Feb. 19, 1924. 1,484,514

H. G. LLOYD

FLOOR OR PAVING FOR TENNIS COURTS AND OTHER PURPOSES

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Fig. 1.

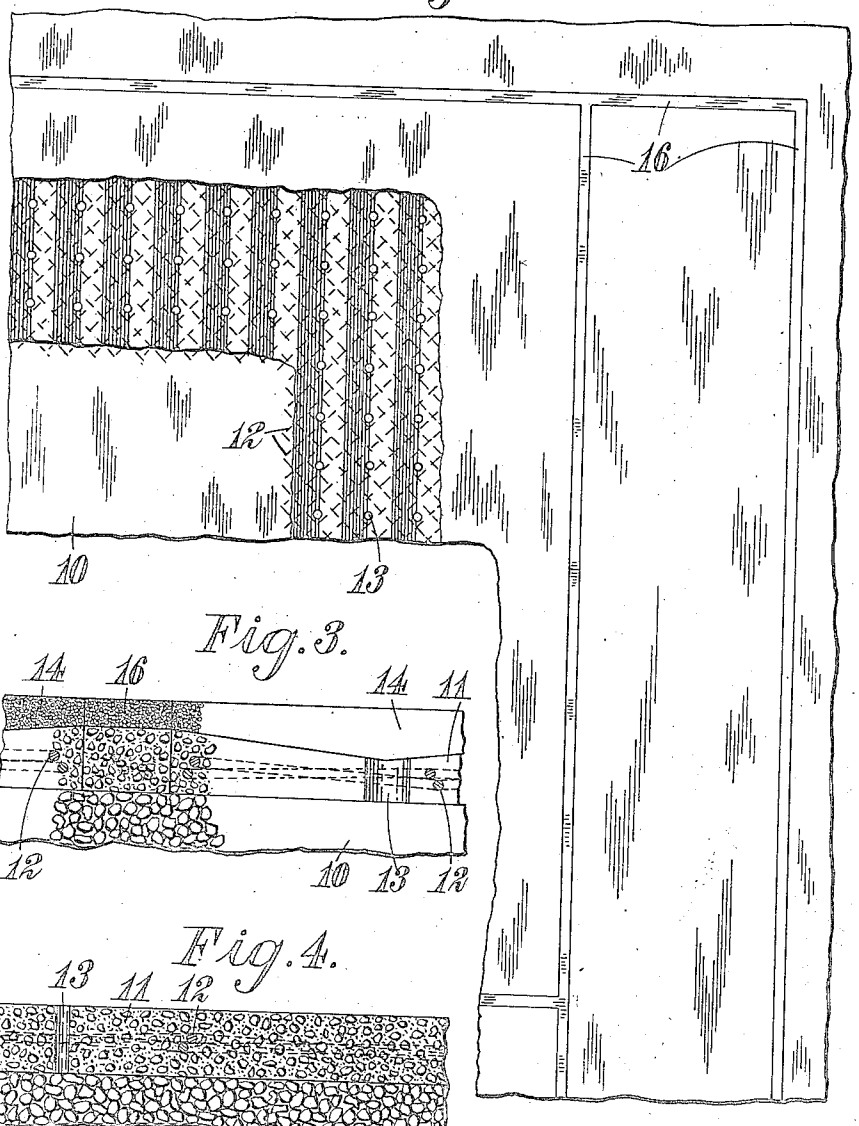
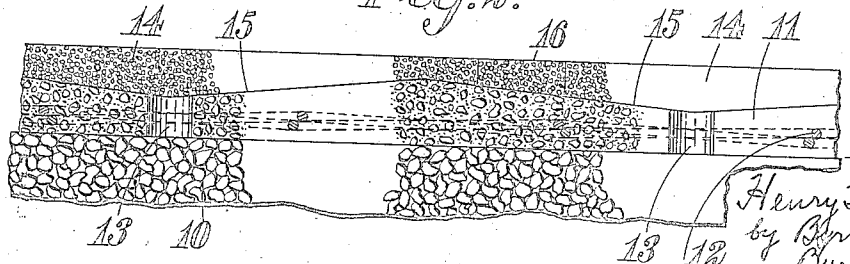


Fig. 3.

Fig. 4.

Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY GARDINER LLOYD, OF SURBITON, ENGLAND.

FLOOR OR PAVING FOR TENNIS COURTS AND OTHER PURPOSES.

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To all whom it may concern:

Be it known that I, HENRY GARDINER LLOYD, a subject of the King of England, residing at Surbiton, Surrey, England, have invented certain new and useful Improvements in Floors or Paving for Tennis Courts and Other Purposes, of which the following is a specification.

This invention is for improvements in or relating to floors or paving for tennis courts or other purposes and has for one of its objects to facilitate the drying of the surface. It is very desirable that uncovered tennis courts should dry rapidly in order that play may be recommenced quickly after a shower of rain, but to build the courts on such a slope or with such a camber as will permit of this form of drainage is open to the objection that it interferes with accurate play upon the courts.

According to the primary feature of the present invention there is provided a floor or paving for tennis courts and other purposes which comprises a main layer of material which is impervious, or substantially so, to water and which is characterized by the provision of a plurality of drainage holes extending downwardly therethrough. These holes are preferably equally spaced and arranged in regular formation all over the surface of the court as close together as is desirable. Impervious concrete may be employed for the main layer and there may be underneath it a well drained foundation of rolled clinker or other suitable material. The main layer of concrete may be reinforced with diagonally or triangularly arranged wires lying horizontally between the holes, or with other suitable material.

The aforesaid main layer of the material may itself constitute the playing surface or it may be covered with a supplementary layer of porous material such as porous concrete. Thus water would pass through the pores of the covering layer until it reached the perforations in the main layer, and to facilitate drainage through these perforations the upper surface of the main layer may be provided with channels leading to the upper ends of the perforations and intended to collect water which has percolated through the supplementary covering layer.

For a more complete understanding of the invention there will now be described, by way of example only and with reference to the accompanying drawings, certain constructional forms of tennis courts according to the invention. It is to be understood, however, that the invention is not limited to the precise details illustrated.

In these drawings:—

Figure 1 is a plan view of a portion of a tennis court embodying the present invention.

Figure 2 is a cross-section through a portion thereof.

Figure 3 is a similar cross-section of a modified construction, and

Figure 4 another similar cross-section of a further modification.

Like reference numerals indicate like parts throughout the drawings.

Referring first of all to Figures 1 and 2, in building up a tennis court, as illustrated herein, there is first of all laid down a foundation 10 of clinker or other suitable material. This foundation must be well drained and well rolled so as to be firm and level. Upon this foundation is arranged the main layer 11 of concrete. This layer may be built up in situ or may be manufactured in slabs elsewhere and laid in position upon the foundation. The layer 11 is preferably provided with reinforcements such as the wires 12 and these may be arranged diagonally or in any other desired formation. The layer 11 is of impervious concrete and should be made as strong as possible as it has to impart stability and permanence to the tennis court and maintain the latter true. A convenient mixture is 2 to 2½ parts by weight of gravel containing sand to 1 part by weight of Portland cement. Such a mixture can be made into an impervious concrete. To permit of the passage of water through it perforations 13 are formed at intervals. If the layer 11 is to constitute the playing surface, a construction which is illustrated in Figure 4, the perforations 13 should be only of small diameter, say for instance a quarter of an inch, in order not to interfere with the rebound of a ball, but where, as illustrated in Figures 1, 2 and 3, the layer 11 is covered with a supplementary layer 14, the perforations 13 may be of larger size.

The supplementary covering layer 14, see particularly Figures 2 and 3, is intended to be made of porous concrete in order that water may pass through it readily so as to drain away through the perforations 13. To facilitate drainage the upper surface of

the layer 11 may be trough shaped, the sloping parts 15 of the surface conducting to the perforations 13 any water which percolates through the layer 14. The layer 14 may conveniently be made of a mixture of sand and Portland cement in such proportions that the cement does not completely fill the voids between the grains of sand. An example of suitable proportions is 3 or 4 parts by weight of sand to 1 of cement. If the grains of sand are substantially the same size and substantially spherical, and if, furthermore, care is taken to use only a sufficient quantity of water to produce a mixture of a dry consistency, it will be found that a very porous layer can be made which will adhere to the main layer 11 and which will present a good plain playing surface.

The playing surface may be coloured green or any other desired colour either during manufacture or after the court is laid.

The layer 14 may be laid after the layer 11 has been built into position or slabs may be made, as illustrated in Figure 3, each of which comprises a main layer 11 and a covering layer 14, and then these slabs mounted upon the foundation 10. It is a feature of the present invention so to proportion and arrange the slabs in either or both of the layers 11 and 14 that in any one layer they abut only along the marking lines 16 of the court. By this means cracks and joints on other parts of the courts will be largely avoided. The marking lines 16 may, as illustrated in Figure 2, be formed by a strip of the layer 14 which is of a different colour from the co-extensive parts of the said layer, or as illustrated in Figure 3, narrow slabs each comprising a portion of both of the layers 11 and 14 may be used to constitute the marking lines.

In some circumstances it may be found desirable to perforate the supplementary covering layer 14, but this will probably not usually be necessary.

It is to be understood that the invention is not limited to the precise details set forth. For example, instead of concrete, asphalt paving can be employed in some circumstances.

I claim:—

1. A floor or paving for tennis courts and the like comprising a main layer of material which is impervious to water and which has a plurality of drainage holes extending downwardly therethrough, said layer being formed in slabs which are of such size and which are so placed as to abut only on the marking lines of the court, for the purpose specified.

2. A floor or paving for tennis courts and the like comprising a main layer of material which is impervious to water and which has a plurality of drainage holes extending downwardly therethrough, and a supplementary covering layer of porous material situated above said perforated layer, said supplementary covering layer being formed in slabs which are of such size and which are so placed as to abut only on the marking lines of the court, for the purpose specified.

3. A floor or paving for tennis courts and the like comprising a main layer of material which is impervious to water and which has a plurality of drainage holes extending downwardly therethrough and a supplementary covering layer of porous material situated above said perforated layer, both of said layers being formed in slabs which are of such size and which are so placed as to abut only on the marking lines of the court, for the purpose specified.

4. A floor or paving for tennis courts and other purposes comprising an uppermost layer of porous concrete, said porous concrete being formed of sand grains substantially spherical and substantially the same size, and cement, these materials being present in such proportions that there is insufficient cement to fill completely the voids between the grains of sand, and only sufficient water being used in the manufacture of the concrete as will produce a mixture of dry consistency.

5. A tennis court, comprising a main layer of material which at least within the boundaries determined by cooperating marking lines thereon is of unbroken construction, said material being impervious to water and having a plurality of drainage holes extending downwardly therethrough, and a supplementary covering layer of porous material situated above the main layer, the upper surface of said main layer being shaped to provide channels leading to the upper ends of said drainage holes, for the purpose specified.

6. A floor or paving for tennis courts and other purposes comprising an uppermost layer of porous concrete, said porous concrete being formed of sand grains substantially spherical and substantially the same size and cement, in the proportions of from 3 to 4 parts by weight of sand to 1 part by weight of cement, only sufficient water being used in the formation of the concrete to produce a mixture of dry consistency.

In testimony whereof I affix my signature.

HENRY GARDINER LLOYD.