

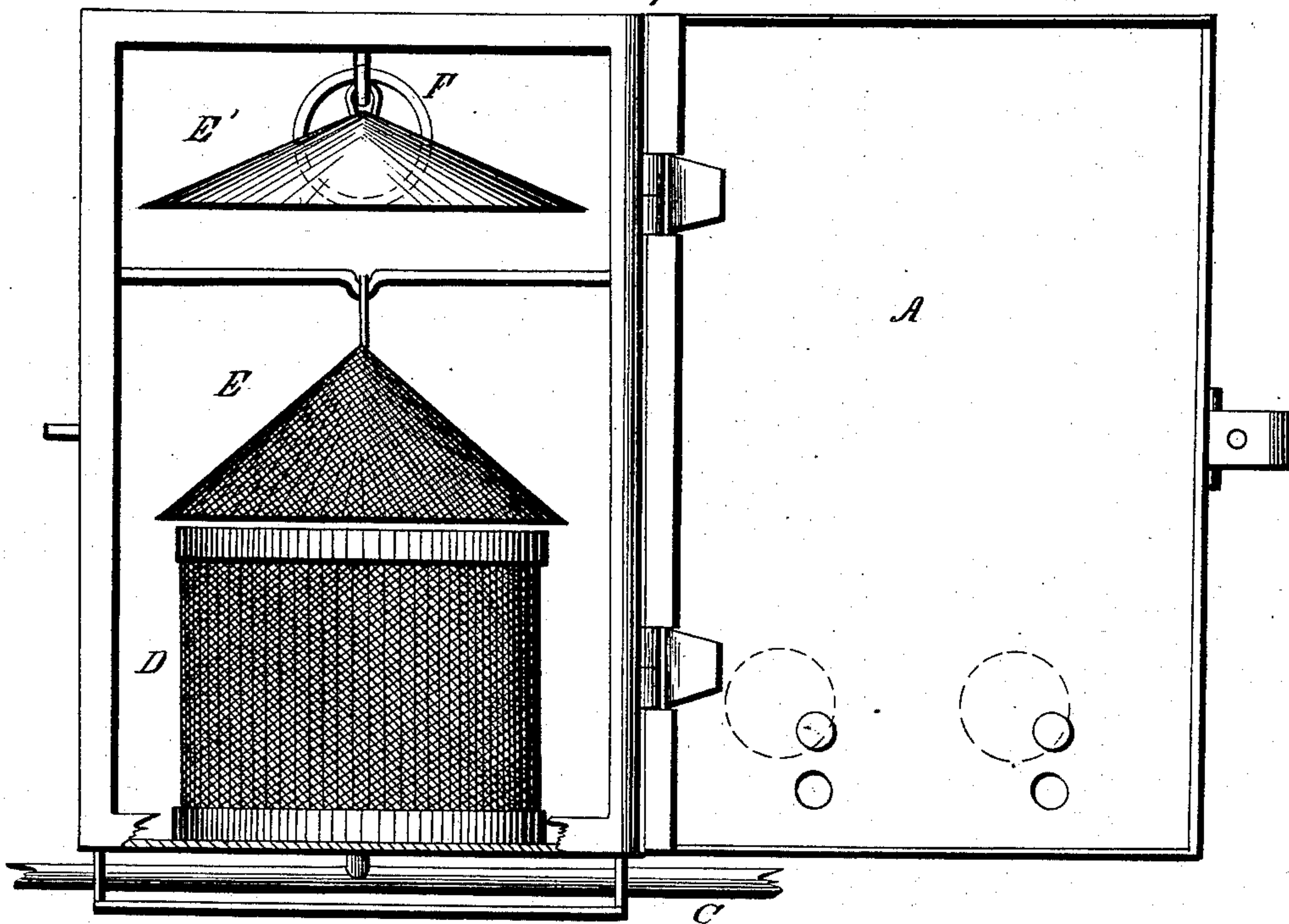
P. NEFF.

Manufacture of Lamp-Black.

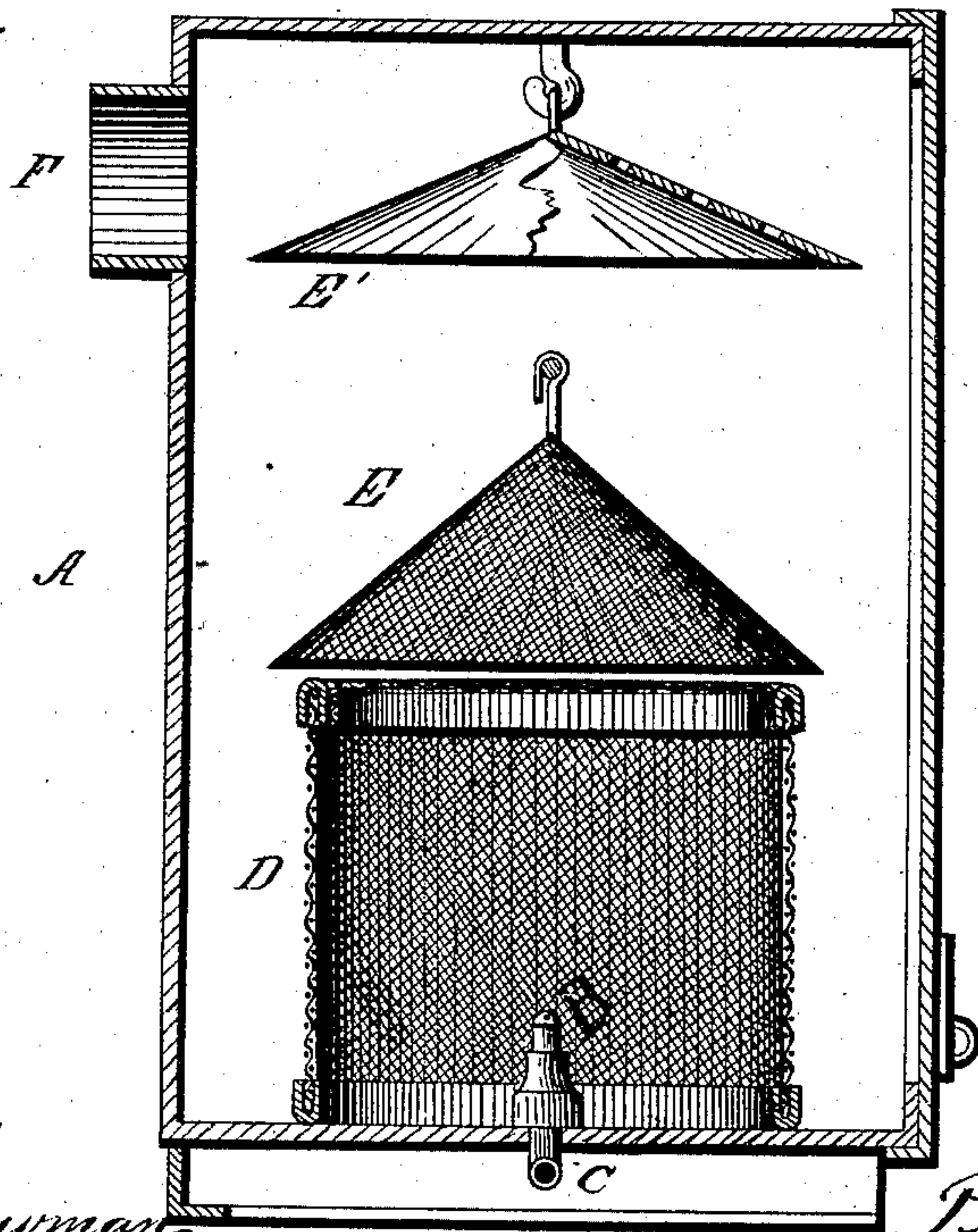
No. 160,788.  
*A*

Patented March 16, 1875.

*Fig. 1-*



*Fig. 2-*



WITNESSES  
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# UNITED STATES PATENT OFFICE.

PETER NEFF, OF GAMBIER, OHIO.

## IMPROVEMENT IN THE MANUFACTURE OF LAMP-BLACK.

Specification forming part of Letters Patent No. 160,788, dated March 16, 1875; application filed January 25, 1875.

### CASE B.

*To all whom it may concern:*

Be it known that I, PETER NEFF, of Gambier, in the county of Knox and State of Ohio, have invented certain new and useful Improvements in the Manufacture of Lamp-Black; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to mechanism for the purpose of manufacturing lamp-black or carbon-black from the natural or carbureted gases issuing from the earth, from wells bored into the earth, or from fissures in the earth, whereby I am enabled, advantageously, to utilize these natural gases.

My invention consists, first, in a combination, with a burner or burners for burning the said gas, of bells or domes suspended over the said burner or burners, and with or without a wire gauze envelope surrounding and extending over the top of the said burner or burners; second, in the combination of cells containing the burners and domes, with or without the gauze envelope, with several rooms or apartments in such a manner that the products of combustion, after depositing a portion of their charge upon the bells or domes, pass in and through the series of rooms, where they deposit still more of their charge, and finally escape through the flue.

In the drawing, Figure 1 represents a view in elevation of one of the cells, with its door open, so as to show its interior mechanism. Fig. 2 shows a section of same.

A is a cell, made of any suitable material, preferably of sheet metal. B is a burner connected with a pipe, C, which leads to the apparatus from the gas-holder, wherein the natural gases are subjected to a pressure sufficient to cause them to burn freely at the burner B. D is a wire-gauze envelope surrounding the burner B on its sides and overhead. E is a dome or bell of copper, iron, crockery, or of any suitable metallic or other

substance. E' is a second bell or dome placed above the first.

The operation of the device as here explained in its simplest form, is as follows: The gas is lit at the burner B. It diffuses itself and breaks into smoke at the gauze screen or envelope D, where some lamp-black is deposited. The products of combustion then rise into the bell or dome where is deposited a portion of its charge. The products of combustion, however, after leaving the dome E pass up around its edges beneath the second dome E' above it, where still more of its charge is deposited. From thence the products of combustion are led out through a pipe, F, located in the back of the cell near its top, into a series of rooms or apartments, wherein a great portion of the balance of its charge is deposited in quantities graded according to quality, until finally, after passing through the last room, the products of combustion escape through the chimney-flue, in which the draft may be assisted by suitable artificial means, if desired.

The cells A may be of any suitable height, and of any suitable dimensions. They may be placed side by side with a single burner in each cell, or they may be superposed upon each other, or several burners may be arranged within a single cell with bells or domes above each burner, or a series of burners may be arranged under a single series of domes situated above each other. And these burners may or may not be provided with a wire-gauze envelope, D. There may be two or more of the bells or domes E E' located above each other, and the domes may be made of any suitable material, such as crockery ware or metal, and may be of any suitable shape, either elongated, conical, pyramidal, cubical, or any desired shape; or the domes may be made with a flange or rim about the bottom, projecting below its edge, which serves to prevent the smoke from escaping too freely and easily from the dome.

The cells are made very tight in order to permit very little air being fed to the flame, as it is desirable that the gas should burn

with as little heat as possible, so as to consume the minimum amount of carbon. If several burners are arranged side by side in the same cell, or if several cells are arranged side by side or above each other, the gas-pipe C is made to connect with each burner, so as to supply them all with gas, and where there are a number of burners in the same cell, each with its series of domes or bells suspended over it, it would be impracticable to manage them all from the same door or opening, and in that case there should be doors at suitable intervals. I regard the bells or domes far superior to flat surfaces for collecting the lamp-black.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for the manufacture of carbon or lamp-black, the combination with the burners B of the domes or bells E E', placed

one above the other, substantially as and for the purposes described.

2. The combination, with the burner or burners B, of the wire-gauze envelope D, and one or more bells or domes, E E', &c., substantially as and for the purpose described.

3. The combination, with one or more cells, A, provided with burners B, the bells or domes E E', &c., and with or without the wire-gauze envelope D, of a series of apartments, into which the products of combustion pass after leaving the cell or cells, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER NEFF.

Witnesses:

FRANCIS TOMNEY,  
H. T. HOWER.