UNITED STATES PATENT OFFICE.

THOMAS WILLIAMSON AND WILLIAM A. VOGTS, OF LONG ISLAND CITY, N. Y.

IMPROVEMENT IN FIRE-KINDLINGS.

Specification forming part of Letters Patent No. **199,245**, dated January 15, 1878; application filed November 21, 1877.

To all whom it may concern:

Be it known that we, THOS. WILLIAMSON and WILLIAM A. VOGTS, both of Long Island City, Queens county, New York, have invented certain new and useful Improvements in Fire-Kindlings, of which the following is a specification:

The nature of our invention may be briefly stated to consist in a kindling composition formed of lamp-black, a mixture of petroleum-oils, and rice-water, made into a thick or solidified paste, and formed into slabs or sticks provided with a protecting wrapping of paper.

In producing our improved kindlings we proceed substantially as follows: We first mix together, in a suitable vessel, the following petroleum-oils, in about the proportions named, thus: Refined or ordinary kerosene-oil, five parts; crude petroleum, one part; dead-oil, one part. We next take of strong rice-water, one part, and, placing this in a separate vessel, add thereto a large quantity of lamp-black, sufficient to form a thick coherent pulp or paste. To this paste we then add the mixture of oils and thoroughly incorporate the same therewith. This mixed paste is then allowed to rest for about two days, during which time it will have become properly set, the oils will have become completely absorbed, the main portion of the water will have evaporated, and the paste thus have acquired a proper degree of firmness and dryness. We then place this paste in a press and compress it into the form of a flat cake of about five-eighths of an inch thick. The pressure to which the composition is thus exposed imparts to it a desirable degree of solidity, rendering it capable of future handling and packing. The compressed cake is now cut up into a number of small sections, preferably in the form of oblong slabs or sticks of about five-eighths of an inch square in section and three inches long, which are wrapped in a covering of paper, and the kindling is then ready for use.

The wrapping of paper preserves the form of the slab and prevents the soiling of the hands of the user, and at the same time forms a readily-igniting exterior. In this form the kindlings are packed in quantities in boxes, and the article is then ready for the market.

The lamp-black in this composition forms the base, giving a body and solidity to the compound, and forming a powerful absorbent for the strongly-combustible and readily-igniting petroleum-oils with which it is impregnated, and which are the chief kinding agents, while the rice-water acts as a cementing-size to give a sufficient coherency to the composition.

We, of course, do not wish to confine ourselves to the use of rice-water, as a similar binding material, such as glue-water, thin paste, &c., may be used; nor do we wish to confine ourselves to the exact mixture of petroleum-oils specified, as this mixture may be somewhat varied without departing from the spirit of our invention; but, at the same time, we much prefer the exact ingredients stated and in the proportions named.

These ingredients of our composition being of a simple and inexpensive nature, we can thus furnish our improved kindlings at a very cheap rate, as befits the character of such articles. For the base we require but the cheapest quality of lamp-black, and for this purpose prefer to use that which is now largely and cheaply produced from burnt garbage.

The lamp-black base of the compound, being of an extremely absorbent nature, has the power of absorbing and fixing a very large proportional volume of the petroleum oils without becoming much wetted thereby, or departing much from a condition of coherent dryness and solidity, and is hence particularly well adapted for the purposes of our invention, as it possesses these desirable qualities of absorption, coherency, and cheapness to a greater extent than any other form of carbonaceous matter.

The oil absorbed by the lamp-black is strongly and safely retained within its pores, but instantly ignites on the application of the match, and is given out gradually and uniformly during the burning of the kindling, producing a large volume of flame, which is maintained for fully ten or fifteen minutes with a powerful kindling effect, the exhaustion of the oil ending with the coking and final burning of the lamp-black.

As the impregnating combustible of our kindling is of a more refined nature than the more commonly used resinous or tarry sub-

stances, the flame produced is therefore hotter and more cleanly, and its kindling effect is hence superior. One of the small kindlings is thus ample to kindle an ordinary fire with the addition of a few large sticks of wood, while a few of the kindlings are sufficient to kindle a large coal fire without the use of any wood whatever.

As we are enabled to readily sell the kindlings at no greater cost to the user than one-half cent each, their use will hence be found to result in a material saving of both cost and time.

What we claim as our invention we therefore state as follows:

1. In compositions for fire-kindling, the combination of lamp-black, petroleum-oils, and rice-water, or its equivalent, formed into a thick coherent or solidified paste, substantially as herein set forth.

2. An improved fire-kindling, consisting of a solidified paste of lamp-black, petroleum-oil, and rice-water, formed into sticks or slabs, provided with a sustaining envelope of paper, substantially as herein set forth.

In witness whereof we have hereunto signed our names in presence of two subscribing witnesses.

THOMAS WILLIAMSON.
WM. A. VOGTS.

Witnesses:
ANTHONY MAYHEW,
CONRAD DIESTEL.