July 15, 1924. 1,501,850

H. J. KARSTENS ET AL

COMBINED FORM AND REENFORCEMENT FOR CEMENT

Filed Dec. 31, 1921

Fig. 1.

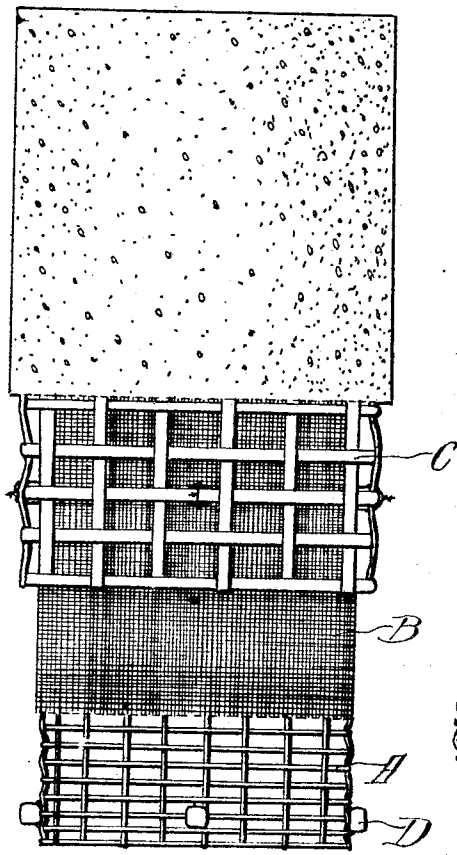


Fig 2.

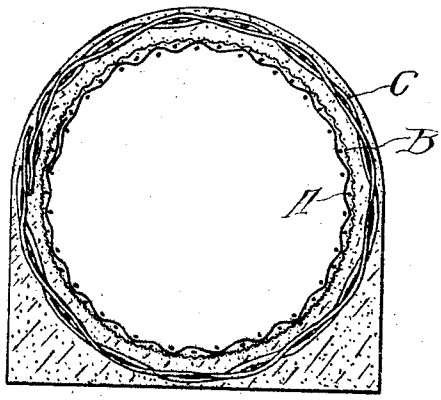
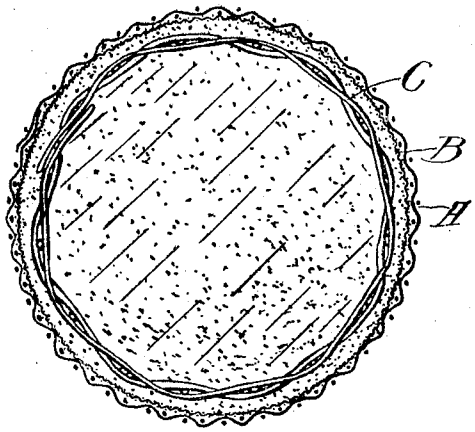


Fig. 3.



INVENTED BY

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UNITED STATES PATENT OFFICE.

HUGO JACOB KARSTENS, OF WHEATON, AND HARRY HUGH KARSTENS, OF CHICAGO, ILLINOIS.

COMBINED FORM AND REENFORCEMENT FOR CEMENT.

Application filed December 31, 1921. Serial No. 526,282.

To all whom it may concern:

Be it known that we, HUGO JACOB KARSTENS and HARRY HUGH KARSTENS, both citizens of the United States, and residing, respectively, at Wheaton, in the county of Du Page and State of Illinois, and at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Combined Forms and Reenforcements for Cement, of which the following is a specification.

This invention relates primarily to forms intended for use in the making of tubular cement sections which are intended to be used for conduits, columns, and piping or the like, although the construction to be described is adapted for use in making other cement or plastic structures. In the making of tubular cement sections or hollow blocks it is customary to provide a collapsible inner core which is set up during the pouring operation and thereafter collapsed and removed from the completed cement section or block. This requires the use of forms of rather complicated structure and requires considerable time in the removal and reassembling of the core for repeated use.

The object of the present invention is to reduce the expense and time required in such operations, by providing a core which is intended to remain in the completed block or tube, and which will be of such cheap construction that economy will be effected in allowing the core to remain in the structure as compared with the time and expense involved in removing and reassembling the core for repeated use. The core structure, however, is applicable to use as a mold in the formation of the outer surface of the intended cement or other plastic structure, and it will therefore be understood that the invention is not limited strictly to the formation of cores but that it has a wider application.

In the drawings:

Figure 1 is a side elevation of a tubular cement block adapted for use as a column, conduit or the like;

Fig. 2 is a cross section of the same; and

Fig. 3 is a sectional view of a solid block showing the form of the present invention as used for the molding of exterior surfaces.

The form consists of a supporting mesh A which is preferably formed of relatively close woven metallic screening or expanded metal, and bent to cylindrical or other shape corresponding to the intended configuration of the inner wall of the block, tube, or other structure to be poured. The inner supporting mesh is sufficiently firm and rigid to withstand the pressure of the poured cement or like material without collapsing, and such supporting mesh constitutes a backing for a covering B of burlap or similar coarse woven fabric, which is sufficiently close to prevent passage of the cement therethrough while in liquid or plastic condition.

The inner form thus constructed is combined with a reinforcing mesh C of relatively heavy gauge, which is intended to be imbedded within the cement structure, and which is held in spaced relation to the inner form by means of suitably formed spacers D so that the parts will be accurately spaced during the pouring operation. If desired, the inner form may be duplicated on the outside of the hollow structure, as indicated in Fig. 3, in which case, of course, the supporting fine mesh wire fabric will occupy the exterior position. Although the invention possesses its principal advantages in use as an inner core, the same construction can be used solely for an outer core or in combination with an inner core of like construction.

With the form or forms set up as indicated, the cement is poured into the intended space and will flow freely through the interstices of the reinforcing mesh, but will be held against escape, to the interior or exterior as the case may be, by the fabric covering B, the meshes of which are sufficiently close together to prevent the escape of cement, although allowing any excess of water to freely flow through the meshes and also furnishing free ingress for air to assist in the drying out of the cement. It will be found, however, that a slight amount of cement will pass through the fabric covering, so that the supporting mesh will be more or less firmly engaged by the cement and be practically imbedded therein. At the same time, the form as a whole is sufficiently impervious to the passage of the fluid cement to give an accurate configuration to the block or other cement structure without the use of additional reenforcement.

The forms of the present invention can be easily and quickly cut from mesh of the

proper grade [illegible] any de-
sired shape, and when bent will possess sufficient stiffness or rigidity to retain their shape without distortion, which obtains a much easier and cheaper manner of constructing cement structures than by the use of collapsible forms which must be accurately fitted to withstand the pressures without collapsing and at the same time be capable of quick removal and reassembling.

Although the invention has been described with particular reference to the formation of blocks, tubes, or like structures, from cement, it will be understood that it has application to the pouring of other plastic materials, such as plaster or the like, and that the term cement is intended to cover other materials having properties similar to cement.

We claim:

1. A structure consisting of a cementitious body, a reenforcing mesh embedded within the body and of relatively heavy gauge to afford reenforcement to the body, a metallic supporting mesh of relatively light gauge constituting a facing for the body, and a fabric covering of relatively close mesh bearing against the supporting mesh and interposed between the supporting mesh and the body, substantially as described.

2. A structure consisting of a tubular body of cementitious material, a tubular metallic reenforcing mesh of relatively heavy gauge to afford substantial reenforcement and embedded within the body, a metallic supporting mesh of relatively light gauge, and a finer weave than the reenforcing mesh constituting an inner facing for the tubular cementitious body, and a fabric covering of still finer mesh bearing against the supporting mesh and interposed between the supporting mesh and the body, substantially as described.

3. A core form for the pouring of plastic materials, comprising a relatively light and close tubular supporting metallic mesh of a gauge adapting it to be readily bent to the desired configuration and possessing a sufficient rigidity to withstand a pouring pressure, a covering of relatively light fabric laid against the supporting mesh and sufficiently close woven to be practically impervious to the passage of the plastic material, and a relatively heavy and open metallic reenforcing mesh held in spaced relation to the supporting mesh and in position to be embedded within the completed structure, the fabric being interposed between the supporting mesh and the reenforcing mesh, substantially as described.

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