(No Model.)

C. BUTCHER.

FLOOR AND CEILING.

No. 328,185. Patented Oct. 13, 1885.

Fig. 1.

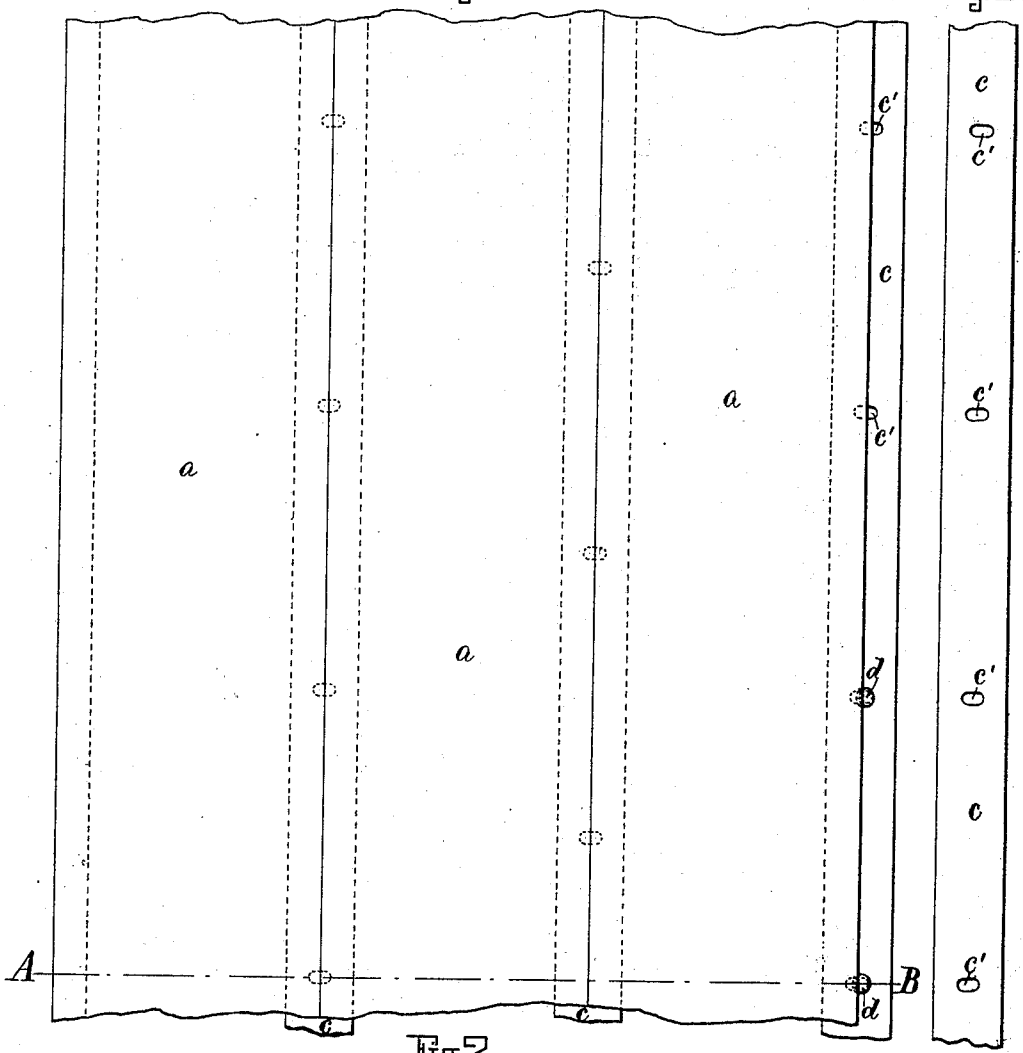
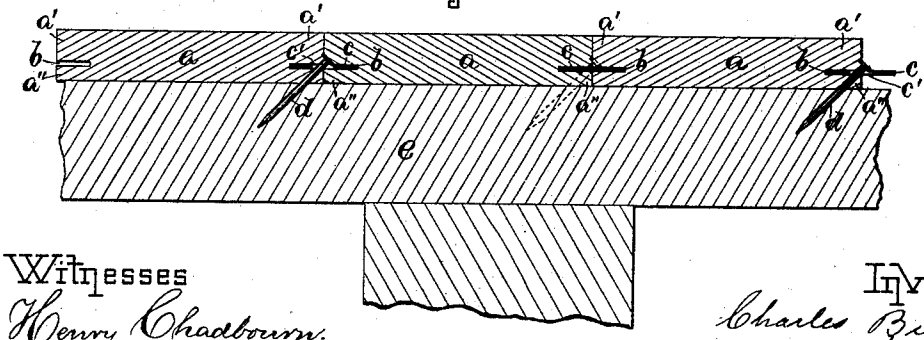


Fig. 3.

Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES BUTCHER, OF BOSTON, MASSACHUSETTS.

FLOOR AND CEILING.

SPECIFICATION forming part of Letters Patent No. 328,185, dated October 13, 1885.

Application filed January 3, 1885. Serial No. 151,896. (No model.)

To all whom it may concern:

Be it known that I, CHARLES BUTCHER, a citizen of the United States, residing at Boston, (Cambridge,) in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in the Construction of Floors and Ceilings; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to improvements in the construction of floors and ceilings, although it is equally useful for paneling and wainscoting of walls or for other similar purposes where a blind-nailed wooden surface or covering is desired.

In the accompanying drawings, Figure 1 represents a plan view of my improved floor, ceiling, or paneling, and Fig. 2 represents a cross-section on the line A B shown in Fig. 1. Fig. 3 represents a plan view of the perforated metal tongue for matching the boards or strips together.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

My invention is carried out as follows: I take boards *a a a* of from one-fourth to three-eighths of an inch thick, (more or less,) and after the sides that are to abut are made perfectly square with the top and bottom of said boards I make a thin groove, *b*, by means of a thin circular saw or other tool in the edges of said boards, and such groove I make nearer the bottom side of the board than at its top side, as shown in Fig. 2, by which the upper lip, *a'*, on each board *a* is made somewhat thicker than the under lip, *a''*. The thin grooves *b* are adapted to receive a thin metal tongue, *c*, which is provided about midway with perforations *c' c'*, preferably made in the form of slot-holes, as shown in Fig. 3, to receive the nails *d d* after one-half of the said metal tongue *c* is inserted into the corresponding groove *b* in the edge of the board. The nails are driven diagonally through said perforations *c' c'* in the metal tongue *c* and through the lower lip, *a''*, of the board *a* into the lower floor or joist, *e*, as shown in Fig. 2, and the next board in the series driven up tight against the first one, causing the other half part of the now firmly secured tongue *c* to enter its corresponding groove *b*, and so on, and the nails to be entirely concealed.

The great advantage of this my invention is that thin floors of about one-fourth to three-eighths of an inch in thickness can be laid and blind-nailed, as above described, and thus present as even and as much wearing-surface as the regular seven-eighths of an inch matched flooring ordinarily used.

By my invention there is not only a very great saving of lumber, but a better finish is obtained, for the reason that the boards are finished perfectly square at their abutting edges and not undercut, as is customary in ordinary matched floorings, and also for the reason that by using thin boards I am able to get the stock thoroughly dried and seasoned.

Heretofore what is termed "wood carpet," made of thin stock, has been made; but as the boards were too thin to admit of ordinary tongues and grooves they have been nailed from the top into the floor below; but this manner of laying thin floors is unsatisfactory, as it is very difficult to keep the boards so nailed in place, as by changes in the atmosphere the boards swell and cause the nails driven in the soft wood under floor to draw out. The nail-heads, showing on the upper side of the floor, very materially mar the beauty of the surface, and these objections I have overcome by the metal tongues fitting in the abutting edges of the thin boards and the nails driven diagonally through the perforated metal tongue and through the lower edge of the board into the under floor, the next board being then abutted against the edge of the board so nailed with about one-half of the metal tongue entering its groove, and so on until the whole floor is laid, without leaving any nail-heads in sight. The boards being thus held together by means of the metal tongues and secured to the floor below by means of the diagonally-driven nails makes the construction very practical as well as durable.

The metal tongues above described may be used to equal advantage on floors of seven-eighths of an inch or thicker, although it would be more practical to lay a half-inch common floor diagonally across the usual under floor and cover the first-named floor

with my thin boards having the thin grooves and their thin metal tongues, as above described.

I am aware that it is not new, broadly, to secure flooring-boards by inclined nailing, and I am also aware that a floor has been composed of strips of wood having the adjacent edges grooved and rabbeted together, a plate of metal being inserted in the grooves and between the upper and lower faces of the rabbets, and the plate and lower rabbet secured by screws or pins to the joists. Such features, therefore, I do not broadly claim; but

What I wish to secure by Letters Patent and claim is—

The hereinbefore-described improved flooring, ceiling, or wainscoting, consisting of strips grooved on both edges and having the lips above the grooves of a greater thickness than the lips below the grooves, and metal tongues, the joint-line of the strips or edges of the lips being in one plane at right angles to the faces of the strips, and metal tongues taking in the grooves and having oval or transversely-elongated perforations, whereby fastening devices may be diagonally passed therethrough, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

CHARLES BUTCHER.

Witnesses:
ALBAN ANDRÉN,
HENRY CHADBOURN.