No. 654,450. Patented July 24, 1900.

F. GUDE.

FLOORING.

(Application filed Nov. 7, 1899.)

(No Model.)

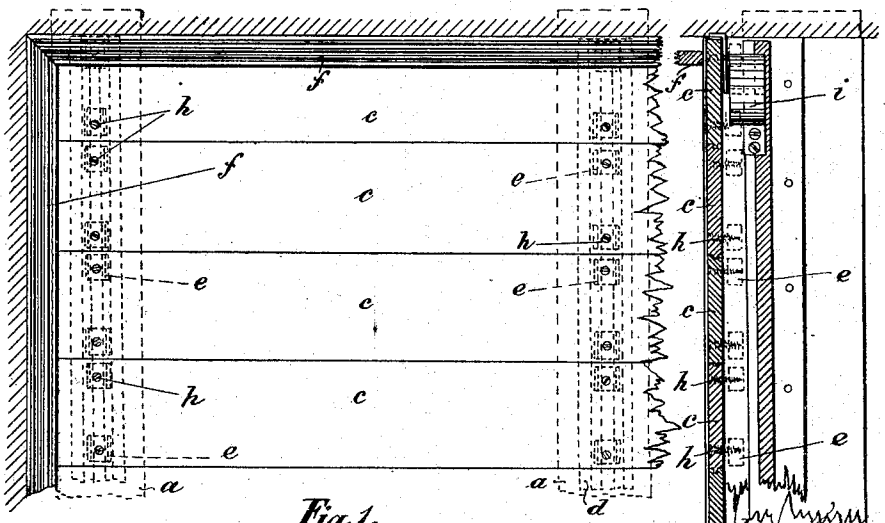


Fig. 1.

Fig. 2.

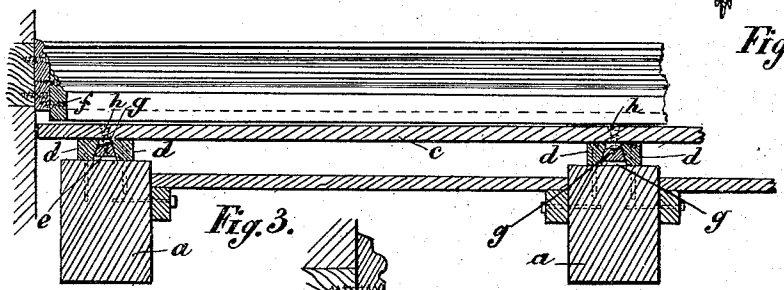


Fig. 3.

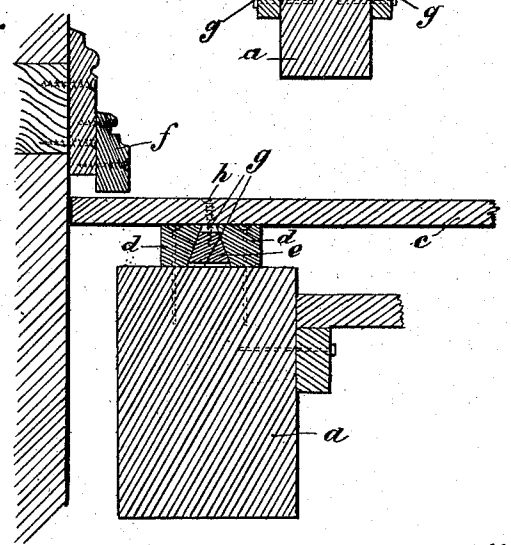


Fig. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

FRANZ GUDE, OF RAGNIT, GERMANY.

FLOORING.

SPECIFICATION forming part of Letters Patent No. 654,450, dated July 24, 1900.

Application filed November 7, 1899. Serial No. 736,117. (No model.)

To all whom it may concern:

Be it known that I, FRANZ GUDE, a subject of the King of Prussia, German Emperor, residing at Ragnit, in the Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Flooring and in Methods of Laying the Same, (for which I have applied for patents in England, No. 16,965, dated August 21, 1899; in Austria, dated August 16, 1899; in Hungary, No. 12,809, dated August 21, 1899; in Denmark, No. 902, dated August 23, 1899; in Sweden, No. 1,448, dated August 23, 1899, and in Germany, dated August 12, 1899,) of which the following is a specification.

This invention has reference to floorings of houses and other buildings and to the method of laying the same.

Floorings as generally laid and which are constructed of planks nailed directly upon the joists or beams of the buildings possess the great drawback that after the flooring has been laid for some time seams or gaps of varying width show themselves between the boards. It has been sought to obviate this drawback by seasoning the flooring material by storing it for, it may be, years, which storing had to be carried out in open sheds in which the boards, however, were continually exposed to the varying influences of the weather and differences of temperature; but even if planks seasoned for years be employed for the flooring-boards it is not possible to lay them only when continuously-dry weather prevails. They must be laid as required by the progress of the building. Attempts have also been made to artificially dry the boards in drying-kilns. These arrangements, however, can only be carried out by large steam-works, and, further, the kiln involves great expense and the boards are injured by checking and warping, and, lastly, the dried material swells as soon as ever it is brought out of the kiln for transport during rainy or damp weather. If the gaps or seams in ordinary floors have to be mended, they must be filled in or luted, or it may be necessary to take up the whole flooring. In consequence, however, of the rigid nailing down of the flooring-boards it is very difficult to separate them from the joists without injury. All these drawbacks are avoided by the present invention, a characteristic feature of which consists in so disposing or arranging the flooring-boards that they are capable of lateral movement or adjustment, so that upon the appearance of seams or gaps the boards may be at any time readily brought together.

The accompanying drawings represent a flooring constructed in accordance with the present invention.

In the drawings, Figure 1 is a plan of a portion of the flooring. Fig. 2 is a vertical section taken across the boards; Fig. 3, a vertical section taken along them; and Fig. 4 shows, on a larger scale, the method of securing the flooring-boards in position.

Referring to the figures, *d* are fillets running exactly parallel with each other and nailed or otherwise firmly secured to the top of the joists or beams *a*, which should also be quite parallel to each other. These fillets are so situated with respect to each other that a space or groove is constituted between them for the purpose explained later. This groove may, for example, be trapezium-shaped in cross-section, as shown.

Upon the under face of the flooring-boards *c* plugs or blocks *e* are secured, each by a screw *h*, preferably of wood, driven down through the top face of the board. These plugs or blocks *e* are of similar shape in cross-section to that of the space formed between the fillets *d*, so that the boards *c* can thus be moved along in either direction, the plugs *e* running in their grooves. If the screws *h*, which hold the blocks *e* to the planks *c* be tightened up, it will be readily understood that the blocks *e* will be wedged firmly in the grooves, and thus give the flooring-boards a good hold. After the whole of the boards have been laid down in the manner described they are firmly drawn together by a suitable tool and then secured in position by means of their screws *h*. The entire flooring having been thus laid, the skirting-boards *f* are fixed, not as hitherto usual to the flooring, but to the wall by means of screws in such manner that the boards may be moved freely under the wainscot when necessary. If in the course of time seams or chinks should appear be-

tween the boards, these can be remedied by the employment of stretching-screws, which force the boards together again.

If it should be desired to automatically and permanently hold the boards together without formation of seams from shrinkage, as above referred to, spiral steel springs *i* may be secured oppositely to some of the joists (see Fig. 2) to draw the boards together. Pressure-springs may, however, be equally well employed if the walls of the buildings are strong enough to hold the boards together. In order to close the seams between the skirting-board and the flooring, they may be smeared with luting or wax, so that when the boards are being cleaned no water may get underneath. If spiral springs *i*, as shown in Fig. 2, have been used in the laying of a floor, these may readily be removed after the flooring has become thoroughly dry by taking up a board at each side of the room. These springs may be again employed for other floors, and the cost of the floorings is therefore cheapened. When the flooring is found to have become completely dry, the screws *h* may be screwed up more firmly, especially if the boards were very new when laid down and have shrunk. With this object in view spaces *g* should be left at the upper and lower sides of the plugs *e*.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In floors for buildings, the fillets secured to the joists or beams and floor-boards provided with vertically-adjustable blocks or plugs on the under side thereof.

2. In floors for buildings the parallel fillets forming grooved spaces secured to the joists or beams, floor-planks having vertically-adjustable plugs or blocks secured to the under sides thereof.

3. In floors for buildings the fillets provided with converging faces forming grooved spaces fastened to the joists or beams, floor boards or planks provided with beveled blocks or plugs secured to the under sides thereof.

4. In floors for buildings, the fillets secured to the joists or beams, provided with upwardly-inclined faces forming grooved spaces, the boards or planks having adjustable blocks or plugs secured thereto, and provided with downwardly and outwardly flaring faces.

5. In floors for buildings, fillets arranged in parallel sets, each having upwardly-inclined faces forming grooved spaces, the planks or boards provided with blocks or plugs having downwardly and outwardly flaring faces, secured to the under side of said boards or planks.

6. In floors for buildings, the fillets forming grooved spaces secured to the joists or beams, planks or boards provided with adjustable plugs or blocks, having downwardly and outwardly flaring faces, adapted to slide in said grooved spaces and springs secured to the joists or beams.

7. The combination with means for securing boards in place as a floor while permitting their lateral adjustment, of means elastically pressing the boards edgewise and thus automatically closing gaps or spaces.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

FRANZ GUDE.

Witnesses:
RICHARD OPOLOWITZ,
CARL PODACK.