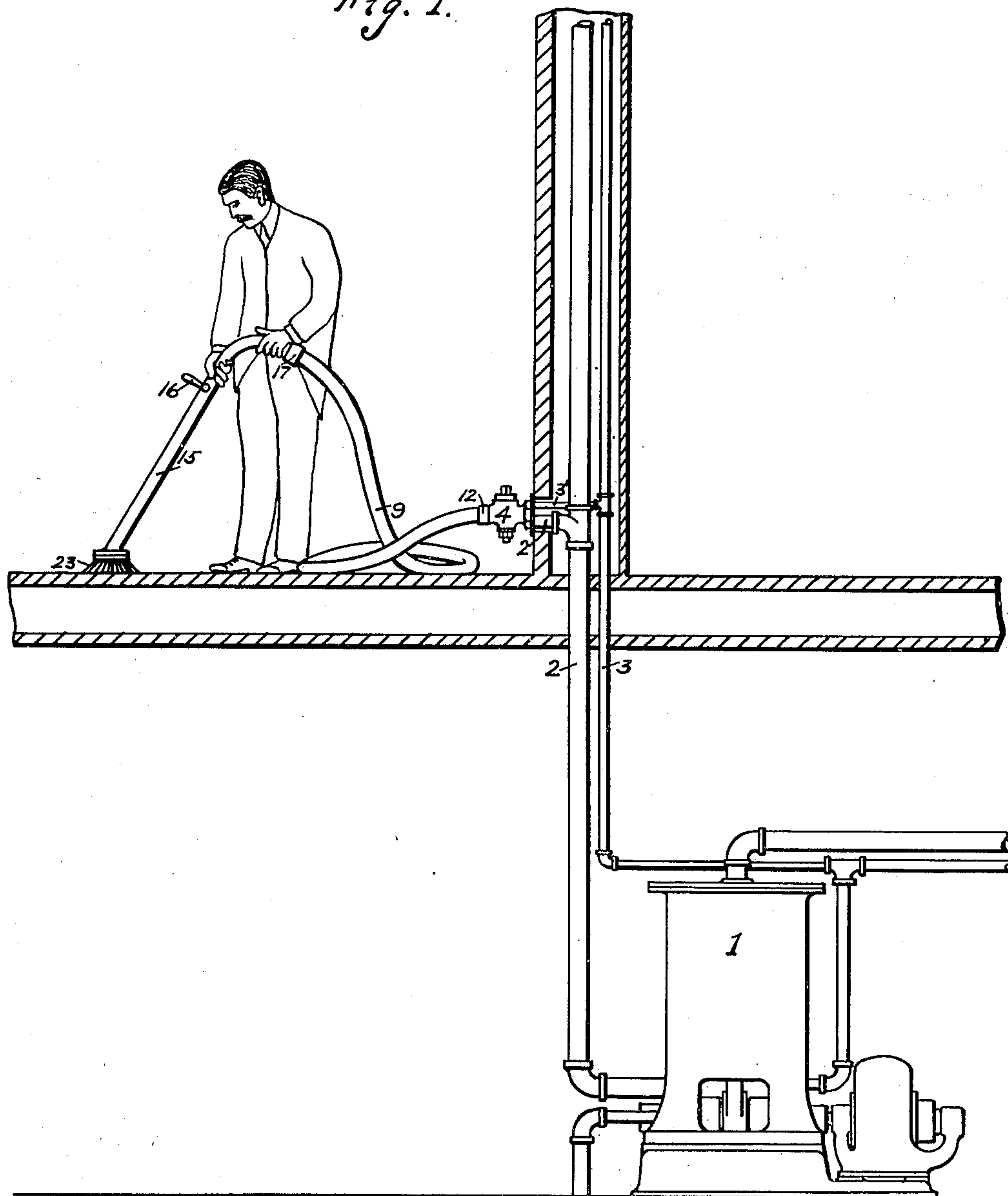


W. LOCKE & E. B. DUNN.
PNEUMATIC SUCTION CLEANING APPARATUS.
APPLICATION FILED MAY 10, 1906.

919,606.

Patented Apr. 27, 1909.
2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

R. J. Hewett.
Josephine Elliott

INVENTORS:—

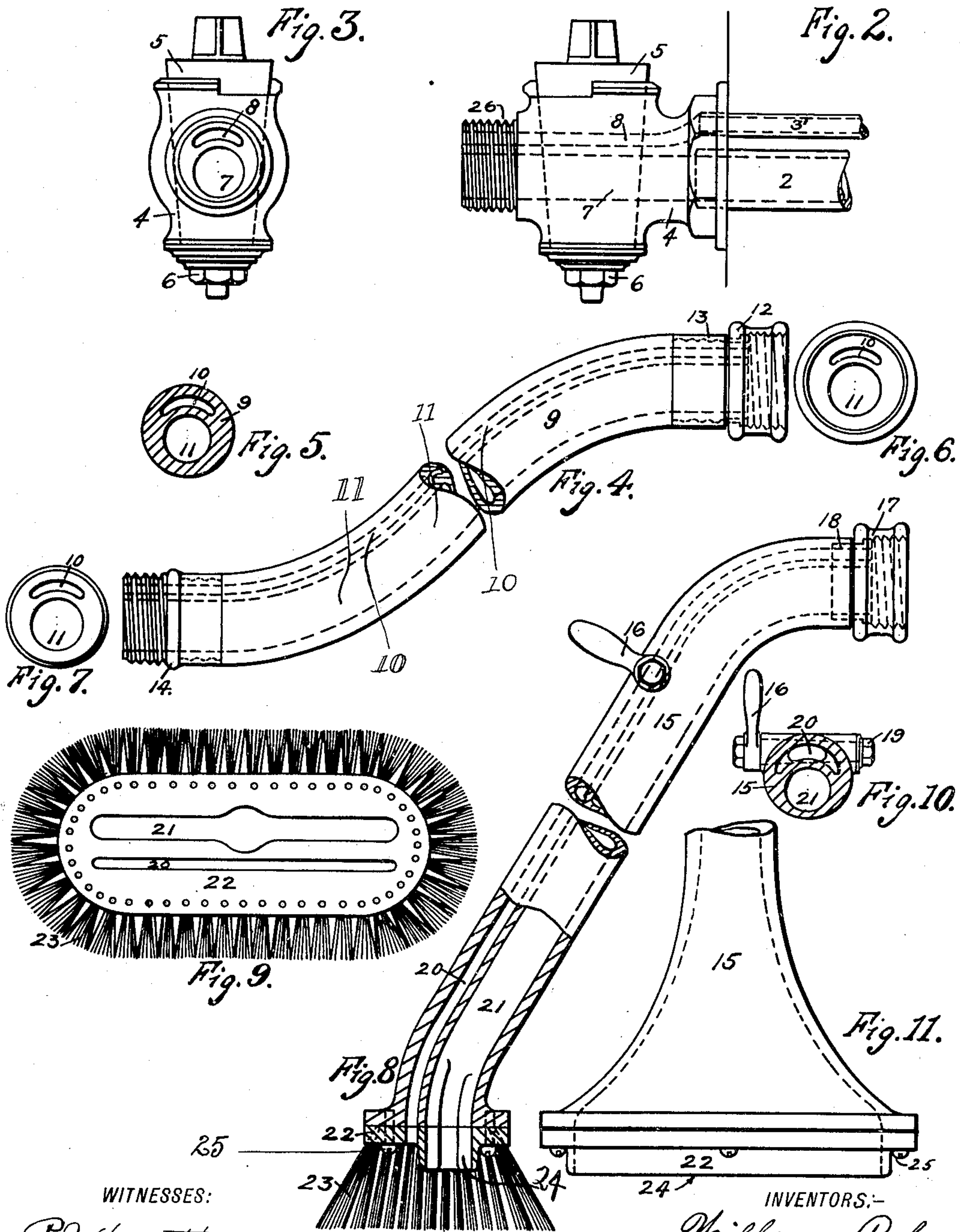
William Locke
Elias B. Dunn

W. LOCKE & E. B. DUNN.
PNEUMATIC SUCTION CLEANING APPARATUS.
APPLICATION FILED MAY 10, 1908.

919.606.

Patented Apr. 27, 1909.

2 SHEETS—SHEET 2.



WITNESSES:

R. J. Hewett.
Josephine Elliott

INVENTORS:-

William Locke.
Elias B. Dunn.

UNITED STATES PATENT OFFICE.

WILLIAM LOCKE, OF WESTFIELD, AND ELIAS B. DUNN, OF EAST ORANGE, NEW JERSEY,
ASSIGNORS, BY MESNE ASSIGNMENTS, TO VACUUM ENGINEERING COMPANY, A COR-
PORATION OF NEW YORK.

PNEUMATIC SUCTION CLEANING APPARATUS.

No. 919,606.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed May 10, 1906. Serial No. 316,057.

To all whom it may concern:

Be it known that we, WILLIAM LOCKE, a citizen of the United States, and a resident of Westfield, county of Union, State of New Jersey, and ELIAS B. DUNN, a citizen of the United States, and a resident of East Orange, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Pneumatic Suction Cleaning Apparatus, of which the following is a full, clear, and complete disclosure.

Our invention relates to improvements in apparatus for cleaning and scrubbing bare floors and employing the use of water or other fluids.

The object of our invention is to provide such an apparatus that water may be supplied to the floor being cleaned, by a suitable pipe or conduit, and through the cleaning instrument, which cleaning instrument is arranged with suitable means for scrubbing or loosening the dirt from the floor, and also suitable means for carrying away the dirt and water so removed and for conveying the same to a distant suction and discharge apparatus.

For a full, clear and exact description of this form of our invention, reference may be had to the following specification and to the accompanying drawings forming a part thereof, in which

Figure 1 is a sectional view of a building showing a complete dirt-removing and suction apparatus installed therein; Fig. 2 is a side elevation of a valved tap to which the flexible pipe connecting with the cleaning instrument is attached; Fig. 3 is a front elevation of said valved tap; Fig. 4 is a view of the flexible pipe that may be connected to the cleaning instrument; Fig. 5 is a cross-section of the latter; Fig. 6 is an end view of a coupling for connecting said pipe to said valved tap; Fig. 7 is an end view of the coupling at the opposite end of said flexible pipe for connecting the same to the cleaning instrument; Fig. 8 is a side view of the cleaning and scrubbing instrument, showing the operative end thereof, partly in section; Fig. 9 is a plan view of the cleaning or scrubbing instrument, showing the handle or upper portion thereof removed; Fig. 10 is a cross-sectional view of the handle of the cleaning instrument, and showing the valve therein; and Fig. 11 is a

front elevation of the cleaning instrument with the handle attached thereto.

As shown in Fig. 1, the building in which the cleaning apparatus is installed is provided with a suction pipe 2, which is connected with a suitable device for producing the suction, as indicated at 1. A branch from this pipe is provided at each floor of the building and terminates in a valved tap 4. Adjacent to and corresponding with the suction pipe 2 is a water supply pipe 3. This also has branches at each floor of the building, as indicated at 3', and said branches are also connected to the valved tap 4. The valved tap 4 is provided with two passages 7 and 8 which correspond to, and communicate with, the pipe 2 and the water supply pipe 3, respectively, so that when the valve plug 5 is turned, both of these passages are closed and opened together. The valved tap 4 terminates in a screw threaded flange 26 to which the flexible pipe 9 is adapted to be connected. This pipe 9 is also provided with two passages 10 and 11 corresponding to the passages 8 and 7 in the valved tap 4. The flexible pipe 9 is attached to the tap 4 by means of a coupling piece 13, carrying an interiorly threaded coupling ring 12 adapted to be screwed over the screw threaded projection 26 of the valve tap 4. The cylindrical portion 15 of the handle of the cleaning instrument is also provided with two passages 20 and 21 corresponding to the passages 10 and 11 in the flexible pipe 9. The upper end of this handle is also provided with coupling means 17 and 18 adapted to be attached to the screw threaded coupling member 14 of the flexible pipe 9. The passage 20 in the handle 15 is provided with a valve 16 for shutting off the flow of water therethrough. The lower end of the handle 15 is widened laterally and corresponds in shape to the top of the brush 23. This expanded portion of the handle 15 also includes the passages 20 and 21 for the water supply and the suction, respectively. The lower surface of the top of the brush is provided with a nozzle or flange 24 which may be pressed down upon or in proximity to the surface of the floor being cleaned.

In operation, the vacuum or suction apparatus having been started, a suction is created in the pipe and passages 2, 7, 11 and 21.

When the valve of the nozzle 24 is opened, a stream of water is carried from the supply pipe 3 through the passages 8, 10 and 20 to the brush 23, said stream being controlled by
 5 the cock 16 in the handle 15. This allows the operator to flush the floor or surface being cleaned and at the same time to loosen the dirt by the usual scrubbing operation. When the dirt and water are thoroughly
 10 mixed and loosened from the surface being cleaned, the water is shut off by turning the cock 16 and the nozzle 24 is pressed down into close proximity to the said surface or floor. This allows the water and dirt to be
 15 sucked through the suction passages and into the suction apparatus, as indicated at 1.

Having thus described our invention, it will be evident that we do not wish to be limited to the exact details of construction
 20 and form herein set forth, for various changes may be made by persons skilled in the art without departing from the spirit and scope of our invention.

What we claim, and desire to protect by
 25 Letters Patent, is—

1. In a pneumatic cleaning apparatus, the combination with a pneumatic cleaning implement comprising a suction head, dirt dislodging or scrubbing means carried by said
 30 head, and an inflexible handle connected with said head, of a suction conduit and a liquid supply conduit attached to the upper end of said handle and communicating through said handle with said head for supplying liquid and pneumatic suction thereto,
 35 and means for controlling the supply of said liquid and suction in said conduits.

2. In a cleaning apparatus, the combination in a dirt dislodging implement, of an in-

flexible handle having two passages therein, 40 a flexible pipe connected with said handle and having two passages therein, a source of liquid supply and a source of pneumatic suction connected with said passages, and means in said handle for controlling the supply of said liquid. 45

3. In a cleaning apparatus, the combination of a dirt-dislodging implement, a pipe connected therewith, said pipe having a passage for a liquid and a suction passage, a
 50 valved tap in said pipe, two passages through said valved tap, whereby the fluid and the suction are controlled together, and a valve for controlling the fluid supply independently of said valved tap. 55

4. In a cleaning apparatus, a dirt-dislodging and scrubbing implement comprising a brush having openings in its back or top, a suction means and a fluid supply means communicating with said openings. 60

5. In a cleaning apparatus, a dirt-dislodging and scrubbing implement comprising a brush having openings in its back or top, fluid supply means and suction means communicating with said openings, a short flange
 65 extending from the inner surface of the top of the brush and adapted to be pressed upon or in proximity to the surface being cleaned and normally held therefrom by said brush.

In testimony whereof, we have signed our
 70 names to this specification in the presence of two subscribing witnesses, this the fourth day of May 1906.

WILLIAM LOCKE.
 ELIAS B. DUNN.

Witnesses:

JESSE J. GOLDBURG,
 WM. GOLDBURG.