

217

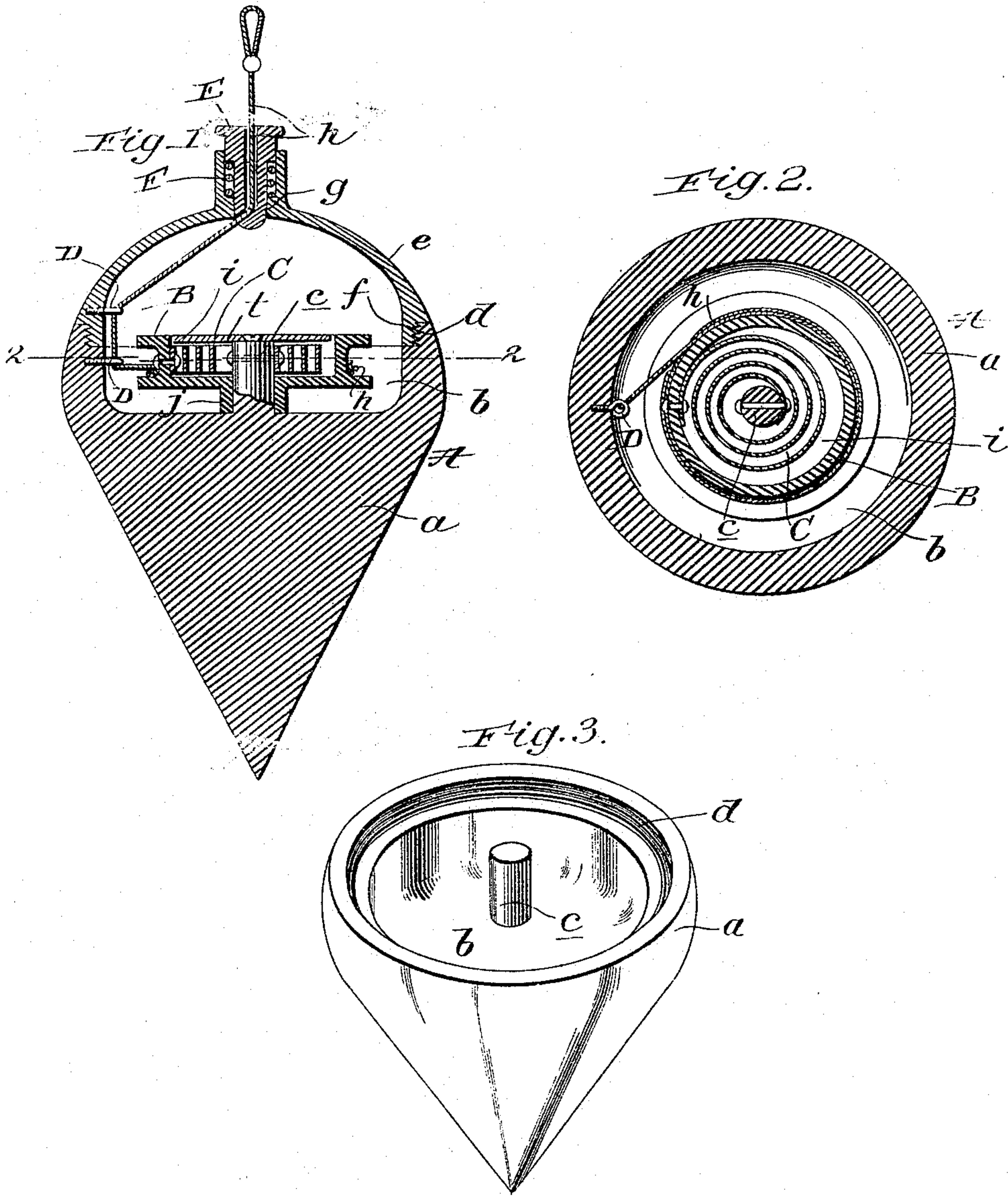
No. 748,132.

PATENTED DEC. 29, 1903.

H. J. WOLF.  
PLUMB BOB.

APPLICATION FILED OCT. 12, 1903.

NO MODEL.



Witnesses  
*E. J. Hilde*  
*N. C. Hilde*

Inventor  
*Harry J. Wolf.*  
by *James J. Cheek* Attorney



# UNITED STATES PATENT OFFICE.

HARRY J. WOLF, OF TELLURIDE, COLORADO.

## PLUMB-BOB.

SPECIFICATION forming part of Letters Patent No. 748,132, dated December 29, 1903.

Application filed October 12, 1903. Serial No. 176,734. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY J. WOLF, a citizen of the United States, residing at Telluride, in the county of San Miguel and State of Colorado, have invented new and useful Improvements in Plumb-Bobs, of which the following is a specification.

My invention pertains to plumb-bobs; and it has for its object to provide a simple, inexpensive, and durable plumb-bob so constructed that it is necessary to use but one hand in order to conveniently raise or lower it on a suspended cord.

With the foregoing in mind the invention will be fully understood from the following description and claims when taken in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a diametrical section of a plumb-bob constructed in accordance with my invention; Fig. 2, a transverse section taken in the plane indicated by the line 2 2 of Fig. 1, and Fig. 3 a perspective view of the lower section of the body of the bob.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is the body of my novel plumb-bob. The said body is formed of suitable metal and comprises a lower section *a*, having a chamber *b* in its upper end and also having an integral post *c* rising from the center of the bottom wall of said chamber and a thread *d* on the side wall thereof and an upper removable section or cap *e*, threaded at *f* to engage the thread *d* of section *a*, and having a central eye *g* for the passage of a cord *h*, through the medium of which the bob is hung under a transit or the like.

B is a horizontally-disposed drum arranged in the chamber *b* of the body-section *a* and loosely mounted on the post *c* of said section. Said drum is by preference peripherally grooved to receive whirls of the cord *h*, which is attached at one end to it, and it is provided with a recess *i* and a depending collar-flange *j*. The recess *i*, which is formed in the upper side of the drum, is designed to receive a coiled spring C, which is connected at one end to the post *c* and at its opposite end to the drum and has for its purpose to rotate the drum and wind the cord *h* thereon when

the bob is raised, as presently pointed out. The collar-flange *j* of the drum affords a broad bearing on the post *c* and also bears on the bottom wall of the chamber *b*, with the result that the drum is held against wobbling or rocking incident to rotation thereof. For the purpose of preventing entanglement of the cord *h* with the spring C, I prefer to close the recess *i* in drum B through the medium of a disk *t*, fastened to the post *c*, as shown.

D D are guides, preferably eyes, arranged in the body of the bob and connected to the sections *a e* of said body. These guides serve to assure the cord *h* passing from the drum to the eye *g*, and vice versa, and they also serve to increase the friction on the cord.

I contemplate in practice making the bob-body A of such weight that it will resist the tendency of the spring C to raise it and will at the same time be unable to overcome the friction between the cord *h* and the guides D and eye *g*. From this it follows that the bob will not be liable to casually move from the position in which it is placed; also, that when the bob is suspended through the medium of the cord *h* from a transit or the like a surveyor is enabled with one hand to conveniently raise or lower the bob. When the bob is raised, as stated, the drum will turn under the action of the spring and take up the slack of the cord, while when the bob is lowered the drum will give off the cord.

In order to preclude casual movement of the bob, I provide in the eye *g* of the upper section or cap *e* a plug E and a coiled spring F. The plug is movable vertically in the eye against the action of the spring interposed between abutments on the plug and cap *e* and is provided with a bore, as shown, receiving the cord *h*. The said bore terminates at its lower end in a lateral portion, and consequently it will be noticed that when the plug is held in its normal position by the spring F the cord *h* will be pinched against the cap *e* and downward movement of the bob effectually prevented. When, however, the user grasps the bob in one hand and presses downward on the plug E, the cord is freed and the bob may be readily moved up or down, as desired.

Notwithstanding the facility with which a surveyor or other person may adjust my novel



bob with one hand while he manipulates a transit-stand with the other, it will be observed that the bob is simple and inexpensive and at the same time is sturdy and embodies no delicate parts such as are liable to get out of order after a short period of use.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and relative arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention as claimed.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a plumb-bob, the combination with a body comprising a lower section having a chamber in its upper end, and also having a central, integral post rising from the bottom wall of said chamber, and an upper section removably secured on the lower section, and

having a central eye, a plug disposed in said eye and provided with a bore, and a spring acting against the plug so as to pinch a cord passed therethrough against the upper section; of a horizontal drum arranged in the chamber and loosely mounted on the post of the lower body-section, and having a recess, a coiled spring disposed in said recess, and connected at one end to the post and at its opposite end to the drum, and one or more guides disposed in the body intermediate of the periphery of the drum and the plug in the upper section.

2. In a plumb-bob, the combination of a hollow body having an eye in its upper portion, a spring-actuated drum arranged in the body, a plug disposed in the eye of the body, and having a bore, and a spring acting against the plug so as to pinch a cord passed there-through against the body.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HARRY J. WOLF.

Witnesses:

W. E. GRAY,  
CHAS. S. RUFFNER.