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FUEL COMPOSITION

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1 Claim. (Cl. 44—17)

This invention relates to a composition of matter for use as a fuel, the primary object being to utilize waste cellulose materials such as sawdust, cotton, etc., as a substitute for ordinary wood or other fuels.

A further object is to provide a fuel formed into compact blocks but containing an ingredient which, when heated, will expand and ignite, thereby maintaining the surface portion of the block porous so that it will burn freely.

Another object is to combine with the bulk waste material certain combustible ingredients and binding means.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in certain mixtures of ingredients as hereinafter more fully described and claimed.

In carrying out the invention any suitable waste material of a combustible nature, such as sawdust or cotton, can be used as the main ingredient or base. With this base there is mixed a group of ingredients of a combustible nature, a non-combustible binder, and a combustible binder. The non-combustible binder consists preferably of asbestos cement while the combustible binder is made up preferably of coal tar. Turpentine, crude oil or waste lubricating oil and black gunpowder constitute the combustible ingredients with which the bulk material is to be saturated and mixed. The following proportions are preferably used:

Combustible bulk material	bu.	½
Asbestos cement	oz.	1
Turpentine	oz.	1
Crude oil or waste lubricating oil, in sufficient quantity to saturate the bulk material.		
Black gunpowder	oz.	1
Coal tar	qt.	1

The bulk material consisting of sawdust or other cellulose waste is placed in a container with the asbestos cement, turpentine, oil and gunpowder and the ingredients are mixed thoroughly. Thereafter the coal tar is added and thoroughly mixed with the other ingredients and the resultant mixture is formed in blocks, preferably under pressure. These blocks can then be used like ordinary fuel, the oil and turpentine serving to increase the combustible nature of the product. The powder is widely scattered through each block and while the block is burning, those grains of powder nearest the surface will be ignited by heat and blow outwardly from the block, forming a porous surface which will expedite combustion, said combustion being further facilitated by the heat of the burning powder. The use of gunpowder scattered through fuel blocks has been found especially advantageous where the block has been subjected to heavy pressure for the purpose of rendering it compact. Under these conditions the gunpowder, when fired, produces a honeycomb effect in the formation so as to accelerate combustion.

The asbestos cement, because of its fibrous nature constitutes an excellent binder heat retainer and the coal tar likewise acts to bind the particles together as well as to add to the fuel. Obviously when the blocks are formed under pressure the amount of each ingredient with the exception of the gunpowder can be reduced in proportion to the bulk base material.

It has been found in practice that the fuel composition such as herein described has a heating value well in excess of that of ordinary wood and will not be consumed as rapidly as wood of the same bulk. As it is formed largely of waste material, it can be produced at low cost.

While the use of black gunpowder has been found very efficient, it is to be understood that any other granular material which will explode when subjected to high temperatures, could be substituted.

What is claimed is:

A composition of matter for use as a fuel including a block of comminuted combustible material saturated with a combustible oil, asbestos cement used as a binder and heat retainer, a combustible binder, and small particles of gunpowder, said particles being scattered throughout the composition in such proportion to the other ingredients as to produce, without exploding, a honeycomb effect in the block when the particles are ignited.

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