

G. NASH.

FLEXIBLE COVERING FOR STAIR TREADS.

No. 442,256.

Patented Dec. 9, 1890.

Fig. 1

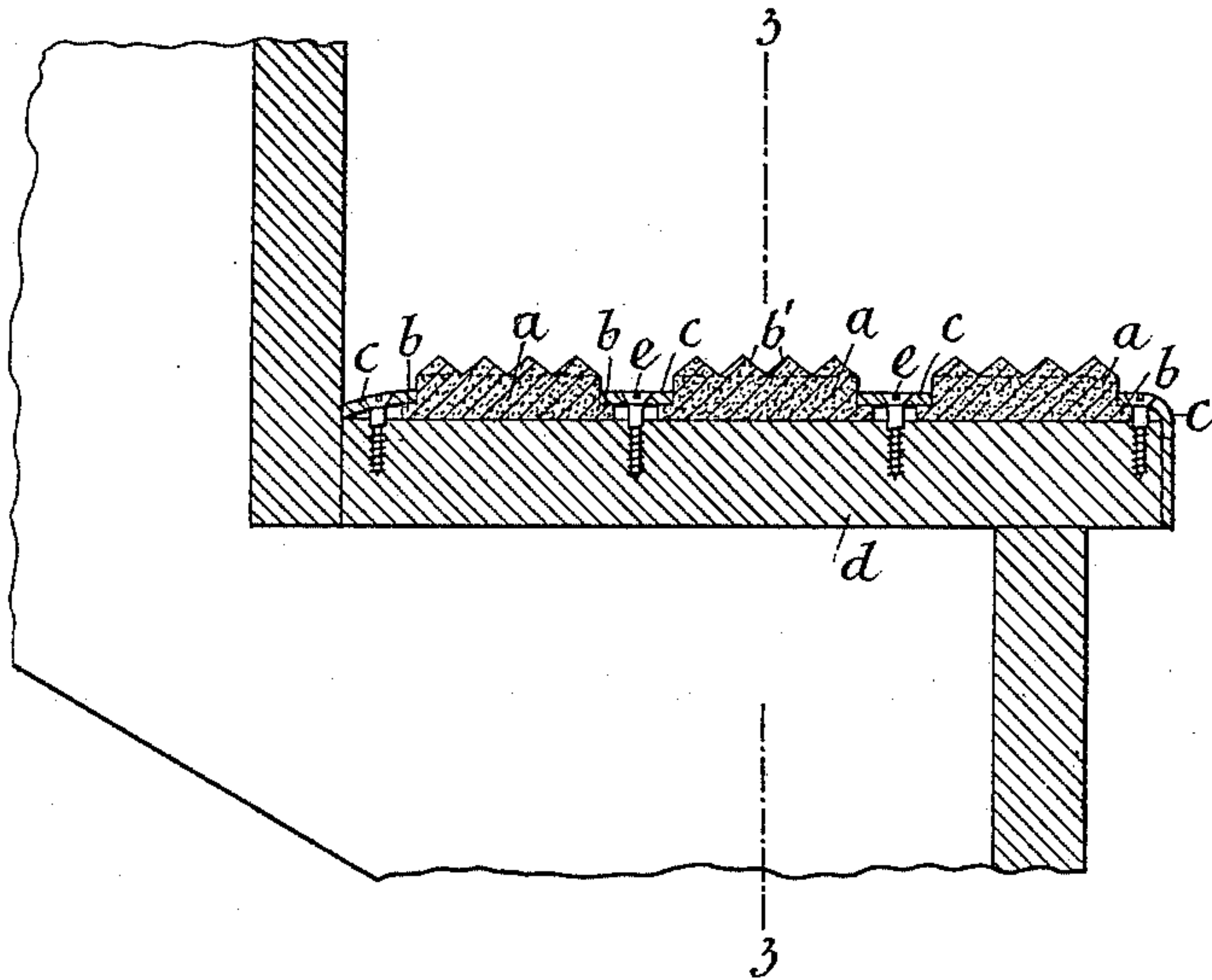


Fig. 4.

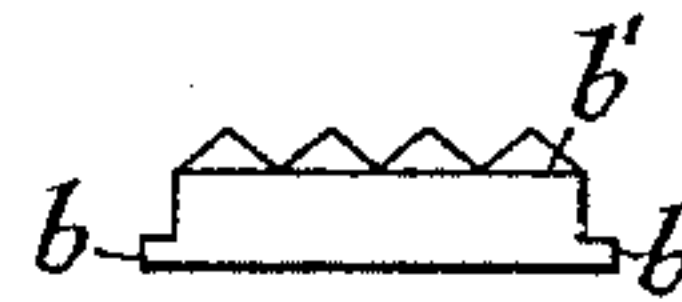


Fig. 5.

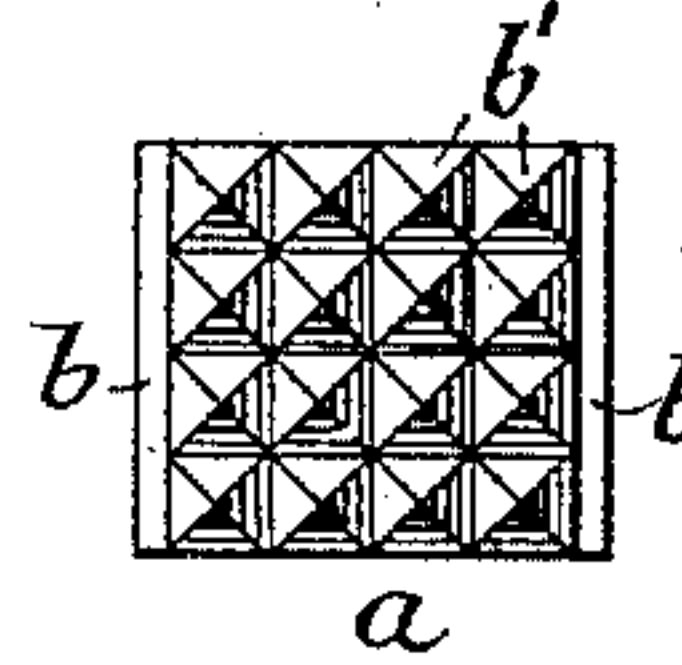


Fig. 2.

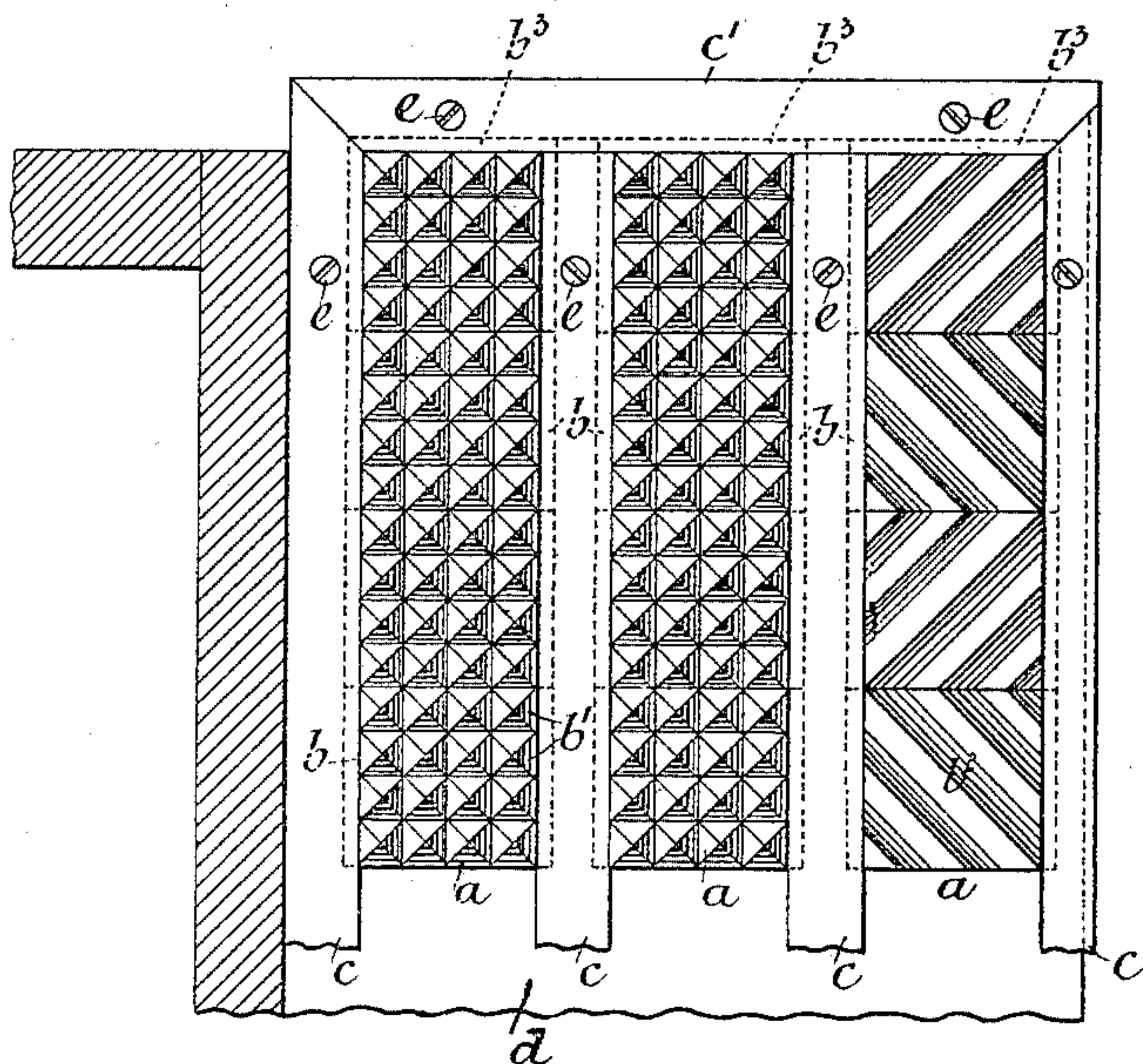


Fig. 6.

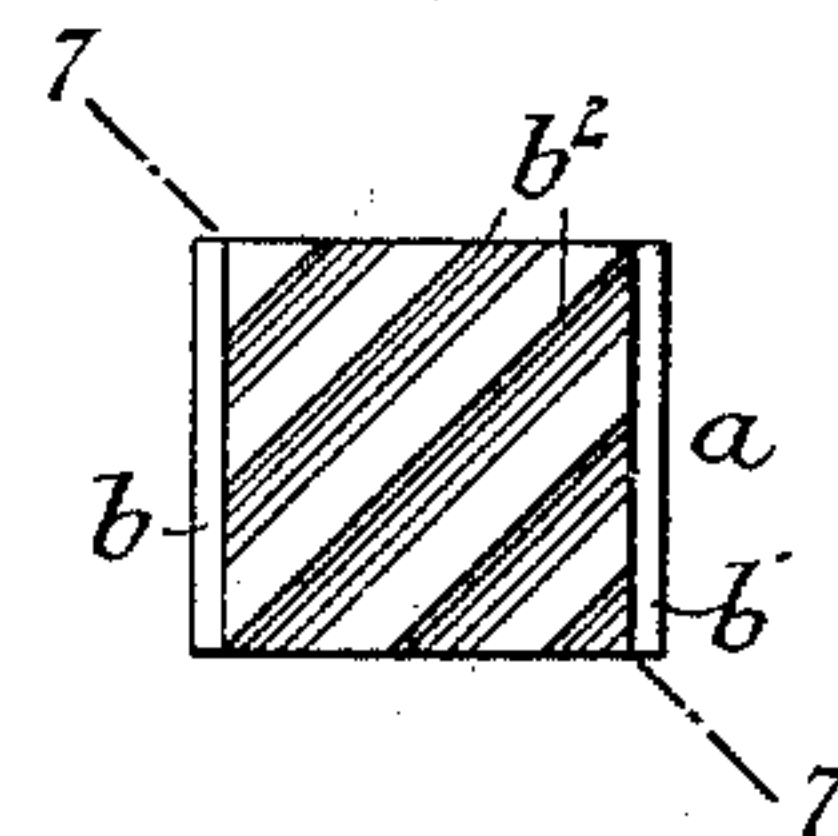
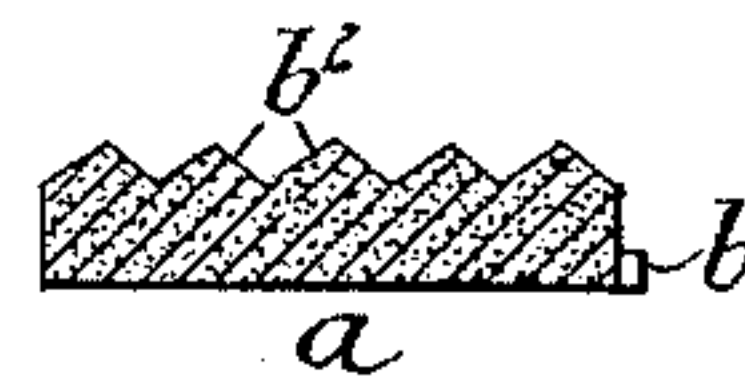


Fig. 7.



Witnesses.

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George Nash

(No Model.)

3 Sheets—Sheet 2.

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Fig. 3

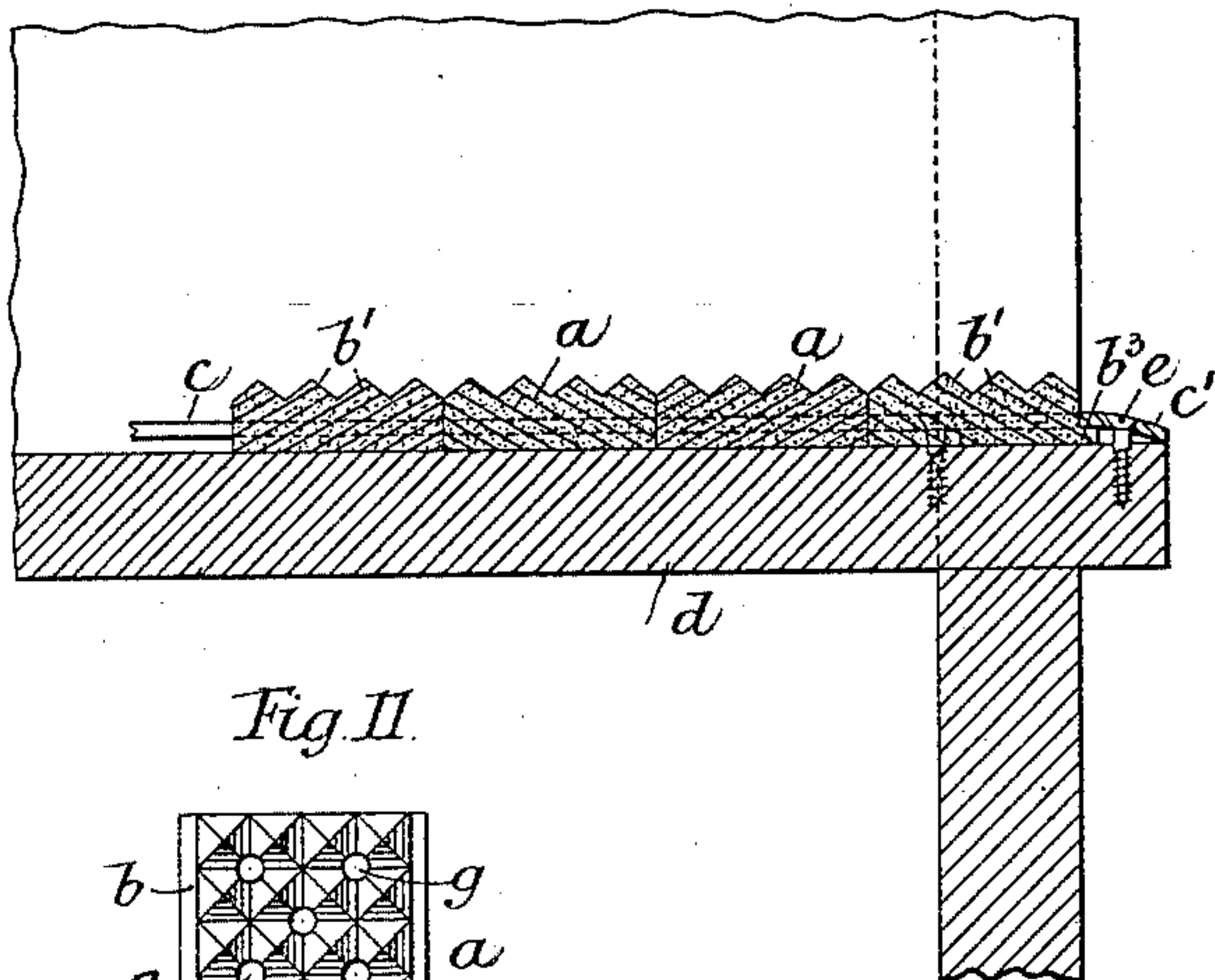


Fig. 11

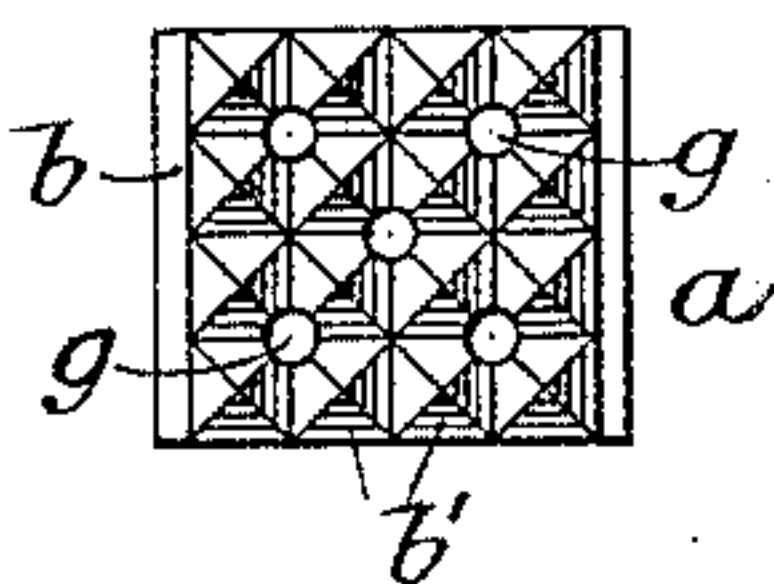


Fig. 10

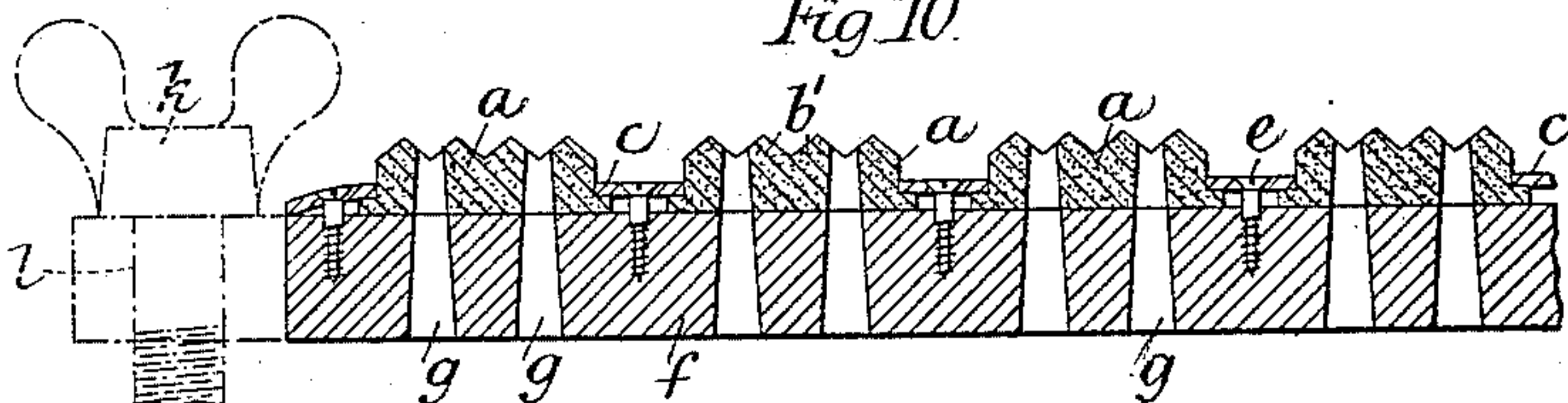
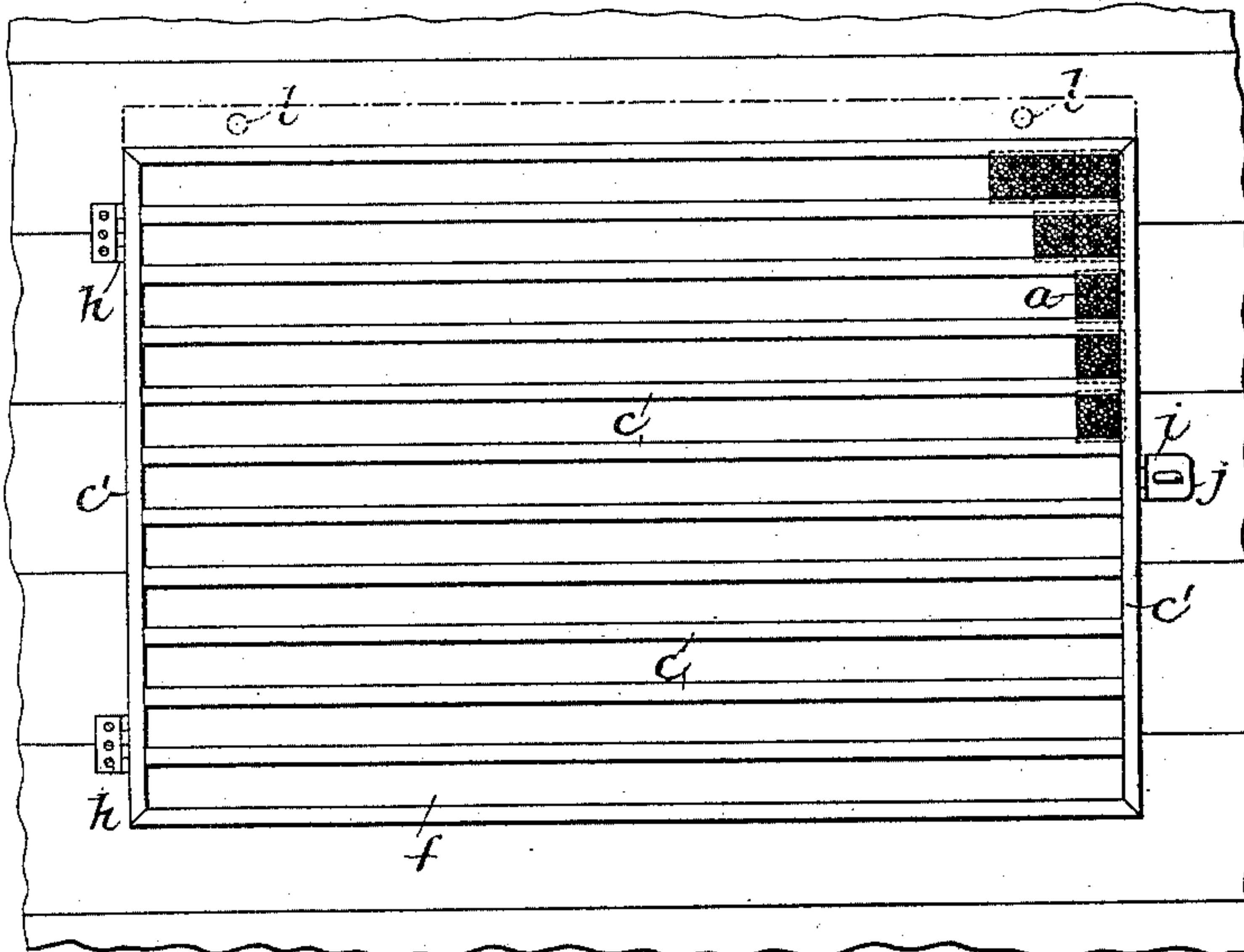


Fig. 12



Witnesses.

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A. J. Abbott

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3 Sheets—Sheet 3.

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Fig. 8.

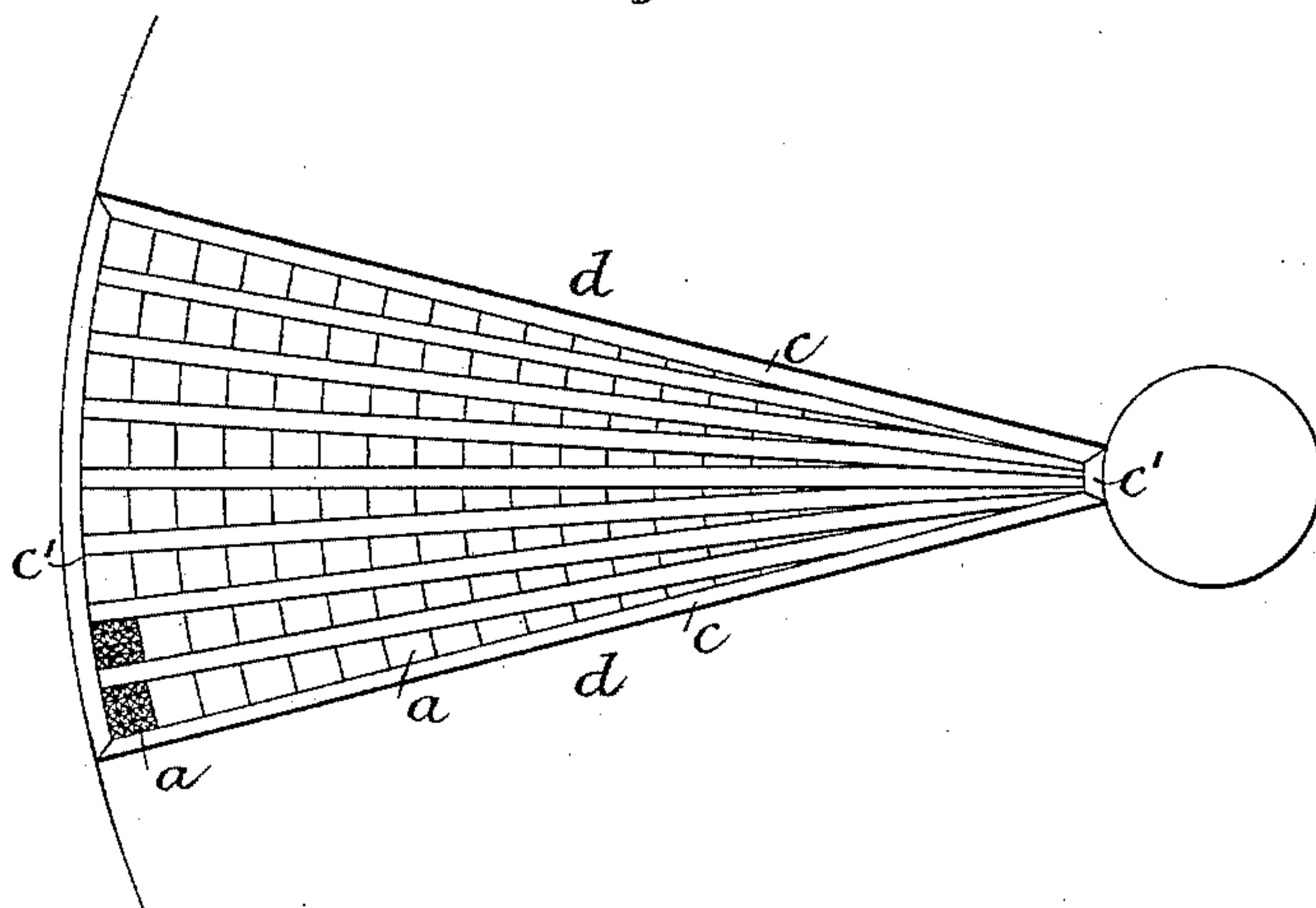
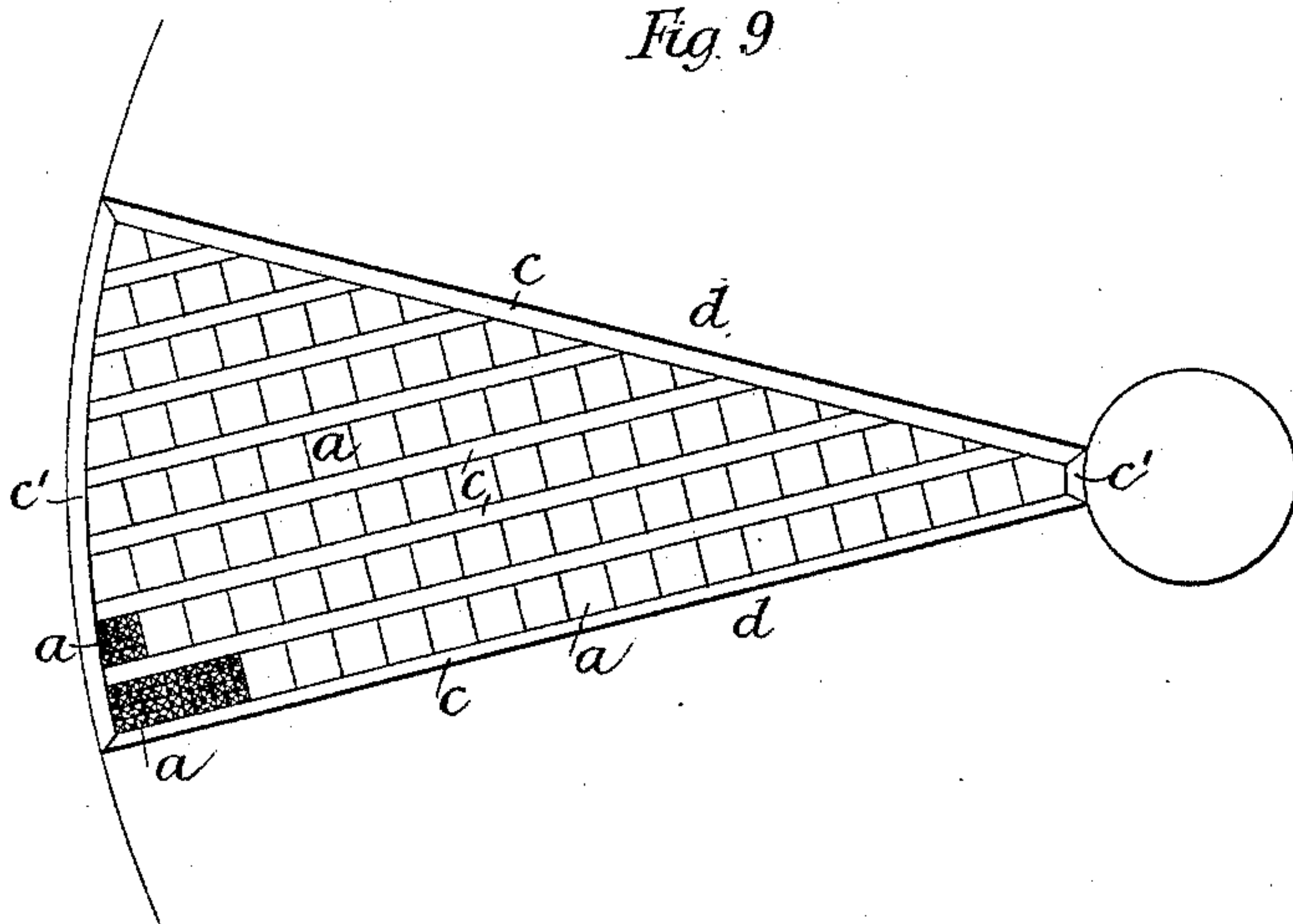


Fig. 9.



Witnesses.

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A. H. Kieffer.

Inventor.

George Nash



# UNITED STATES PATENT OFFICE.

GEORGE NASH, OF LONDON, ENGLAND.

## FLEXIBLE COVERING FOR STAIR-TREADS.

SPECIFICATION forming part of Letters Patent No. 442,256, dated December 9, 1890.

Application filed May 9, 1890. Serial No. 351,186. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE NASH, a subject of the Queen of Great Britain, residing at London, England, have invented new and useful Improvements in Elastic or Flexible Coverings for Stair-Treads, Gangways, and the Like, of which the following is a specification.

My invention relates to elastic or flexible coverings for stair-treads, gangways, and the like, applicable, also, for use as door and like mats.

In carrying out my invention I provide blocks of india-rubber or other suitable flexible material provided with flanges, so as to enable the said blocks to be held in position by strips of suitable material, which are attached in any suitable manner to the treads of stairs, floors of gangways, or other places, or fixed to frames, as may be found most convenient.

In order to enable my invention to be fully understood, I will describe how it can be carried into practice by reference to the accompanying drawings, in which—

Figures 1 and 2 are a vertical section and a part plan, respectively, of a stair-tread provided with my improved flexible covering. Fig. 3 is a section on the line 3 3 of Fig. 1. Figs. 4 and 5 are an elevation and a plan, respectively, of one form of my flexible blocks which I use to form the covering for stair-treads or the like. Fig. 6 is a plan of another form of block, and Fig. 7 is a section on the line 7 7 of Fig. 6. Figs. 8 and 9 are views illustrating two different methods of arranging my flexible blocks for the stair-treads of winding or circular staircases. Fig. 10 is a vertical section showing my flexible covering applied to a plate or frame, so as to serve as a door-mat, the said covering and plate being perforated to receive or allow the passage of the dirt; and Fig. 11 is a plan view of one of my flexible blocks used to form the said mat. Fig. 12 is a plan view representing one of the said mats hinged to a floor.

Similar reference-letters indicate similar or corresponding parts in the several figures of the drawings.

Referring to Figs. 1 to 5, *a a* are the blocks, which are most advantageously made of india-

rubber. The blocks are formed with two flanges *b b* on opposite sides, and *c c* are metallic strips which are placed over the flanges *b b* and are attached to the stair-tread *d* by screws *e e* or other suitable means and serve to hold the blocks *a a* in position in rows, the blocks being arranged on the stair-tread *d* so as to leave sufficient space between the rows to receive the strips *c c*, as shown clearly in Figs. 1 and 2. The blocks *a a* are preferably formed with pyramidal projections *b' b'* on their upper surfaces, so as to enable a secure foothold to be obtained thereon, the said projections being preferably arranged in rows parallel with the edges of the blocks, as shown clearly in Figs. 2 and 5, so that when being swept the broom can be moved from end to end of the rows of blocks or transversely of them, thereby sweeping out any dirt which may have lodged between the said projections.

As shown in Figs. 2, 6, and 7, I can sometimes form the upper surface of the blocks *a a* with angular ridges *b<sup>2</sup> b<sup>2</sup>*, arranged diagonally. These, while giving perhaps a more ornamental appearance than the projections *b' b'*, are not so easily swept clean. It will be obvious, however, that instead of placing the ridges *b<sup>2</sup> b<sup>2</sup>* diagonally I can place them parallel with the sides of the blocks *a a*, thereby enabling the blocks so formed to be swept quite as easily as those having the projections *b' b'*.

*c' c'* are strips for confining the ends of the rows of blocks, the last block in each row being formed with an additional flange *b<sup>3</sup>*, upon which the strips *c' c'* bear. This additional flange is, however, not necessary, and can therefore be dispensed with, if required, suitable packing-pieces being placed beneath the strips *c' c'* to make them level with the other strips *c c*. The strip *c* at the front of the stair-tread I prefer to be bent, so as to form a nosing, and the strip *c* at the rear of the stair-tread and the strips *c' c'* to be slightly rounded, as shown, to give an ornamental appearance.

By arranging the blocks *a a* in rows in the manner described they can be easily removed when worn and others substituted.

When forming the blocks *a a* of india-rub-



ber, I prefer to incorporate with it about one-fifth of its weight in Portland or other suitable cement, so as to increase its wearing properties, and I also find it advantageous to make or mold the blocks in the form of a strip of the width of one block and then separate them by means of a knife or other suitable means.

When using my flexible coverings for the stair-treads of winding or circular staircases, I either arrange the blocks *a a* in radial rows, as shown in Fig. 8, in which case the blocks are tapered, as represented, or I arrange them in rows parallel with the front edge of the stair-tread, as shown in Fig. 9, or parallel with the rear edge of the same.

When using my flexible covering as a mat for wiping the feet, I mount the blocks *a a* upon a plate or frame *f*, as shown, the said blocks and frame being perforated with holes *g g*, as shown clearly in Figs. 10 and 11, to receive or allow the passage of the dirt. The holes *g g*, I prefer to make taper in the direction shown, so that the dirt can be easily dislodged by striking the mat. In some cases—as, for instance, on board ship—I prefer to attach the mat to the deck or floor of gangways or the like, so as to prevent its displacement by any movement of the vessel. To effect this advantageously, I can hinge the mat at one end to the deck or floor, as shown at *h h*, Fig. 12, a plate *i*, provided with an opening, being hinged at the other end to engage with a staple *j*, to which it can be secured by a padlock or other means. By thus hinging it the mat can be lifted up when required to remove the dirt that may accumulate in and beneath it. In some cases, how-

ever, I attach the mat to the deck or floor by means of thumb-screws *k*, as shown by the dotted lines in Fig. 10, the plate *f* being extended and provided with holes *l l* for that purpose, as shown by the dotted lines in Fig. 12. This arrangement is most advantageous, however, for use outside cabin-doors, as the part of the mat through which the screws *k* pass can be placed against the sill of the door, so as to be out of the way.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The improved elastic coverings for stair-treads, gangways, and the like, formed of rows of elastic blocks flanged at two sides and placed in direct contact at their unflanged sides, such rows being held to place by suitable metal strips *c*, as set forth.

2. The improved elastic coverings for stair-treads, gangways, and the like, formed of rows of elastic blocks flanged at two sides and placed in direct contact at their unflanged sides, combined with end blocks provided with flanges on three sides and with end strips *c'* and strip *c*, as set forth.

3. A set of flanged flexible blocks held to a bed or base by strips and screws, as set forth, and provided with perforations *g*, for the purpose described.

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Witnesses:

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