Aug. 18, 1925. 1,550,042

D. J. OGILVY

CARBON PIGMENT PRODUCTION

Filed July 28, 1919

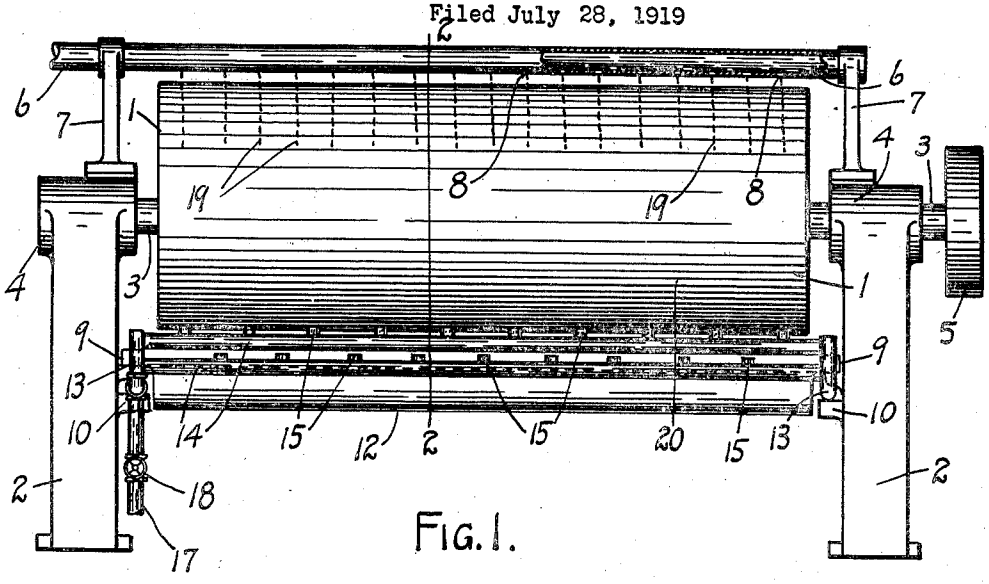


FIG. 1.

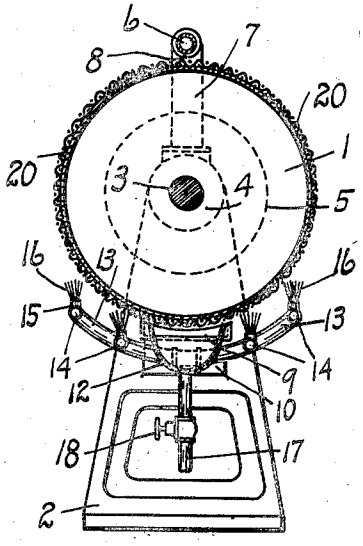


FIG. 2.

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UNITED STATES PATENT OFFICE.

DAVID J. OGILVY, OF CINCINNATI, OHIO.

CARBON-PIGMENT PRODUCTION.

Application filed July 28, 1919. Serial No. 313,894.

To all whom it may concern:

Be it known that I, DAVID J. OGILVY, a citizen of the United States, residing at the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Carbon-Pigment Productions, of which the following is a specification.

My present invention is an improvement on the invention set forth in my United States Patent, No. 706,001, dated July 29th, 1902, for Improvements in process and producing lampblack.

After and during many experiments in this art, I have found that the methods used heretofore in the manufacture of carbon pigments by the impingement of a carbonaceous flame against an aqueous surface have not been satisfactory for commercial use and employment. In order to render the operation of production simple and economical and having it possess at the same time, novelty and utility, my present invention consists in the impingement of a carbonaceous flame, at any proper and desirable angle and distance, against an aqueous surface supported on the porous periphery of a rotating cylinder. The porous periphery of the cylinder may be constructed of a cloth fabric stretched on a metal or wood frame, or it may be formed of a porous cement or a baked clay or analogous porous material; the object being, to supply an absorbent surface that will carry or hold a sufficient amount of moisture to cool or chill an impinging carbonaceous flame.

The carbonaceous flame may be produced by the limited combustion of hydrocarbon gases, mineral oils, resins, pitches and analogous elements. The water or an aqueous solution, may be supplied to the periphery of the cylinder preferably at a point over, or on top of the cylinder, where it will uniformly spread on the porous periphery for the purpose of uniformly chilling the impinging carbonaceous flame, also for the purpose of uniformly carrying the deposited carbon to a receiver under the cylinder.

The carbon product is removed from the porous periphery of the cylinder by the water flowing over the porous surface of the cylinder into the receiver placed under the cylinder.

I will now describe one form of apparatus for carrying out my invention.

In the accompanying drawing forming part of this specification:

Fig. 1, is a side elevation of the apparatus used by me, partly in section to show construction, and Fig. 2, is a section on the line 2—2 of Fig. 1.

The rotating cylinder 1, is supported on frames 2, 2, on a shaft 3, journaled at 4, 4, and provided at one end with a pulley 5, over which a belt passes (not shown), to revolve said shaft and consequently the cylinder. A water or moisture providing pipe 6 is supported above the cylinder 1, in arms 7, 7, extending upward from the bearings 4, 4, at each end of the apparatus. This pipe 6, is provided with a multiplicity of holes or openings 8, through which the water, liquid or moisture falls or passes onto the revolving cylinder 1, as shown particularly in Fig. 1. The size of these holes or openings may be varied and of any number or shape desired or required. At each end or side of the apparatus I place brackets 9, on which brackets 9, I support the trough 12 and on the brackets 10 I support the gas pipes 13; these gas pipes 13 are curved and one is situated at each end of the apparatus. From these gas pipes 13 extending across under the cylinder 1, I provide a series of gas pipes 14. This net work or series of pipes have burners or jets 15, which throw a flame of lighted gas 16, which flames flare or impinge against the cylinder 1. Gas is conveyed to the pipes 13 and 14 through the inlet pipe 17 having a valve 18 for turning in and off the gas, or regulating the amount thereof. The dripping or flow of water which falls upon and saturates or properly moistens the porous periphery 20, of cylinder 1, is designated by the character 19, and it passes through the holes 8, as shown.

The flame 16 is the carbonaceous flame herein referred to, and it may be used at any desirable angle or distance in relation to the porous surface 20.

It will be perfectly obvious that I employ the simplest possible method of making carbon pigments. It cannot readily get out of order, will always work evenly and uniformly and by holding and presenting at all times a desired aqueous surface of proper density and degree of moisture a standard chilling and cooling surface is presented continuously to receive the impinging carbonaceous flame; thus I am enabled to produce the black pigment cheaper, more rapid-

ly and more continuously without interruption to the process of production and thus present a commercial process for manufacture.

Of course, the cylinder, or revolving or rotating body structure, may be round, oval, curvilinear, approximately cylindrical or any such contour as will hold an adequate amount of moisture upon its porous surface while turning and properly deliver the carbon during its operation.

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

1. The process of producing carbon pigments by impinging a carbonaceous flame against a wet surface located on the periphery of a revolving cylinder.

2. Impinging a carbonaceous flame against any proper location on the wet periphery of a slowly revolving cylinder for the purpose of receiving the carbon deposited thereon from the impinging carbonaceous flame.

3. The impingement of a carbonaceous flame against a moist, porous, approximately cylindrical, peripheral surface, to chill said flame and separate the carbon.

In testimony whereof, I affix my signature at Cincinnati, Ohio, this 25th day of July 1919.

DAVID J. OGILVY