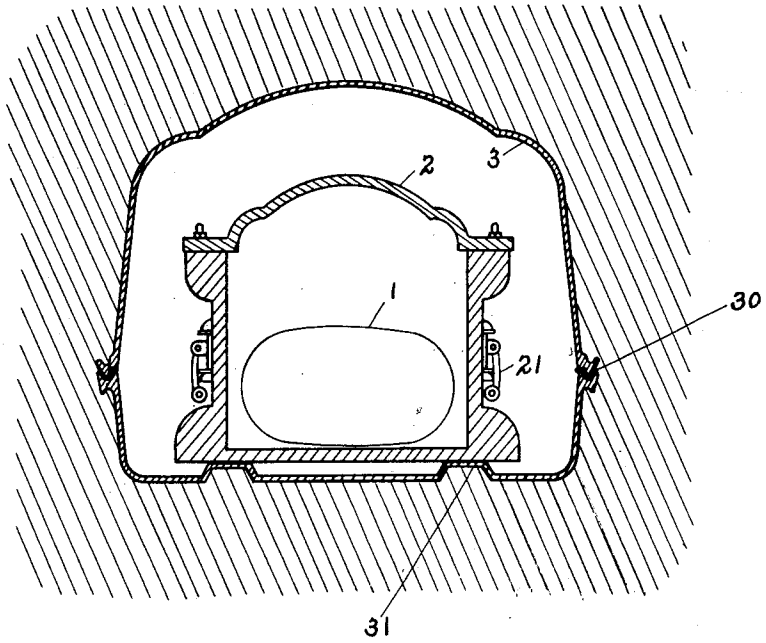
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METHOD OF PRESERVATION

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METHOD OF PRESERVATION

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This invention relates to methods of preservation, and consists in employment of certain materials in certain associations, in consequence of which buried bodies may be preserved without appreciable decay during indefinitely long periods of time. Its practical value is found in human burials.

The accompanying drawing is a view in cross-section through the vault and its contents, of a burial, and to it reference will be made in explanation of the invention.

The burial of the invention consists of a corpse 1 within a casket 2; the casket in turn is contained within a vault 3; and the vault shown is such a vault as may be, and ordinarily it will be, placed underground, in a grave.

The particular construction of the vault is not of the essence of the invention; nevertheless, since the character of the vault is a factor in the continued integrity of the burial, I preferably employ a cast-iron vault, formed of two continuous and imperforate shells, united in an hermetically sealed line of union 30. Such a vault has durability underground and is effective to maintain its contents isolated underground for an indefinitely long period of time. The bottom of the vault is advantageously formed with raised bosses 31, upon which the contained casket 2 may immediately rest.

The casket 2 is of such form and material as is preferred; and, since considerations of custom enter in, my invention does not contemplate alteration in the materials used in the construction of the casket, but rather it accepts the conventional thing and makes provision accordingly. Ordinarily the casket is a wooden box, covered with and lined with fabric and equipped with metal handles 21. It need not be—and, with the usual practice in mind, ordinarily will not be—water-tight; and to the usual practice alluded to the invention is adapted. The casket rests upon the rails 31 and otherwise stands free of contact with the floor of the vault. The corpse 1 within the casket 2 is clothed and disposed in accordance with custom.

It is entirely possible before burial to bring about thorough sterilization of a human corpse; but the accomplishment requires several months, and involves many injections of embalming fluid. While, therefore, preservation of a corpse against dissolution is a desideratum, burial customs forbid its accomplishment in any such manner as that suggested.

The immediate processes of decay of a buried corpse—particularly if the corpse shall already have been embalmed—involve the growth of aerobiotic organisms; and, accordingly, my invention includes provision for the elimination of oxygen and moisture from the atmosphere in which the buried corpse is enveloped. The processes of decay further involve the growth of fungis, and my invention includes provision of a growth-inhibiting content in the atmosphere in which the buried corpse is enveloped. Inevitably a buried corpse contains a water content which after burial gradually frees itself and, but for provision to the contrary, would collect in relatively large amount in the bottom of the casket, and passing thence would collect in the vault; and the moisture so released would be effective to promote decay. My invention further includes provision such as to render this moisture ineffective.

In the burial of my invention there is placed with the corpse within the casket a suitable quantity of a reducing agent. This reducing agent may be pyrogallic acid in a slightly alkaline solution; it may be linseed oil; or, again, it may be a quality of metal filings. In any case, its effect when the vault has been closed hermetically is to eliminate from the atmosphere of the burial its content of oxygen, and so to starve and render ineffective those micro-organisms which are dependent upon oxygen for their increase. It is placed within the casket because there it is in immediate association with the substances liable to decay. The preferred material is liquid and is carried in a suitable open container placed within the casket.

I include also within the casket and in immediate association with the corpse a proper quantity of a suitable hygroscopic material. Preferably I employ anhydrous sodium sulphate. Alternative materials are phosphorus pentoxide, slightly calcined aluminum hydroxide, and burnt lime. When burial is effected the vault and it contents are brought to a temperature somewhat lower than that under which the casket and the vault have been closed, and a temperature which ordinarily is substantially constant. Such lowering of temperature establishes a new vapor balance and tends to effect precipitation of moisture from the enclosed body of air and collection of moisture upon all surfaces. Hygroscopic material, present as described, is effective to take up this moisture and so to prevent precipitation upon surfaces where organisms of decay might otherwise flourish.

To prevent fungous growth I include within the casket a substance which will volatilize and con-

stitute a fungicide. Such a substance is paraldehyde, which may be introduced in the form of a solution in oil. Another suitable substance is paraformaldehyde; others are thymol, eugenol, and pine oil. Such liquid fungicide may be placed in a suitable open container and so placed within the casket. It is possible, alternatively, to provide a normally gaseous fungicide—carbon dioxide, or ethyleneoxide, or a mixture of the two (known commercially as carb-oxide)—introduced in liquid or even (in the case of carbon dioxide) in solid condition.

Within the vault and externally of the casket I include an additional quantity of hygroscopic material capable of taking up as it frees itself the water that during a longer interval of time separates from the substance of the corpse. This material may conveniently be anhydrous sodium sulphate, a substance that takes up more than its own weight of water, and in doing so passes from amorphous to crystalline form. The water enters as water of crystallization and does not continue as free liquid. Again, phosphorus pentoxide is available as a hygroscopic material, but, taking up water, it continues in liquid condition, and this I prefer to avoid. Other available materials are slightly calcined aluminum hydroxide and burnt lime. Of course, hygroscopic materials of many kinds are known; I am here content to name a few that are readily available and practicable for my purposes. This hygroscopic material is scattered on the floor of the vault before the closed casket is lowered to place within it.

The vault then is closed hermetically and the grave is filled.

A burial conditioned in the manner described is relatively durable; the corpse is protected against decay, and with the clothing upon it will continue in integrity for a long period of time.

I claim as my invention:

1. In the art of preservation, wherein a corpse is disposed within a water-pervious casket, which casket in turn is disposed within an air-tight vault, the method of preserving herein described, which consists in removing from the body of air isolated within the vault and casket its oxygen content by means of a reducing agent inclosed with the corpse within the casket, and maintaining the said isolated body of air free of water vapor by means of hygroscopic material inclosed within the vault, whereby the organisms of decay, deprived of the media essential to growth, are rendered inert.

2. In the art of preservation, wherein a corpse is disposed within a water-pervious casket, which casket in turn is disposed within an air-tight vault, the method of preserving herein described, which consists in removing from the body of air isolated within the vault and casket its oxygen content by means of a reducing agent inclosed with the corpse within the casket, and introducing into the said body of air a fungicidal content by means of a body of volatile fungicide inclosed with the body within the casket, whereby the organisms of decay, enveloped in an atmosphere forbidding growth, are rendered inert.

3. In the art of preservation, wherein a corpse is disposed within a water-pervious casket, which casket in turn is disposed within an air-tight vault, the method of preserving herein described, which consists in removing from the body of air isolated within the vault and casket its oxygen content by means of a reducing agent inclosed with the corpse within the casket, introducing into the said body of air a fungicidal content by means of a volatile body of fungicide inclosed with the corpse within the casket, and maintaining the said isolated body of air free of water vapor by means of hygroscopic material inclosed within the vault whereby the organisms of decay, enveloped in an atmosphere forbidding growth, are rendered inert.

ALLISON F. H. SCOTT.