Dec. 11, 1934. C. S. PALMER 1,983,560

FIRE KINDLER BRIQUETTE

Filed May 20, 1932

Fig. 1.

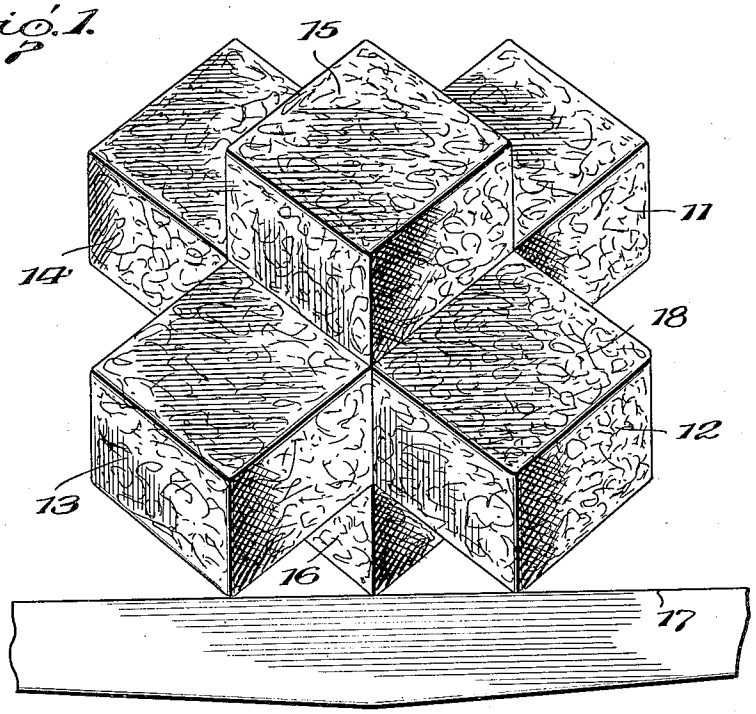


Fig. 2.

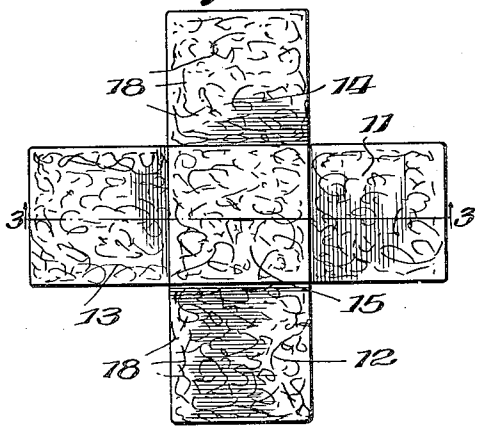
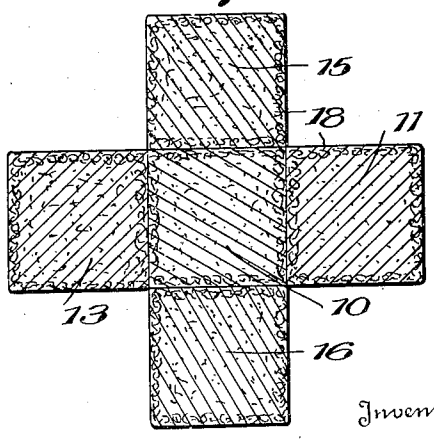


Fig. 3.



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Patented Dec. 11, 1934 1,983,560

UNITED STATES PATENT OFFICE

1,983,560

FIRE KINDLER BRIQUETTE

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Application May 20, 1932, Serial No. 612,582

3 Claims. (Cl. 44—41)

This invention relates to fuel briquettes, particularly to fire kindlers.

An object is the provision of a fire kindler briquette which is quick lighting, being capable of ignition from a single match or taper.

Another object is the provision of a fire kindler briquette having a geometrical formation of such character that free draft is secured to all parts thereof regardless of the position given the briquette in service.

A further object is the provision of such a briquette so shaped that portions thereof constitute supports for holding fuel, such as coal or coke to be ignited, in relatively spaced draft open position at the area of ignition.

Other objects, which will be apparent from the description, are concerned with the composition and making of the briquette. The present disclosure constitutes a practical embodiment of the invention but the details shown and described are not intended as limitations inconsistent with the scope of the invention as claimed.

Figure 1 of the drawing is a perspective of a briquette as in service position.

Figure 2 is an elevation thereof.

Figure 3 is a section medially through the briquette on line 3—3 of Figure 2.

Fire kindling briquettes made in accordance with this invention are intended for use in connection with fuel such as coal or coke. The briquettes are made up of readily combustible material and one or more briquette is sufficient for starting an ordinary furnace or grate fire. It is essential that a fire kindler in order to be effective shall be capable of free burning without draft impedance. In this invention I have accomplished this object by making the briquettes in the form of polyhedral members so arranged that in any position of the briquette with respect to a grate, hearth, or the like, the body of the briquette is supported on at least three spaced supporting points or two edges so that the principal body of the briquette is raised sufficiently to permit of a free draft thereunder and around all sides thereof.

Briquettes made in accordance with this invention have substantially the following composition:

	By weight	Percent
	Grams	
Powdered coal	80	46.87
Sawdust and $NaNO_3$	40	23.93
Rosin	20	11.96
Pitch	20	11.96
Light fuel oil	7	4.18
Nitro-cellulose	1	1.1
Total	168	100.00

From this material the briquette is made up by pressing or otherwise forming a plurality of cubes which are assembled in sets of seven. To each of the six faces of a central cube there is attached a similar cube by suitable combustible adhesive material so that the resulting briquette is of the geometrical configuration shown in the drawing.

As shown each briquette comprises a central cube 10 having secured to each face thereof similar cubes 11, 12, 13, 14, 15 and 16. In service, as the briquette is placed on a grate or other support 17 it is apparent from an inspection of Figure 1 that it will so position itself that three of the cubes will have a point bearing on the body of the grate. This three point support occurs regardless of the position assumed by the briquette in service. The fuel to be ignited is, of course, pyramided or piled loosely over and around the briquette and by this arrangement the uppermost adjacent flat surfaces of the cubes provide supports for holding the fuel against dropping and shaking into such position as to block a free draft through the center of a fire.

The entire surface of the briquette is provided with a varnish comprising a coat of paraffin and the respective cubes have also a light external coating of some fibrous, shredded, easily combustible material such as excelsior or the like generally indicated as at 18. By reason of this quick lighting coating the briquette may be started by the use of a single match or taper as the shredded material easily catches fire and communicates the combustion to the material of the briquette.

The briquette may, of course, be molded or pressed as a single unit wherein the entire body is integral and as to shape may have any geometrical configuration that will insure a plurality of spaced supporting points for the body in any position assumed by the briquette in service.

The composition may vary within limits that do not constitute a substantial departure from the formula disclosed. More or less of the nitro-cellulose may be employed as desired or its use may be dispensed with as this ingredient is an accelerator and is not essential to the accomplishment of the purposes intended.

The sawdust is combined with the sodium nitrate in solution or added as powdered solid in proportions of about twenty-five parts sawdust and fifteen sodium nitrate, after which the sawdust is dried and mixed with the coal and other ingredients to form a composition which is pressed or molded into the desired shape.

In the embodiment of the invention I have found that a briquette made in the geometrical shape of the well known jackstone is highly efficient. The material forming the body is pressed into a substantially solid substance which, however, remains porous in some degree by virtue of the character of the ingredients employed. This porosity or sponge-like structure insures quick

lighting and thorough combustion of the briquette in service.

The surface varnish is not restricted to paraffin as any combustible water proofing material will suffice. The surface coating acts to seal the pores of the body as well as to provide a moisture excluding agent.

The particular shape of the briquettes wherein they are embodied in the form of a jackstone is important in that a number of briquettes may be readily nested for packing. This ready nesting of briquettes makes for economy in transportation and handling as well as serving as a mutual reinforcement for individual briquettes to insure against damage in handling packages of the same.

With the exception of the nitro-cellulose ingredient, all of the substances employed in making up the briquettes are low priced and easily obtainable. The nitro-cellulose ingredient may be dispensed with if desired but as the percentage employed is exceedingly small, the cost is not a substantial item in the manufacture of the briquettes.

I claim:

1. A fire kindling briquette comprising a substantially solid body of readily combustible material having a substantially cubical center provided with cubical extensions projecting laterally from each face thereof.

2. A fire kindling briquette comprising a substantially solid body of readily combustible material formed with mutually spaced cubical projections substantially of equal volume extending therefrom on all sides.

3. A fire kindling briquette comprising, by weight, powdered coal 80 grams, sawdust and sodium nitrate 40 grams, rosin 20 grams, pitch 20 grams, light fuel oil 7 grams, and nitro-cellulose 1 gram.

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