

(No Model.)

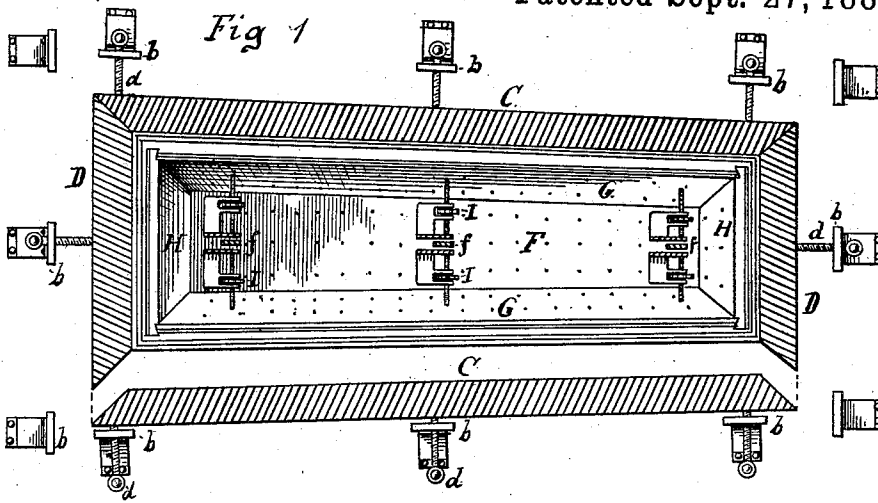
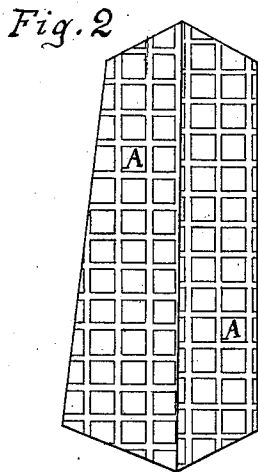
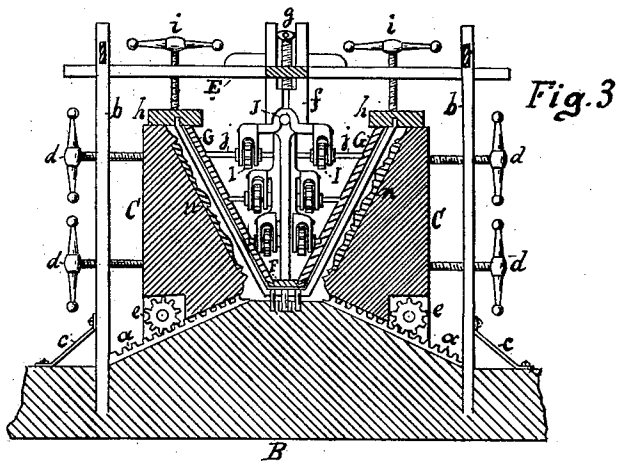
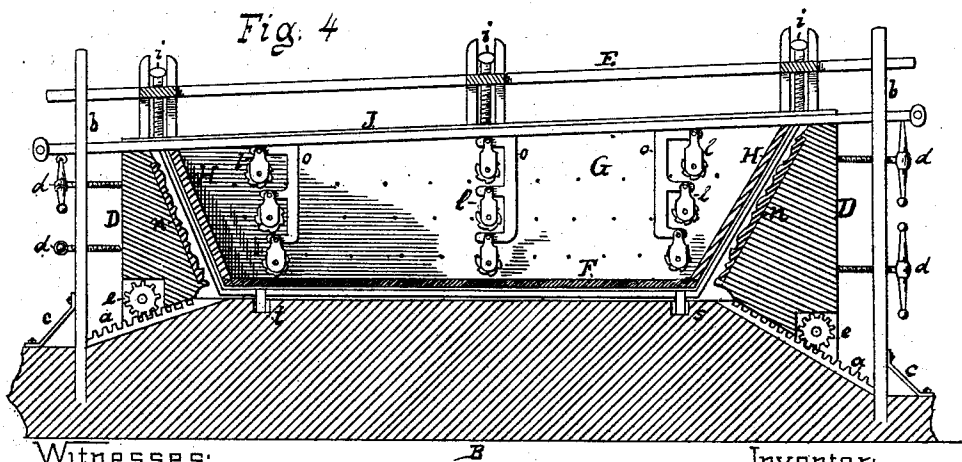
2 Sheets—Sheet 1.

A. KOEPPE.

METHOD OF AND APPARATUS FOR THE MANUFACTURE OF COFFINS.
No. 247,502. Patented Sept. 27, 1881.

No. 247,502.

Patented Sept. 27, 1881.



Witnesses:

Frank Thomason
F. W. Kasehagen.

Inventor:

August Koeppe
By Wm H Lotz
Attorney

(No Model.)

2 Sheets—Sheet 2.

A. KOEPPE.

METHOD OF AND APPARATUS FOR THE MANUFACTURE OF COFFINS.
No. 247,502.

Patented Sept. 27, 1881.

Fig. 7

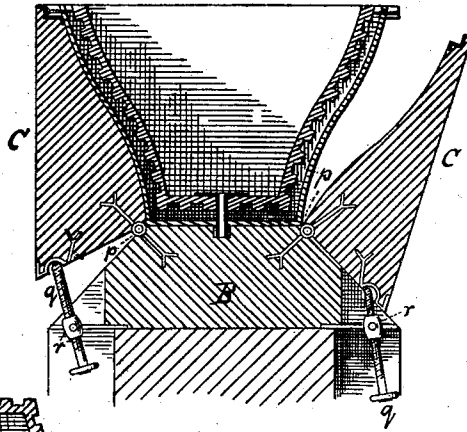


Fig. 8

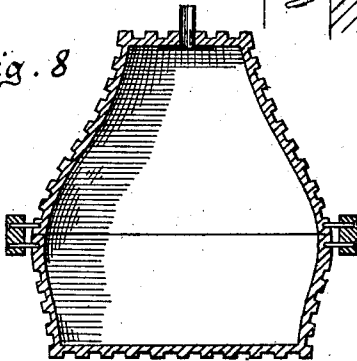


Fig. 9

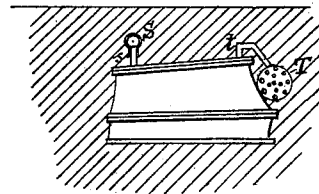


Fig. 5

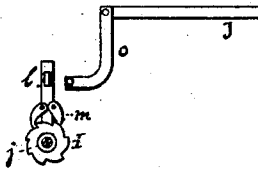
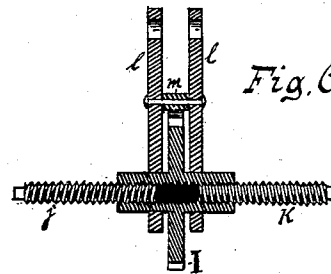


Fig. 6



Witnesses:

Frank Thomason
J. W. Kasehagen.

Inventor:

August Koeppe
By Wm H. Lotz
attorney

UNITED STATES PATENT OFFICE.

AUGUST KOEPPE, OF BITTERFELD, ASSIGNOR TO CARL JAHN, OF DESSAU,
GERMANY.

METHOD OF AND APPARATUS FOR THE MANUFACTURE OF COFFINS.

SPECIFICATION forming part of Letters Patent No. 247,502, dated September 27, 1881.

Application filed July 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, AUGUST KOEPPE, of Bitterfeld, in the Kingdom of Prussia and Empire of Germany, have invented a certain new and useful Improvement in Methods of and Apparatus for the Manufacture of Coffins, of which the following is a specification.

The invention relates to the manufacture of coffins, and more particularly to coffins made of hydraulic cement, plaster-of-paris, or other material of a calcareous or silicious nature; and my invention consists in the peculiar devices and apparatus for forming the same, as more fully hereinafter described, and pointed out by the claims.

In the accompanying drawings, forming part hereof, Figure 1 represents a sectional plan of my coffin-mold; Fig. 2, a portion of the skeleton-frame inserted into the walls of the coffin for strengthening the same. Fig. 3 shows a cross-section of the mold; Fig. 4, a longitudinal section of the same; Fig. 5, a sectional elevation of the ratchet-screwing wheel, with attachments for expanding the core; Fig. 6, a cross-section of the same; Fig. 7, a cross-section of a modified device for the exterior mold-box; Fig. 8, a cross-section of the skeleton coffin-frame made of grooved boards, to be coated with cement or plaster-paris; and Fig. 9, an elevation of the coffin when placed under ground in the cemetery.

Like letters denote corresponding parts in all the figures.

A represents an elevation of one side of the skeleton-frame that in outline is made the shape of the coffin, and is to be covered at both sides and entirely closed in with cement or plaster-paris. I have shown this skeleton-frame as being made of hoop-irons that cross each other, and may be secured together by rivets; but this can be formed as well of wire, or of hub or bar iron and wire combined, or it may be made of boards longitudinally grooved, as shown in Figs. 7 and 8, or of perforated boards, or of boards with numerous nails driven into with their heads projecting, or of boards covered by wires, or of any other stiff material, and in a manner to give a firm hold thereto of the covering material.

The exterior mold for the coffin consists of bottom B, side pieces, C, and end pieces, D. The bottom or foundation B is made of brick or stone work with inclined sides, upon which a series of rack-bars, *a*, are rigidly secured. In the sides and ends of this bottom foundation are also secured, by anchors, a series of standard-bars, *b*, that are re-enforced by braces *c*, and are slotted at their upper extremities each for a key. These standard-bars are tapped at intermediate points for clamp or set screws *d*.

The side and end pieces, C and D, are made of triangular shape, and are arranged to slide upon inclined sides of the bottom B, and have mitered ends that will form tight joints when the mold is closed. These side and end pieces, D, have each a shaft pierced through near its bottom end, upon which are mounted a series of pinions, *e*, that will engage with the racks *a* of the bottom piece. This shaft may be rotated by means of a crank for shifting the side or end piece in either direction, and after these pieces have been shifted to their proper places by the assistance of the racks and pinions the set or clamp screws *d* are tightened against the same, and will hold these side and end pieces firmly in position.

A spider-plate, E, is placed over the molds, having holes or slots for the ends of the standard-bars *b* to be passed through, and held in position against an upward pressure by the keys or wedges passed through the slots in the upper ends of the standard-bars *b*. This spider-plate not only serves the purpose of bracing the upper ends of the standards *b*, that they will better resist the side and end pressure, but also for holding the core and cap-plates in proper position, as will be hereinafter described.

The core consists of a hollow box that is composed of a bottom plate, F, of two side plates, G, and two end plates, H. These plates are joined with an outwardly-rising bevel-edge that, with forcing the two side plates apart, will cause a downward pressure upon the bottom plate and an outward pressure upon the two end plates. These bottom, side, and end plates forming the core are perforated, and are covered on their exterior surface with gauze-wire, and this again with coarse fabric, for the pur-

pose that water may pass through, but that it will exclude solid matter of any kind. A series of standard-frames, *f*, are removably placed upon the bottom plate, *F*, of the core, and over each such standard-plate *f* is a screw, *g*, that is tapped through the spider-plate *E*, for sustaining said standard-frames *f*, and for holding the bottom plate, *F*, from being lifted by the liquid cement or plaster-paris, and cap-plates *h* are for closing the upper edges of the mold, that are secured in position by set-screws *i*. The core is arranged so that it can be expanded to exert a pressure upon the material filled into the mold by a series of screws that are operated simultaneously, and that force the side plates apart, which, again, by their peculiar end and bottom joints, will transmit a proportional pressure upon the bottom and end plates.

For expanding the side boards I employ a series of ratchet-wheels, *I*, each having cut into the opposite ends of its hub a right and left handed screw-thread that will engage with the right and left handed screw *j* *K*. Each of these screws *j* and *K* has a square end fitting into square sockets, one into a standard-frame, *f*, and the other into a side plate, *G*, so as to be held steady in position. Two such sets are laterally in line with each other. Each ratchet-wheel *I* has two rocker-arms, *l*, that are sleeved upon its hub ends, and carry between one or two pawls, *m*, engaging with the teeth of the ratchet-wheel. All of these arms are simultaneously oscillated from a bar, *J*, having a series of pendants, *o*, that connect with the slotted ends of the arms *l*, whereby a reciprocating movement that is given to bar *J* will transmit an oscillating motion to the arms *l*, thereby rotating the ratchet-wheels *I* and separating the screws *j* and *K*.

The side and end pieces, *C* and *D*, of the mold have recesses each for inserting a metal matrix, *n*, that will mold any desirable plastic ornament upon the coffin.

For forming a coffin the side pieces, *C* *D*, of the mold are moved by the racks and pinions upon the bottom *A* to come in contact with each other. Next the skeleton-frame *A* is inserted, and next again the core, when the spider-plate *E* is placed over the mold and is secured by the keys passed through the end slots of standard-bars *b*. Now the set-screws *d* are screwed up for holding the mold-pieces rigidly in position, and next the screws *g*, that hold the standard-frames *f* of the core. The hydraulic cement or plaster-paris being tempered, so as to be in a liquid condition, is poured in the mold, and when filled the mold is closed by the cap-plates *h*, which are pressed down by the set-screws *i*. Now by reciprocating the bar *J* the ratchet-wheels *I* are rotated so as to elongate the screws *j* and *K* and expand the core, whereby a pressure is exerted upon the liquid mass, and whereby the surplus moisture is forced into the core through the perforations of the core-plates. After the ma-

terial has become sufficiently solid I first remove the cap-plates *h*. Next I release the expanding pressure on the core-plates, then the screws *g* and *d*, and remove the spider-plate *E* and the standard-frames *f*, with the appending mechanism, and then the core-plates. Now the exterior mold-pieces, *C* *D*, are separated, when the coffin thus formed will be removed to a warmed room for drying and hardening.

For obtaining a better article I cover the inside surfaces of the mold with a layer of sheet-felting about one-half an inch thick, when the first casting will be of proportional less thickness. After this casting is dry a series of recesses are cut or bored into its surfaces, when it is replaced into the mold, from which the pieces of felting are first removed to give room for an additional coating of cement, which is cast around the coffin. This method of forming the coffin by two operations has the advantage that the cement becomes much harder and more durable. The first operation does not require so long a time, because the felt will readily imbibe the surplus moisture, and will cause a quick setting of the cement.

In Fig. 7 a cross-section of a modified construction of a coffin-mold is shown, in which the side and end pieces, *C* and *D*, are secured on their inner edges to the bottom *B* by hinges *p*, so as to swing apart, and are provided with screws *q*, passed through swiveled nuts *r* for closing the mold.

Fig. 8 represents a skeleton-frame made of boards that are grooved longitudinally, so as to allow bending of same to the required shape, and to give a good hold to the cement or plaster-paris coating.

The coffin is cast with two pipes, *s* *t*, projecting through the cover, one of which, as shown in Fig. 9, is to connect with a train of pipes, *S*, for conducting the gases, as they generate with the decomposition of the corpse, through a cremating-furnace, where they are consumed, while fresh air can enter through the other pipe, *t*, which for that purpose is connected with a perforated ball, *T*, of cast-iron, burned clay, or any other substance.

In order to make the coffin more perfectly imperforate, the inner surfaces may be lined with asphaltum and two layers of impermeable paper, and the exterior surface of plaster-paris may be coated with varnish.

By the above method a coffin is produced that will not decay, and by its peculiar connection with a cremating-furnace in which the fire is uninterruptedly kept up no obnoxious gases can escape that would poison the atmosphere, nor will the wells in the neighborhood of the cemetery be affected by the decaying human remains.

I am aware that it is not new to construct coffins of cement. I am also aware that it is not new, in the construction of such coffins, to employ sectional molds with devices for clamping the sections together, and sectional and

What I claim as new, and desire to secure by Letters Patent, is—

1. The exterior mold consisting of bottom B, having inclined sides, rack-bars *a*, and slotted standard-bars *b*, the side and end pieces, C D, having mitered ends, and the pinions *e*, clamp-screws *d*, and spider-plate E, substantially as

2. The combination, with the exterior mold, B C D, and the means, substantially as described, for operating the same, of the core consisting of bottom F and the side plates, G, and end plates, H, joined with an outwardly-rising bevel-edge, and the standard-frames *f*, screws

g, cap-plates *h*, and set-screws *i*, substantially as and for the purpose set forth. 15

3. The means herein described for expanding the side plates G, consisting of ratchet-wheels I, having locker-arms *l* and pawls *m*, screw *j* K, and bar J, having pendants *o*, substantially as described. 20

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AUGUST KOEPPE.

Witnesses:

GUSTAVE DITTMAR,
GEORG SEEFISEN.