

# UNITED STATES PATENT OFFICE.

PRYOR LEA, OF GOLIAD, TEXAS.

## IMPROVEMENT IN COMBINING BITUMEN AND CLAY.

Specification forming part of Letters Patent No. **131,690**, dated September 24, 1872.

*To all whom it may concern:*

Be it known that I, PRYOR LEA, of Goliad, in the county of Goliad and State of Texas, have invented a new and useful Mode of Procedure for Bituminating Clay; and I do hereby declare that the following is a full, clear, and exact description thereof.

The first step is to prepare a very fluid composition, consisting of bitumen and water, as a medium or receptacle of the firm material. The proportion of bitumen to the firm material, hereinafter named, depends on the kind of bitumen used and the object for which the compound is desired, while the proportions of bitumen and water regulate the percentage of bitumen to be used in connection with the firm material, the former not exceeding ten per cent. of the proposed amount of finished composition, and the latter being sufficient to approximate saturation of the fluid. The bitumen and the water are thoroughly mixed by stirring immediately preceding the introduction of the firm material, to secure diffusion of the bitumen with uniformity throughout the composition. The second step is to prepare the firm material. This must be clay with its incidents as found in natural deposit, and it must be dried and pulverized. Another step is to embed the pulverized material in the fluid composition above described until a homo-

geneous mixture is obtained and every particle of the powder is thoroughly immersed. Another step is to exclude the watery component and to compact the remainder, which twofold object is attained partly by evaporation and partly by the application of considerable pressure, these operations being alternate and progressive until the permanent ingredients, as a mass, shall have become dense, as desired.

The mechanical procedure having been thus completed, subsequent change in the product sustains the mechanical combination and matures the mass, partly from affinity of the permanent ingredients and partly from the repugnance between bitumen and water.

The product is a dense, durable, and economical composition, suitable for small and massive structures, and for plastering, and for other purposes.

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

The process of combining the several ingredients in about the proportions herein specified, and in the described manner.

PRYOR LEA.

Witnesses:

A. M. WIGGINTON, Sr.,  
WM. KOEHLER.