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Patent Summary

(12) Patent Application:	(11) **CA 2562810**
(54) English Title:	CENTRAL VACUUM CLEANER MULTIPLE VACUUM SOURCE CONTROL
(54) French Title:	COMMANDE DE SOURCES D'ASPIRATION MULTIPLES D'ASPIRATEUR CENTRAL

Abstract
Patent Details
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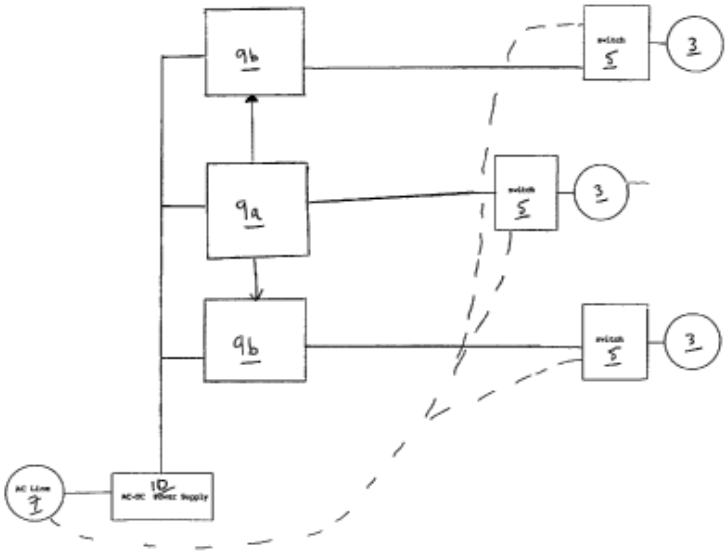
Representative Drawing



Abstracts

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English Abstract

A central vacuum cleaning system has multiple vacuum sources. The multiple vacuum
sources are connected through pipes to wall valves. In use a hose is plugged into one of the
valves. A handle is connected to the hose. A wand extends from the handle. Attachments
such as a power brush are connected to the wand. Switches apply power from one
or more
power sources to the vacuum sources. The application of power by the switches is controlled
by a control circuit.

Patent Details

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60/724,289	United States of America	2005-10-07

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1. A central vacuum cleaning system comprising:

a) a plurality of vacuum sources connected to provide parallel suction forces, each vacuum source comprising a vacuum motor,

b) a control circuit, and

c) a plurality of switches, each switch associated with a respective one of the vacuum sources,

wherein the control circuit is adapted to control the switches, and each switch is adapted to apply electrical power to its associated vacuum source in accordance with control from the control circuit, and

wherein the control circuit is connected independently to each switch and configured to control each switch independently to apply a soft start function in which the application of electrical power to the plurality of vacuum sources is coordinated to limit instantaneous total inrush current of the vacuum sources.

2. The system of claim 1 wherein:

the control circuit is a plurality of control circuits and each control circuit is associated with a respective one of the vacuum sources and one of the control circuits is adapted to act as a master control circuit while the remaining control circuits are adapted to act as slave control circuits such that each slave control circuit is adapted to control its associated switch under control of the master control circuit.

3. The system of claim 1 or 2 wherein each switch is a continuously variable

control switch that is able to apply a continuously variable amount of power.

4. The system of claim 3 wherein each switch comprises a triac.

5. The system of any one of claims 1 to 4 wherein each switch is mounted on a distinct heat sink.

6. The system of claim 5 wherein each switch and the vacuum source with which it is associated are mounted in a separate central vacuum unit.

7. The system of claim 2 wherein the master control circuit is adapted to control the slave control circuits to implement the soft start function to limit instantaneous total inrush current of the vacuum sources.

8. The system of claim 2 wherein the master control circuit and slave control circuits are adapted for master slave control using wireless RF communication.

9. A method of operating multiple vacuum sources, each vacuum source comprising a vacuum motor and connected to provide a suction force in parallel with the othe vacuum sources, in a central vacuum cleaning system, the method comprises:

   associating a plurality of switches with the vacuum sources, each switch associated with a respective one of the vacuum sources; and

   independently controlling the switches using a control circuit to apply electrical power to the vacuum sources, wherein each switch is controlled independently coordinate the application of electrical power to the plurality of vacuum sources to limit instantaneous total inrush current of the vacuum

sources.

10. The method of claim 9 wherein controlling the switches using a control circuit includes controlling the switches using a plurality of control circuits and the method further comprises associating each control circuit with a respective one of the switches.

11. The system of any one of claims 1 to 8 wherein the switches are controlled to limit instantaneous total inrush current by applying power to the vacuum sources one after the other.

12. The system of any one of claims 1 to 8 wherein the switches are controlled to limit instantaneous total inrush current by ramping up power applied to multiple vacuum sources during startup.

13. The system of any one of claims 1 to 8 wherein the switches are controlled to limit instantaneous total inrush current by a combination of applying power to the vacuum sources one after the other and ramping up power applied to multiple vacuum sources during startup.