

(No Model.)

2 Sheets—Sheet 1.

H. J. C. ESTER.
LAMPBLACK MACHINE.

No. 486,097.

Patented Nov. 15, 1892.

Fig. 1.

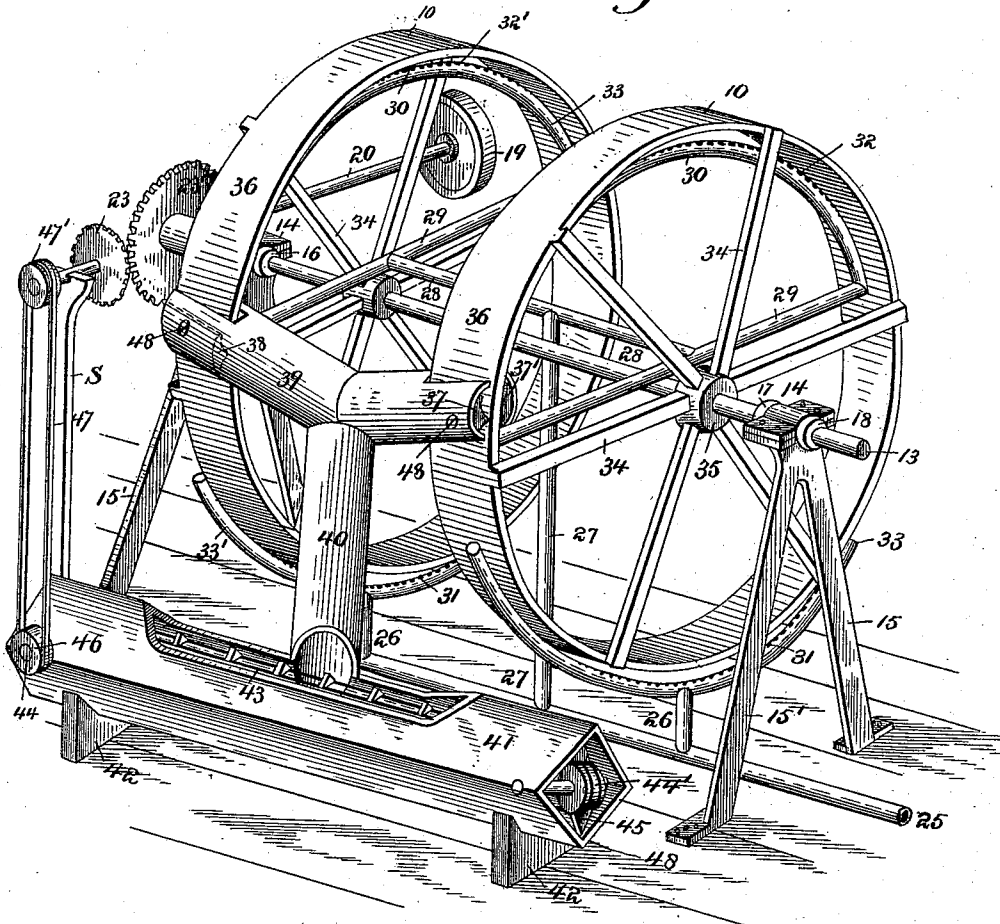
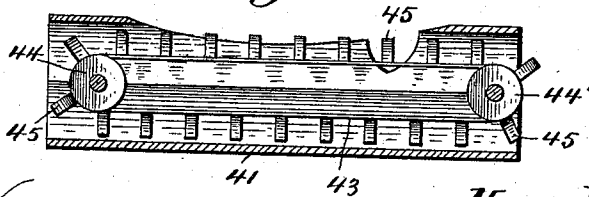


Fig. 3.



Witnesses:

J. B. McGinn.
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Inventor:

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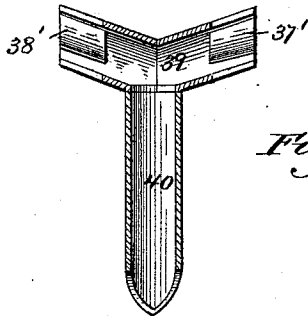
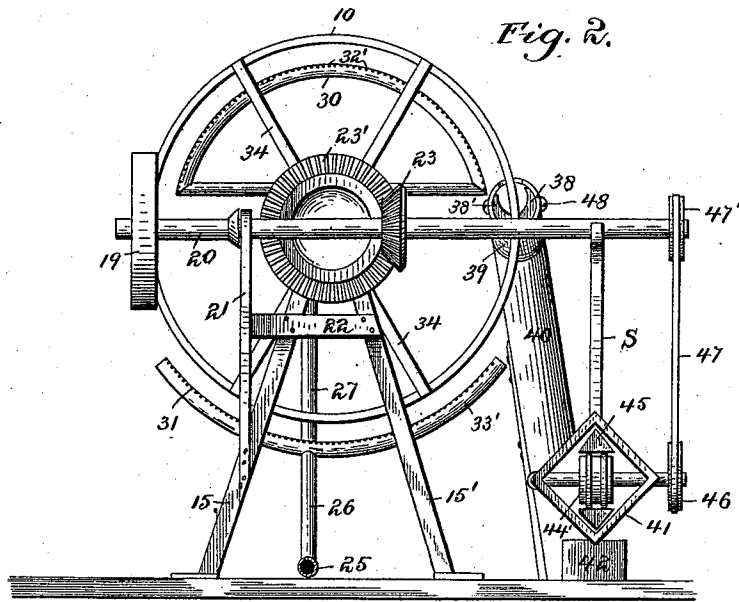
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UNITED STATES PATENT OFFICE.

HENRY JOSEPH CHARLES ESTER, OF ERIE, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO GEORGE L. ESTER AND WILLIAM W. ESTER, OF SAME PLACE.

LAMP-BLACK MACHINE.

SPECIFICATION forming part of Letters Patent No. 486,097, dated November 15, 1892.

Application filed February 11, 1892. Serial No. 421,093. (No model.)

To all whom it may concern:

Be it known that I, HENRY JOSEPH CHARLES ESTER, a citizen of the United States of America, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Lamp-Black Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide a cheap and effective means for collecting a deposit of lamp-black, and I attain my object by means of mechanism hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my device. Fig. 2 is a side elevation thereof. Fig. 3 is a view of the delivery-trough in longitudinal section. Fig. 4 is a vertical section of the hopper and chute.

Like characters of reference indicate the same parts throughout the several views.

The rollers 10, rigidly mounted on shaft 13, are designed for the reception of the deposit of lamp-black upon the outer and inner surfaces of rim 36. Shaft 13 is journaled at 14 upon supports 15 15'. A lateral movement of this shaft is prevented by the bearings 16, 17, and 18. Power is applied at the large pulley 19, located upon one end of the drive-shaft 20. The drive-shaft 20 is journaled in supporting-arm 21, rigidly attached to support 15 by brace 22 and in standards resting upon delivery-trough 41. The power is communicated to shaft 13 to revolve it by means of the bevel gear-wheels 23 23', mounted, respectively, upon drive-shaft 20 and one end of shaft 13. When gas is used for combustion, it is carried through pipes 25, 26, 27, 28, and 29 to the burners 30 and 31, located in semicircular tubes 32 32' and 33 33', conforming in shape to the outer and inner faces of the roller-rims 36, which the burners approximate, so that the flames from the burners will contact with the outer and inner surfaces of the rims 36 of the rollers 10 with a view to the deposit therein of lamp-black. The spokes 34, radiating from hubs 35 of the rollers, are attached at their outer ends to the sides of the roller-rims 36, so as to give an uninterrupted space upon the inner surface of the rims for the reception of the lamp-

black deposit. I have found in practice that it is desirable that the rims 36 of the rollers 10 shall be kept at as low a degree of temperature as possible with a view to the best results in securing a deposit of lamp-black; and I therefore do not conduct the semicircular tubes 32 32' and 33 33' to approximate the entire circumference of the roller-rims. I find that the best results are attained by so placing the burners as to apply the flame to about one-third each of the outer and inner surfaces of the roller-rims at the same time.

For the purpose of cleaning the roller-rims from the accumulated lamp-black and collecting the same I supply the adjustable scrapers 37 37' 38 38' attached by set-screws 48 to the sides of the hopper 39, so as to barely contact with the outer and inner surface of the roller-rims. These scrapers are inclined inwardly. It is plain that these operate to scrape the accumulated deposit of lamp-black from the outer and inner surfaces of the roller-rims, and that by gravity it will settle along the inwardly-inclined scrapers and fall into the chute 40, in which the hopper 39 terminates, and from the chute 40 into the delivery-trough 41, placed for its reception. The delivery-trough 41 is rectangular in shape; but for the purpose of producing better facility for collecting the lamp-black the trough is anchored to its supports 42 42, so as to present an angle at its lowest part. Within the delivery-trough is the endless chain 43, mounted upon rollers 44 44', carrying scoops 45, shaped to conform to the angle of the lowest part of the delivery-trough. The pulleys 44 44' are journaled in the sides of delivery-trough 41, one journal 44 projecting through and outwardly beyond the side of the delivery-trough to carry pulley 46. A band 47 runs from pulley 46 to pulley 47 upon the end of drive-shaft 20, opposing the end of said drive-shaft carrying the drive-pulley 19. It is plain that motion from drive-shaft 20 will be communicated by means of the described connecting mechanism to the endless chain 43, carrying scoops 45, and that by the action of scoops 45 the lamp-black deposited by gravity in the angular bottom of delivery-trough 41 will be delivered at the end 46 of the delivery-trough, and by sub-

stantially the same means the lamp-black may be carried to any desired point.

The operation of my device is as follows: The material for combustion being ignited at burners 30 and 31, as hereinbefore described, the rollers being slowly revolved, the lamp-black is accumulated by deposit from the flame upon the inner and outer surfaces of the roller-rims and remains thereon till contact with scrapers 37 37' 38 38' removes it to fall by gravity into delivery-trough 41, from whence it is delivered to any desired place by means of the scoops 45, mounted upon the endless chain 43, actuated as hereinbefore set forth.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a lamp-black apparatus, the combination of a revoluble wheel having a broad rim and spokes running from the axle to the edge of the rim, burners arranged to deposit lamp-black on the inside and outside of said rim, and a conducting-tube for the deposited

lamp-black, slotted at one end and arranged to fit over said rim and provided with two scrapers, one for the outside and one for the inside of the rim, and means for revolving the wheel, substantially as set forth.

2. In a lamp-black apparatus, the combination of two revoluble wheels having broad rims and spokes running from the axles to the outer edges of the rims, burners arranged to deposit lamp-black on the inside and outside of said rims, and a conducting-tube for the deposited lamp-black, having two branches, each branch being slotted at one end and arranged to fit over said rim and provided with two scrapers, one for the outside and one for the inside of the rim, and means for revolving the wheel, substantially as set forth.

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

HENRY JOSEPH CHARLES ESTER.

Witnesses:

JOS. P. O'BRIEN,
OIA L. FLINN.