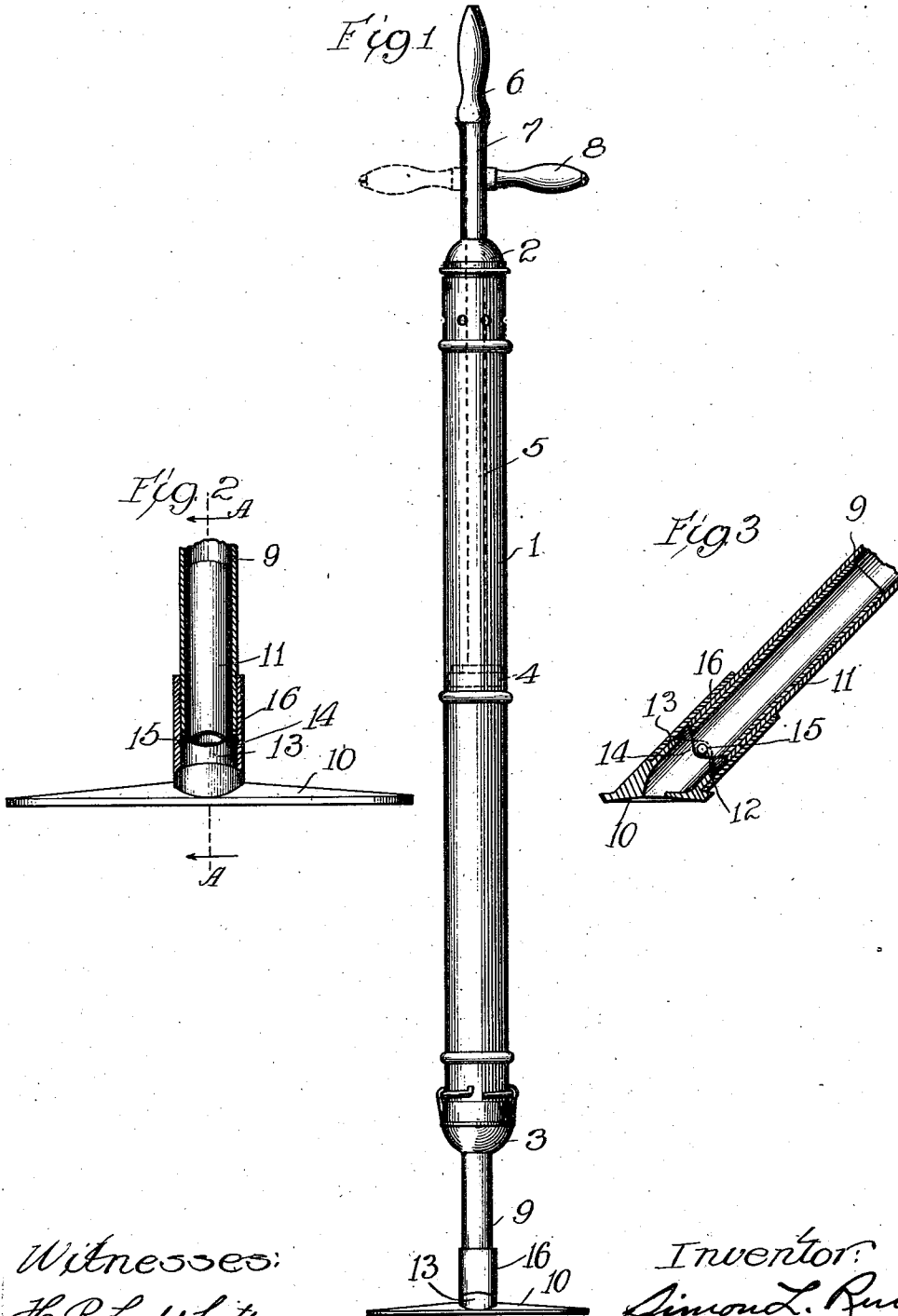


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VACUUM CLEANER.
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1,014,776.

Patented Jan. 16, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

SIMON L. RUBEL, OF CHICAGO, ILLINOIS, ASSIGNOR TO HOME VACUUM CLEANER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

VACUUM-CLEANER.

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To all whom it may concern:

Be it known that I, SIMON L. RUBEL, a citizen of the United States of America, and a resident of Chicago, Cook county, State of Illinois, have invented certain new and useful Improvements in Vacuum-Cleaners, of which the following is a specification.

The main objects of this invention are to provide an improved form of vacuum cleaners whereby the mouth or nozzle of the cleaner will be maintained in operative contact with the floor through a limited relative movement of the parts to which said joint is connected; and to provide an improved manually operated vacuum cleaner which may be readily operated either right or left handed.

A specific embodiment of this invention is shown in the accompanying drawings, in which—

Figure 1 is a front elevation of a manually operated vacuum cleaner constructed according to this invention. Fig. 2 is an enlarged detail, partly sectional, of the flexible joint. Fig. 3 is a sectional detail of the same, taken on the line A—A of Fig. 2.

In the construction shown in the drawings, the casing 1 has end caps 2 and 3 detachably connected at opposite ends. A piston 4 is mounted in said casing and connected by means of a rod 5 to a handle 6. The end cap 2 has a contracted extension 7 which serves as a guideway for the rod 5, and to which is connected a transversely disposed handle 8. The end cap 3 also has a contracted extension 9.

The flexible joint which connects the aperture or nozzle 10 with the extension 9 comprises a tube 11 adapted to have telescoping engagement therewith, and which at one end is cut away or recessed to form a pair of ears 12. The nozzle 10 has cast thereon an upstanding tubular extension 13, the end of which is recessed to form a pair of ears 14. The interior diameter of the tubular extension 13 is preferably substantially equal to the exterior diameter of the tube 11. The ears 12 are pivotally connected to the ears 14 at 15. A flexible collar, as, for example, a rubber hose 16, encircles

the extension 13 and the adjacent end of the tube 11, and renders the joint air tight. When the tube 11 is inserted into the extension 9, the collar or hose 16 also encircles the adjacent end of said extension, and thereby forms an air tight joint between the extension 9 and the tube 11.

The operation of the device is as follows: When operated right handed, the operator grasps the handle 6 in the left hand, and holds the same substantially immovable relatively to the body. The handle 8 is grasped by the right hand of the operator, and the casing 1 is given a reciprocatory movement on the plunger rod 5. By means of the handle 8, the operator also guides the nozzle 10 over the surface being cleaned. If the operator desires to use the left hand for reciprocating the casing 1, the handle 8 may be turned to the position indicated by dotted lines in Fig. 3. The telescoping of the extension 9 with the tube 11 permits of the changing of the relative positions of the handles 6 and 8, whereby the device may be interchangeably operated either right or left handed. The flexible joint permits a limited tilting movement of the casing 1 relatively to the nozzle 10, while the nozzle is kept in proper contact with the surface over which it is being moved.

Although but one specific embodiment of this invention is herein shown and described, it will be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. In a vacuum cleaner, the combination of a nozzle, a tube rigid thereon, a second tube forming an extension of the first, said tubes having their adjoining ends pivoted together, a casing having a tube telescoping said second tube, and a flexible collar encircling said tubes.

2. In a vacuum cleaner, the combination of a pump casing, a nozzle flexibly connected to the casing, the flexible connection comprising a tube insertible in the end of said casing and having a pair of ears thereon, said nozzle having a part pivotally connect-

ed to said ears, and a flexible collar encircling said tube and part.

3. In a vacuum cleaner, the combination of a nozzle, a tube rigid thereon, a second tube forming an extension of the first, said tubes having their adjoining ends pivoted together, and a flexible collar inclosing the pivotal connection between said tubes and

forming a substantially airtight joint between them.

Signed at Chicago this 30th day of July 1910.

SIMON L. RUBEL.

Witnesses:

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