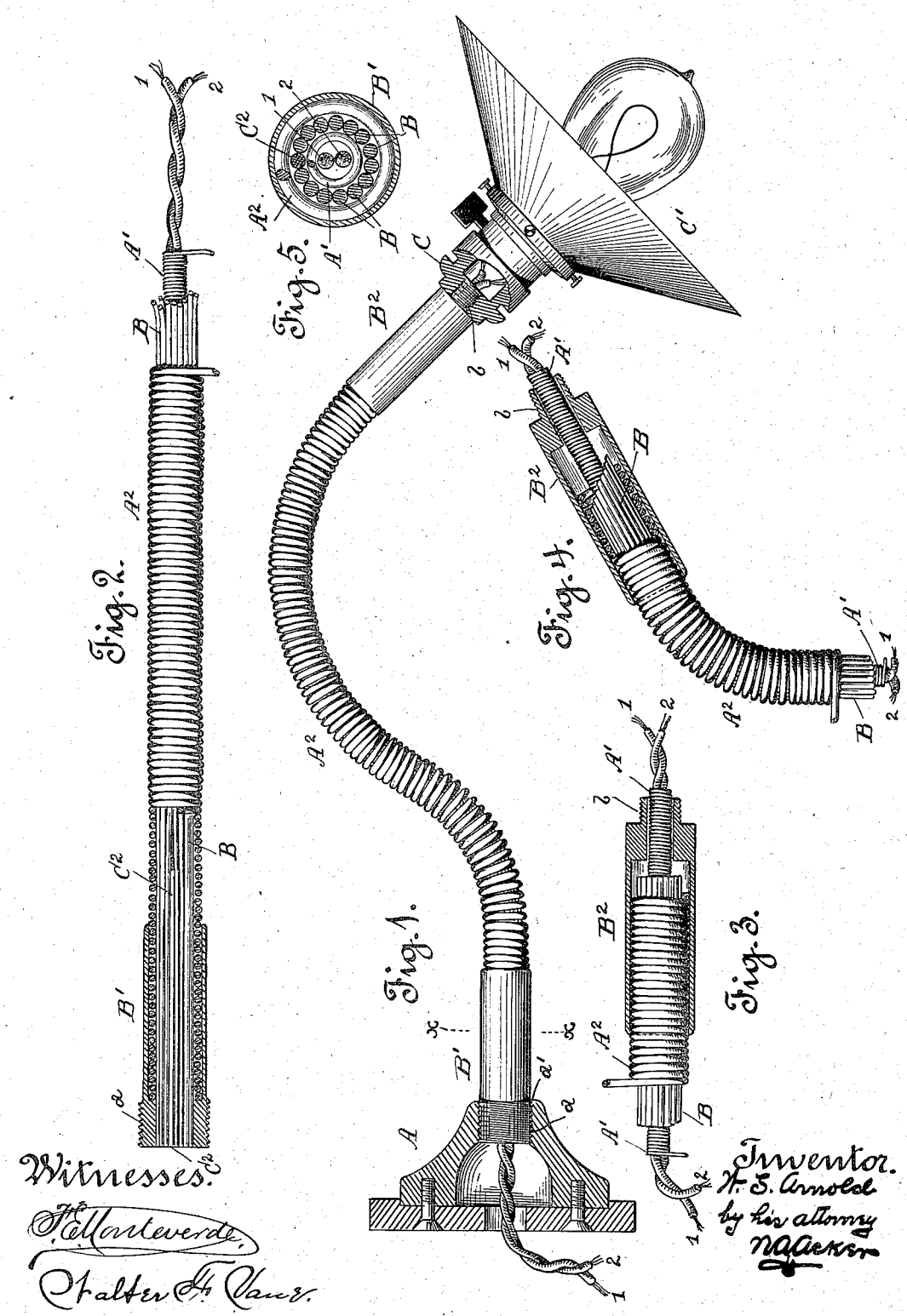
No. 625,917. Patented May 30, 1899.

W. S. ARNOLD.

FLEXIBLE SUPPORT OR BRACKET.

(Application filed Dec. 22, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

WILLIAM S. ARNOLD, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO HEINRICH MELLMANN, OF OAKLAND, CALIFORNIA.

FLEXIBLE SUPPORT OR BRACKET.

SPECIFICATION forming part of Letters Patent No. 625,917, dated May 30, 1899.

Application filed December 22, 1898. Serial No. 699,994. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. ARNOLD, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Flexible Supports or Brackets; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to a certain new and useful flexible support or bracket for use more especially in connection with incandescent or electric lights, which consists in the arrangement of parts and details of construction, as will be hereinafter fully set forth in the drawings and described and pointed out in the specification.

The object of the invention is to so construct a support or bracket which, while permitting of being adjusted into various positions whereby the lamp or article upheld thereby may be varied as to position, will possess sufficient rigidity to firmly hold the lamp or article carried or supported thereby in such adjusted position, at the same time possessing such pliability as will permit of its being readily bent or coiled into any desired shape without liability of breaking.

In order to comprehend the invention, reference must be had to the accompanying sheet of drawings, forming a part of this application, wherein—

Figure 1 is a side view of the bracket or support secured to a suitable base at one end, which is illustrated in section, the same being shown with an incandescent lamp supported thereby. Fig. 2 is a similar view disclosing the various features of construction going to make up the bracket or support. Fig. 3 is a broken detail sectional view of that end of the bracket or support to which the lamp or article to be displayed is secured. Fig. 4 is a similar view disclosing the relative position which the strengthening-wires assume as the bracket or support is bent over; and Fig. 5 is a cross-sectional view taken on line $x\,x$, Fig. 1.

In the drawings the letter A is used to indicate any suitable style of base or stand to which the bracket or support is attached. The bracket or support is formed of a hollow core A', consisting, preferably, of resilient coiled wire extending throughout the entire length of the support or bracket, and an outer covering A^2, preferably of coiled steel or compressed spring. Between the inner core and outer covering and around the former I arrange a series of parallel strengthening wires or rods B, possessing sufficient flexibility to permit of the same bending freely without breaking. Preferably these strengthening wires or rods are made of copper, and in number about fourteen are employed, although the number may be increased or decreased, as desired. Over one end of the parts thus arranged is fitted the cap or ferrule B', within which is cemented, soldered, or otherwise rigidly secured one end of outer covering A^2, inner core A', and the wires or rods B. This cap or ferrule is formed with the screw-threaded end *a*, by means of which it is secured within the screw-threaded opening *a'* of the base A, although any other suitable form of connection may be made between these parts. Upon the opposite or free end of the outer covering A^2 is removably secured the cap or ferrule B^2, through the reduced screw-threaded end *b* of which works the free end of the inner core A'.

Within this cap or ferrule also extends or projects the free ends of the strengthening wires or rods B, which at this end are unsecured in order to play back and forth between the outer covering A^2 and inner core A' as the bracket or support is bent into various positions or coiled. It is of importance that the said strengthening rods or wires be free at this end and permitted longitudinal play, for if secured or tied at this end against movement the flexibility of the bracket or support would not only be destroyed, but the said rods or wires would quickly break by repeated bending of the support or bracket, and the utility of the bracket or support thus be destroyed. By reference to Fig. 4 of the drawings the position which the strengthening wires or rods assume relative to each other as the support or bracket is bent or turned will be readily understood.

To the reduced end *b* of cap or ferrule B^2 is removably secured the socket C of the lamp C', with which connect the electric wires

1 2, passing freely through the inner core A'. Inasmuch as the core A is a hollow one, the wires 1 2 pass therethrough and form no part of the bracket or support proper. Consequently the said wires may be removed without necessitating the destruction of the bracket or support, or by simply disconnecting the wires from the lamp the said bracket or support may be removed without disturbing the wires.

While I have illustrated the invention as serving the purpose of supporting an electric lamp, it is obvious that its use is not thus confined. For instance, the same may be used in show-windows for the display of goods, such as boots or shoes. When thus used, it will be necessary to secure a shoe-form to the cap or ferrule B^2. In fact, the bracket or support may be used for any purpose requiring a pliable or flexible arm having sufficient rigidity to maintain the position into which it is placed.

In order to prevent the bracket or support being bent or turned downward at too great an angle to the cap or ferrule B', I introduce into the series of strengthening wires or rods B, secured within said cap or ferrule, a short wire or rod C^2. This rod or wire is firmly secured within said cap or ferrule and extends, with the wires or rods B, a short distance beyond the inner end of the cap or ferrule, Fig. 2. By making this rod C^2 of steel or heavier material than the wires or rods B greater resistance will be given to the bracket or support at this end, thus preventing the same being bent at a sharp angle to the cap or ferrule B' and overcoming danger of the support or bracket breaking at such point. This rod will be referred to in the claims, in order to prevent confusion, as a "supplemental" strengthening-rod.

Having thus described my invention, what I claim as new, and desire to secure protection in by Letters Patent, is—

1. A flexible support or bracket having an inner hollow core, an outer coiled metallic covering for said core, and a series of parallel strengthening wires or rods arranged between the core and the outer coil, said wires or rods and core being rigidly connected at one end to the outer coil but free thereof at their opposite ends whereby the same may give longitudinally as the bracket or support is turned or bent.

2. In a flexible support or bracket, the combination with an inner core, of an outer covering within which said core is inclosed, and a series of parallel strengthening wires or rods arranged between said core and outer covering, said wires or rods and core being rigidly connected at one end to the outer covering but free thereof at their opposite ends whereby the same may give longitudinally as the bracket or support is turned or bent.

3. A flexible support or bracket having an inner core, an outer covering therefor, a series of strengthening wires or rods arranged between the core and covering, a cap or ferrule for connecting the support or bracket to a suitable base and to which the core, covering and strengthening wires are rigidly secured at one end, and a cap or ferrule secured to the opposite end of the said covering and within which the free end of the core and strengthening wires or rods loosely lie, the core and wires or rods being permitted free longitudinal movement as the bracket or support is bent or turned.

4. The combination with a flexible support or bracket, of a series of strengthening wires or rods arranged therein and rigidly connected thereto at one end only whereby the same are permitted longitudinal movement as the support or bracket is bent or turned, and of a supplemental rod arranged within the support or bracket at its base in order to prevent an abrupt bend being made at or near the base thereof.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 13th day of December, 1898.

WILLIAM S. ARNOLD.

Witnesses:
N. A. ACKER,
W. F. VANE.