

## RECONSTITUTION DEVICE

## FIELD OF THE INVENTION

[001] The present invention relates to methods for reconstituting and relates to reconstitution devices suitable for reconstituting many different materials. Furthermore, the present invention includes methods of treatment and methods of use related to a reconstitution device or apparatus.

## BACKGROUND OF THE DISCLOSURE

[002] In the pharmaceutical industry, the step of reconstituting a drug or other material is well known. Many pharmaceutical compositions are not capable of being stored for extended periods of time since their potency may change. In order to overcome this problem of a short shelf life, such pharmaceutical products are stored as a solid component and a liquid component. Prior to use, the two components must be mixed together.

[003] Furthermore, while preservatives are effective in preserving some ingredients included in a pharmaceutical composition, such preservatives may cause adverse reactions with other ingredients of the pharmaceutical composition, namely the active ingredient, and result in degradation and/or spoilage. In some situations, refrigeration may be used to combat degradation or spoilage of a pharmaceutical composition. However, refrigeration is not always accessible and administration of a cooled pharmaceutical composition may reduce the effectiveness, namely solubility and penetration, of the pharmaceutical composition.

[004] Although many reconstitution systems are directed for use with a powdered solid component and a diluent component, there are also occasions when other forms of material may be utilized. Thus, the reconstitution system may employ two liquids, or a semi liquid component such a paste along with a second component which is typically a liquid.

[005] Several problems must be addressed in any reconstitution device such as the problem of obtaining a proper mixture. For highly soluble products such as a powder and a diluent therefore, a simple mixing of the two components is

## RECONSTITUTION METHODS

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