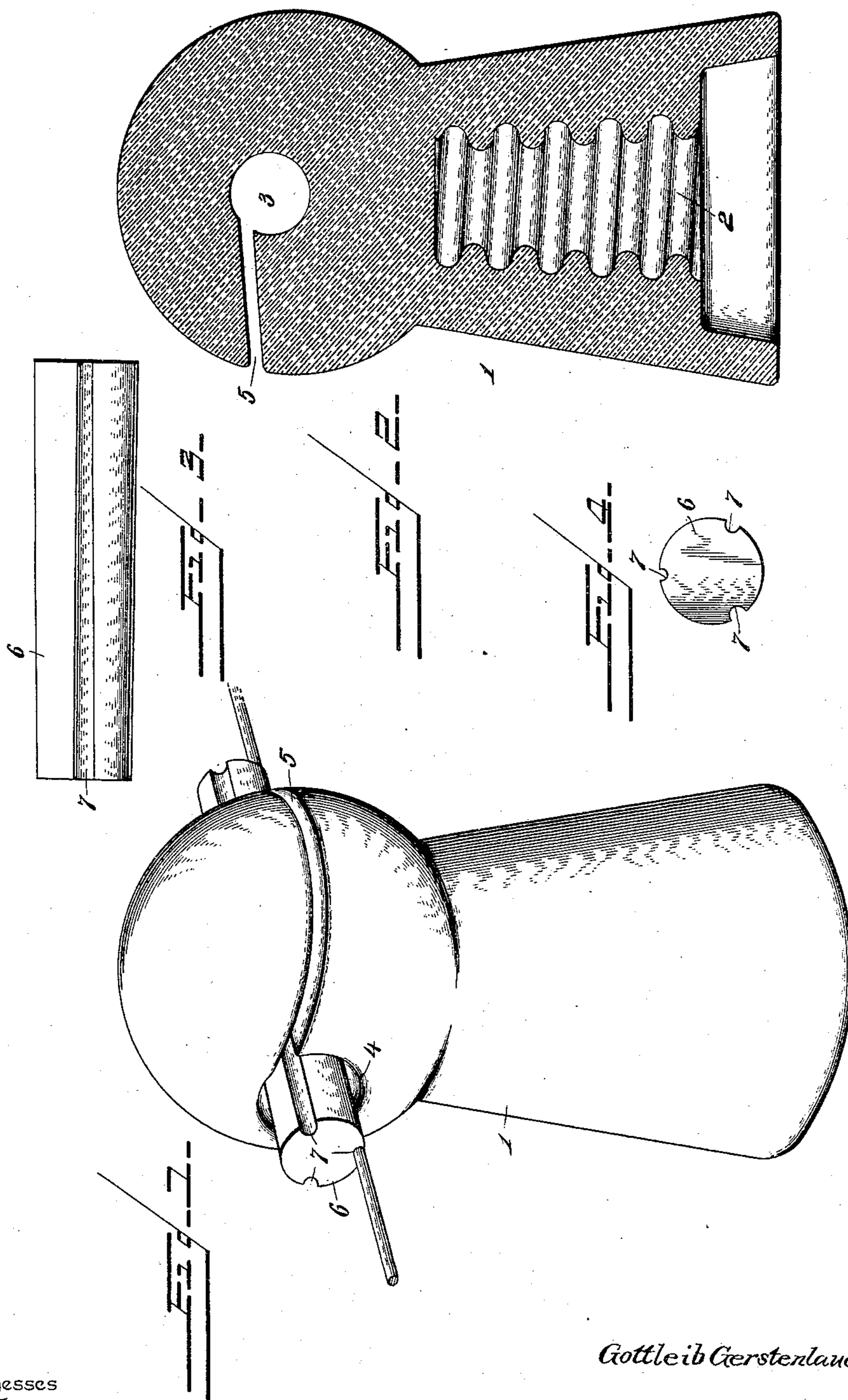


(No Model.)

G. GERSTENLAUER.
INSULATOR.

No. 546,383.

Patented Sept. 17, 1895.



Witnesses

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INSULATOR.

SPECIFICATION forming part of Letters Patent No. 546,383, dated September 17, 1895.

Application filed March 27, 1895. Serial No. 543,354. (No model.)

To all whom it may concern:

Be it known that I, GOTTLEIB GERSTENLAUER, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Insulator, of which the following is a specification.

This invention relates to an improvement in insulators.

10 The object of the present invention is to provide a simple and inexpensive form of insulator and wire-support by means of which the usual binding or tie wires may be entirely dispensed with.

15 A further object of the invention is to construct said insulator and a fastening device operating in connection therewith in such manner that a line-wire may be quickly and easily engaged therewith or disengaged therefrom, thus saving a great amount of time in the construction and repair of telegraph and telephone lines.

To this end the invention consists in forming an insulator for electric wires comprising 25 a body of non-conducting material, a perforation therein for the reception of the line-wire, and an open slot communicating with said perforation, in combining with said insulator a cylindrical pin or plug provided with 30 one or more tapering grooves and adapted to enter said perforation, receive the line-wire, and bind the same therein; also in certain features and details of construction and arrangement, hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved insulator and the cylindrical and grooved binding pin 40 or plug, showing also a line-wire applied thereto. Fig. 2 is a transverse vertical section through the insulator, showing the threaded socket in its base, by means of which it is secured to one of the pins on the usual cross-arms. Fig. 3 is a side elevation of the cylindrical binding pin or plug. Fig. 4 is an end view of the same.

Similar numerals of reference indicate corresponding parts in the several figures of the 50 drawings.

Referring to the drawings, 1 indicates the insulator-body, which may be made of any

non-conducting material, but is preferably formed from glass, and provided in its base with a threaded socket 2, by means of which 55 said insulator is adapted to be engaged with the usual threaded pin on one of the ordinary cross-arms of a supporting-pole. The insulator-body 1, at or near its top, is provided with an enlarged spherical and concentric head, 60 in which is formed a horizontal perforation 3, preferably rounded out at either end, as indicated at 4, in order to avoid sharp corners and prevent injury to the line-wire. An inclined open slot 5 communicates with said 65 perforation 3, at or near the top thereof, as shown in Fig. 2, the office of said slot being to permit the insertion and removal of the line-wire to and from said horizontal perforation. By means of this construction the horizontal 70 or transverse opening in the spherical head forms a deepened pocket at the inner end of the open slot, and said pocket recedes in the direction of or beneath the inner end of said open slot in such manner as to leave an over- 75 hanging lip, which projects inwardly partially over said deepened pocket and serves to prevent the accidental escape of the wire from said pocket in the event of the hereinafter-described fastening device being omitted or 80 prior to the introduction of such device. By enlarging the upper end of the insulator and forming the concentric spherical head strength is imparted to the insulator where it is necessary to compensate for the reduction 85 in strength caused by the presence of the transverse opening 3.

The binding-plug 6 is cylindrical, and may be made of an equal diameter throughout or may be made tapering, and is provided with 90 several grooves 7, of different depth and size, extending from end to end thereof. Said grooves may be made of the same size throughout, or may be made tapering or deeper at one end than at the other, or, if preferred, the pin 95 may be made tapering and the grooves therein also tapering. The pin or plug 6 may be made of any preferred material—such as metal, wood, rubber, compressed paper, glass, &c.

In operation the line-wire is inserted 100 through the open slot 5 into the horizontal perforation 4, the weight of the wire carrying it to the bottom of said perforation. The binding pin or plug is then inserted into the

perforation, and at the same time one of the grooves in said plug, which corresponds in size to the size of the line-wire, is engaged with said wire, and the plug or pin is then
5 pushed or driven into the perforation sufficiently to firmly bind the line-wire in place therein. By providing the binding pin or plug with grooves of different depth said plug is adapted to accommodate line-wires of different
10 gage in a manner that will be readily understood.

The device described is extremely simple, may be manufactured at very small cost, and yet is thoroughly efficient in practice, and will
15 effect a great saving of time and labor both in the construction and repair of telegraph and telephone lines.

It will be apparent that various changes in the form, proportion, and the minor details of
20 construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured
25 by Letters Patent, is—

1. An insulator for electric wires, comprising a body of non-conducting material, having formed therein a straight transverse open slot extending upwardly and inwardly from
30 the exterior surface of said body and deepened at its inner end to form a pocket for the reception of a wire, said pocket being formed in such manner as to recede beneath and leave an overhanging lip, which projects inwardly
35 partially over the pocket and is disposed between the latter and the inner end of the slot communicating therewith, substantially as and for the purpose specified.

2. An insulator for electric wires, comprising a body of non-conducting material formed
40 with a substantially spherical and concentric head, a transverse perforation in said head for the reception of a wire, and an inclined open slot communicating tangentially with said perforation at or near the top thereof in
45 such manner as to leave a depression or pocket beneath the plane of the inner end of said slot, substantially as and for the purpose described.

3. An insulator for electric wires, comprising a body of non-conducting material, a perforation for the reception of the line wire, and an open slot communicating with said
50 perforation, in combination with a grooved and tapering pin or cylindrical plug adapted to enter said perforation and to receive and bind said wire in fixed relation to the insulator, substantially as described.

4. An insulator for electric wires, comprising a body of non-conducting material, a perforation for the reception of the line wire, and an open slot communicating with said
60 perforation, in combination with a cylindrical pin or plug provided with one or more tapering grooves and adapted to enter said perforation and receive said wire and bind the latter therein, substantially in the manner and
65 for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature
70 in the presence of two witnesses.

GOTTLEIB GERSTENLAUER.

Witnesses:

S. GERSTENLAUER,
H. F. CLAPP.