

# UNITED STATES PATENT OFFICE.

ANTHONY Y. EASTERBY, OF NAPA, CALIFORNIA, ASSIGNOR TO CALIFORNIA  
PORTLAND CEMENT COMPANY.

## HYDRAULIC CEMENT.

SPECIFICATION forming part of Letters Patent No. 230,865, dated August 10, 1880.

Application filed May 6, 1880. (Specimen.)

*To all whom it may concern:*

Be it known that I, ANTHONY YOUNG EASTERBY, of Napa city, in the county of Napa and State of California, have invented a Hydraulic Cement, of which the following is a specification.

My invention or discovery consists in the employment of a substance termed "travertine"—a light-brown concretionary limestone, usually hard and semi-crystalline, never before employed for this purpose. This I employ, together with aluminous silica, in the following proportions, viz: travertine, from seventy-five (75) to eighty (80) per cent.; aluminous silica, from twenty (20) to twenty-five (25) per cent.

These substances are pulverized in a dry state by means of a centrifugal pulverizer, and so as to thoroughly incorporate the powdered substances. After the travertine and aluminous clay are finely ground the product is to be thoroughly and intimately mixed with sufficient hot water to a plastic state of about the consistency of clay for making brick. It is then to be formed into cylinders of about three (3) inches in diameter and cut into lengths of about four (4) inches and set aside for drying either by natural or artificial heat.

The operation of water mixing and forming the compound into cylinders may be performed by any suitable mixing-machine, and be provided with a molding aperture or former, which will deliver the mixed compound in form of a continuous hollow cylinder, which is cut off in lengths required as it comes from the machine. The sun or artificially dried cylinders

are then to be placed in a kiln or furnace and brought to a white heat. Care should be taken, however, not to vitrify the cylindrical bricks, as this would impair rather than add to the strength of the cement.

When the kiln is sufficiently cooled the bricks are removed therefrom, broken up, and ground in the ordinary manner in which burned hydraulic limestone is treated for hydraulic cement, the ground material constituting the powder of artificial hydraulic cement.

The method of my process does not differ materially from the common methods adopted for the manufacture of artificial hydraulic cements, and hence I do not desire to make claim to any of the mechanical operations herein set forth.

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

1. The use of travertine for the manufacture and production of hydraulic cement, substantially as herein set forth and specified.

2. In the manufacture of hydraulic cement, the compound herein described, consisting of travertine and aluminous clay or silica, in about the proportions herein set forth and specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 20th day of April, 1880.

ANTHONY Y. EASTERBY. [L. S.]

Witnesses:

C. W. M. SMITH,  
HOLLAND SMITH.