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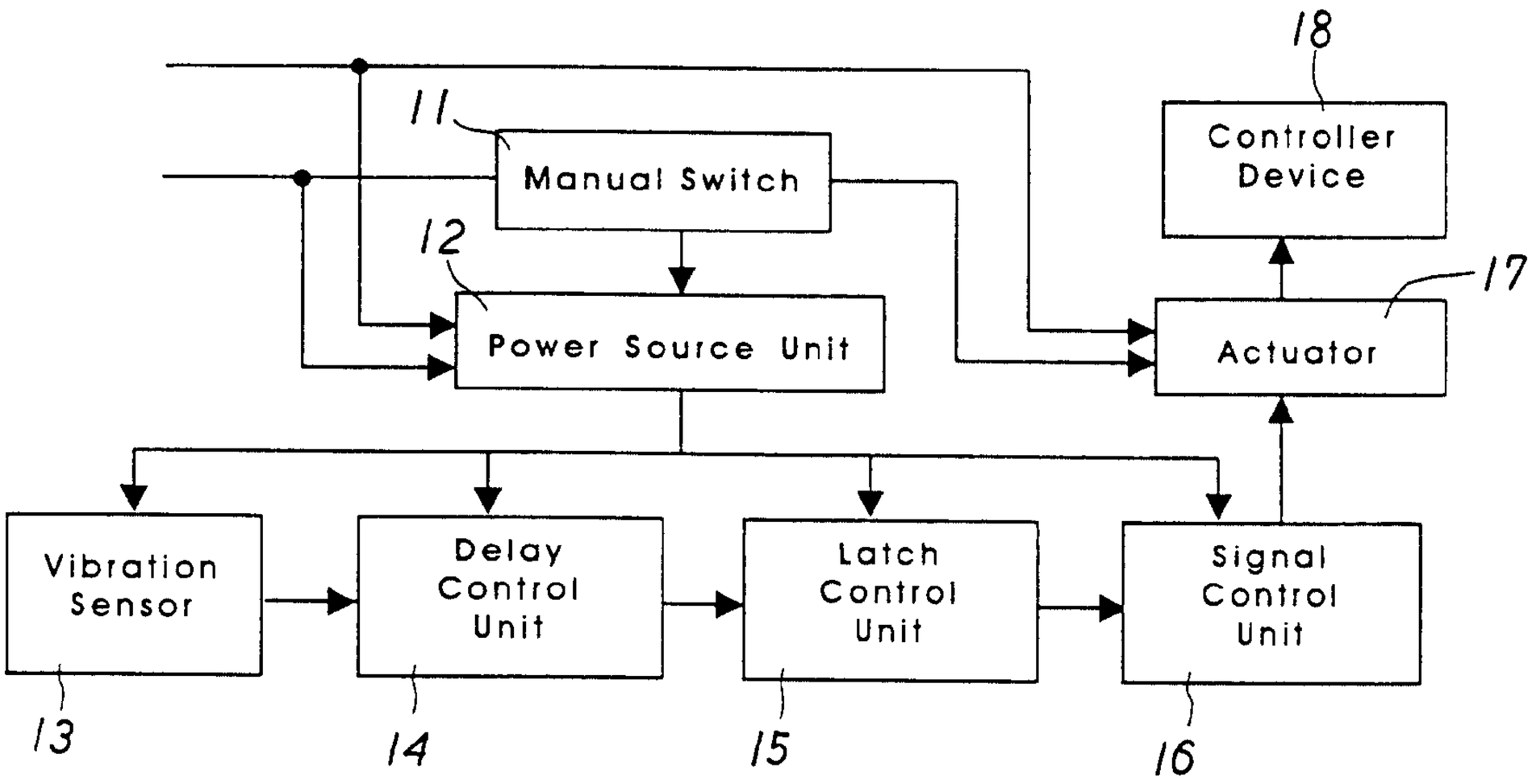
(54) Titre : CAPTEUR DE VIBRATIONS
(54) Title: VIBRATION SENSING ASSEMBLY



(57) Abrégé/Abstract:
A vibration sensing assembly is provided which is used as a vibration control switch while a user contacts the vibration sensing assembly. The assembly has a manual power switch, a power unit source, a vibration sensor, a delay control unit, a latch control unit, a signal control unit, an actuator and a controlled device. A vibration sensing assembly comprising a manual switch, a power source unit, a vibration sensor, a delay control unit, a latch control unit, a signal control unit, an actuator, and a controlled device, characterized in that the manual switch is connected to the power source unit. The power source unit is connected to the vibration sensor, the delay control unit, the latch control unit, and the signal control unit. The delay control unit is connected to the vibration sensor and the latch control unit. The signal control unit is connected to the latch control unit and the actuator. The actuator is connected to the controlled device. The vibration sensor sends an unstable signal to the delay control unit. The delay control unit delays the time period of the unstable signal and sends the unstable signal to the latch control unit. The latch control unit converts the unstable signal into a stable signal and sends the stable signal to the signal control unit. The signal control unit sends the stable signal to the actuator. The actuator drives the controlled device to operate.

ABSTRACT

A vibration sensing assembly is provided which is used as a vibration control switch while a user contacts the vibration sensing assembly. The assembly has a manual power switch, a power unit source, a vibration sensor, a delay control unit, a latch control unit, a signal control unit, an actuator and a controlled device. A vibration sensing assembly comprising a manual switch, a power source unit, a vibration sensor, a delay control unit, a latch control unit, a signal control unit, an actuator, and a controlled device, characterized in that the manual switch is connected to the power source unit. The power source unit is connected to the vibration sensor, the delay control unit, the latch control unit, and the signal control unit. The delay control unit is connected to the vibration sensor and the latch control unit. The signal control unit is connected to the latch control unit and the actuator. The actuator is connected to the controlled device. The vibration sensor sends an unstable signal to the delay control unit. The delay control unit delays the time period of the unstable signal and sends the unstable signal to the latch control unit. The latch control unit converts the unstable signal into a stable signal and sends the stable signal to the signal control unit. The signal control unit sends the stable signal to the actuator. The actuator drives the controlled device to operate.

TITLE:VIBRATION SENSING ASSEMBLY

BACKGROUND OF THE INVENTION

The present invention relates to a vibration sensing assembly. More particularly, the present invention relates to a vibration sensing assembly which is used as a vibration control switch.

Referring to FIG. 1, a first conventional pull-switch has a thread 200 connected to a fluorescent lamp 100. However, the first conventional pull-switch is easily damaged after a long period of usage.

Referring to FIG. 2, a second conventional pull-switch has a thread 400 connected to a lamp 300. However, the second conventional pull-switch is easily damaged after a long period of usage.

SUMMARY OF THE INVENTION

An object of the present invention is to provide a vibration sensing assembly which is used as a vibration control switch while a user contacts the vibration sensing assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a first conventional pull-switch of the prior art having a thread connected to a fluorescent lamp;

FIG. 2 is a perspective view of a second conventional pull-switch of the prior art having a thread connected to

a lamp;

FIG. 3 is a block diagram of a first vibration sensing assembly of a preferred embodiment in accordance with the present invention;

FIG. 4 is a block diagram of a second vibration sensing assembly of a preferred embodiment in accordance with the present invention;

FIG. 5 is a block diagram of a third vibration sensing assembly of a preferred embodiment in accordance with the present invention;

FIG. 6 is a perspective view of a ball-shaped vibration sensing assembly of a preferred embodiment in accordance with the present invention;

FIG. 7 is a schematic view illustrating a ball-shaped vibration sensing assembly of a preferred embodiment disposed on a door;

FIG. 8 is a schematic view illustrating three ball-shaped vibration sensing assembies disposed on a lamp, a window, and a door; and

FIG. 9 is a schematic view illustrating a helical cord connected to a controlled device and a ball-shaped vibration sensing assembly of a preferred embodiment.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. 3, a first vibration sensing assembly comprises a manual switch 11, a power source

unit 12, a vibration sensor 13, a delay control unit 14, a latch control unit 15, a signal control unit 16, an actuator 17 such as a relay, and a controlled device 18 such as a lamp and a fan.

The manual switch 11 is connected to the power source unit 12.

The power source unit 12 is connected to the vibration sensor 13, the delay control unit 14, the latch control unit 15, and the signal control unit 16. The delay control unit 14 is connected to the vibration sensor 13 and the latch control unit 15. The signal control unit 16 is connected to the latch control unit 15 and the actuator 17. The actuator 17 is connected to the controlled device 18.

The vibration sensor 13 sends an unstable signal to the delay control unit 14.

The delay control unit 14 delays the time period of the unstable signal and sends the unstable signal to the latch control unit 15.

The latch control unit 15 converts the unstable signal into a stable signal and sends the stable signal to the signal control unit 16.

The signal control unit 16 sends the stable signal to the actuator 17.

The actuator 17 drives the controlled device 18 to

operate.

Referring to FIG. 4, a second vibration sensing assembly comprises a power source unit 21, a vibration sensor 22, a filter unit 23, a signal selecting unit 24, a microprocessor 25, a signal output control unit 26, an actuator 27 such as a relay, and a controlled device 28.

The power source unit 21 is connected to the vibration sensor 22, the filter unit 23, the signal selecting unit 24, the microprocessor 25, the signal output control unit 26, and the actuator 27.

The filter unit 23 is connected to the vibration sensor 22 and the signal selecting unit 24.

The microprocessor 25 is connected to the signal selecting unit 24 and the signal output control unit 26.

The actuator 27 is connected to the signal output control unit 26 and the controlled device 28.

The vibration sensor 13 sends an original signal to the filter unit 23.

The filter unit 23 filters and amplifies the original signal and sends an amplified signal to the signal selecting unit 24.

The signal selecting unit 24 selects the amplified signal and sends a stable signal to the microprocessor 25.

The microprocessor 25 sends a specific signal to the signal output control unit 26.

The output control unit 26 sends the specific signal to the actuator 27.

The actuator 27 drives the controlled device 28 to operate.

Referring to FIG. 5, a third vibration sensing assembly comprises a signal emitting device 30 and a signal receiving device 40.

The signal emitting device 30 has a first power source unit 31, a vibration sensor 32, a filter unit 33, a coding modulation unit 34, and a signal emitting unit 35.

The first power source unit 31 is connected to the vibration sensor 32, the filter unit 33, the coding modulation unit 34, and the signal emitting unit 35.

The filter unit 33 is connected to the vibration sensor 32 and the coding modulation unit 34.

The coding modulation unit 34 is connected to the signal emitting unit 35.

The vibration sensor 32 sends an original signal to the filter unit 33.

The filter unit 33 filters and amplifies the original signal and sends an amplified signal to the coding modulation unit 34.

The coding modulation unit 34 sends a coding signal to the signal emitting unit 35.

The signal receiving device 40 has a second power source unit 41, a signal receiving unit 42, a decoding unit 43, a signal output control unit 44, an actuator 45 such as a relay, and a controlled device 46.

The second power source unit 41 is connected to the signal receiving unit 42, the decoding unit 43, the signal output control unit 44, and the actuator 45.

The decoding unit 43 is connected to the signal receiving unit 42 and the signal output control unit 44.

The actuator 45 is connected to the signal output control unit 44 and the controlled device 46.

The signal emitting unit 35 emits the coding signal to the signal receiving unit 42.

The signal receiving unit 42 sends the coding signal to the decoding unit 43.

The decoding unit 43 decodes the coding signal and sends a decoding signal to the signal output control unit 44.

The signal output control unit 44 sends the decoding signal to the actuator 45.

The actuator 45 drives the controlled device 46 to operate.

Referring to FIG. 6, a thread 1a is connected to a controlled device 3a and a ball-shaped vibration sensing assembly 2a.

Referring to FIG. 7, a thread 1b is connected to a door 3b and a ball-shaped vibration sensing assembly 2b.

Referring to FIG. 8, a first thread 1 is connected to a lamp 3 and a ball-shaped vibration sensing assembly 2. A second thread 1' is connected to a window 3' and a ball-shaped vibration sensing assembly 2'. A third thread 1'' is connected to a door 3'' and a ball-shaped vibration sensing assembly 2''.

Referring to FIG. 9, a helical cord 1c is connected to a controlled device 3c and a ball-shaped vibration sensing assembly 2c.

I CLAIM:

1. A vibration sensing assembly comprising a manual switch, a power source unit, a vibration sensor, a delay control unit, a latch control unit, a signal control unit, an actuator, and a controlled device, characterized in that:

the manual switch is connected to the power source unit,

the power source unit is connected to the vibration sensor, the delay control unit, the latch control unit, and the signal control unit,

the delay control unit is connected to the vibration sensor and the latch control unit,

the signal control unit is connected to the latch control unit and the actuator,

the actuator is connected to the controlled device,

the vibration sensor sends an unstable signal to the delay control unit,

the delay control unit delays the time period of the unstable signal and sends the unstable signal to the latch control unit,

the latch control unit converts the unstable signal into a stable signal and sends the stable signal to the signal control unit,

the signal control unit sends the stable signal to the actuator, and

the actuator drives the controlled device to operate.

2. A vibration sensing assembly comprising a power source unit, a vibration sensor, a filter unit, a signal selecting unit, a microprocessor, a signal output control unit, an actuator, and a controlled device, characterized in that:

the power source unit is connected to the vibration sensor, the filter unit, the signal selecting unit, the microprocessor, the signal output control unit, and the actuator,

the filter unit is connected to the vibration sensor and the signal selecting unit,

the microprocessor is connected to the signal selecting unit and the signal output control unit,

the actuator is connected to the signal output control unit and the controlled device,

the vibration sensor sends an original signal to the filter unit,

the filter unit filters and amplifies the original signal and sends an amplified signal to the signal selecting unit,

the signal selecting unit selects the amplified signal and sends a stable signal to the microprocessor,

the microprocessor sends a specific signal to the

signal output control unit,

the output control unit sends the specific signal to the actuator, and

the actuator drives the controlled device to operate.

3. A vibration sensing assembly comprising a signal emitting device and a signal receiving device, characterized in that:

the signal emitting device has a first power source unit, a vibration sensor, a filter unit, a coding modulation unit, and a signal emitting unit,

the first power source unit is connected to the vibration sensor, the filter unit, the coding modulation unit, and the signal emitting unit,

the filter unit is connected to the vibration sensor and the coding modulation unit,

the coding modulation unit is connected to the signal emitting unit,

the vibration sensor sends an original signal to the filter unit,

the filter unit filters and amplifies the original signal and sends an amplified signal to the coding modulation unit,

the coding modulation unit sends a coding signal to the signal emitting unit,

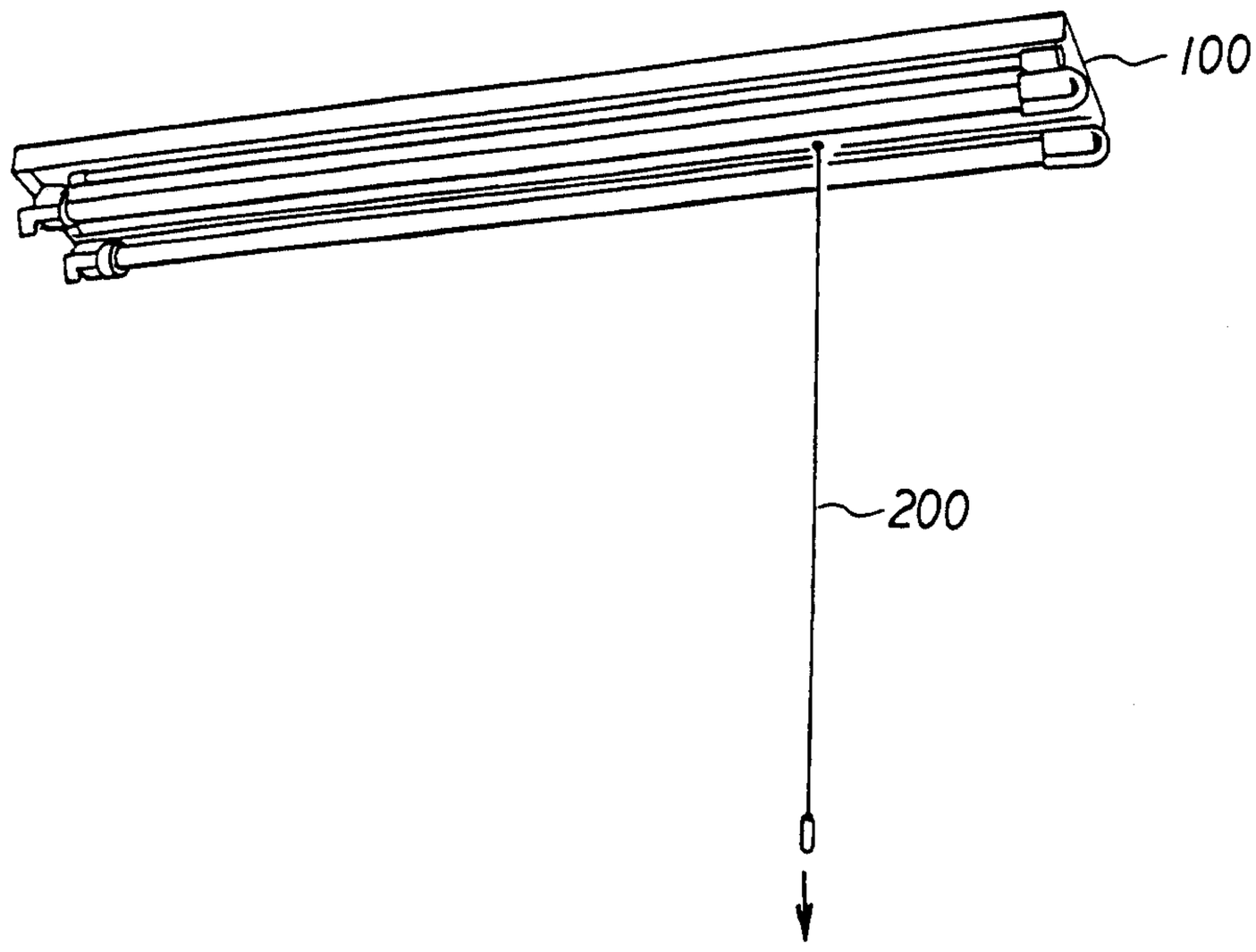


FIG. 1 (PRIOR ART)

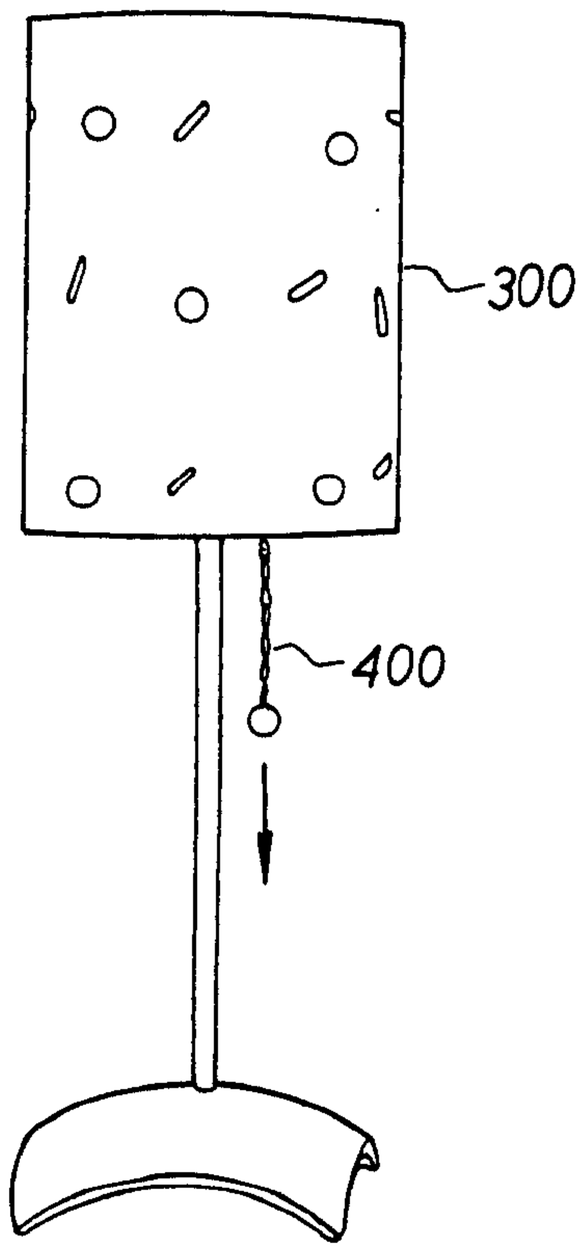


FIG. 2 (PRIOR ART)

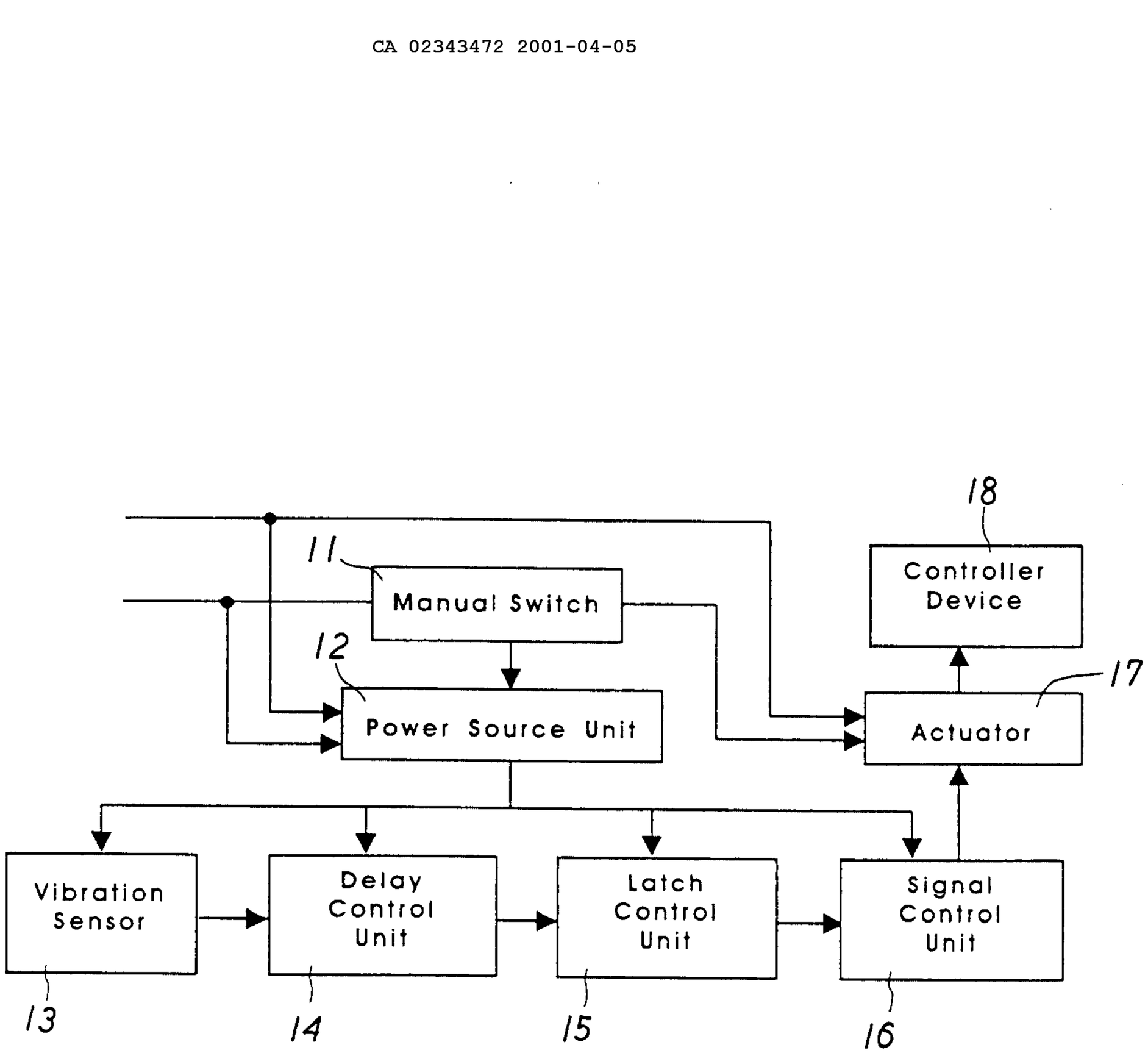

18
11
Manual Switch
12
Power Source Unit
Controller Device
17
Actuator
Vibration Sensor
Delay Control Unit
Latch Control Unit
Signal Control Unit
13
14
15
16

FIG.3

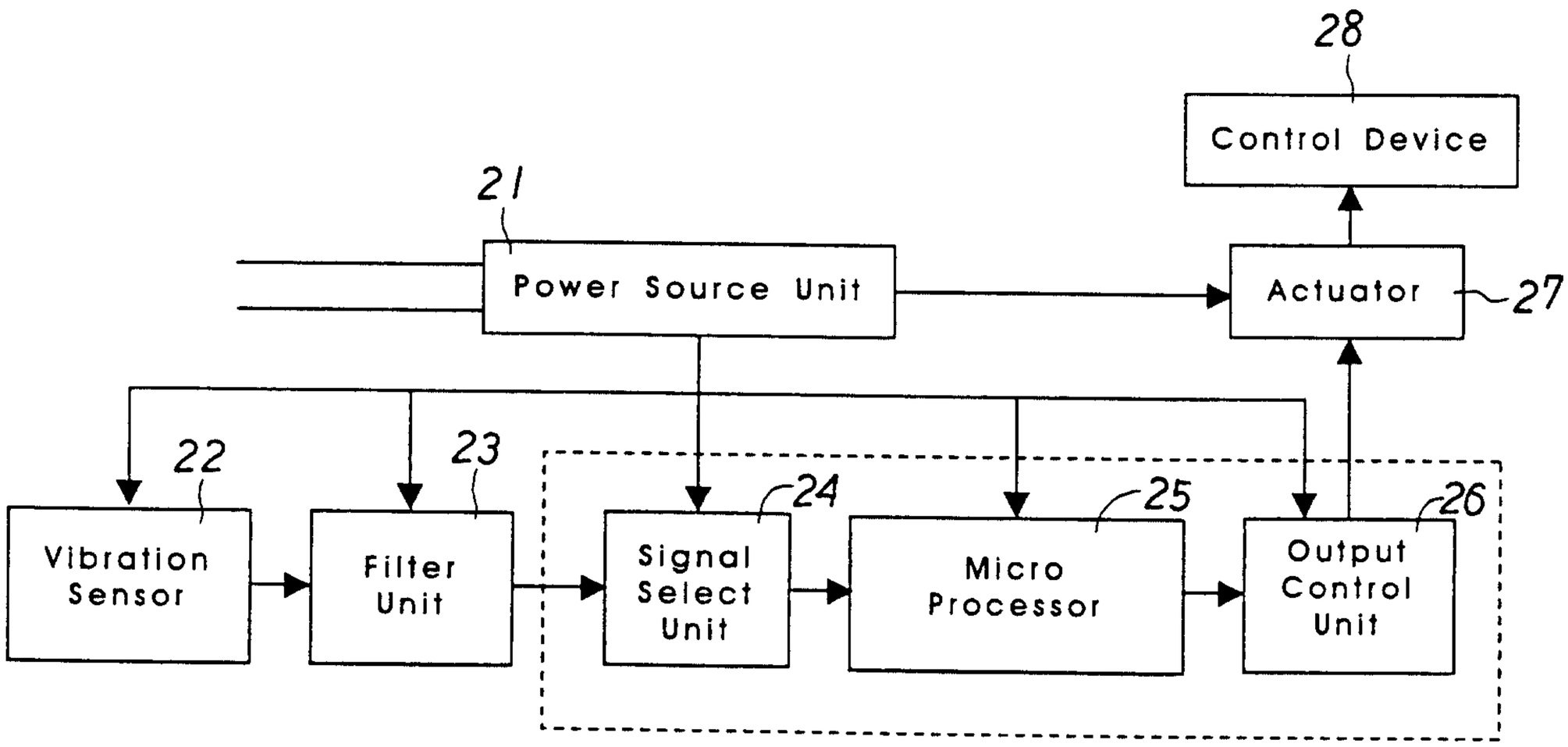

28
Control Device
21
Power Source Unit
Actuator
27
22
23
24
25
26
Vibration Sensor
Filter Unit
Signal Select Unit
Micro Processor
Output Control Unit

FIG.4

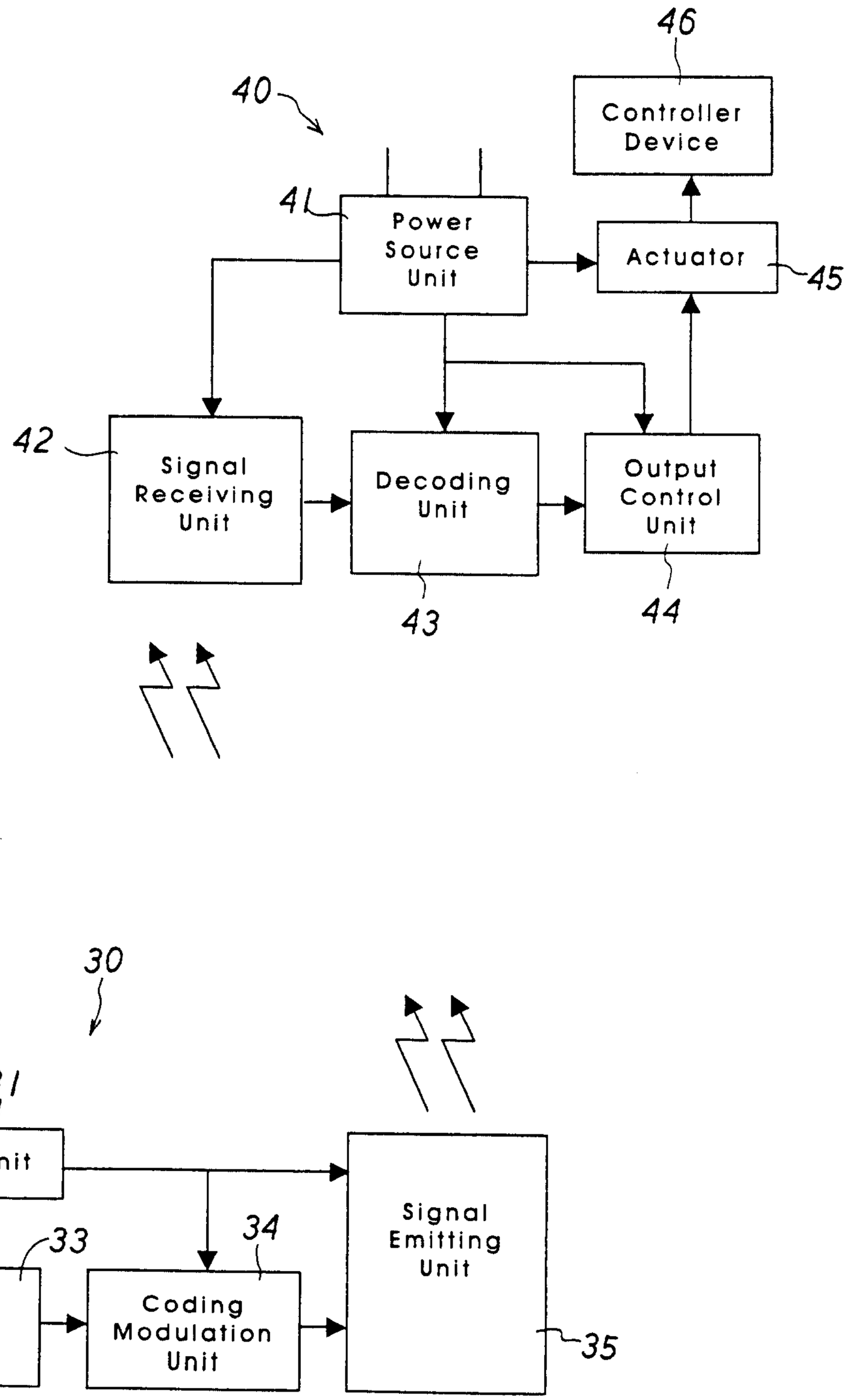

40
46
Controller Device
41
Power Source Unit
Actuator
45
42
Signal Receiving Unit
Decoding Unit
Output Control Unit
43
44
30
31
Power Source Unit
32
33
34
Vibration Sensor
Filter Unit
Coding Modulation Unit
Signal Emitting Unit
35

FIG.5

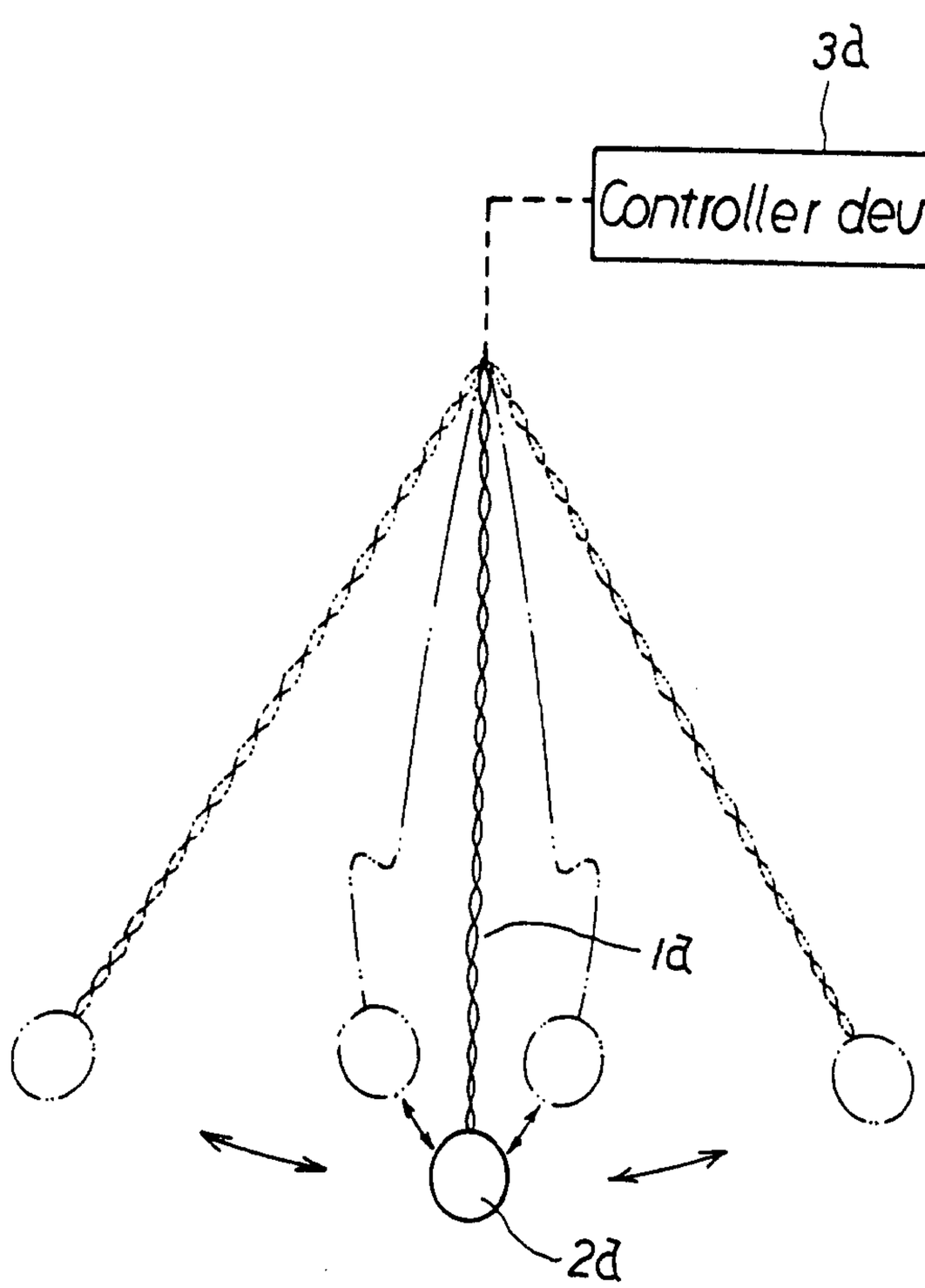


FIG. 6

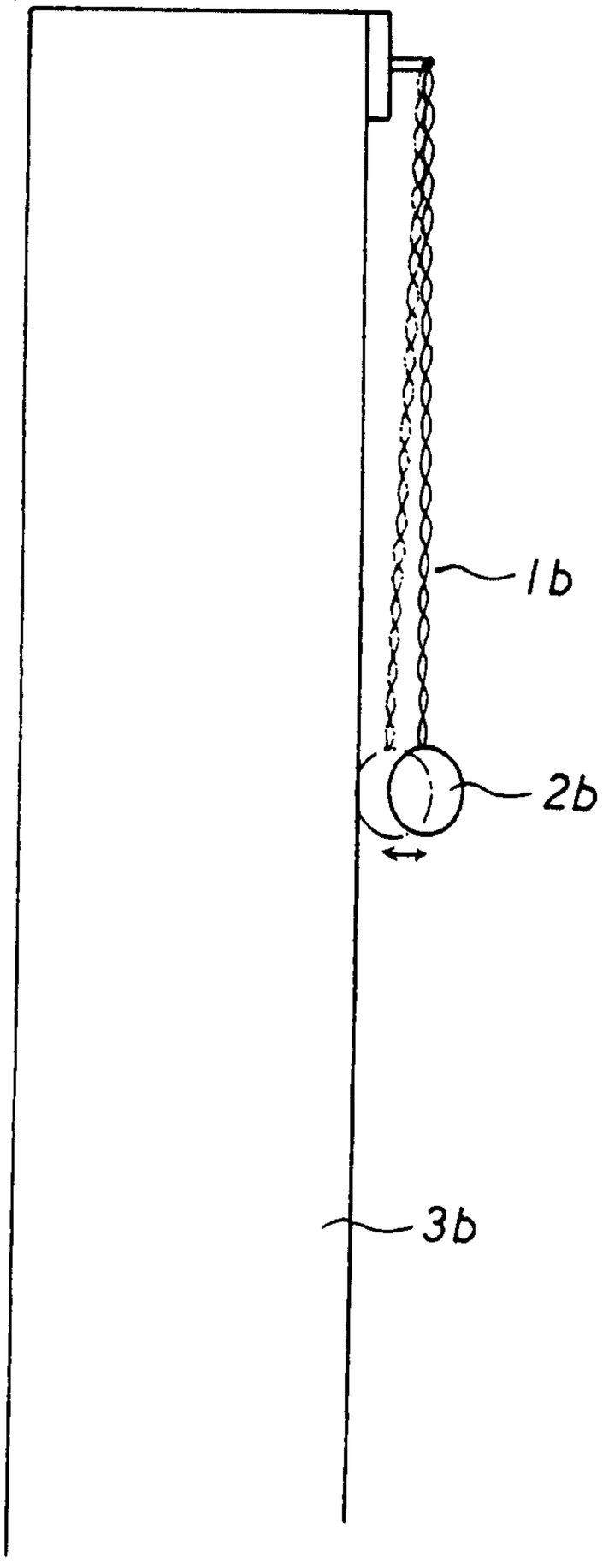


FIG. 7

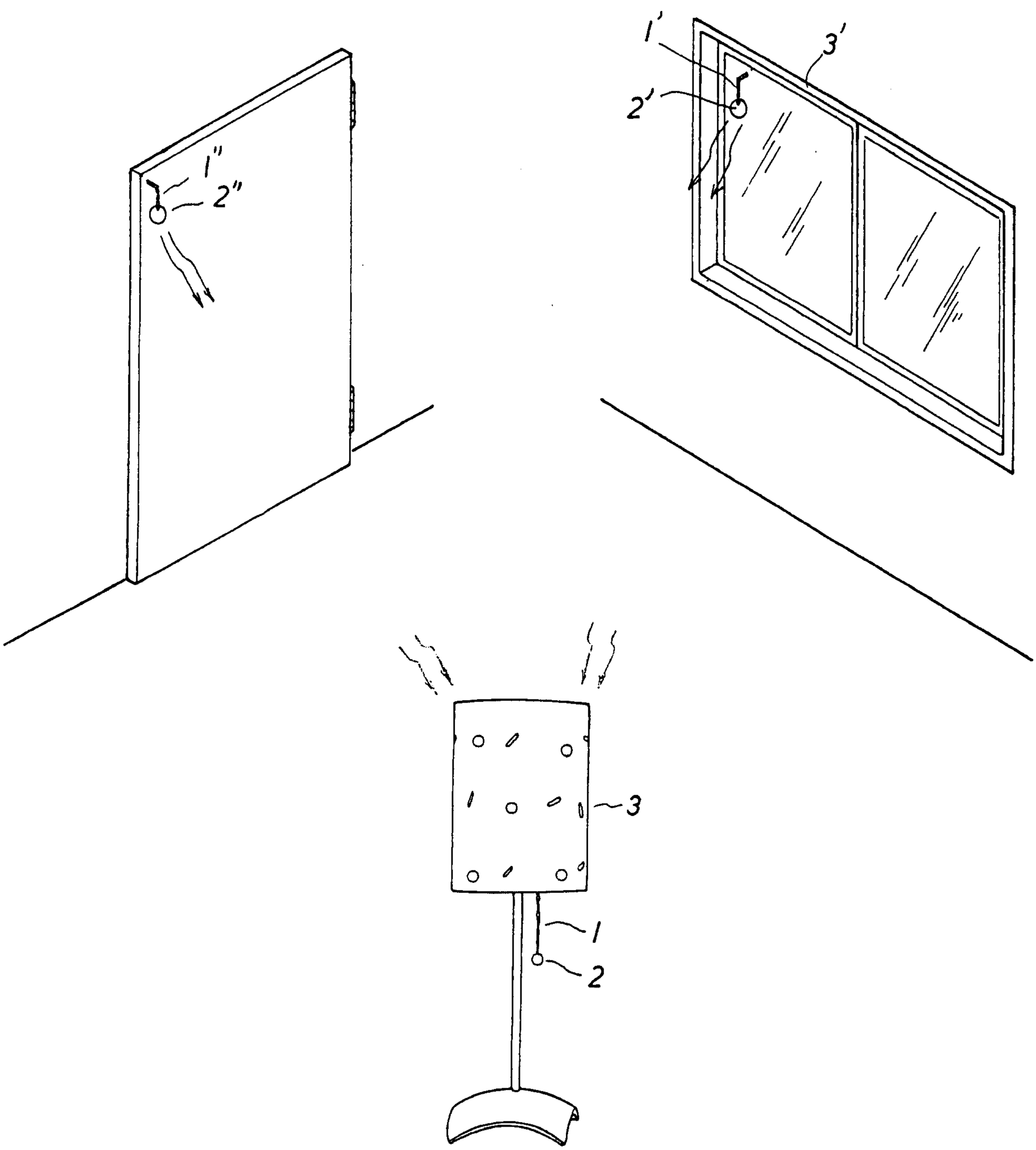


FIG.8

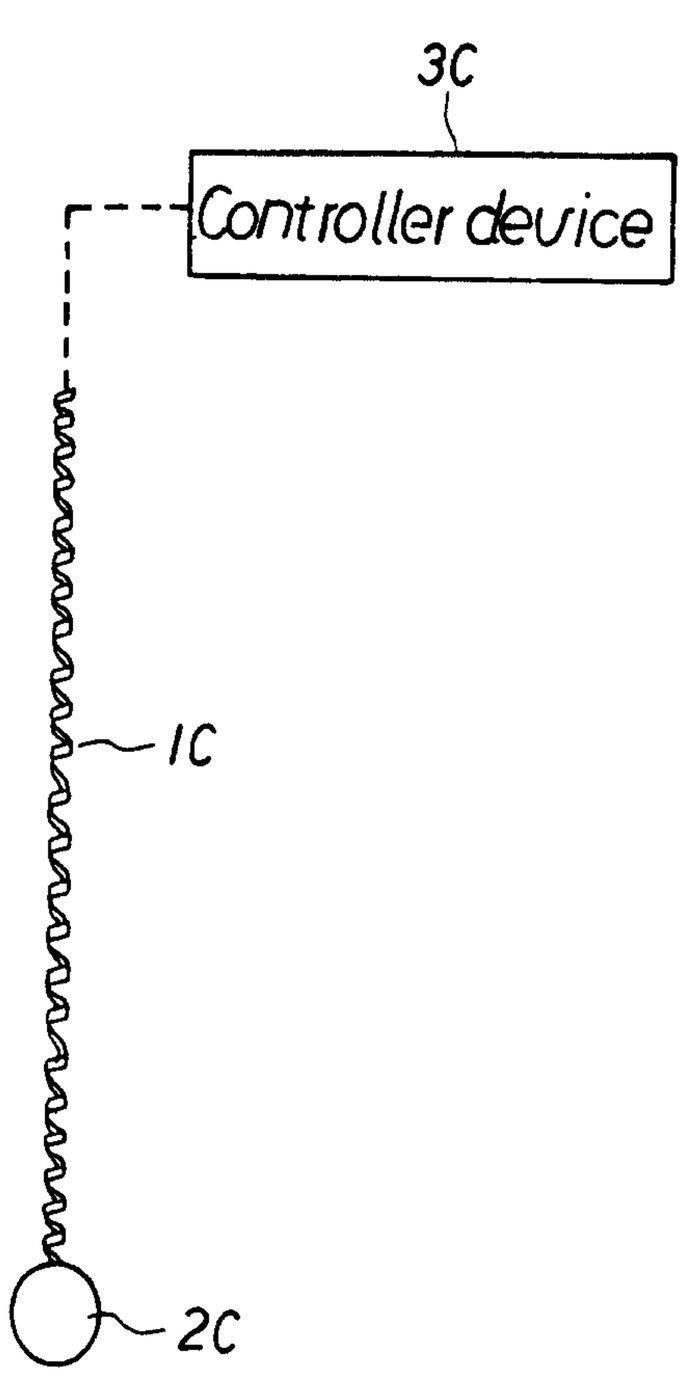
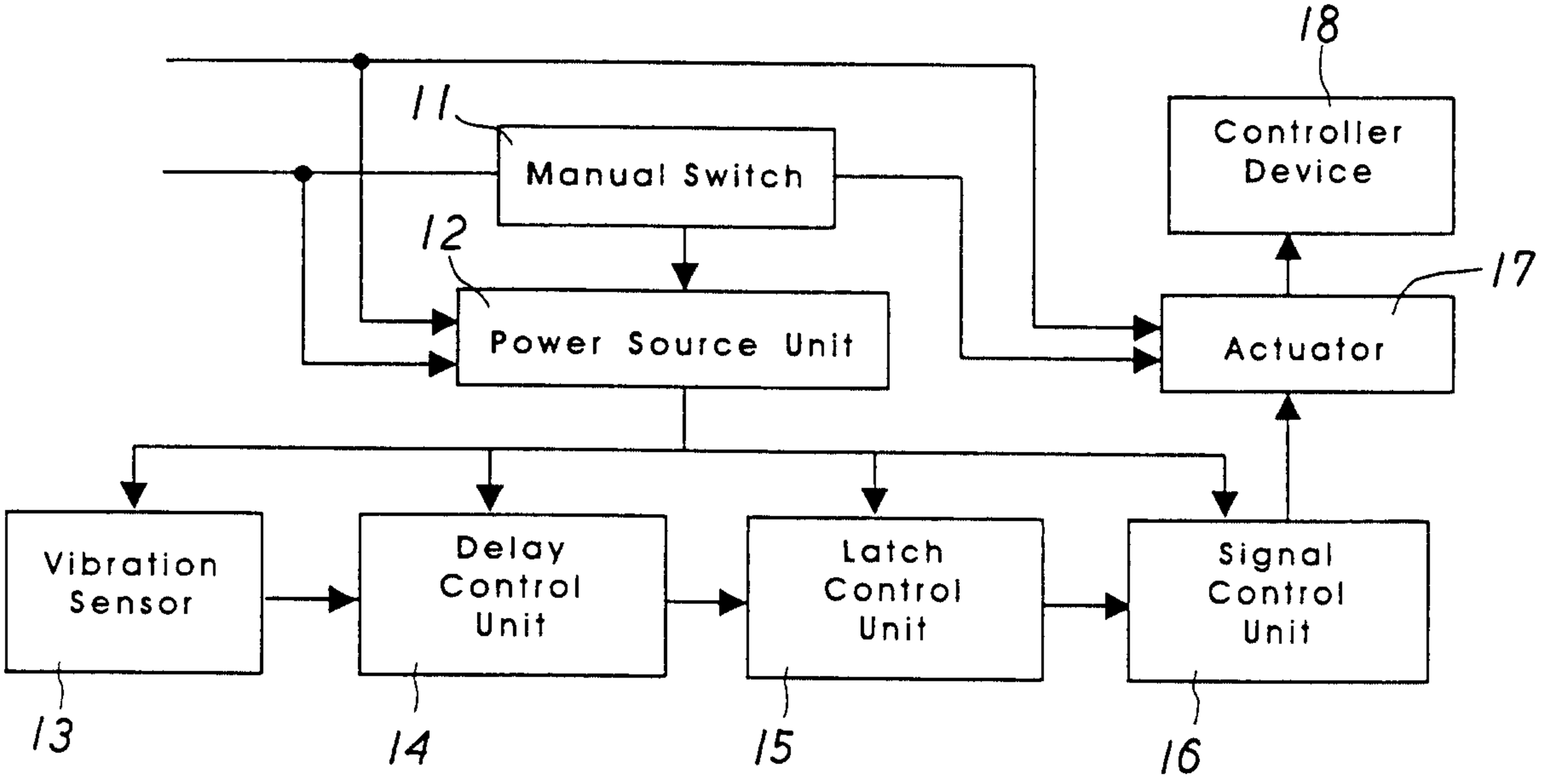


FIG. 9


18
Controller Device
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