

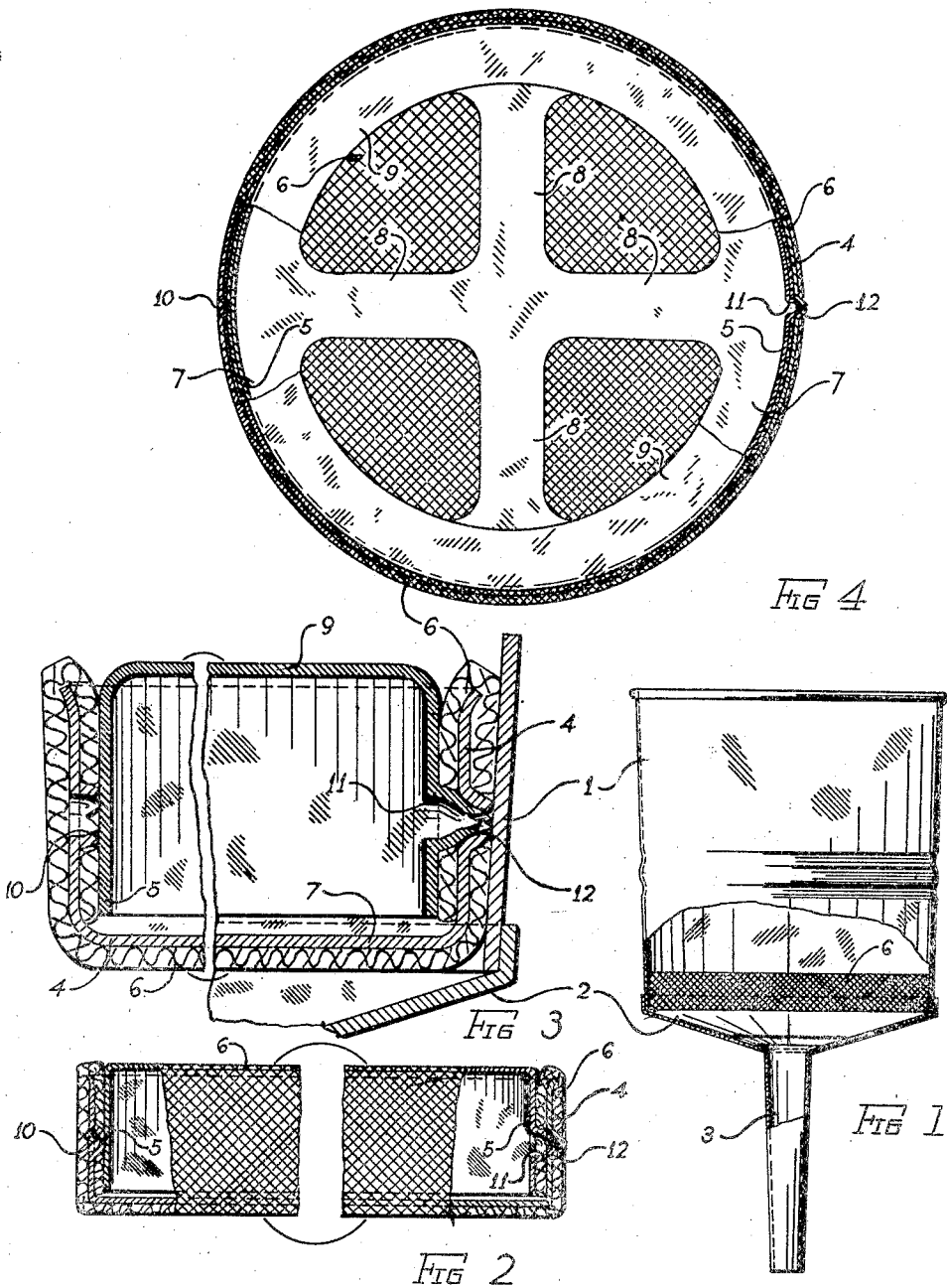
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FILTERING FUNNEL

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FILTERING FUNNEL

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4 Claims. (Cl. 210-159)

This invention relates to filters, it more particularly relating to a filter which is used in connection with a funnel for filling lamps, stoves, automobile tanks, and so forth with gasoline or kerosene.

In the use of filters of this character it has been found that liquid fuel such as gasoline under certain atmospheric conditions becomes ignited in the funnel by reason of a discharge of static electricity which accumulates upon the metal portions of the filter when they are insulated from the funnel.

It is the object of the present invention to eliminate this danger by providing simple and effective means for dissipating the static electricity as fast as it accumulates.

In the accompanying drawing:

Fig. 1 is a view partly in side elevation and partly in vertical section of a funnel and the filter which is employed therein.

Fig. 2 is a vertical section of the filter.

Fig. 3 is an enlarged vertical section of a portion of the filter and funnel.

Fig. 4 is a top plan view of the filter.

Referring to the drawing, the metallic body of the funnel is indicated at 1, this body having a slight downward taper and having a conical bottom 2 to which is centrally attached a discharge spout 3.

The filtering device in the present case has an outer metallic ring 4, an inner metallic ring 5 and a filtering element proper 6 which is held in position by the two annular rings. The lower edge of the outer ring 4 has an integral inturned flange 7 which is connected by integral cross members 8. The upper edge of the inner ring 5 has an inturned flange 9.

The filtering element, which in the present case is made of felt, is stretched across the under side of the flange 7 and its cross members 8 of the outer ring 4, then positioned along the outer surface of the ring 4, and the inner ring 5 is then pressed to position within the outer ring so as to clamp the felt firmly in position between the two rings.

In order to eliminate the danger of ignition of gasoline or other liquid fuel by the discharge of accumulated static electricity, I provide simple and effective means for dissipating the static by electrically connecting the two rings and also electrically connecting the outer ring with the body of the funnel. Before the parts of the filter are assembled the outer ring is punched inwardly, this punching being indicated at 10. The punching results in effect in a series of sharp

teeth which penetrate the felt so that the teeth will be in electrical contact with the inner ring 5. After the parts have been assembled both the inner ring and outer ring are punched outwardly, the punching of the inner ring being indicated at 11 and the outer ring at 12, the punching of the outer ring 12 projecting slightly beyond the felt so that when the filtering element is forced to position in the conical body of the funnel this punching 12 will be in electrical contact with the inner surface of the body of the funnel. When this latter punching is made the one 11 will be in the nature of sharp teeth which usually effectively penetrate the felt and will be forced into electrical contact with the punching 12, but this is not altogether reliable as the felt sometimes becomes impinged between the two punchings and acts as an insulator. It is for this reason, therefore, that I first provide the punching 10 which is of a toothed or jagged character which may be caused to readily penetrate the felt when it is positioned on the outer ring before the inner ring has been inserted so that this insures a good electrical contact between the two rings.

The cross bars 8 being in contact with the filtering medium serve to collect the static electricity from the filtering medium and these cross bars also incidentally protect the filtering medium from mechanical injury.

Having thus described my invention, I claim:

1. A metallic funnel, a filter for said funnel adapted to be positioned therein, said filter consisting of an outer metallic ring and an inner metallic ring, a filtering element clamped between said rings, an inwardly extending metallic projection on said outer ring penetrating said filtering element and contacting said inner ring to place said rings in electrical contact with each other, and an outwardly extending metallic projection formed on said outer ring to place said outer ring in electrical contact with the body of the funnel.

2. A metallic funnel, a filter for said funnel adapted to be positioned therein, said filter consisting of an outer metallic ring and an inner metallic ring, a filtering element stretched over said outer ring and having its edges clamped between said rings, a sharp projection formed on said outer ring and projecting inwardly through the filtering element and in contact with said inner ring, and an outwardly extending metallic projection formed on said outer ring adapted to contact with the body of the funnel.

3. A metallic funnel, a filter for said funnel adapted to be positioned therein, said filter con-

sisting of an outer metallic ring and an inner metallic ring, a filtering element stretched over said outer ring and having its edges clamped between said rings, a sharp projection formed on said outer ring and projecting inwardly through the filtering element and in contact with said inner ring, and aligned outwardly extending metallic projections formed on said rings, the projection on the inner ring adapted to penetrate the filtering medium and the projection on the outer ring adapted to contact the inner surface of the body of the funnel.

4. In a metallic funnel, a filter for said funnel

adapted to be positioned therein, said filter consisting of an outer metallic ring and an inner metallic ring, a filtering element clamped therebetween, the lower side of said outer ring having an integral intumed flange, cross members connecting said flange, said cross members being in contact with said filtering medium, means for placing said outer and inner rings in electrical contact with each other, and means for placing said outer ring in electrical contact with the body of the funnel.

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