D. L. BRAINE.

INSULATED TRACK TOOL.

APPLICATION FILED MAR. 12, 1915.

1,248,445. Patented Dec. 4, 1917.

Fig. 1.

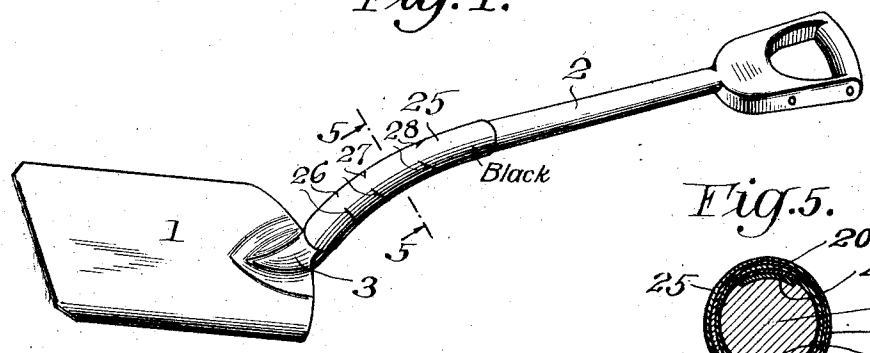


Fig. 5.

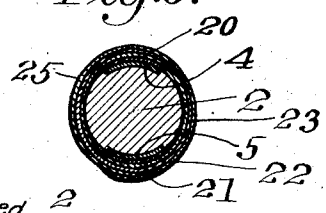


Fig. 2.

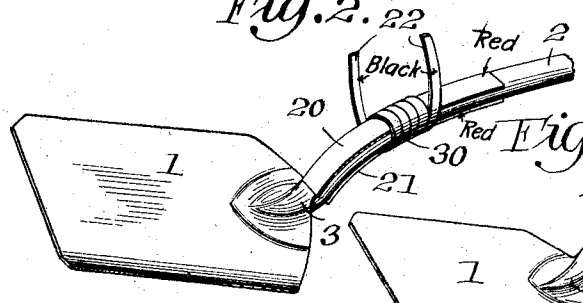


Fig. 6.

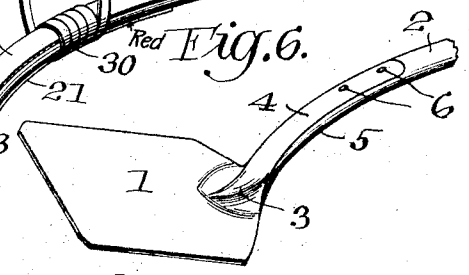


Fig. 3.

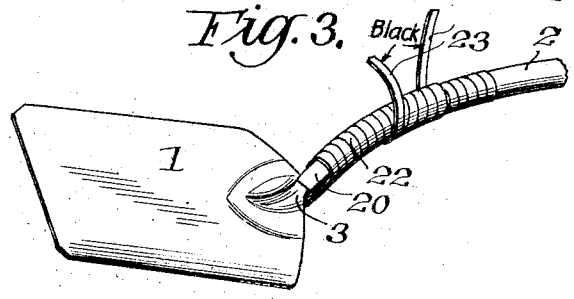
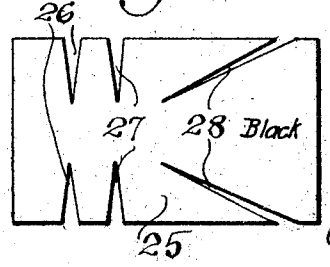


Fig. 4.



WITNESSES

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INSULATED TRACK-TOOL.

1,248,445. Specification of Letters Patent. Patented Dec. 4, 1917.

Application filed March 12, 1915. Serial No. 13,872.

To all whom it may concern:

Be it known that I, DANIEL L. BRAINE, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Insulated Track-Tools; and I do hereby declare the following to be a full, clear, and exact description thereof.

One of the objects of my invention is to insulate or protect portions of the handles of tools such as a shovel with insulating material so that the tools may be used with safety by workmen employed around the electrical zone of the railroads.

Another object of my invention is to utilize material of contrasting colors in applying the insulation to the track tools, so that when the exterior layers of insulation have become worn away by use, the color of the inside layer will be made to appear and thus give warning that the insulation on the tool should be replaced as the danger point has been reached.

Other objects will appear from the hereinafter description and claims.

The tools upon which my invention is preferably applied are the standard tools now used on all track work. It is my aim to provide the handles of the tools with a cheap insulation which will however stand the mechanical wear to which it is subjected and which will at the same time leave a free smooth surface for the action of the hand of the workman. Care is taken not to materially increase the diameter of the tool handle so that it will be clumsy in the hand of the workman.

Referring to the drawings which form a part of this specification;

Figure 1 is a perspective view of a form of my invention illustrated as applied to a standard track tool.

Fig. 2 is a perspective view showing the inner strips of insulating material in place and a portion of the first winding of insulating material.

Fig. 3 is a perspective view showing the first winding of insulation material in place and a portion of the second winding thereupon.

Fig. 4 is a blank of the outer cover of insulating material.

Fig. 5 is an enlarged section on line 5—5 of Fig. 1.

Fig. 6 is a perspective view of a shovel and its handle showing the construction of the portions to be insulated.

In a shovel of conventional construction as illustrated in Fig. 6, the blade or scoop portion is provided at one end with a tubular portion within which one end of the handle is inserted and at opposite sides of this tubular portion extend two tongues or projections to which the wooden handle of the shovel is secured by rivets or otherwise.

In the carrying out of my invention, I prefer to use as an insulating material a substance known by the trade-name as "vulcanized fiber." This material may be obtained on the market in sheets of sufficient thickness and length to be readily applied to the crook of the shovel, that is, at the junction of the handle and blade, or to any other track tool which it is desired to insulate.

In the drawings, like reference characters, refer to like parts;

1 is a conventional metal blade, 2 is a conventional wooden handle, 3 is the tubular portion on the blade within which one end of the handle 2 is inserted, 4 and 5 are the projecting tongues for embracing the handle and 6 the means for securing the blade to the handle.

In applying the insulating material, I first cover the iron portion of the shovel 4 and 5 which extends from the blade up and along the handle, with strips of fiber 20 and 21 (preferably red in color) as indicated in Fig. 2. These strips are applied to both sides of the shovel to cover the iron tongues or projections which extend along both sides of the handle. The insulating material is fastened to the shovel handle with a shellac or glue substance. I then wrap the shovel with a strip of black fiber 22 substantially three-eighths of an inch wide. The particular dimension of the strip specified is preferred, as it has been found by experiment to be the maximum width that will make a good mechanical joint over the crook in the shovel. I wind the strip 22 about the shovel handle in the following manner:

Starting from about the center of the crook in the shovel at the point 30, I wrap the three-eighth inch strip both ways so that the edges just touch and continue until the metal tongues or projections are completely covered. The ends of the strip are temporarily

fastened by string or tape and the wound strip constituting the first layer is then allowed to dry and shrink into place.

I then place a second layer of black fiber of substantially three-eighth inch width as indicated at 23 reversing the angle of winding as shown in Fig. 3, so that the joints or cracks of the first winding are covered. The second strip is also secured to the first strip by a shellac or glue substance, and as described above the ends are temporarily fastened and the strip is allowed to dry and shrink into place. I then cover the windings with a piece of black fiber 25, the blank of which is shaped as shown in Fig. 4. Three V-shaped slots 26, 27 and 28 are cut in each side of the blank at suitable angles as illustrated in Fig. 4. This blank is then applied to the shovel and is utilized to cover the winding strips leaving a smooth exterior surface, the temporary fastenings for the strip ends being first removed. The outer piece of fiber is glued down and shellacked and bound with a tape or any suitable bandage to hold it snugly in place until the glue properly dries.

Before using the fiber, it has been found very desirable to soak the same in water for a number of hours. After it has been soaked, and has been applied to the shovel, it will shrink in drying so as to grip the shovel very tightly, thus making a good mechanical structure.

The inner layers 20 and 21 are of a color which contrasts with the colors of the outer layers, and to this end I have found it desirable to make the color of the inner strips of insulating material of red and the remaining strips of black. As has been stated, when the outer black strips are worn away, the red strip will show itself, thereby warning the user of the tool that the danger point has been reached and that new insulation should be applied.

A suitable coating of varnish, preferably known as spar varnish, is applied to the insulation after it is in place and thoroughly dry to protect from wear and deterioration due to moisture from the weather or otherwise.

Any other suitable moisture-proof material may be substituted for the varnish for this purpose.

While I have shown certain features of my invention in the accompanying drawings, it is to be understood that said drawings are merely illustrative, and that I am not confined to what is there shown and herein described, in connection therewith, except as may be specifically set forth in the claims.

What I claim as new and desire to secure by Letters Patent, is:

1. A track tool, the handle of which is insulated from the operating part, the insulation contrasting in colors superposed longitudinally thereof.

2. A track tool, the handle of which is insulated at those portions grasped by the operator when using the tool, the insulation consisting of layers of contrasting colors.

3. A track tool consisting of a metal operating portion, a handle, a connection between the two extending a substantial distance along the handle, and an electrical insulation covering said connection.

4. A shovel having an insulation applied to the handle thereof consisting of several layers of insulating material, an inner layer thereof being of a color which contrasts with the color of the outer layers.

5. In combination with an implement of the character designated consisting essentially of a metallic tool secured to a wooden handle by metallic straps integral with the tool, a protector comprising an envelop of non-conducting material covering and insulating the said metallic straps, for the purpose described.

6. In combination with an implement of the character designated consisting essentially of a metallic tool secured to a wooden handle by metallic straps integral with the tool, a protector comprising an envelop of non-conducting material covering and insulating the said metallic straps, said envelop consisting of sheet material shaped to conform to the reverse curve of the juncture between tool and handle as to the straight portion of the handle, for the purpose described.

In witness whereof I have hereunto set my hand at the borough of Manhattan, city, county and State of New York, this first day of March, 1915.

DANIEL L. BRAINE.

In presence of—
FRANK EUFEMIA,
JOHN J. RANAGAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."