

# UNITED STATES PATENT OFFICE.

HENRY SPENCER BLACKMORE, OF MOUNT VERNON, NEW YORK.

## PROCESS OF MAKING CARBIDS.

SPECIFICATION forming part of Letters Patent No. 681,096, dated August 20, 1901.

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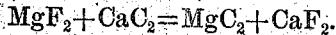
To all whom it may concern:

Be it known that I, HENRY SPENCER BLACKMORE, a citizen of the United States, residing at 206 South Ninth avenue, Mount Vernon, 5 in the county of Westchester and State of New York, have invented certain new and useful Improvements in Processes of Making Carbids; and I do hereby declare the following to be a full, clear, and exact description 10 of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to produce carbids by chemical transformation; and it 15 consists in exposing a compound of the metal, a carbid of which is desired, to the action of a carbid, the base of which has greater affinity for the negative constituent of the compound employed and heat.

20 My invention relates particularly to the production of magnesium carbid, but is not limited thereto, as many other carbids may be likewise produced.

In carrying out my invention for the production of magnesium carbid I prefer to take a mixture of sodium and potassium fluorids in proportion of about two parts, by weight, of the former to one of the latter and heat the mixture in a proper receptacle until it assumes a molten condition. To this molten bath of alkali fluorids I then add magnesium fluorid and calcium carbid, when a reaction takes place, producing magnesium carbid and calcium fluorid, which reaction may be illustrated by the following chemical formula or equation:



It is obvious that any other compound of 40 magnesium may be employed so long as the negative constituent of which has greater affinity for the base of the carbid and contains no elements which would decompose the carbid and prevent transformation. I can 45 also employ other chemical baths, such as

double chlorids or other haloid compounds, without departing from the spirit of my invention so long as the diluting solvent or suspending molten bath is of inert nature with reference to the carbids employed or produced or compounds to be transformed. 50

Compounds of other metals may be employed to produce other carbids and other carbids as transforming agents so long as the transformation takes place in a molten bath 55 of inert chemical salts, as aforesaid.

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

1. The process of making carbids which 60 consists in exposing a metallic compound in a molten bath to the action of a carbid the base of which has greater affinity for the negative constituent of the compound employed.

2. The process of making metallic carbids 65 which consists in exposing a molten bath containing a metallic compound to the action of a metallic carbid the base of which has a greater affinity for the negative constituent of the metallic compound employed. 70

3. The process of making metallic carbids which consists in exposing a molten bath containing a metallic haloid compound to the action of a carbid the carbon constituent of which has greater affinity for the metallic 75 base of the haloid compound.

4. The process of making metallic carbids which consists in exposing a molten bath containing a metallic fluorid to the action of calcium carbid. 80

5. The process of making magnesium carbid which consists in exposing a molten bath containing magnesium fluorid to the action of calcium carbid.

In testimony whereof I affix my signature 85 in presence of two witnesses.

HENRY SPENCER BLACKMORE.

Witnesses:

WARREN C. STONE,  
C. C. WRIGHT.