

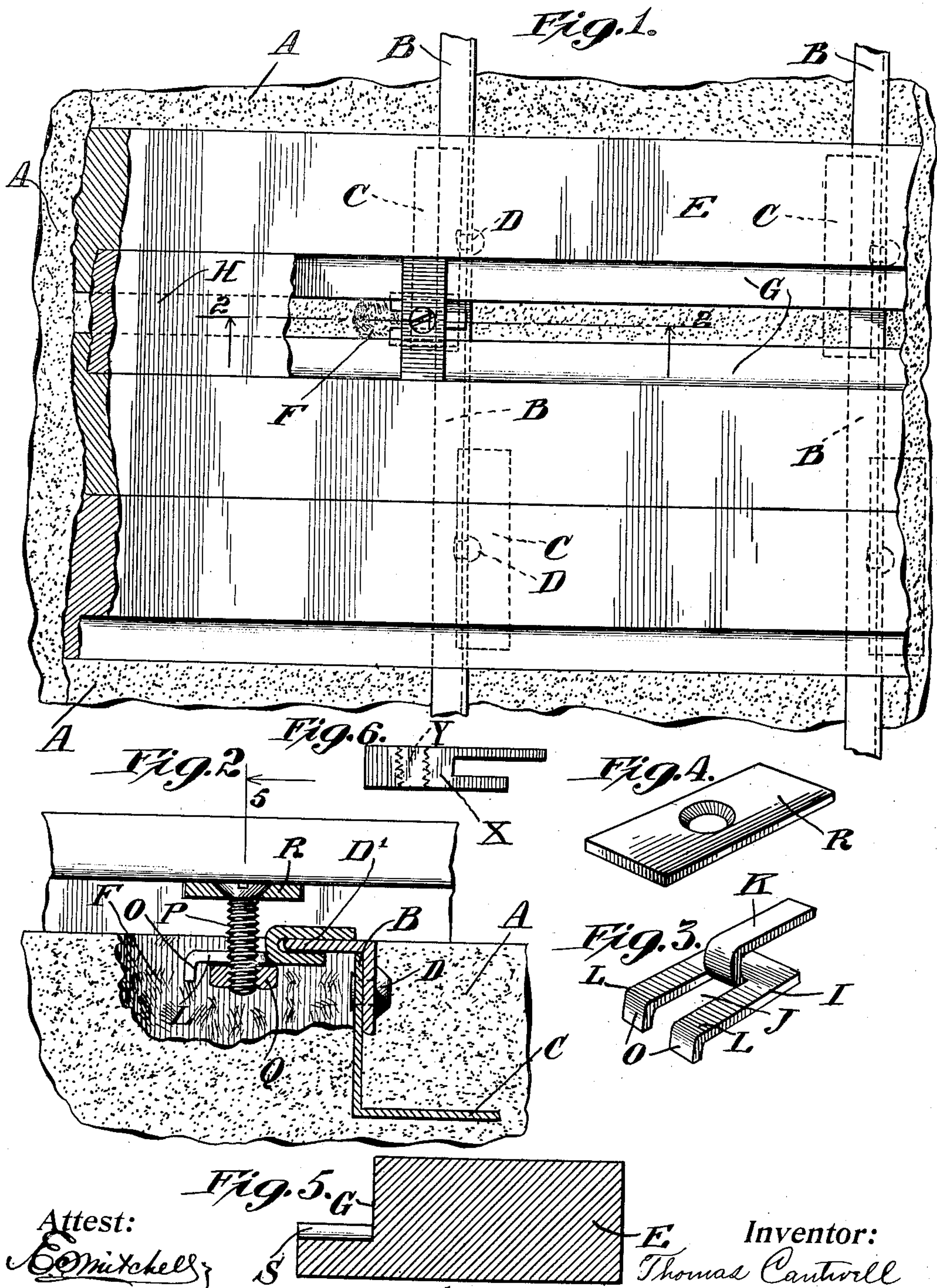
No. 876,436.

PATENTED JAN. 14, 1908.

T. CANTWELL.

FLOOR.

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# UNITED STATES PATENT OFFICE.

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## FLOOR.

No. 876,436.

Specification of Letters Patent.

Patented Jan. 14, 1908.

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*To all whom it may concern:*

Be it known that I, THOMAS CANTWELL, a citizen of the United States, and resident of borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Floors, of which the following is a specification accompanied by drawings.

This invention relates to floors, more particularly to floors adapted to be used in fire-proof or similar buildings.

The objects of the invention are to enable a floor composed of wooden or like strips to be secured to a lower plastic course, which may be of cement, concrete or any similar desired material.

Another object of the invention is to improve upon the clamp by means of which the lower and upper courses are connected.

In the accompanying drawings Figure 1 is a top plan view of a portion of a floor embodying the invention, partly broken away; Fig. 2 is a transverse detail sectional elevation on the line 2—2 of Fig. 1, looking in the direction of the arrows and partly broken away; Fig. 3 is a detail perspective view of the clamp illustrated in Figs. 1 and 2; Fig. 4 is a detail perspective view of a plate adapted to be used to secure portions of the floor; Fig. 5 is a transverse sectional view through one of the floor bottoms taken on the line 5 of Fig. 2, looking in the direction of the arrow; Fig. 6 is a side elevation of a modification of the clamp.

Referring to the drawings, A represents a lower course of cementitious material as cement or concrete, in which is embedded a plurality of bars B, shown in this instance as angle irons having flanges C suitably secured thereto as by means of the rivets D, and as shown, these flanges preferably extend on opposite sides of the bar B. The bars are preferably arranged with the said flanges C lowermost, and one web D' of the bars preferably extending horizontally.

Floor strips E of wood or similar material are laid transversely on the bars B, and are adapted to be secured thereto by suitable means constructed in accordance with this invention. At distances apart corresponding substantially to the width of the wood strips E, which form the upper course of the floor, are formed recesses F extending on each side of the bars B, and these may either be made before the floor is set or picked out

afterward as desired. The floor strips E are preferably provided with rabbeted edges G adapted to be placed opposite each other and forming a groove in which are laid the strips H.

In Fig. 3 one form of the clamp is shown in the form of a piece of sheet metal having a body portion I slotted at J to form the tongue K, which is bent upon the body portion I in the opposite direction to the direction of extent of the holding strips L, which form a fork. Preferably the ends of the fork L are bent downwardly at O to form retaining hooks. The jaw formed between the body portion I and the tongue K of the clamp is placed over the flange or web D' of a bar B in one of the recesses F in the cementitious portion of the structure. The rabbeted strips E are placed on each side of the clamp, and means are provided for securing the strips E to the clamp.

In the form of device shown in Fig. 3, a screw P extends between the clamping strips L forming the fork, and a nut Q is adapted to be placed on the end of the screw P. The head of the screw P may be large enough to bridge across the space between the rabbeted portions of the strips E, or else the screw may be provided with a washer or plate R, preferably countersunk in the recessed portions S in the strips E. The down-turned ends O of the portions L of the clamp serve to hold the nut Q in position. The screw may either be thrust straight down between the portions L of the clamp and the screw placed on the end of the nut and held by a suitable tool while the screw is tightened up, or else the nut may first be placed in position on the end of the screw, and then the screw may be thrust sidewise or longitudinally between the portions L of the clamp and tightened up as before. According to this construction the floor strips are securely held to the bars B.

If desired, the clamp may be constructed as in Fig. 6, in which the clamp is made in one piece and the body portion X is preferably of the same height throughout, and provided with a screw-threaded socket or aperture Y.

It will be seen that the bars B of my floor take the place of the wooden sleepers, which it has heretofore been customary to lay in a cement floor. As these wooden sleepers were laid while the floor was in a wet condi-



tion, that is before the cement had set, they were very subject to dry rot by which their durability was decreased. The iron sleepers or bars of my floor will last as long as the cementitious structure itself.

Obviously some features of this invention may be used without others and the invention may be embodied in widely varying forms, therefore, without limiting the invention to the devices shown and described, and without enumerating equivalents, I claim and desire to obtain by Letters Patent the following:—

1. A floor comprising a lower plastic course, a clamp engaging bar secured therein, a laterally projecting flange, an upper course of strips laid transversely of said bar, and a clamp comprising a body member, jaws engaging the upper and lower surface of the flange on said bar, and means for securing the strips of the said upper course to the clamp.

2. A floor comprising a lower plastic course, a clamp engaging bar secured therein, a laterally projecting flange, an upper course of strips laid transversely of said bar, and a clamp comprising a body member, jaws engaging the upper and lower surface of the flange on said bar, and a bolt and nut for securing the strips of the said upper course to the clamp.

3. A floor comprising a lower plastic course, a clamp engaging bar secured therein, a laterally projecting flange, an upper course

of strips laid transversely of said bar, a clamp comprising a body member, jaws engaging the upper and lower surface of the flange of the bar, means for engaging a bolt, and a bolt and nut adapted to engage said clamp and secure the strips of the upper course in position.

4. A floor comprising a lower plastic course, a clamp engaging bar secured therein, a laterally projecting flange, an upper course of strips laid transversely of said bar, and a clamp comprising a body member, substantially parallel jaws engaging the upper and lower surface of the flange on said bar, and means for securing the strips of the said upper course to the clamp.

5. A floor comprising a lower plastic course, a clamp engaging bar secured therein, a laterally projecting flange substantially flush with the upper surface of said plastic course, an upper course of strips laid transversely of said bar, and a clamp comprising a body member, jaws engaging the upper and lower surface of the flange on said bar, and means for securing the strips of the said upper course to the clamp.

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

THOMAS CANTWELL.

Witnesses:

OLIN A. FOSTER,  
A. L. O'BRIEN.