Sept. 20, 1927. 1,642,695

W. H. PUMPHREY

BINDING POST

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Fig. 1.

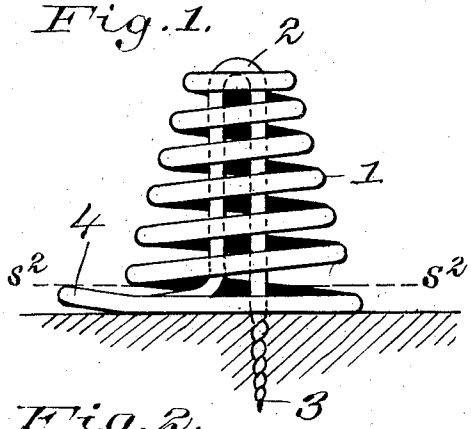


Fig. 3.

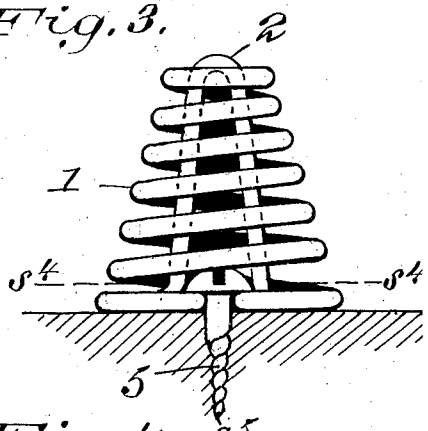


Fig. 2.

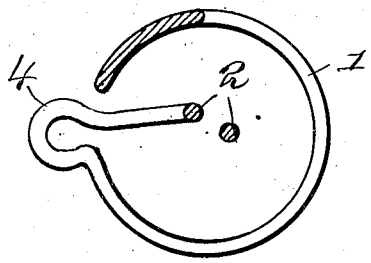


Fig. 4.

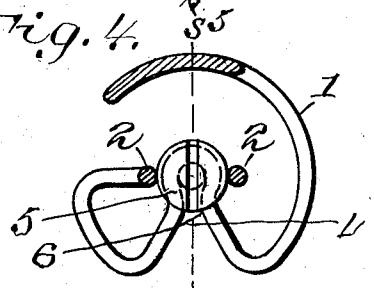


Fig. 5.

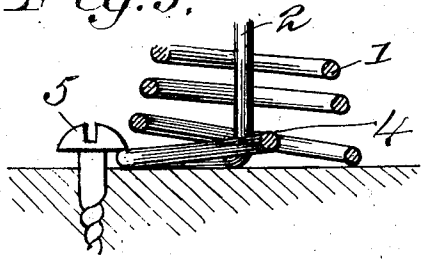


Fig. 6.

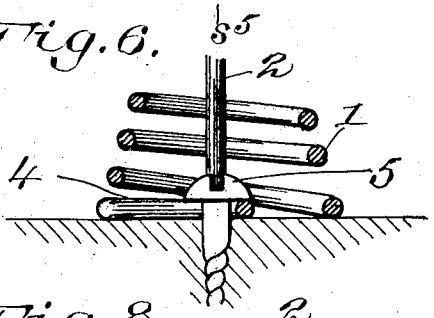


Fig. 7.

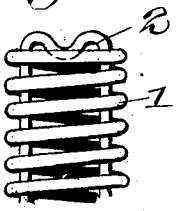
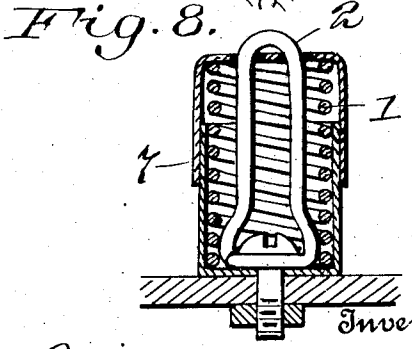


Fig. 8.



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Fig. 9.

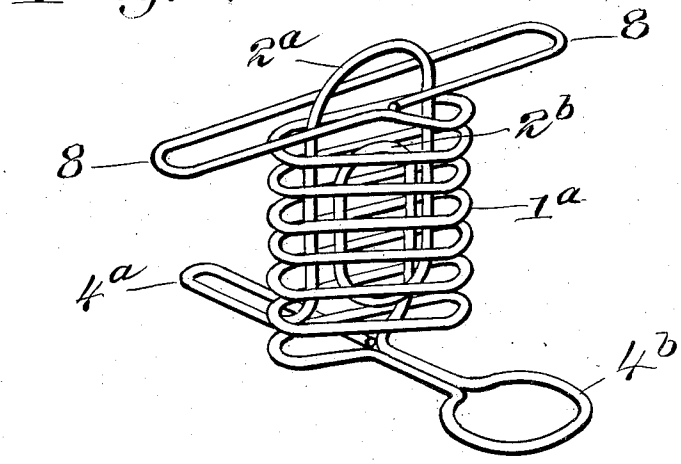
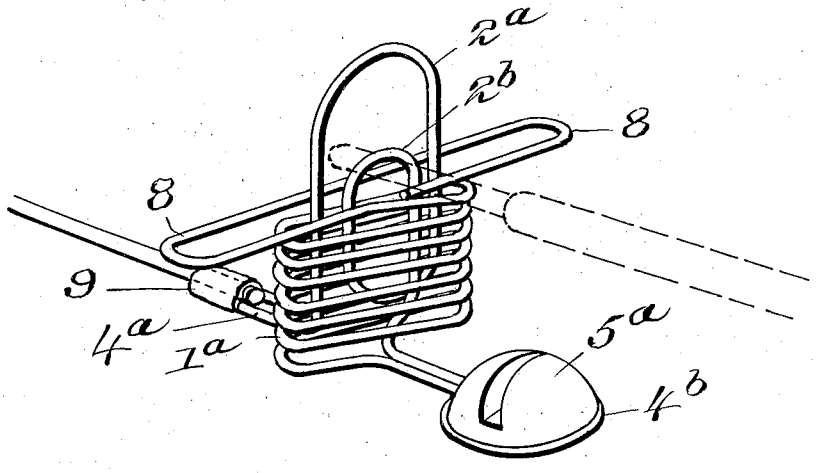


Fig. 10.



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UNITED STATES PATENT OFFICE.

WALTER HYERS PUMPHREY, OF NEW YORK, N. Y.

BINDING POST.

Application filed February 9, 1926. Serial No. 87,743.

My invention, while not limited in its use, is specially designed, as herein embodied, to serve as a binding post for electric circuit wires.

The object, primarily, is to insure good electrical contact between the binding post and the wire or wires engaged by it. This is accomplished by causing the circuit wire to be held under strong spring pressure.

A further object is to enable engagement or disengagement of a circuit wire to be instantly effected. This is brought about by so constructing the post that the compression of a spring, conveniently held between the thumb and finger, opens the clamp for the insertion of the circuit wire, which is immediately gripped under the full pressure of the spring, as the spring is released and allowed to expand.

A further object is to produce, as a preferred form of post, a one-piece device which, in being shaped up from a single length of wire, involves no waste of metal in manufacture and employs no removable or detachable parts to loosen up and become misplaced or lost. Various additional points of advantage will appear from the following description.

The accompanying drawings will serve to illustrate several constructions suitable for carrying my invention into effect. I wish it understood, however, that I do not limit myself to the forms shown, as same may be modified to a considerable extent without departing from the spirit and scope of the present invention.

In the drawings—

Fig. 1 is a view in elevation of a preferred form of binding post;

Fig. 2 is a horizontal sectional view on the line s^2, s^2, of Fig. 1;

Fig. 3 is a view in elevation of a modification;

Fig. 4 is a horizontal sectional view on the line s^4, s^4, of Fig. 3;

Fig. 5 is a vertical sectional view on the line s^5, s^5, of Fig. 4, showing the preliminary step in securing the post in position by means of an ordinary wood screw;

Fig. 6 is a similar view showing the post fully advanced and secured by the screw;

Fig. 7 shows a further modification in which the wire engaging member is formed with two notches instead of one as in Figs. 1 and 3;

Fig. 8 shows an additional modification in which the spring is enclosed by a telescoping casing.

Fig. 9 is a perspective view of a final modification, and

Fig. 10 is a similar view showing the post in use.

Referring now to the drawings, the binding post shown in Figs. 1 and 2 is formed from a single length of wire, shaped into a cone-shaped helical spring 1, which terminates at its larger end in a wire-engaging loop member 2, relatively arranged to cooperate with smaller end of the spring as a wire clamp.

It will be observed that the wire engaging member 2 lies within and is normally enclosed by the spring and that to present or make the member available for the insertion of a circuit wire, it is only necessary to grasp the smaller end of the spring between the thumb and finger and apply sufficient pressure to compress the spring. This results in exposing and clearing the upper end of the loop and after the circuit wire is inserted the release of the spring permits it to expand and force the wire into close contact with the loop member, where it is held under the full tension of the entire spring.

To meet the demand for a binding post adapted to be secured to a board or table by an ordinary wood screw, the binding post above described may have such a screw formed integrally with it, as indicated at 3, or, if preferred, a second loop 4 may be formed either interiorly of the helix, as shown in Fig. 4 or exteriorly thereof, as shown in Figs. 1 and 2, to receive an ordinary wood screw 5. Such a loop also serves as a soldering clip for securing a fixed circuit wire to the post. When the loop is formed interiorly of the spring, it is preferably bent or inclined upward, as shown in Fig. 5, so that when slipped under the screw-head, as in Fig. 6, sufficient tension will be created to hold the post securely and firmly in position. In addition to this tension, there is also a cooperating gripping action of the loop, the entrance to which is somewhat contracted, as indicated at 6.

For use on a panel, a machine screw and nut may be employed to secure the post in position, as shown, for example, in Fig. 8.

From the foregoing it will be apparent that by compressing the spring sufficiently,

as above described, to expose more or less of the wire-engaging loop member, several wires may be effectively engaged and held, as a single wire.

The modification shown in Fig. 7 illustrates a form of wire-engaging loop designed to receive two or more circuit wires by being provided with two notches instead of one, as in the other figures.

The modification shown in Fig. 9, consists mainly in the addition of a telescoping casing 7, for enclosing the spring, the casing being provided with either a slot or requisite openings, through which the wire-engaging loop projects, as shown. The operation or method of use does not differ from that above described.

The modification shown in Figs. 9 and 10, operates on the same principle and employs the essential main features of the several forms above described but differs in a number of structural details.

As shown, a flattened helical spring 1^a, is used, instead of a helix of cone-shape or of uniform diameter. Further, the upper turn of the spring is extended in both directions, as indicated at 8, to provide a convenient thumb and finger bearing for applying pressure to compress the spring to expose the wire-engaging loop, as in Fig. 10.

As a further departure, two wire-engaging loops are provided, the larger loop 2^a, serving to accommodate circuit wires of large diameter and the smaller loop 2^b, wires of smaller diameter. In addition to its function as a wire-engaging member, the large loop also acts to separate thumb and finger, when pressure is applied to compress the spring and clear both loops for the insertion of the circuit wire. This is of advantage when working in the dark or semi-darkness.

The binding-post, constructed as illustrated in Figs. 9 and 10, is formed from a single length of wire, and, in addition to the features above mentioned, there is also provided a soldering lug 4^a, for connection with a fixed circuit wire, the soldered joint being indicated at 9 and an eyelet 4^b, for a screw or bolt 5^a, by means of which the post is secured to a board of panel.

The many important advantages of the invention will be apparent from the foregoing description.

Having thus described my invention, what I claim is:

1. A binding post comprising a wire-engaging member having one end shaped as an encircling helical spring, the upper turn of which cooperates with the member as a wire clamp.

2. A binding post formed from a single length of wire and comprising a circuit wire engaging member terminating at one end in a helical spring arranged to encircle the member and co-acting therewith to grip the wire.

3. A binding post comprising a helical spring having one end bent up as a wire-engaging member extending through the helix into cooperative relation with the opposite end thereof.

4. A binding post comprising a cone-shaped helical spring bent at the larger end to form two loops, one of which cooperates with the smaller end of the spring as a wire clamp and fastening means for the post engaging the other loop.

5. A binding post consisting of a single length of wire bent as a cone-shaped helical spring terminating at the larger end in a loop extending through the helix into cooperative relation with the smaller end thereof.

WALTER HYERS PUMPHREY.