Aug. 19, 1924. 1,505,500

E. E. SEELYE

CONCRETE FLOOR CONSTRUCTION

Filed Oct. 20, 1920

Fig. 1.

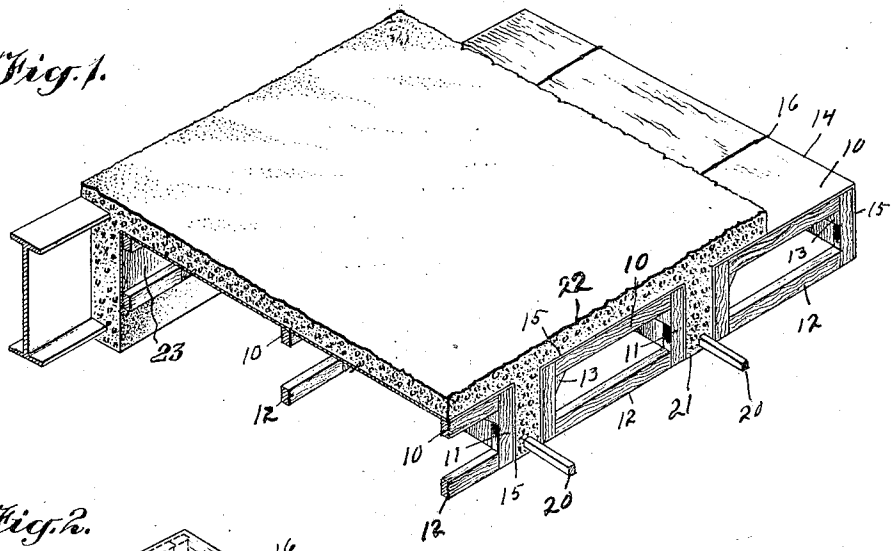
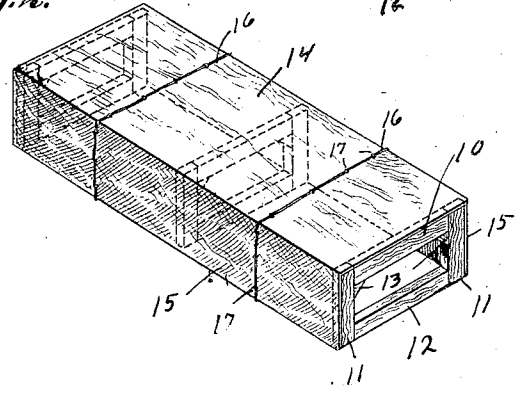


Fig. 2.



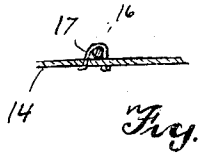
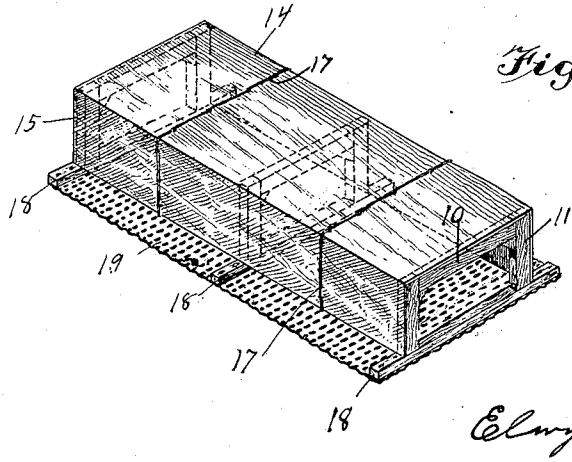


Fig. 4.

Fig. 3.



INVENTOR

Elwyn E. Seelye

BY

C. W. Fairbank

ATTORNEY

Patented Aug. 19, 1924. 1,505,500

UNITED STATES PATENT OFFICE.

ELWYN E. SEELYE, OF WHITE PLAINS, NEW YORK.

CONCRETE FLOOR CONSTRUCTION.

Application filed October 20, 1920. Serial No. 418,177.

To all whom it may concern:

Be it known that I, ELWYN E. SEELYE, a citizen of the United States, and a resident of White Plains, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Concrete Floor Constructions, of which the following is a specification.

In the construction of concrete floors it is often desirable to form spaced chambers on the under side with reinforced beam members therebetween, so as to materially reduce the weight of the floor without correspondingly reducing the strength. One way in which this has been accomplished is by placing on the main form a series of secondary forms presenting top and side walls, and of such size and so spaced as to permit the metallic reinforcing members and the concrete to enter between adjacent secondary forms to make up the beam portions and to permit the tops of the secondary forms to be covered to the desired depth for the floor portions between adjacent beams.

The object of my invention is to provide a simple inexpensive light and strong unit which may be used as such secondary form, and which may be constructed by factory methods and delivered to the job ready for easy, quick and proper placing on the main frame.

In its preferred embodiment, each unit of the secondary form includes light wooden frame members serving to support thin wooden top and side walls, the under side as well as the ends being preferably left open. The units rest on the main form so that the latter closes the underside and they are arranged end to end to thus prevent concrete entering the units. The units at the end of a series may each have an end wall if such units are to be spaced from a vertical wall of the main form or other structural part.

The thin wooden walls of the units may be reinforced or strengthened by wires extending across the grain of the wood and secured to the thin wood by staples or other inexpensive and easily applied fastening devices. As one important advantage of my construction the workman may easily knock out an end frame of a unit and spread the thin walls slightly, so as to permit one unit to telescope over another in case the space to be filled is slightly longer than the total length of a definite number of such units. Due to the thinness and flexibility of the walls this telescoping does not materially reduce the depth of the space above the unit, nor the width of the space between adjacent rows of units. As an important feature, each unit may have a bottom wall formed of metal lathing of any suitable character such as expanded metal, and of a length equal to the length of the unit, but of a width somewhat greater than the width of the unit so that the projecting side edges serve to space the units to the desired distance for the width of a beam. After the pouring and setting of the concrete and the removal of the main form, the under surface of the floor will present a substantially continued surface of metal lathing ready for the application of the plaster. Due to the low cost of manufacture of the units, they may be left in the floor after the setting of the concrete, so as to form a permanent part of the floor.

In the accompanying drawings:

Figure 1 is a perspective view of a portion of a floor constructed in accordance with my invention,

Figure 2 is a perspective view of one unit,

Figure 3 is a perspective view of a unit having lathing carried thereby, and

Figure 4 is a sectional detail showing the attachment of a reinforcing wire to the thin wooden wall of a unit.

For use in constructing the floor I provide a plurality of units each of which may be made as shown in Figure 2. This unit includes a plurality of spaced frames, three being illustrated, one at each end of the unit, and one intermediate of the ends. Each form includdes a top or transverse wooden strip 10, and a pair of upright or side strips 11 nailed or otherwise rigidly secured thereto. In order to give the frame the desired rigidity, one or more additional frame members may be employed. Such additional frame members may include a bottom strip 12 or diagonal corner pieces 13, or both, or other fastening elements. The frames serve to support a top wall 14 and a pair of side walls 15 which may be made of very thin but comparatively strong wood. Although I do not wish to be limited to any specific dimensions I have found that for use in constructing the ordinary floor each unit may be approximately 10 inches high by 20 inches wide, and of any suitable length as for instance two or three feet. The

stock for the top and side walls may be not materially over one quarter of an inch, although in some cases even thinner stock might be employed. To reinforce and strengthen these thin side walls I preferably employ reinforcing elements in the form of wires 16 extending across the grain of the wood and across the top and sides of the unit. These may be spaced equidistant between adjacent frame members and may be secured to the walls by suitable fastening means such for instance as staples 17. These may be applied easily and at very low expense by suitable apparatus or machinery designed for the purpose and as each staple may be clinched over on the inner side and the staples spaced only a short distance apart, the thin wall is therefore comparitively strong and reinforced at comparitively small expense.

Ordinarily it is not necessary to provide the units with either end walls or a bottom wall, as the lower open side may rest directly on the main form, and the units may be arranged end to end in spaced rows. If desired, certain of the units intended for use at the end of a row may each have one end wall, such as 23, particularly if it is not desired to have the end units abutt directly against a side wall of the main form, an I beam or other temporary or permanent structural part.

Each unit may be provided with a bottom wall of metal lathing as shown in Figure 3. Here each member has a transverse bar 18 of a length slightly greater than the width of the unit, and to this transverse bar is nailed or otherwise secured, a sheet 19 of metal lathing such, for instance as expanded metal. The distance to which the transverse members 18 and the lathing extend beyond the side walls of the unit is dependent upon the width of the beam portion which it is desired to leave between adjacent chambers or spaces in the walls. For instance, if it is desired to form beams 6 inches wide, the members 18 and 19 may extend out three inches on each side of the unit, so that they will serve for the proper lateral spacing of the units and present a substantially continuous surface of metal lathing after the hardening of the concrete and the removal of the main form. Thus the ceiling is ready for the application of the plaster and without requiring the services of skilled lathers.

In constructing the floor the units are spaced apart laterally to the desired width, as shown in Figure 1, and rest directly upon the main form. Successive units abutt end to end so as to leave the continuous channels in which may be placed metallic reinforcing bars 20, of any desired character, and the concrete to form the beams 21. The walls of the unit are of sufficient strength to resist any lateral pressure by the concrete going to make up said beams, and to support the necessary thickness of concrete forming the floor 22 between adjacent beams. In fact, the units as constructed are sufficiently strong to permit an ordinary workman to step on the form without danger of breaking it down. It will be evident that if it is desired to form transverse beams as well as longitudinal ones, each unit may have two end walls and the units may be spaced apart lengthwise as well as laterally.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A form for concrete floor construction including a plurality of wooden frames, thin wooden top and side walls secured thereto, transverse strips carried by each frame at its lower edge and having its ends projecting beyond said side walls, and a bottom wall of metal lathing secured to said strips.

2. A form for use in concrete floor construction comprising top and side walls of wood of thickness not exceeding one-quarter inch, frames spaced at intervals supporting said top and side walls, and reinforcing wires extending transversely of the grain of the wood of said top and side walls and secured to said walls between adjacent frames.

Signed at New York, in the county of New York and State of New York, this 19th day of October, A. D. 1920.

ELWYN E. SEELYE.