

No. 657,960.

Patented Sept. 18, 1900.

C. E. RIDER.

PARQUETRY.

(Application filed May 15, 1900.)

(No Model.)

FIG. 1.

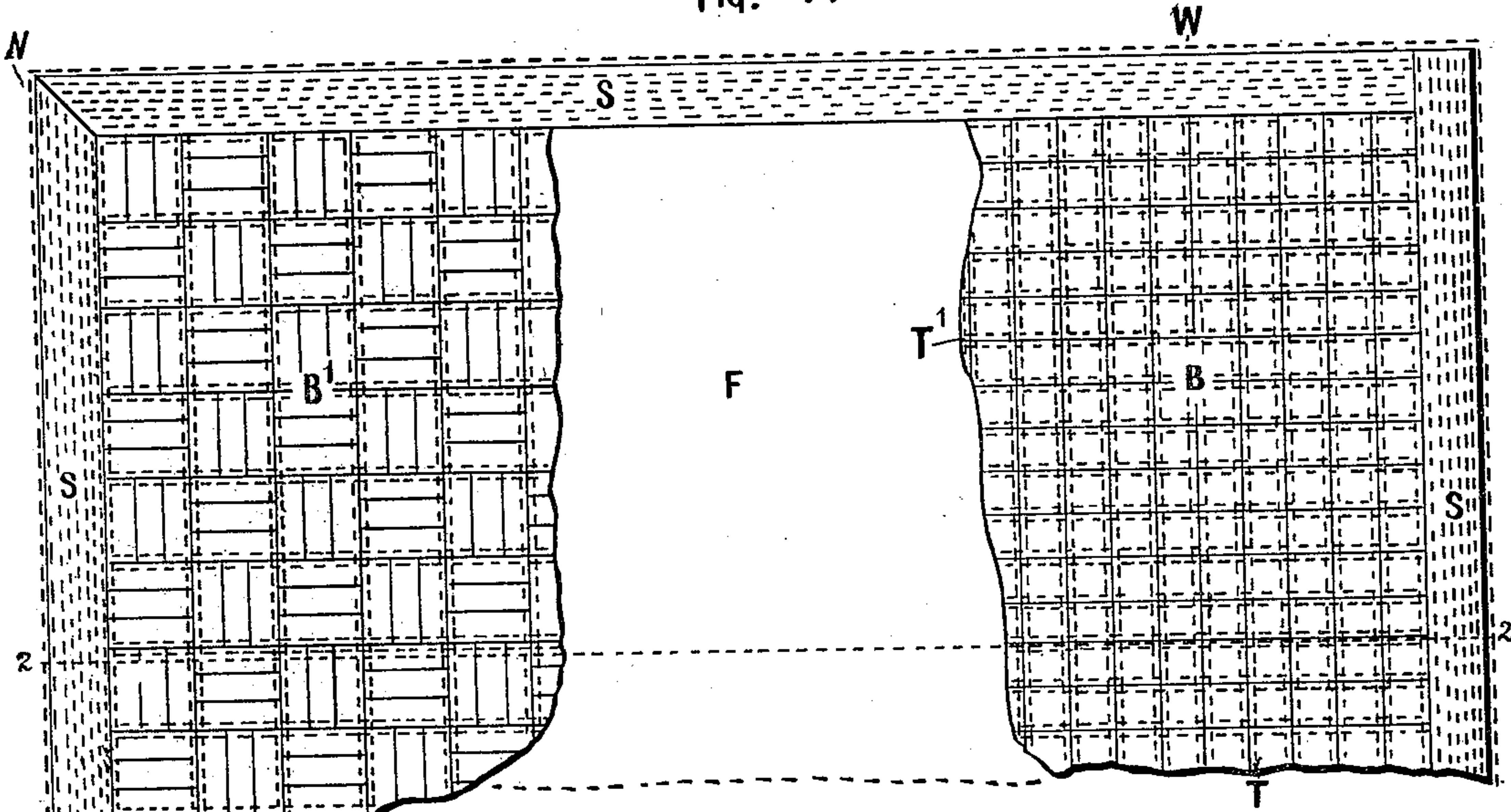


FIG. 2.

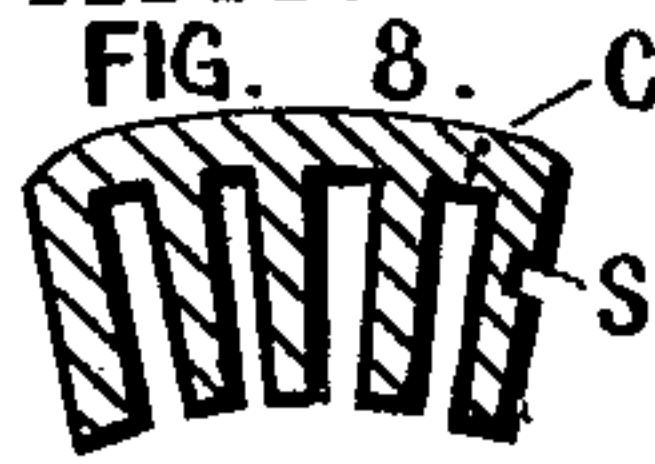
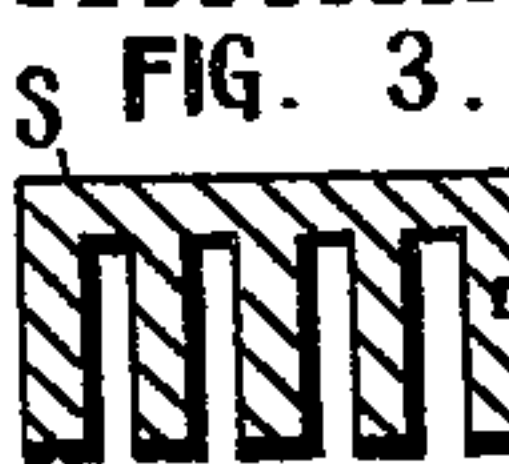
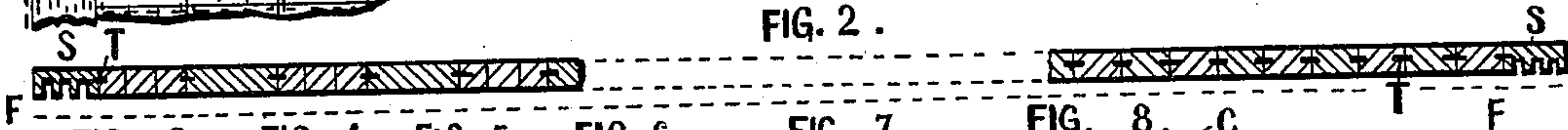


FIG. 12.

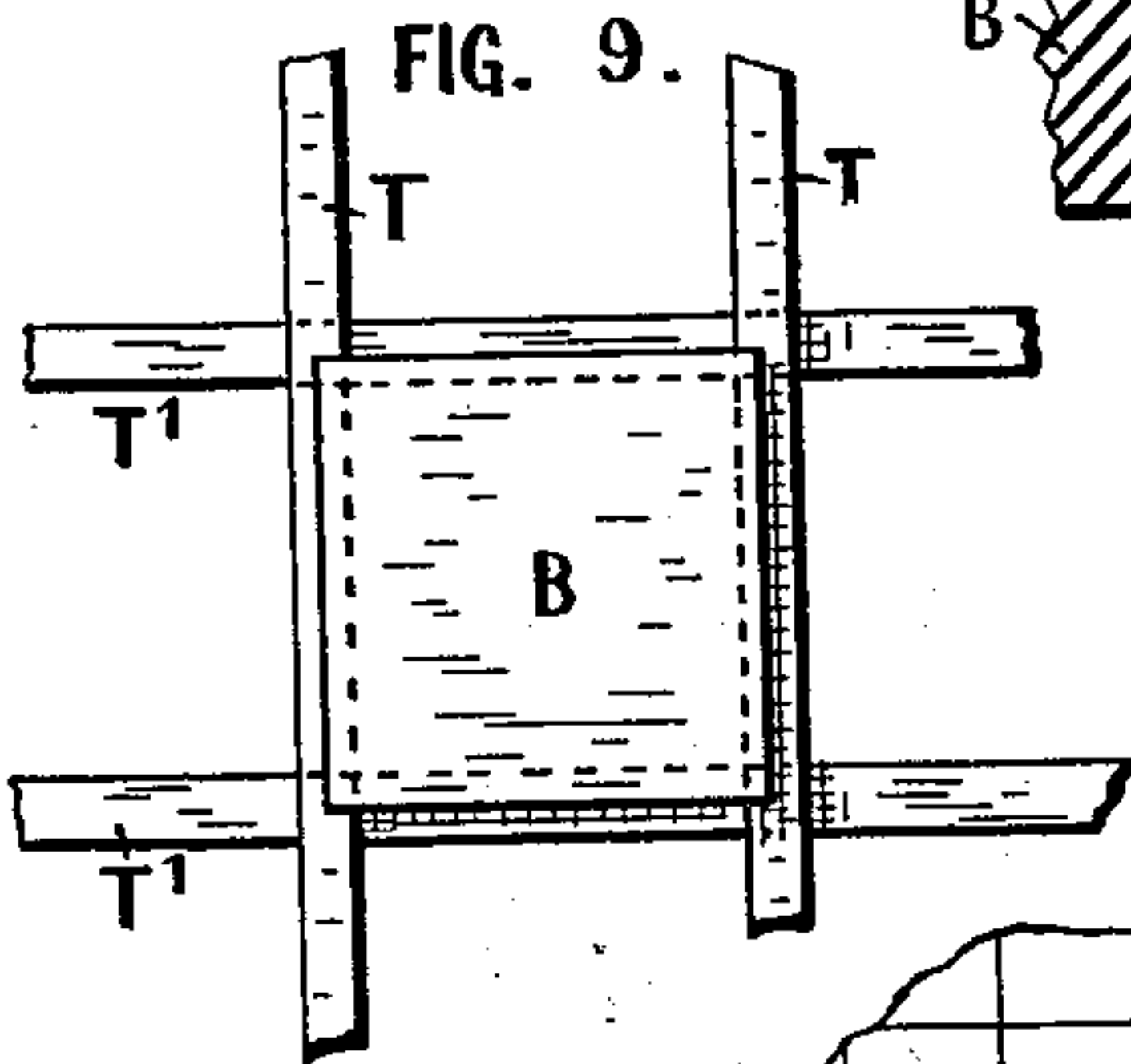
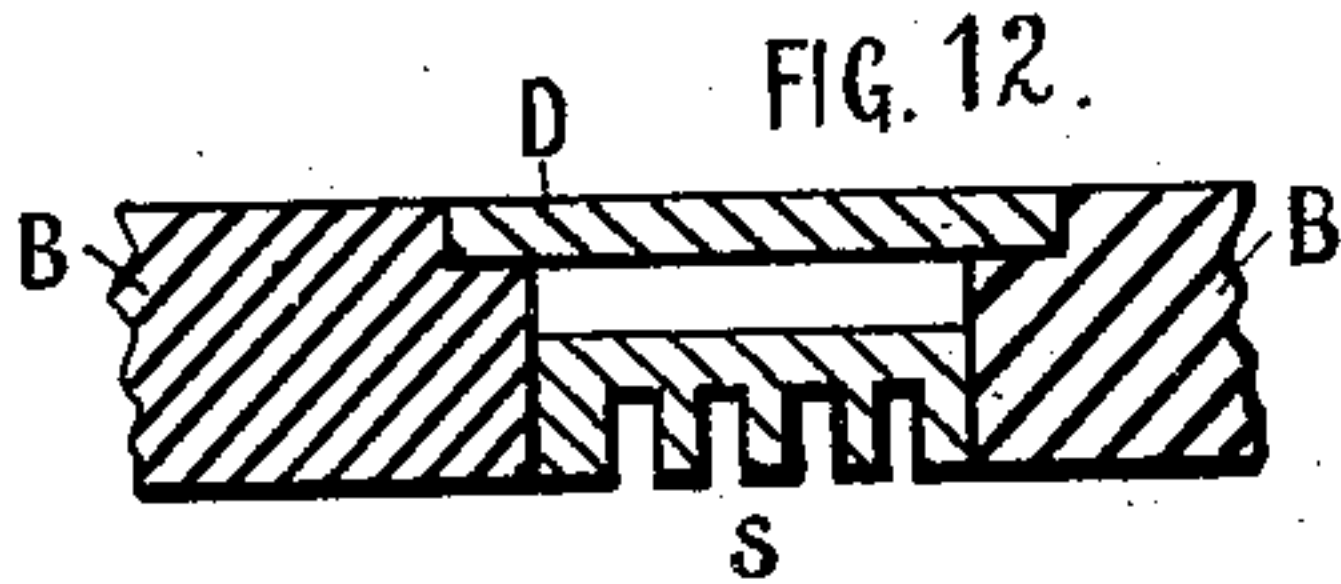


FIG. 11.

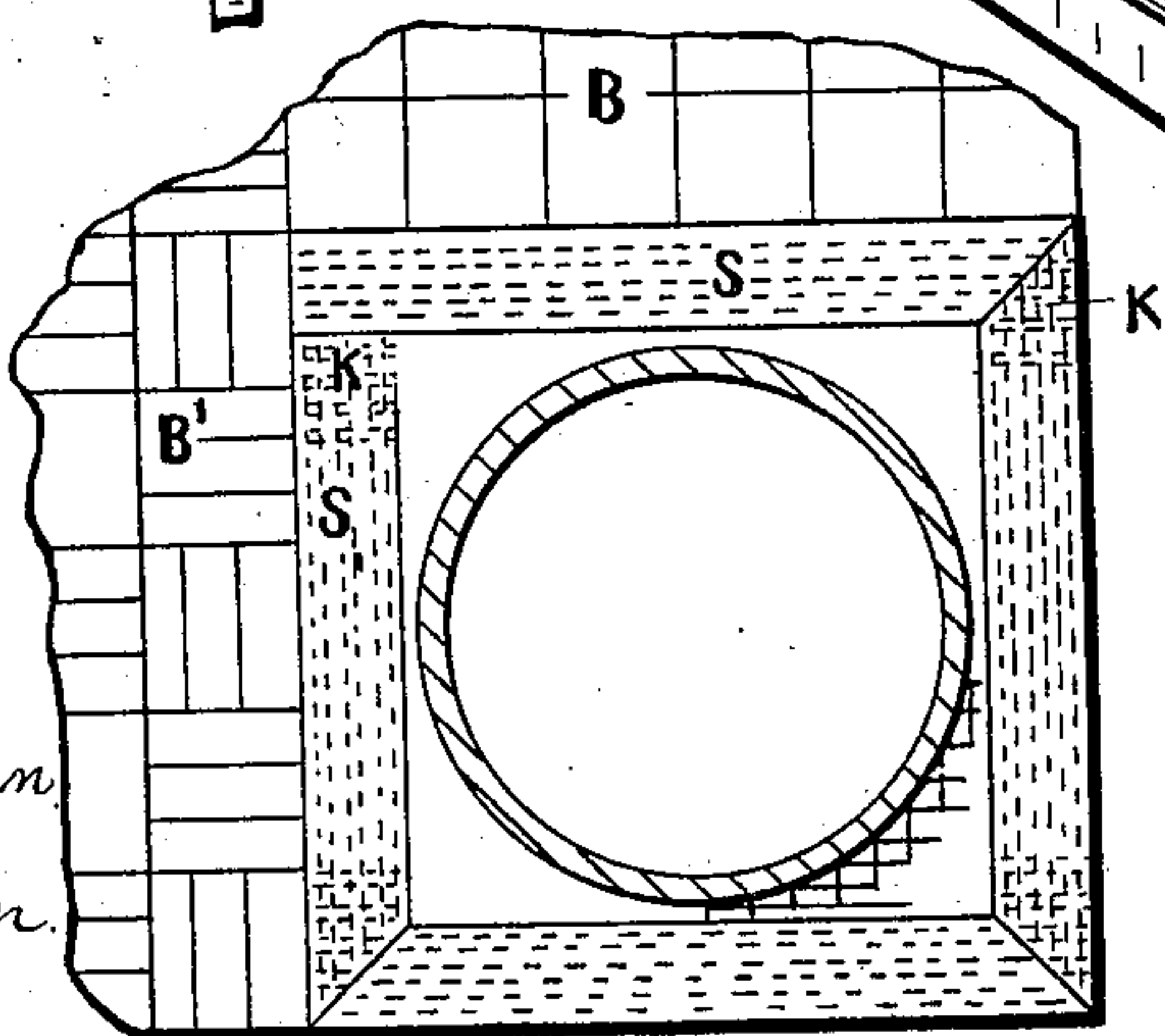
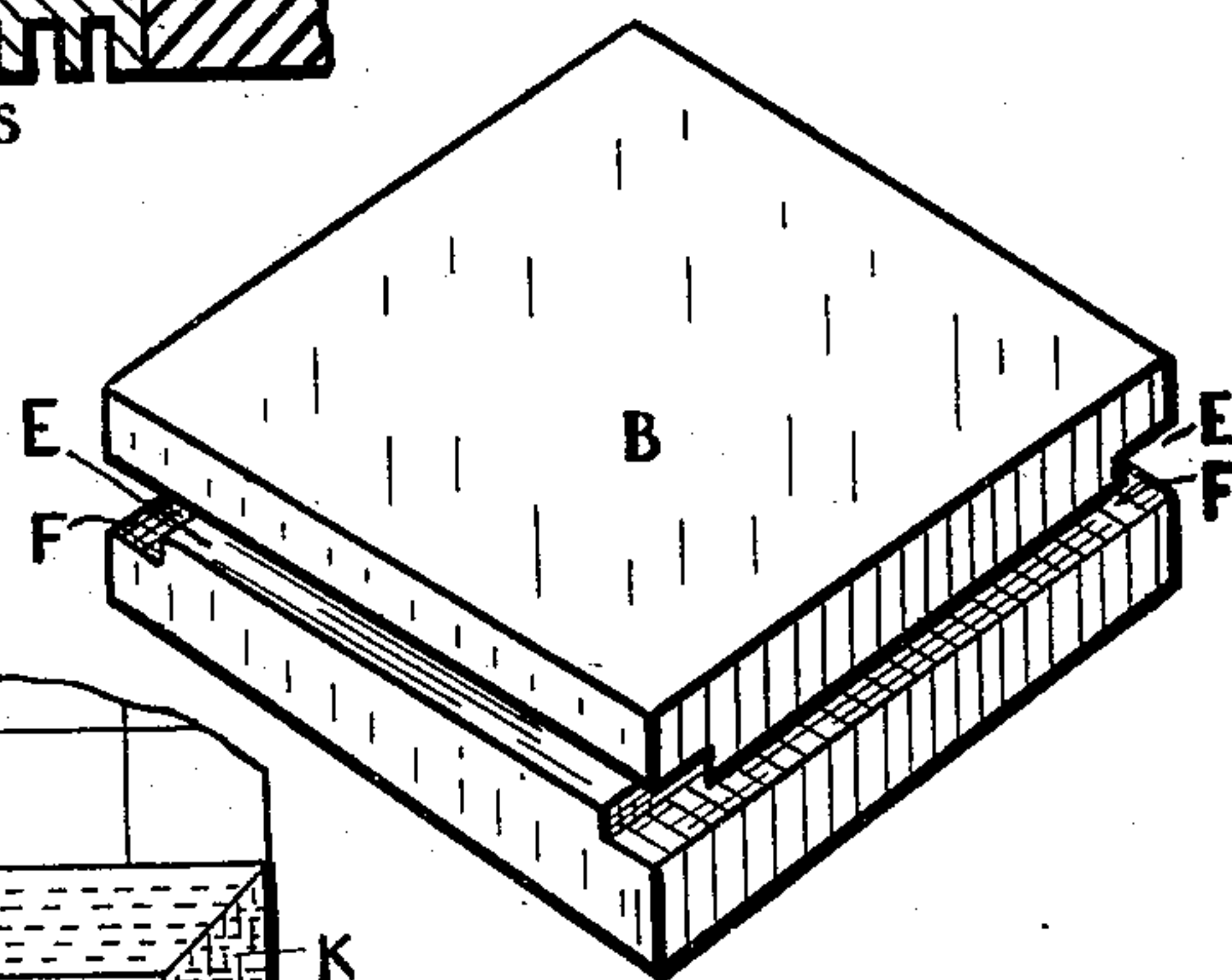


FIG. 10.



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# UNITED STATES PATENT OFFICE.

CHARLES E. RIDER, OF ROCHESTER, NEW YORK.

## PARQUETRY.

**SPECIFICATION** forming part of Letters Patent No. 657,960, dated September 18, 1900.

Application filed May 15, 1900. Serial No. 16,826. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. RIDER, a citizen of the United States, residing at Rochester, New York, have invented certain Improvements in Parquetry, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates more particularly to certain improvements in parquetry whereby provision is made for preventing the bulging of the floor from expansion when laid on fresh concrete and similar foundations, but which is capable of many other applications.

My improvements are fully described and illustrated in the following specification and the accompanying drawings, the novel features thereof being specified in the claims annexed to the said specification.

In the accompanying drawings, representing my improvements in parquetry, Figure 1 is a plan view. Fig. 2 is a section on the line 22, Fig. 1. Figs. 3, 4, 5, 6, and 7 represent different forms of compression-strips in section. Fig. 8 represents one form of compression-strip when compressed by the expansion of the parquetry. Fig. 9 is a plan view of one of the blocks detached, with the tongues. Fig. 10 is a perspective view of one of the blocks, showing the grooves. Fig. 11 represents the base of a column surrounded by my improved parquetry with interposed compression-strips. Fig. 12 represents a modification.

In order that the practical application of my invention may be fully understood by any one skilled in the art, I now proceed to describe in detail my method of laying a floor on a concrete or other similar foundation, which is assumed to have been properly leveled for the reception of the parquetry.

On one side and one end of the space to be covered I lay a compression-strip of wood having longitudinal grooves on its under surface so adjusted and disposed as adequately to weaken the resistance of the strip to lateral pressure. Preferably the grain of the wood runs lengthwise of the strips. These strips have also grooves on the edges adapted to receive metallic tongues for joining the same to the blocks at the edge of the field. The grooves in the strips along one side of the room are made to lie in a plane wholly above the grooves

in the strips along the other side or end of the room. After insertion of the tongues in these strips I arrange a row of blocks, alternating the grain, preferably along the longer side of the room. Between these blocks I insert other metallic tongues in the grooves provided therefor in a plane below the groove in the strip along the longer side and in a direction at right angles to the tongue already laid parallel with the side of the room. These tongues or keys are best made as long as possible. Crossing these tongues and in a plane above them is next inserted a second metallic tongue, key, or strip in the grooves of the blocks parallel with the side of the room. A second row of blocks is then put into place and a third tongue parallel with the room. The insertion of blocks and tongues proceeds in this manner until the field-space has been filled. Finally on the remaining edge and side of the room other strips corresponding to those first laid may be fitted and inserted, and the laying is complete.

If the metallic strips employed are shorter than the lengths of the side and end of the field-space, respectively, care is taken that the splicing thereof be made "to break joints." In other words, that the splices are not in one line. Again, splices are not made at the angles between contiguous blocks, but preferably at a point midway between these angles. Constructed in this way it will be seen that we have a field in the form of a mat consisting of wooden blocks woven into a mesh of metallic strips, all angles between these blocks being crossed by the metal in two directions. I find that a field so constructed bridges over sharp inequalities in the foundation, while at the same time it adapts itself to the more gentle variations in level. The tendency to bulging is reduced to the minimum. Any swelling of the blocks caused by dampness of the foundation does not cause the floor to bulge. On the contrary, each block in swelling presses against its neighbor and the floor expands *en masse*, presses against the compressible strips surrounding the field, and by forcing them against the wall causes them to bulge and finally, perhaps, to split. Thus the pressure is relieved. These strips can then be re-



placed by narrower ones at trifling expense and with no detriment to the utility or appearance of the floor.

The manner of practicing my invention will be readily understood from the accompanying drawings, in which B B' represent the parquetry-blocks; S, the compression-strips; W, the walls or partitions of the room in which the parquetry is to be laid, and T T' the metallic bands or tongues by which the blocks are connected together.

At B, Fig. 1, I have shown a floor formed of single blocks, and at B' a floor consisting of composite blocks.

F represents the concrete or other foundation.

Various forms of compression-strips may be employed, as indicated by the sectional views, Figs. 3, 4, 5, 6, 7, and 12. In Fig. 2 the compression-strip is represented as provided with three grooves, in Fig. 3 with four, and other different forms are shown in Figs. 5 and 6. In Figs. 4 and 7 the compression-strip is represented as built up of two or more pieces. Fig. 8 represents approximately the form which the compression-strip shown in Fig. 3 will assume when compressed by the expansion of the field. During this time it keeps the blocks in contact with each other, and sometimes when the expansion is excessive the compression-strip will crack lengthwise, as indicated at C, Fig. 8. It is then removed and replaced by another compression-strip or by a solid strip, as deemed best. The compression-strips may be employed all around the field or on two adjacent sides only. Solid strips may in this case be used on the other sides.

The composite blocks may be formed of any suitable number of pieces attached together in any suitable manner by glue, tongue and groove, or other preferred means. From Figs. 9 and 10 it will be seen that the grooves E E on two opposite sides of the blocks are cut just above the grooves F F on the two other opposite sides, so that the tongues T T pass above the tongues T' T'.

In Fig. 12 I have shown a compression-strip of a depth less than the blocks B, constituting the field, and with another strip D above it, resting with its margins in rabbets in the upper corners of the blocks. Either of these strips may be readily replaced.

In Fig. 11 I have represented the base of a column surrounded by compression-strips, which may be used on any or all sides. In this case grooves in the lower surfaces of the compression-strips may be made at right angles to each other, as indicated at K.

If in due time the wood in the parquetry dries again from the gradual drying of the concrete foundation, it will be found that the field has not contracted *en masse*, but that each block has contracted upon itself, the peripheral parts of each block having slipped along on the inclosing metal strips, and nearly uniform cracks will be found to traverse the

floor in one or both directions. When this occurs, the blocks can be readily driven back upon each other by suitable tools until the field has been contracted to its original size. The spaces between the field and base can then be filled with permanent solid "wall-strips" and no further annoyance or expense incurred.

Practical dimensions of materials for the above-described improvement are about as follows: Wooden blocks, four inches square by one and one-eighth inches thick, joined with steel "bands," No. 12 gage, one-half inch wide. Still thinner blocks can, however, be used, in which case the metal also may be thinner; but by no means do I confine myself to entire blocks of this approximate size. Composite blocks may be used—that is to say, blocks made of two or more strips, either placed simply in apposition to form a square or joined by tongue and groove or otherwise. If, for instance, twelve-inch squares be preferred for a large room, these may be made of six strips, each two inches wide by twelve inches long, joined to form a square. These larger squares then become the elements of the field, each being surrounded on all four sides by the metallic bands, as described. The field may also be laid diagonally instead of square, as described. It is obvious, also, that rhombs may be substituted for squares. Nor do I limit myself to the particular form of compressible strips herein described. Elastic substances of various kinds and even inelastic materials so disposed as to allow displacement of one part upon another may be substituted for the particular forms which I have represented.

In laying wooden floors on concrete it has hitherto been the custom, so far as I know, without exception, to employ some means of fixing the wood to the foundation. The older way was to embed sleepers of furring-strips of wood in the concrete, to which the finishing-floor was attached; but these strips are sure to become loose, because the wood first swells from absorption of moisture from the fresh concrete and later shrinks as the wood dries out. The finishing-floor also at first swells and later shrinks, and since no provision can easily be made for closing up the open joints after the drying-out process is complete, a permanently-unsatisfactory floor results. Later, metallic furring-strips, anchors, and similar devices have been used at increased cost and trouble; but still no provision was made for the usual swelling and subsequent contraction of the flooring. In other cases the wooden blocks in various designs, with and without wooden or metallic tongues to join the same to each other, have been cemented to the foundation-concrete by means of asphalt, glue, and various adhesive compounds; but in no case has provision been made for the almost inevitable swelling of the wood which follows from its contact with undried



concrete. The almost uniform result has been a total destruction of the flooring and the relaying of the same in its entirety. From the above it will be seen that the essential conditions of sure success in laying wooden floors on the usual concrete foundation in buildings of modern fireproof construction, where it is impossible to wait for thorough drying of said concrete before the wooden flooring must be in place, are provisions, first, for the almost-inevitable swelling of the wood, and second, for the subsequent repair of the flooring after the final drying and contraction. It will also be seen that my improvement fulfils these conditions as perfectly as possible.

It is manifest that in an uninterrupted rectangular room of moderate size, sufficient allowance for swelling will be made by the use of compressible wall-strips on two adjacent sides only, the other two sides being provided with solid strips. On the other hand, if the space be a large one, and especially if it be interrupted by columns or if it be of irregular or multiangular contour, the compressible strips should be used freely and so disposed as to permit the free expansion of the field in all directions. In some cases it may be desirable or even necessary to divide the space into rectangular panels, each panel being surrounded by compressible strips. The proper disposition of these strips for any specific case can readily be made by any one skilled in the art after he has grasped the general principles heretofore enunciated.

I claim—

1. The combination with the field of a parquetry floor consisting of a series of wooden blocks suitably attached together, of the compression-strip at one edge of the field, adapted to permit expansion, substantially as described.

2. The combination with the field of a parquetry floor consisting of a series of wooden blocks suitably attached together, of the compression-strip at one side of the field and a suitable connection between the strip and the blocks at the edge of the field, substantially as described.

3. The combination with the field of a parquetry floor, consisting of a series of wooden blocks suitably attached together, of the compression-strip at one side of the field and a metallic tongue inserted in grooves between the blocks at the edge of the field and the compression-strip, substantially as described.

4. The combination with the field of a par-

quetry floor consisting of a series of grooved wooden blocks connected together by metallic tongues crossing each other in different planes in the grooves, the compression-strip at one side of the field and a metallic tongue inserted in grooves between the blocks at the edge of the field and the compression-strip, substantially as described.

5. The combination with the field of a parquetry floor consisting of grooved blocks connected together by metallic tongues crossing each other in different planes of the compression-strip arranged between the wall and the field, substantially as described.

6. The combination with the field of a parquetry floor consisting of a series of grooved blocks connected together by metallic tongues crossing each other in different planes, of the compression-strip at one edge of the field formed by a wooden strip having one or more grooves in its lower side, substantially as described.

7. The combination with the field of a parquetry floor consisting of grooved blocks suitably connected together, the compression-strip at one edge of the field and the concrete or other similar foundation, substantially as described.

8. The combination with the field of a parquetry floor consisting of grooved blocks connected together by metallic tongues crossing each other in different planes, of the compression-strip at one edge of the field formed with one or more saw-kerfs in its lower side and the concrete or other similar foundation, substantially as described.

9. The combination with the field of a parquetry floor consisting of grooved wooden blocks connected together by metallic tongues crossing each other in different planes, of the compression-strip formed with one or more saw-kerfs in its lower side, the metallic tongue between the strip and the blocks at the edge of the field and the concrete or other similar foundation, substantially as described.

10. The combination with the field of a parquetry floor consisting of grooved wooden blocks connected together by metallic tongues crossing each other in different planes, of the compression-strip of a depth less than that of the field, and the flush strip above it, substantially as described.

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