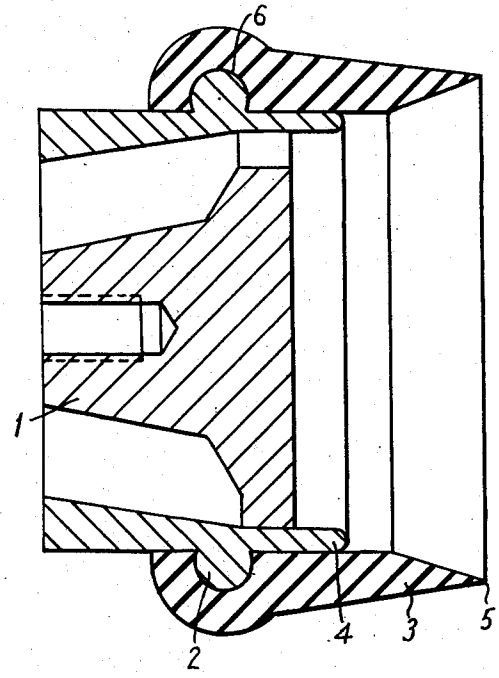
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SPRAY HEAD FOR ELECTROSTATIC SPRAYING APPARATUS

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SPRAY HEAD FOR ELECTROSTATIC SPRAYING APPARATUS

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The present invention relates to improvements in rotating heads for electrostatic atomisation and spraying, having a sharp or tapered edge for electric leakage and combining electrical atomising with atomisation by centrifugal force. Such heads are employed in portable, stationary or semi-portable apparatus for coating objects with fine particles of material, such as paint for example.

It is known that such an electrostatic head may be made of a material which is only slightly conductive, so as to avoid the possible danger which would arise if the head is brought close to an object which has a large difference of potential relative to it.

The present invention comprises a rotatable head for electrostatic atomisation and spraying having a sharp or tapered edge for electric leakage and combining electrical atomising with atomisation by centrifugal force, more particularly for coating objects with substances such as paint, wherein the head comprises a body portion to which is secured a detachable collar which projects forwardly from the body portion and is provided with the sharp or tapering atomisation edge, said collar being made of a high resistivity material.

The invention will now be further described with reference to the accompanying drawing which is a cross-section through one embodiment of atomising head according to this invention.

Referring to the drawing, the body **1** of the head is constituted by a rigid generally cylindrical member made of metal or of a high resistivity material, for example a suitable plastic material. The external surface of this member is provided with a surrounding rib **2** on which it is easy to fix a detachable collar **3** having a complementary groove **6**.

The collar **3** is made of a high resistivity material, for example of an epoxy resin having a lamp black or "carbon black" filling. It could also be made of slightly conductive rubber. Generally speaking, the material utilised must preferably have a resistivity of the order of 10^6 ohms/cm. This being so, the resistance of the head measured between the axis of rotation and the plane of the atomisation edge, amounts to a few megohms. The outlet end of the member **1** may have a relatively rounded edge **4**, while the collar **3** will be provided with the sharp or tapering atomisation and spraying edge **5**.

This construction has a number of advantages since it is particularly robust and stands up well to use. Moreover by making the collar detachable it can easily be replaced after wear or deterioration. Additionally it can be replaced by a collar of a different shape in order to achieve a different spraying effect.

It will be clear that various modifications may be made

without departing from the scope of the present invention. Thus the rib may be formed on the interior surface of the collar to engage with a groove on the external surface of the body **1**.

We claim:

1. A spray head for an electrostatic spraying apparatus for coating objects with a material such as paint, said spray head comprising a generally cylindrical body portion, a collar of an electrically high resistivity material having a resistivity of the order of 10^6 ohms/cm. detachably secured to the external surface of said body portion and having a part which extends forwadly of the body portion and which includes a tapering edge.

2. A spray head according to claim 1, wherein said high resistivity material is a synthetic resin incorporating lamp black.

3. A spray head according to claim 1, wherein said high resistivity material is a slightly conductive rubber.

4. A spray head according to claim 1, wherein the body portion of the head is made of an electrically conducting material.

5. A spray head for an electrostatic spraying apparatus for coating objects with a material such as paint, said spray head comprising a generally cylindrical body portion, a collar of a material having a electrical resistivity substantially of the order of 10^6 ohms/cm. detachably secured to the external surface of said body portion by means of at least one rib on said body portion which engages with at least one complementary groove on said collar, and a part of said collar which projects forwardly from the body portion and which includes a tapering edge.

6. A spray head for an electrostatic spraying apparatus for coating objects with a material such as paint, said spray head comprising a generally cylindrical body portion, a collar of a synthetic resin material incorporating lamp black having an electrical resistivity substantially of the order of 10^6 ohms/cm. detachably secured to the external surface of said body portion by means of at least one rib on said body portion which engages with at least one complementary groove on said collar, and a part of said collar which projects forwardly from the body portion and which includes a tapering edge.

7. A spray head for an electrostatic spraying apparatus for coating objects with a material such as paint, said spray head comprisnig a generally cylindrical body portion, a collar of a slightly conducitve rubber having an electrical resistivity substantially of the order of 10^6 ohms/cm. detachably secured to the external surface of said body portion by means of at least one rib on said body portion which engages with at least one complementary groove on said collar, and a part of said collar which projects forwardly from the body portion and which includes a tapering edge.

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