

(No Model.)

C. E. RIDER.

METHOD OF UNITING WOOD FOR FLOOR COVERINGS, &c.

No. 255,023.

Patented Mar. 14, 1882.

Fig. 1.

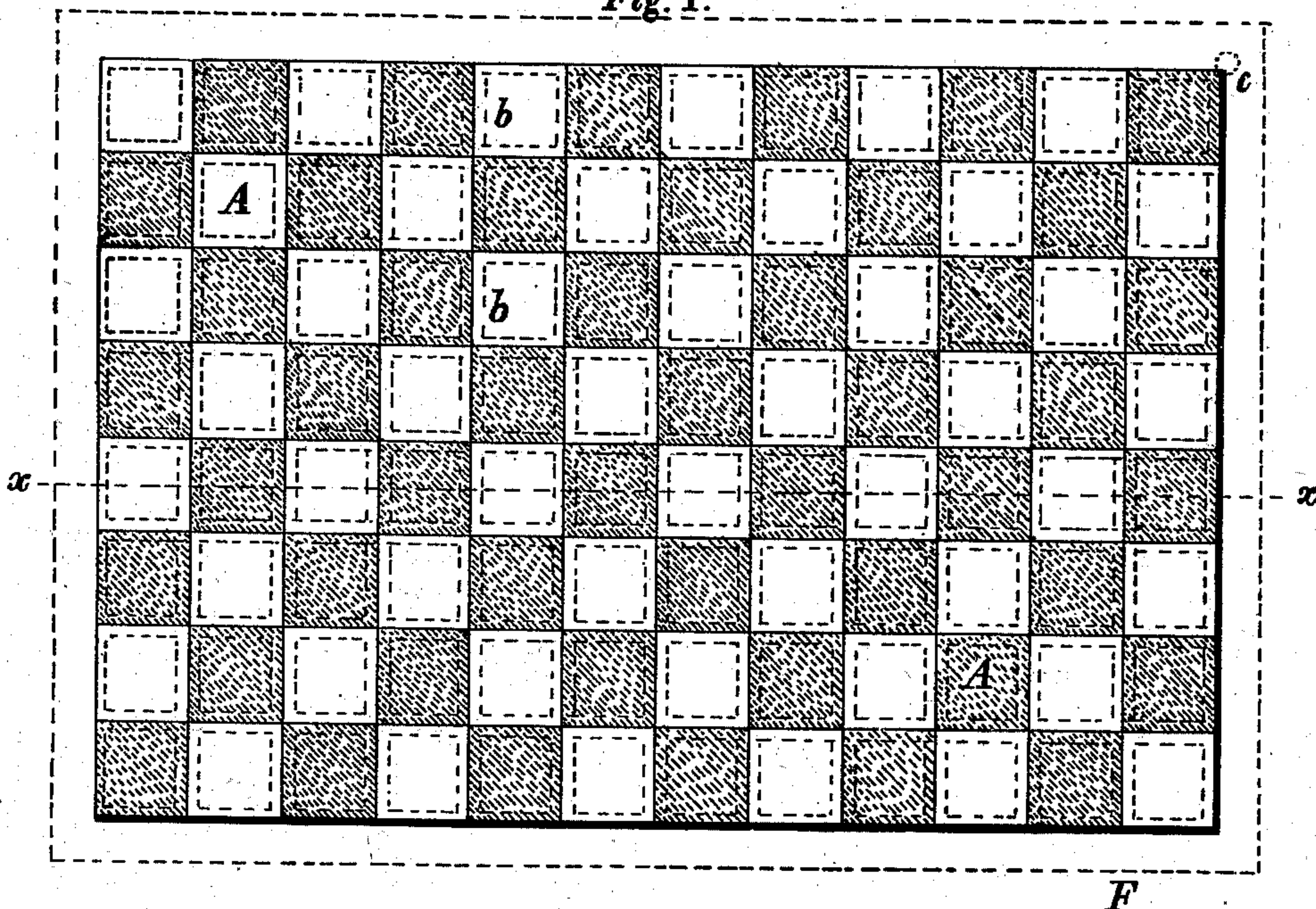


Fig. 2.

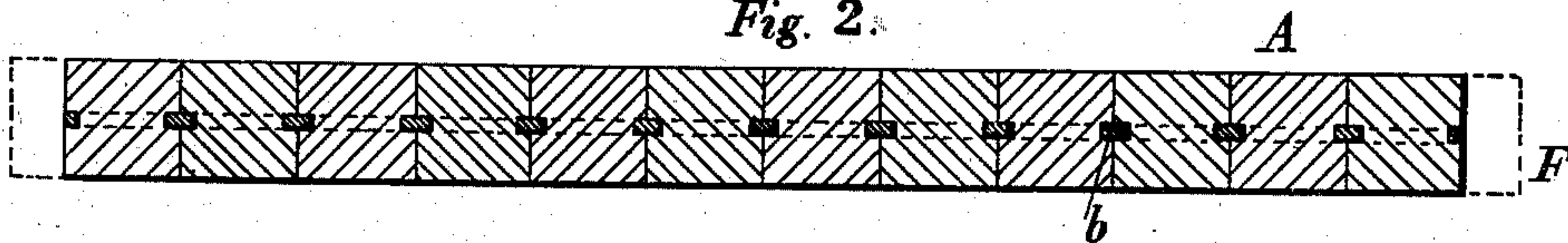


Fig. 3.

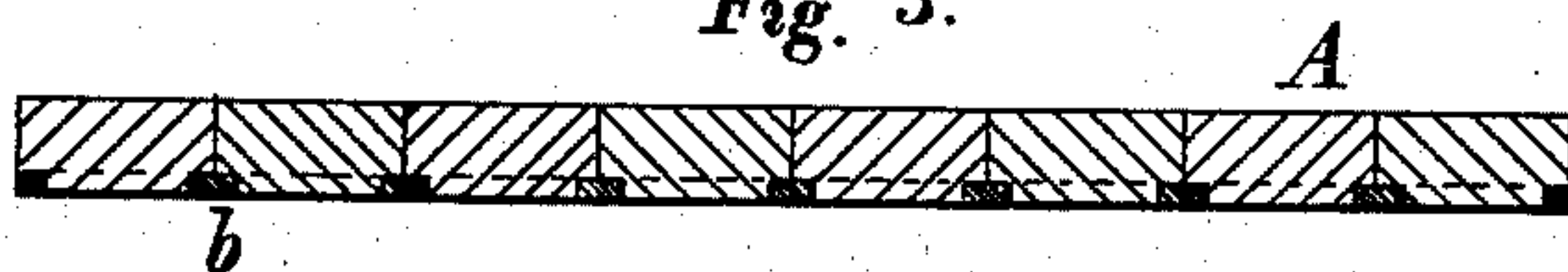
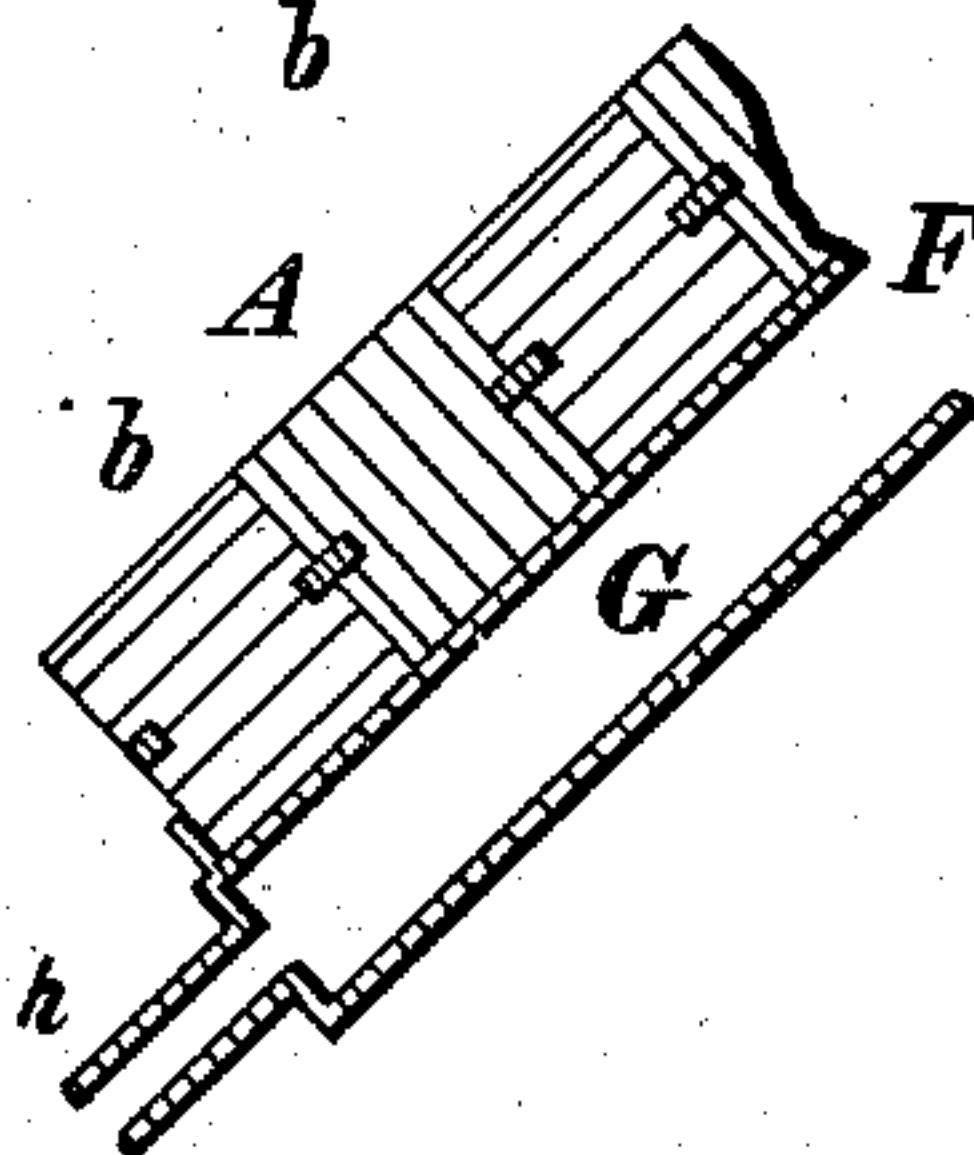


Fig. 4.



Fig. 5.



WITNESSES =

H. G. Phillips.  
H. H. Schleber.

INVENTOR =

Charles E. Rider,  
by Geo. B. Selden,  
Atty -



# UNITED STATES PATENT OFFICE.

CHARLES E. RIDER, OF ROCHESTER, NEW YORK.

## METHOD OF UNITING WOOD FOR FLOOR-COVERINGS, &c.

SPECIFICATION forming part of Letters Patent No. 255,023, dated March 14, 1882.

Application filed October 28, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. RIDER, of Rochester, in the county of Monroe and State of New York, have invented a new and useful method of uniting blocks or pieces of wood for flooring, marquetry, parquetry, cabinet-work, building, pavement, carpentry, mosaic work in wood, and all other work in wood where close, or strong, or durable, or gas, water, or air tight joints are desired, or when hygrometric changes tend to open the joints, or where flexibility of the resulting product is required, of which the following is a specification.

My invention relates to an improved mode of uniting blocks or strips of wood of any size or form; and it consists in attaching the opposing surfaces of the wooden blocks to each other by means of a metal—such as lead or a suitable alloy—molten and run into grooves or recesses previously formed in the wood.

My invention also consists in an improved covering for floors, walls, &c., formed of wooden blocks preferably set on end, and secured together by a suitable metal inserted in the molten condition into grooves cut in the opposing surfaces of the blocks.

My invention also consists in heating the wooden blocks at the time the molten metal is introduced into them for the purpose of preventing the too rapid cooling of the same.

My improvements are represented in the accompanying drawings, in which Figure 1 is a plan view of a wooden floor-covering or wainscoting embodying my invention. Fig. 2 is a section of the same on the line *xx*, Fig. 1. Figs. 3 and 4 are sectional views, representing modifications. Fig. 5 represents in section a steam-table for the purpose of heating the wooden blocks at the time of the introduction of the molten metal therein.

In the practical application of my improved process for forming joints in wood, the blocks *A A A*, or pieces of wood to be joined, have grooves *b* cut to the proper depth on the surfaces to be joined, and in such a manner that the grooves on contiguous pieces shall be opposite to each other, or nearly so. The blocks are then placed in position, or arranged in any desired manner with their surfaces in contact, and secured together by a frame, *F*, like a print-

er's chase, or by any other suitable means. The collection is then turned up in such a way that one corner—say *c*, Fig. 1—is uppermost, and all the grooves are inclined as much as possible with the horizontal. Molten lead, or an alloy of lead, or any suitable molten metal, is then poured into the grooves at the point *c*, when almost instantly the blocks are fixed together by the cooling of the metal in the grooves. The wood may be heated before the insertion of the metal to prevent the too sudden chilling of the latter; but this is only necessary when the grooves are narrow or the amount of material to be operated on is large. An opening is made in the inclosing-frame at *c* for the insertion of the molten metal. The blocks may be clamped in the frame by wedges, screws, or other suitable devices. The collection of blocks or wooden tile thus formed may be applied to use by surrounding them with any suitable frame-work, and in this condition applied to floors, sidewalks, pavements, wainscoting, and many similar purposes. The wooden tiles formed by my improved process may also be used for flooring or other purposes without any frame surrounding them, a number of the tiles being laid with their edges in contact. The tiles may be joined together at their edges by forming grooves therein, which grooves are subsequently filled with molten metal driven in by a force-pump or by the weight of a column of liquid.

The wooden blocks may be stained, dyed, or otherwise colored in any preferred way, and they may be arranged so as to form any desired figures or patterns. The blocks may also be of any suitable shape, capable of being fitted together to form a solid tile.

In another mode of operating, the separate blocks may be placed in position on the floor or other surface to be covered, and the molten metal introduced into the grooves between the blocks in this position. I am thus enabled to lay a floor-covering complete without the use of nails, screws, glue, cement, or any other means of fixation, unless it be at the outer edges.

Irregular gashes, drill-holes, or other spaces for the reception of the molten metal may take the place of the regular grooves above mentioned. For instance, the blocks may be set up



in a chase without preparation, except proper jointing. The lower or back surface of the collection is then sawed into for a little depth, either irregularly or at the lines of junction of the divers blocks, or in such a manner as to make a dovetailed groove, (see Fig. 4,) and these cuts filled with the molten metal. For thin wainscoting, for instance, this is a proper application of my improved method. Wall coverings made in this way are represented in the sectional views, Figs. 3 and 4.

In Fig. 5 I have represented in section a steam-table for the purpose of heating the wooden blocks, so as to facilitate the introduction of the molten metal into the grooves. By means of the steam receptacle or tab'e G, receiving steam through the pipe *h*, the tile A is heated to such a degree as to prevent the too rapid chilling of the molten metal during the operation of uniting the blocks of which the tile is composed. Any other suitable means of applying heat to the tile may, however, be employed.

Floor or wall coverings manufactured in accordance with my improvements possess the following advantages: They are impervious to moisture, and on account of the lead or metal contained therein they are poor conductors of sound. They also possess a certain amount of flexibility and adapt themselves to any sur-

face to which they may be applied, retaining their shape without any tendency to spring or warp from any atmospheric or other causes. They are also exceedingly durable, especially when the end of the grain of the wood forms the surface exposed to wear. They are also cheap in price, and may be made very elegant in appearance by the use of suitable designs or patterns.

I claim—

1. The herein-described method of uniting wood, which consists in introducing lead or other suitable metal or alloy into grooves in the wood in the molten condition, substantially as and for the purposes described.

2. As a new article of manufacture, the wooden tiles herein described, consisting of wooden blocks united by the introduction of molten metal or alloy into grooves therein, substantially as described.

3. The herein-described method of forming joints in wood, consisting in introducing molten metal into grooves formed in the opposing surfaces of the wood while the latter is in a heated condition, substantially as and for the purposes set forth.

CHARLES E. RIDER.

Witnesses:

GEO. B. SELDEN,  
H. G. PHILLIPS.