

# UNITED STATES PATENT OFFICE.

WILLIAM LALOR, OF UTICA, NEW YORK.

## IMPROVED FERTILIZER.

Specification forming part of Letters Patent No. **90,367**, dated May 25, 1869.

*To all whom it may concern:*

Be it known that I, WILLIAM LALOR, of the city of Utica, in the county of Oneida and State of New York, have discovered a new and useful Improvement in the Manufacture of the Biphosphate or Superphosphate of Lime.

The nature of my invention or discovery consists in the use or substitution of certain refuse of petroleum-oil refineries instead of sulphuric acid for the conversion of bones into biphosphate or superphosphate of lime, as has hitherto been the practice.

In the refining of petroleum or coal-oil sulphuric acid is used, which is separated from the refined oil after having performed its office, carrying with it more or less ammonia and carbonaceous matter derived from the petroleum. This compound has hitherto been thrown away as valueless. By my discovery it is utilized and a biphosphate or superphosphate richer in ammonia or fertilizing qualities is obtained than where sulphuric acid which has not been used in the process of refining petroleum-oil is employed.

The process of manufacturing the biphosphate or superphosphate of lime with the said refuse compound is as follows: The bones are prepared in the usual way for the manufacture of biphosphate or superphosphate of lime, and placed in a suitable receptacle, and each one hundred pounds thereof is moistened with

about one-third of that weight, or four gallons of water. To this I add, for each one hundred pounds of ground bones, about forty-four pounds of the said refuse of the petroleum-refinery, and allow the whole to stand for one week, first stirring it well, and repeating the operation every second day. At the end of the week I add to each one hundred pounds of the bone-meal about an equal weight of earth, peat, muck, plaster, or other suitable drying material.

The ammonia which comes down with the sulphuric acid from the petroleum in the process of refining is, of course, added to the mass, and consequently the superphosphate so formed is more valuable as a manure and richer in fertilizing qualities than that which is manufactured with sulphuric acid alone.

Of course, other drying substances may be employed, and the proportions mentioned may be varied somewhat without materially affecting the result; but those given will be found proper in all cases where the materials are of the ordinary character.

What I claim as my invention or discovery, and desire to secure by Letters Patent, is—

The use of the said refuse for the uses and purposes mentioned.

WM. LALOR.

Witnesses:

GEORGE M. WEAVER,  
JOHN G. CROCKER.