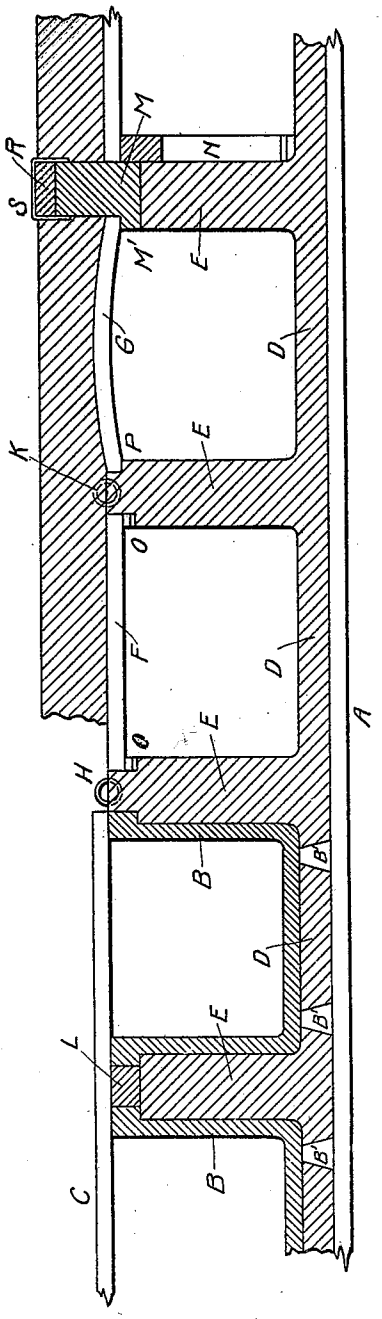
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E. L. RANSOME.

CONCRETE FLOOR.

(Application filed Jan. 4, 1900.)

(No Model.)



Witnesses.
Frank V. Lawrence.
Frederick G. Frost.

Inventor.
Ernest Leslie Ransome

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON D. C.

UNITED STATES PATENT OFFICE.

ERNEST LESLIE RANSOME, OF NEW YORK, N. Y.

CONCRETE FLOOR.

SPECIFICATION forming part of Letters Patent No. 652,733, dated June 26, 1900.

Application filed January 4, 1900. Serial No. 405. (No specimens.)

To all whom it may concern:

Be it known that I, ERNEST LESLIE RANSOME, a citizen of the United States, residing at New York, in the State of New York, have invented an Improved Method of Constructing Floors; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to hollow floors molded *in situ*, and primarily to those of concrete-iron construction. It is, however, applicable to molded floors of other materials molded *in situ*—as, for example, those built of plaster-of-paris or similar substances capable of being thus molded.

In the construction of hollow floors having flat ceilings a mode sometimes adopted is to mold the whole structure in one piece about cores, and because of the difficulties of removing these cores they are generally left within the floor. The usual practice, however, is to first construct the floor and subsequently to attach the ceiling to the beams of the floor. By my invention this process is reversed, for I first mold the ceiling and the beams or webs of the floor, and after these parts have become sufficiently rigid to bear the molding of the rest of the work without injury I mold the upper part of the floor thereto, as hereinafter described.

For convenience of description in this specification I divide the floor into three principal parts—viz., the lower member, hereinafter called the "ceiling," the central members, which connect the lower member to the upper member and which correspond to the webs of beams and which are hereinafter called the "webs," and the top member, which forms that portion of the floor which directly sustains the traffic and load and which is hereinafter called the "top."

The accompanying drawing illustrates my invention, which is as follows:

Upon any suitable false work A the core-boxes B are placed. These boxes stand upon the short legs B', which are about as high as the required thickness of the ceiling. The boxes are placed in such relative positions and sufficiently apart so that the spaces intervening conform to the shape of the required webs. After securing the core-boxes in place by suitable bracing C the ceiling D and webs E are molded about them after any of the ordinary ways in plaster, cement, or concrete, or any like substance, hereinafter called "concrete." After the molded material has sufficiently hardened the core-boxes are removed and the mold-plates F or G are placed and the top is then molded to the webs.

In order to make a good union between the webs and the top or between any other parts when required that have been molded at different times, I use, by preference, a metallic coil H, Letters Patent for which have been separately applied for. This coil is buried longitudinally for about half its diameter in the top concrete of the web E, and the rest of it is embedded into the top, as at K, when that portion is placed. Such a joint properly made becomes fully as strong as the adjoining parts.

In place of the coil hard porous blocks L or M, made of clay, concrete, or other suitable material, may be used, in which case I prefer making them with recesses, as at M', for purposes hereinafter described.

Any other tie may be used instead of the coil or blocks if it will make a strong union at the joint.

The mold-plates F G may be of any suitable material and be supported from the ceiling, as shown at N, or they may be supported from the webs, as shown at O. They may be placed either upon recesses formed in the concrete, as at P, or with the concrete and brick, as at L, or in the brick, as at M', or upon the frames N, and they are either left in, or, in cases where the spaces are large enough, they are usually wedged up into position and subsequently removed. In order the better to sustain their load, they may be curved, as at G.

For convenience of holding the floor-strips when such are required the joint blocks or webs may extend up to the under side of the strip, as shown at M, and the strip R may be clamped thereto temporarily or otherwise with clamps S. When the web itself is thus extended, I sometimes prefer setting therein at the time of molding nailing-blocks or like keys, by which the floor-strip can be attached to the web.

When it is desired, the ceiling may be molded and allowed to set before the webs are built, in which event the same care must

be taken to make the joints between the ceiling and webs as heretofore described in making the joints between the webs and the top. This modification, however, is not often desirable.

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

1. The method of molding the floor *in situ*, consisting in supporting above and upon a platform or false work, core-boxes suitably spaced apart, molding concrete or equivalent material under and about said core-boxes to form the ceiling and webs of the floor, allowing the concrete to set, removing the core-boxes and molding and firmly attaching the top layer upon the webs, substantially as set forth.

2. The method of molding a floor *in situ*, consisting in first molding the ceiling and webs of concrete or equivalent material, and before the concrete sets applying at the top of the webs suitable union-pieces adapted to make firm connection with the concrete, allowing the parts to set and then molding the floor proper or top thereon, substantially as set forth.

3. The method of molding a floor *in situ*, consisting in molding it of concrete or equivlent material, in two or more distinct parts, applying to the part first molded before it sets suitable union-pieces adapted to make firm connection with the concrete, allowing such part to set, and molding the top part or parts thereon, substantially as set forth.

4. The method of molding a hollow floor *in situ*, consisting in molding the ceiling and webs of concrete or equivalent material, and before it sets applying to the tops of the webs suitable union-pieces adapted to make firm connection with the concrete, applying mold-plates between the webs, and molding the top thereon so as to be firmly united to the webs, substantially as set forth.

ERNEST LESLIE RANSOME.

Witnesses:

FRANK V. LAWRENCE,

FREDERICK G. FROST.