

## UNITED STATES PATENT OFFICE.

ANDREW SCHMIDT, OF PITTSBURG, PENNSYLVANIA.

## COMPOSITION FUEL.

SPECIFICATION forming part of Letters Patent No. 780,308, dated January 17, 1905.

Application filed August 22, 1904. Serial No. 221,728.

*To all whom it may concern:*

Be it known that I, ANDREW SCHMIDT, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Composition Fuel, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to certain new and useful improvements in a composition fuel, and relates more particularly to that class of artificial fuel known as "briquets."

The object of the present invention is to obtain a cheap and inexpensive fuel from coal-dust, slack, cinders, the refuse of coal-mines, and the waste product from coke-ovens and the like. It is a well-known fact that these waste products have heretofore been used for the manufacture of briquets, and I do not claim the aforesaid ingredients as new in my present invention. Much difficulty, however, has been experienced in providing a binder that will be of such a character as to solidify the briquets in an expeditious manner; furthermore, one that will be inexpensive and will contain the qualities of retaining the particles of coal and carbon together until the same have been thoroughly consumed.

Another object of the present invention is to provide a binder for briquets that will effectually retain heat for a great length of time.

The composition fuel consisting of coal-dust, slack, coke refuse, coal refuse, or the like, is thoroughly mixed with the refuse from tin-mills, which contains the following chemicals: palm-oil, 62.40 per cent.; magnetic oxid of iron, 19.87 per cent.; tin, 17.42 per cent.; copper, .31 per cent.; total, one hundred per cent. To this is added a quantity of pulverized lime.

My improved briquets may or may not contain the ingredient of pulverized lime, as the latter is added for the purpose of making a smokeless fuel.

The proportions of the ingredients used for my composition fuel are as follows: To one ton of coal dust, slack, coal refuse, or coke refuse I add fifty pounds of the waste of tin-mill containing the ingredients as hereinbefore specified. I also add to this quantity twenty-four pounds of pulverized lime. The mass is then formed into briquets, which process will form a separate application for a patent. It will be noted that the exact proportions of the chemicals may be slightly changed without departing from the general spirit of my invention.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A fuel composed of coal-dust, and the refuse from tin-mills.

2. A fuel composed of slack or coal-dust, and a binder of palm-oil, magnetic oxid of iron, tin, copper, and pulverized lime, substantially as described.

3. A composition consisting of granulated coke refuse, or the like, palm-oil and lime.

4. A composition fuel consisting of coal-dust, the refuse of tin-mills containing palm-oil, magnetic oxid of iron, tin, copper, and pulverized lime in the proportions as herein set forth.

5. A fuel consisting of carbonaceous material and tin-mill waste.

In testimony whereof I affix my signature in the presence of two witnesses.

ANDREW SCHMIDT.

Witnesses:

H. C. EVERT,  
E. E. POTTER.