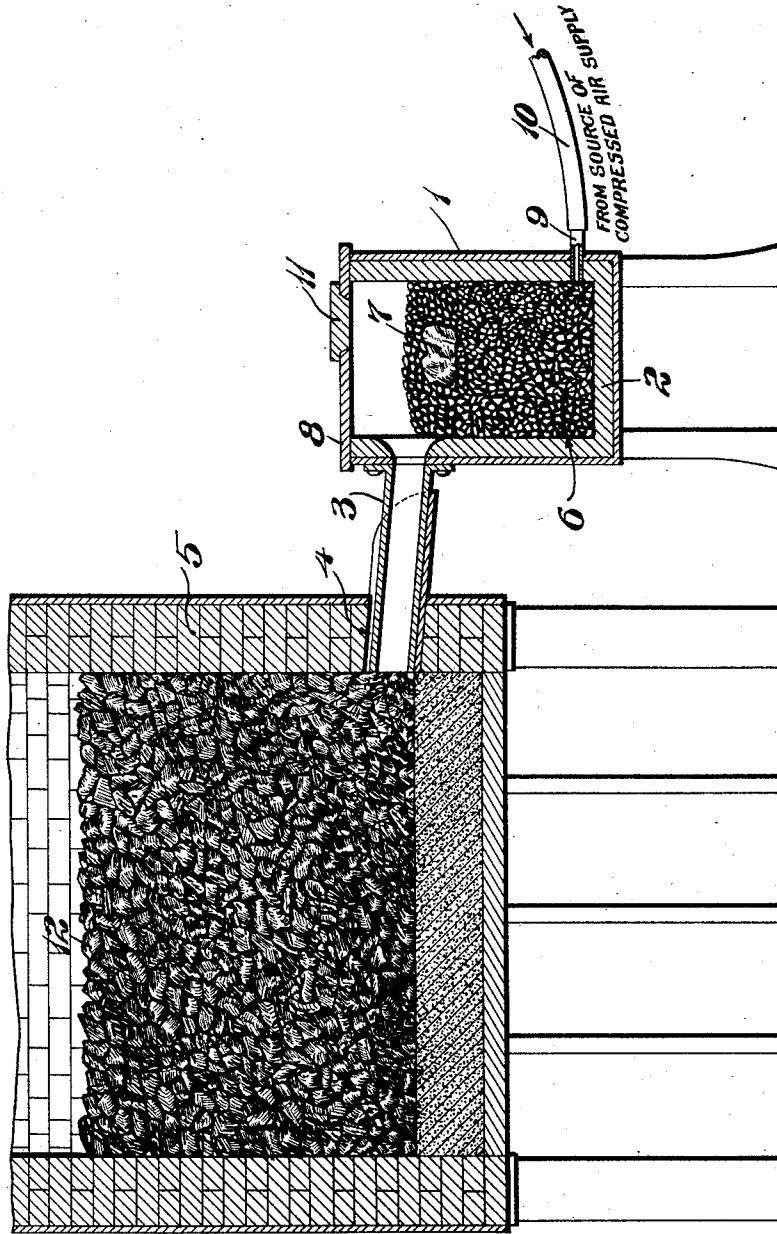


F. B. ROGERS.
KINDLER FOR CUPOLA FURNACES.
APPLICATION FILED MAY 31, 1910.

1,002,869.

Patented Sept. 12, 1911.



Witnesses:

Edgar T. Farmer,
G. A. Pennington

Inventor:

Frank B. Rogers,
by ~~Conrad D. Rogers~~
Attys.

UNITED STATES PATENT OFFICE.

FRANK B. ROGERS, OF BELLEVILLE, ILLINOIS.

KINDLER FOR CUPOLA-FURNACES.

1,002,869.

Specification of Letters Patent. Patented Sept. 12, 1911.

Application filed May 31, 1910. Serial No. 564,081.

To all whom it may concern:

Be it known that I, FRANK B. ROGERS, a citizen of the United States, and a resident of the city of Belleville, in the county of St. Clair and State of Illinois, have invented a new and useful Improvement in Kindlers for Cupola-Furnaces, of which the following is a specification.

This invention relates to kindlers for cupola furnaces.

It has for its principal objects to minimize the labor and expense incidental to starting a fire in a cupola furnace, and to attain certain advantages hereinafter more fully appearing.

The invention consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawing which forms part of this specification and wherein like symbols refer to like parts wherever they occur, the figure is a vertical section through the lower portion of a cupola furnace with a kindling device applied thereto according to my invention.

In the drawing, the device comprises a receptacle 1 whose walls and bottom are lined with fire-clay or similar material 2. The receptacle 1 is provided with an outlet pipe 3 which is adapted to be inserted into the tap hole 4 of a cupola furnace 5. In this receptacle 1 is placed a mass 6 of carbonaceous material such as coal or coke dust. A lump of ignited coal or other material 7 is embedded in said mass of carbonaceous material 6; and an air-tight cover 8 is placed over the receptacle. Then a blast of air is delivered into the receptacle through a small pipe 9 near the bottom thereof. This pipe 9 is connected by a tube 10 to any suitable source of compressed air supply. In the cover plate 8 is formed an opening through which the supply of material 6 may be replenished and this opening is kept normally covered by a plate 11. When the blast from the air-pipe 9 is forced through the mass of material in which the ignited lump of coal is embedded, said material is burned and the device becomes a gas-pro-

ducer or generator. The products of combustion are conducted through the outlet pipe 3 into the bed of coal or coke 12 in the cupola furnace 5. By proportioning or regulating the supply of air under pressure through the burning material in the receptacle 1, the products of combustion leave the receptacle in the form of a blue flame which ignites the coal or coke in the cupola furnace. After combustion has been continued in the cupola furnace a sufficient time, the kindling device is disconnected therefrom and the tap hole 4 is sealed in the usual manner. Combustion is then maintained in the cupola furnace by the blast through the twyers.

By my invention the cost of kindling is practically *nil*, as the carbonaceous material used in the receptacle may be coal or coke dust or other carbonaceous material which is usually wasted. It obviates the expense and labor incidental to the use of wood for kindling.

While the device is shown in the drawings as applied to a cupola furnace to kindle the bed of fuel therein, there are other uses for which it may also be advantageously applied in a foundry. For example, it can be used in connection with a core drier.

Obviously, the device admits of considerable modification without departing from my invention. Therefore, I do not wish to be limited to the specific construction and arrangement shown.

What I claim is:

The combination with a cupola furnace, of a kindling device comprising a gas-producer, said gas-producer having an outlet pipe arranged and adapted to be connected with the tap hole of said cupola furnace, whereby the products of combustion from said gas-producer are conducted into said cupola furnace.

Signed at Belleville, Illinois, this 23rd day of May, 1910.

FRANK B. ROGERS.

Witnesses:

GEO. B. M. ROGERS,
HARRY E. ROGERS.