UNITED STATES PATENT OFFICE.

AUGUST M. MANNEWITZ, OF DALLAS, TEXAS.

FUEL-BRIQUET.

No. 881,192. Specification of Letters Patent. Patented March 10, 1908.

Application filed June 5, 1907. Serial No. 377,438.

To all whom it may concern:

Be it known that I, AUGUST M. MANNEWITZ, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented a new and useful Fuel-Briquet, of which the following is a specification.

This invention relates to an improvement in fuel briquets, a manufactured substitute for coal; and consists of a mixture of carbonaceous matter such as waste coal as a base, a suitable substance for binding the particles of coal together, a material for retarding combustion and a moisture repelling substance for preventing the absorption of water when the briquets are exposed to the elements, and which also assists the binder in holding the materials in a compact body while in transit and during combustion.

For the purpose intended, the following materials are used in or about the proportions given, viz:

Coal waste	90 parts
Cotton seed meal	5 parts
Cattle dung	1 part
Flint rock (ground fine)	3 parts
Coal oil residuum or asphaltum	1 part

The coal, which may be lignite, or any waste coal from mines is ground to powder before using and then the cotton seed meal, cattle dung, ground flint rock and coal oil residuum are added and the whole heated and thoroughly mixed, after which the composition is subjected to pressure in molds to form briquets of convenient sizes for use under various conditions.

In connection with cotton seed meal and coal oil residuum, all kinds of waste coal may be manufactured into briquets and will burn well, and with the addition of cattle dung, an excellent binder is formed which holds the ground coal compact and as easily transported and handled as anthracite coal, and in addition the briquets will not cake while burning. All the binding materials are combustible and will leave little ash; the cotton seed meal and oil residuum prevent water penetrating the briquets to disentegrate them. Mixing fine flint rock with the above named ingredients retards combustion and therefore conserves the product. The heat absorbed by the flint rock to raise it to incandescence while the briquets are burning is afterwards radiated when the combustible substances have been destroyed.

If found desirable the cattle dung may be left out and the proportion of cotton seed meal increased, but where cattle dung can be obtained it is a desirable ingredient. Also, asphaltum may be substituted for the coal oil residuum where the latter cannot be had or the price is prohibitive. In summer or warm weather asphaltum may be used in place of coal oil residuum.

The proportion of parts are given as closely as possible, for, it must be remembered, different kinds of coal waste do not all require the same amount of binding material; for instance, bituminous coal waste contains within itself a certain proportion of binding substance and will, therefore, need less artificial binding material, while with lignite and some other coals, a greater proportion of binder must be added to produce serviceable and perfect briquets.

Having thus described the invention what is claimed is:—

A briquet composed of the following ingredients in the proportions specified by measure; finely ground coal waste, ninety parts; cotton seed meal, five parts; cattle dung, one part; finely ground flint rock, three parts; and coal oil residuum or asphaltum, one part.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

AUGUST M. MANNEWITZ.

Witnesses:
L. A. BOB, Jr.,
E. E. LINSNER.