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ART OF EXTINGUISHING BURNING MAGNESIUM AND THE LIKE

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2 Claims. (Cl. 252—2)

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The invention described herein may be made and used by and for the Government of the United States for governmental purposes without the payment to us of any royalty therefor.

This invention relates to extinguishing of burning magnesium bombs and the like and aims generally to improve the same.

The subject matter originally disclosed in this specification has been divided. Accordingly, the complete disclosure of the several species of the invention and our claims to the preferred crystalline species thereof, have been set forth in our Patent No. 2,294,532, granted September 1, 1942, on a division of the present specification. Pursuant to a requirement of the Patent Office that the complete disclosure not be repeated herein, the present description has been restricted to the species claimed herein, without prejudice, and the full description contained in our divisional patent is incorporated herein by reference for completeness of disclosure.

The species of invention claimed herein are those described more particularly at the top of column 1 and the top of column 2 on page 2 of our divisional Patent No. 2,294,532 but not claimed therein. These species comprise comminuted tuffs and volcanic ash which are non-crystalline extinguisher materials, as distinguished from crystalline forms of such materials which when comminuted are even more desirable extinguishers than the non-crystalline forms under certain conditions, and which are claimed in our said divisional patent. The features of the crystalline forms rendering them patentably distinct from the subject matter claimed herein, and the reasons which it is thought account for their superiority under specified conditions are set forth in the specification of our divisional patent.

For the reasons set forth in our divisional specification the tuffs and volcanic ash extinguishers according to the present invention are preferably prepared for use by crushing or grinding and screening to obtain a particulate vitrescible extinguisher substantially free from particles finer than 200 mesh, and composed chiefly of particles ranging in size from 10 to 200 mesh. It is not necessary, for the purposes of this invention that the range of sizes include any very small particles, as our research has shown that a commercially screened body of vitrescible-including particles substantially all larger than 20 mesh, and for the most part smaller than 10 mesh is a very satisfactory extinguisher, and that the inclusion of smaller sizes, particularly those larger than 200 mesh (making available very roughly graded material) is not deleterious, so long as there is a sufficient quantity of larger particles present to engage with one another and prevent undue slumping of the material, a characteristic of fine powders particularly when agitated by effluent gases. It is therefore deemed that the term "comminuted" as distinguished from powdered, or from merely crushed, most aptly defines the appropriate genus of sizes.

In extinguishing a burning magnesium bomb in accordance with this invention it is only necessary to wait the prescribed time to enable burning out of the thermite core (and detonation of any possible explosive charge) and to then deposit on the burning bomb in any suitable manner, as with a long-handled shovel and thereafter from a bucket, a sufficient overspread of the particulate vitrescible material to completely cover it.

Further details of the mode of practicing the invention and the mode of operation thereof as well as the effect of inclusion of smaller or larger particles in the extinguisher in minor amount, are set forth in our divisional Patent No. 2,294,532 and herein incorporated by reference.

From the foregoing description it will be clear that the present invention is not limited to the specific embodiments disclosed to illustrate the same. For example, the segregation of an appropriate quantity of vitrescibles to constitute an extinguisher of the class described may be accomplished in any suitable way, segregation in a bucket being representative of segregation in any other form of package or container, as will be obvious to those skilled in the art.

In accordance with the line of division established between the subject matter retained herein and that claimed in our Patent No. 2,294,532, we claim as our invention herein:

1. The method of extinguishing burning molten magnesium and the like which consists in applying directly to the surface of the burning metal a quantity of comminuted material selected from the group consisting of tuffs and volcanic ash, which are naturally occurring glassy rocks rich in alkali aluminum silicate ingredients.

2. A new manufacture packaged for use on, and constituting a fire extinguisher for direct application to the surface of, burning molten magnesium and the like, consisting essentially of material selected from the group consisting of tuffs and volcanic ash, which are naturally occurring glassy rocks rich in alkali aluminum silicate ingredients and prepared in the form of graded small sized particles for the most part lying within the range of 200 to 10 mesh sizes.

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