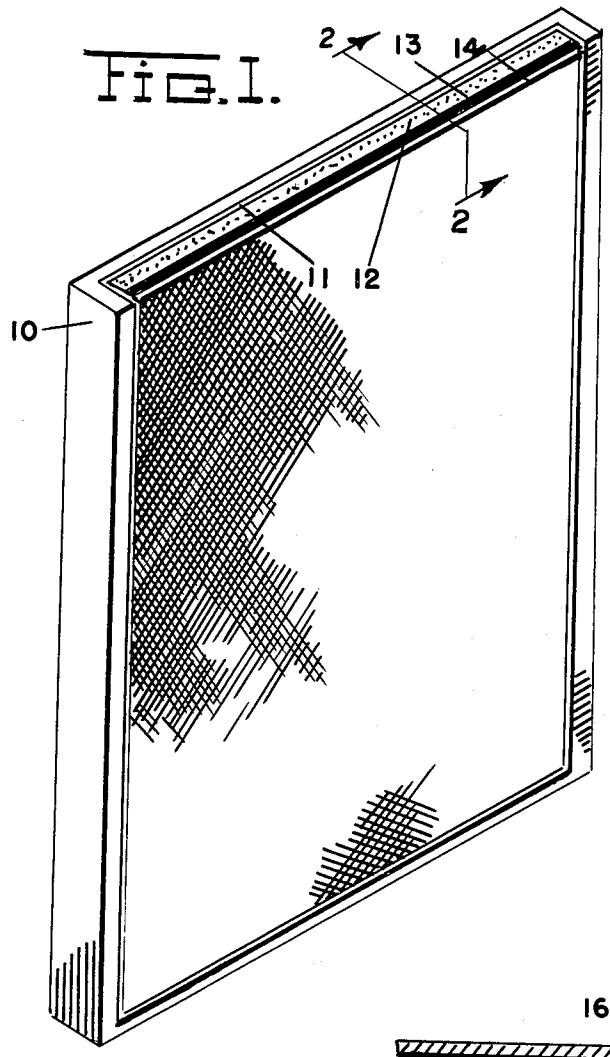
April 3, 1956 C. K. KNIGHT 2,740,162

MOLDING OF A SMOOTH SURFACED REINFORCED CEMENTITIOUS SLAB

Filed Nov. 12, 1952

Fig. 1.



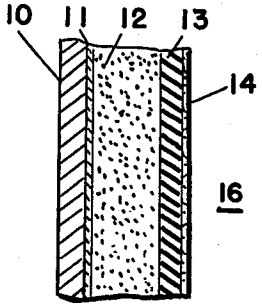


Fig. 2.

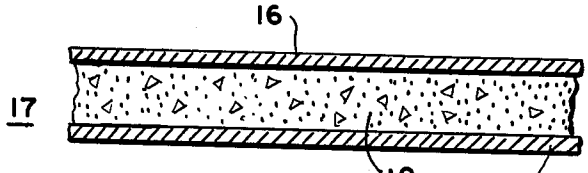


Fig. 3.

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MOLDING OF A SMOOTH SURFACED REINFORCED CEMENTITIOUS SLAB

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Application November 12, 1952, Serial No. 319,826

1 Claim. (Cl. 18—60)

This invention relates to the construction of masonry structures and floors especially of the Portland cementitious and concrete classes, and particularly to partitions or walls with the exterior finish to be provided to resemble marble, so that their appearance will be attractive, strong and limited in weight.

The conventional type of cement construction for walls and floors employs Portland cement, sand and gravel or stone combined in accordance with well established formulae. This produces a substance commonly identified as concrete, when set and hardened. It has certain characteristics, some of which are not desirable to the extent involved, by the users of the structures. The concrete is not waterproof and is subject to cracking, dampness and rough appearance. To avoid these objections this invention makes use of the concrete combination or formula with additional components to make it a more desirable product. The resulting product is waterproof, non-cracking and smooth or polished in surface finish. To obtain this the aggregate is applied behind a form of wood or metal, on which a sheet of smoothed or stretched out cellulosic material like cellophane has been attached. It is of a type that will not deteriorate under the chemical or mechanical action of the aggregate. A coat of cement is applied to the cellophane to which a coating of liquid asphalt is applied and a mat of open, or coarse woven fabric is impressed in the latter as a type of reinforcement. These combine in predetermined arrangement to form partitions that have great utility and value.

The object of the invention in the use of materials indicated is to provide a new and improved concrete structure that will avoid one or more of the limitations and disadvantages of the prior art.

Another object of the invention is to provide a new and improved partition or wall of concrete or cementitious material that will be light, waterproof and crackproof, without being expensive or difficult to fabricate.

Other objects of the invention will be appreciated as more details are provided in the course of illustrating it in a practical presentation.

To present the invention in a practical form, reference is made to the accompanying drawings wherein a form of the invention is indicated. These drawings with the following explanation bring out the principles on which the invention is based and enable the objects to be appreciated. The claim emphasizes the scope of the invention.

Referring to the drawings:

Figure 1 is a perspective view of a section of cementitious material formed into a partition and embodying this invention;

Figure 2 is an enlarged sectional detail through the partition on line 2—2 of Figure 1; and

Figure 3 is a typical plan view in section of a concrete wall made up with the partitions encompassing it.

Similar reference characters refer to similar parts throughout the drawings.

In the construction shown, a conventional form of wood or metal **10** is provided as a mold for an aggregate to be

poured in and molded therein to the selected design. In this instance partitions or walls **16** are intended to be provided with flat surfaces and vertically disposed. The sides of the form **10** are held in position and reinforced in any conventional manner to sustain the stresses and loads put upon them. In making the walls, a surface sheet of glossy cellophane membrane **11** is fastened evenly and smoothly to the inner face of the mold and then secured substantially in place. When in place a coating of Portland cement and aggregate **12** properly proportioned in its components is applied to a thickness of about one quarter of an inch preferably by spraying and allowed to set partially. In that condition it is treated to an application or coating **13** of liquid asphalt or tar made to evaporate its vehicle quickly and make a complete covering over the inner cementitious lamination **12.**

While the tar or asphalt is tacky, a mat **14** of coarse, open fabric with an open weave similar to a burlap bag is applied to the surface **13** of tar or asphalt and pressed flat into it. This embeds the fabric **14** and makes the surface of the aggregate **12** and the asphalt coating strong and stiff and capable of withstanding hard usage and prevents cracking surfaces. It is also vermin and waterproof. The partitions are preferably molded singly, and then located in spaced relation to one another in vertical alignment to form walls. In this arrangement the simulated polished surfaces of the partitions resulting from the cellophane are exposed, with the asphalted fabricated faces inside facing one another. A solid filling of concrete **18** is used to support the completed partitions **16** and construct the walls **17.**

The purpose in using the sheet of cellophane, is to give the cement mixture a smooth and simulated polished surface, which it accomplishes when the cement is faced intimately against it and sets while in such contact. The asphalt coating **13** is used to give the concrete a water resisting membrane or lamination, and the fabric reinforcement to strengthen the product and lessen the tendency of cracks appearing in the face **12.** The components also have a cooperative effect on one another and have an important bearing on the result. The cellophane prevents the water within the concrete aggregate from evaporating unduly at the face it is in contact with the form, as also does the asphalt lamination on the opposite face. This keeps the setting concrete from drying out and weakening, and thus tends to produce a better concrete member. The mat **14** becomes an integral part of the asphalt and face **12** while reinforcing. The asphalt in its turn cements the mat of fabric in place against the rear of the surface **12.** Each component works with the others to make the resulting product strong and effective.

After the partitions are hardened they can be moved around, and laid horizontally or vertically for use as the occasion may demand. In some instances the manufacture of the partitions in a horizontal position may be preferable due to reasons of production. Afterwards the partitions can be raised and secured in a vertical position and spaced apart so the concrete aggregate **18** can be filled in between as shown in Figure 3. They are relatively inexpensive and with their polished surfaces make an attractive and easily cleanable wall.

Although the general description relates to producing the smooth faces of the walls separately, then setting them up with a space in between which is then filled with concrete, it will be appreciated that the forms **10** can be set up with the cellophane **11** attached to the inner faces, and a coating of cement **12** about one-quarter of an inch thick applied against the cellophane, then applying a coating of asphalt **13** to the rear of the cement and pressing a fabric **14** into the asphalt, then allowing the unit to lose its tackiness, then pouring a concrete mixture between the asphalt surfaces without deviating from this invention.

While the structures indicated are limited in number, it is not desired to limit this application for Letters Patent to such construction, as it is appreciated that structures could be made that would employ the same principles and come within the scope of the appended claim.

Having thus described the invention, what is claimed is:

The method of preparing a partition consisting in securing a sheet of glossy cellophane evenly to a mold, applying a cementitious coating against the sheet of cellophane, allowing the cementitious coating to set partially, then applying a liquid coating of asphalt to the cementitious coating, and then, while the asphalt coating is still tacky, applying thereagainst, and pressing flat thereinto, a fabric with an open weave to form a strong, waterproof and vermin-proof backing for the partition, then removing the partition from the mold after setting.

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