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MEANS FOR REMOVING STATIC ELECTRICITY

Filed May 26, 1928

Fig. 1.

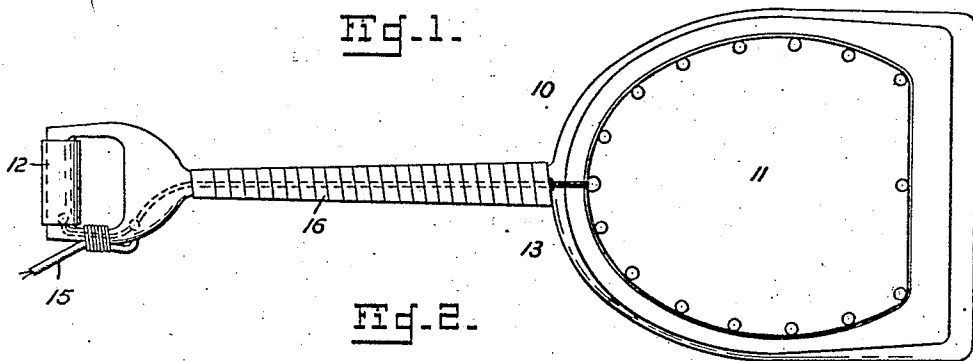


Fig. 2.

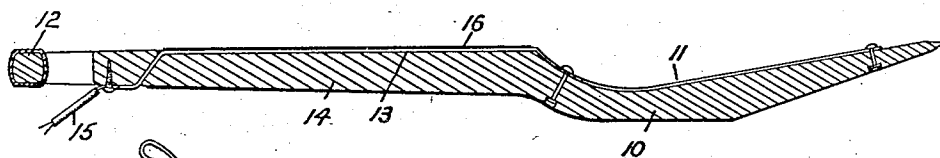


Fig. 3.

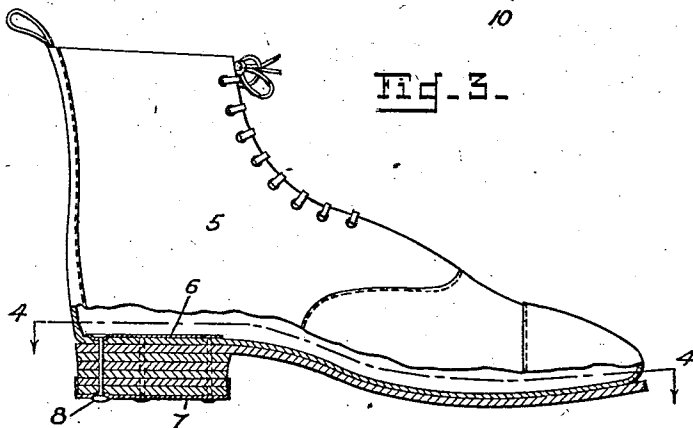


Fig. 4.

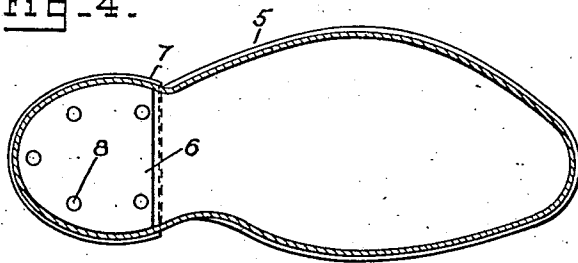
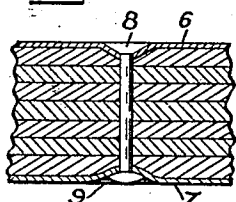


Fig. 5.



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MEANS FOR REMOVING STATIC ELECTRICITY.

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(GRANTED UNDER THE ACT OF MARCH 3, 1883, AS AMENDED APRIL 30, 1928; 370 O. G. 757.)

This invention relates to a means for removing static electricity from material and from the body of an operator handling it.

The bins or compartments in which smokeless powder is stored are of metal but as the powder is a very poor conductor of electricity the grounding of the metal walls of the bin is of no protection when that portion of the powder not directly contacting the walls is undergoing movement. When an operator causes such movement of the powder by walking on it or thrusting a tool into it electricity is generated to such an extent that when accumulated in the body of the operator or in the powder its discharge may result in the ignition of dust and inflammable vapors and produce a fire or explosion.

In the present invention it is proposed to eliminate this hazard by preventing the accumulation of static electricity and this is accomplished by grounding the operator as well as the tool he is working with.

The equipment is illustrated in the accompanying drawings, in which

Fig. 1 is a plan view of the shovel;

Fig. 2 is a longitudinal sectional view of the shovel;

Fig. 3 is a view in elevation of a shoe, the sole being shown in section;

Fig. 4 is a detail view taken on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view of the heel showing the connection therethrough.

In carrying out the invention it is proposed to equip the operator with shoes having a metallic insole 6 and a metallic outsole 7 connected by metallic rivets 8, the connections 9 being soldered. As a result when the operator is standing on a grounded metallic floor and is handling a material like smokeless powder in such a way as to cause generation of static electricity the charge will be removed through the grounds in his shoes.

The tool for handling the material is illustrated in Figs. 1 and 2 as a wooden shovel 10

having a metal lining 11 and a metal grip 12. The lining and grip are connected by a conducting wire 13 embedded in the handle 14 and a grounding wire 15 is connected to the conductor adjacent the grip. A tape 16 may be used to conveniently hold the conducting wire 13 in place. When the operator is obliged to stand on the powder in order to wield his shovel the static electricity which is generated upon movement of the powder is removed by means of the shovel from the body of the operator as well as from the powder.

While the invention is described in connection with a shovel for handling smokeless powder its application to other forms of tools and to other kinds of similar behaving materials will be apparent.

I claim:

1. Equipment for an operator handling a material which upon movement generates static electricity comprising a grounded shoe for the operator, and a tool having a grounded grip portion and a grounded material engaging portion.

2. Equipment for handling a material which upon movement generates static electricity consisting of a tool having a grip portion and a material engaging portion, and means for grounding both of said portions.

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