

# UNITED STATES PATENT OFFICE.

BENJAMIN R. CROASDALE, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN BAGS FOR PHOSPHATES, GUANO, &c.

Specification forming part of Letters Patent No. 153,477, dated July 28, 1874; application filed April 15, 1874.

*To all whom it may concern:*

Be it known that I, BENJAMIN R. CROASDALE, of Philadelphia, Pennsylvania, have invented a Bag for Phosphates, Guanos, and other Materials, of which the following is a specification:

A bag for containing phosphates, guanos, &c., has been much sought-after, but no bag has been hitherto produced which has proved itself capable of resisting the rapidly-rotting effects of the acids, the ammonia, and the moisture which phosphates and guanos contain.

I make bags of any desired size and form of burlap, cotton cloth, or other textile fabric, and saturate them with hydrate of lime by immersing them in a mixture composed of the lime with water. The mixture is preferably made of about the consistency of new cream. It being in many cases desirable that the lime should have, as near as may be, the color of the material of the bags, coloring matter may be added to the lime mixture for this purpose. Thus, if the bag is made of burlap, I add to the lime mixture a small quantity—say two ounces—of yellow ochre to a gallon of the mixed lime and water. The bags are then dried, and afterward immersed in oil, or, pref-

erably, in a mixture composed of oil, about three parts, and paraffine, about one part; and in either case the bags are then at once run through squeezing-rollers.

The application of the oil or the oily mixture, as above described, may be dispensed with, and good results be still obtained, by using oil of any kind with the water in the primary operation of slaking the lime—say one pint of oil to three gallons of water. I prefer, however, to apply the oil or oily mixture by immersion, as first above described.

It is obvious that the fabric may be treated with the lime and the oil or oily mixture before it has been made up into bags; but I prefer to proceed by first making the bags and afterward subjecting them to the described treatment.

I claim—

For holding guanos, phosphates, and other materials, a bag composed of a textile fabric saturated with the hydrate of lime, with the addition of oil or mixed oil and paraffine, substantially as set forth.

BENJ. R. CROASDALE.

Witnesses:

ALBERT H. HOECKLEY,  
J. E. SHAW.