No. 649,963. Patented May 22, 1900.

E. F. SMITH.

LIGHT ADMITTING TILING OR PAVING.

(Application filed Nov. 1, 1898.)

(No Model.)

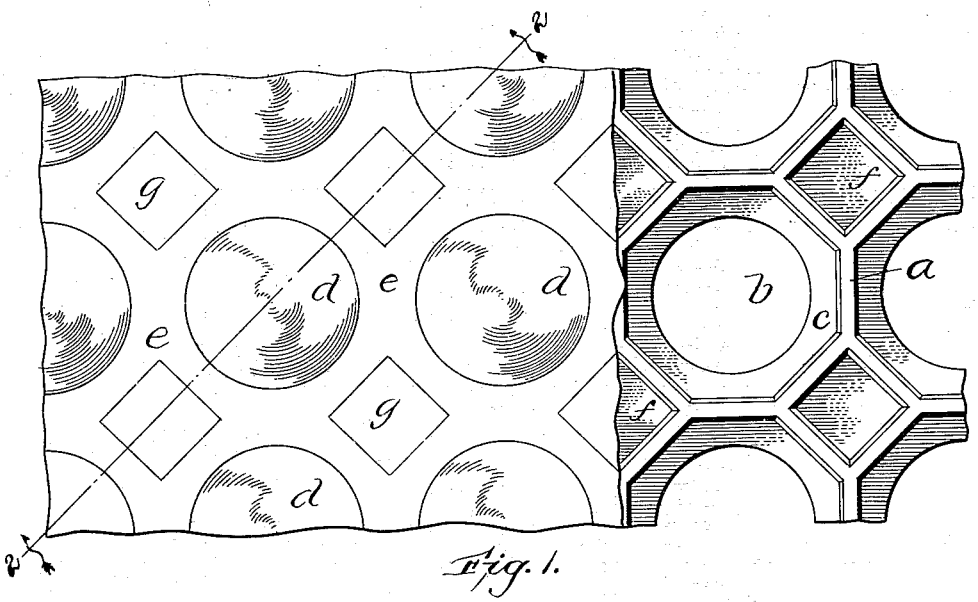

Fig. 1.

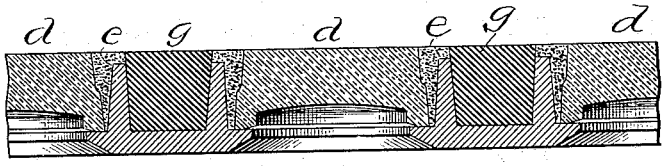

Fig. 2.

Witnesses:

Arthur C. Ragdale.

Louis M. Clark

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UNITED STATES PATENT OFFICE.

ELMER F. SMITH, OF MALDEN, MASSACHUSETTS.

LIGHT-ADMITTING TILING OR PAVING.

SPECIFICATION forming part of Letters Patent No. 649,963, dated May 22, 1900.

Application filed November 1, 1898. Serial No. 695,214. (No model.)

To all whom it may concern:

Be it known that I, ELMER F. SMITH, of Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Light-Admitting Tiling or Paving, of which the following is a description sufficiently full, clear, and exact to enable those skilled in the art to which it appertains or with which it is most nearly connected to make and use the same.

This invention has relation to that kind of tiling or flooring that is constructed to admit light through it to a place therebelow, such as is often used on sidewalks which cover a room or bin extending thereunder.

In sidewalks, floors, or stairs of the kind mentioned in addition to providing for the admission therethrough of light it is necessary to construct them so that a person walking thereover may not slip thereon. To accomplish these general ends, it has been common to make the pavement or tiling of an open metal framework, in the interstices and cavities of which were affixed or set castings or plates of glass and cement, the latter being employed sometimes not only to hold the glass in place, but also to assist in affording a rough or friction surface which would keep the feet of pedestrians from slipping thereon. By my improvements I retain all of the desirable qualities of admitting of the transmission of rays of light through it and of leaving it rough upon the surface; but I enhance the frictional qualities of the surface by adding such elements to the composite nature of the structure as have not only great variance relative to others in wearing properties, but which are essentially of a highly-frictional nature.

To these ends my improvements consist of a tiling or pavement comprising in its construction a framework of metal having openings and recesses formed therein, with molded or otherwise-formed pieces or plates of glass set in the openings and secured by cement, which extends to the tread-surface, and lead or equivalent substance filled in the recesses and also extending to the tread-surface, the cement extending between the glass settings and the lead fillings over the intervening parts of the metal framework, so that, as before said, the surface will not only have enhanced frictional qualities, but uneven wearing properties as well, both of which tend to increase the serviceability of the tile or paving.

Reference is to be had to the annexed drawings, and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a plan view of a piece of my improved tiling, paving, or flooring, a portion of the metal framework being left unfilled. Fig. 2 is a sectional view through a part of the same, the section being taken on the line 2 2 of Fig. 1.

In the drawings, *a* designates the framing or grating, composed of iron or other suitable metal, cast or formed so as to be provided at intervals with openings *b* therethrough from top to bottom. The said framing *a* may be of any suitable design or pattern and may be of a thickness to warrant it to subserve the purpose for which it is intended—namely, as a sidewalk, flooring, or similar contrivance. Around the openings *b* and extending laterally from the main portions of the frame are ledges *c* or their equivalents, made in such form and manner as to support glass pieces or castings *d*, and so, also, that cement *e* may be poured in around the glass pieces *d* and hold the same securely in place upon the ledges, as is clearly represented in Fig. 2. In order to have the cement hold the glass pieces *d* in place, it is necessary that the same should be smaller at the top than at the bottom, or that they should be otherwise held as though wedged in place. The framing *a* is provided at other intervals with recesses *f*, into which lead plugs or buttons *g* are secured by pouring the molten lead therein or filling in the recesses in any other suitable way. These plugs *g* I make of lead, for the reason that the metal mentioned is of uneven wearing properties compared with the iron, glass, and cement, and, moreover, for the reason that lead is a frictional metal for the present purpose—a quality that the other materials do not possess. Of course any other substance than lead—as, for example, rubber plugs—would answer the same purpose.

Both the cement *e* and lead plugs or buttons *g* have their upper surfaces originally flush with the upper surfaces of the glass plates or pieces *d*. The glass is put in in this instance,

as will be understood, for the purpose of admitting light through the tiling or pavement to a place below, and therefore the pieces *d* may be formed of clear glass or other vitreous, transparent, or translucent substance. It will be observed that the cement extends over the top edges of the framework into contact with the lead plugs, so as to assist in securing the same in place and also to form part of the walking-surface.

The main feature of my invention, as before stated, is the lead plugs *g*, set into the tiling or grating at intervals, and which prevent a pedestrian passing over the tiling from slipping thereon. Tiling or paving in which merely iron, glass, and cement are used wears smooth, so that it is dangerous for persons passing thereover in meeting with accidents from slipping and falling thereon. This danger is entirely overcome by my improvement, consisting of the lead plugs or buttons inserted in the iron framing and supported as stated.

It will be understood, of course, that my invention may be used for sidewalks or for coal-covers in sidewalks, for pavement-doors, or for any other similar purpose.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, it is declared that what is claimed is—

A tiling, paving, or flooring, consisting of a framework having openings through it at intervals and recesses between the openings and separated therefrom by the material constituting the framework; light-admitting plates or pieces set in said openings; lead plugs filling the recesses; and cement surrounding the said plates and securing the same in fixed position in the openings, the cement reaching to and forming a part of the tread-surface and extending over the top edges of the framework into contact with the lead plugs, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 22d day of October, A. D. 1898.

ELMER F. SMITH.

Witnesses:
ALBE C. CLARK,
LOUIS M. CLARK.