

No. 865,603.

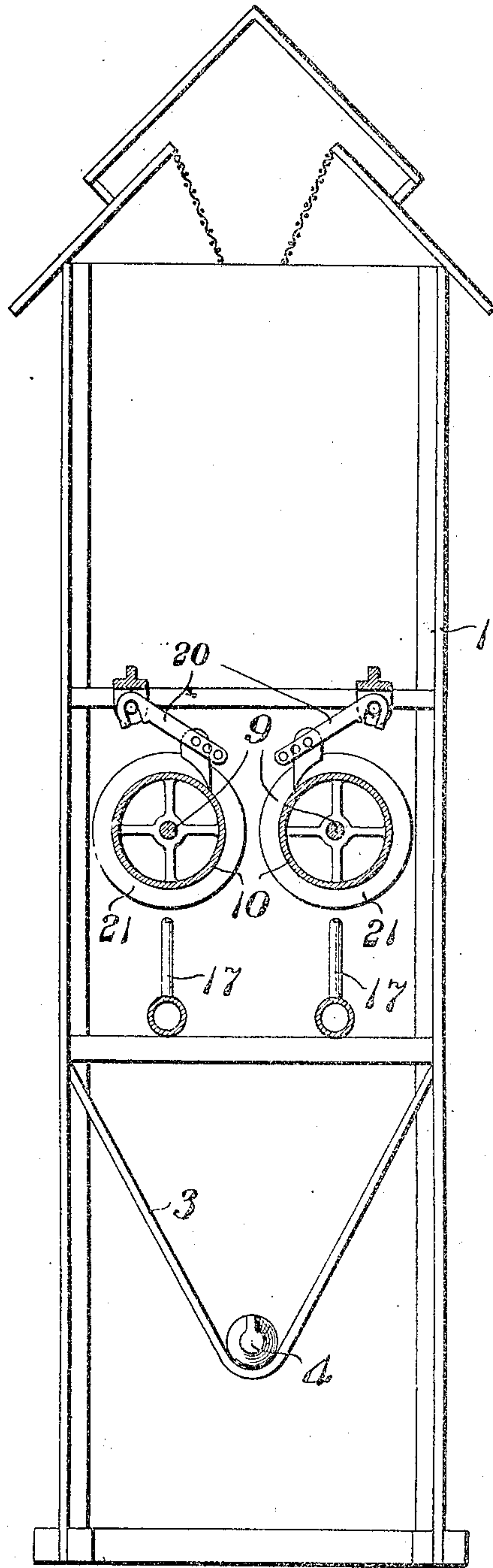
PATENTED SEPT. 10, 1907.

J. L. MANN:  
APPARATUS FOR MAKING LAMPBLACK.

APPLICATION FILED NOV. 20, 1906.

2 SHEETS—SHEET 1.

*Fig. 1.*



WITNESSES:

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*John E. Parker*

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By *C. A. Mowbray*  
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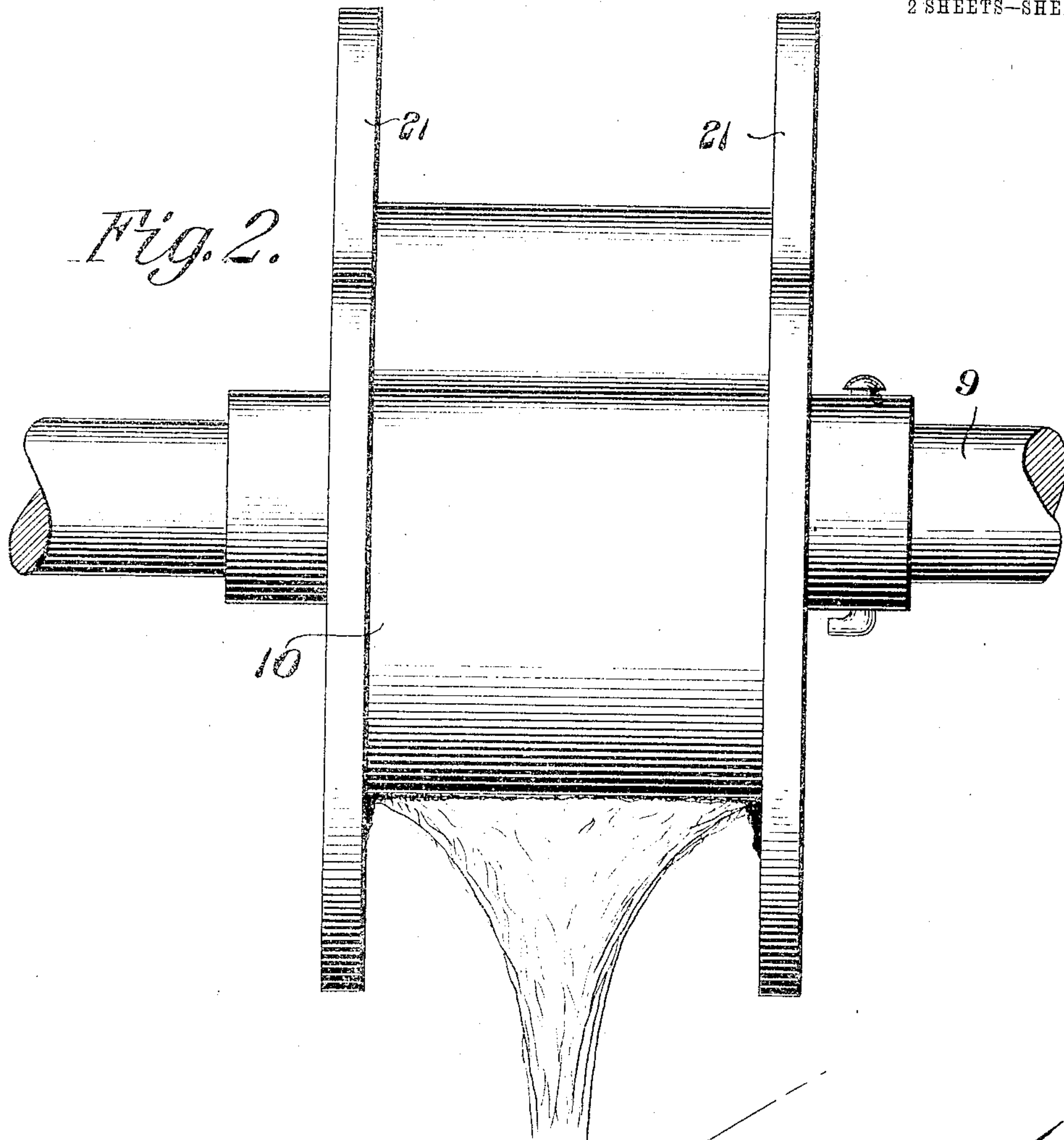
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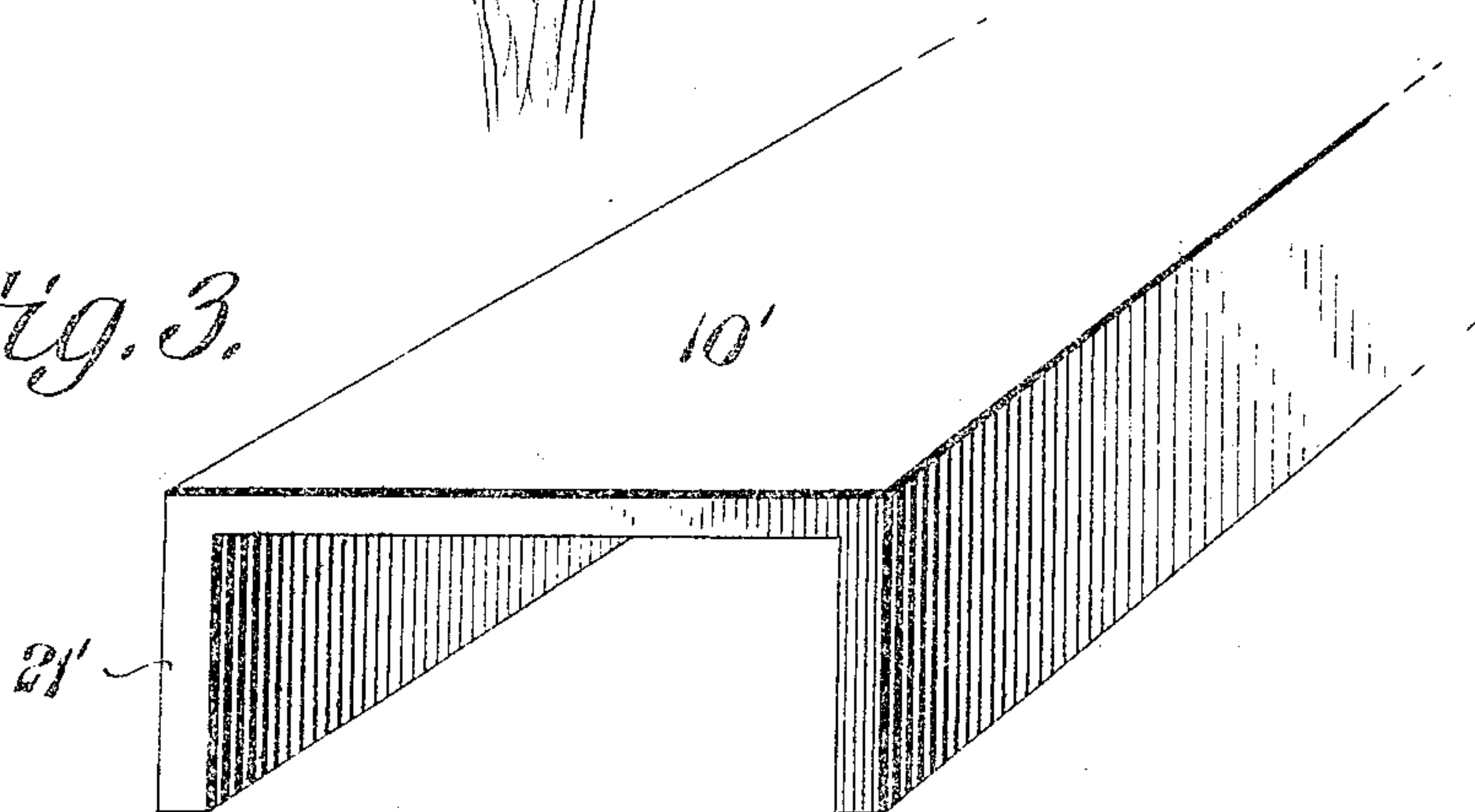
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2 SHEETS—SHEET 2.



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

JOHN LEWIS MANN, OF SMITHTON, WEST VIRGINIA.

## APPARATUS FOR MAKING LAMPBLACK.

No. 865,603.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed November 20, 1906. Serial No. 344,350.

*To all whom it may concern:*

Be it known that I, JOHN LEWIS MANN, a citizen of the United States, residing at Smithton, in the county of Doddridge and State of West Virginia, have invented a new and useful Apparatus for Making Lampblack, of which the following is a specification.

This invention relates to apparatus employed in the manufacture of carbon black, and has for its principal object to provide an apparatus which will yield both a better quality and a larger quantity of black with the same quantity of fuel than the machines in ordinary use.

A further object of the invention is to provide a machine of this type in which it will be impossible for the flame to spread beyond the depositing surface and burn without the deposit of black.

A still further object of the invention is to protect the point or tip of the flame and prevent any side drafts which might tend to shift the position or alter the burning of the flame, or which might act to injure the carbon through excessive burning.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a transverse sectional view of a lamp black making apparatus constructed in accordance with the invention. Fig. 2 is a detail elevation of one of the carbon collecting wheels. Fig. 3 is a sectional perspective view illustrating the application of the invention to a depositing bar.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The casing 1 of the apparatus may be formed of sheet metal or other suitable material, and at the bottom is provided with a hopper 3 in which works a screw conveyor 4 for moving the carbon toward a discharge opening at the end of the hopper. The casing is provided with bearings for the reception of shafts 9, carrying carbon collecting wheels 10 which are driven in any suitable manner, and below the carbon collecting wheels are burners 17 of any suitable construction, the carbon from the burners being deposited on collecting wheels or drums, and being removed therefrom by suitable scrapers 20 as fast as collected.

In all the lamp black making apparatus of this general type, it is found that more or less waste occurs through

the flame spreading beyond the edge of the depositing surface or surfaces, and as this portion of the flame is lost, the continuous waste of gas makes the process an expensive one. Another difficulty found is that where there is an excess quantity of air, the carbon will be more or less burned, thus impairing the quality of the product, and where there is any side draft the flame is likely to be blown to one side or the other, and to burn unevenly and irregularly, thus materially interfering with the deposit of the carbon. In order to overcome these and other disadvantages the carbon collecting wheels or drums are provided at each edge with annular flanges 21 which extend a sufficient distance from the depositing surface to act as a guard for the flame, and especially for the tip or point of the flame, so that the flame will burn evenly and regularly and will not be blown to one side or the other. The flame will, of course, spread as it comes into contact with the depositing surface, and ordinarily some part of the flame would burn beyond the edge of the wheel, this portion of the flame being wasted, but by the use of the guard flanges, the lateral spreading of the flame is restricted and it cannot pass beyond the edge of the depositing surface. The flanges, also, serve to limit the quantity of air which comes into contact with the flange and the character of the flame may, therefore, be more readily maintained, and there will be no danger of the burning of the carbon and the deposit of carbon of a grayish or brown color due generally to the presence of an excess quantity of air and which reduces both the quantity and the quality of the carbon.

It has been found by practical tests that with a machine having flanged collecting wheels of the character described, a much larger quantity and better quality of carbon can be made from the same quantity of gas than is possible where the collecting surfaces are of the usual construction. The invention is, also, applicable to machines of the bar type, where the carbon is collected on flat bars placed above the burners, as shown, for instance, in Fig. 3, wherein side flanges 21' are arranged at the opposite edges of the depositing surface 10'. While only a single burner has been shown in connection with each of the wheels or drums, it is obvious that two or more burners may be placed between each pair of flanges, if desired.

In the use of machines of this general type it is found that there is a tendency of the flame to spread laterally or in the direction of the axis of the collecting wheel, but by the employment of the guard flanges spreading in this direction will be prevented and the flame will be compelled to cover a larger area of the periphery of the wheel.

I claim:—

1. In apparatus for making carbon black, a carbon collecting member, the different portions of the surface of

which are exposed successively to the flame, said member having its edges provided with flanges forming flame guards.

2. In an apparatus for making carbon black, a carbon  
5 collecting member having a continuous surface, of which the different portions are exposed successively to the flame, and provided with flanges forming a flame guard.

3. In apparatus for making carbon black, a movable carbon collecting member, and a flame guard carried thereby.

10 4. In apparatus for making carbon black, a carbon collecting wheel having edge flanges forming a flame guard.

5. In apparatus for making carbon black, a carbon collecting wheel provided with a pair of spaced annular flanges, defining the limits of the carbon depositing surface.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN LEWIS MANN.

Witnesses:

H. H. SPENCER,  
J. H. MANN.