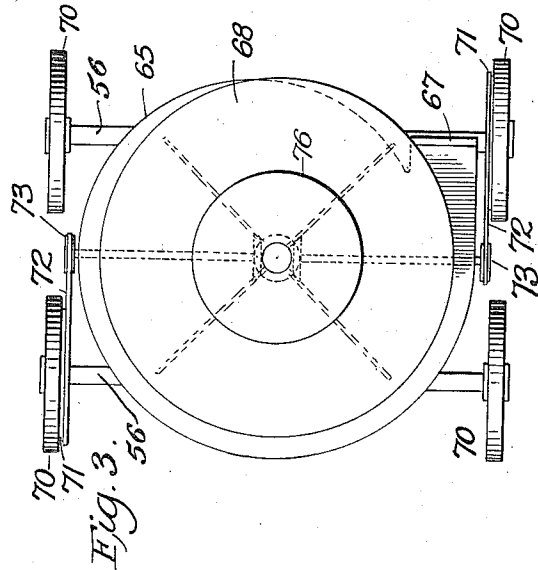


973,292.

Fig. 1. and Fig. 2. are technical drawings of a mechanical device, likely a pump or engine component. Fig. 1. shows a side view of the device, featuring a large flywheel (70) with a central hub (66) and spokes (65). A crankshaft (71) is connected to the flywheel, with a connecting rod (72) and a piston (73) visible. A lever arm (54) is attached to the piston, and a handle (55) is shown at the end of the lever. A flywheel (51) is also visible on the left side. Fig. 2. shows a top view of the device, highlighting the flywheel (70) and the lever arm (54) with its handle (55). The lever arm is connected to a piston (73) which is part of a crankshaft (71). A flywheel (51) is also visible on the left side. The drawings are labeled with various numbers indicating different parts of the mechanism.



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VACUUM-CLEANER.

973,292.

Specification of Letters Patent.

Patented Oct. 18, 1910.

Application filed May 4, 1909. Serial No. 493,763.

To all whom it may concern:

Be it known that I, IVER NIELSEN, a subject of the King of Norway, residing at New Rochelle, in the county of Westchester and State of New York, have invented new and useful Improvements in Vacuum-Cleaners, of which the following is a specification.

This invention relates to vacuum cleaners and it has for its object to construct a device of this character which shall be simple, inexpensive and efficient and which shall be mounted upon wheels from which the motive power may be derived for an exhaust pump whereby a volume of air carrying the dirt will be conveyed into a filtering receptacle which retains the dirt and permits the air to escape as will be presently more fully described.

A further object of the invention is to construct a device of this character in which the pump will be operated continuously by the rearward as well as by the forward movement of the frame.

A still further object of the invention is to provide a construction whereby the pump which in this instance consists of a rotary blower shall be mounted to operate in a horizontal plane so as to present a low apparatus which may be conveniently pushed under beds, couches and similar furniture for the purpose of cleaning the floor thereunder without necessity of moving the furniture.

Still further objects of the invention are to simplify and improve the general construction and operation of a device of the character referred to.

With these and other ends in view which will readily appear as the nature of the invention is better understood the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being however understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawing: Figure 1 is a side eleva-

tion of a machine constructed in accordance with the invention. Fig. 2 is a front view of the same. Fig. 3 is a top plan view.

Corresponding parts in the several figures are denoted by like characters of reference.

In carrying this invention into practical operation, I employ a suction fan or pump which in the accompanying drawing has been illustrated as consisting of a rotary blower of ordinary conventional construction, the casing of said blower which is designated 65 being arranged horizontally, the axle or shaft 66 being vertically disposed and the eye or inlet of the fan case being equipped with an upwardly extending pipe 69; the outlet 67 of the pump casing is presented in a rearward direction at one side of the casing.

The filter or strainer of the device comprises a flat cylindrical casing 68 which is supported above and spaced from the pump casing by means of lugs or brackets 50, said casing having an outlet which communicates with the inlet 69 of the pump casing. The strainer casing is provided with an inlet pipe 51 equipped with a suitably constructed mouth piece 75 adapted to engage the surface that is to be cleaned. The strainer casing is also provided with a straining or filtering diaphragm as indicated at 52 in dotted lines in Fig. 1 and a suitable lid or hand hole is to be provided whereby access may be had to the interior of the casing for the purpose of removing the dirt therefrom.

The pump casing is provided with trunnions 53 pivotally supporting a yoke 54 having a handle 55 connected therewith. The pump casing is supported upon a pair of axles 56 having wheels 70. The front and rear wheels at opposite sides of the machine are provided with pulleys 71 which may be formed or otherwise firmly secured thereon, said pulleys being connected by means of belts 72 with pulleys 73 at the outer ends of the shaft 73^a which are supported in suitable bearings upon the underside of the truck casing, said shafts being provided at their inner ends with bevel pinions 73^b meshing with a similar pinion 74 on the lower end of the vertical shaft 66 carrying the fan. Casings 58 have been shown containing suitable clutches of conventional well known form whereby motion will be

transmitted to the pinion 74 from one of the wheels 70 when the machine is pushed in a forward direction and from the opposite wheel 70 when the machine is moved rearwardly.

It will be seen from the foregoing description taken in connection with the drawings hereto annexed that a simple and convenient construction is provided whereby the exhaust pump or fan will be continuously driven when the machine is moved to and fro over the floor by means of the handle. A machine is furthermore provided which is low or squat in form so that it may be conveniently pushed under various articles of furniture for the purpose of cleaning the floor or carpet thereunder.

The partial vacuum created by the motion of the pump or blower causes an inrush of air through the surface engaging mouth piece 75, the air being charged with dirt particles from the surface over which the mouth piece is guided; the dirt laden air is conveyed into the filtering casing where the dirt particles are removed by the strainer, the comparatively pure air passing through the pump casing and to the atmosphere.

In the drawings has been illustrated the casing 76 of a suitable motor which may be mounted upon an extension of the shaft 66 above the pump casing, the motor constituting an auxiliary or alternate method of op-

erating the pump, but this may be and is preferably dispensed with.

Having thus described the invention, what is claimed is—

In a device of the character described, a horizontally disposed flat cylindrical pump casing, a pump operating shaft extending vertically therethrough and having a beveled pinion at its lower end, a strainer containing casing supported above the pump casing and having an outlet connected with the inlet of the pump casing, an inlet connected with the pump casing and having a surface engaging mouth piece, axles supporting the pump casing and having carrying wheels, shafts supported adjacent to the underside of the pump casing and provided at their inner ends with beveled pinions meshing with the pinion upon the pump operating shaft, and means for transmitting motion to said shafts from the carrying wheels to drive the pump operating shaft continuously in one direction when the machine is moved forwardly and rearwardly.

In testimony whereof I affix my signature in presence of two witnesses.

IVER NIELSEN.

Witnesses:

JAMES F. DUHAMEL,
MAE W. CLINTON.