(Model.)

J. W. COLE & H. KNUDSEN.

LIGHTNING ROD STANDARD.

No. 332,383. Patented Dec. 15, 1885.

Fig. 2.

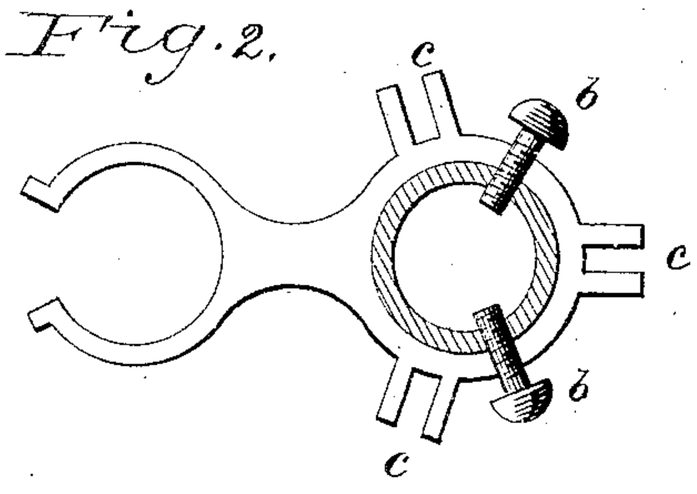

Fig. 1.

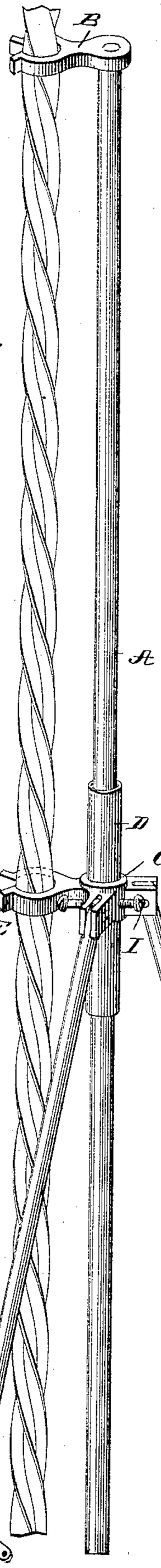

Fig. 9.

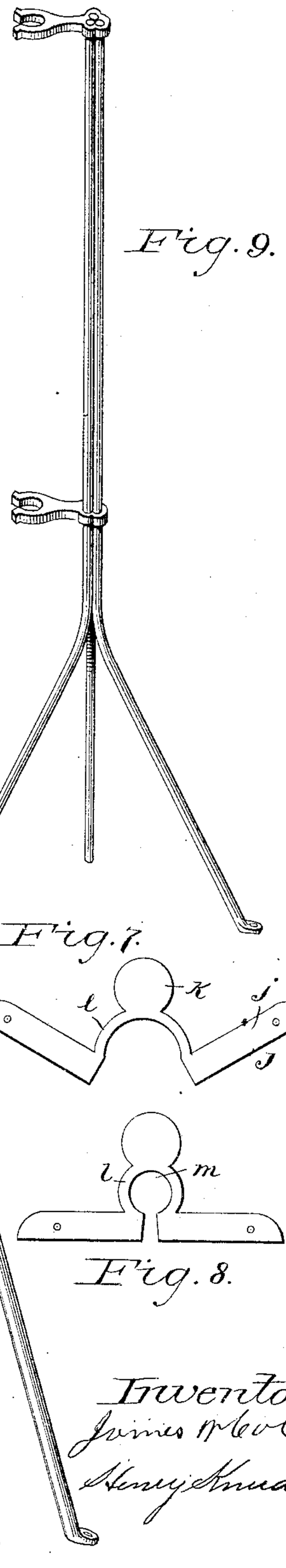

Fig. 3.

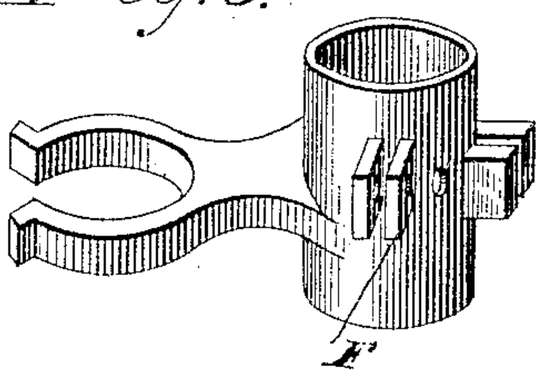

Fig. 4.

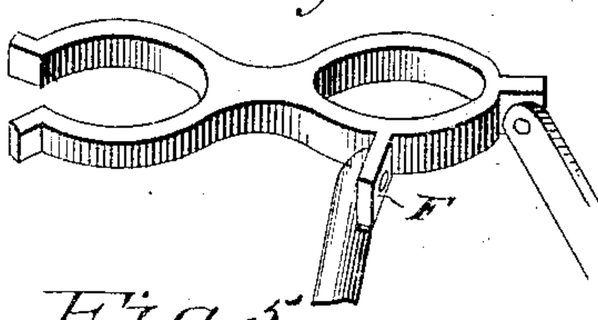

Fig. 5.

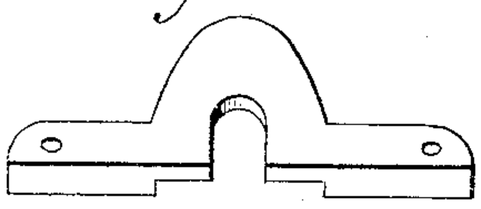

Fig. 6.

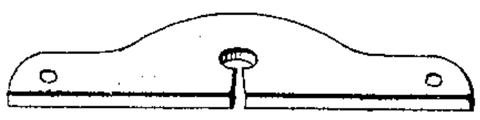

Fig. 7.

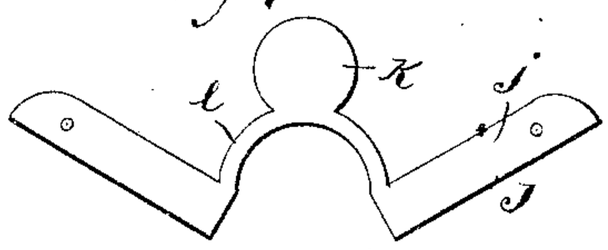

Fig. 8.

Witnesses:
D. L. Anderson
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Inventors
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UNITED STATES PATENT OFFICE.

JAMES W. COLE AND HENRY KNUDSEN, OF GREENCASTLE, INDIANA; SAID KNUDSEN ASSIGNOR TO SAID COLE.

LIGHTNING-ROD STANDARD.

SPECIFICATION forming part of Letters Patent No. 332,383, dated December 15, 1885.

Application filed June 24, 1885. Serial No. 169,668. (Model.)

To all whom it may concern:

Be it known that we, JAMES W. COLE and HENRY KNUDSEN, of Greencastle, Indiana, have invented a new and useful Lightning-Rod Standard, the specification of which is as follows:

This invention relates to certain new and useful improvements in lightning-rod standards.

The object of the invention is to produce a standard which shall be capable of adjustment to secure the rod in place by grasping it at any desired altitude.

Further, the invention consists in a novel means for securing the legs of the standards to the roof in such manner as to effectually guard against displacement thereof; further, the invention consists in novel means of securing the legs to the main portion of the standard in such manner as to guard against vibration, as in the most common form of standard.

The construction and advantages will be better understood by reference to the accompanying drawings, in which—

Figure 1 is an elevation of our improved standard. Figs. 2, 3, and 4 are detail views of minor parts. Figs. 5, 6, 7, and 8 represent means for securing the lower ends of the standard-legs to the roof or other structure to which the device may be applied, and Fig. 9 represents the side view of the old form of standard.

By reference to Fig. 9 of the drawings, it will be seen that the old form of standard, which is illustrated therein, is made with supporting-brackets arranged at fixed points upon the standard, and that these points of attachment of the rod cannot be readily varied to support the rod at a higher or lower point, as may be required by the position in which the point of the rod is to be placed.

In the remaining figures of the drawings, A represents a metal rod of any suitable length, near the upper end of which is placed a holder, B, to which the lightning-rod is attached.

C represents a ring or collar having a central opening of a size to receive a metal sleeve or tube, D, through which the rod A slides. This sleeve or tube is made of an adequate length to afford a support long enough to prevent bending of the rod A. The collar C is provided with a holder, E, similar in construction to that placed near the upper end of the rod A, and it is also provided with a series of projections, F, which may be arranged in pairs, as shown in Fig. 3, or singly, as shown in Fig. 4; and to these projections are hinged the legs H, which may be three or more in number, and which, as clearly shown, may be extended to any desired position.

The rod A is retained at any desired elevation from the roof by means of set-screws I, which pass through the collar C and tube D and bear against the said rod.

In order to effectually secure the standard against displacement by any ordinary strain, we provide the feet J. (Shown in Figs. 7 and 8.) These consist of the two arms J, provided with openings for the reception of nails or screws, and connected by curved projections *l*, in the center of which is the circular plate *k*, which covers the screw or nail placed in the opening in the upturned ends of the legs. In applying these feet J they are placed so that the inner face of the curved arms *l* bear against the legs of the standard, and the arms J are then forced toward each other, thus forming the round opening *m*, in which the leg is confined. When this is done, the arms are fastened down by means of nails or screws, and in this way the feet are firmly secured in place.

In Figs. 5 and 6 we have shown modified forms of feet. In the form shown in Fig. 5 no bending is necessary, they being made in the form in which they are to be applied, and the under face of the foot is cut away to form a recess, in which the upturned lower ends of the legs enter. In the form shown in Fig. 6 the foot is made of a metal plate formed with plane upper and under faces, and which is bent around the legs when applied thereto.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A lightning-rod standard composed of the ring having the legs attached thereto, and the vertically-adjustable rod provided with the holder.

2. A lightning-rod standard composed of

the ring having the legs pivotally connected thereto, the rod adapted to slide vertically in the ring, and secured in position by the set-screws.

3. A lightning-rod standard consisting of the ring or collar, the sleeve, a tube secured therein, the vertically-sliding rod, and the retaining-screws, substantially as described.

4. The combination, with a lightning-rod standard consisting of the pivoted legs having upturned lower ends, the rod supporting the holder, and suitable means for securing the same together, of the feet secured down over the upturned ends of the said legs.

5. In combination with a lightning-rod standard consisting of the pivoted legs having upturned lower ends, the rods supporting the carrier, and suitable means for connecting the said rod and legs, and the foot-pieces bent around and fastened down upon the upturned ends of the legs.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES W. COLE.
HENRY KNUDSEN.

Witnesses for Cole:
H. B. RAGAN,
D. L. ANDERSON.
Witnesses for Knudsen:
M. M. CHITTENDEN,
R. W. CRAWLEY.