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# United States Patent Office.

THOMAS J. BARRON, OF BROOKLYN, E. D., NEW YORK.

Letters Patent No. 111,806, dated February 14, 1871.

## IMPROVEMENT IN CONCRETE FOR PIPES, BRICKS, &c.

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that I, THOMAS J. BARRON, of Brooklyn, E. D., in the county of Kings and State of New York, have invented a new and valuable Improvement in "Manufacturing Concrete;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

My invention has relation to the manufacture of concrete for pipes, bricks, fence-posts, and other like uses; and consists in the construction of the core or main part of such commodities of a compost of ashes, gravel, sand, or other similar substances, and soluble silicates, such as the silicate of soda, potash, lime, or magnesia, and then, after covering the same with hydrocarbon, subject it to such a degree of heat as will evaporate all the volatile substances and leave the silicate of the core in a dried condition and also fix the carbon of the coating as a permanent cement.

In forming my compost of silica, ashes, and the like, for the core of the thing to be manufactured, I take, say, three parts of ashes, two parts of coke-dust, and two parts of sand, and mix them thoroughly together with such a quantity of the solution of silicate of soda or other soluble silicate as will make of them a mortar adapted for molding. I then mold the mortar so formed into the thing I desire to manufacture and allow it to harden by drying.

After the article being manufactured has passed through the process mentioned and become sufficiently hard for the purpose, I immerse it in coal-tar, asphaltum, petroleum, or other hydrocarbon fluid long enough and often enough to form thereon an outer coating of hydrocarbon substances of the thickness desired. I then place it in an oven or retort and apply to it such a degree of heat as will serve to evaporate all the volatile parts which it contains, and while thoroughly drying the silicate, without fusion thereof, permanently fixing the carbon of the coating as cement. The coating thus formed serves as a protection against efflorescence and decomposition by the core it surrounds.

I claim as my invention—

1. The coating herein described for concretes, substantially as specified.
2. The coating herein described for concretes, substantially as and for the purpose specified.
3. The concrete herein described, composed of soluble silicates, coke-dust, sand, and ashes, compounded in the manner and proportions substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS J. BARRON.

Witnesses:

F. B. CURTIS,  
JNO. M. HYNE.