A. E. MOORHEAD.

PNEUMATIC CLEANSING IMPLEMENT FOR REMOVING DUST.

APPLICATION FILED AUG. 4, 1908.

**1,043,024.** Patented Oct. 29, 1912.

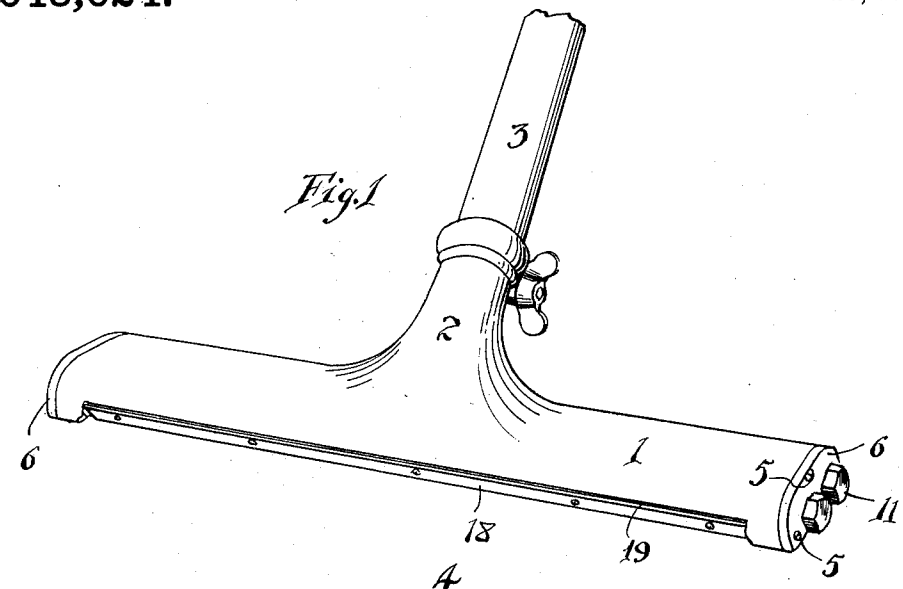


Fig. 1

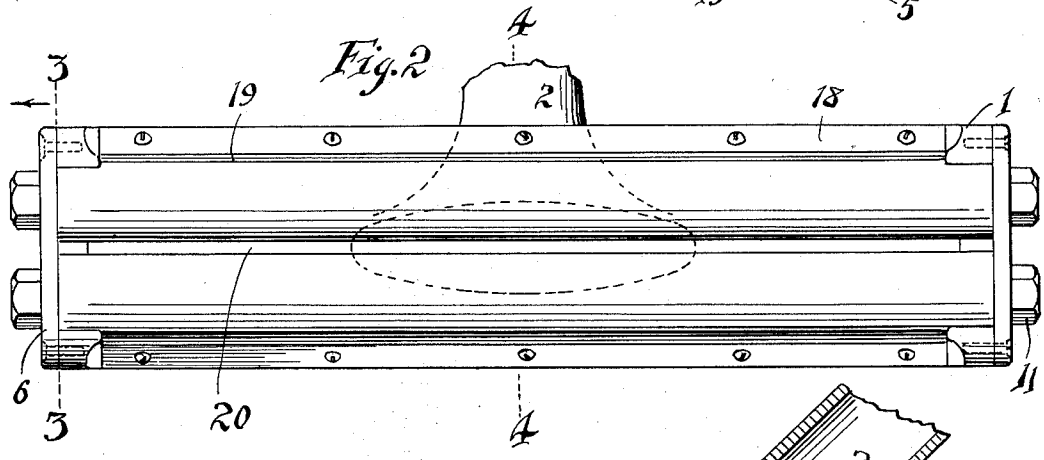


Fig. 2

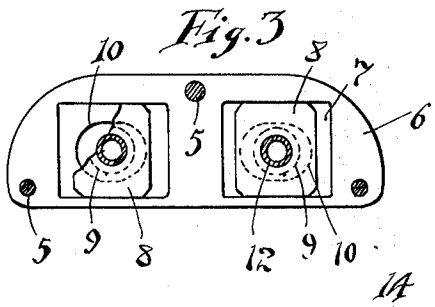


Fig. 3

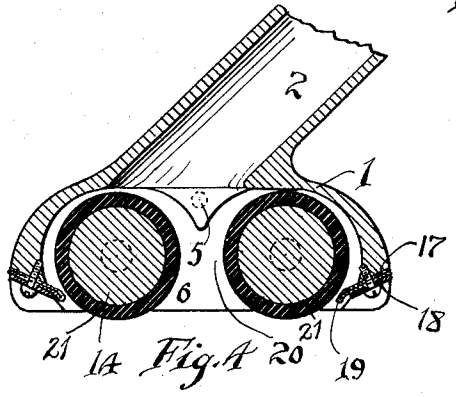


Fig. 4

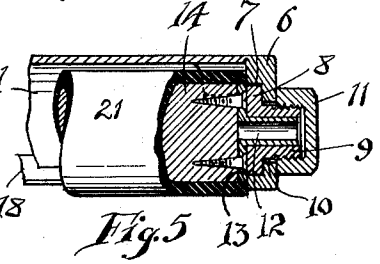


Fig. 5

WITNESSES:

Geoff. W. Dodd.

Nellie B. Keating

INVENTOR,

A. E. Moorhead

BY

Francis M. Wright,

ATTORNEY.

# UNITED STATES PATENT OFFICE.

ALBERT E. MOORHEAD, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO AMERICAN ROTARY VALVE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## PNEUMATIC CLEANSING IMPLEMENT FOR REMOVING DUST.

1,043,024. Specification of Letters Patent. Patented Oct. 29, 1912.

Application filed August 4, 1908. Serial No. 446,978.

*To all whom it may concern:*

Be it known that I, ALBERT E. MOORHEAD, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Pneumatic Cleansing Implements for Removing Dust, of which the following is a specification.

My invention relates to an improved pneumatic cleansing implement or tool for use with pneumatic cleaning systems and especially adapted for use on uncarpeted floors or other smooth surfaces.

The object of my invention is to provide a device of this character which will not scratch or otherwise injure the floor, and in which there is no tendency to push in front of it the dust or other substances, as the implement is advanced on the floor.

A further object is to provide such a device which will be noiseless in operation; which will be very efficient, on account of the leakage of air being reduced to a minimum; and which will be light-running and easy to operate.

In the accompanying drawing, Figure 1 is a perspective view of my improved dust removing implement with a portion of the tubular handle attached thereto; Fig. 2 is a bottom plan view of the same; Fig. 3 is a section on the line 3—3 of Fig. 2, looking in the direction of the arrow; Fig. 4 is a section on the line 4—4 of Fig. 2; Fig. 5 is a broken longitudinal section.

Referring to the drawing, 1 indicates a casing or head inclosing an inlet chamber, which is of an elongated rectangular form, the casing being shaped at the center to form a conduit 2 opening into the inlet chamber and adapted to be connected with a hollow handle 3, and thereby with an air tube, not shown, leading to a suitable suction apparatus. The latter form no part of my present invention.

Upon each end of the casing is screwed, as shown at 5, an end plate 6, each end plate being formed on the inner side with rectangular elongated recesses 7, adapted to receive a square head 8 formed on a sleeve or bearing 9. Said sleeve passes through an elongated but rounded hole 10, formed in said head at the center of each recess, so that by this arrangement the sleeve can be adjusted longitudinally in said recess. It is secured in any desired position of adjustment by means of a clamping cap screw 11. Mounted in said bearings are trunnions 12, formed upon plates 13 secured to the ends of spaced parallel rollers 14 which extend in a direction parallel to the length of the inlet chamber. By this arrangement the rollers can be adjusted to and from the center of the casing. Said rollers 14 project below the bottom edges of the head or casing and their bottom faces provide the contact surface of the tool head, the rollers thus constituting the contact lips of the tool head.

The longer sides of the casing are undercut or beveled, as shown at 17, and upon each beveled side is secured by means of a plate 18, a folded strip 19 of felt or similar substance, the folded edge thereof extending beyond said beveled edge and into contiguity with the adjacent roller. Each roller is preferably formed with a central portion of wood or other light material, and with a cylindrical jacket or sleeve 21 of rubber, or composition of such character as to avoid noise and also to disturb or loosen the dust as it passes over it. It will thus be seen that between these rollers there is left a long narrow space or inlet slot 20, which opens into the inlet chamber of the casing. The strips of felt are brought as close to the rollers as practical, so as to substantially prevent the passage of air between the longitudinal walls of the casing and the rollers, and thus confine the air currents to the central inlet slot, which causes a vertical ascent of the dust in a direction normal to the surfaces being cleansed.

It will be seen that, by the above construction, I provide a dust removing implement, in which there are no parts which can injure a smooth surface, such as that of a hard wood floor; that the device is practically noiseless in operation; that it is very efficient in use, on account of the fact that the leakage of air is reduced to a minimum. Furthermore, with former implements having parts sliding over the floor, small objects, such as matches, are pushed ahead of the implement. In my improved implement, the rollers roll over such small objects, and they are collected by the implement.

An important feature of this invention is the fact that, by so arranging the rollers close together, as heretofore explained, it is not necessary to use a brush between said

rollers to sweep the floor or raise the dust therefrom, but the suction of the air is itself sufficient to produce this result.

I claim:—

1. In a dust removing implement, the combination of a casing formed with a passage adapted to lead to air exhausting apparatus, a pair of rollers in said casing having their ends in close contiguity to the ends of the casing, to form an inlet way for dust leading to said air exhausting passage, and strips of flexible material maintained in close contiguity to the outer sides of the rollers, said rollers projecting from the bottom of the casing to sustain and guide the same, substantially as described.

2. In a dust removing implement, the combination of a casing formed with a passage adapted to lead to air exhausting apparatus, a pair of rollers in said casing having their ends in close contiguity to the ends of the casing, to form an inlet way for dust leading to said air exhausting passage, said rollers projecting from the bottom of the casing to sustain and guide the same, bearings for said rollers in the ends of the casing, and means for adjusting said bearings to or from the central longitudinal plane through the casing, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALBERT E. MOORHEAD.

Witnesses:
FRANCIS M. WRIGHT,
D. B. RICHARDS.