

942,959



# PATENT SPECIFICATION

DRAWINGS ATTACHED

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## COMPLETE SPECIFICATION

### Improvements in and relating to Getter Materials

We, S.A.E.S. S.p.A., an Italian Corporate Body of Via Gallarate 215, Milan, Italy, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to getter materials for maintaining the vacuum in evacuated enclosures such as electronic tubes. According to this invention a getter material consists of an alloy based on aluminium and zirconium.

It is known that zirconium is a very active getter material. It presents however, some disadvantages, among which the most important are its ready flammability in air and the excessive quantity of gas which is freed from it by heating.

This latter disadvantage is accentuated when, in order to obviate the former disadvantage the zirconium is used as a mixture with aluminium powder.

The present invention provides a new getter material which, although having a high activity in the usual operating conditions, has however a relatively low activity in air and which, particularly, liberates little gas when it is activated in the interior of an evacuated enclosure by heating.

It has been found that a highly satisfactory getter material is provided by an alloy of Zr—Al, in which the content of Al is com-

prised between 1% and 40% in weight; particularly by an alloy with a content of Al comprised between 10% and 20% in weight.

A particularly efficient alloy is that containing 16% in weight of Al.

The accompanying drawing is a curve showing the absorption speed of the alloys based on zirconium and aluminium, at the various contents of Al at the temperature of 400°C for nitrogen.

As can be seen from this curve, the maximum absorption is achieved by an alloy having a content of 16% aluminium in weight.

#### WHAT WE CLAIM IS:—

1. A getter material consisting of zirconium alloyed with aluminium, the aluminium being present in the proportion of 1% to 40% of the total weight of aluminium and zirconium.

2. A getter material consisting of zirconium alloyed with aluminium, the aluminium being present in the proportion of 10%—20% of the total weight of aluminium and zirconium.

3. A getter material consisting of zirconium alloyed with aluminium, the aluminium being present in the proportion of 16% of the total weight of aluminium and zirconium.

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