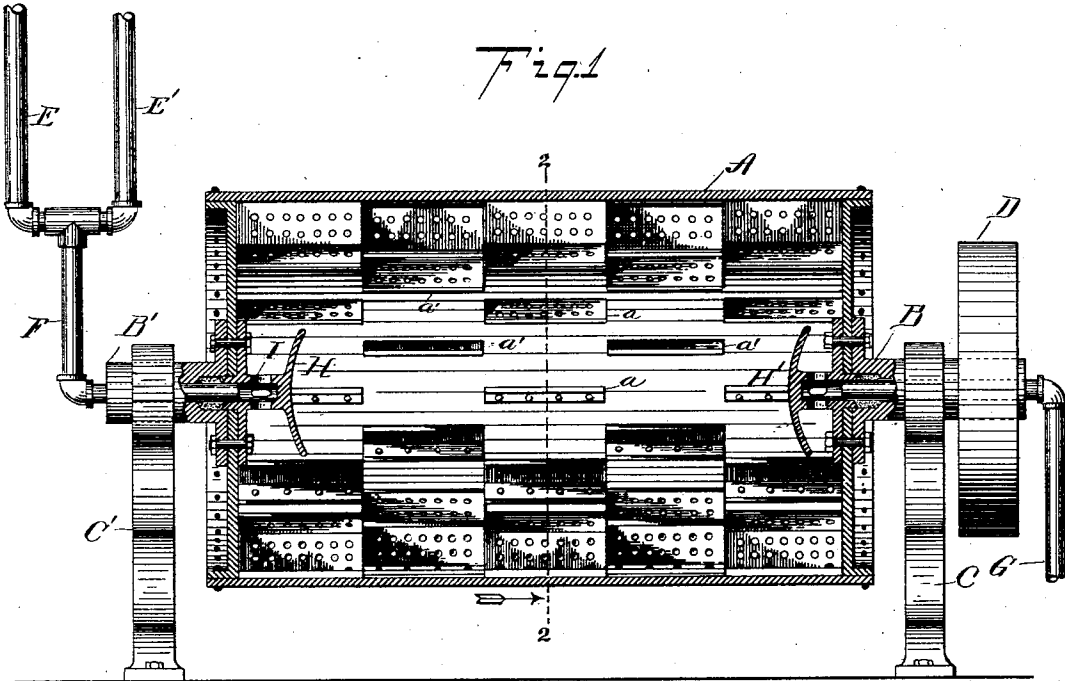
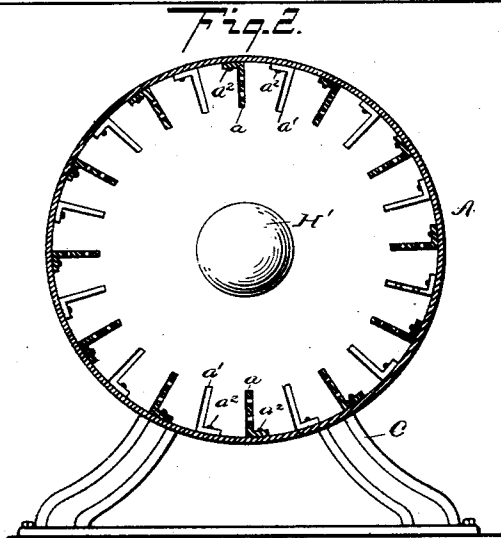


(No Model.)

A. H. EYLES.
CARBONIZING MACHINE.

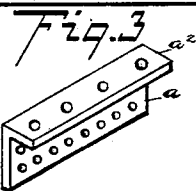
No. 588,136.

Patented Aug. 17, 1897.



WITNESSES:

Edmund J. Thomas
Geo. C. Moore



INVENTOR

Arthur H. Eyles
BY *Briesen & Knauth*
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

ARTHUR H. EYLES, OF PELHAMVILLE, NEW YORK.

CARBONIZING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 588,136, dated August 17, 1897.

Application filed April 17, 1895. Serial No. 545,995. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR H. EYLES, a resident of Pelhamville, Westchester county, State of New York, have invented certain new and useful Improvements in Carbonizing-Machines, of which the following is a specification.

My invention relates to carbonizing-machines, and has special reference to that class of machines which are used in the manufacture of white lead for carbonizing lead acetate, lead protoxid, &c.

My invention has for its object to produce a very efficient carbonizing-machine; and it consists in the construction and arrangement hereinafter pointed out and claimed.

In the drawings, Figure 1 is a sectional elevation of an apparatus embodying my invention, the section being a central transverse longitudinal section through the body of the barrel in which the carbonizing takes place. Fig. 2 is a section on line 2 2 of Fig. 1, looking in the direction of the arrow. Fig. 3 is a detail view of one of the cleats or stirrers hereinafter referred to.

In the drawings, A is a carbonizing-barrel which is carried upon hollow axles or trunnions B B', journaled in suitable standards, as C C'.

D is a driving-pulley for the barrel.

E E' are inlet-pipes which communicate with the inlet-pipe F of the barrel A. G is the outlet-pipe from the barrel. These pipes communicate with the hollow axles B' and B, respectively. Located within the barrel A and mounted upon the inside face of the walls thereof are perforated cleats *a a'*. These cleats may be of any desired form or material, but are preferably angle-irons, as shown, which are bolted to the barrel by their flanges *a*². The cleats are arranged in tracks or paths around the periphery of the barrel, the individual cleats of adjacent tracks or rows being displaced or staggered. Mounted over the orifice of the inlet-pipe of the barrel is a bell II, having a perforated stem I and having its convex face turned toward the inlet-pipe of the barrel. Mounted over the outlet-pipe of the barrel is a similar bell II', having its concave portion or face turned toward the said outlet-pipe.

The operation of my device is as follows:

The mass to be carbonized is placed in the barrel and the barrel set in rotation, when it will be obvious that the cleats will operate to stir the mass very thoroughly, as the cleats being staggered the mass will be very thoroughly agitated, and as it flows through and around about the cleats air-spaces will be temporarily formed, which will heighten the stirring effect. As the mass is being stirred carbonic-acid gas is introduced through the inlet-pipe F, being supplied, say, by the pipe E. This carbonic-acid gas flows through the hollow trunnion B' and is dispersed by the bell and caused to flow through the barrel in a shell or cylindrical form, carbonizing the mass, and the spent gas issues through the trunnion B and outlet-pipe G, the bell H' co-operating with the bell H to insure a more efficient distribution of the gas, these bells thus constituting gas-distributors. It may happen that it is necessary to introduce oxygen to oxidize the lead or lead oxid while the carbonization is going on. This oxygen may be introduced at the same time as the carbon dioxide, being brought to the inlet-pipe F by the pipe E'.

From the foregoing it will be quite obvious that I have produced an efficient carbonizing apparatus, and that the staggered perforated cleats stir up the material and cause an efficient exposure of the material to the gas and the bells cause an equal diffusion of the gas and prevent the gas from blowing straight through the apparatus.

With the above-described apparatus a very superior and even-finished article is produced and the time of production greatly shortened.

Now, while I have described in specific terms the various elements of my apparatus, I would have it understood that I do not mean to thereby limit myself to such elements, as it will be understood that the construction may be varied without departing from the spirit of my invention.

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

1. In a carbonizing-machine, the combination of a barrel A, a series of perforated cleats *a*, arranged in rows upon the inside of the circular wall of the said barrel, a series of perforated cleats *a'* also arranged in rows upon the inside of the circular wall of the

barrel, the cleats in adjoining rows being displaced or staggered with respect to each other so as to produce a flow of the mass to be carbonized through around and between the
5 cleats so as to effect a very thorough carbonization, and means for uniformly distributing the gas to the mass in the barrel substantially as described.

10 2. The combination of a barrel, cleats arranged within said barrel and staggered with respect to each other, gas inlet and outlet ports and gas-distributing apparatus consisting

of bells H H' covering the said inlet and outlet ports and effecting the even diffusion of the gas through the apparatus, the said bell H having its convex portion toward the inlet and the said bell H' having its concave portion toward the outlet, substantially as described.

ARTHUR H. EYLES.

Witnesses:

WM. IVES WASHBURN,
WM. H. GLOVER.