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[54] **METAL HYDRIDES LAMP AND FILL FOR THE SAME**

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[58] **Field of Search** 313/638, 637, 313/567, 639, 640, 641, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577

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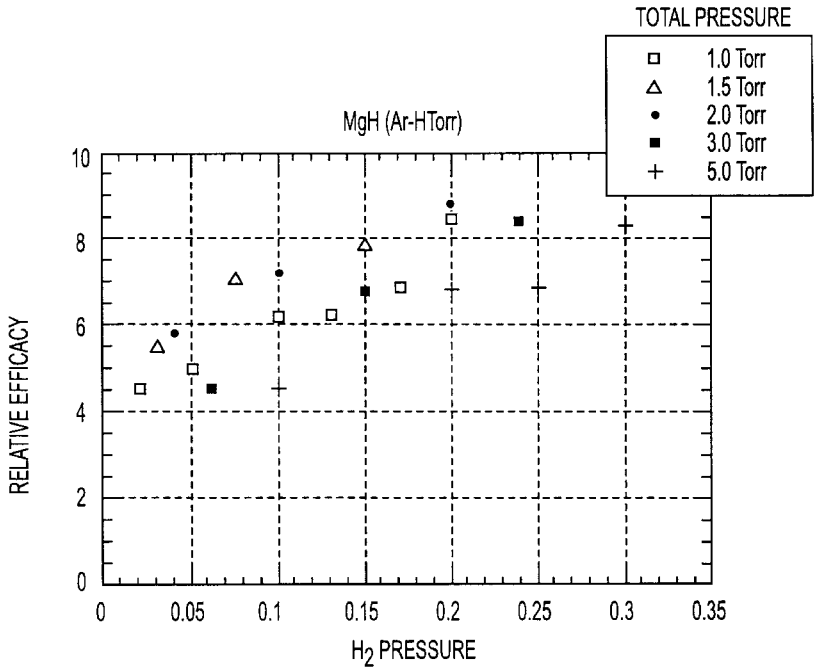
[57] **ABSTRACT**

The present invention is directed to a metal hydrides lamp and a fill for such a lamp. The lamp chamber includes a fill of at least one metal, a buffer gas, and hydrogen and/or deuterium. When energy is provided to the fill, metal combines with the hydrogen and/or deuterium to form a molecule at an excited energy level which emits visible light when the molecule moves to a ground state energy level. The lamp may be an electrode lamp, an electrodeless lamp, a microwave lamp, or any other power source capable of imparting energy into a fill contained within a lamp chamber.

24 Claims, 6 Drawing Sheets