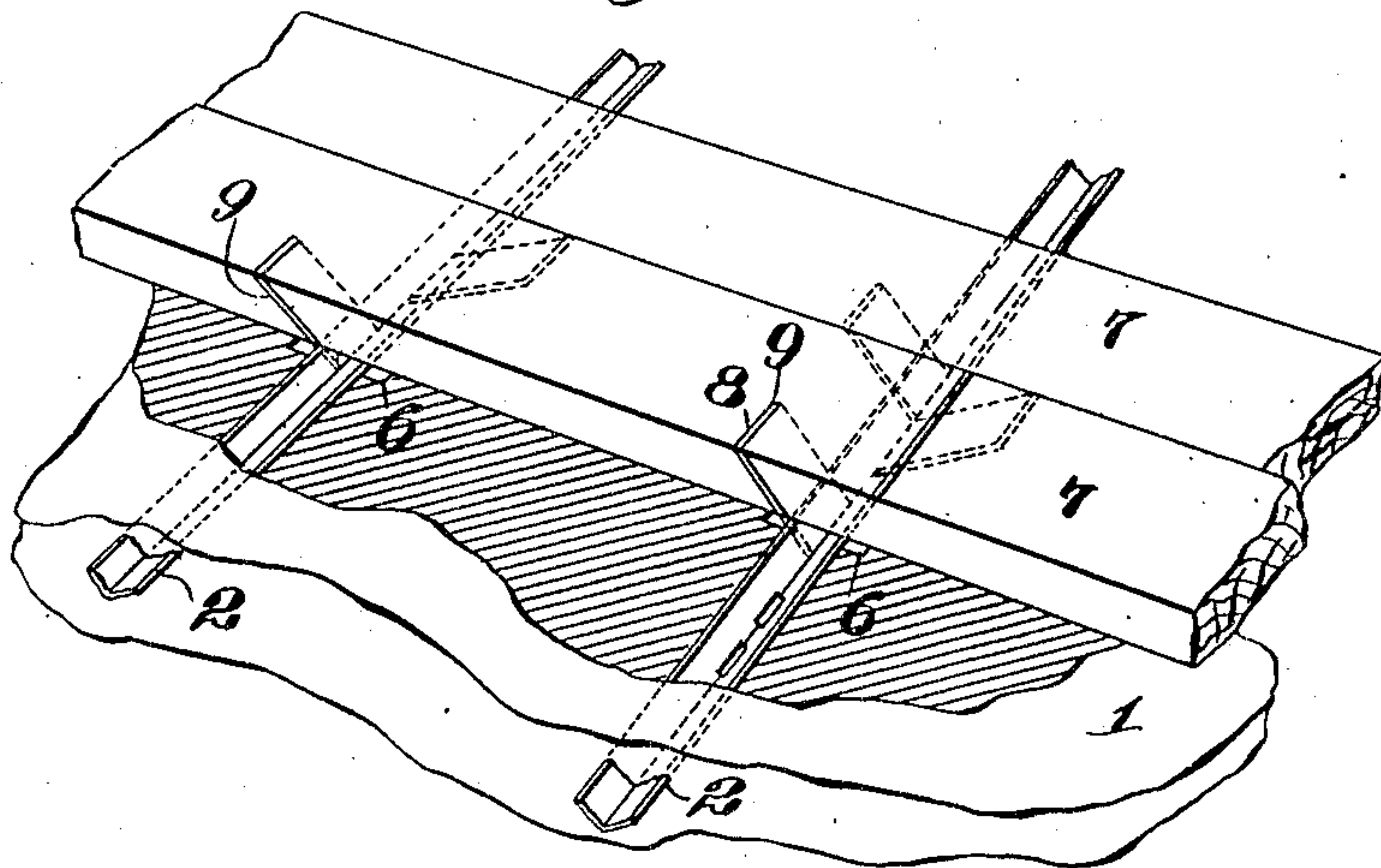


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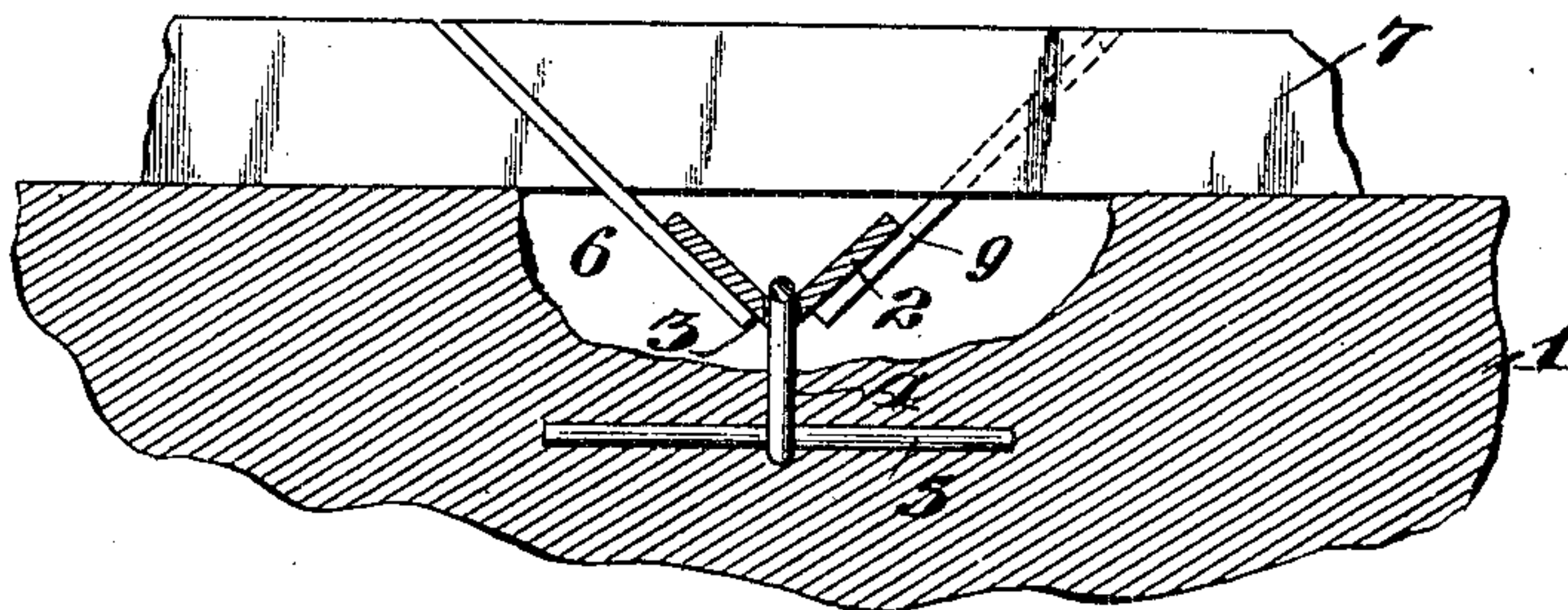
PATENTED FEB. 5, 1907.

T. CANTWELL.  
FLOOR AND ART OF LAYING SAME.  
APPLICATION FILED MAR. 19, 1906.

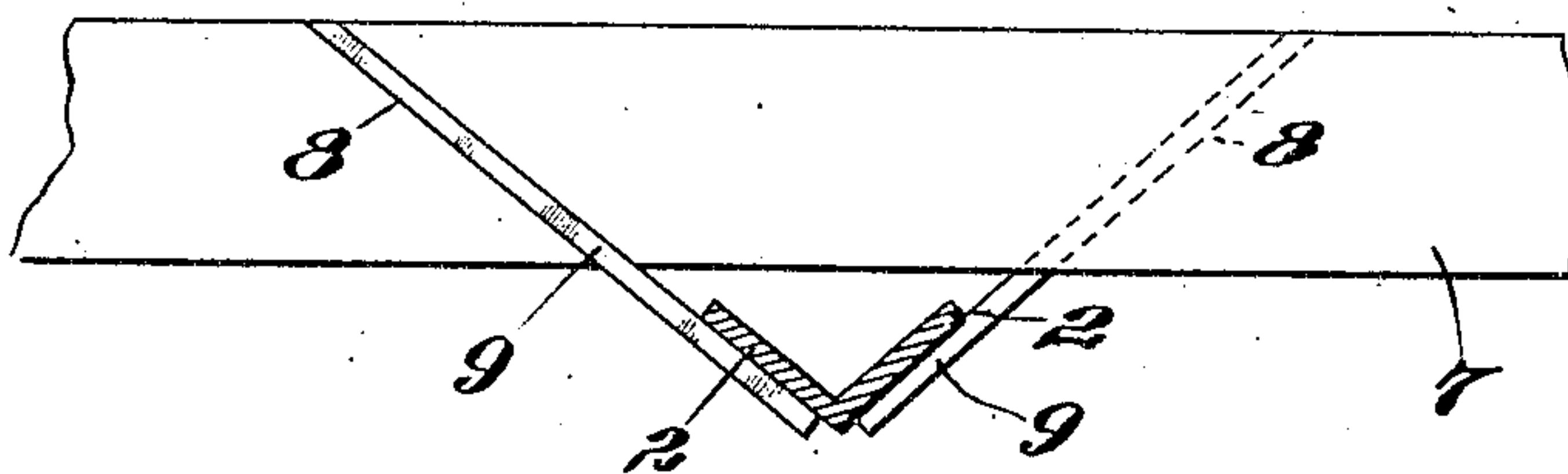
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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Attys.



# UNITED STATES PATENT OFFICE.

THOMAS CANTWELL, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO JAMES O. BEERS, JR., OF BROOKLYN, NEW YORK.

## FLOOR AND ART OF LAYING SAME.

No. 843,193.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed March 19, 1906. Serial No. 306,770.

*To all whom it may concern:*

Be it known that I, THOMAS CANTWELL, a citizen of the United States, and a resident of Providence, Rhode Island, have invented certain new and useful Improvements in Floors and Art of Laying Same, of which the following is a specification.

My invention relates to floors such as are used in fireproof or similar buildings and to the art of laying the same. It particularly provides means for securing a floor composed of wooden or like strips on a lower plastic course, which may be of cement, concrete, or any similar desired material.

In the drawings, Figure 1 is a fragmentary perspective view of a floor embodying my invention, the courses being broken away to show the construction. Fig. 2 is a vertical section through the floor shown in Fig. 1. Fig. 3 is a partial vertical section on a somewhat enlarged scale.

Referring to the drawings, 1 designates a lower course of plastic material, as cement or concrete, in which is placed a plurality of bars 2, shown as formed of angle-iron with their grooved sides uppermost. These are laid parallel with each other and preferably embedded in the plastic course. As a means of securing the bars 2 more firmly within the plastic course I have shown them as provided with apertures 3, in which are engaged links 4, shown as bent rods engaged at their lower ends with a cross-bar 5, the whole forming an anchor for the rod. It is obvious that any number of these may be used, as desired. Adjacent the outer sides of the bar 2 are formed recesses 6, which may be made in the plastic course 1 before the same is set or hardened or may be picked out therefrom afterward, as desired.

7 designates a strip forming part of an upper course of the floor. These are shown in the present instance as boards or planks. To secure these to the plastic course, I form or cut therein apertures at an oblique angle with the upper and lower surfaces of the strip, in which I place a pin, which engages with one of the lower sides of the angle-bar 2. In the form of construction illustrated these apertures are shown as diagonally-disposed slots or saw-kerfs 8 made in each edge of the strip 7 and so disposed that the pins 9, shown as flat plates, pass on opposite sides of the angle-bar 2 and into the recesses 6, which are of

course made at distances apart corresponding with the width of the strips 7.

It will be understood that the pins 9 are substantially rigid—i. e., so as to remain unbent when placed in position—and to extend each in a straight line through an aperture 8 and beneath the face of the bar 2.

It is obvious that the floor 7 may be very rapidly and securely laid and that it may be almost as easily taken up after it is worn by use. This form of floor is particularly adapted to rough flooring for factories or the like or in a better class of construction where it is intended to be covered with parquetry, linoleum, or any other permanent covering.

It will be seen that the bars 2 of my device take the place of the wooden sleepers which it has heretofore been customary to lay on a cement floor. These wooden sleepers being laid while the floor was in its wet condition—that is, before the cement had set—were very subject to dry rot, by which their durability was decreased. The iron sleepers or bars 2 of my device will last as long as the cement floor itself.

It is obvious that certain mechanical changes may be made in my device without departing from the spirit of the invention.

What I claim is—

1. A floor comprising a lower plastic course, an angle-iron in said course, a strip forming part of an upper course and having an obliquely-disposed aperture therein, and a rigid pin in said aperture and extending beneath said angle-iron, said pin being adapted to be inserted on opposite sides of said angle-iron.

2. A floor comprising a lower plastic course, an engaging device in said course, said course having a recess adjacent said engaging device, a strip forming part of an upper course and having an angularly-disposed aperture therein, and a rigid pin in said aperture and extending beneath said engaging device within said recess, for the purpose specified.

3. A floor comprising a lower plastic course, an engaging device in said course, a strip forming part of an upper course and having an angularly-disposed slot in its edge, and a rigid pin in said slot and extending beneath said engaging device, for the purpose specified.

4. A floor comprising a lower plastic

course, an engaging device in said course, a strip forming part of an upper course and having an angularly-disposed slot in each of its edges, and a rigid pin in each of said slots  
5 and extending beneath said engaging device in opposite sides thereof.

5. A floor comprising a lower plastic course, an angle-iron in said course, an engaging device for anchoring said angle-iron  
10 in said course, a strip forming part of an upper course and having an obliquely-disposed

aperture therein, and a rigid pin in said aperture and extending beneath said angle-iron, said pin being adapted to be inserted on opposite sides of said angle-iron.

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

THOMAS CANTWELL.

Witnesses:

E. VAN ZANDT,  
GEO. L. COOPER.