

# UNITED STATES PATENT OFFICE.

JOHN M. CHILD, OF PHILADELPHIA, PENNSYLVANIA.

## COMPOSITION FOR AIDING THE IGNITION OF COAL, &c.

SPECIFICATION forming part of Letters Patent No. 224,649, dated February 17, 1880.

Application filed January 27, 1880.

*To all whom it may concern:*

Be it known that I, JOHN M. CHILD, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have compounded  
5 a new and useful Preparation for Aiding the Ignition of Coal, improving the character of its combustion, destroying coal-gas, and preventing the formation of clinkers, which is completely and carefully set forth in the follow-  
10 ing description.

The object of this invention is to produce a compound which, dissolved in water, may be sprinkled on coal, and, drying, may leave a coating on the surface of the lumps of coal  
15 adapted to facilitate the ready inflammation of the same, and produce in the earlier stages of the burning a volume of oxygen sufficient to consume the inflammable gases, while in a later stage of the burning the non-volatile materials will unite with the silica present in the  
20 coal and prevent the formation of clinkers.

To accomplish this result I use the following materials, viz: ammonium sulphate, soda-ash, saltpeter, and ammonium nitrate.

25 For thoroughly-bituminized coal the following proportions appear preferable, although they may be varied according as rapidity of

ignition is desired, and according to the proportion of fusible material in the ash: one pound of ammonium sulphate, one pound of  
30 soda-ash, four ounces of saltpeter. For different grades of harder coal they should be varied by increasing somewhat the proportion of saltpeter, and where rapid ignition is especially  
35 desired the addition of one or two ounces of ammonium nitrate to a pound of each of the other ingredients.

One pound of this mixture should be dissolved in about a gallon of water and sprinkled  
40 on a ton of coal, which should then be allowed to dry.

Having thus described my invention, what I claim as new and of my invention is—

The compound hereinbefore specified, composed of ammonium sulphate, soda-ash, salt-  
45 peter, and ammonium nitrate, to aid the kindling of coal, to improve its burning, to destroy the injurious properties of coal-gas, and to prevent the formation of clinkers, as set forth.

JOHN M. CHILD.

Witnesses:

WILLIAM G. HARLEY,  
WM. M. MCKNIGHT.