United States Patent Office 3,338,690 Patented Aug. 29, 1967

3,338,690

WOOD TREATMENT AND PRODUCT

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No Drawing. Filed Nov. 12, 1963, Ser. No. 323,098
2 Claims. (Cl. 44—6)

The invention disclosed herein relates to the process for preparing a fuel for use in charcoal cooking, and the resultant product.

Cooking with charcoal is now practised extensively, not only for outdoor cooking but for indoor cooking.

One of the disadvantages of charcoal cooking is that an "outdoor" taste is not obtained, as charcoal does not produce the vapors or smoke which result when wood is used as a fuel.

The object of the present invention is to provide a fuel, which may be mixed with the charcoal, in order to produce smoke to enhance the taste of the food.

Another object is to produce a non-toxic fuel of the aforementioned type, or to state it differently, a fuel which will be safe to use in the preparation of food, and wherein the ingredients may be proportioned to produce a controlled amount of smoke.

The above and other objects of the invention will be apparent from the following description.

In accordance will the concept hereof the basic fuel is hardwood. However, hickory or oak is preferred, this preference being based primarily on taste.

In preparing the fuel the hardwood is initially reduced to chips and sticks, the reduction being accomplished by any suitable mechanical means. The reduction in size is desirable as the fuel is to be used with charcoal which, most frequently is in the form of briquets, more or less the size of eggs. Because of this, in its preferred form, the wood is reduced in size to pieces measuring approximately ½" x ½" x 1/16" for chip size; and 1" by 2" by ½" for stick size. These sizes may be readily distributed with the charcoal in the typical outdoor charcoal grill.

Although chips and stick sizes are preferred, for larger charcoal cookers, such as are used in many restaurants, small logs may also be used, logs here being used in the sense of a bulky piece of material, but small enough to be readily distributed with the charcoal in a grill or cooker. A typical example would be a piece of branch of a hardwood having a diameter of from 1 to 2" and a length of from 4 to 6".

Following the reduction of the wood to chips, sticks or logs, the reduced wood is soaked in the concentrate or in water diluted distillate obtained by the destructive distillation of hardwood an the subsequent condensation of part of preferably of all the vapors which have been formed in said distillation. Though the soaking medium for the wood chips, sticks or logs may be constituted of any concentration of the condensed hardwood distillate in water or even of pure water, the solutions used in the preferred embodiment of the invention will have concentrations ranging from 35% to 85% by weight of hardwood condensed distillate.

The soaking of the chips will take place at a temperature ranging between 35° F. and 212° F., preferably at room temperature. The soaking will, in the best conditions, be carried out until saturation of the wood, that is to say, till the soaked wood will have reached a constant weight. Of course, noncompletely saturated wood may also be used. In the case where the initial wood to be treated is initially saturated with water it would be impossible to effect the soaking of the wood with a solution of the condensed hardwood distillate, unless it will be previously dried below saturation. This can occur by

any suitable means and preferably till the total content of the water in the wood will range between 40% and 60% of the total weight of the wood.

When the soaking step is ended the treated wood may be dried in order to permit the volatiles to escape, the non-volatiles remaining in the wood. The product obtained may be marketed in this dry state.

In the preferred embodiment the reduced wood, after saturation, and while still in a wet stage is sealed with a crude scale paraffin wax, this being accomplished by dipping in a wax bath, wherein the wax is maintained in a fluid state but below the boiling point of water. The sealing may also be accomplished by spraying or pouring of the wax, but dipping is preferred as complete immersion generally assures complete surface coverage.

As the purpose of the wax is to seal, the amount thereof added to the reduced wood should run from approximately 3% to 7% by weight of the saturated wood.

When crude scale paraffin wax is used an immersion in a dipping tank for at least 5 seconds in order to obtain a preferred product will achieve the result desired. It is obvious that the proper time can be determined by a simple trial and error test, and an excess of wax is not harmful, but would merely introduce a slight delay in the burning and the release of the "smoke."

Although crude scale paraffin has been mentioned, any non-toxic wax may be used such as microcrystalline waxes, ozokerite, and other mineral, vegetable, animal and insect waxes. Synthetic waxes derived from fatty acids and alcohols may likewise be used. As a matter of fact, other coatings such as a low melting point plastic, mixtures of the above waxes with other compounds, etc., may be used, as long as the coating constitutes a sealer, is non-toxic and will have a low melting point, ranging preferably between about 125° F. and 211° F.

It is apparent from the above that the resultant product is a reduced piece of hardwood, saturated with a hardwood distillation, and preferably sealed with a low melting point non-toxic sealer, usually one of the available waxes.

When added to a charcoal fire the released distillation will produce smoke at a relatively slow rate due to the slow burning of the hardwood.

It is further within the contemplation of the invention herein to modify the process somewhat to produce an igniter for charcoal fire.

In this instance the chip sizes of hardwood measuring approximately 1" x ½" x 1/16" are preferred, though sticks and logs may be used.

Herein the wood is initially dried to reduce its moisture content to approximately 20% or less by weight. This may be accomplished by kiln drying. However, as the wood is to be preferably sealed with crude scale paraffin wax, it is preferred to immerse the wood in a bath of the wax, the temperature of the bath being above the boiling point of water. By so doing, the moisture is driven off and the reduced wood sealed.

The reduced wood is retained in the bath long enough to again absorb 3 to 7% by weight of the sealer. Obviously it will be necessary to first determine the moisture content of the wood being treated to determine the time of immersion to drive off the moisture and add the sealer. Again, any type of non-toxic sealer may be used.

When added to a charcoal fire the wax may be readily ignited, the small amount of wax will assume ignition of the wood due to the wood's low moisture content. The wood will also burn relatively rapidly because of its "dry" state, and when scattered throughout the charcoal, a chain ignition will result.

The advantages of this product are obvious. Its safety of use makes it highly desirable, and as it is non-toxic and tasteless it will not in any way affect that which is being cooked.

It is apparent that many changes could be made which would still fall within the teachings hereof. The preferred methods and products have been described, it being obvious that changes in sizes or percentages are readily possible which would run to changes in efficiency rather than result.

The following is claimed:

1. A process of treating hardwood comprising the steps of soaking the hardwood in an aqueous solution of a hardwood distillate until the wood is substantially saturated, and coating the saturated hardwood in its wet state with a non-toxic synthetic or natural wax sealer maintained at a temperature above its own melting point but below the boiling point of water until the amount of wax coat is from 3% to 7% by weight of the saturated hardwood.

2. An article of manufacture comprising a piece of hardwood substantially saturated with a non-volatile hardwood distillate in aqueous solution and coated with a non-toxic synthetic or natural wax sealer constituting from 3% to 7% by weight of the saturated hardwood.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,338,690 August 29, 1967

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It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

In the heading to the printed specification, line 4, for "Durrant, Okla." read -- Durant, Okla. --; column 1, line 52, for "an the" read -- and the --; line 62, for "35° F." read -- 33° F. --.

Signed and sealed this 1st day of October 1968.

(SEAL)
Attest:

Edward M. Fletcher, Jr.
Attesting Officer

EDWARD J. BRENNER
Commissioner of Patents