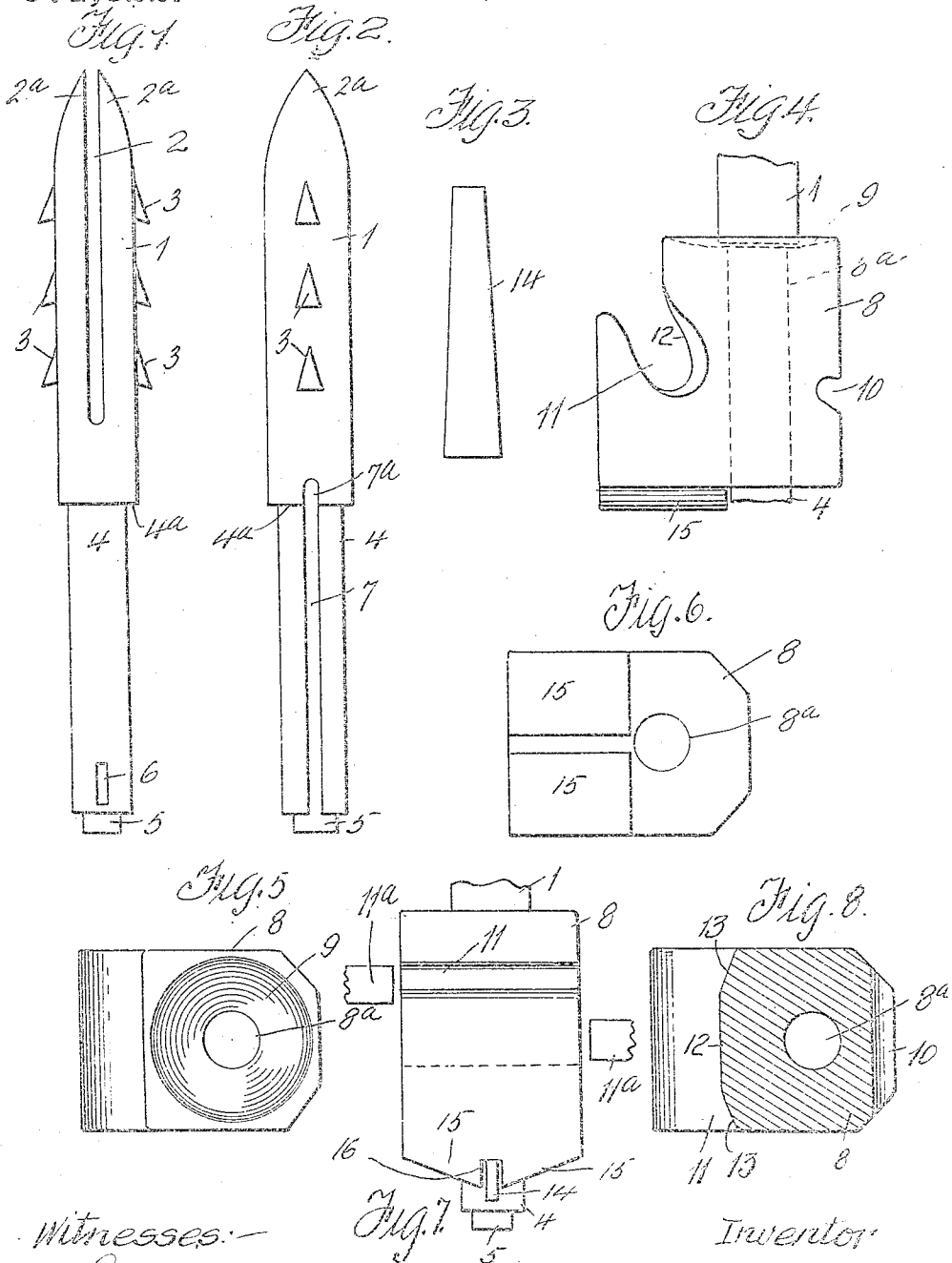


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MINE INSULATOR.

APPLICATION FILED NOV. 29, 1909.

971,322.

Patented Sept. 27, 1910.



Witnesses:—

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MINE-INSULATOR.

971,322.

Specification of Letters Patent. Patented Sept. 27, 1910.

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To all whom it may concern:

Be it known that I, CHARLES W. SPEAKMAN, a citizen of the United States of America, residing at Monongahela city, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Mine-Insulators, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to insulators particularly adapted for use in mines and the object thereof is to provide an insulator in a manner as hereinafter set forth and claimed with means whereby the insulator body will be permanently anchored in position; furthermore with means whereby the electrical conductor can be conveniently positioned in the insulator body; to provide means whereby the insulator can be reversed and used at the juncture at mine entries for supporting the electrical conductor irrespective in what direction it extends; with means for supporting the weight of the insulator body as well as the electrical conductor and furthermore with means for conveying water from the roof of the mine so as to prevent the accumulation thereof upon the insulator body.

Further objects of the invention are to provide an insulator for use in mines or for suspending an overhead electrical conductor, which shall be simple in its construction, strong, durable, efficient in its use, readily set up in operative position, and comparatively inexpensive to manufacture.

From the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described and illustrated in the accompanying drawings wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views, Figure 1 is a front elevation of the anchoring element of an insulator in accordance with this invention, Fig. 2 is a side elevation of the anchoring element, Fig. 3 is a detail illustrating the supporting element of the insulator, Fig. 4 is a side elevation of the insulator body, Fig. 5 is a top plan view of the in-

insulator body, Fig. 6 is a bottom plan of the insulator body, Fig. 7 is a front elevation of the insulator, and Fig. 8 is a horizontal sectional view thereof.

An insulator in accordance with this invention comprises an anchoring element, a supporting element and an insulator body. The anchoring element consists of a body portion 1 which is bifurcated as at 2 to provide a pair of arms 2^a, the free end of said arms tapering. Each of the arms 2^a has its outer face formed with a laterally-extending series of prongs 3 which constitute hold fast devices when the anchoring element is in position. The prongs 3 are beveled. The lower end of the body portion 1 is formed integral with a shank 4 which is of less diameter than the body portion 1 whereby an annular shoulder 4^a is provided which constitutes a stop for the movement of the insulator body in one direction. The lower end of the shank 4 is reduced as at 5 and above the reduced end 5 is formed a key slot 6 for the reception of a wedge shaped key 14 which constitutes the supporting member for the insulator body and also acts as a stop to prevent the insulator body from shifting on the shank 4. The shank 4 is furthermore provided with a vertically-disposed groove 7 which terminates in a groove 7^a formed in the lower portion of the body portion 1 and said grooves 7 and 7^a form, what may be termed a conduit for conducting water from the top of the insulator body.

The insulator body is indicated by the reference character 8 and is formed with a centrally disposed opening 8^a to permit of the mounting of said body 8 upon the shank 4. The bottom of the insulator body 8 is provided with a key way 16 which receives the key 14 when the latter extends through the slot 6. The insulator body 8 rests upon the key 14 and the walls of the key way 16 are adapted to engage the key 14 whereby the shifting or rotative movement of the insulator body upon the shank 4 will be prevented as is obvious. The insulator body 8 at its top is formed with a concavity 9 which communicates with the groove 7 whereby the water which collects in said concavity 9 can be conducted therefrom and discharged at the lower end of the shank 4. The key way 16 at the bottom of the insulator body 8 is formed by a pair of integral spaced lugs 15, as clearly shown in Figs. 6 and 7. The rear side of the insulator body 8 is

formed with a transversely-extending groove 10 and the front side of the said insulator body 8 is formed with an angularly disposed groove 11. The latter is adapted to receive the electrical conductor 11^a and which is retained in place by a binding wire mounted in the groove 10 and extending over the conductor 11^a. The inner wall 12 of the groove 11 is rounded at each end as at 13 which enables the conductor to be used at the juncture of entries whereby the electrical conductor can extend in both entries. The rounding of the inner wall 12 dispenses with sharp corners, these latter often times causing the conductor to break.

The reduced end 5 of the shank 4 prevents the shank from being injured or distorted when the anchoring element is driven in the roof or other support, which would not be the case if the anchoring element was driven at the free terminus of the shank as the blows of the hammer would, as is obvious injure the shank and interfere with the mounting of the insulator body 8 upon the shank.

When the anchoring element is driven into the roof of the mine or other support the prongs 3 retain said element in position while the opening formed by the bifurcation receives pieces of coal that also assist in holding the anchor in place.

After the anchoring element has been driven home, the insulator body 8 is positioned upon the shank until it engages the shoulder 4^a. The key 14 is then driven home which maintains the insulator body in position upon the shank 4 and also prevents rotation of the insulator body. The electrical conductor is then placed in the groove 11, the binding wire mounted in the groove 10 and extended over the conductor whereby the latter is connected to the insulator body.

What I claim is:—

1. An insulator comprising the combination with an anchoring element formed with a water conducting groove, of an insulator body mounted upon said element and having a stop provided with a concavity and constituting a collector for water and communicating with the groove and said element.

2. An insulator comprising an anchoring element provided with a water-conducting groove, an insulator body mounted on the element and provided with means for the reception of an electrical conductor and further provided in its upper face with a concavity constituting a collector for water communicating with said groove, and means for supporting the insulator body upon said element and to prevent rotative movement of the insulator body.

3. An insulator comprising an anchoring element provided with a stop, an insulator body loosely mounted upon said element and having its movement in one direction arrested by said stop; and means carried by said element for supporting the insulator body and further preventing rotative movement of the insulator body upon said element.

4. An insulator comprising a body-portion having its bottom formed of a pair of spaced lugs to provide a key-way, said body-portion further provided with an opening extending lengthwise with respect thereto and having its lower end arranged to one side of one end of the key-way.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES W. SPEAKMAN.

Witnesses:

E. E. SMITH,
J. C. ISLER.