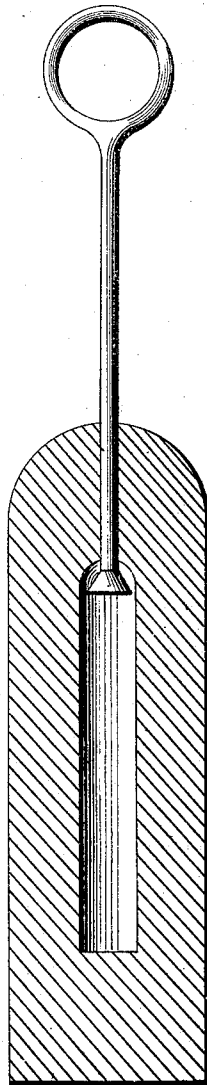


B. BICKNELL.
FIRE-KINDLER.

No. 178,099.

Patented May 30, 1876.



Attest:
John C. Hickey
Notary Public

Inventor:
Benjamin Bicknell

UNITED STATES PATENT OFFICE.

BENJAMIN BICKNELL, OF CINCINNATI, OHIO.

IMPROVEMENT IN FIRE-KINDLERS.

Specification forming part of Letters Patent No. 178,099, dated May 30, 1876; application filed September 11, 1875.

To all whom it may concern:

Be it known that I, BENJ. BICKNELL, of Cincinnati, Hamilton county, Ohio, have invented an Improvement in Fire-Kindlers, of which the following is a specification:

My invention relates to that class of compounds which are indestructible by fire, used for the purpose of fire-kindlers, and is composed of the following ingredients: First, of a natural stone of a peculiar kind—steatite, kaolin, and sandstone—and found in native state in the Scioto valley and other localities; second, a No. 1 quality of plastic fire-clay; third, it consists of native asbestos, all three of which, as above enumerated, are indestructible by fire when compounded or mixed together. Fourth, it consists of dry ground corn-cobs or dry sawdust.

To enable others skilled in the art to make and use my invention, I will proceed to describe the proportions, manner of compounding, manufacturing, and using the same.

The drawing shows a side view of the fire-kindler, with wire handle and chamber or cavity.

Take of the first-named article, the stone, one bushel; of the second, the fire-clay, one-half bushel. Break the stone into small pieces by means of a hammer or otherwise. Grind or mash both together, in a mill suitable for the purpose, to the consistency of meal. Then add one-half bushel of the third article, which is pulverized asbestos, and one-half bushel of the fourth article, which is either dry corn-cob, ground to meal, or dry sawdust. Then mix the whole together in a dry state; then wet, and mix thoroughly to the consistency of stiff mortar. It is now ready to be put in form by the use of molds, which may be of any given size or shape. The size which I have adopted for a No. 1 kindler is about one and one-half inch in diameter by five inches long. They may be made of various sizes, rounded, oval, smooth, fluted, or solid, or with cavity in center. After being molded into shape they are then allowed to stand in the open air until thoroughly dry, then placed into a kiln and burned for four or five days and nights, which consumes the fourth article,

(corn-cobs or sawdust,) and leaves the kindler a hard, porous, and indestructible absorbent. When cool they are then taken from the kiln and placed into a tank or caldron, with one-fourth part of resin and three-fourths part of kerosene or coal-oil, and boiled in the same from one to two hours, which cleanses the pores and saturates the kindlers, and prepares them for use.

Then when a match is applied the kindler will ignite, burning on the surface, generating a gas from the interior, producing a column of flame which is sufficient to kindle any wood or coal fire, and will continue to burn until the fluid is exhausted, when the kindler may be removed from the fire, cooled, and placed into the can of oil or fluid from two to three minutes, and it will again be saturated and ready for use. This process may be repeated for years without injury to the kindler.

The essential ingredients of my compound are, first, steatite, kaolin, sandstone; second, fire-clay; third, asbestos; and, fourth, dry ground corn-cobs or dry sawdust, and these ingredients are to be united substantially in the manner and in the proportions specified. The stone of the chemical ingredients specified acts to resist the highest possible temperature, and durably preserve the form or figure of the kindler. The clay is a uniting medium; the asbestos an indestructible absorbent of itself, and in my compound a conveying and absorbing medium for the coal-oil to be used in the kindler; and the sawdust or meal, when burned, leaves the clay and stone porous. The entire compound possesses the qualities necessary in the highest degree.

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

The herein-described fire-kindler, prepared from a compound consisting of steatite, kaolin, sandstone, fire-clay, asbestos, and meal or sawdust, in the manner and for the purpose specified.

BENJAMIN BICKNELL.

In presence of—

D. T. WILLIAMS,
HENRY HAYMEYER.