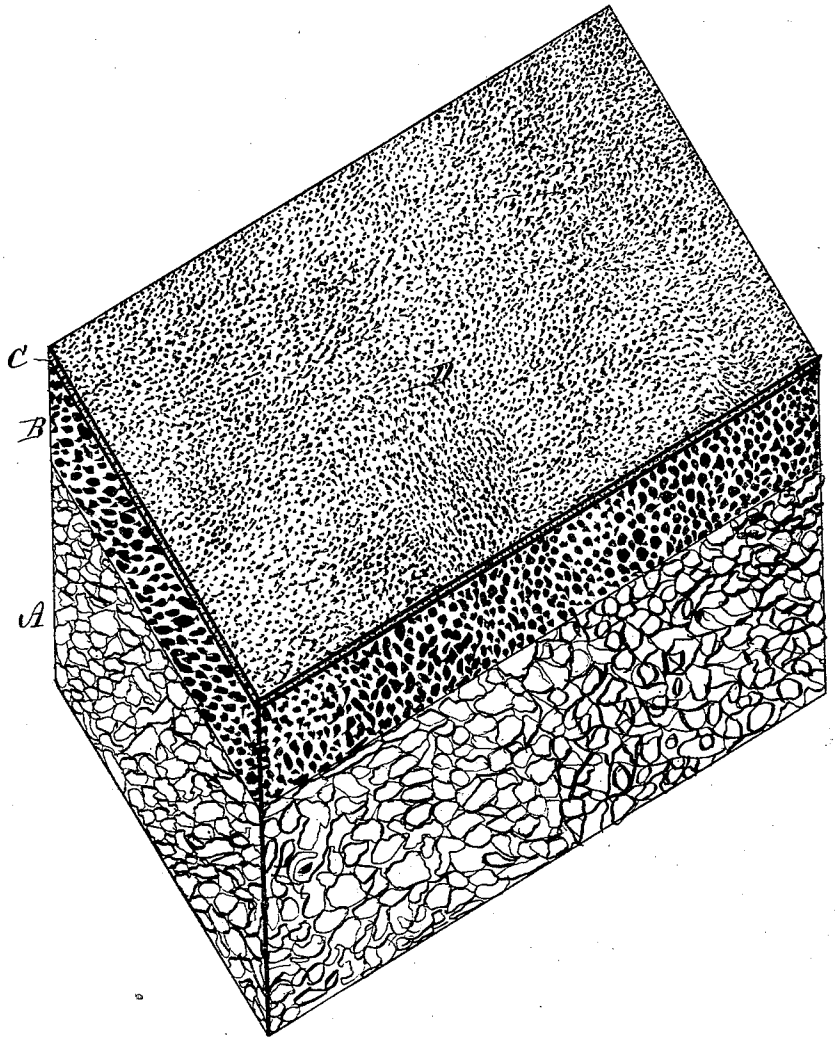
H. R. BELLAMY

Pavement.

No. 165,530. Patented July 13, 1875.



WITNESSES
A. L. Curie.
C. L. Ewerk.

By

INVENTOR
Henry R. Bellamy
Alexander Mason
Attorney

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY R. BELLAMY, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN PAVEMENTS.

Specification forming part of Letters Patent No. **165,530**, dated July 13, 1875; application filed March 17, 1875.

To all whom it may concern:

Be it known that I, HENRY R. BELLAMY, of Indianapolis, in the county of Marion and in the State of Indiana, have invented certain new and useful Improvements in Pavements; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in a compound to be used for cementing gravel or other suitable materials for forming street pavements, &c., and also in the construction of such street pavements, &c., as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe the manner of making both the compound and pavement, referring to the annexed drawing, which represents a section of my pavement.

My compound is composed of asphaltum, sulphur, animal oil, and distilled oil of coal-tar, combined together by heat in the following manner and in about the following proportions: Asphaltum, twenty-four pounds, distilled oil of coal-tar, four gallons, are placed in a suitable vessel over a fire, and boiled until the asphaltum is thoroughly dissolved. Then take one gallon of animal oil, and five pounds of sulphur; place in another vessel over a fire, and boil until a chemical union is formed, which will be indicated by its assuming a dark-brownish color. This compound is then poured into the boiling asphaltum and oil of coal-tar, and the whole kept boiling until the desired consistency is obtained, which will take from five to ten minutes.

I do not confine myself to these particular proportions of the ingredients, as they may be varied somewhat without materially changing the effect of the compound. The proportions above given I have found suitable for streets and drives, but for still harder material a greater proportion of the sulphur compound may be added, thereby giving greater firmness.

The process of laying streets, drives, and pavements, is as follows: After having established the proper grade, a foundation of very coarse gravel, broken stone, cinders, or any other suitable material, is laid for forming a free under-drainage. The thickness of this foundation should be about twelve inches for streets and six inches for drives. Gravel or broken stone should then be sifted or screened into two grades, say, with Nos. 4 and 7 sieves. A common dirt wheelbarrow load of the coarsest gravel or stone is placed in a shallow board box, and to this quantity is added about two gallons of the boiling compound, and the whole is mixed with a spade, rake, or any convenient machinery, until the gravel or stone is thoroughly saturated.

This mixture, marked A, is spread over the foundation to a depth of three and one-half ($3\frac{1}{2}$) inches for streets, and three inches for drives. It should then be rolled with a hot roller until the surface is smooth. This first roller should weigh not less than five hundred pounds. Then re-roll with a one-thousand-pound hot roller until it becomes thoroughly packed—the rollers not to have more than sixteen-inch face. Then proceed in like manner with the next grade of gravel or stone, using same proportion of gravel and compound, spreading it on and forming the layer B to the depth of one and a half inch for streets, and one inch for drives. It is then re-rolled as before.

For the water-proof or finishing coat, pour on the boiling compound C, and spread with brooms, or any other suitable instrument, to a thickness of one-eighth of an inch. Over this, while hot, is sifted the finest grade of gravel or sand, D, to the depth of one-half inch, the sifter being closely followed by a roller. After very thoroughly rolling, the loose gravel and sand are swept off, and it is then re-rolled. This process of top-coating secures the water proof and light finish.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The compound consisting of asphaltum, sulphur, animal oil, and distilled oil of coal-tar, when combined by heat, substantially in the manner and for the purposes herein set forth.

2. The combination of asphaltum, sulphur, animal oil, and distilled oil of coal-tar mixed with gravel or stone, substantially as and for the purposes herein set forth.

3. The within-described pavement, consisting of the coarsest grade of gravel or stone with compound A, second grade of gravel or stone with compound B, water-proof compound C, and finest grade of gravel and sand D, when combined substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of February, 1875.

HENRY R. BELLAMY.

Witnesses:
CHARLES A. WRIGHT,
DAVID T. HUTCHINSON.