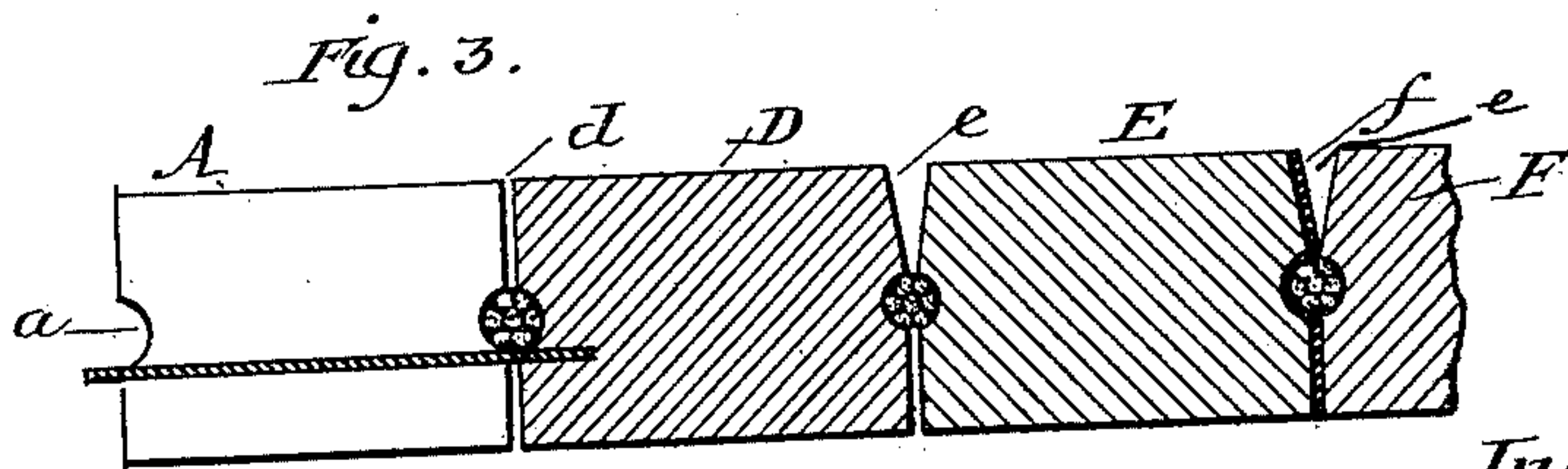
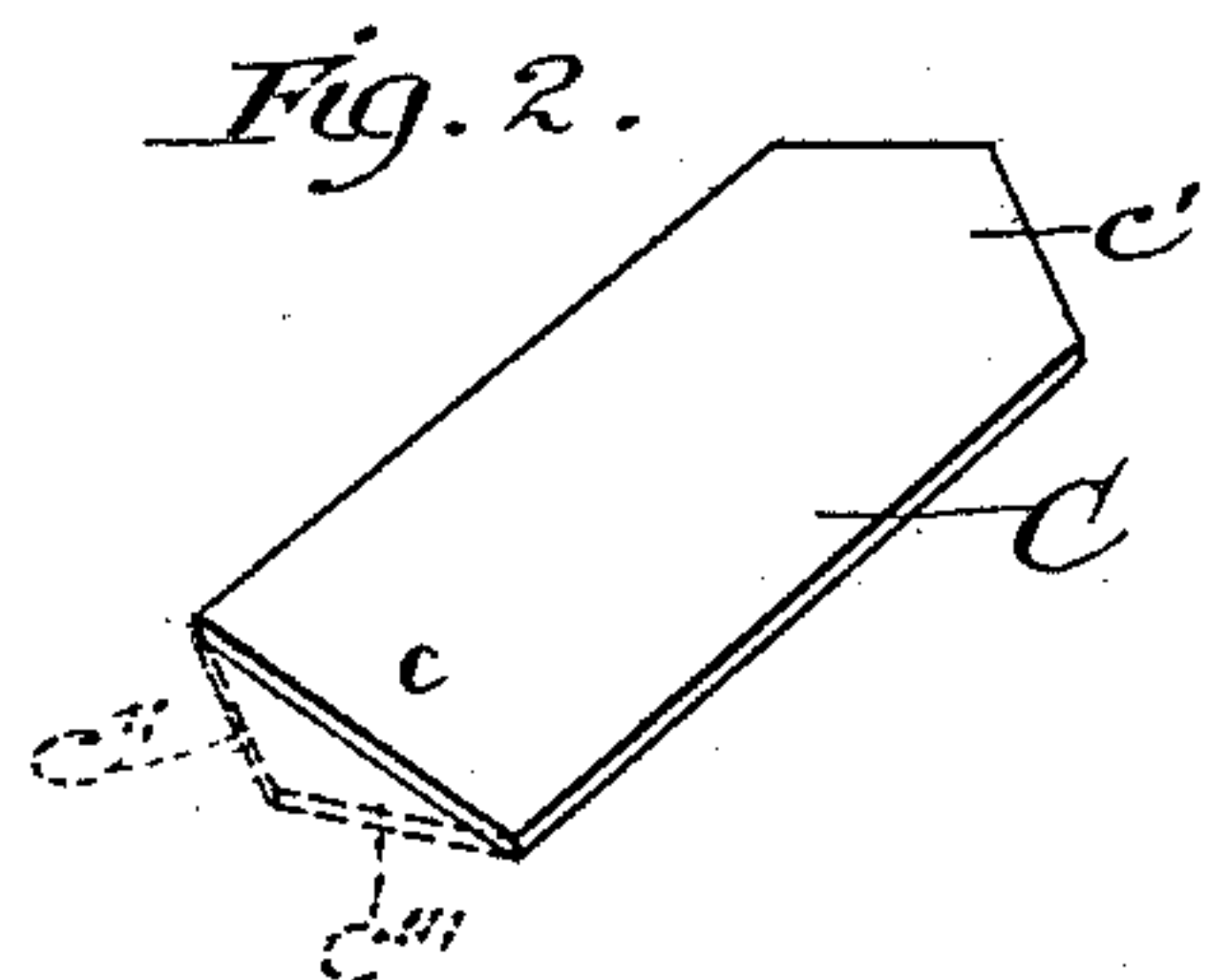
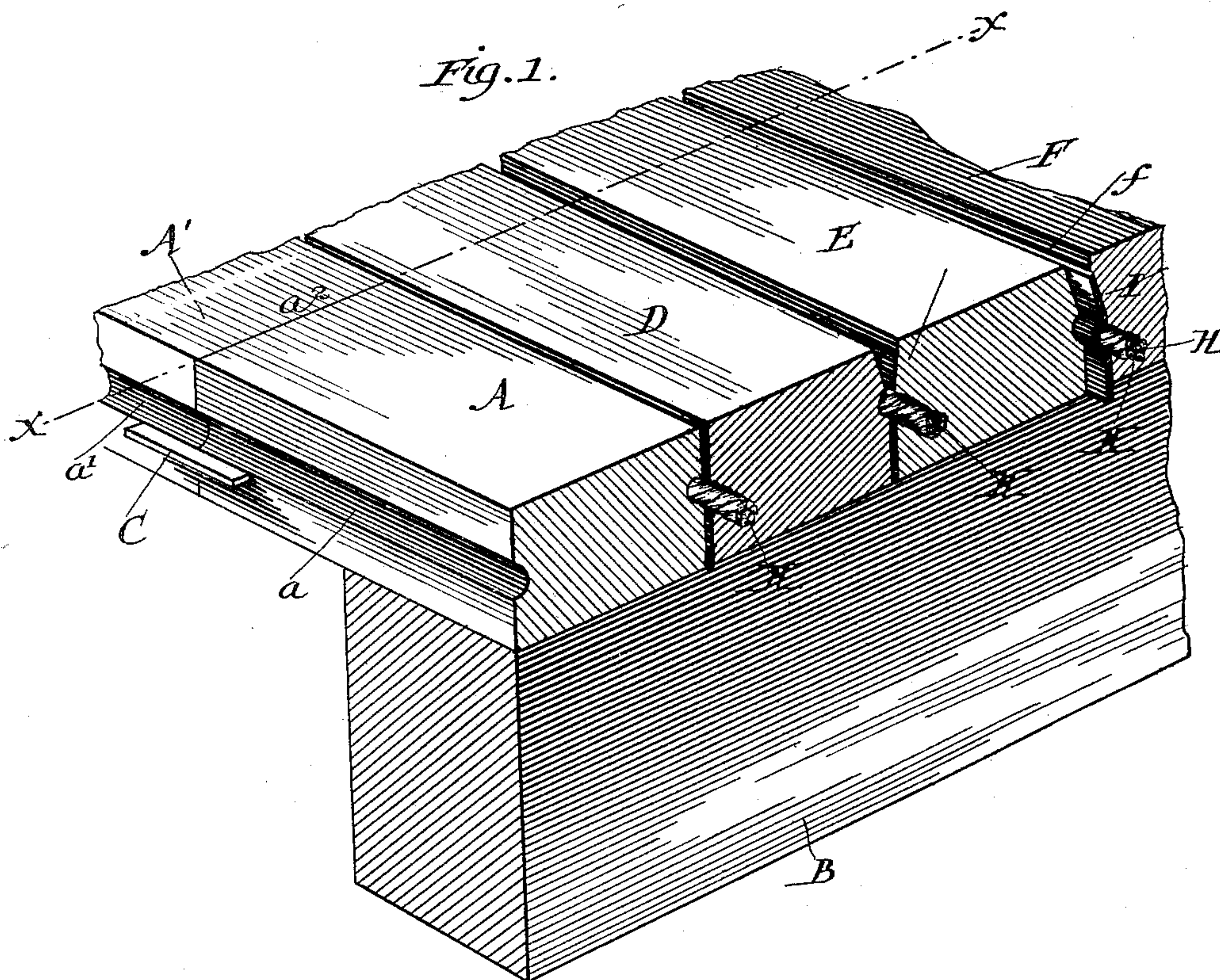


(No Model.)

J. D. FINLEY.
FLOORING.

No. 462,480.

Patented Nov. 3, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES D. FINLEY, OF CHICAGO, ILLINOIS.

FLOORING.

SPECIFICATION forming part of Letters Patent No. 462,480, dated November 3, 1891.

Application filed February 24, 1890. Serial No. 341,514. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. FINLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Flooring, of which the following, in connection with the accompanying drawings, is a specification.

Like letters of reference in the specification and drawings designate like parts.

Figure 1 is a perspective view of a portion of flooring, representing my invention in its principal and modified forms. Fig. 2 is in the full lines a plan view of a key made use of at the butts or joints of the flooring, the dotted lines showing a modification whereby the key would be pointed at both ends. Fig. 3 is an end view of a portion of flooring, showing especially an edge view of the key in the flooring and the manner in which the ends of the key project beyond the edges of the planks containing the body portion of the key at each joint or butt.

Keys have been used to fasten or assist in fastening together the ends of abutting planks and to give them a bearing on the adjacent planks, and an approximate construction is one in which planks of the tongue-and-groove order have been employed in connection with a key and a packing held between the meeting edges of planks, as shown in my patent, No. 422,584, dated March 4, 1890. The latter form is more expensive than this by reason of a certain waste of lumber in the manufacture of the tongue over what is required in making a simple groove in each edge of the flooring-plank and using cords as packing in the grooves and keys at the joints.

In my present invention the principal feature distinguishing it from the above-patented invention is that resulting from the omission of the tongue on each of the flooring-planks, since I groove each side edge of a flooring-plank at a point half-way or two-thirds of the way preferably from its top surface to the bottom, so that when the planks are placed edge to edge on the joists in forming a flooring the groove in each of the adjacent edges of the planks will coincide or register, thus forming a channel or longitudinal opening of cylindrical form, or approximately so, for holding a cord or rope or other suitable flexi-

ble or packing material or substance, the said openings or channels extending the full length of the planks and containing the cords or other packing tightly held therein, as hereinafter fully described.

My invention consists in the various constructions and combinations of parts described in the specification proper, and expressed in the claims.

A and A' are planks having meeting ends at the line xx , Fig. 1, forming there a butt or joint, a key C passing within saw cuts in the ends of the planks, said key being preferably so placed as to be at the very lower edge of the groove in each edge of the planks, whereby the packing-cords H rest directly upon the key near its ends. The cords or packing may be sections of cotton line, hemp line, rubber tubing, or solid rubber cords, or paper tubes or cords, or ropes or strands of any other suitable packing substance or material.

The semicircular grooves $a a'$ in planks A A' are formed to register with a groove in a flooring-plank that is to be fitted against the planks A A', and the groove or opening thus formed is to contain a cord to serve as a packing, the cord, groove, and planks having the relation to each other shown between the plank D and the planks A A' in Fig. 1. The registering grooves form channels in which the cords H are tightly held or other suitable packing material or substance is securely held, and above said cords are seams either formed by the straight square edges of the planks, as seam d , or seams formed by beveling the edges of the flooring-planks, as seams e . One or both of the adjacent edges of the planks above the channels may be beveled in order to form a seam widening from its bottom to its top. The seams above mentioned may be filled with a waterproofing composition, or a packing may extend from the packing in the channel up into the seam and then the seam be filled in with a waterproof composition, or the packing extending from the packing in the channel may be of such flexible nature as to suffice in filling the straight-sided seam d , (shown in Fig. 1 between the planks A and D,) so as to answer without using any waterproofing composition. However, when great security

against the leakage of water or other fluid through the seams is desired this closely-held flexible packing in the seams *d* may have its upper edge coated with a waterproofing material and be saturated therewith as far as practicable, as by pouring melted pitch into the seam.

I preferably use cords of cotton or hemp or other suitable packing substance or material in the channels or cylindrical grooves without using any additional packing in the said groove or in the seam *d*, as shown between the planks A and D of Fig. 1, and then fill up the seam *d* with hot melted pitch. In some cases I bevel off the top edges of the planks, so as to form a seam widening from its bottom to its top, as shown at *e*, between the planks D and E, and fill said seam with pitch. In each case the pitch will run down to the top of the cord H and saturate it more or less. In some cases I put in alongside of the packing-cord a strip of felt I or like substance, as shown at *f*, between the planks E and F, the said strip extending nearly to the top of said seam *f*, and I then pour hot pitch into the top of the seam and saturate said strip and the cord of packing, so far as may be, filling up the seam to the surface of the flooring.

In Fig. 2 the dotted lines *c''* *C'''* indicate that the end *c* of the key C may be pointed as well as the end *c'*, and, whether square-ended or pointed, the key may have its edges at the ends sharpened, and even the side edges sharpened; but as a rule I prefer sharpening the edges of the ends only. Where quite soft timber flooring-planks are used, the key will answer very well without sharpening any of its edges, and a key with but one end pointed will usually answer.

In laying the flooring I first nail down one strip on the joists and then hold a piece of cord stretched in the exposed semicircular groove. I then push a plank up against the nailed one, the channel formed of the registering half-grooves thus encompassing the cord. I then nail this second plank, and when all the planks are nailed down I fill in the seams *d* with hot melted pitch. When the seam *e* is provided instead of the straight-sided seam *d*, more pitch is required to fill the seam.

When I employ the strip of felt I or other suitable strip of flexible packing substance or material, I stretch this alongside of the cord H when the latter is placed ready to have the subsequent plank forced against it, the top edge of the said strip coming nearly to the top surface of the planks, and I then force this subsequent plank against the nailed plank and nail fast this subsequent plank. After thus laying the flooring by putting down plank after plank until finished from one side of the room to the other I fill in the seams *f* with hot melted pitch, thus saturating the upper portion of each strip of felting and the tops of the cords in the channels, the pitch permeating the entire packing more or less.

The melted hot pitch is preferably used for this purpose; but any liquid waterproofing composition could be used that is ordinarily used for waterproofing cords, ropes, &c., without injuring the same or destroying their flexibility. The strip of felting aids in not only filling the seams *f*, but in holding the pitch or other waterproofing composition in position in said seams. Instead of a strip of felting, a strip of other flexible substance, as of cotton-duck, may be used, or even a strip of cloth or muslin. The floor thus made will answer for packing-houses and generally wherever a water-tight flooring is desirable. The walls of cisterns may be formed after this same manner of producing water-tight seams. The keys at the butts or joints of the flooring serve to make them water-tight in connection with the packing used in the channels formed and filled, as above described, and particularly if the seam *a*² above the key at each joint is filled with a waterproofing composition, and better still when the packing in the channels is saturated with waterproofing composition. When the key passes through the channel, then of course the packing-cord or other flexible packing comes directly in contact therewith, thereby preventing any water that may have gotten down in the seam *a*² from running along its top surface to the ends of the keys. This key may pass directly through the packing in the channel; but I prefer, generally, to so arrange the key that it may pass closely along the lower surface of the packing in the channel, so that the packing will press tightly on its upper surface, and thus assist in preventing water coursing along the key to its ends. The key is designed to pass sufficiently far into each plank at each side of the joint to give a secure bearing at each of its ends, whereby the joint may be formed at any point between the joists and yet the floor be firm, thus saving the sawing off of the planks to make the joints come, in all cases, directly over joists, as the joint made in this manner, even if it is made midway between the joists, will be sufficiently firm and water-tight for flooring, walls, and generally wherever water-tight flooring is required.

Having thus fully described my invention, what I claim is—

1. A flooring or wall formed of planks grooved on each edge and secured edge to edge upon a suitable support, and having a yielding packing in the channel or groove between the meeting edges of the planks and a waterproofing composition in the seam above the channel, substantially as and for the purpose described.

2. A flooring or wall formed of grooved planks secured edge to edge upon a suitable support, a yielding or flexible packing held in the channels formed by the registering grooves, and keys passing through the butts or joints, substantially as and for the purpose described.

3. A flooring or wall formed of grooved planks secured edge to edge upon a suitable support, the grooves of the adjacent edges registering and forming channels, suitable packing held in said channels, and keys in the channels passing through the butts or joints directly beneath and in contact with said packing, substantially as and for the purpose described.

4. A flooring or wall formed of planks grooved on each edge and secured edge to edge upon a suitable support, with suitable packing in the channels formed by the registering grooves, and another material or substance, being essentially a waterproofing composition or substance, in the seams above the channels, substantially as and for the purpose described.

5. A flooring or wall formed of planks grooved on each edge and secured edge to edge upon a suitable support, with suitable packing in the channel or groove between the planks, a part of said packing extending from the channel into the seam on one side of the channel, that part being covered with a waterproofing composition or substance, and the said seam being thus filled and rendered water-tight, substantially as and for the purpose described.

6. A flooring or wall formed of grooved planks secured edge to edge upon a suitable support, the grooves of the adjacent edges registering and forming channels, flexible packing in the said channels, and packing in said channels extending into the seams on one side of the channels, substantially as and for the purpose described.

7. A flooring or wall formed of grooved planks secured edge to edge upon a suitable support, the grooves of the adjacent edges registering and forming channels, and packing held in said channels, the planks on one side of the channels presenting wider seams than on the other at the meeting edges, said wider seams being filled with a waterproofing composition or substance differing in its nature from the packing in the channel, substantially as and for the purpose described.

8. A flooring or wall formed of grooved planks secured edge to edge upon a suitable support, the grooves of the adjacent edges of the planks registering and forming channels, packing held in said channels, and separate strips of packing extending alongside the packing in the channels and into the seams on one side of the channels, substantially as and for the purpose described.

9. A flooring or wall formed of planks secured edge to edge upon a suitable support and having a seam continuing to a channel situated in the line of the meeting edges of the planks, the channel being provided with a packing and the seam being filled above the channel with a waterproofing material distinct in its nature from the packing in the channel, substantially as and for the purpose described.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES D. FINLEY.

Witnesses:

E. P. McCONNELL,
J. S. McCONNELL.