

No. 754,123.

PATENTED MAR. 8, 1904.

J. H. BULLARD.
INSULATOR PIN.
APPLICATION FILED OCT. 26, 1903.

NO MODEL.

Fig. 1.

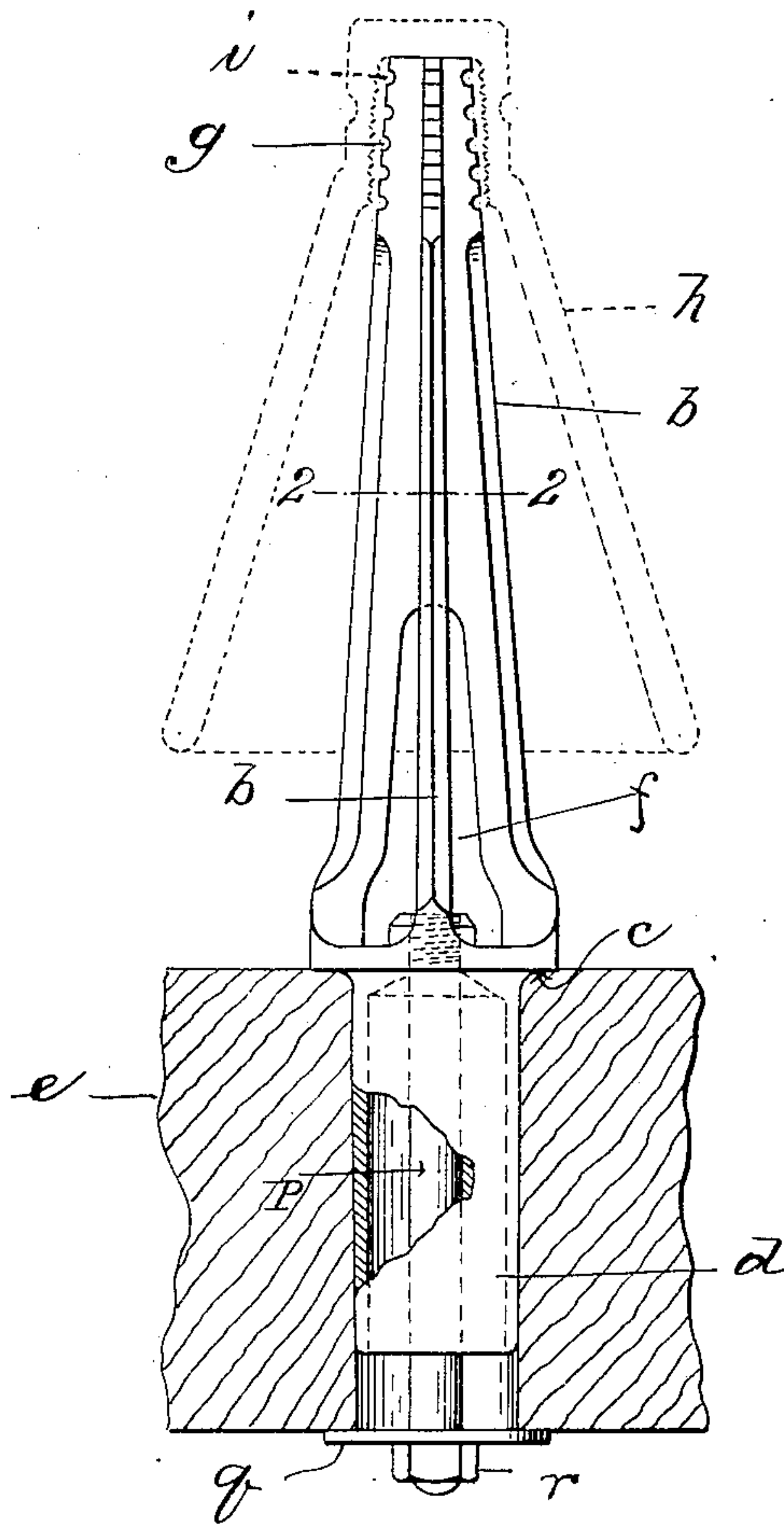
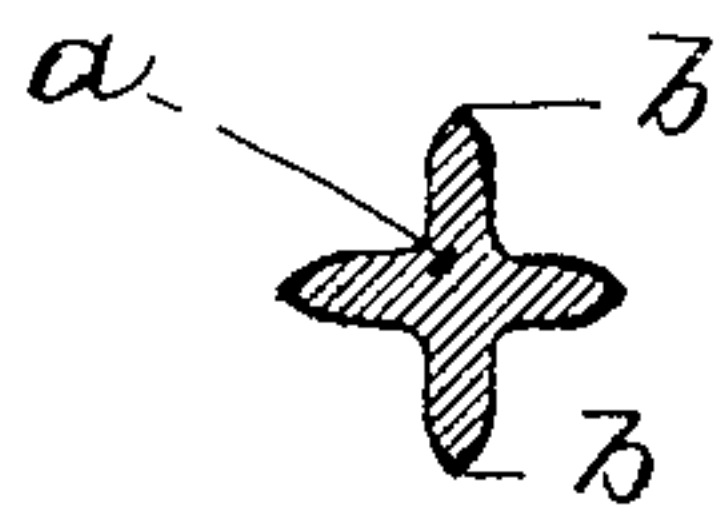


Fig. 2.



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INSULATOR-PIN.

SPECIFICATION forming part of Letters Patent No. 754,123, dated March 8, 1904.

Application filed October 26, 1903. Serial No. 178,507. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BULLARD, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Insulator-Pins, of which the following is a specification.

This invention relates to improvements in insulator-pins, and has special reference to pins adapted to support the heavy porcelain insulators required to carry wires in which high-tension currents are transmitted.

The insulators found by experience to be best adapted for use on high-tension lines consist of superimposed cone-shaped portions secured together at the apex of each piece, the lowermost of the pieces being secured to the upper end of the insulator-pin. This manner of supporting the insulators unavoidably subjects the pins to great transverse strain.

The object of this invention is to provide a metal pin especially adapted to carry the type of insulator above referred to and which shall have all of the requisite characteristics of strength, lightness, and cheapness of manufacture, and so constructed as to permit the easy application to one end thereof of the insulator and provided at its opposite end with means to secure it to a cross-bar.

In the drawings forming part of this application, Figure 1 is a side elevation of a pin embodying my invention, certain parts being broken away. Fig. 2 is a sectional plan view on line 2 2 of Fig. 1.

Referring to the drawings, it will be seen that the pin consists, essentially, of a slightly-tapered vertically-trussed body portion which in cross-section is cross-shaped, as shown in Fig. 2. This body portion is indicated by *a* and the rectangularly-arranged trusses of the body referred to by *b*. These, it will be noted, are in the nature of vertical webs located at right angles one to the other and flaring out somewhat at the base *c* thereof, the diameter of which is somewhat in excess of that of the stem *d* of the pin, or that portion which enters the cross-bar *e*, whereby a shoulder is formed which bears upon the cross-bar when the pin is driven into the latter. For a certain distance above the base the truss portions or webs

b are separated, as at *f*, and are outwardly flaring, the lower ends thereof all being united to the base *c*, whereby the weight of the pin is considerably decreased without sacrificing the rigidity thereof; but above at that part of the pin which receives the insulator the webs are united along their meeting lines on the axis of the pin, the structure at this point having the cross-sectional form shown in Fig. 2. This construction thus provides between these rectangularly-arranged webs suitable channels through which cement or molten metal can be poured to lock the part *h* of the insulator to the pin. The edges of the web *b*, at the upper end thereof, are provided with serrations or notches *g*.

The lowermost member of the insulator is indicated in dotted lines only, Fig. 1. This is made of porcelain in the usual manner, the skirt or flaring lower portion thereof extending well down over the pin and inclosing the major part thereof. At the apex of this cone-like piece its interior diameter is slightly greater than that of the top of the pin on which it is to be secured, and that portion thereof which is substantially in contact with the pin is provided with serrations or notches in the inner edge thereof, (indicated by *i*.) After the lowermost part *h* of the insulator has been fitted over the end of the pin the pieces are inverted, and some suitable cement is then poured into the apex of the part *h* through the channels between the webs in a semiliquid or plastic condition, which, finding its way between the serrated edges of the ribs and the serrated surface *i* of the part *h*, locks the latter securely to the pin when it hardens.

The stem *d* is cast hollow, as shown in Fig. 1, to lighten it as much as possible, and through the center of the base *c* a hole is made to take the bolt *p*, which may be inserted between two of the webs. The pin may then be drawn down into the socket in the cross-bar *e* by means of a washer *q*, placed on the lower end of the bolt, and a nut *r* on the latter turned up against the washer, which bears on the under side of the cross-bar. The cross-bars, in which wooden pins have been used, are always vertically perforated with holes of

uniform diameter, and the stems d of the metal pins may be made to fit these holes.

If there be not too much difference between the diameter of the cylindrical portion of the pin and the holes through the cross-bars into which this portion of the pin is inserted, then that part of the pin into which the webs b merge may be of the same diameter as said cylindrical portion, the shoulder c (shown in Fig. 1) thereby being done away with.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A metal insulator-pin comprising a series of webs disposed at an angle one to the other and united along their meeting lines, arranged at or near the upper end thereof to constitute channels through which a plastic material may

be poured; together with a stem-piece into which the lower ends of said webs merge, and a bolt located longitudinally of said stem-piece to secure the pin to its support.

2. A metal insulator-pin comprising a series of webs disposed at an angle one to the other and united along their meeting lines, arranged at or near the upper end thereof to constitute channels through which a plastic material may be poured, a base into which the lower ends of said webs merge, said base being perforated to receive a bolt; and a bolt in said perforated base to secure the pin to a cross-bar.

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