

UNITED STATES PATENT OFFICE.

ROBERT FERGUSSON STRONG, OF LONDON, ENGLAND.

COMPOSITION OF MATTER FOR AND PROCESS OF MANUFACTURING ARTIFICIAL FUEL.

SPECIFICATION forming part of Letters Patent No. 607,529, dated July 19, 1898.

Application filed June 1, 1897. Serial No. 638,922. (No specimens.) Patented in England November 30, 1895, No. 22,915; in France December 18, 1896, No. 249,895; in Belgium December 31, 1896, No. 125,275, and in Spain January 12, 1897, No. 19,942.

To all whom it may concern:

Be it known that I, ROBERT FERGUSSON STRONG, of Victoria street, Westminster, London, England, have invented certain new and useful Improvements in Compositions of Matter for and Processes of Manufacturing Artificial Fuel or Coal Briquets, (for which I have obtained patents as follows: in Great Britain, No. 22,915, dated November 30, 1895; in Belgium, No. 125,275, dated December 31, 1896; in France, No. 249,895, dated December 18, 1896, and in Spain, No. 19,942, dated January 12, 1897,) of which the following is a specification.

This invention has reference to a novel composition of matter generally known as "artificial fuel" or "coal briquets" and also to the process of manufacturing the same, the object being to provide coal briquets that are suitable for household, steam, or metallurgical purposes, which burn with a clear flame and can be manufactured in an inexpensive manner.

The invention consists in the ingredients forming this composition, which are combined in the proportion stated, and also in the steps of process hereinafter set forth.

In carrying my invention into practice I wash the small coal in order to free the same from shale and dirt and convey it from the drainers to a disintegrator by which it is ground, adding about two per cent. of fresh calcined powdered alkaline earth, preferably lime, in order to absorb the moisture in the coal. To this I add four to ten per cent. (according to the nature of the coal or the purpose the fuel is intended) of pyroligneous acid, preferably from a steam-jacketed tank. This acid is the whole of the distillate from

destructive distillation of wood or other ligneous substances and immediately absorbs the lime and solidifies the mixture, which is at once pressed in briquet form in the usual way, and on leaving the press may be cooled by a fan or blower and shipped or used at once.

In carrying out the invention with unwashed coal I only use one per cent. or less of the caustic alkaline earth to give a hook to the pyroligneous acid to act on, all other treatment being as before described.

Fuel manufactured as described is suitable for household, steam, or metallurgical purposes, and burns with a clear bright flame, and is produced at a less cost than heretofore.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The herein-described composition of matter for artificial fuel or coal briquet consisting of disintegrated coal, dry caustic alkaline earth, and pyroligneous acid, combined in the manner and proportion set forth.

2. The herein-described process for manufacturing artificial fuel or coal briquets, which consists in washing the coal, disintegrating the same, adding dry caustic alkaline earth to the same while moist, then adding heated pyroligneous acid, and finally pressing the mass into briquets.

Signed at London, England, this 14th day of May, A. D. 1897.

ROBERT FERGUSSON STRONG.

Witnesses:

G. F. WARREN,
FRED C. HARRIS.