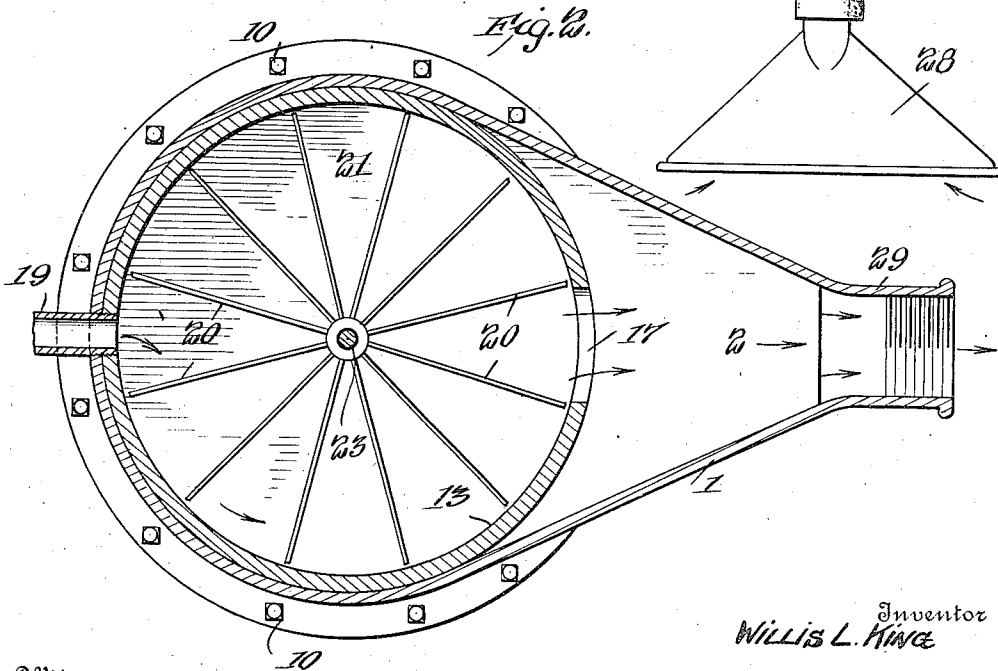
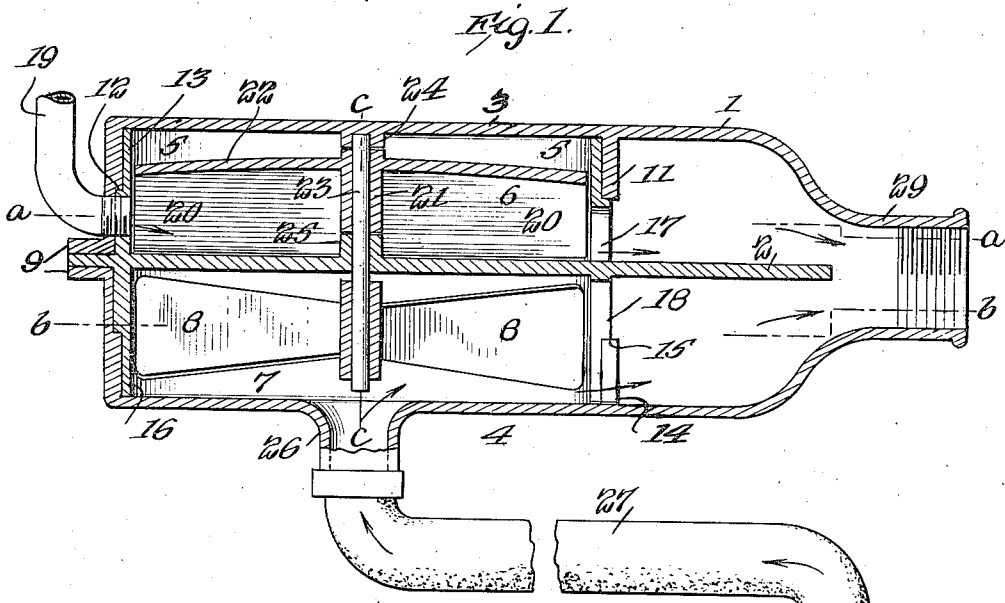


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 VACUUM PRODUCER.  
 APPLICATION FILED FEB. 28, 1912.

1,041,634.

Patented Oct. 15, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS-SHEET 2.

Fig. 3.

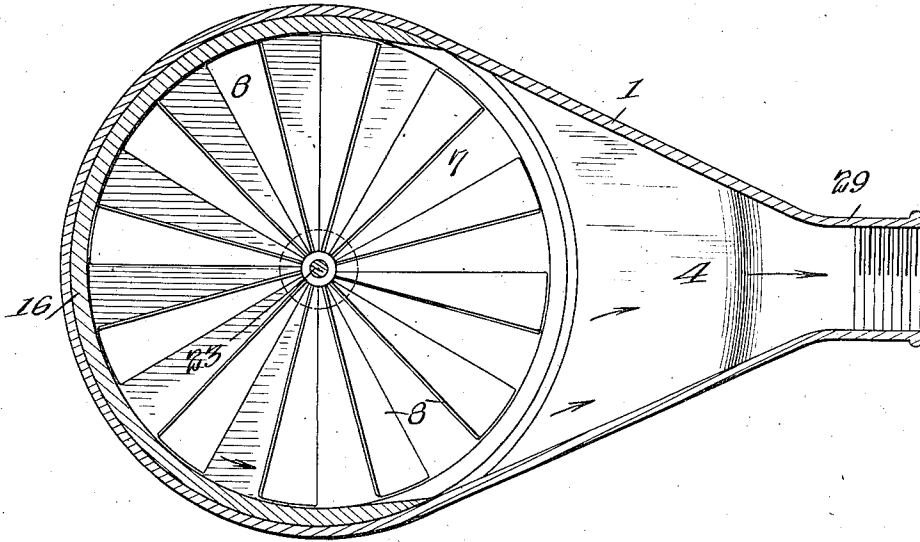
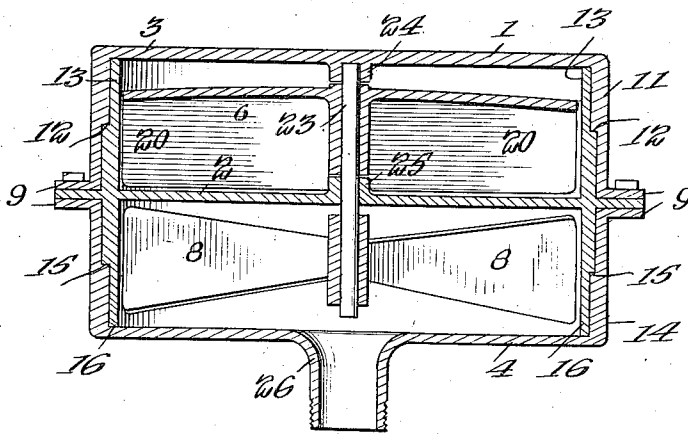


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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VACUUM-PRODUCER.

1,041,634.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed February 28, 1912. Serial No. 680,418.

*To all whom it may concern:*

Be it known that I, WILLIS L. KING, a citizen of the United States, residing at Phenix, in the county of Kent and State of Rhode Island, have invented new and useful Improvements in Vacuum-Producers, of which the following is a specification.

This invention is an improved vacuum cleaning apparatus designed particularly for household use and adapted to be operated by water power.

The object of the invention is to provide an improved device of this character which may be readily attached to an ordinary water faucet, preferably above a sink and which is operated by the force of the water from the faucet, is extremely cheap, is simple, is strong and durable and is not likely to get out of order.

The invention consists in the construction, combination and arrangement of devices, hereinafter described and claimed.

In the accompanying drawing:—Figure 1 is a vertical central sectional view of a vacuum cleaning apparatus constructed in accordance with my invention. Fig. 2 is a sectional view on the plane indicated by the line *a—*a** of Fig. 1 and intersecting the water wheel. Fig. 3 is a similar view on the plane indicated by the line *b—*b** of Fig. 1 and intersecting the fan which creates the vacuum. Fig. 4 is a transverse sectional view on the plane indicated by the line *c—*c** of Fig. 1.

The casing 1 of my improved vacuum cleaning apparatus comprises a central plate 2 and a pair of members 3—4. The members 3—4 are arranged on opposite sides of the plate 2 and are hollowed on the sides which are opposed to the said plate so that a chamber 5 for the reception of a water wheel 6 is formed in the member 3 and a chamber 7 for the reception of an exhaust fan 8 is formed in the member 4. The said members 3 and 4 are formed at their outer sides, at their opposing edges, with flanges 9 which bear against opposite sides of the partition plate 2 and are secured thereto by bolts 10, whereby the members of the casing and the partition plate are detachably secured together. The chamber 5 is formed by an annular wall 11 with which the casing member 3 is provided, the said wall being recessed on its inner side as at 12 to receive a correspondingly shaped annular wall 13 which is formed on one side of the plate 2.

The chamber 7 of the casing member 4, and in which the exhaust fan 8 operates is formed by an annular wall 14 formed integrally with the said casing member and which is provided with a recess 15 on its inner side and a correspondingly shaped annular wall 16 which is formed integrally with the plate 2. An opening 17 is formed in one side of the wall 13 and an opening 18 is formed in the corresponding side of the wall 14.

A water supply pipe 19, which in practice leads from a faucet, discharges into the motor casing chamber 5 at the side thereof opposite the opening 17 and directs a stream of water under pressure against the radial blades 20 of a water wheel 21, the said water wheel comprising a disk 22, on one side of which are the radial blades 20. This water wheel is carried by a shaft 23 which is mounted in a bearing 24 formed on the inner side of the casing member 3 and is also mounted in a bearing member 25 formed in the partition plate 2. A shaft also extends into the center of the chamber 7 and the exhaust fan 8 is mounted on the said shaft.

The casing member 4 has an intake nipple 26 which is opposite and concentric with the end of the shaft 23. A hose or flexible conduit 27 is, in practice, connected to the intake nipple 26 and is provided with a suitable nozzle 28. This nozzle is adapted to be moved over the carpet or other surface to be cleaned in a well-known manner.

It will be observed upon reference to the drawings that the members 3—4 of the casing are formed at the side opposite the opening 17—18 with a common discharge nozzle or nipple 29. The water discharges from the water wheel and the chamber 5 through the said nipple 29 commingles with the dust laden air which is discharged through the opening 18 from the exhaust or suction fan so that the dust is carried off by the water discharged from the motor and, moreover, the discharge of water from the motor is availed of in assisting the operation of the fan in exhausting air through the flexible conduit.

It will be understood from the foregoing description and by reference to the drawing that my improved vacuum cleaning apparatus is exceedingly compact, inasmuch, as the water wheel and the exhaust fan are provided with a common casing and, moreover, the construction of the casing and the

water wheel and fan are such as to enable the parts of the apparatus to be readily disassembled. Moreover, the apparatus may be manufactured at minimum cost and is not likely to get out of order and requires practically no attention.

While I have herein shown and described a form of my invention, which I now consider a preferred form thereof, I would have it understood that changes may be made in the form, proportion and construction of the several parts without departing from the spirit of my invention and within the scope of the appended claim.

I claim:—

The herein described vacuum producer comprising a shaft, a water wheel and a fan carried by the shaft, a partition plate having a bearing for the shaft and through which the latter extends so that the water wheel and fan are on opposite sides of the partition plate, the said partition plate be-

ing provided also on opposite sides with annular walls inclosing the water wheel and the fan, and a pair of casing members on opposite sides of and secured to the partition plate, the said casing members having walls coacting with those of the partition plate to form chambers for the water wheel and fan, the said chambers having discharge openings, the said fan chamber having an air intake nipple and the said casing having a common discharge opening for both of the chambers, and a water pipe arranged to discharge into the water wheel chamber and against the paddles of the said water wheel.

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

WILLIS L. KING.

Witnesses:

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R. P. COULEE.