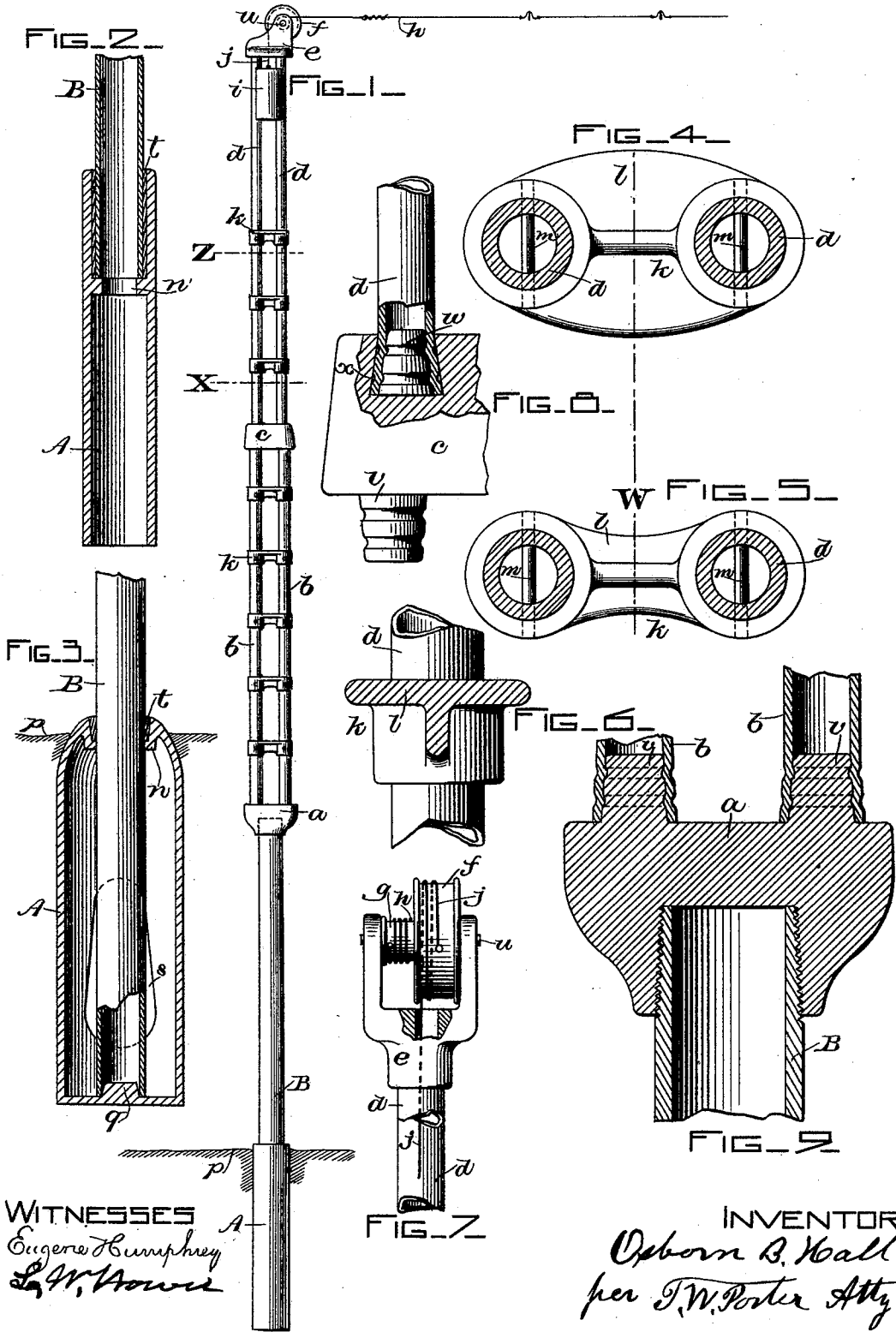


(No Model.)

O. B. HALL.
METAL POST.

No. 415,384.

Patented Nov. 19, 1889.



WITNESSES
Eugene Humphrey
L. W. Howe

INVENTOR
Osborn B. Hall
per J. W. Porter Atty

UNITED STATES PATENT OFFICE.

OSBORN B. HALL, OF MALDEN, MASSACHUSETTS.

METAL POST.

SPECIFICATION forming part of Letters Patent No. 415,384, dated November 19, 1889.

Application filed September 13, 1889. Serial No. 323,831. (No model.)

To all whom it may concern:

Be it known that I, OSBORN B. HALL, of Malden, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Metal Posts, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

In said drawings, Figure 1 is a side elevation of a post embodying my invention. Fig. 2 is an enlarged longitudinal section of the lower portion of the post shown in Fig. 1. Fig. 3 is a section similar to Fig. 2, but showing a modification thereof. Fig. 4 is an enlarged section taken on line Z, Fig. 1, the view being from below that line. Fig. 5 is a section similar to Fig. 4, but taken on line X, Fig. 1. Fig. 6 is a section taken on line W, Fig. 5. Fig. 7 is an enlarged detached side elevation showing the head of the post, the wire-straining pulleys, and parts of the wires. Figs. 8 and 9 show my method of securing the vertical multiple tubes to the couplings by which they are united.

This invention relates to the metal posts that are erected at the sides of the carriage-traveled portion of streets to support the wires that are extended across the street, and upon which the "trolley-wires," so called, of electric street-railways are supported; and the invention consists in features of novelty that will be hereinafter described, and specified in the appended claims.

Referring again to said drawings, A represents a hollow cast-metal base, to be inserted in the earth, as indicated in Fig. 1, where *p* represents the street-level. The lower section of the post is shown at B, and when this section extends but a portion of the length of A, as shown in Fig. 2, I form an internal concentric rib or ring *n* on the interior of A, so that B will be supported vertically thereon, the tamping *t* of any of the various suitable kinds being employed to form a firm joint between A and B. If section B is to extend to the bottom of A, I close said bottom and form a central boss *q* thereon to fit the interior of B, while the opening in ring *n* is large enough to admit B, which, as above described, is secured by the tamping *t*, as shown in Fig. 3. At the head of B is an enlargement *a*, which

will be formed integral with B when the latter is of cast metal; but when of wrought-metal tubing part *a* will be a cast-metal coupling secured to B by screw-threads, as indicated by dotted lines in Fig. 1. To the upper side of *a* the wrought-metal tubes *b* are secured, as shown, and the upper end of tubes *b* are secured in like manner to coupling *c*, to the upper side of which are secured the tubes *d*, upon which is secured the coupling or head *e*, in which are pivoted the larger and smaller pulleys *f* and *g*, both of which are rigidly secured to the axis *w*, pivoted in the cheeks of coupling *e*. The cross-street wire *h* is secured to and winds upon the smaller pulley, while the cord *j*, that suspends weight *i*, is wound upon the larger pulley *f*, thereby giving a leverage to the weight for holding wire *h* taut without having the weight unduly heavy, so as to be difficult to handle when adjusting the coacting parts, and so, also, as not to unduly load the pole at the top.

To secure tubes *b* and *d* in their respective couplings without respectively threading the same, I either form upon the planes of the couplings in proper position the ring-girdled studs *v*, Figs. 8 and 9, and of such size that when the tubes are forced thereon under a high degree of pressure the tube will force itself into the ring-grooves in the studs, so that great force would be required to withdraw the pipes therefrom, or I form an undercut hole *x* in the coupling, and, having seated a ring-grooved plug *w* therein, I force the tube into the hole and upon the plug, thereby expanding the end of the tube and forcing it against the wall of hole *x*, where it is firmly held by the plug, which adheres in the tube by reason of said ring-grooves, into which the tube is forced to the requisite extent to insure a permanent adhesion between the two. As the use to which these posts are dedicated renders it necessary that those in charge of the system in which they are embodied shall occasionally ascend them, and as a portable ladder of the requisite length for such purpose would be a most uncomfortable impediment to sidewalk-travel, I have invented a method of converting the upper sections into a ladder of great convenience and durability at very small expense, (the lower section B

being preferably formed smooth, both for convenience of pedestrians and to prevent predatory and mischievous urchins from mounting to the top of the post and tampering with the parts,) to form which elevated ladder I provide the cast-metal couplings *k*, formed with a short tube or sleeve at each end of an internal diameter to receive the vertical tubes of the post, said sleeves being united by a bar preferably T-shaped in cross-section and having the tread *l* for the foot of the caretaker. Said couplings are effectually secured to the vertical tubes by the small pins *m*, as shown. The upper coupling *k* is formed with its tread *l* broader and stronger than the others, for the reasons that the operative in charge will stand thereon when adjusting or arranging the wires and weights, and will require a comfortable bearing for his foot; and, besides, if the weight should fall, this coupling would receive the full impact thereof. These couplings not only perform the functions of the rungs of a ladder, but they unite and consequently strengthen the multiple rods that constitute the upper sections of the post.

In my pending applications, Serial No. 317,893, filed July 18, 1889, and Serial No. 319,295, filed July 31, 1889, I have shown metal

posts formed with sections having multiple tubes coupled together and having such sections with a single tube for the lower section, and also having a cast-metal base, and a weight with a single pulley for straining the cross-street wire; hence I do not herein broadly claim any of said elements in this application; but

What I do claim is as follows, to wit:

1. In a metal post having a weight arranged therein, a differentiated pulley pivoted in the head of the post and arranged to receive the cross-street wire upon the smaller and the weight-supporting wire upon the larger section of said pulley, substantially as specified.

2. In a metal post formed in sections, the combination of the vertical tubes of said sections, the couplings having undercut holes to receive the ends of said tubes, and a conical or tapering plug seated in said undercut hole forced into the end of the tube when the latter is forced into said hole, substantially as specified.

OSBORN B. HALL.

Witnesses:

T. W. PORTER,
C. L. POWER.