G. H. KERN & G. C. MARTIN.

MAUSOLEUM.

APPLICATION FILED APR. 21, 1915.

**1,189,203.** Patented June 27, 1916.

Fig. 1.

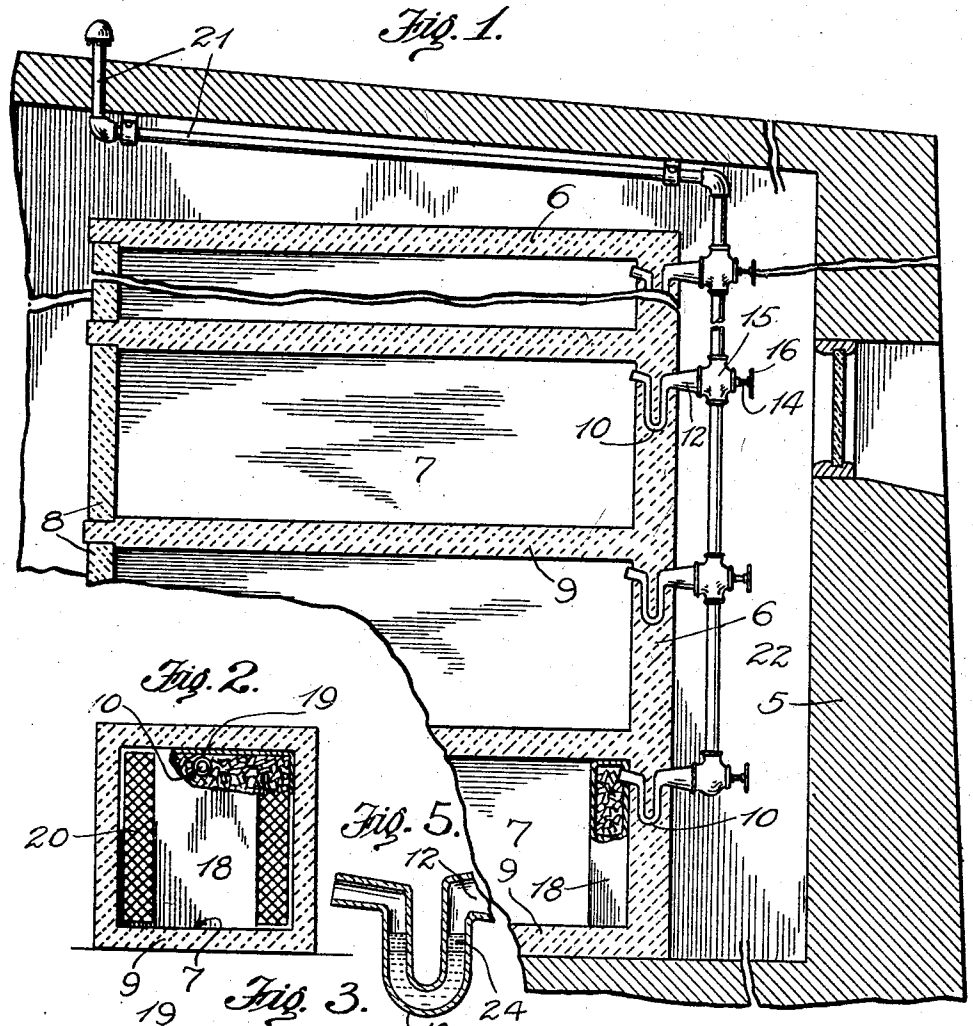



Fig. 2.




Fig. 5.




Fig. 3.

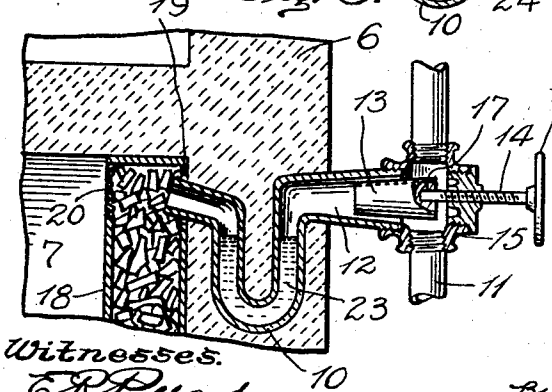
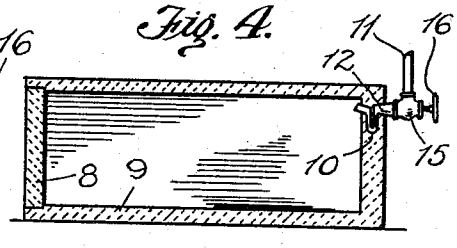



Fig. 4.




Witnesses.
E. R. Pollard.
Mattie Sinclair.

Inventors.
George H. Kern. and
George C. Martin.
By Cassell Severance
Atty.

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

GEORGE H. KERN AND GEORGE C. MARTIN, OF LOS ANGELES, CALIFORNIA.

## MAUSOLEUM.

1,189,203. Specification of Letters Patent. Patented June 27, 1916.

Application filed April 21, 1915. Serial No. 22,836.

*To all whom it may concern:*

Be it known that we, GEORGE H. KERN and GEORGE C. MARTIN, both citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Mausoleums, of which the following is a specification.

This invention relates to improvements in burial structures and particularly to mortuary inclosures, commonly known as mausoleums or tombs in which one or more bodies may be laid away and preserved or mummified.

It is an object of the invention to provide an improved mausoleum, sarcophagus or the like in which bodies of deceased persons may be preserved from excessive decomposition and the moisture thereof be rapidly absorbed, facilitating the mummifying and drying out of the remains.

It is also an object of the invention to provide a mausoleum or burial structure having one or more cells or crypts in which the bodies of the dead may be placed, means being provided in connection with the crypts whereby escaping gases may be absorbed and disinfected and deodorized, a suitable sealing means being provided for the purpose, which is guarded against evaporation, the said crypts being also provided with suitable closures or stopping devices whereby they may be positively closed after a suitable period following burial.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter more fully described and claimed.

In the accompanying drawing forming a part of this specification: Figure 1 is a vertical sectional view taken through a portion of a mausoleum showing the crypt or cell structure therein. Fig. 2 is a fragmentary detail sectional view through the mechanism controlling the escape of gases from the crypt structure. Fig. 3 is a longitudinal vertical sectional view through a single or individual burial or crypt structure. Fig. 4 is a detail transverse sectional view through one of the crypts or cells, looking toward the receptacle containing the charcoal or other absorbent material mounted in the end of the crypt. Fig. 5 is a detail sectional view through one of the sealing traps.

The burial structure of the present invention is designed to supply a superior means for receiving and preserving, drying or mummifying bodies of the deceased, in such a manner that the dead may be laid away in handsome or stately structures as may suit the taste. A mausoleum, sarcophagus or tomb having a crypt or cell structure made in accordance with the present invention, may be erected in any desired place without being in the least objectional and may be made as ornamental as may be desired.

In the accompanying drawing preferred forms of the invention have been illustrated, and the details and the features of the invention will now be more specifically described, reference being had thereto. In the said drawing 5 indicates a tomb structure or mausoleum, which may be of any desired size and architectural ornamentation. Within the building or tomb 5 one or more crypt structures are provided. As shown in Fig. 1 such a crypt structure is usually made monolithic, having an outer wall 6 in which are arranged or formed crypts or cells 7. The front ends of the cells 7 are normally closed by a door or closure 8 which is capable of being set in place in such a way as to hermetically seal the ends of the said crypts or cells. The crypts 7 are separated by the horizontal walls or floors 9. The whole crypt structure is preferably formed of cement concrete, affording a durable and effective structure for the purpose desired.

The crypts or cells 7 are generally made of a proper size to receive only a single body. They are provided with means for facilitating the drying or mummifying of bodies placed in them and preferably also with means for deodorizing and disinfecting the gases of decomposition. Each crypt or cell 7 has a U-shaped trap 10 which communicates at one end with the interior of the crypt, preferably through the rear end wall thereof and at a point near the top of the said crypt. At its other end each trap 10

preferably communicates with a suitable duct 11 arranged for conveying the discharged gases to any desired point. The traps 10 are usually almost entirely inclosed or embedded in the material of the rear wall of the crypt structure 6 and are preferably formed of tinned copper or other material which will not be subject to corrosion or disintegration or other destructive action to which they might be subjected in their use.

Each trap is filled with a suitable liquid, as oil, or formaldehyde with a liquid covering as of oil, to prevent evaporation, to such a height that air is prevented from passing inwardly through the trap at ordinary atmospheric pressure, but the gases formed by a partial decomposition of a body within the cell will be permitted to pass outwardly through the trap when the pressure of the gases is increased above that of the atmosphere.

When a suitable period has elapsed after burial in any of the crypts 7, it is desirable to positively and permanently close the vents formed by the traps 10. For this purpose the outer ends of the said traps are made with a long tapered bore 12 in which accurately fits a plug or closure 13. The said plug is also preferably made of pure copper like the trap and is provided with a stem 14 which is preferably screw threaded, and fits in a correspondingly threaded aperture formed in a T-coupling 15 which connects the outer end of the trap with the duct or vent pipe 11. The outer end of the said stem 14 is usually provided with an operating handle or wheel 16. The inner end of the stem 14 fits in a socket 17 formed in the end of the plug 13. The joint between the end of the stem and the said socket is made sufficiently snug and tight to permit the adjustment of a plug back and forth in the tapered end of the trap 10, but is preferably not so tight but that after once forcing the plug 13 tightly into the tapered bore 12 for permanently closing the trap, the stem will be pulled out of the socket 17 before the plug is loosened after being permanently seated. In this way accidental or unauthorized opening of the crypts will be prevented.

It is an important feature of the invention that an effective drying operation is secured for mummifying the contents of the crypts, by placing a suitable absorbent material within the crypts and usually in the end of each crypt adjacent to the trap. A holding means such as a casing 18 usually of sheet metal is preferably fitted in the end of each crypt said casing having an aperture 19 fitting upon the inner end of the trap 10. The interior of the casing 18 is filled with the absorbent material, preferably charcoal and the inner wall of the said casing is provided with one or more screen openings 20, generally arranged at the side edges of the casing as clearly shown in Fig. 5. The gases escaping from the crypt will thus be forced to pass into said screened openings, through the charcoal and then through the traps 10 in order to reach the vent pipe or duct 11. The duct 11 is usually connected with suitable piping 21 which extends to the top of the building or mausoleum so that the gases may escape into the atmosphere, high above any point where they could be objectionable to any one.

The use of oil or a liquid of similar properties in the traps as at 23 either alone, or as at 24 as a covering for the germicide or deodorant, disinfectant or the like, as is generally the case, coöperates with the action of the absorbent material, in accomplishing the drying and mummifying of the remains in the crypts. The oil prevents the entrance of moisture from the atmosphere, and where a disinfectant is placed in the traps, said oil which does not evaporate to any appreciable extent, floats on top of the liquids in the trap and prevents evaporation from the traps either into the crypts or into the atmosphere. If it were not for this covering the charcoal in the crypt would absorb moisture from the trap, and moisture from the trap would also be taken up by the exterior atmosphere, so that each trap would soon dry out and would require frequent refilling. By guarding against the entrance of moisture into the crypts either from the traps or from the atmosphere, the charcoal is prevented from becoming overcharged with moisture, and the charcoal will have sufficient absorbent capacity to take up not only the moisture in the small amount of air in the crypts, but substantially all the moisture of the bodies placed in said crypts.

In arranging the crypts or cells 7 in the mausoleum, they are so built that a passage 22 is left between the outer wall of the structure and the ends of the crypts which contain the traps. The hand wheel 16 can thus be easily reached for closing the traps by means of the plugs 13, at the proper time.

Instead of applying the invention to a burial structure having a plurality of crypts or cells however, it is obvious that the invention may be developed in the form of a single receptacle or individual crypt as illustrated in Fig. 3, the structure of the crypt being substantially the same as when a group of them is formed as shown in Fig. 2. In either case however, it will be understood that the improved burial structure may be manufactured at any convenient place and transported as a whole to any desired destination, or it may be constructed upon the place where it is intended to be used. The traps and the mixture for forming the seals may obviously be manufactured as separate articles of commerce if desired.

In carrying out the steps of this invention and with the body placed in a crypt of the structure set forth, the first stages of decomposition or fermentation take place relative to the more fluid parts of the body. Fermentation of these parts gives rise to the generation of carbon dioxid, which if prevented from escaping from the crypt by the sealing of the door 8 and the placing of liquids and other materials in the trap 10, will in a short time rise above the level of the body around which it stands by reason of its being heavier than air, and at once because of its peculiar properties, the decay of the body is materially retarded. During the generation of carbon dioxid, other gases are formed, notably sulfureted hydrogen. This gas must be permitted to escape during the period of its formation. The gas being lighter than air will naturally go to the top of the crypt where in the practice of my invention it is permitted egress through the trap. Before reaching the trap however the sulfureted hydrogen and other light gases must pass through the casing 18 and through the deposit of the charcoal placed therein and upon the sulfureted hydrogen coming in contact with the charcoal, it is absorbed thereby and then upon chemical reaction, the hydrogen unites with the oxygen of the atmosphere and the sulfur is deposited.

In the trap 10, is placed at the time the body is deposited in the crypt, a solution of formaldehyde, as above intimated and usually with the addition of some charcoal and other chemicals, through which the gases must pass in escaping from the crypt into the air, and said gases are thereby thoroughly cleaned and purified, the formaldehyde acting as usual as a germicide. The fluid in the trap serves as an absolute closure against the admission of atmospheric air into the crypts after it has been closed and sealed, although at the same time it permits the escape of gases whenever the pressure in the crypt exceeds the pressure of the atmosphere. The charcoal in the casing 18 rapidly absorbs the moisture in the crypt and in the course of very few hours all the moisture in the small quantity of atmospheric air in the crypt is taken up and later it gradually absorbs all the moisture from the body. As above intimated the oil or other similar non-evaporable substance which fills the trap or floats upon the top of other liquids therein, and which will not evaporate to any appreciable extent, prevents the charcoal from absorbing the moisture from the trap and also prevents the evaporation from the trap, exteriorly to the atmosphere. It will be evident also that other liquid substances having substantially the same properties as those of the oil, may be substituted therefor within the spirit and scope of the invention.

It is essential that the crypt be kept open to the vent duct until all gases formed have been permitted to escape, and not to force the plug or closure 13 tightly into place until all the gases have been absorbed or permitted to escape and the body has entirely dried out.

The trap 10 is as heretofore stated preferably constructed of pure copper and when so constructed it is sufficiently malleable to accommodate itself to all conditions of shrinking, setting, etc., of the walls and crypt in which it is cast and of which it becomes an integral part. Before being set in the cement however, the trap is usually heavily tinned to make it absolutely impervious to the action of any gases combined with the fluid or the charcoal that is in the solution placed in the trap. The copper trap will also fit closely the contour of the plug 13. If desired however the plug may be coated with bitumen so that the closing of the vent will be complete beyond any doubt, the passage of air, moisture or gases being absolutely prevented after the plugs are forced into tight position in the flaring ends of the traps.

It will be readily understood that the minor details of the structure may be modified within the scope and spirit of the invention and that various absorbent materials and disinfecting and deodorizing agents may be employed without departing in the least from the spirit of the invention.

What is claimed is:

1. A burial structure comprising a crypt having a trap in the walls thereof provided with a depressed portion adapted to contain liquids, one end of the trap opening into the crypt while the other opens outside the same, a non-evaporable fluid in said trap, charcoal interposed between the contents of the crypt and said trap and means for holding the charcoal in place, whereby all gases passing through the trap must also pass through said charcoal.

2. A burial receptacle having a vent trap in one of its walls and adapted intermediate its ends to contain a liquid and having oil therein capable of permitting the passage of gases, but preventing the entrance of moisture, a body of charcoal covering the inner end of said trap within the crypt, and means for holding the charcoal in said position, whereby all gases passing to the trap must first pass through said charcoal.

3. A burial receptacle comprising a crypt having a trap shaped outlet in its walls adapted to hold a liquid, the said trap opening into the crypt at one of its ends and outside the crypt at its other, a non-evaporable liquid in said trap preventing the en-

trance of moisture to the crypt but permitting of the escape of gases therefrom, a body of charcoal mounted within the crypt and covering the inner opening of said outlet, and a container for holding said charcoal in place, whereby the gases escaping from the crypt must pass through the charcoal.

In testimony whereof we have hereunto set our hands in presence of two witnesses.

GEO. H. KERN.
GEO. C. MARTIN.

Witnesses:
J. T. MORIARTY,
CHARLES C. MONTGOMERY.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."**