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## Francis BENENATI

### Mummification Process

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Dr Francis Benenati, of the Catholic University of America at Brooklands, DC, is here seen holding a mummified rabbit. On the table in front of him are mummified fish. Dr Benenati recently announced the discovery of the long lost secret of Egyptian mummification. With the use of a fluid that he has developed he says he can restore the original freshness of a mummy by immersing it in cold water. Both discoveries are valuable additions to our knowledge.

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**GB 127559**

### Improvement in Processes for Preserving Matter

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Proofing.- Oil or juice obtained from plants of the genus Allium, especially from garlic, is employed for preserving animal and vegetable substances generally, such as paper and manuscripts, cloth, paintings on canvas, wood, silk, &c. The objects to be treated may be dipped in the juice and dried, left immersed in it, injected with it, or exposed to the vapour of the juice according to their nature and circumstances. When the objects are required for use, the juice may be washed out of them with water.

I, FRANCIS SALVATOR BENENATI, do hereby declare the nature of this Invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement: I have discovered that destructible matter such as animal and vegetable matter can be preserved indefinitely by saturating the same with an agent consisting of or containing oil of the family of plants to which the genus allium belongs namely, liliaceae and more particularly of the sativum or garlic species and afterwards restored or partly restored to its primary condition as hereinafter explained. The preservation of the matter is not due solely to the fact that the said agent excludes or protects the matter from the elements but is largely due to the germicidal, restorative, and healing properties of the allium. By animal matter is meant animal and human bodies or anatomical parts thereof and zoological, histological, anatomical, pathological and biological specimens.

By vegetable matter is meant, for example, such article: as paper, cardboard, canvas, silk or other cloth, paints, wood, wood products-, etc., which are destructible by bacteria.

Manuscripts on papyrus and parchments may also be preserved by treating with the said agent and I find that not only is the paper or parchment preserved but also the matter written or printed thereon whether by ink, pencil, or other material.

Broadly my process is applicable to any animal or vegetable matter capable of absorbing the preserving agent to the saturation point, that is, to such an extent that it cannot assimilate or contain any more.

The oil may be obtained by macerating and grinding the bulbs or the leaves or the bulbs and the leaves and pressing the juice therefrom and filtering.

It is known, that onion juice, or garlic juice, has a preservative action and several examples might be give,, of its use but it has hitherto been applied generally as a coating to the matter to be treated. For example, it has been proposed to treat porcelain, glass vessel,, or wooden vats by coating them with layers of garlic juice, each layer being allowed to dry before the next is applied. these layers forming an insulating coating which is resistant to water, chlorine and heat, but no suggestion has been made that this procedure might be continued indefinitely until the vessels are soaked with the garlic juice.

On the other hand it has been suggested that organic substances might he preserved by treating them with the products of dry distillation of garlic or onions, after placing the products through brine and alcohol.

Now in contradistinction to the known processes the process according to this invention consists in saturating the matter to be preserved with an agent. consisting essentially of an oil of the family of plants to which the genus allium belongs, for example, oil of garlic either in a volatile or fixed state and either full strength or diluted in water at any temperature between

freezing and boiling point, say at normal atmospheric temperature and either alone or mixed with a fixative as hereinafter described. The time required to saturate the matter, or specimens, depends upon conditions, such as the size and density, or porosity, of the matter, or specimen.

It is essential that the matter being treated be saturated in whatever manner the agent is applied. If the agent is injected arterially it must be allowed to soak into the matter to the saturation point and if applied to the surface it is absorbed and when the surface is dry the agent is again applied and so on until no more can be absorbed.

As hereinbefore stated the agent may be employed either in a volatile or fixed state. Certain matter, or specimens, may be preserved by treating with the agent in a volatile state, that is, by subjecting the matter to fumes of the agent which fumes condense on the matter and are absorbed thereby. In some cases, however, for example, in embalming bodies, the agent is applied in a 'liquid form, that is, in a fixed state.

After saturation the matter or the specimen may be dried and kept in dried condition until it is desired to restore it to its original condition of pliability, etc.

Histological, pathological, biological and anatomical specimens when treated by my process can be restored to their natural pliability, condition and volume for the purpose of study. Obviously, this in itself is a great advantage as shipping space can be reduced, as it is not necessary to ship the articles, or keep them stored until used, in cumbersome jars containing a preserving liquid.

The restoration of specimens, etc., which have been preserved as hereinbefore described, to their original condition may be effected by immersing said specimens in water until the germicidal agent has been washed out. It will thus be obvious that the scientific investigation of the tissues, etc., of any specimens may be postponed indefinitely without fear of any decomposition or changes taking place in the tissues.

If the specimens are to be used immediately, it will do no harm to keep them in the agent, although specimens preserved for future use are preferably dried.

The specimens may however be left in the agent indefinitely.

The oil of allium is generally used alone but in some instances in which the tissues or cells collapse or distort before the allium enters them. A fixative, as alcohol or formaldehyde, is used which causes the allium to enter the cells more quickly, in fact, so quickly that such tissues are preserved by the oil of allium in their original condition for histological, etc. studies.

It is only necessary to use a fixative when the cells are not supported by muscular tissue. The action of the gallium is the same in all cases, and alone is the preserving agent when absorbed into the matter to the saturation point.

In the case of paintings, paper, papyrus, parchments, manuscripts, etc the oil is applied to the surface of the article and when dry the application is reheated, as hereinbefore explained until the parts are saturated.

In applying my process for embalming bodies the agent may be injected into the body arterially or applied to the surface thereof, or both. or by immersion or dipping. The oil of ollum acts as aforesaid as a preserving agent to kill the bacteria which, would destroy or change the condition of the matter treated and does not act merely as a coating- to exclude air or the elements.

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## **US1331690**

### **Composition of matter**

This invention has for its object the production of a composition particularly applicable for healing purposes or treating by external application or by injection, certain diseases, particularly skin diseases. My healing composition consists of a mixture of pure gum camphor, oil of juniper berries, true oil of bitter almonds, fluid bay laurel, solution of menthol, 25% grain alcohol (95% proof), pure carbolic acid and a small amount of mercury bichloride.

In most cases, these ingredients are mixed with a suitable base as pure olive oil but in some instances olive oil can be omitted.

Preferably, the ingredients are mixed in equal amounts as hereinafter specified but good results can be obtained by varying the amounts so that they are not equal. In any case, a substantial amount of each ingredient must be used.

Usually, the composition consists of equal amounts of pure gum camphor, oil of juniper berries, true oil of bitter almonds, fluid bay laurel, solution of menthol, grain alcohol with a small amount of pure carbolic acid, and preferably the mixture consists of menthol, solvent or grain alcohol, 2% of carbolic acid and mercury bichlorid to the ratio of 1:1000 solution and 50% pure olive oil. The amount of olive oil is variable according to the age and physical strength of the person to whom the composition is to be applied.

The composition is preferably compounded as follows: The camphor is first dissolved in alcohol then the oil of bitter almonds, oil of juniper berries and fluid bay laurel; the carbolic acid, mercury bichloride and solution of menthol added in order.

The whole matter is then allowed to stand from a day to a week in order that chemical action may take place between them, or if no chemical action takes place, in order that each ingredient may act on or modify the others. It is my opinion, that a chemical action takes place.

The gum camphor, oil of juniper berries true oil of bitter almonds, fluid bay laurel and menthol are germicides and irritants.

I am of the opinion they act to some extent together and to some extent counteract each other. The carbolic acid is a disinfectant and the alcohol is a. neutralizing agent to the carbolic acid and also acts as a solvent and the menthol neutralizes the powerful effect of the bitter almonds, juniper and laurel.

The base is a cooling agent and a protector to tissues.

It is preferable to use fluid bay laurel but ordinary bay or extract of fluid made from any of the bay tree family may be used.

As before stated, my composition is applied by external application and can be used in some instances by injection and in the latter case the percentage of olive oil is increased.

My composition is particularly adapted to heal skin diseases such as psoriasis, eczema, ichthyosis, etc.

The olive oil acts as a counter-irritant and prevents the rapid penetration of the other ingredients of the composition where tissues are destroyed. It also prevents the drying of the small capillaries in diseased tissues, which capillaries help the work of reconstruction of the tissues, after the germs have been destroyed in the diseased tissues or parts. It also is a healing agent, especially in combination with other germicidal agents.

In some cases, the solution can be used without the olive oil. The pure gum camphor acts as a drying agent, the oil of juniper berries is a germicidal and an irritant.

The pure oil of bitter almonds acts as a germicidal agent, while the fluid of bay laurel acts as a mild stimulant. The solution of menthol acts as a neutralizing agent of poisonous qualities of other ingredients and also is a cooling agent. The carbolic acid acts as a germicidal agent and also the bichloride acts in its well-known and peculiar manner as a germicidal agent in certain cases. As before stated, the grain alcohol is a vehicle and solvent.

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