W. H. FULTON.

VACUUM CLEANING APPARATUS.

APPLICATION FILED MAY 29, 1913.

1,086,591. Patented Feb. 10, 1914.

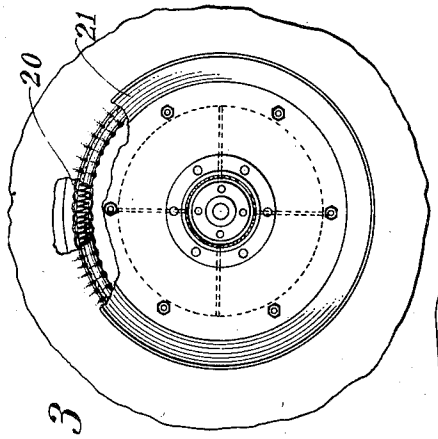


Fig. 3

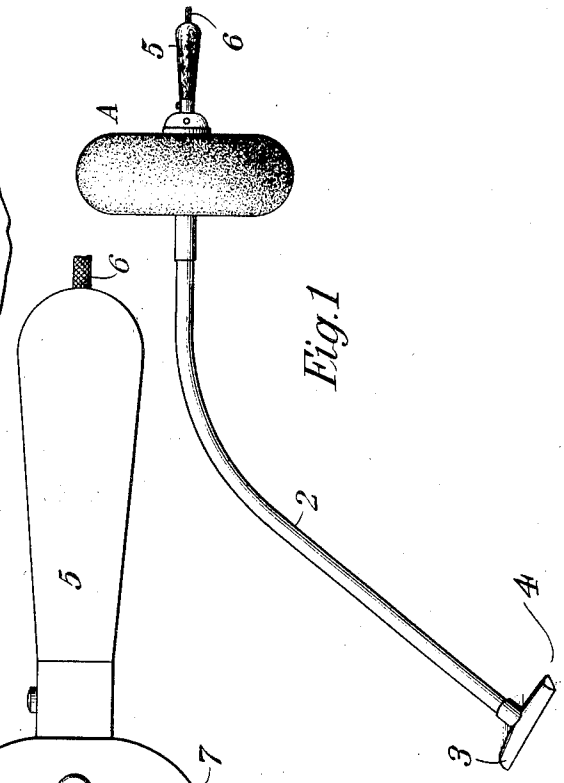


Fig. 1

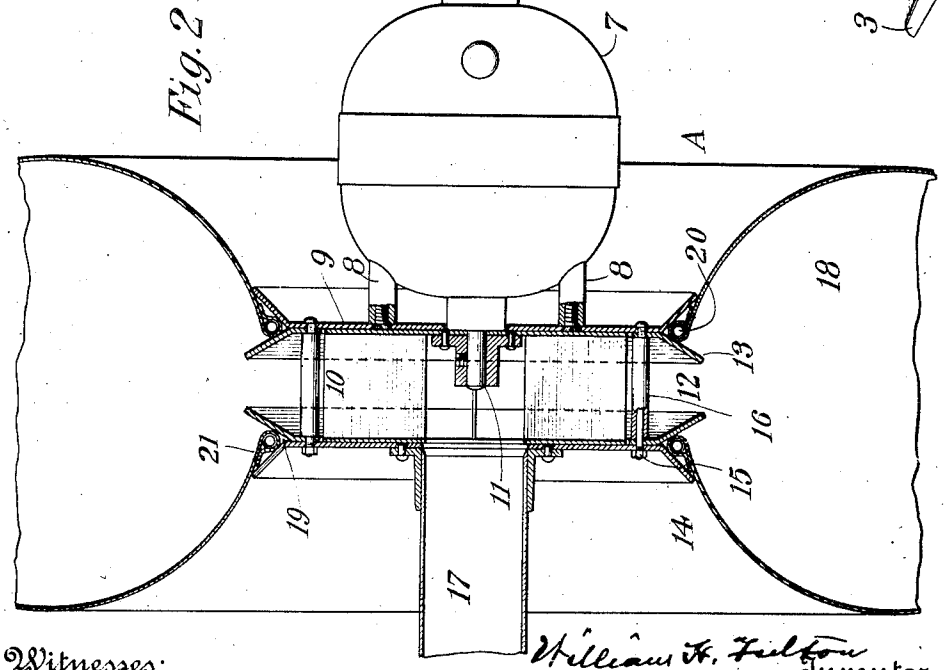


Fig. 2

Witnesses:
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By his Attorneys
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UNITED STATES PATENT OFFICE.

WILLIAM H. FULTON, OF BROOKLYN, NEW YORK, ASSIGNOR TO NERNST LAMP COMPANY, A CORPORATION OF PENNSYLVANIA.

VACUUM CLEANING APPARATUS.

1,086,591. Specification of Letters Patent. Patented Feb. 10, 1914.

Application filed May 29, 1913. Serial No. 770,601.

To all whom it may concern:

Be it known that I, WILLIAM H. FULTON, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, and State of New York, have invented new and useful Improvements in Vacuum Cleaning Apparatus, of which the following is a specification.

My invention relates to the art of so-called vacuum cleaning and consists of the features of construction hereinafter described and claimed.

In the accompanying drawings forming part of this application, Figure 1 is a perspective view of my device fitted with a floor cleaning tool; Fig. 2 is an enlarged partial diagrammatical and sectional view of the fan and impurities-collecting receptacle; Fig. 3 is a detail partial end view of the same with certain parts broken away to show the interior construction.

Referring to Fig. 1, my device A is shown fitted with a tube 2 and a cleaning tool 3 resting upon the floor 4. The device is small enough to be carried in the hand by means of the handle 5, and has an electric cord 6 suitably connected with a source of electrical energy. An electric motor, not shown, is contained in the casing 7 mounted upon the handle 5. This casing also carries standards 8 on which is mounted the fan casing 9 within which is arranged the fan 10 mounted upon the shaft 11 of the motor. The fan casing 9 is constructed preferably with a circumferential annular outlet 12 formed by converging annular rings or flanges 13. Similar but flaring exterior annular rings or flanges 14 are secured to the rings 13 in any suitable manner as by means of bolts 15 and sleeves 16, these rings together forming circumferential grooves 19 surrounding the fan casing. Air is drawn into the fan casing through the pipe 17 connected with the tube 2 and cleaning tool 3, and is carried out through the annular outlet 12. For the purpose of separating the dust and other impurities from the air a filtering bag 18, substantially in the form of an open end cylinder, is provided which is secured to the fan casing by means of annular spiral springs or other elastic rings 20 arranged in the hem 21 at each end of the filtering bag, whereby the ends of the bag are snugly held in place in the annular grooves 19.

The operation of the apparatus is obvious. The current being turned on to operate the motor, the fan 10 is caused to rotate and create suction through the pipe 17, the air being expelled circumferentially by the fan through the outlet 12 into the bag 18 which retains the impurities while the filtered air passes out through the interstices. The bag can readily be removed from the machine by releasing its ends from the grooves 19 and slipping the bag off from the casing for the purpose of emptying the contents, after which the bag can be restored to place on the apparatus for further use.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In an apparatus of the class described, a fan casing having a circumferential annular outlet and a filtration open-end bag adapted to have its ends elastically secured around the casing on opposite sides of said annular outlet.

2. In a device of the class described, a fan casing comprising inwardly flaring annular rings upon the heads of the fan casing with an intermediate annular space constituting the outlet from the fan casing, and with outwardly flaring exterior annular rings forming with the inwardly flaring rings a circumferential groove upon the casing upon each side of said outlet, and a filtration open-end bag, and means for securing the ends of said bag in said grooves so as to surround and inclose the outlet of said fan casing.

3. In apparatus of the class described, a fan casing having an annular outlet and a cylindrical open-end fabric filter, and means for detachably securing the ends of said filter around the casing on opposite sides of the outlet so as to surround and inclose said outlet.

4. In an apparatus of the class described,

a fan casing having a circumferential annular outlet and a filtering bag secured on opposite sides of said outlet.

5. In an apparatus of the class described, a fan casing having a circumferential annular outlet and a filtering bag surrounding said outlet.

In witness whereof, I have hereunto set my hand at the city of New York, county of New York and State of New York, this 26th day of May, 1913.

WILLIAM H. FULTON.

Witnesses:
T. D. MERWIN,
W. B. MORTON.