

SAMUEL BROWN.
Improvement in Preparing Fertilizing Material
from Earth, &c.

No. 125,017.

Patented March 26, 1872.

Fig. 1

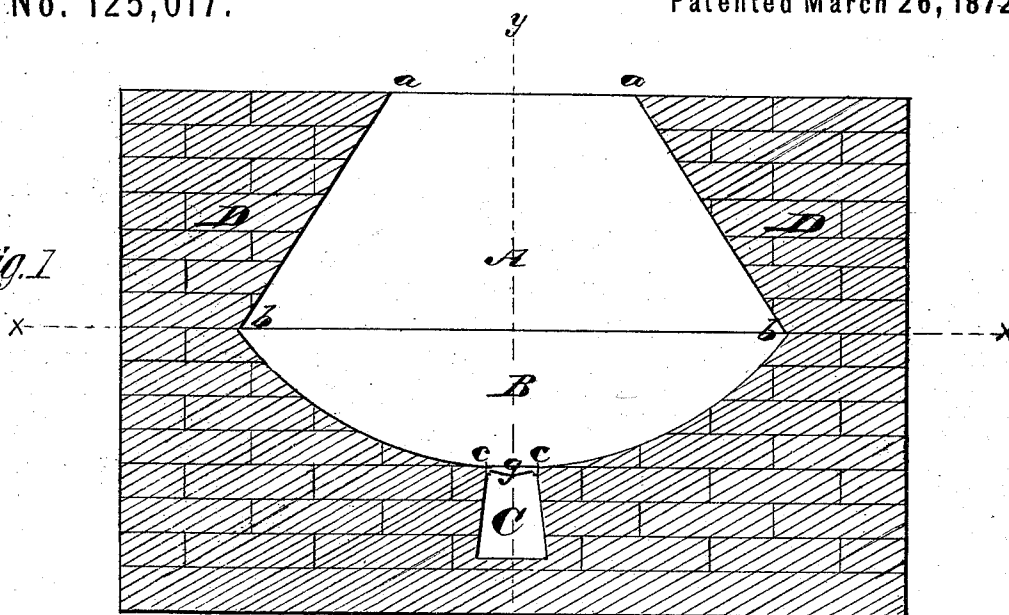


Fig. 2

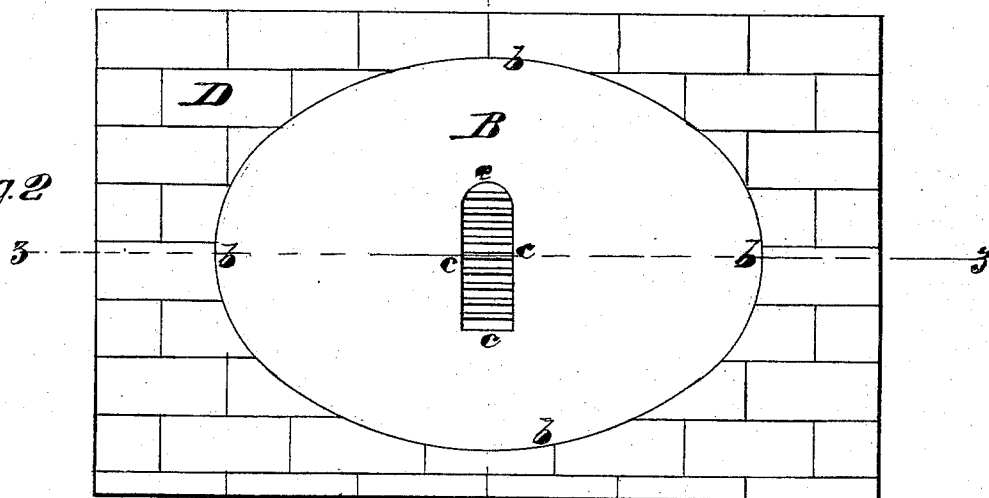
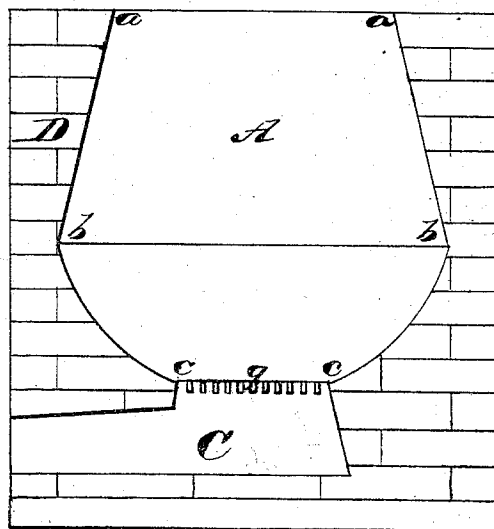


Fig. 3



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Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL BROWN, OF NEW OXFORD, PENNSYLVANIA.

IMPROVEMENT IN PREPARING FERTILIZING MATERIALS FROM EARTH, &c.

Specification forming part of Letters Patent No. 125,017, dated March 26, 1872.

To all whom it may concern:

Be it known that I, SAMUEL BROWN, of New Oxford, in the county of Adams and State of Pennsylvania, have invented a Mode of Preparing Fertilizing Material; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a section taken through the kiln in the vertical plane indicated by dotted line *z z* on Fig. 2. Fig. 2 is a section taken through the kiln in the horizontal plane indicated by dotted line *x x* in Fig. 1. Fig. 3 is a section taken through the kiln in the vertical plane indicated by dotted line *y y* on Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to produce a cheap and good fertilizer for land by burning earth and mixing with it at the same time wood-ashes, in a manner hereinafter explained.

The following description will enable others skilled in the art to understand it.

In the accompanying drawing, D represents a kiln, which is made wholly or in part of rough masonry, and which may be of any desired capacity. This kiln may be divided, for description, into a shaft, A, which presents interiorly and on all sides inclined walls extending from *a* to *b*. From before backward the shaft A is narrower than it is in a lateral direction, so that when taken horizontally in any plane from *a* to *b* the shaft A is elliptical. The horizontal plane *b b* represents the base of the elliptical frustum, and below this base is found the hearth-section B, which is also elliptical in horizontal section, and which presents inclined concave surfaces extending from *b* to *c*, and terminating at *c* in a horizontal grate, *g*, below which is a chamber, C, for receiving the material as rapidly as it is prepared.

After a series of experiments with a view to prepare the fertilizer in kilns of different

shapes interiorly, I have found the form of kiln shown in the drawing to give the best results. The inclined concave hearth B will support the superimposed material, and the inclined shaft-walls will prevent the material from clogging at the sides of the kiln.

In order to properly prepare the fertilizer it is necessary that it should escape from the hearth B into the chamber C as rapidly as it is finished. If allowed to remain longer the earth will be burned too much and its fertilizing properties will be impaired.

I take the earth which does not contain too much sand, and, after building a fire upon the hearth, and forming a good layer of wood thereon, I form a layer of earth, then a layer of wood, and so on I alternate with layers of wood and earth until the kiln is properly charged, say, two-thirds full. As the layers burn away and settle down other layers are introduced, so that the operation is kept up day after day. The burnt earth and the ashes resulting from the destruction of the wood mix together and fall through the grate *g* into the chamber C, from which they are removed and cooled, when the mixture is ready for use.

All kinds of woody trash may be utilized in the operation, and all kinds of earth that is not too sandy may be employed.

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

1. A fertilizer composed of burnt earth and wood-ashes, prepared substantially as described.

2. A kiln, D, consisting of a flattened conical shaft, A, a concave basin-hearth, B, grate *g*, and receiver C, combined substantially as described and shown.

Witness my hand in matter of my aforesaid application for a patent this January 17, 1872.

SAMUEL BROWN.

Witnesses:

R. T. CAMPBELL,
J. R. MARTIN, Jr.