

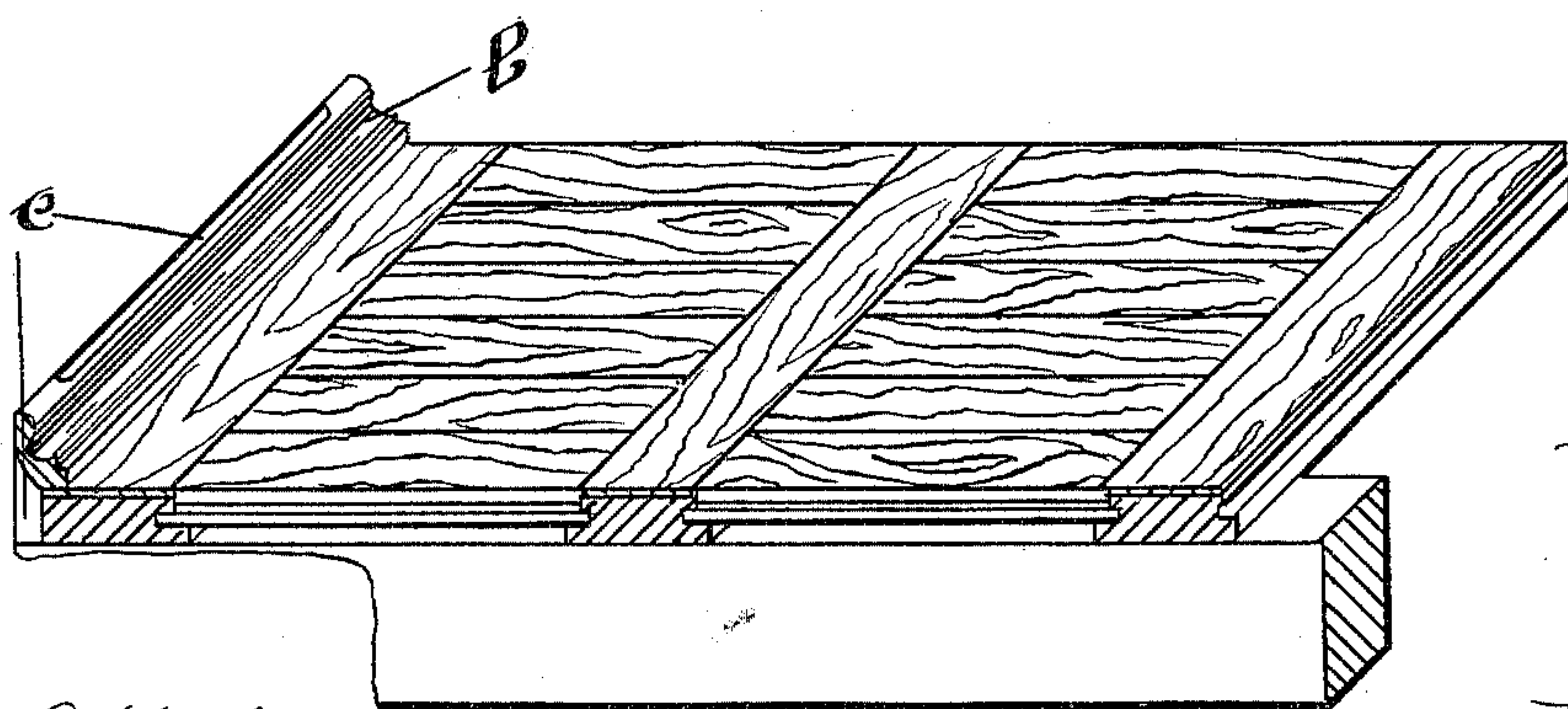
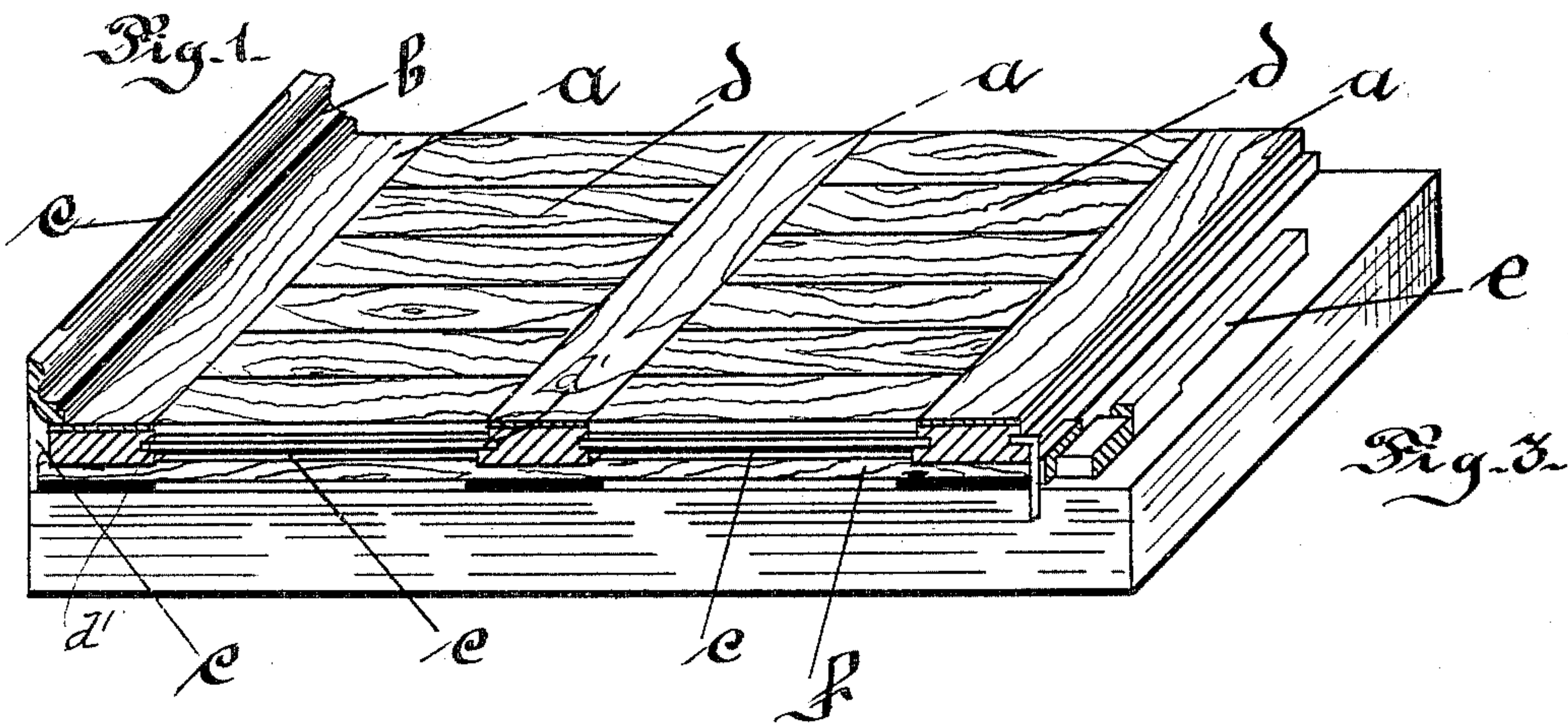
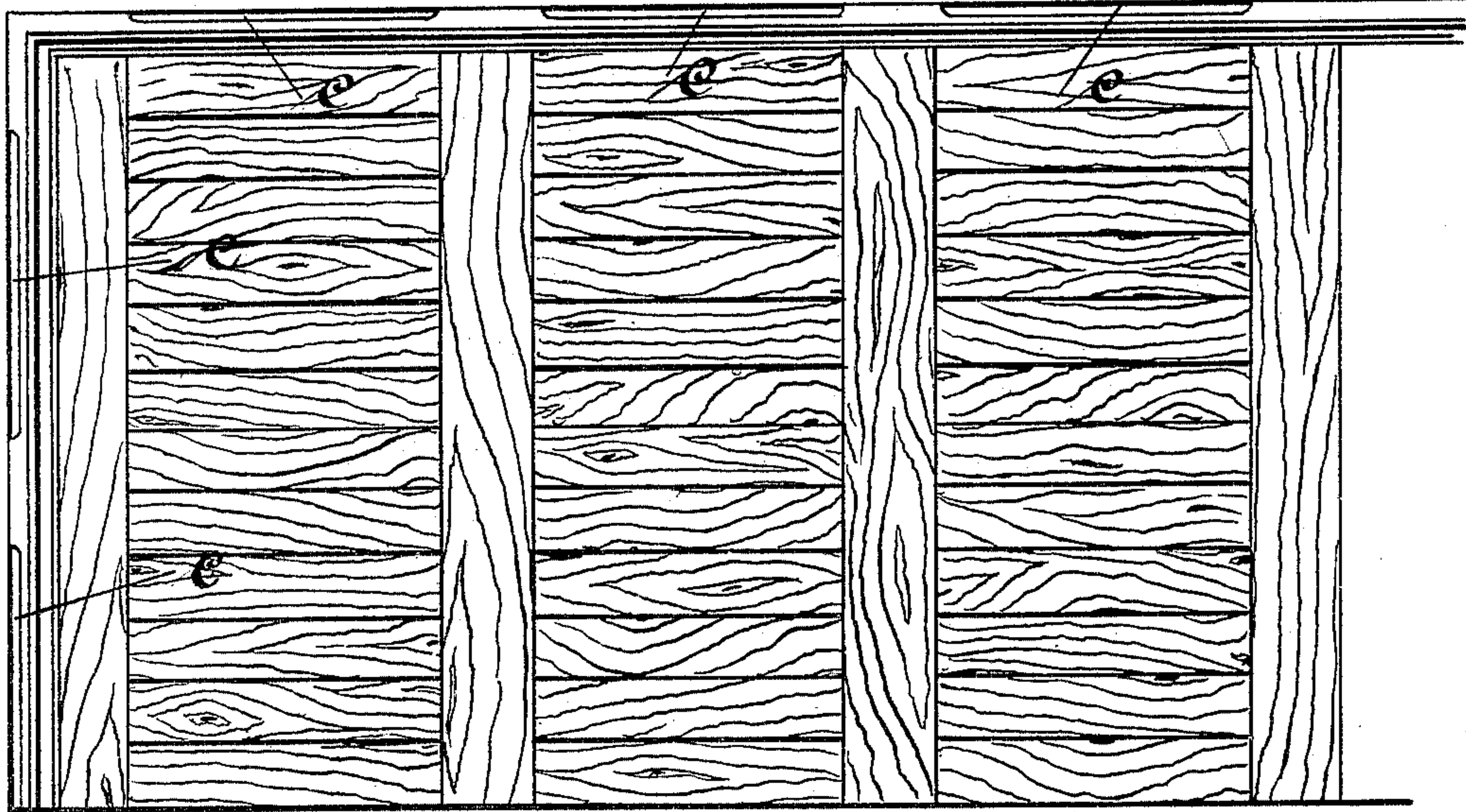
(No Model.)

2 Sheets—Sheet 1.

O. HETZER.  
FLOOR.

No. 491,647.

Patented Feb. 14, 1893.



Attest  
Walter Malan  
James McFarr

Inventor  
Otto Hetzer  
by Ellis Spear  
ATTY.



(No Model.)

2 Sheets—Sheet 2.

O. HETZER.  
FLOOR.

No. 491,647.

Patented Feb. 14, 1893.

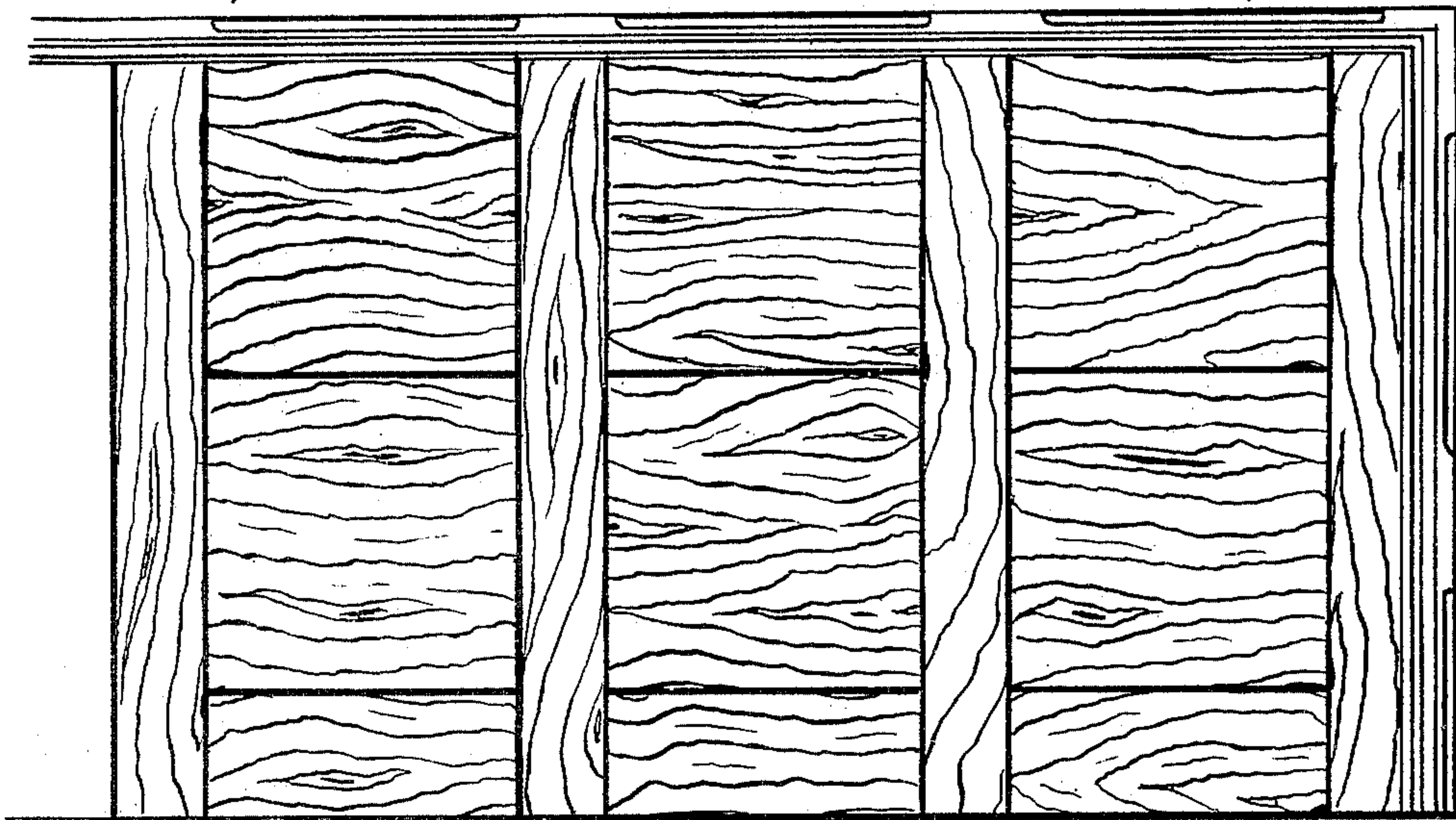


Fig. 2.

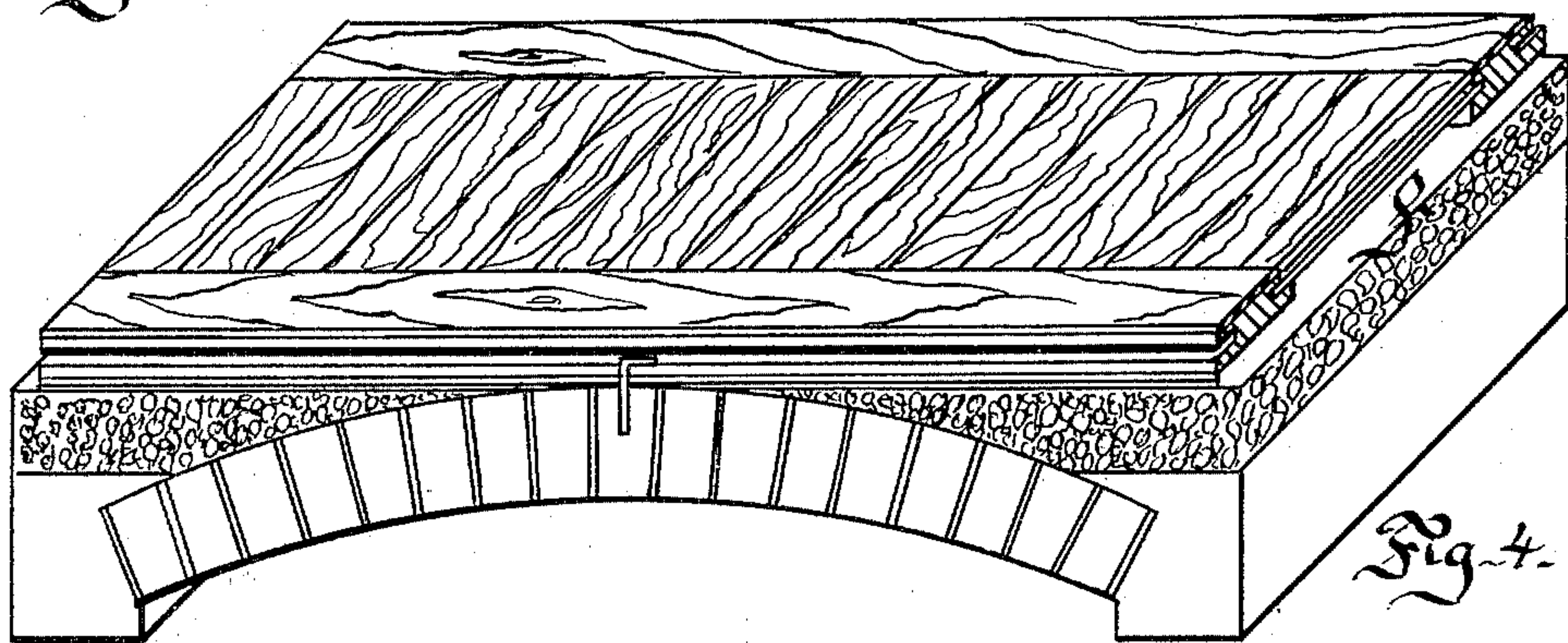


Fig. 4.

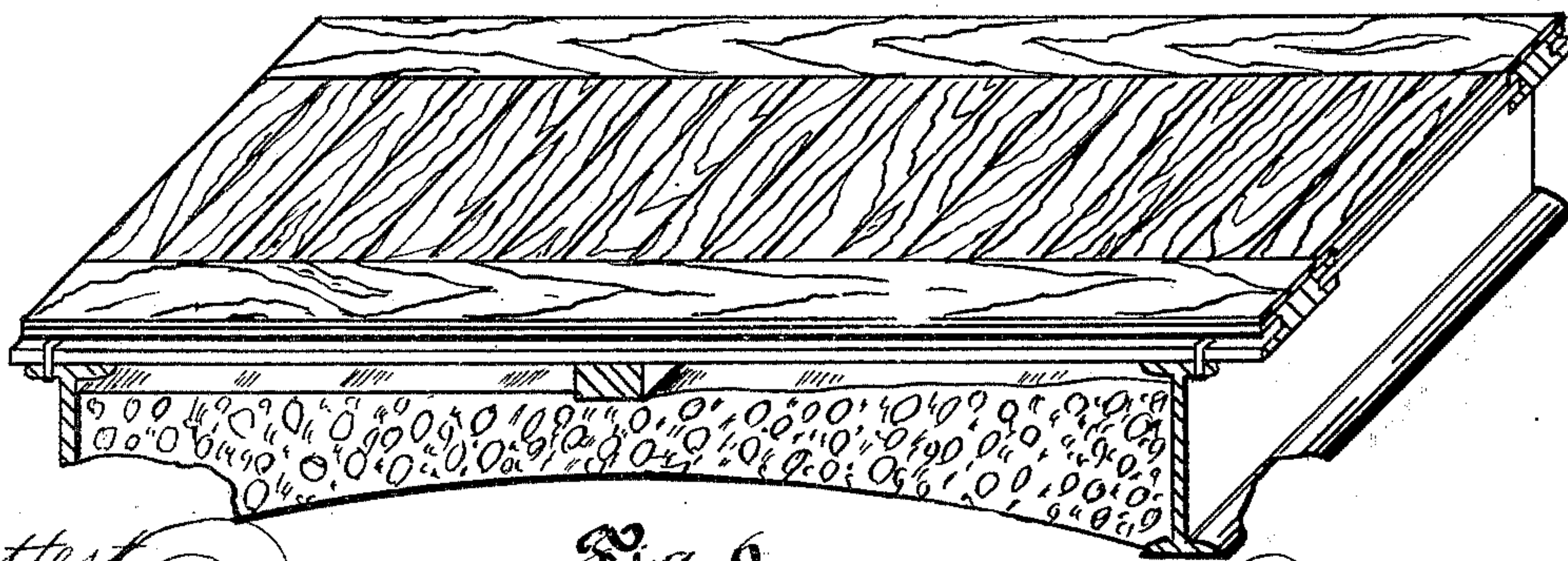


Fig. 6.

attest  
Muller & Muller  
James M. Muller

Inventor  
Otto Hetzer  
by Ellis Spear -  
Atty.



# UNITED STATES PATENT OFFICE.

OTTO HETZER, OF WEIMAR, GERMANY.

## FLOOR.

SPECIFICATION forming part of Letters Patent No. 491,647, dated February 14, 1893.

Application filed July 11, 1892. Serial No. 439,630. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO HETZER, master carpenter, of 24 Ettersburger Strasse, Weimar, in the German Empire, have invented  
5 a new and useful Improvement in Boarded Floors, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to boarded floors and  
10 its object is to overcome the drawbacks previously encountered in the construction and laying of such floors. It is at present difficult to lay a floor so as to absolutely protect it from changes of weather or temperature  
15 and the resulting expansion and contraction therefrom which frequently ends in the floor becoming permanently distorted. By my improved method of construction this warping or distortion is successfully prevented and  
20 at the same time provision is made for ventilating the space under the boards thus removing a very fruitful source of dry rot.

In the accompanying drawings which illustrate in what manner my invention may be  
25 carried into effect, Figure 1 represents a plan of a boarded floor. Fig. 2 is a plan of an in-laid floor. Fig. 3 is a sectional view of a boarded floor; and Fig. 4 is a sectional view of an in-laid floor.

30 In Fig. 3 the floor is laid directly upon asphalt, concrete or other similar suitable material, or upon flat brick-work, while that illustrated in Fig. 4 is laid upon an arch or a vault.

35 In Fig. 5 the floor is shown supported upon a wooden bed or upon beams and in Fig. 6 it is illustrated as supported by iron girders.

Any of the usual woods may be employed in the construction of the improved flooring,  
40 but beech is preferred. In all cases the wood is subjected to a preparatory treatment by means of which the proteine is extracted without destroying the fiber of the wood.

Referring to the drawings *a a* are the framing timbers to the end ones of which the skirting boards *b b* are secured in such a manner

as to cover the space between the frame timbers and the wall. Openings *c c* are formed in the skirting boards *b* so as to provide for the ventilation of the space under the floor-  
50 ing boards. Between the frame timbers *a* the panels or boards *d* are laid. The method of connecting or joining these panels differs materially from the methods hitherto in use, the panels or boards *d* being mortised on their  
55 lower edges at *d'* Fig. 3. By this disposition and arrangement the panels are capable of sliding or moving away and toward each other. A suitable space is left between the edges of the boards and the wall. If the points  
60 of support of the frame timbers should be far apart it may be necessary to guard against sinking of the floor by the provision of a support or trestle as indicated at *e* Fig. 3.

A floor constructed according to this inven-  
65 tion may be laid directly upon the foundation without the necessity of a prepared bed or packing. If it be not laid upon a bed or upon girders it is embraced by a frame which holds it together. For this purpose the frame  
70 timbers *a* are laid on suitable bolsters *f*.

By the use of this improved floor, even in a house which is not yet dry, the growth of dry rot is prevented owing to the complete  
75 ventilation, and expansion and contraction are permitted without any risk of bursting, bending or breaking.

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

In a boarded floor the combination of the  
80 free sliding panels or boards *d* the frame timbers *a* and the ventilated skirting boards *b*, all constructed and arranged substantially as and for the purpose hereinbefore described and as illustrated by the accompanying draw-  
35 ings.

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

OTTO HETZER.

Witnesses:

EMIL KOLLINER,  
PAUL FISCHER.