(No Model.)

T. DIETRICH.

LAMP BLACK MACHINE.

No. 431,881. Patented July 8, 1890.

Fig. 1.

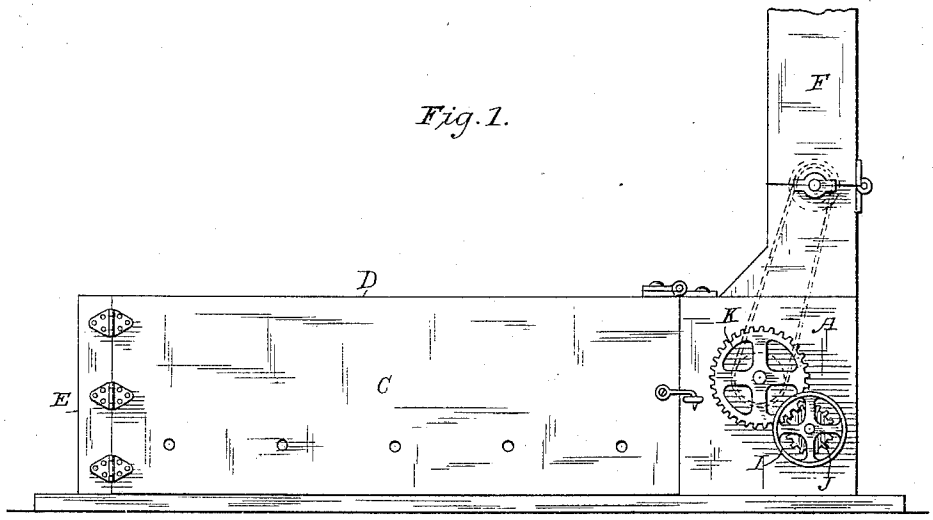


Fig. 2.

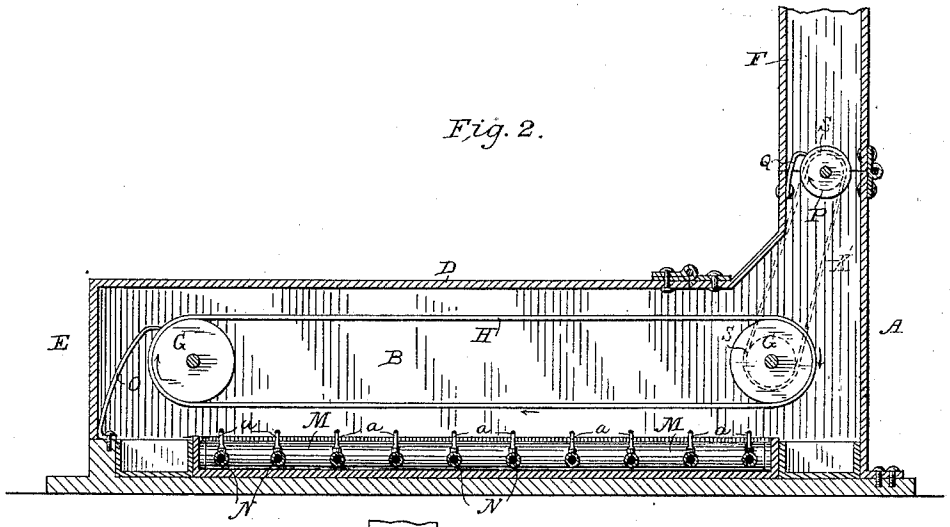
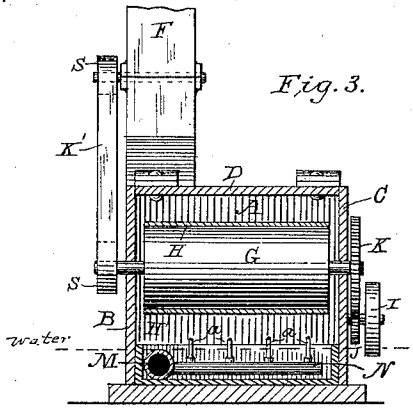


Fig. 3.



Witnesses:

Jos. S. Latimer

A. D. Browne

Inventor

Tobias Dietrich

By his Attorneys

Soule and Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

TOBIAS DIETRICH, OF BUTLER, PENNSYLVANIA.

LAMP-BLACK MACHINE.

SPECIFICATION forming part of Letters Patent No. 431,881, dated July 8, 1890.

Application filed September 13, 1887. Serial No. 249,557. (No model.)

To all whom it may concern:

Be it known that I, TOBIAS DIETRICH, a citizen of the United States, residing at Butler, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Lamp-Black Machines; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention consists in a machine for preparing lamp-black, and comprises an inclosed chamber in which is arranged to travel an endless metallic belt. Beneath the belt, and immersed in water in the bottom of its chamber, are the pipes or other reservoirs containing or supplying gas, oil, or other suitable combustible materials, the burners for which extend above the water immediately beneath the traveling metallic belt. At one end of the chamber is a smoke-stack, to which the products of combustion are conveyed, and in this smoke-stack is located a rotating roller for collecting lamp-black not collected by the traveling belt. The lower portion of the belt, which receives the smoke from the burners, travels away from the smoke-stack, and at the end of the chamber remote from the smoke-stack the belt encounters a series of scrapers, which remove the lamp-black collected upon the belt.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the machine. Fig. 2 is a central vertical longitudinal section, and Fig. 3 is a cross-section.

The inclosed chamber has one closed end A and one closed side B, and it is formed so as to hold water for some depth at all times in its bottom. One side C is hinged so as to be opened, in order to gain access to the interior. The chamber is closed by a hinged sheet-metal cover D, to which is secured a leaf E, which constitutes one end of the chamber when the cover is closed. At one end of the chamber is formed a vertical smoke-stack F, for carrying off the products of combustion. Mounted within the chamber, near the two sides thereof, are two rollers G G, over which is stretched an endless metallic belt H. To one of the rollers, preferably the one at the stack end, rotary motion is communicated in such a direction as to cause the lower portion of the belt to travel away from the stack. Motion is communicated to the roller by means of belting from any metallic source of power, which passes over a pulley I. The shaft of this pulley carries a pinion J, which engages a gear-wheel K on the shaft of the roller.

Along the bottom of the chamber beneath the belt are located a series of burners for producing the smoke. Either gas or oil may be used. The mechanism shown, however, is for burning oil. Along one end of the chamber is arranged an oil-reservoir M, which has a series of cross branch pipes N N, provided with vertical burner-jets *a a*. The branch pipes lie in the water, being entirely covered thereby, while the jets project above the surface of the water. The water chills the oil, thus producing imperfect combustion and thick smoke. On lighting the jets the smoke gathers on the lower surface of the belt, producing soot or lamp-black. Air is admitted through apertures in the sides of the chamber. As the burning continues, the belt on which the lamp-black accumulates travels toward the rear end of the machine, where it encounters scrapers O O, which scrape the accumulated soot into any suitable receptacle placed for its reception.

In order to save a portion of the soot which escapes up the stack, a roller P, with a scraper Q, is placed in the stack. This roller P is rotated by a band K′, passing over pulleys S S on the ends of the rollers P and G.

I claim as my invention—

1. In an inclosed chamber having water in its bottom, fuel-supply pipes submerged in said water, and burners on said pipes, with their tips projecting above the surface of the water, in combination with rollers journaled at opposite ends of said chamber and an endless traveling metallic band passing around said rollers and moving above said burners, substantially as set forth.

2. In an elongated inclosed chamber having water in its bottom, a smoke-stack at one end of said chamber, fuel-supply pipes submerged

in said water, and burners on said pipes, with their tips projecting above the surface of the water, in combination with rollers journaled at opposite ends of said chamber, an endless traveling metallic band passing around said rollers and moving above said burners, a rotating roller journaled in said smoke-stack, a band K′, connecting the roller in the smoke-stack with the adjacent roller in said chamber, and scrapers for said endless traveling metallic band and said roller in the smoke-stack, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

TOBIAS DIETRICH.

Witnesses:

REUBEN MCELVAIN,

NEWTON BLACK.