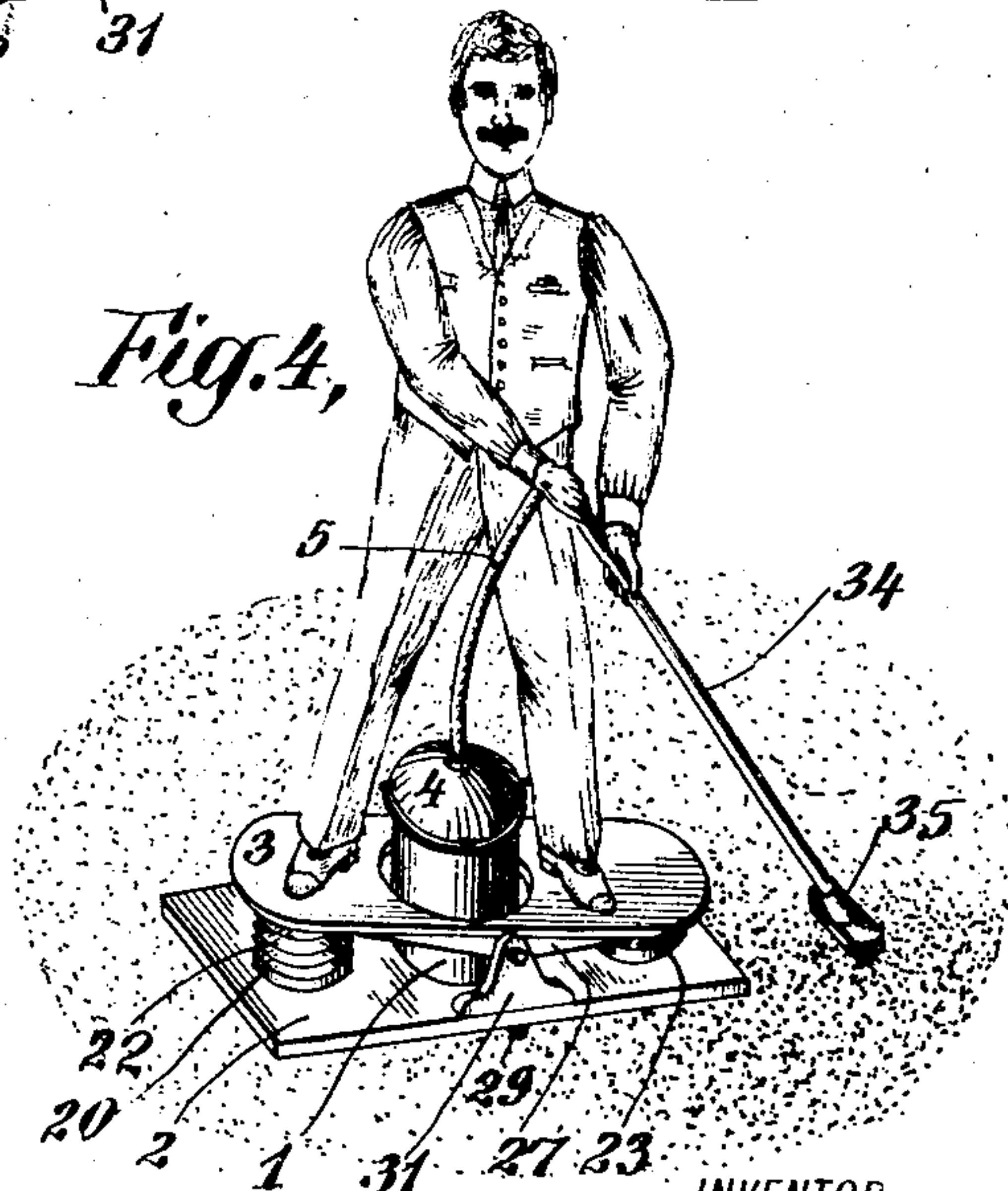
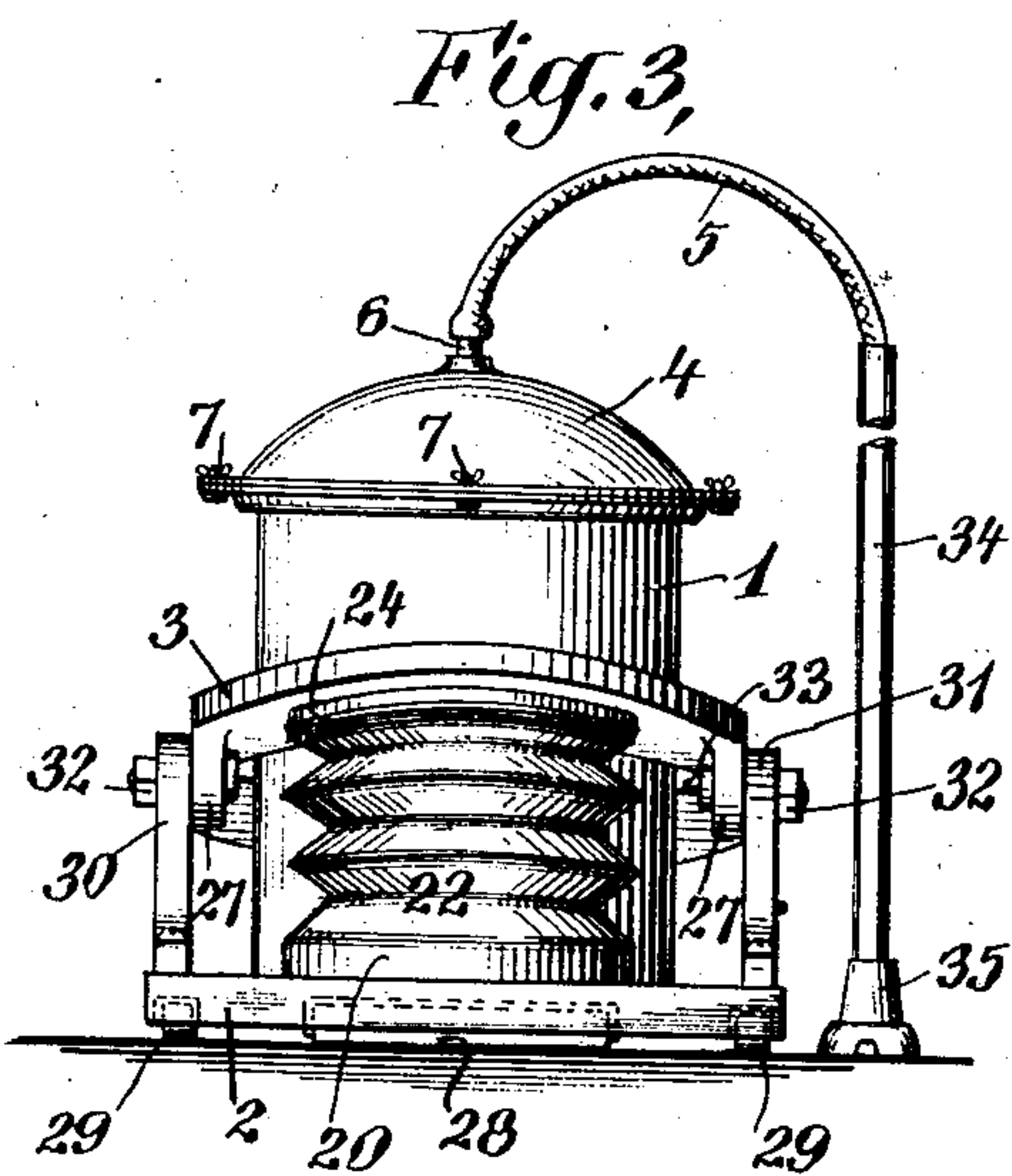
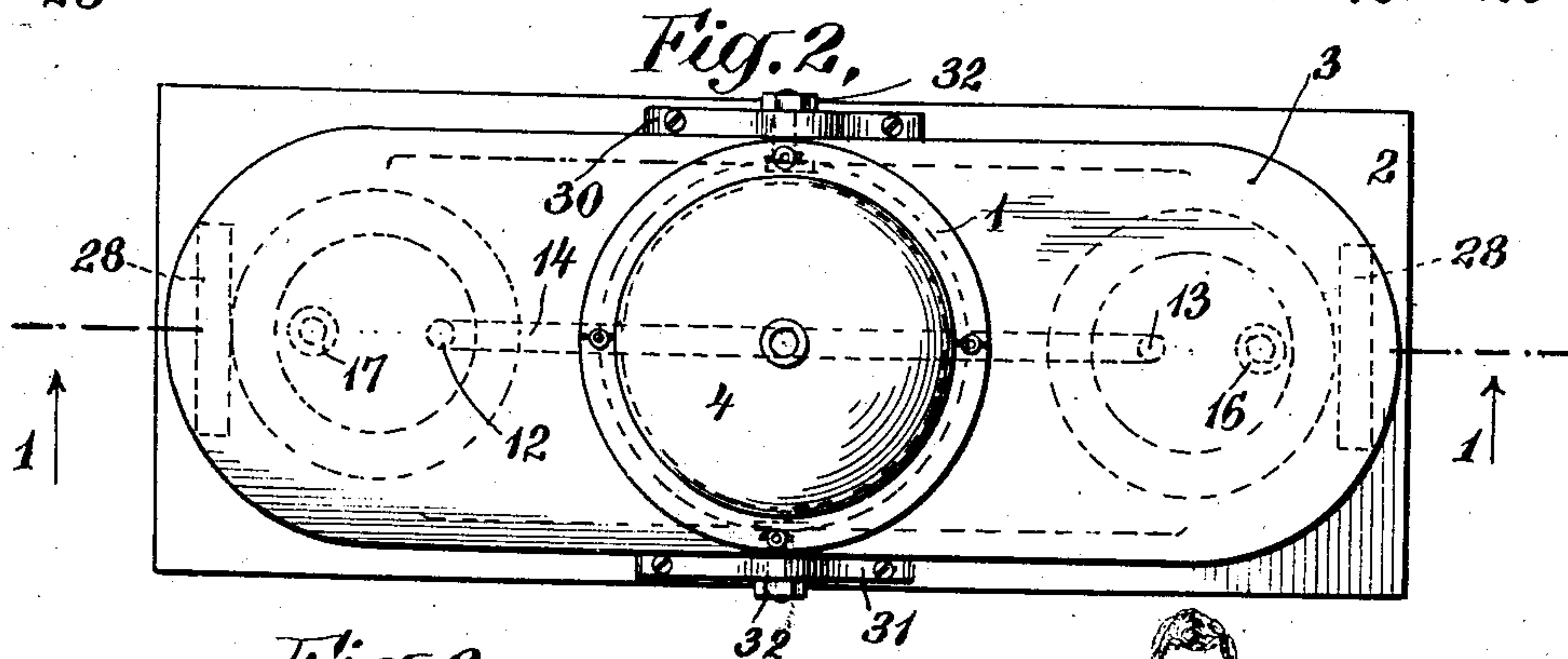
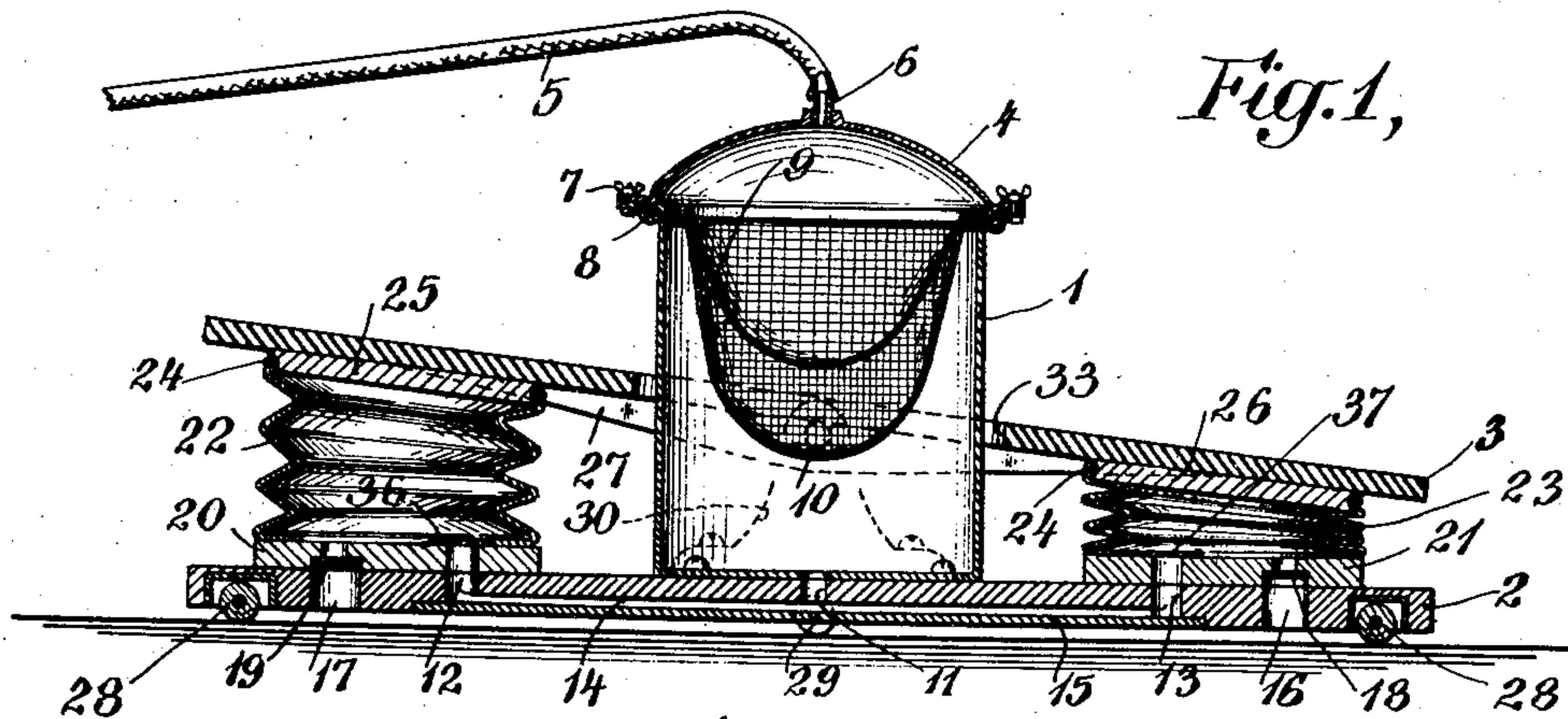


H. G. KOTTEN.  
VACUUM CLEANING APPARATUS.  
APPLICATION FILED MAY 26, 1909.

975,435.

Patented Nov. 15, 1910.



WITNESSES

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# UNITED STATES PATENT OFFICE.

HERMAN G. KOTTEN, OF ENGLEWOOD, NEW JERSEY, ASSIGNOR TO H. G. KOTTEN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## VACUUM CLEANING APPARATUS.

975,435.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed May 26, 1909. Serial No. 498,434.

*To all whom it may concern:*

Be it known that I, HERMAN G. KOTTEN, a citizen of the United States, and resident of Englewood, Bergen county, New Jersey, have made a certain new and useful Invention Relating to Vacuum Cleaning Apparatus, of which the following is a specification, taken in connection with the accompanying drawings.

This invention relates to vacuum cleaning apparatus and relates especially to vacuum cleaning apparatus actuated by the weight of the operator.

In the accompanying drawings showing in a somewhat diagrammatic manner an illustrative embodiment of this invention, Figure 1 is a longitudinal vertical section taken substantially along the line 1—1 of Fig. 2. Fig. 2 is a top view. Fig. 3 is an end elevation, and Fig. 4 is a perspective view illustrating the operation of the apparatus.

The apparatus may comprise a movable base 2 of wood or other suitable material provided, if desired, with suitable rolls or casters so as to enable it to be moved more readily. The side rolls 29 may as indicated be mounted adjacent either side of the base so as to take the weight transmitted by the brackets 30, 31 and additional bearing members may if desired be provided in the form of the end rolls 28 mounted adjacent either end of the base. A suitable support may be movably mounted in any desired way on the movable base so as to operate suitable pumping or vacuum devices by the relative movement of these parts. The support 3 may be mounted on the base as by the brackets 30 31 carrying the pivot pins 32 which may engage the side braces 27 secured to the support 3 or other suitable portions thereof. In this way the support is oscillatingly mounted with respect to the base so that when duplex suction devices are employed one may be actuated by the movement of this support in either direction. The vacuum devices may be in the form of bellows pumps comprising suitable heads, such as 25, 26 mounted on the support and base to which the flexible bellows members 22, 23, may be secured as by suitable binding members 24. If desired, however, the lower heads 20, 21 secured to the base

may have the bellows members otherwise secured to them by gluing, tacking or other means. The head 20 may be provided with a suitable discharge opening 17 which also extends through the base and with a suitable discharge valve 19 of resilient character or otherwise yieldingly held in the closed position indicated. The suction opening 12 may be closed by a similar suction valve 36 mounted upon the head 20. This suction opening as indicated in Fig. 1, communicates with a suitable suction passage 14 formed in the base and communicating with the suction opening 11 coöperating with the separating receiver 1 and with the suction opening 13 of the duplex vacuum device. The suction passage may as indicated be in the form of a suitable slot formed in the base member and having its lower side closed by the strip 15 mounted therein. The suction valve 37 mounted on the head 21 controls the suction opening 13 and this head and the coöperating part of the base, which may be provided with the discharge opening 16 controlled by the resiliently mounted discharge valve 18.

Any suitable separating receiver, such as 1, of sheet metal or other material may be mounted on the base by the screws or other means and may project through the opening 33 in the support. This receiver may be provided with a suitable cover 4 removably held thereto by the wing nuts 7 or other fastening members which bring the cover down into engagement with the packing 8 in a suitable groove in the receiver so as to make a tight joint. Suitable screens 9, 10 of cloth or other material may be removably mounted within the receiver in any desired way so as to intercept and collect the dust and other material drawn through the hose connection 5, the end of which engages the nipple 6 in the cover. This hose or vacuum connection 5 may connect, as indicated in Figs. 3 and 4, with a suitable nozzle handle or suction tube 34 so as to exert the desired suction action on the suction nozzle 35.

The apparatus may be operated in any desired way by the weight of the operator who may stand upon the oscillating support and as the suction nozzle 35 is moved alternately back and forth over the floor a



rocking motion is naturally imparted to the support which actuates the suction devices and creates a powerful suction action in the connected receiver and suction nozzle. The operator can of course by exerting sufficient force on the nozzle handle push the apparatus along the floor to the desired extent while it is being operated, so that it is possible without interrupting the operation of the apparatus to clean a considerable floor area by the weight of the operator which may of course be partly sustained by the nozzle handle or otherwise.

Having described this invention in connection with illustrative embodiments, proportions and devices, to the details of which disclosure the invention is not of course to be limited, what is claimed as new and what is desired to be secured by Letters Patent is set forth in the appended claims.

I claim—

1. In vacuum cleaning apparatus, a movable base provided with supporting rolls, brackets mounted on said base substantially in line with said rolls, a support oscillatingly mounted on said brackets, duplex suction pumps mounted at either end of said base to be operated by the movement of said support in either direction by the weight of an operator, said suction pumps each comprising heads secured to said support and base, a flexible bellows member connected to said heads, and valves, there being a suction passage formed by providing a slot in said base, a cover strip mounted in said base coöperating with said slot to close said suction passage, a separating receiver mounted on said base adjacent the central portion thereof and projecting through an aperture in said support and connected with said suction passage by a suction opening in said base, screens removably mounted in said receiver, a cover removably mounted on said receiver and having a flexible suction connection secured thereto, a suction nozzle and nozzle handle of such length as to be engaged by an operator upon said support, said nozzle being operatively connected with said flexible suction connection.

2. In vacuum cleaning apparatus, a movable base, brackets mounted on either side of said base, a support oscillatingly mounted on said brackets, duplex suction devices mounted at either end of said base to be operated by the movement of said support in either direction by the weight of an operator, a separating receiver mounted on said base adjacent the central portion thereof, located between said brackets, projecting through an aperture in said support and operatively connected with said suction devices, a suction nozzle operatively connected with said receiver and a connected nozzle handle of such length as to be engaged by an operator on said support.

3. In vacuum cleaning apparatus, a movable base provided with supporting rolls, brackets mounted on said base, a support oscillatingly mounted on said brackets, duplex suction pumps mounted at either end of said base to be operated by the movement of said support by the weight of an operator, said suction pumps each comprising heads, a flexible bellows member and valves, a separating receiver mounted on said base adjacent the central portion thereof and projecting above said support and connected with said suction pumps, a screen removably mounted in said receiver, a suction nozzle operatively connected with said receiver and a connected nozzle handle of such length as to be engaged by the operator on said support.

4. In vacuum cleaning apparatus, a movable base, a support oscillatingly mounted on said base, duplex suction devices mounted at either end of said base to be operated by the movement of said support in either direction, a separating receiver connected with said suction devices, a suction nozzle operatively connected with said receiver and having a connected nozzle handle.

5. In vacuum cleaning apparatus, a movable base, a support oscillatingly mounted on said base to be engaged at separated points by each of the feet of the operator and oscillated by his weight, a suction device operatively connected to said support, a separating receiver mounted on said base and connected with said suction device, a suction nozzle and handle operatively connected with said receiver, said nozzle handle having such length as to extend from the surface on which said base rests and be engaged by said operator and partly sustain his weight as said support is oscillated.

6. In vacuum cleaning apparatus, a movable base, a support movably mounted on said base to be engaged at separated points by each of the feet of an operator and oscillated by his weight, a suction device operatively connected to said support, a separating receiver operatively connected to said suction device and a suction nozzle and handle operatively connected to said receiver.

7. In vacuum cleaning apparatus, a movable base, a support movably mounted on said base to be operated by the weight of an operator, duplex suction devices operatively connected with either end of said support, a separating receiver mounted on said base and projecting above said support, an operatively connected suction nozzle and a nozzle handle of such length as to be engaged by an operator upon said support.

8. In vacuum cleaning apparatus, a movable base, a support movably mounted on said base to be operated by the weight of an operator, a plurality of suction devices operatively connected with said support to be operated by its movements in different direc-



tions, a separating receiver operatively connected with said suction devices, a suction nozzle operatively connected with said receiver and having a connected nozzle handle of such length as to be engaged by an operator upon said support.

9. In vacuum cleaning apparatus, a movable base, an oscillating support movably mounted adjacent its central portion on said base to be operated by the weight of an operator, a plurality of suction devices operatively connected with said support to be operated by its movements in different directions, a separating receiver provided adjacent the central portion of said base and operatively connected with said suction devices and having a connected nozzle handle of

such length as to be engaged by an operator upon said support.

10. In vacuum cleaning apparatus, a movable base, an oscillating support movably mounted on said base to be operated by the weight of an operator, a plurality of suction devices mounted on said base and operatively connected with said support to be operated by its movements in different directions, a separating receiver mounted on said base and operatively connected with said suction devices and a suction nozzle and handle connected with said receiver.

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