(No Model.)

M. H. WILSON.

REVOLVING POLE SIGN.

No. 531,402. Patented Dec. 25, 1894.

Fig. 1.

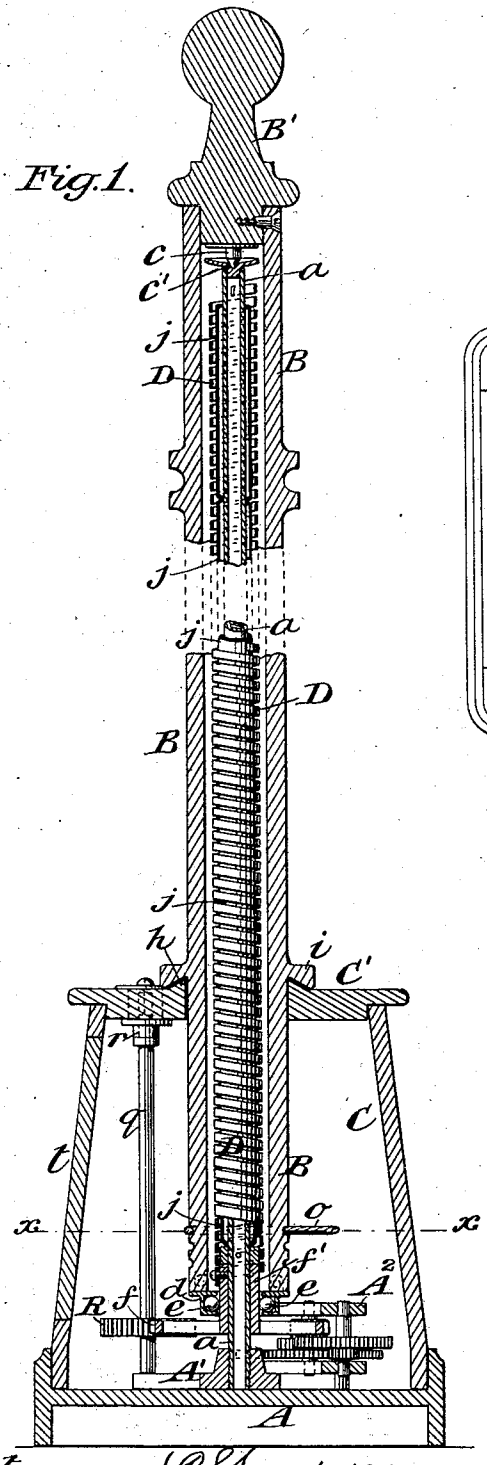


Fig. 2.

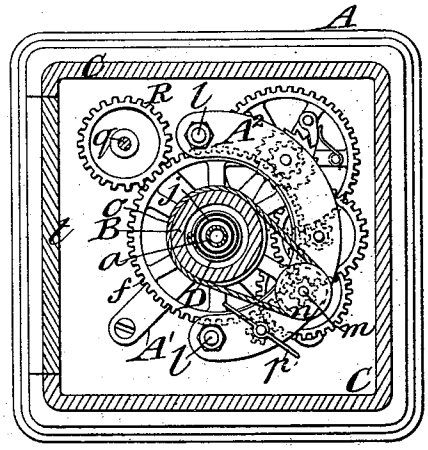
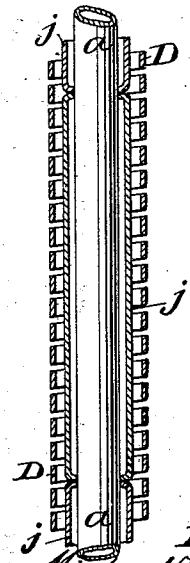


Fig. 3.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MICHAEL HOFFMAN WILSON, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WILSON REVOLVING POLE SIGN COMPANY, OF SAME PLACE.

REVOLVING-POLE SIGN.

SPECIFICATION forming part of Letters Patent No. 531,402, dated December 25, 1894.

Application filed December 23, 1893. Serial No. 494,513. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL HOFFMAN WILSON, of the city of New York, in the county and State of New York, have invented a new and useful Improvement in Revolving-Pole Signs, of which the following is a specification.

This improvement relates to such revolving pole signs for barbers and others as are operated by spring motors.

The object of my improvement is to obtain a sign of this kind which is capable of running for a long time.

In carrying out my invention I employ a motor spring in the form of a cylindric helix and arrange the said spring within the pole itself in such manner as to utilize nearly the whole length of the pole as a receptacle for the said spring and so obtain a spring of great length; and my invention consists in the combinations hereinafter described and claimed in which such a spring and a pole sign are essential elements.

Figure 1 is a vertical sectional view of a revolving pole sign embodying my invention. Fig. 2 represents a horizontal section in the line *x x* of Fig. 1. Fig. 3 represents a vertical sectional view corresponding with Fig. 1, of some details to be hereinafter explained.

Similar letters of reference designate corresponding parts in all the figures.

A is a stationary base of wood or other material on which is fixedly secured a metal foot plate A′ in the center of which is erected a post *a* which I prefer to make of a metal tube in order to attain great stiffness with small diameter.

B is the pole constituting the revolving member of the sign. This is made hollow and has an internal diameter considerably larger than the exterior of the post *a* in order to provide ample room between them for the motor spring D to work without friction on the pole. The said pole B may be of wood or other light material. It has inserted and firmly secured in its upper end a head B′ by which it is suspended upon the top of the post *a*, the said head being provided for this purpose with a male center *c* which is received in a female center *c′*, the said female center being made with a broad funnel-shaped cavity in its upper surface to facilitate the placing of the pole on the post *a* in such manner as to be truly centered thereon.

To the bottom of the pole B is secured an annular box *d* containing a series of balls *e* constituting what is known as a ball-bearing, the said balls running against the elongated hub *f′* of a spur wheel *f* which is fitted to turn freely on the lower part of the post *a*, the said ball-bearing serving simply to center the lower part of the pole B upon the post *a* with the least friction, the weight of the pole being suspended by the centers *c c′* on the top of the post *a*.

On the base A is erected a stationary box C which constitutes a pedestal to the column represented by the pole B, the said box containing the train of the motor. The top or cover C′ of this box, which may be removable but is practically a fixture, has a central opening in it large enough for the passage of the pole B, and around this opening is an annular projection *h* which is overlapped by a flange *i* on the pole B for the purpose of excluding water from the box.

The spring D which is a cylindrical coil, surrounds the post *a* and is connected at one end with the post and at the other end with the pole. In the example represented the upper end of the spring is fastened directly to the post *a* near the top of the latter and the lower end is connected with the pole B through a motor train the first wheel *f* of which turns on the said post, the last mentioned end being fastened to the elongated hub *f′* of the said wheel *f*. The said hub *f′* extends upward into the pole B to allow the spring to be fastened to it within the pole and to make it constitute a centering guide for the ball-bearing *d e* at the bottom of the pole. To provide for the removal of the pole from the post and base for any purpose, it is only necessary first to open a door *t* in the side of the box C and then to unfasten the box *d* of the ball-bearing from the bottom of the pole, when the pole can be lifted directly away from the post. This is provided for by the upward extension of the hub *f′* into the pole.

Within the spring D there are fitted to the

post *a*, a number of short metal sleeves *j* upon which the spring is free to turn and which are themselves free to turn upon the post *a*. Fig. 3 represents portions of the post *a* and spring D and of one of these sleeves and portions of two others. The said sleeves are for the purpose of keeping the spring from buckling or wabbling in such a way that it would bind upon the post *a* or within the pole B. In order to reduce the friction of these sleeves *j* themselves upon the post *a*, they are made with their internal diameters somewhat larger than the external diameter of the post *a* and simply turned in at their ends as shown in Fig. 3, to center them properly upon the post *a*.

The sleeves *j* constitute no part of this invention as they are part of the subject-matter of my application, Serial No. 500,054, filed February 13, 1894.

The motor train may consist of any number of wheels and pinions, the spindles of which are pivoted in the foot plate A′ and an upper plate A^2 which is affixed to the said foot plate by pillars *l l*, one of the said spindles *m* (see Fig. 2) being furnished with a pulley *n* from which a driving band *o* runs in a groove around the lower part of the pole B. The said train is represented as furnished with a revolving fly regulator *p*. (See Fig. 2.) As such trains of wheel work are common in motors and, as is well understood, may consist of any number of wheels according to the speed desired, no further description of it is necessary. The spring D may be wound up in any suitable way. I have represented a winding spindle *q*, the lower journal of which is received in a bearing in the foot plate A′ and the upper journal of which works in a bearing *r* secured to the cover C′ of the box C, the said spindle carrying a spur wheel R which gears with the first wheel *f* of the train. The upper end of this winding spindle *q*, which is accessible through the opening in the cover C′, is square or shaped to receive a winding key.

While I prefer to use several short sleeves *j* between the posts *a* and the spring as hereinabove described, a single sleeve of the whole or nearly the whole length of the spring might be used with good effect to keep the spring in proper relation with the post and the pole and to prevent the friction of the spring against the post.

What I claim as my invention is—

1. The combination in a revolving pole sign, of a base and a fixed post erected thereon, a hollow pole arranged to turn upon said post, a motor train supported on said base, and a coil spring surrounding said post within said pole and having one connected with said post and the other end connected with the motor train; substantially as and for the purpose herein set forth.

2. The combination of a fixed post, a hollow pole centered on and suspended from the top of said post, a spur wheel loose on the lower part of said post constituting part of a driving train for the pole and having an elongated hub projecting within the pole, a coil spring of which the upper end is fast to said post and the lower end fast to the said spur wheel, and a ball-bearing at the bottom of said pole fitted to turn on the said hub, all substantially as herein set forth.

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