

## UNITED STATES PATENT OFFICE.

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## PROCESS OF PRODUCING BLACK OR DARK CARBONACEOUS PIGMENTS.

SPECIFICATION forming part of Letters Patent No. 785,697, dated March 21, 1905.

Original application filed August 13, 1897, Serial No. 648,167. Divided and this application filed July 28, 1902. Serial No. 117,393.

*To all whom it may concern:*

Be it known that I, DAVID J. OGILVY, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Process of Producing Black or Dark Carbonaceous Pigments, of which the following is a specification, the same being a division of the application, Serial No. 648,167, filed August 13, 1897.

The object of this process is to produce economically and conveniently a superior quality of black and dark pigments. This object I attain by producing from any suitable material a carbonaceous flame and impinge the flame on water or an aqueous surface, which results in a carbonaceous deposit on the water.

The carbonaceous flame is produced on a stationary source from natural or artificial hydrocarbons, solid, liquid, or gaseous, and the flame when produced is then directed so that it will strike or impinge at any proper angle and distance (so as to bestow the most satisfactory results) on the water or aqueous surface in a quiet condition on which it strikes. The water may be of any proper temperature and of any desired purity and in a condition substantially stationary.

In the case of a stationary flame impinging on a stationary aqueous surface the operation commences by allowing a carbonaceous flame to strike on an aqueous surface, which results in an initial deposit of carbonaceous pigment. The deposit keeps increasing on the carbonaceous surface until the deposit sinks of its own weight or is removed by other means, thereby exposing a fresh aqueous surface.

By the term "stationary" as applied to the flame is not meant a flame whose constituents furnishing combustion do not move, for in the combustion of gas, &c., such a movement necessarily occurs; but by the term "stationary flame" is meant one where the part from which the flame receives its supply of carbon, &c., is stationary.

By the term "stationary" as applied to the water on which the flame impinges I mean water which is at rest, except so far as the

impingement of the flame or the atmosphere or varying temperature or the sinking of the carbon through the water or mechanical means for removing the carbon may impart thereto a slight motion. These motions are necessarily incident to the operation.

As the carbonaceous deposits are often repellent in their disposition toward water, there may when desired be added to the water which is necessary in the operation substances which reduce or overcome the repellent nature of the deposit toward the water and which facilitates the miscibility of the deposit and the water. Among such substances are potassium and sodium hydroxids and carbonates, ammonia and ammonium chlorid, acetic acid and acetates of potassium and sodium, phenic acid, sugar, &c. For most purposes a dilute solution of sodium hydroxid is sufficient.

From the foregoing explanations it is obvious that there are numerous methods in which the general principles of my invention may be applied.

The simplest and most easily illustrated working example of my improvements is merely to allow the flame from a stationary inverted jet of gas to strike or impinge on water in a stationary condition at ordinary temperature. Thereupon a deposit of carbonaceous pigment will be produced which may be separated by filtration, &c., and can be used in a moist or dried form, as desired.

The foregoing illustrative description suggests in a limited manner the principle of my invention. The number of apparatus that may be utilized for operating this invention are numerous.

Among the advantages of my improved process are the following: Metallic scrapers are unnecessary for removing the deposit, as the carbon being collected on a wet surface is easily removed by a bath, spray, &c. The process may be conducted continuously, as the carbon deposit may be removed while the process is in operation. The carbonaceous deposit may be conveniently handled with pumping appliances, as it is easy to have it in a semifluid condition of any desired con-

sistency. Therefore from a hygienic view this is a decided improvement over the old methods of making lump and carbon blacks.

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

1. The process of producing black or dark-colored carbonaceous deposits, by impinging carbonaceous flame (produced on a stationary source) on water in a stationary or quiet condition.

2. The process of producing black and dark-

colored deposits by impinging carbonaceous flames, produced on a stationary source, on water in a quiet or stationary condition, said water containing suitable material whereby the repellent nature of the carbonaceous deposit toward the water is overcome.

DAVID J. OGILVY.

Attest:

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