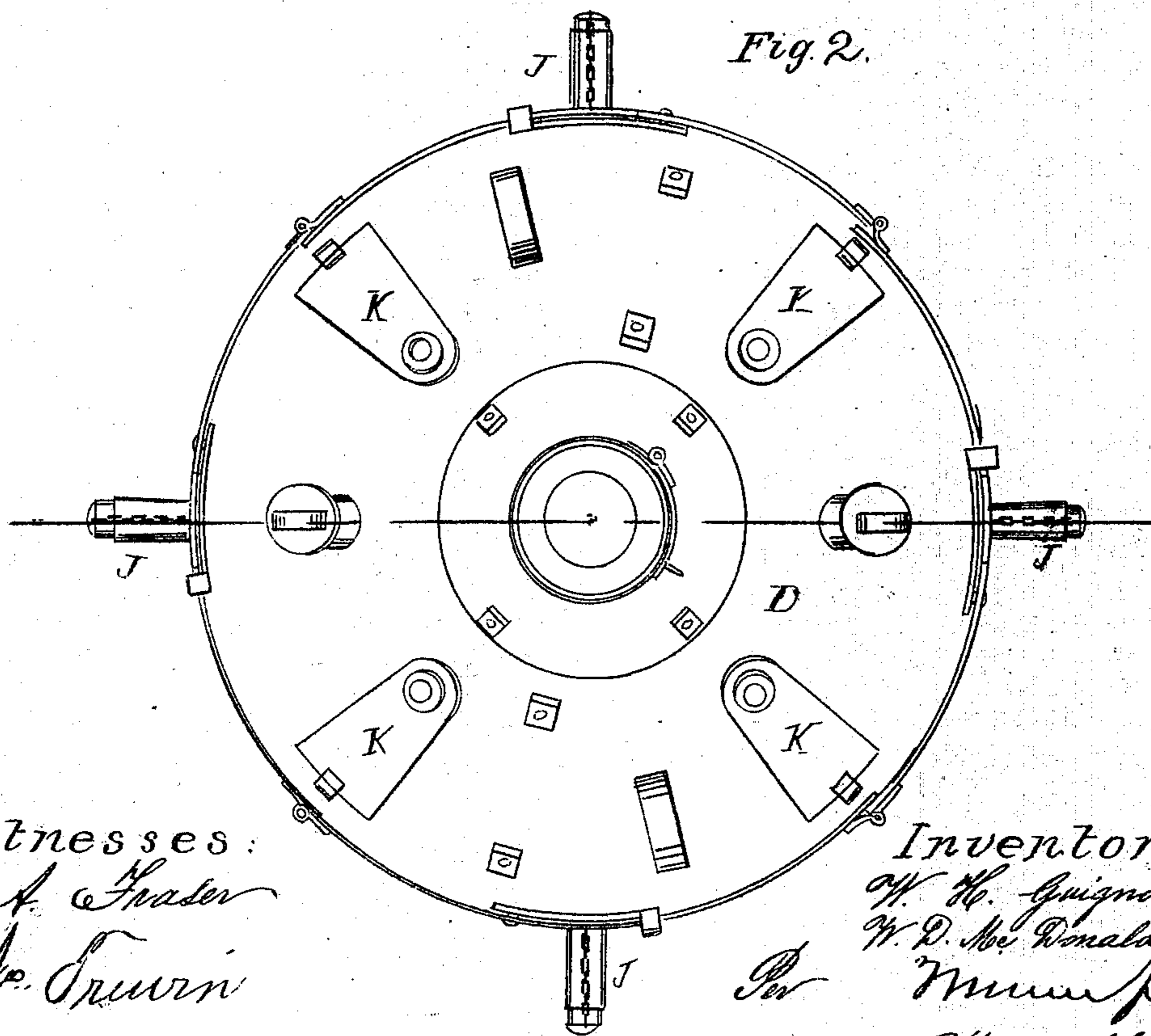
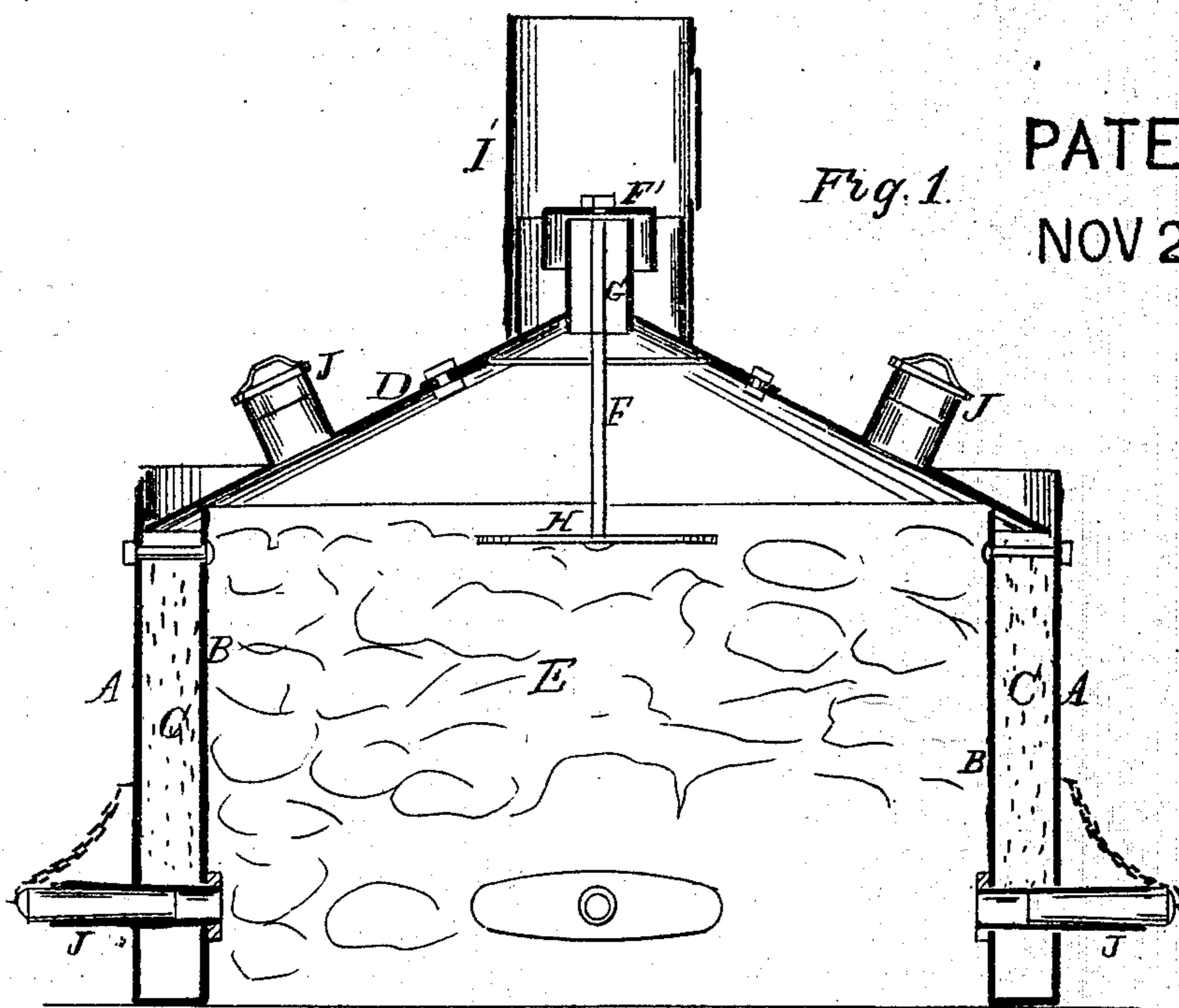


# W.H. Guignon & W.D. McDonald. Kiln.

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PATENTED  
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Witnesses:  
J. A. Fraser  
W. D. McDonald

Inventors:  
W. H. Guignon  
W. D. McDonald  
Per *[Signature]*  
Attorneys

# United States Patent Office.

WILLIAM H. GUIGNON AND WILLIAM D. McDONALD, OF WARREN,  
PENNSYLVANIA.

*Letters Patent No. 71,383, dated November 26, 1867.*

## IMPROVEMENT IN KILNS FOR CHARRING WOOD, &c.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, W. H. GUIGNON and W. D. McDONALD, of Warren, in the county of Warren, and State of Pennsylvania, have invented a new and useful Improvement in Kilns; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved method of constructing kilns for charring and carbonizing wood for charcoal, and for making coke, and other purposes; and the invention consists in making the kilns self-acting and portable, as will be hereinafter more fully described. The drawing

Figure 1, represents a sectional elevation of the kiln, showing the manner in which it is constructed, the section being through the line *z z* of fig. 2.

Figure 2 is a top or plan view of the kiln.

Similar letters of reference indicate corresponding parts.

The kiln is formed of an outer and an inner shell, and a conical cap or cover, which is detachable. The space between the outer and inner shell is filled with some good non-conducting substance, so as to prevent the radiation of heat from the kiln.

A is the outer shell, and B is the inner shell. C represents the filling between the two. D is the cover. E represents the substance which is to be charred or carbonized. F is the valve-rod, with a cup-valve, F', on its upper end, which closes over a tube, G, the top rim of which forms the valve-seat. This tube G is placed at the apex of the cone-shaped cover, and the gases evolved by the process may escape through it. This tubular valve-seat is surrounded by a pipe or chimney, I, and the space around the seat may be filled with sand. On the lower end of the valve-rod there is a disk of metal, H, which, during the process of burning, rests on the contents of the kiln.

It will be seen that, as the process proceeds, the contents will settle, and the adjustment is such that, when the process has been carried far enough, and the wood or other substance has been sufficiently burned or charred, the disk will not be supported by the substance or contents of the kiln, but the valve will descend and close the tube, and thereby prevent further combustion. Thus the kiln is made to operate automatically.

J represents tubular apertures through the kiln, which may be closed by suitable plugs, when necessary. On the top D there are windows or apertures, K, which are closed by sliding valves or doors, as seen in the drawing.

Portions of the body of the kiln are made detachable, for the purpose of allowing the contents of the kiln to be removed.

The material to be charred or carbonized is put in the kiln from the top, which rests on the inner shell, and is removable therefrom.

The outer and inner shell, as well as the top of this kiln, are made of iron or other suitable material, and the kilns may be made of any desired size, so that they are portable when so desired.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

1. A kiln, for charring or carbonizing wood or coal, which is self-acting or automatic in its operation, substantially as described.

2. A portable kiln, for carbonizing wood or coal, which is formed of a double wall, or an outer and an inner shell, whereby the heat is confined in the kiln, substantially as shown and described.

WILLIAM H. GUIGNON,  
WILLIAM D. McDONALD.

Witnesses:

W. J. CLEMONS,  
JAS. GUIGNON