J. H. AMIES.

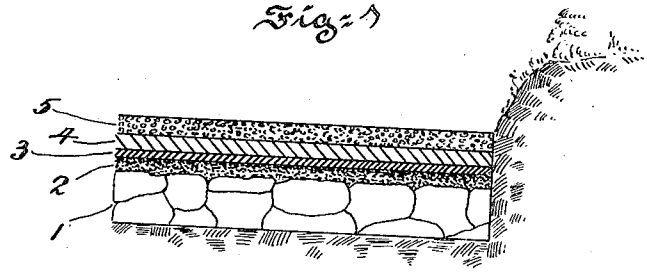
ROAD CONSTRUCTION.

APPLICATION FILED MAR. 3, 1909.

958,064.

Patented May 17, 1910.

Fig. 1



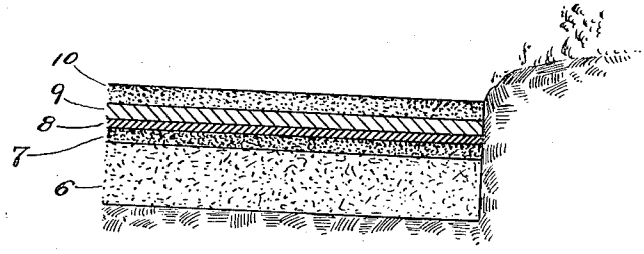


Fig. 2

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH HAY AMIES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE AMIES ASPHALT COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF SOUTH DAKOTA.

ROAD CONSTRUCTION.

958,064. Specification of Letters Patent. Patented May 17, 1910.

Application filed March 3, 1909. Serial No. 481,174.

To all whom it may concern:

Be it known that I, JOSEPH HAY AMIES, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Road Construction, of which the following is a specification.

My improvement relates to the building of country roads and has for its purpose simplicity of construction and minimum building and maintenance costs, reference being had to the accompanying drawings forming part hereof and in which:—

Figure 1, is a vertical transverse sectional view of one form of my improved road construction, and Fig. 2, is a similar view of a somewhat different form of road construction.

I employ the rock that may be found contiguous to the road to be constructed. This is broken to sizes to form a firm rigid base with the openings well filled in. The rocks 1 used are of sufficiently large size so as to make rolling superfluous. When the bed is properly constructed I cover it with sufficient soil 2 to make it tight and firm. This amount of soil can always be found contiguous to the road that is being constructed. When this is done I flood it with water or wait until a rain storm will effect this result. There must be water enough mixed with this soil to moisten it. I then cover the moistened soil with crushed calcium oxid 3. I then cover the whole with a due amount of liquid asphalt, asphalt oil, liquid gas or coal tar, or any suitable resinous or carbonaceous element or the like 4, and without waiting for the calcium oxid to slack I place thereover a due amount of crushed stone, pebbles, slag, or the like 5, or if these are not accessible, I use instead thereof a suitable amount of soil. In short I insert a sufficient amount of calcium oxid and asphaltic cement, or the like, between a water moistened base and a dry surface material to construct my road. The calcium oxid in slaking will make a body of steam, and this will cause the liquid asphalt, or the like, to violently bubble and boil up through and over the elements placed thereover to such an extent as to cover and coat them effectively. No rolling has so far been done and this will be deferred until the calcium oxid has self acted, and then at the time the heat is at the highest degree, a hand roller will be employed to assist to make more effective the coating of the surface material. When this is done I may employ a heavy roller to finish the work.

In some cases rock cannot be secured for the foundation of my road and in such cases I plow the surface and pulverize the soil thereof and mix it well with calcium oxid and when this has acted upon the soil I mix in a due quantity of Portland cement and when the foundation 6, Fig. 2 thus made has hardened I place a due amount of soil 7 thereon and moisten it with water. Then I place thereover a due amount of calcium oxid 8 and immediately cover this with a due amount of liquid asphalt or the like 9 and then over this I place a due amount of dry soil 10 and when the calcium oxid and liquid asphalt have interacted I employ a roller and proceed in the same manner as described above in cases where I employ crushed stone or pebbles or the like.

It is not necessary to assert that the above process will apply to other uses such as drive-ways, paths, side-walks, flooring, and the like, because this is self evident.

I have described the cheapest possible road construction possessing the quality of endurance, indifference to changes in temperature, and elimination of aging.

What I claim is:—

1. The herein described method of road construction which consists in forming a suitable foundation, placing thereon a due amount of soil, moistening the same with water, then placing thereover a due amount of calcium oxid, then covering the above elements with liquid asphalt, and then over all placing a body of crushed stone and the like substantially as and for the purposes set forth.

2. The herein described method of road construction which consists in forming a foundation composed of soil, calcium oxid, Portland cement and water, treated *in situ*, placing thereon a due amount of soil, moistening the same with water, then placing thereover a due amount of calcium oxid, then covering the above elements with liquid asphalt and then over all throwing dry soil and rolling the same down to a compact body, substantially as and for the purposes set forth.

3. The herein described method of build-

ing streets, roads and the like which consists in placing a due amount of soil over a suitable base and when the soil is sufficiently wet with water covering the same with a due amount of crushed calcium oxid, then placing thereon a due amount of liquid asphalt and the like, then before the calcium oxid begins to slake, placing thereover a desired amount of mineral materials and during the slaking of the calcium oxid compressing this mass to a compact body, substantially as described.

In testimony whereof I hereunto sign my name.

JOSEPH HAY AMIES.

Witnesses:

WILLIAM J. JACKSON,

S. F. KOCH.