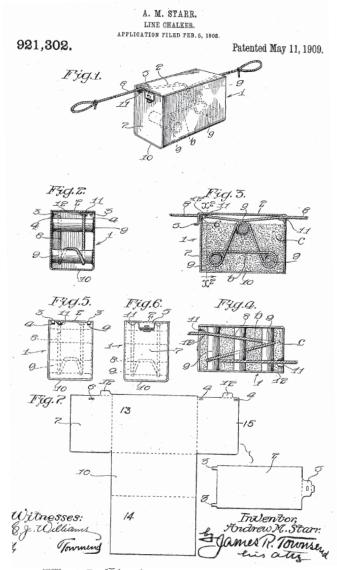
10 ture are at a true perpendicular and if not, to what extent they are out of plumb. The particular invention which forms the

subject matter of this application comprises a plummet, means for attaching same to a steel square, and means for adjusting the

15 <u>steel square</u>, and means for adjusting the plummet relative to its attaching means.

# 10.US921302 STARR 1909 LINE CHALKER

I never saw a produced chalk line with fixed guides. The commonly used metal chalk lines have no guides. (see figures right)



What I claim is:-

1. A line-chalker comprising a receptacle, two rigid fixed guides near the lower corners of the receptacle, a third rigid fixed guide near the top of the receptacle, said receptacle being adapted to contain powdered chalk, inlet and outlet guides at the top of the receptacle and a line extending into the recep-

tacle over the inlet-guide, then around the rigid guides within the receptacle and out over the outlet guide.





# 11.US953131 FERRIS 1910 SHAFT CENTERING DEVICE

### UNITED STATES PATENT OFFICE.

EDGAR S. FERRIS, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR OF ONE-THIRD TO CHARLES HOUSE AND ONE-THIRD TO GEORGE A. WHITTEMORE, BOTH OF HOLYOKE, MASSACHUSETTS. SHAFT-CENTERING DEVICE.

953,131. Specification of Letters Patent. Patented Mar. 29, 1910. Application filed February 25, 1909. Serial No. 480,037.

This patent was already mentioned in WOLF'S PATENT NEWS 2007-12

E. S. FERRIS. SHAFT CENTERING DEVICE. APPLICATION FILED FEB. 25, 1909 953,131. Patented Mar. 29, 1910. ia.3. ħ 5. U -1  $\sqrt{e}$ WITNESSES INVENTOR. Edgar S. Ferris ague Chapin tes Harry W. Bowen ATTORNEY.

The patent date is mysterious: I found for FERRIS an application date Aug. 26, 1908 patent date May, 24.1910 and appl. Feb. 25, 1909 with patent date Mar. 29, 1910 for the following patents, but not Aug. 30, 1909.



This invention relates to improvements in 10 devices for instruments for quickly and accurately finding the center of a line of shafting.

The objects of the invention are: (1) to provide means whereby the center of a line 15 of shafting may be quickly and accurately projected onto the floor below the shafting; (2) to produce a device that can be used and placed on the line of shafting at any longitudinal part of its length, without regard to 20 the diameter of the shafting, or whether various lengths of the same are composed of different diameters; (3) to provide means whereby a plumb-bob can be readily adjusted near the floor or at any convenient height 25 therefrom in the space between the floor and shafting. In this class of devices as heretofore con-

structed, it has been the common practice to suspend a plumb-line, by means of a suit-30 able weight, so as to just touch or graze the side of the shafting, and then mark on the floor a point indicating the curved side of the shafting; then caliper the shafting and

the shafting; then caliper the shafting and measure back from the point on the floor a 35 distance equal to the radius of the shaft. These several steps are very slow and more or less inaccurate since errors are very apt to arise in taking the various measurements, and the larger the number of measurements 40 required to be taken, the greater the proba-

bility of mistakes in effecting the final result.



This tool is from my collection.



# 12.US909846 CAVILEER 1909 PLUMB BOB AND CHALK LINE HOLDER

Below the text from the WOLF'S PATENT NEWS 2007-22

This combination tool is one of my favorites that I have on my computer screen as back ground.

### **Produced by RIDGELY**

Another very interesting combination of plumb bob and chalk line is the invention of Cavilleer from San Francisco CA in 1909.

This patent was accepted also in England as GB190918557 on 28<sup>th</sup> Oct., 1909. The text of the patent is not exactly identical, the last paragraph is shorter in the English version. Also did they translate some American phrases (that's my impression): to coil = be wound; color= colour; set screw = set-screw; opposite the same = opposite therto......

The drawings are not exactly the same. The numbers are different, the hatching is different and the size of the Fig.2 is longer in the US version.

That shows that these drawings and the text are especially made for the other country.



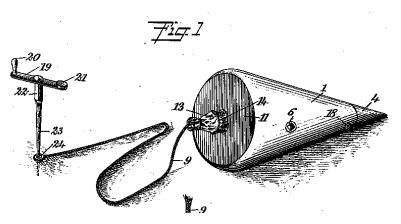
This tool was **produced** by RIDGELY in Ohio, a far distance from San Francisco.

Bruce Cynar told me in 2003: "The Ridgely Company was located in Springfield, Ohio and to my knowledge no longer exists. Back at turn of the century and up thru at least the 1930s, they made and or distributed (I don't know if they were a manufacturer or only a distributor) wall paper supplies."

#### W. N. CAVILEER. PLUME BOB AND CHALK LINE HOLDER. APPLICATION FILED SEPT. 10, 1908.

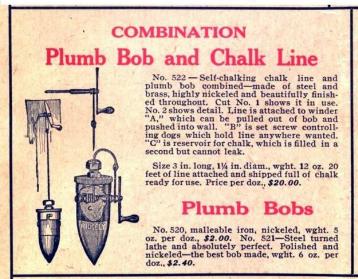
909,846.

Patented Jan. 12, 1909.

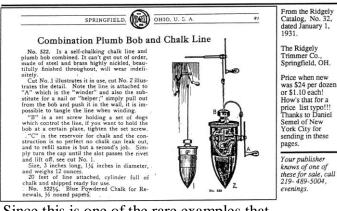




#### RIDGELY CATALOGUE 1912 page 15 detail



plumbbobwolf@t-online.de



Page 4

Since this is one of the rare examples that achieved some level of commercial success, let's look at some **DETAILS**:

Examples that have survived have some modifications that I will describe later on:

- 1. The shape 1
- 2. The top with the wiper 13 and the setscrew 15
- 3. The crank 19 and axe 22
- 4. The tip 4

The **SHAPE** is very different. Perhaps the engineers in the factory told the inventor what shape would be better. The shape, however, is not a critical part of the claim of originality.

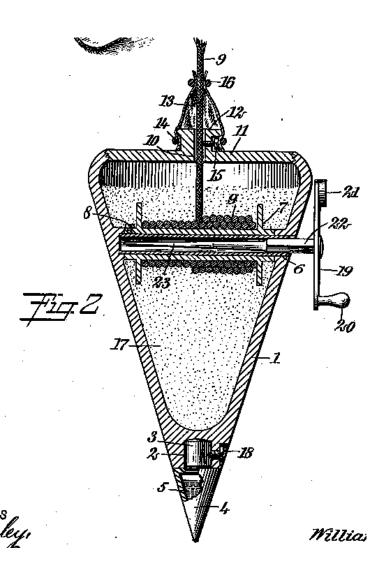
The **TOP** is described as follows:

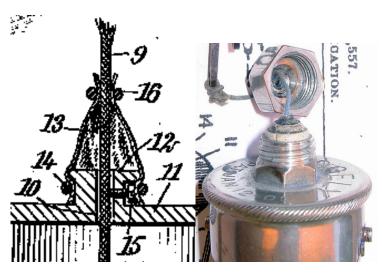
cated. The cap 11 is provided with a cen- 65 trally disposed neck 12 at the opening 10, and at this point a wiper 13 is attached which is in the form of a small sleeve of cloth. The lower end of this sleeve is attached to the neck 12 by means of a band or 70 ring 14 of elastic material, and at this point a set screw 15 is provided in the neck which may be screwed up against the cord so as to fix it in the opening 10, as will be readily understood. The outer portion of the sleeve 13 75 is of reduced diameter, and is provided with an elastic ring 16 which presses the sleeve against the cord and wipes off the superfluous chalk or coloring substance as the cord passes therethrough. 80

A very detailed description of this parts 14, 13 and 16, but I don't believe that this construction would work a long time!

Also the SET-SCREW 15 was not designed for the normal use of a carpenter.

In the later produced item they used a simpler but better working system: A rubber piece that was pressed by the screw cap to fix the line at a wanted length. This rubber also wipes off the superfluous chalk. In my chalk line # 377 unfortunately after almost 100 years of live the rubber was rigid, so that the "BRAKE" did not work. I added a small piece of rubber and now it works again. ©





**Inside** the line is fixed to the axe by a screw. Length of the original line: 5.60 m = 20 feet.

The **CRANK 19** has two modifications:

The **counter-balance 21** that was proposed does not exist. I don't think that the carpenters turn the handle so fast that it would be balanced OOn the axe of the crank 22 is fixed a movable **piece of metal** longer than the handle. This is a very smart solution to prevent that the line will be confused with the handle while winding. It works excellent!

Also the crank can't get lost. It is fixed to the line now.

The power transmission from the crank to the axe is also modified.

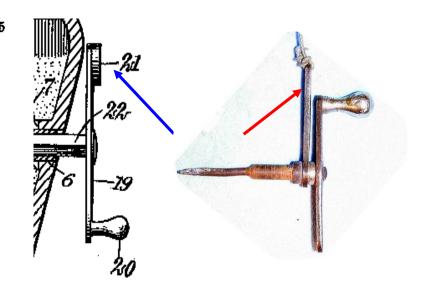
Let's come to the **TIP**.

The invention says:

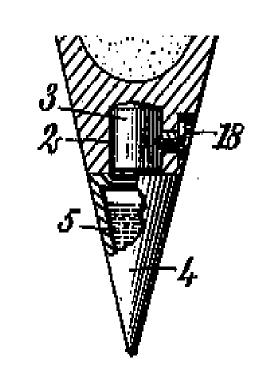
Referring again to the tip 4, it will be 85 observed that this tip is removable, for which purpose the side of the bob is provided with a removable set screw 18 which screws up against the shank 3 as indicated. as shown. The tip 4 is hollow and the cavity within the same is provided with a bath 5 50 of mercury, which materially increases the specific gravity of the lower end of the bob, insuring that it will hang in a vertical position.

"It was produced with a fixed BIG tip from iron or filled with lead, but **NOT** filled with **MERCURY** as the inventor proposed. I don't think that this small quantity of heavier metal would bring a better result."





MERCURY ---→



# 13.US947892 EASTMAN 1910 **CHALK-LINE HOLDER**

This chalk line is the most common chalk line in the U.S.A. (with modifications also from DANDEE-Reel, WARNER Accuracy, etc. The handle is different in the drawings and in the picture.

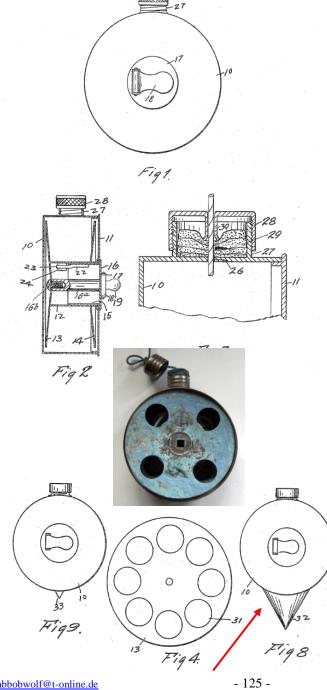
I never saw the shape shown in Fig. 8. Have you?

J. D. EASTMAN.

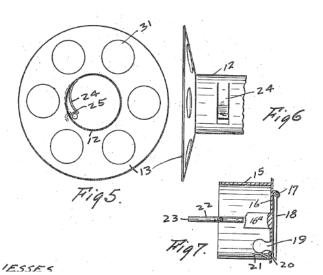
28

947,892.

CHALK LINE HOLDER. APPLICATION FILED JULY 8, 1909. Patented Feb. 1, 1910. 2 SHEETS-SHEET 1.



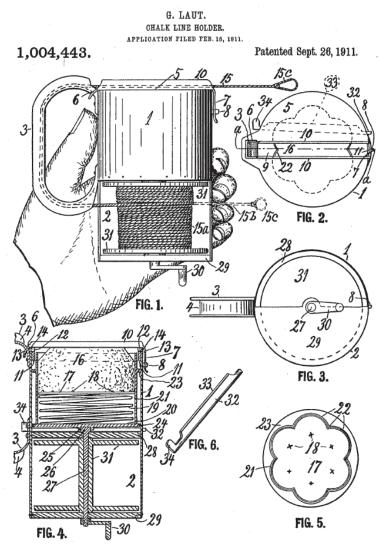
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### 14.US1004443 LAUT 1911 CHALK LINE HOLDER

2008 was offered on Ebay:



My invention relates to chalk-line holders, and the object is to provide an efficient de-) vice for holding and chalking the string or cord used by carpenters and others for marking straight lines.

What I claim is:

1. A chalk-line holder comprising a hollow body composing a cylindrical chalk chamber and a semicylindrical drum chamber, a fixed partition between the two chambers; the chalk chamber having a hinged cover and means for holding the same closed, said cover having a downward rim near the wall of the chamber and a diametrical open slot across the cover and partly into the rim, a chalk receptacle having a solid bottom and external means to guide it centrally in the chalk chamber, a spring supported upon the solid bottom, a plate supported by the spring and adapted to support a piece of chalk placed in the receptacle against the slotted cover, a coupling member at the lower side of the bottom of the chalk receptacle, a shaft journaled in the drum chamber, a crank at the outer end thereof, a coupling member at the inner end thereof and adapted to engage the first-mentioned coupling member; a drum fixed on the shaft, a line wound on the drum and having its outer end extended outward through the large side-opening of the semicylinder, and open guiding means for guiding the line from said large opening to and along in the slot in the cover.

#### UNITED STATES PATENT OFFICE.

GEORGE LAUT, OF EAU CLAIRE, WISCONSIN, ASSIGNOR OF ONE-HALF TO GEORGE B. MILLER, OF EAU CLAIRE, WISCONSIN. CHALK-LINE HOLDER. 1,004,443. \* Specification of Letters Patent. Patented Sept. 26, 1911. Application field February 15, 1911. Serial No. 608,685.



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# 15.REMARKS

The full patents you can find on <u>http://www.google.com/patents</u>

### **REMARK**:

This is an article of the monthly published WOLF'S PLUMB BOB NEWS that is sent on demand as PDF-file attachment by email. FREE.

You can see all former and future publications on my website www.plumbbobcollectors.info

Remarks and contact by email: plumbbobwolf@t-online.de

Thank you for your interest!

Wolf Ruecker

<sup>A</sup> An article about THE INTERNATIONAL HISTORY OF THE CHALK LINES you find on <u>www.plumbbobcollectors.info</u> on page CHALK LINE / SUMITSUBO as WOLF'S PLUMB BOB NEWS 2008-11 CHALK LINES