

H. F. WILLIAMS.
WOOD PAVEMENT.

No. 183,239.

Patented Oct. 10, 1876.

Fig. 1.

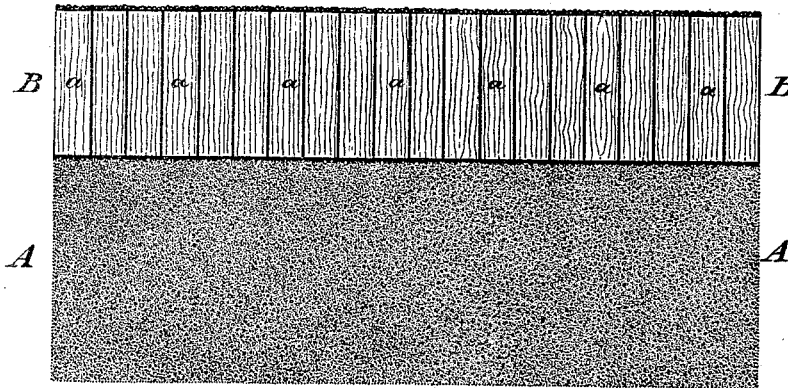
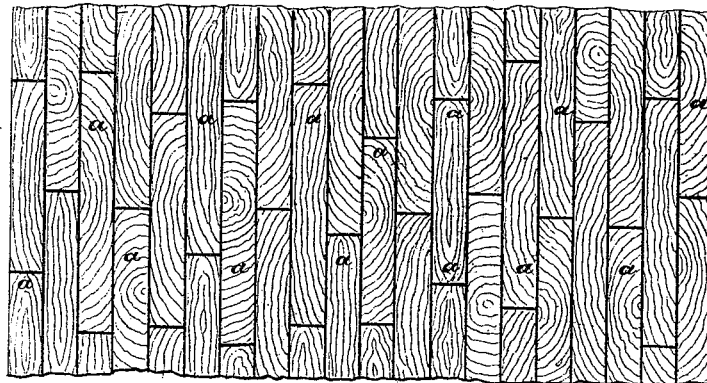


Fig. 2.

B



Attest:

C. H. Smith
R. T. Syer

Inventor:

Henny F. Williams
by Geo. W. Dyer & Co
Attys.

UNITED STATES PATENT OFFICE.

HENRY F. WILLIAMS, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN WOOD PAVEMENTS.

Specification forming part of Letters Patent No. **183,239**, dated October 10, 1876; application filed September 18, 1876.

To all whom it may concern:

Be it known that I, HENRY F. WILLIAMS, of the city and county of San Francisco and State of California, have invented a new and Improved Pavement; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation, in section, of my pavement; and Fig. 2, a plan view of the same, showing the tops of the blocks composing the upper course.

Like letters denote corresponding parts in each figure.

The object I have in view is to provide a pavement for carriage-ways and for sidewalks, which shall combine, in a great degree, cheapness of first cost, durability of wear, and convenience of repair, and shall possess a smooth surface, having a slight elasticity, furnish in all weather a good foothold for horses, and permit traffic over it without noise or dust; and my invention therein consists in placing upon a bed or base of concrete, stone, brick, or other durable and rigid material, or upon a MacAdam or Telford pavement, a thin layer of separate pieces of wood, with the fiber vertically arranged, the separate pieces of wood being bound together, and the whole layer of wood being bound to the foundation by asphalt or bitumen, all as more fully hereinafter described and explained.

In the drawings, A represents the foundation or base, of any proper rigid and durable material—as, for instance, concrete, stone, brick, or MacAdam or Telford foundations—which may be laid in any usual or proper way, and of such thickness as the requirements of the traffic, to which the pavement will be subjected, may demand, it being only essential that this foundation should be firm and hard, and uniformly and reasonably smooth upon its upper surface. Upon this foundation, base, or bed I place a layer, B, of wood, which layer is composed of thin and short pieces of wood *a a*, preferably about an inch thick and three or four inches long, and placed with the fiber in vertical position.

These pieces are made most conveniently by sawing them of the desired length from boards of various widths. I have found in

use that resinous woods are exceedingly well adapted for this purpose, and in all instances the wood should be seasoned in order to insure the best durability.

In putting down this layer of wood each piece should be dipped at the bottom in bitumen or asphalt, (contained in any suitable vessel,) which has been melted, if not fluid already in its natural state, or made sufficiently fluid by an admixture of any mineral oil, and preferably used hot, and of a consistency about like that of molasses. To the bottom of these pieces thus dipped there will adhere a portion of the asphalt or bitumen, and these pieces being placed bottom down upon the bed or foundation in a single course across the street from curb to curb, there will be small spaces between the edges of the pieces in the same course, and also a small space between this course and the next one, which should be laid in the same manner, breaking joints with the previous course. In this way, course after course being laid, there will be, above and upon the foundation, a layer of wood composed of separate pieces, such layer being about three or four inches deep.

The separate pieces of wood, it will be observed, will be bound together by the pitchy adhesive character of the asphalt or bitumen about their lower portions, and the whole mass of the layer will be bound or glued by the same means to the top of the base or foundation.

When a sufficient portion of the street is covered, as described, by the layer of wood, boiling asphalt or bitumen should be poured over the whole sufficiently to fill all the spaces between the separate pieces of wood. To do this effectively it will be found convenient to pour on enough to fill not only the spaces but form a thin film of asphalt or bitumen over the whole surface. Upon this film sharp sand, clean gravel, or finely crushed and screened stone should be at once sprinkled, and the pavement is complete for use.

The gist or germ of my invention consists in placing an elastic layer upon a rigid foundation, by which means durability of wear is insured, because there will be no pounding of one rigid course upon another under the impact of travel, which pounding results in the

destruction of the weakest course of the rigid pavement. There also results from this elasticity little injury to the feet and legs of the horses traveling over it, and little wear to the carriages or vehicles which they draw, and the maximum of comfort to those who ride. This elasticity is attained not only from the natural quality of wood, but is increased by the numerous short and thin pieces, of which the layer is composed, and the elastic nature of the bitumen or asphalt, by which the pieces are bound to each other, and the whole layer is bound to the foundation.

Another cardinal element in my invention consists in the employment of thin and short pieces of dry wood, by means whereof an effective dryness is assured of each piece, and the danger of dry-rot or internal decay is reduced to the minimum.

To those skilled in the art to whom this specification is addressed the advantages of my pavement are so apparent that an enumeration of them would be unnecessary.

I do not pretend that I am the first to use a rigid base, bed, or foundation, such as I have described; neither do I pretend to have been

the first to use a pavement of wood, or to use asphaltum or bitumen in connection with pavements; but as I do not know or believe that any person before my invention has covered a rigid base, bed, or foundation with a thin layer of wood, composed of thin and short pieces bound together, and the layer bound to the bed or foundation with asphalt or bitumen,

I claim as my invention and desire to secure by Letters Patent—

1. An upper course for a pavement composed of thin and short pieces of wood, bound together by asphalt or bitumen, substantially as described.

2. The pavement described, consisting of a rigid foundation, and a surface layer of wood of thin and short pieces, bound together and to the foundation by asphalt or bitumen, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 5th day of September, 1876.

HENRY F. WILLIAMS. [L. s.]

Witnesses:

C. W. M. SMITH,
WILLIAM HARNEY.