(No Model.)

M. S. WILLIAMS.

TROLLEY WIRE INSULATOR.

No. 507,299. Patented Oct. 24, 1893.

Fig. 2.

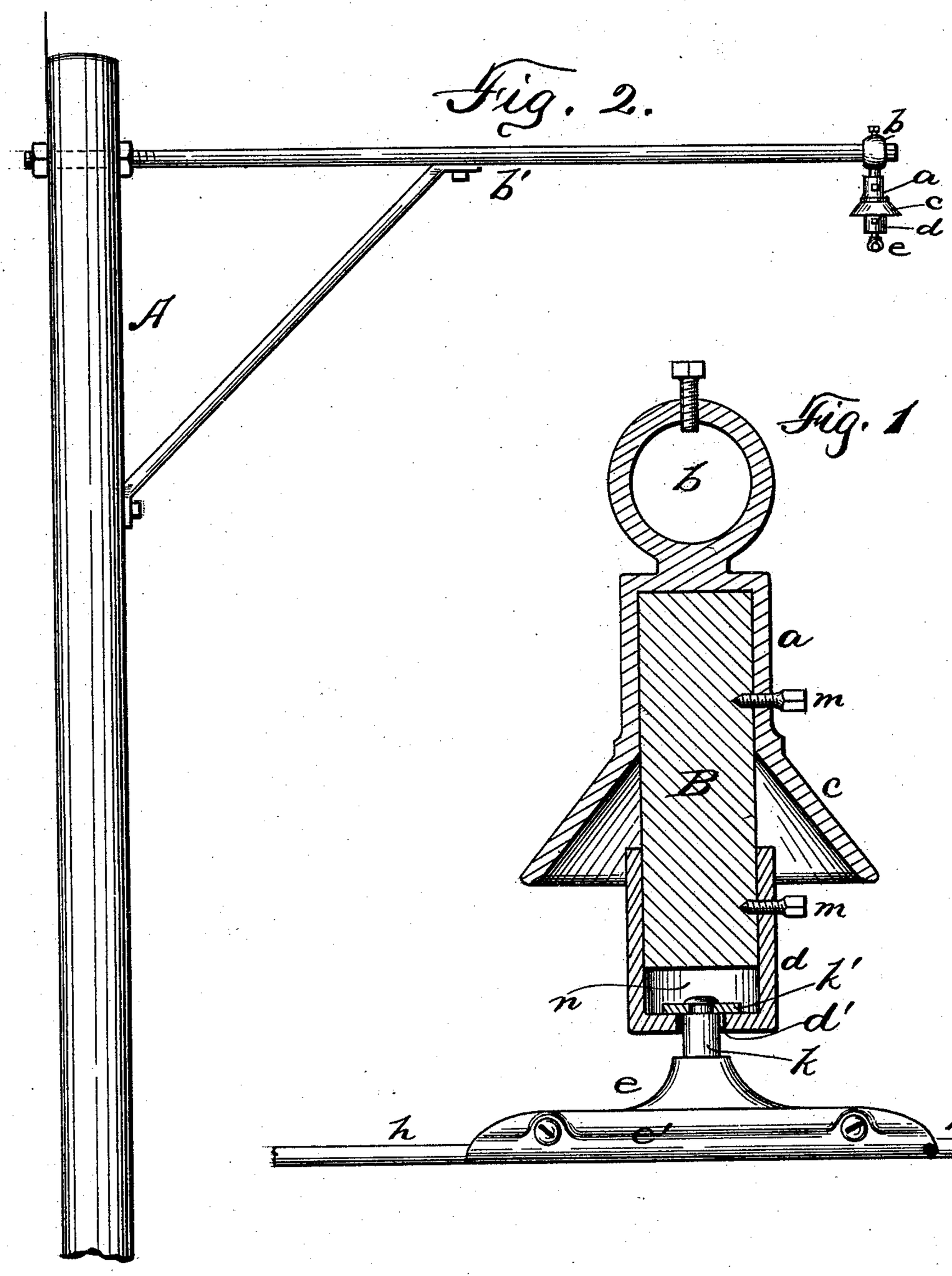

Fig. 1

WITNESSES:

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MOWRY S. WILLIAMS, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF TO STEWART WORDEN, OF SAME PLACE.

TROLLEY-WIRE INSULATOR.

SPECIFICATION forming part of Letters Patent No. 507,299, dated October 24, 1893.

Application filed July 5, 1892. Serial No. 438,866. (No model.)

To all whom it may concern:

Be it known that I, MOWRY S. WILLIAMS, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Insulators, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to insulators, and particularly to that class which are composed of pieces of metal, or conducting material, connected together by an intervening or interposed non-conductor.

My object is to produce an insulator composed of metallic tubular socket pieces, connected by a mineral non-conductor, the ends of which are detachably secured on the sockets, and by which the socket pieces are held apart and insulated from each other by said mineral; such mineral being in its natural state, just as it comes from the bed, only being of the proper form for the purpose.

My invention consists in the several novel features of construction and operation hereinafter described and which are specifically set forth in the claims hereunto annexed. It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1, is a vertical transverse sectional elevation of the insulator, its wire grip, and a piece of wire therein. Fig. 2, is a side elevation of a pole and arm, showing my insulator mounted thereon, as in supporting an overhead wire, for a trolley system.

The insulator comprises a tubular body —*a*— provided on top with a ring and set screw —*b*— to fit over the arm —*b'*— of the pole —A— (or a hook when it is desired to hang the insulator from an eye or other support) and a hood or bell —*c*;— and a lower socket —*d*— having a hole —*d'*— through its lower end. The wire grip —*e*— consists of a body concaved longitudinally to create one jaw of the grip and to partially embrace the wire —*h*—, and a removable jaw —*e'*—, the counterpart of the concaved body, adapted to be detachably secured to the body by screws as shown, and the wire is gripped between them. This grip body is provided with a vertical stem —*k*— which extends up through the hole —*d'*— and is connected to said socket piece by being riveted down onto a washer —*k'*— within said socket, thus creating a swivel connection.

B—, is the insulating block having its ends ends of proper shape to be detachably secured in the body and socket piece by the screws —*m*—, in such manner as to leave the swivel chamber —*n*— within the lower part of the socket. This insulating block is wholly a mineral rock, in its natural state, just as it comes from the bed, only being reduced to proper form to properly fit into the sockets, as shown.

For illustration, I take talc rock just as it is quarried from the bed, turn, or otherwise reduce it to the proper shape and size, as I have discovered that this mineral rock is a most excellent non-conductor of electricity, in all places and under all circumstances.

I am aware that wood or other vegetable material, has been heretofore used as the insulating material in an insulator, where the wood has been grooved near its ends, and the sheet-metal socket-pieces spun down into said grooves to rigidly secure the wood in place, but that is not my invention.

The talc rock, above named, is a material easily worked, has great strength, is not affected injuriously by heat or cold, does not swell, shrink or rot, but on the contrary grows harder and stronger and more durable under exposure to the air, and is a perfect insulating material, of the most durable character.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An insulator comprising a tubular body portion provided at its upper end with a sleeve and set-screw and terminating at the opposite end in a hood, a socket-piece, a wire clamping device detachably connected and depending from the socket-piece, and a cylindrical block (consisting of mineral rock in the natural state) removably held in the

socket and adjustably secured in the tubular body portion, as specified.

2. In an insulator, the combination with a tubular body portion having a terminal hood, of a cylindrical block of insulating material entering the tubular body, and a set screw for adjustably securing the block therein, a socket piece detachably fixed to the lower extremity of the block and a wire clamping device swiveled in the socket-piece, as specified.

In witness whereof I have hereunto set my hand this 4th day of June, 1892.

MOWRY S. WILLIAMS.

In presence of—

C. W. SMITH,

HOWARD P. DENISON.