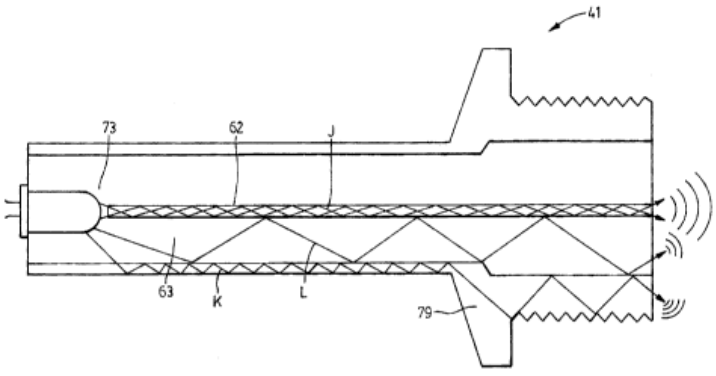
# Canadian Patents Database

## Patent Summary

| | |
|---|---|
| **(12) Patent:** | (11) **CA 2467023** |
| **(54) English Title:** | CENTRAL VACUUM CLEANING SYSTEM MOTOR CONTROL MOUNTING POST, MOUNTING CONFIGURATION, AND MOUNTING METHODS |
| **(54) French Title:** | MONTANT DE COMMANDE DE MOTEUR DE SYSTEME CENTRAL D'ASPIRATION, CONFIGURATION DE MONTAGE ET METHODES DE MONTAGES |



## Representative Drawing




## Abstracts

### English Abstract

A central vacuum cleaning system has a motor in a motor housing in a canister with a receptacle. In the motor housing is a motor control circuit with a printed circuit board. The motor control circuit is mounted to the motor housing using a mounting post having a light guide. The mounting post receives light from a light source on the printed circuit board and guides the light through the mounting post to outside the motor housing. The mounting post can guide the light through structural or non-structural elements. The light provides illuminated information messages to a user. The mounting post has a low voltage connection section for receiving low voltage conductors from outside the motor housing. As the motor control circuit is within the motor housing, the motor housing is a motor control housing. The motor control housing can be separate from the motor housing.

### French Abstract

Système d'aspirateur central comprenant un moteur placé à l'intérieur d'un boîtier de moteur, dans un autre boîtier comprenant un réceptacle. Un circuit de commande de moteur se trouve à l'intérieur du boîtier de moteur et comprend une carte de circuit imprimé. Le circuit de commande de moteur est fixé au boîtier de moteur au moyen d'un montant doté d'un guide de lumière. Le montant est éclairé par une source lumineuse placée sur la carte de circuit imprimé. La lumière traverse le montant, qui la guide jusqu'à l'extérieur du boîtier du moteur. Le montant peut guider la lumière dans des éléments de structure ou autre que de structure. La lumière transmet des messages lumineux à l'utilisateur. Le montant comporte une section de connexion à basse tension pour le raccordement de conducteurs à basse tension se trouvant à l'extérieur du boîtier du moteur. Puisque le circuit de commande de moteur est à l'intérieur du boîtier du moteur, le boîtier du moteur forme un boîtier de commande de moteur. Le boîtier de commande de moteur peut être séparé du boîtier du moteur.

---

### Patent Details

| | |
|---|---|
| **(51) International Patent Classification (IPC):** | ***A47L 5/38*** (2006.01)<br>***A47L 9/28*** (2006.01)<br>***A47L 9/30*** (2006.01) |
| **(72) Inventors (Country):** | **CUNNINGHAM, J. VERN** (Canada) |
| **(73) Owners (Country):** | **CUBE INVESTMENTS LIMITED** (Canada) |

| | |
|---|---|
| **(71) Applicants (Country):** | **CUBE INVESTMENTS LIMITED** (Canada) |
| **(74) Agent:** | **RIDOUT & MAYBEE LLP** |
| **(45) Issued:** | **2009-10-06** |
| **(22) Filed Date:** | **2004-05-12** |
| **(41) Open to Public Inspection:** | **2005-11-12** |
| **Examination requested:** | **2004-05-12** |
| **(30) Availability of licence:** | **N/A** |
| **(30) Language of filing:** | **English** |

| | |
|---|---|
| **Patent Cooperation Treaty (PCT):** | **No** |

| | |
|---|---|
| **(30) Application Priority Data:** | **None** |

### View or Download Images

Click on a link under View Patent Image to view a section of the image or click on a link under Download Patent Image in PDF format to download a section of the image in PDF format.

If you have any difficulty accessing content, you can call the Client Service Centre at 1-866-997-1936 or send them an e-mail at CIPO Client Service Centre.

Third-party disclaimer

| View Patent Image | Download Patent Image in PDF Format | Size of Image (KB) | Number of Pages |
|---|---|---|---|
| Cover Page | Cover Page | 45 | 1 |
| Abstract | Abstract | 27 | 1 |

| View Patent Image | Download Patent Image in PDF Format | Size of Image (KB) | Number of Pages |
|---|---|---|---|
| Claims | Claims | 87 | 3 |
| Description | Description | 651 | 10 |
| Drawings | Drawings | 126 | 6 |
| Representative Drawing | Representative Drawing | 10 | 1 |

PDF Readers.

Last Updated: 2012-10-23

I claim:

1. A mounting post for receiving light from a light source on a printed circuit board in a motor control circuit for use in a motor control housing of a central vacuum cleaning system, the mounting post comprising:

a) a light guide for guiding light from the light source through the mounting post for emission from the mounting post outside the motor control housing,

b) a first securing section for securing the mounting post to the motor control housing such that a portion of the mounting post is accessible from outside the motor control housing,

c) a second securing section for securing the mounting post to the printed circuit board such that the light guide receives light from the light source, and

d) a stand-off section between the first securing section and the second securing section for holding the motor control circuit from undesired contact.

2. The mounting post of claim 1, further comprising:

e) a low voltage connection section for connection to one or more low voltage conductors, the low voltage connection section forming part of that portion of the mounting post that is accessible from outside the motor control housing.

3. The mounting post of claim 1, wherein the mounting post is transparent.

4. The mounting post of claim 1, wherein the mounting post is made from polycarbonate resin.

5. The mounting post of claim 1, wherein light is guided through a structural element of the mounting post.

6. The mounting post of claim 1, wherein the standoff section comprises an elongate body within which light is guided.

7. The mounting post of claim 6, wherein the standoff section further comprises a shoulder at one end of the elongate body, the shoulder, at least in part, wider than an opening in the motor housing to prevent the mounting post from fitting through the opening.

8. The mounting post of claim 7, wherein the first securing section comprises:

a) a threaded portion extending from the shoulder, the threaded portion being smaller than the opening in the motor housing;

b) the shoulder,

c) a nut compatible with threads of the threaded portion, and being, at least in part, greater than the opening in the motor housing,

wherein, the mounting post is secured to the motor control housing by placing the threaded portion through the opening from inside the motor control housing and tightening the nut onto the threaded portion from outside the motor control housing.

9. A motor control circuit for use in a central vacuum cleaning system, the motor control circuit comprising:

a) a printed circuit board with a light source mounted to the printed circuit board,

b) and a mounting post as set out in claim 1.

10. A central vacuum cleaning system comprising:

a) a motor housing housing a motor;

b) a motor control circuit for controlling the motor, the motor control circuit having a printed circuit board with a light source mounted to the printed circuit board,

c) and a mounting post as set out in claim 1.

11. A central vacuum cleaning system canister, comprising;

a) a motor housing housing a motor;

b) a motor control circuit for controlling the motor, the motor control circuit having a printed circuit board with a light source mounted to the printed circuit board,

c) and a mounting post as set out in claim 1.

12. A method of providing central vacuum cleaning system information messages from a motor control circuit of the central vacuum cleaning system to a user, the method comprising:

a) Affixing a light source to a motor control circuit printed circuit board,

b) Securing a mounting post to the printed circuit board over the light source, wherein the mounting post is as set out in claim 1,

c) Illuminating the light source to indicate a message to be sent to the user,

d) Guiding light from the light source through the mounting post to outside the motor control housing.