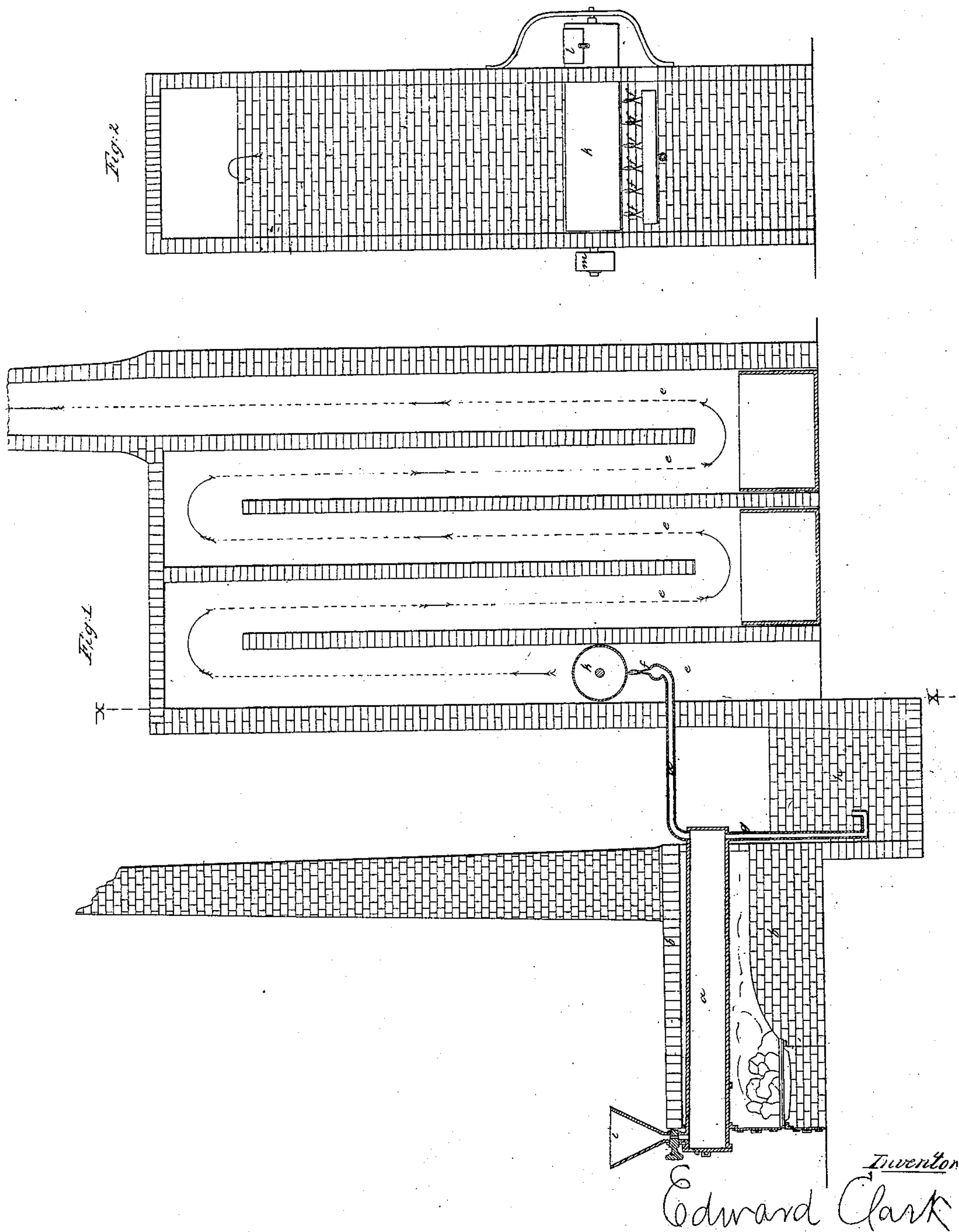


E. CLARK.  
 PROCESS OF MANUFACTURING LAMP BLACK AND COLOPHANE.  
 No. 6,001. Patented Jan. 2, 1849.





# UNITED STATES PATENT OFFICE.

EDWARD CLARK, OF BROOKLYN, NEW YORK.

## MANUFACTURE OF LAMPBLACK AND COLOPHANE.

Specification of Letters Patent No. 6,001, dated January 2, 1849.

*To all whom it may concern:*

Be it known that I, EDWARD CLARK, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful improvement in the process of manufacturing lampblack and colophane from common rosin or colophon and calcining the lampblack, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a longitudinal vertical section of the apparatus employed in the process as improved by me, and Fig. 2, a vertical section taken at the line (X X) of Fig. 1.

The same letters indicate like parts in all the figures.

The nature of the first part of my invention consists in producing by one and the same operation lampblack and colophane by the distillation or decomposition of common rosin in heated iron retorts, and by the inflaming of a part of the products of the distillation to produce the lampblack, and thus leave the other constituent or portion of the substance to distill over in the form of colophane.

The second part of my invention which relates to the apparatus in which I apply my improved process, consists in combining the chamber in which the lampblack is deposited, and the colophane receiver with the retort in which the rosin is decomposed, when the said retort is provided with a beak having burners for the burning of the inflammable gas evolved to produce the lampblack, and a pipe through which the colophane is conducted or delivered into the receiver. And the last part of my invention consists in combining with the burners on the beak of the retort in the lampblack chamber a rotating hollow cylinder into which lampblack can be placed to be calcined.

The apparatus which I employ for the application of my improved process is the common iron retort (a) of the accompanying drawings, such as is used for making illuminating gas (but any other form may

be substituted); it is set in masonry over a furnace (b) that heat may be applied to it regularly. At the forward end it is provided with a movable cap (c), and at the rear end with a neck or beak (d) that opens into a chamber (e) in which the lampblack is collected. The neck of the retort is somewhat elongated and at the outer end provided with burners (f) (air being admitted to the chamber (e) for the combustion in any desired manner) assembling gas burners, but larger; and it is further provided with a branch pipe (g) that runs down into a receiver (h) to collect the colophane which is the residuum of the distillation of the rosin. The lampblack chamber (e) and the colophane receiver (h) should be provided with appropriate means for removing the products of the process. Above the retort near the cap (c) there is a funnel shaped vessel (i) which communicates with it by a pipe governed by a cock (j).

In the lampblack chamber (e) there is a hollow cylinder (k) placed just above the burners (f) so that it may be heated by the flame of the gas and thus give the required heat for calcining lampblack placed within the cylinder as it rotates. The cylinder is provided with journals at each end that run in suitable boxes, and one end of the cylinder may if desired pass out through the wall of the lampblack chamber and may there be provided with a lid (l) in the usual way or in any desired manner for the purpose of introducing the lampblack and removing it when calcined this making no part of my invention. One of the journals of the said cylinder is provided with a pulley (m) to receive a band from any first mover by which the cylinder is rotated by a slow motion during the process of calcining.

My process is conducted in the following manner: The rosin in lumps or in the melted state is put in the funnel (i) where the heat from the retort keeps it in the required fluid state, and the cock (j) being opened, it falls onto the heated surface of the retort (a) and is decomposed, a portion rising in the form of vapor or inflammable gas, passes out through the beak (d) and is there inflamed; the smoke produced by the partial combustion of this gas or vapor is deposited on the floor and walls of the



chamber (e) in the same manner as in the well known process of making lampblack, and is afterward collected and removed in the usual manner. But that portion of the rosin which does not inflame during the operation passes out through the pipe (g) of the retort into the receiver (h) from which it is to be drawn in any desired manner. The quality of the colophane thus produced, (a substance well known to chemists and which therefore needs not to be described), will depend on the heat of the retort during the process, the lowest temperature at which volatilization takes place producing colophane of a pure amber color, and at a higher temperature of a dark brown or black color. When the rosin is admitted to the retort, it (the retort) is not to contain coal or other carbonaceous matter, although lumps of iron or other conductor of caloric may be placed in the retort for the purpose of increasing the heating surface.

What I claim as my invention and desire to secure by Letters Patent is—

The manufacture or production of lampblack and colophane by one and the same process of decomposing rosin, substantially as described. I also claim as my invention in the apparatus above described for the manufacture or production of lamp black and colophane, the combination of the lampblack chamber and the colophane receiver with the retort, provided with the burners for inflammation, and the pipe for the delivery of the colophane, substantially as herein described. And finally, I claim the hollow cylinder for the calcination of lampblack in combination with the burners in the lampblack chamber, substantially as described.

EDWARD CLARK.

Witnesses:

A. P. BROWNE,  
CHS. M. KELLER.