UNITED STATES PATENT OFFICE.

SAMUEL SEITZ, OF SHREWSBURY TOWNSHIP, YORK COUNTY, PA.

IMPROVEMENT IN FERTILIZERS.

Specification forming part of Letters Patent No. **161,827**, dated April 6, 1875; application filed March 10, 1875.

To all whom it may concern:

Be it known that I, SAMUEL SEITZ, of Shrewsbury township, in the county of York and State of Pennsylvania, have invented a new and Improved Process in the Manufacture of Fertilizers; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object I have in view is the preparation of a base or vehicle for superphosphates, so as to render them more convenient in use in agriculture, which base or vehicle is of itself a fertilizer, and, while adding largely to the mass of the superphosphates, improves their quality and increases their efficiency; and my invention therein consists in the process for making the base or vehicle, and in the article itself, all as more fully hereinafter described.

It is well-known that in the manufacture of superphosphates when the bones, previously dissolved by suitable acids, are intimately mingled with the nitrates, alkalies, and ammoniacal substances used, the result is a pasty compound. In order to prepare this pasty compound for use in the field, it is common to mix with the same ashes, ground mortar, brick-dust, coal-dust, and similar vehicles, which convert the whole mass into a dry powder, without materially adding to its power or efficiency as a fertilizer.

The base or vehicle which I use has also the property of converting the pasty compound before named into a dry powder, convenient for use in the field, and in addition it adds largely to its fertilizing power.

In order to enable those skilled in the art to make and use my base or vehicle, I proceed to describe the same as follows:

I take a kiln, of the construction of an ordinary lime-kiln, and first place in the bottom of the same a layer of corn-cobs or a layer of finely-split dry wood, and set fire to the same. I then fill in over this with oyster-shells, and corn-cobs or finely-split wood, in about equal quantities by bulk, until the kiln is filled. After the fire has burned about five minutes, I begin to remove the oyster-shells from the bottom of the kiln, and fill in with fresh oyster-shells, and wood or corn-cobs, as before, and continue this process as long as I see fit.

Instead of scorching the shells in the kiln, as described, the same may be done by building up the shells and finely-split wood in a stack, and then applying fire, but I prefer the use of the kiln, as most convenient and most economical, where large quantities of shells are intended to be scorched.

The oyster-shells thus treated when removed from the kiln, will be found to be slightly browned or scorched upon their outsides, and completely dried and brittle. These shells are then ground to fine powder in any suitable mill, (an ordinary corn-mill may be conveniently used for this purpose,) and this powder is then fit for use as the base or vehicle for the purposes before mentioned.

It will be found that the result of this process is a fine powder wherein there has been preserved all the valuable portions of lime, ammonia, and sulphur to be found in the oyster-shells, or in the particles of the oyster adhering to them, and of itself is a valuable fertilizer.

Of this powder thus prepared, I add to the pasty compound before mentioned, resulting in the preparation of superphosphates, about one-fourth part, by bulk, and mix it all together intimately by suitable machinery. I have used for this purpose a clover-huller, with good effect. When the mixing has been thus performed, there results a fine, dry powder, the base or vehicle described, which has fixed all the volatile salts in the pasty compound, and which is dry and convenient for use.

Having thus described my base or vehicle, what I claim as new therein and my invention is—

1. The process of manufacturing a body for fertilizers, the same consisting in scorching and drying oyster-shells so as to render the same friable, without decomposing the nitrogenous matter connected with them, as and for the purposes set forth.

2. The base or vehicle described for fertilizers, consisting of oyster-shells scorched, dried, and ground, substantially as set forth.

This specification signed and witnessed this 10th day of March, 1875.

SAMUEL SEITZ.

Witnesses:

CHARLES THURMAN,

R. N. DYER.