(No Model.)

L. F. NEAL.

DUSTING APPARATUS.

No. 500,415. Patented June 27, 1893.

Fig. 1.

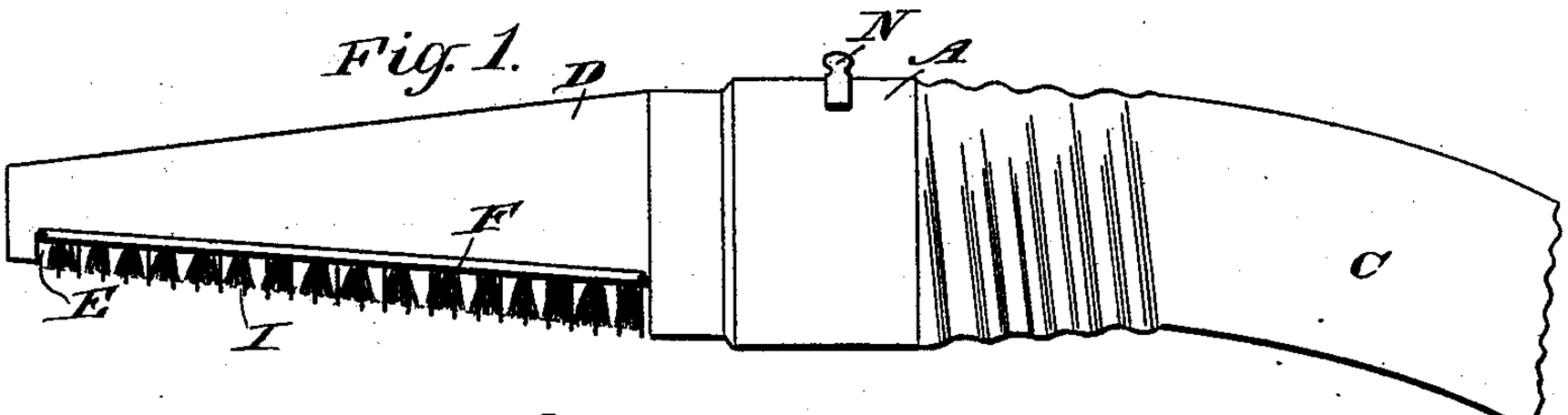


Fig. 2.

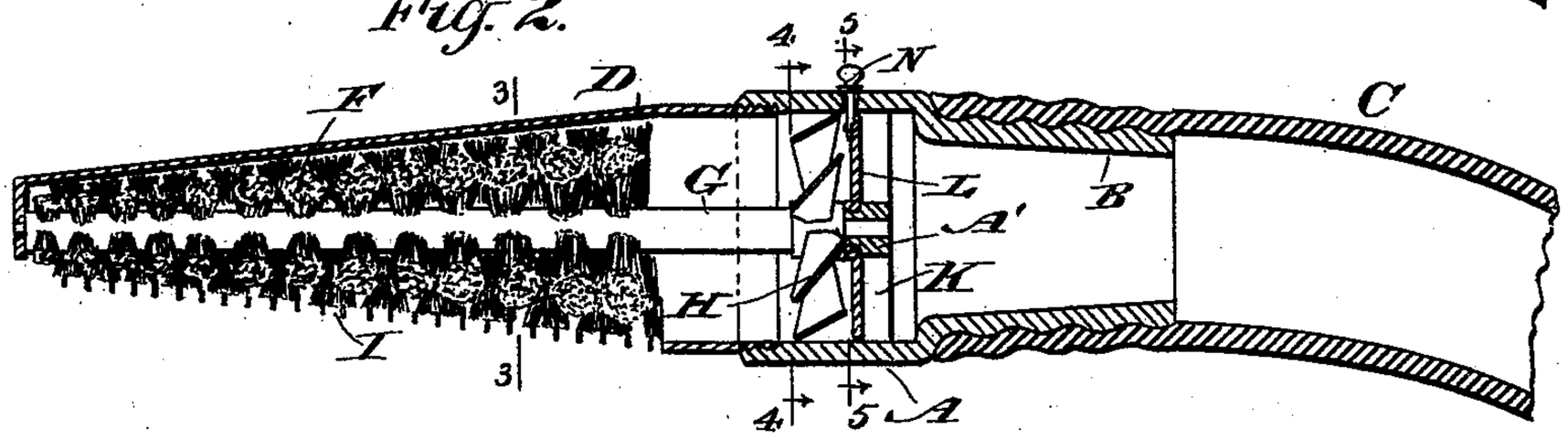


Fig. 3.

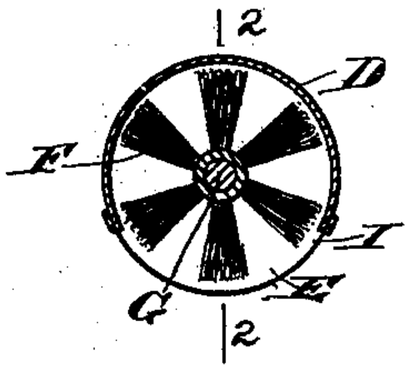


Fig. 4.

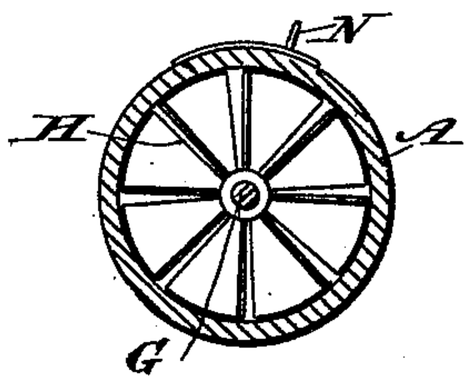


Fig. 5.

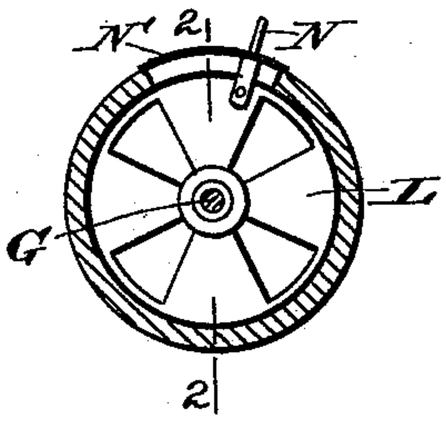


Fig. 6.

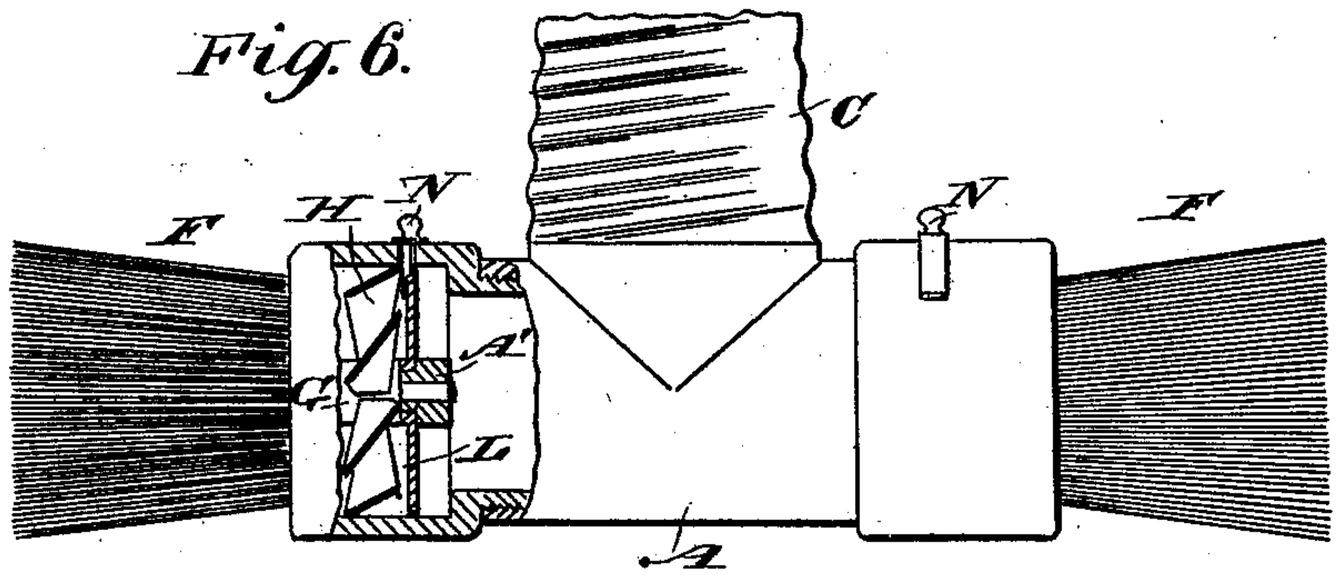
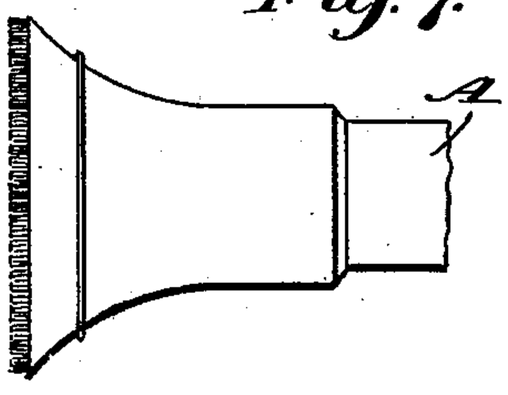


Fig. 7.



WITNESSES:

J. H. Criswell

C. Sedgwick

INVENTOR

L. F. Neal

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

LEWIS F. NEAL, OF WALTHAM, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND WILLIAM B. BOWSER, OF SAME PLACE.

DUSTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 500,415, dated June 27, 1893.

Application filed February 25, 1892. Serial No. 422,787. (No model.)

To all whom it may concern:

Be it known that I, LEWIS F. NEAL, of Waltham, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Dusting Apparatus, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved dusting apparatus, which is simple and durable in construction, very effective in operation, and arranged to conveniently stir up the dust or other matter and draw the same by suction into a casing for convenient removal.

The invention consists of a revoluble brush held in a casing attached to a flexible hose to be connected with an exhaust apparatus and containing a wind or fan wheel operating the brush and operated by the air drawn through the casing and hose by the exhaust apparatus.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter described and then pointed out in the claims.

Figure 1 is a side elevation of the improvement. Fig. 2 is a sectional side elevation of the same on the lines 2—2 of Figs. 3 and 5. Fig. 3 is a transverse section of the same on the line 3—3 of Fig. 2. Fig. 4 is a similar view of the same on the line 4—4 of Fig. 2. Fig. 5 is a like view of the same on the line 5—5 of Fig. 2. Fig. 6 is a side elevation of a modified form of the improvement, with parts in section; and Fig. 7 is a side elevation of another modified form.

The improved dusting apparatus is provided with a suitably-constructed casing A, preferably circular in form and formed at one end with a threaded flange B, adapted to engage one end of a flexible hose C, which is to be connected with a suitable exhaust fan or other apparatus for creating a suction in the casing A.

On the front end of the casing is secured a shell D, which forms an extension of the casing and is preferably made conical in shape, as illustrated in Figs. 1 and 2. The lower side of the shell is cut out to form an opening E, for the projection of the bristles of the revolving brush F, also made conical in shape and contained within the shell D. The shaft G, of the conical brush F is mounted to turn at its rear end in a suitable bearing A′, held in the casing A, and the front end of the shaft is journaled in the outer end of the shell D.

On the shaft G next to the bearing A′ is arranged a wind or fan wheel H, extending with the outer edges of its blades close to the inner surface of the casing A, so that when a suction is created in the casing in the rear of the said wheel H, the latter is revolved, thus imparting rotary motion to the shaft G and the brush F supported thereon.

Across the opening E in the shell D is arranged a guard I, made of single bars curved to correspond to the circular shape of the shell D, the said guard preventing large articles from being drawn into the brush and shell D.

The arms K, for supporting the bearing A′ form openings adapted to be closed by a damper wheel L, mounted to revolve loosely on the bearing A′, and provided with an outwardly-extending handle N, passing through a suitable slot in the rim of the casing A. By moving the handle N transversely, the damper wheel L turns so as to open or close the openings formed by the arms K, thus regulating the amount of suction within the casing A, and thereby also regulating the speed of the wheel H and consequently that of the revoluble brush F.

In order to prevent escape of air from the casing A, the slot through which passes the handle N is covered by a plate N′, held on the said handle and moving with the same, as will be readily understood by reference to Fig. 5.

In the modification shown in Fig. 6, the casing A^2 is made double, each end containing a revoluble brush F^2, the shell D however, being omitted so that the bristles of the brush project from the casing, as shown. As illustrated in Fig. 7, the casing A^3 and the brush contained therein are made bell-shape, so as to present a large surface to the dust or other matter to be removed.

The operation is as follows: When the device for creating a suction in the casing A is set in motion, then air is drawn in through the opening E into the shell D and from the

latter passes to the casing A, so as to act on the wheel H to revolve the same. The motion of the wheel H causes a revolving of the brush F so that the operator who handles the dusting apparatus in moving the brush over the dust stirs it up, and at the same time the suction within the casing draws the dust through the opening E and past the revolving brush into the casing and from the latter through the tube C, and the exhaust fan or apparatus to the outside. As the tube C is flexible, the operator having hold of the casing A can conveniently move the shell D and the brush into any desired place, the shape of the shell and brush permitting it to readily enter small chambers, compartments, corners, &c., to remove all dust or other impurities.

The improved apparatus may also be used for brushing furs, fabrics, and the like, and may also be used for removing dandruff from the scalps of persons, &c.

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

1. A dusting apparatus, comprising a casing, having an opening in its bottom a fan wheel mounted to revolve in the casing, and a brush mounted to revolve in the casing over the opening thereof, the said brush being connected with and operated by the fan wheel, substantially as described.

2. A dusting apparatus, comprising a casing having an opening in its bottom, a fan wheel mounted to revolve in the said casing, and a brush held on the shaft of the said wheel within the casing over the opening thereof, substantially as shown and described.

3. A dusting apparatus comprising a casing, a fan wheel mounted to turn in the said casing, a conical brush held on the shaft of the said wheel, and a conical shell projecting from the said casing over the brush and formed with an opening in its under side, substantially as shown and described.

4. A dusting apparatus, comprising a casing, a flexible tube connected with one end of the said casing and adapted to be attached to an apparatus for creating a suction in the said casing, a fan wheel mounted to turn in the said casing, a brush held on the shaft of the said wheel, a shell projecting from the said casing over the said brush and formed with an opening at its under side, and a guard covering the said shell opening, substantially as shown and described.

5. A dusting apparatus, comprising a casing, a flexible tube connected with the said casing, a fan wheel mounted to turn in the said casing, a brush attached to the shaft of the said wheel, and a damper or regulating device for controlling the amount of suction within the said casing to regulate the speed of the said wheel and brush, substantially as shown and described.

LEWIS F. NEAL.

Witnesses:
ANDREW J. LATHROP,
LIONEL R. HODGKINS.