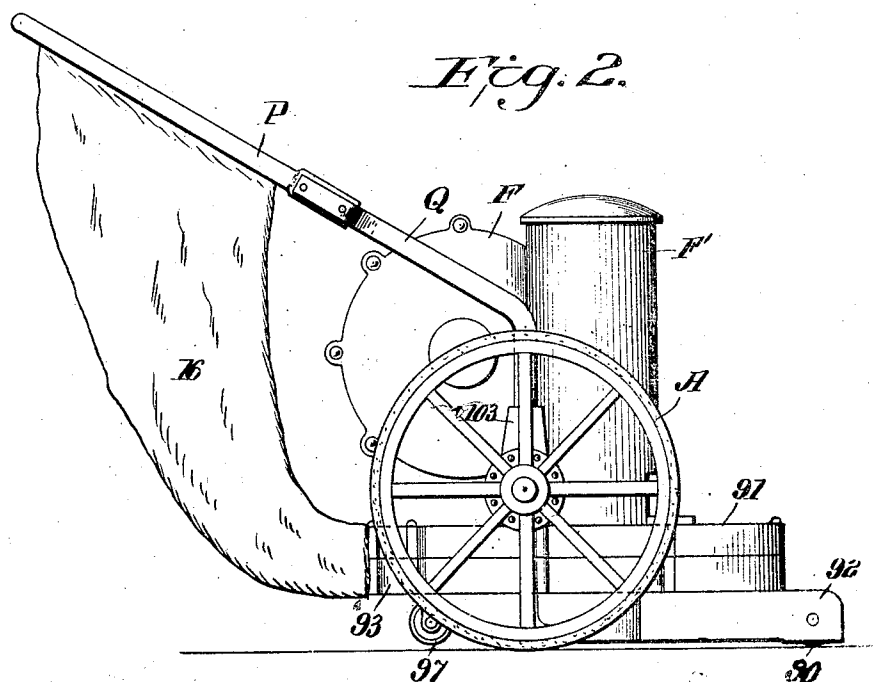
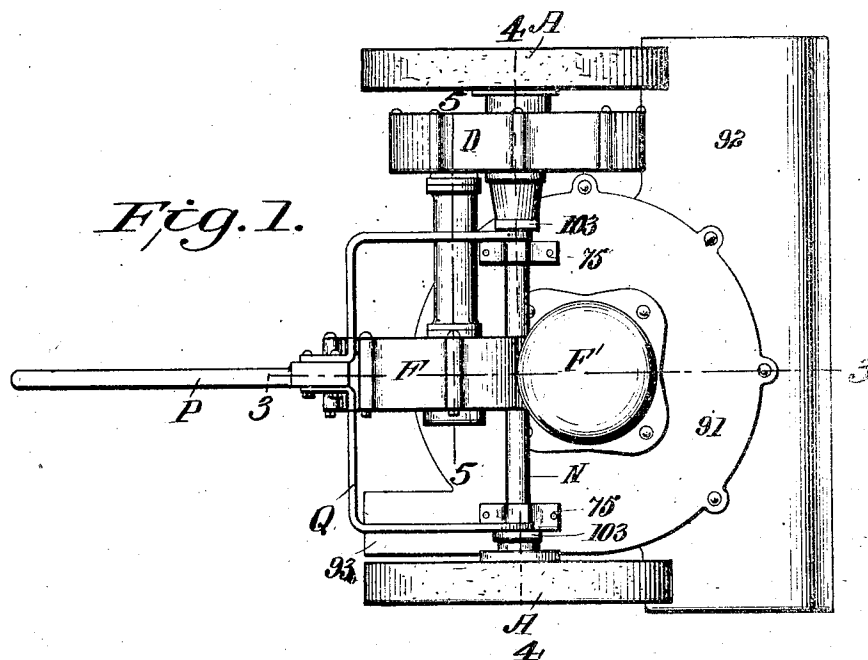


T. LYONS.
PNEUMATIC CARPET SWEEPER.
APPLICATION FILED MAR. 8, 1911.

1,017,779.

Patented Feb. 20, 1912.

2 SHEETS—SHEET 1.



WITNESSES

G. M. Walker
Charles B. Little

INVENTOR

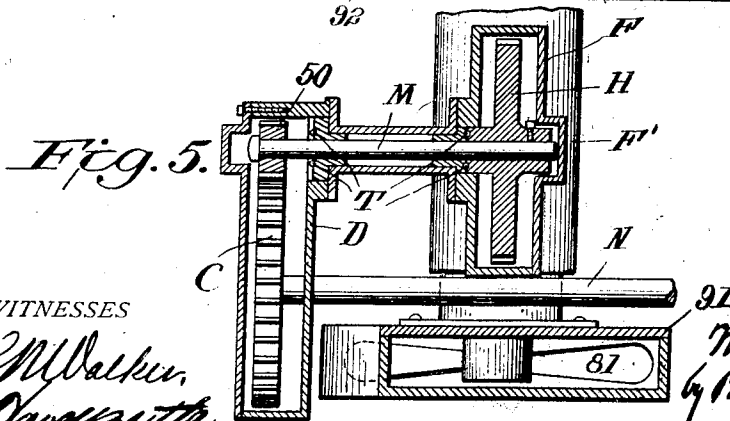
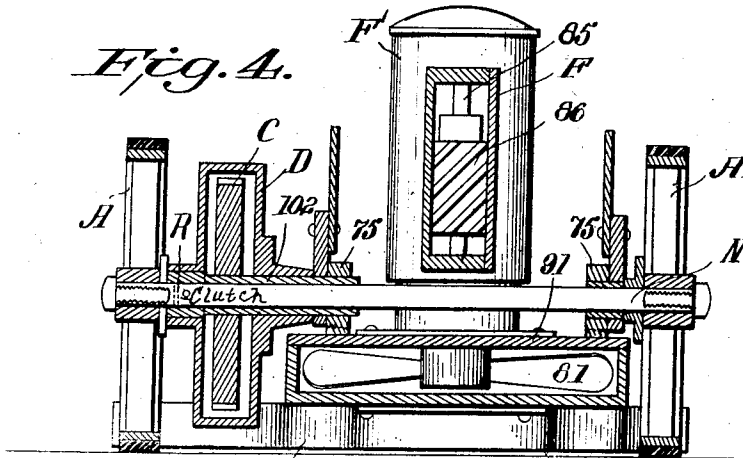
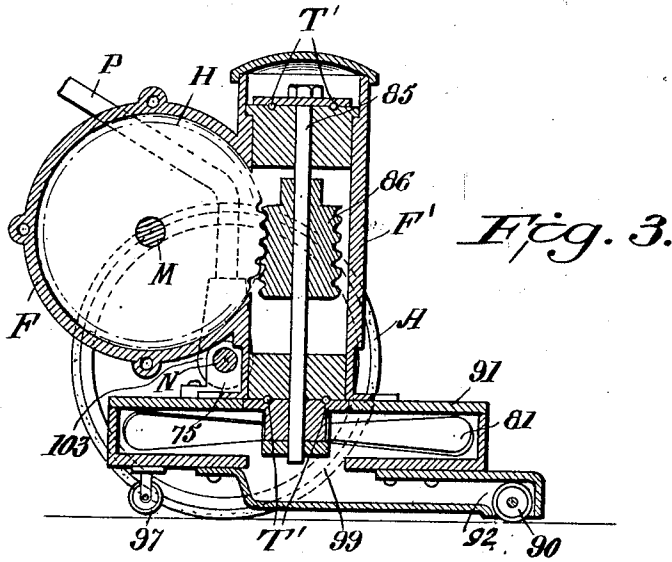
Thomas Lyons
by Brown & Hartshorn

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2 SHEETS—SHEET 2.



WITNESSES

W. Walker
R. R. R. R.

INVENTOR

Thomas Lyons
by R. R. R. R.
Attorneys

UNITED STATES PATENT OFFICE.

THOMAS LYONS, OF CLEVELAND, OHIO, ASSIGNOR TO LUDWIG F. MEYER, OF CLEVELAND, OHIO.

PNEUMATIC CARPET-SWEEPER.

1,011,779.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed March 2, 1911. Serial No. 613,075.

To all whom it may concern,

Be it known that I, THOMAS LYONS, citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Pneumatic Carpet-sweepers, of which the following is a specification.

This invention relates to pneumatic carpet sweepers or cleaners, employing a fan which creates an exhaust to draw in dust and dirt from the floor or other surface being cleaned.

The object of the invention is to provide an improved machine, characterized by novelty particularly with respect to the arrangement and location of the suction nozzle and fan, and with respect to the means for driving the fan.

The fan casing is horizontally arranged, that is on a vertical shaft, adjacent to the suction nozzle, and it is driven from the main or wheel shaft by means of spiral gearing, the parts being so arranged that the machine occupies a comparatively small space, and hence may be used in confined locations.

In the accompanying drawings—Figure 1 is a top plan view of the machine. Fig. 2 is a side elevation thereof. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 is a section on line 5—5 of Fig. 1.

Referring specifically to the drawings, P indicates a handle which is connected by yoke Q to the main shaft N which turns in eyes 103 at the ends of the yoke. This shaft is carried by driving wheels A, loose thereon, and when the machine is pushed forwardly the shaft is driven by a pin ratchet clutch R between one wheel and the shaft, said clutch slipping on back motion. A spur gear C is fixed to a bushing 102 fast on said shaft, and said gear meshes with a pinion 50, the gear and pinion being housed in a casing D. The pinion 50 is fast on one end of a countershaft M, extending into the casing F, which also incloses a spiral gear H fast on the other end of the shaft M. The shaft M is supported in the casings D and F by ball bearings T. This gear H is located at or about the middle line of the machine, and meshes with a spiral gear 86 on a vertical shaft 85 located in an exten-

sion F' of the casing F, and rotating on ball bearings T' therein.

The lower end of the vertical casing F' is fastened to the top of the fan casing 91, within which is a horizontal fan 81 fastened to the lower end of the shaft 85. The fan casing is secured to the exhaust nozzle 92, which opens into the fan casing through the eye 99 at the center of the fan and the casing has at one side an outlet 93, to a bag or other receptacle 16 placed to receive the dust. The mouth of the nozzle 92 is elongated transversely of the machine and is open on the underside to pass close to the floor, being supported in proper relation thereto by means of rollers 90 at opposite ends of the nozzle.

As shown in Figs. 3 and 4 the shaft N is mounted in bearings 75 attached on top of the fan casing 91 and passes across between the gear casing F and the fan casing 91, which gives a very compact arrangement, and enables most of the weight of the machine to be carried by wheels A, insuring sufficient traction to operate the fan.

The space occupied by the machine is small and thus it may be got into corners, and conveniently operated in small rooms, and also easily transported from one room to another, or up and down stairs, the machine being sufficiently balanced to enable it to be lifted by the handle P.

In operation, when the machine is pushed over a floor, the wheels A drive the gear C through the clutch and shaft, and this gear drives the countershaft M, spiral gear H, spiral gear 86 and fan shaft 85, thereby rotating the fan which causes a suction through the nozzle, delivering the dirt and dust to a suitable collector, which may be a bag sufficiently porous to pass the air but catch the dust.

The nozzle is supported with its mouth adjacent to the floor by means of the rollers 90 thereunder, and hence the mouth of the nozzle will follow any irregularities or inequalities in the floor, irrespective of the main wheels A, whereby the nozzle will follow inequalities such as the edges of rugs or carpets, door treads or the like and the nozzle will be held at all times in close position to the place of suction on the floor. The rear roller 97 acts to prevent excessive swing of the nozzle and fan casing.

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

1. In a carpet sweeper, the combination of
5 driving wheels, a horizontal shaft supported
thereby, a horizontal fan casing mounted
between the wheels and under said shaft and
having bearings on the top thereof through
10 which said shaft extends, whereby said cas-
ing is hung in swinging relation from said
shaft, a rotary fan in the casing having a
vertical shaft geared to the driving shaft,
and a suction nozzle communicating with
15 the fan casing and arranged to swing
therewith.

2. In a carpet sweeper, the combination of
driving wheels, a horizontal shaft support-
ed thereby, a horizontal fan casing located
between the wheels and suspended in swing-
20 ing relation from the shaft and under the
same, a rotary fan in the casing, having a
vertical shaft extending through the top
thereof, a gear casing fixed on top of the
fan casing, gearing in said casing between

the first mentioned shaft and the fan shaft, 25
and a suction nozzle secured to the under-
side of the fan casing and communicating
therewith.

3. In a carpet sweeper, the combination of
a wheeled driving shaft, a horizontal fan 30
casing having bearings through which the
said shaft extends, said casing being located
under the shaft and arranged to swing on
said bearings, a fan in the casing having a
vertical shaft projecting upwardly beside 35
the driving shaft, a gear casing fixed to the
top of the fan casing, a horizontal counter-
shaft extending into said gear casing, gear-
ing in said casing between the countershaft
and the fan shaft, gearing between the driv- 40
ing shaft and the countershaft and a suction
nozzle communicating with said fan casing.

In testimony whereof, I do affix my sig-
nature in presence of two witnesses.

THOMAS LYONS.

Witnesses:

LUDWIG F. MEYER,
STEDMAN J. ROCKWELL.