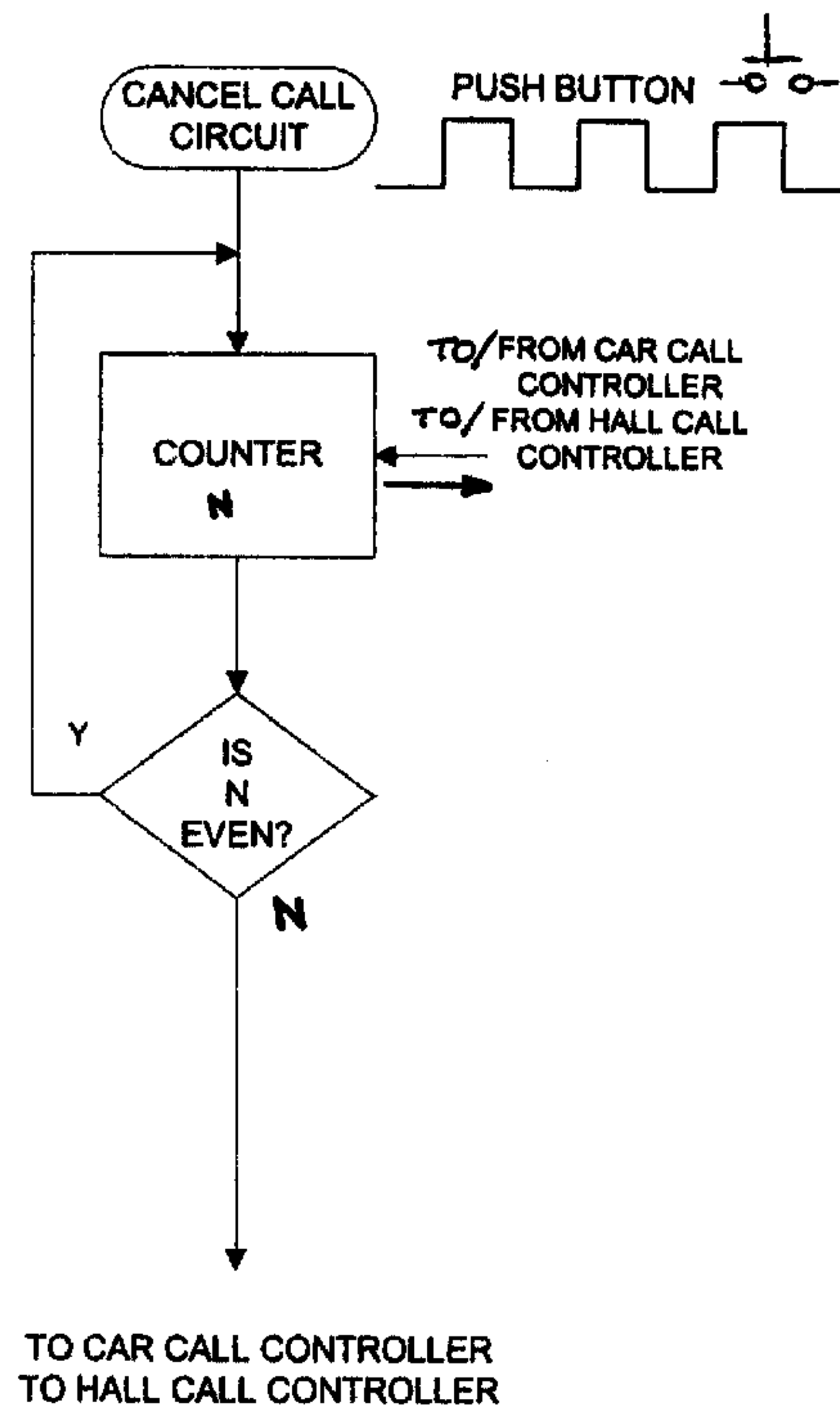
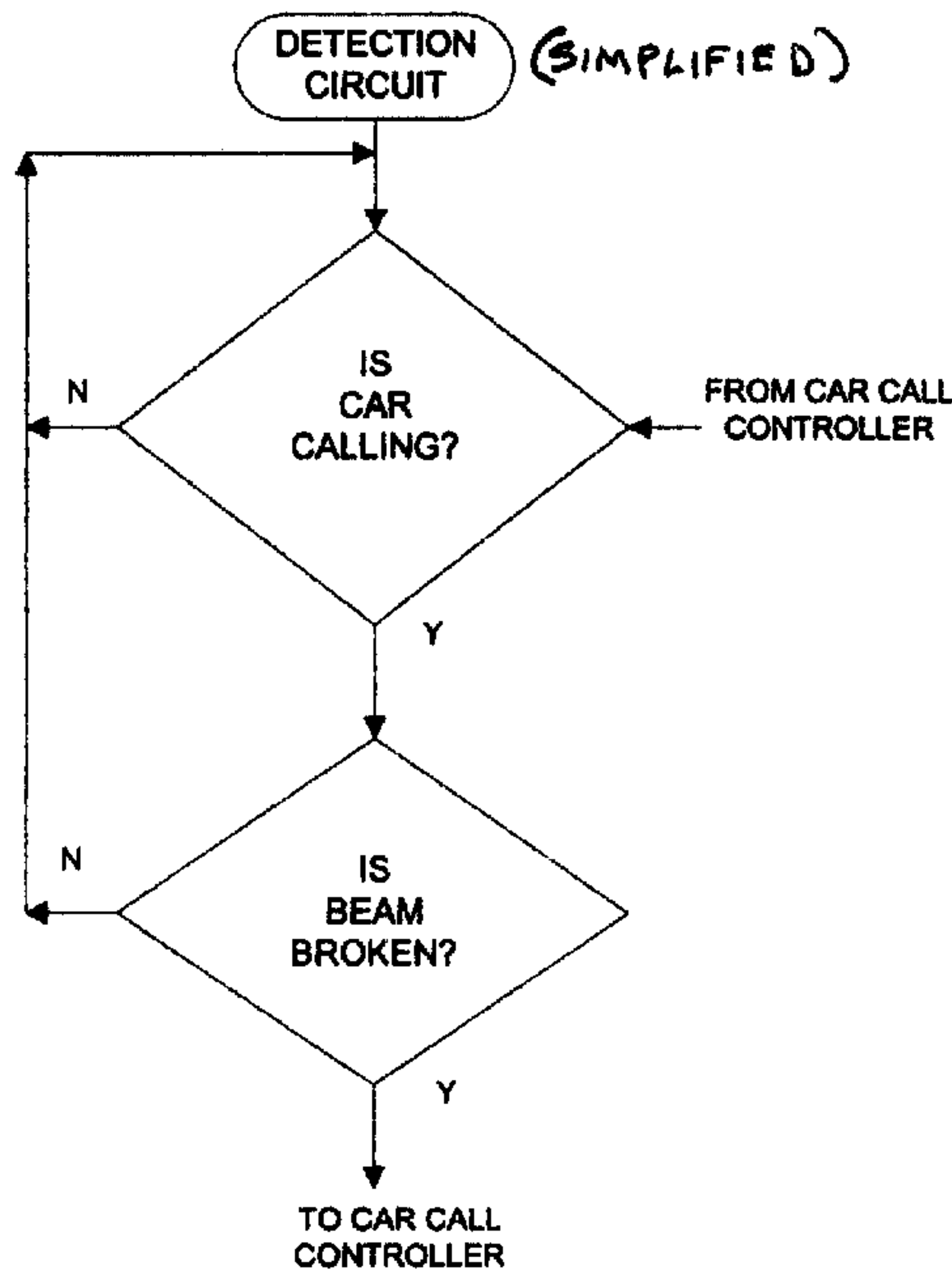




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(54) Title: PRESS AGAIN TO CANCEL



(57) Abrégé/Abstract:

A logic control system which sends information to the hall and car call controllers of elevator systems, to cancel the call assignments by a simple means of "pressing the button again to cancel". In addition, car call assignments shall be cleared when the logic control system does not meet the following two criteria: an assignment from within the elevator car is accompanied simultaneously and continuously by the detection of a person within the car. Such a system will provide the user with more of a choice and seeks to virtually eliminate false calls. The ability to cancel a call will ultimately save energy.

**ABSTRACT**

A logic control system which sends information to the hall and car call controllers of elevator systems, to cancel the call assignments by a simple means of "pressing the button again to cancel". In addition, car call assignments shall be cleared when the logic control system does not meet the following two criteria: an assignment from within the elevator car is accompanied simultaneously and continuously by the detection of a person within the car. Such a system will provide the user with more of a choice and seeks to virtually eliminate false calls. The ability to cancel a call will ultimately save energy.

## INTRODUCTION

### HOW I CAME UP WITH THE IDEA

I worked as a courier for about five years and estimated some statistics about my job just for fun; Kilometers/bicycle - 12 000, Kilometers/car – 80 000, deliveries made – 25 000 and lastly the one that concerns my invention, trips made in elevators – about 10 000 .I would like to mention it another way. Between four to six percent of my shift was used waiting for and using elevators. All the time I spent using elevators led me to wander about things like; how they were programmed; or how priority systems were implemented in them. I even began to have favorite elevators and control panels. Some have many neat innovations, such as digital displays or automatic lights but my innovation will become a standard. It is something we learn about in elevators. For example, we know that in most elevators we can open the doors if they are closing by reaching out our hand.

### PLACES IT WILL INVOLVE

If all the buildings in Montreal were counted or if you could imagine counting all the buildings in the world (remember, only buildings with elevators), my guess is you would come up with these percentages:

<b>Commercial</b>	<b>50.0%</b>
<b>Apartments</b>	<b>12.0%</b>
<b>Condominiums</b>	<b>12.0%</b>
<b>Hotels</b>	<b>10.0%</b>
<b>Universities</b>	<b>5.0%</b>
<b>Hospitals</b>	<b>5.0%</b>
<b>Department stores</b>	<b>5.0%</b>
<b>Monumental (C.N. Tower, Statue of Liberty)</b>	<b>0.5%</b>
<b>Casinos</b>	<b>0.5%</b>

### WHO WILL BENEFIT ?

- i) General public: Because I have done it myself I will say couriers first (FedEx, Purolator) but mainly people in a hurry, and that means a lot of people in most cities.
- ii) People more involved with the building: I still see elevator operators in some buildings or security (help) in freight elevators. This is a tremendous innovation for them. Also, people (security) that monitor elevators or futuristic monitoring systems.

## HOW I HAVE REVOLUTIONIZED THE ELEVATOR

The best way I can show this is by giving examples of common experiences that we encounter in our everyday use of the elevator, and how my system will facilitate or avoid what I will call certain "frustrations".

### LETS GO FOR A RIDE !

#### **Frustrating:**

- You get into elevator and want to go to 24<sup>th</sup> floor
- You accidentally press 23 or realize that you should be going to 25, after reading The elevator directory. This has happened to me many times. Don't you wish you could cancel your error?

**Problem:** You must wait an extra stop.

#### **MORE frustrating:**

- Again, you are on your way to the 24<sup>th</sup> floor. This time some one else comes in.
- They want to go to the 15<sup>th</sup>, however *they* press 18 by mistake. They get out on The 15<sup>th</sup>. Don't you wish you or they could have cancelled the extra key?

**Problem:** You must wait an extra stop.

#### **MOST frustrating:**

- You get into the elevator and notice a key is on because of someone's error.
- Maybe two or three keys are on. Or, even worse *all* the lights are on because of a mischievous kid. Don't you wish you could cancel all the extra lights?

**Problem:** You may have to wait more than one stop.



## TWO MORE EXAMPLES

Another major problem involves going down and confusing R.C. with 1 or G with garage or basement. Some elevators have different keys for different street exits. You sometimes realize (after a few seconds) that you pressed the wrong **exit** key. This happened to me just as I was finishing this report and sometimes before; I got into an elevator from the fourth floor and instinctively pressed the bottom-most key which was S.S. (mistaken for R.C.). I then had to press R.C. When I got out on the ground floor, I felt bad for the people getting in knowing that S.S. was still on. With my system you will be able to press and repress any key below you as you are going down.

In the next example, you want to use the elevator to go up again, but for one of the following reasons you decide to get out sooner or go back downstairs:

WHY YOU DECIDE TO EXIT	WHERE THIS MAY OCCUR
"Hey, I am in the wrong tower!"	Complex Desjardins , N.Y. Twin Towers
Forgot to pay parking meter?	Any building
Going swimming upstairs, forgot your towel?	Hotel, apartment building, condo
Going to do the laundry, forgot your quarters?	Apartment building or condo

The problem here is that you must wait until you reach the floor you pressed. There is one trick that some of us use to get out faster and save some time. We simply press the nearest floor to get out instead of going up for the extra ride.\* With my system, if we decide to do this trick, we will be able to cancel any activated key above the one we pressed to get out. Thus saving the elevator from going up for nothing. Now we can go back down faster to pay that parking meter.

\* *People that are not aware of my system may do this trick to get out sooner and still leave the top key on. In other words, there will be no one in the elevator and it will have to work for nothing. This should not have to happen and my sub-invention eliminates this problem. It is explained at the end of my plan.*

## **DON'T FORGET OUTSIDE !**

The examples covered until now concern experiences inside the elevator. But, remember that using an elevator can mean from the inside or the outside. Let's look at some examples of calling the elevator from the ground or any floor, and just as important, any basement or garage floors.

### Example:

You are on your way down from the 20<sup>th</sup>. You stop on the 15<sup>th</sup> but nobody gets in because who ever called from the outside decided to leave. (Maybe they had to go back to the office or got impatient and used the stairs. There is nothing you can do about this being inside the elevator but they could have aborted their choice and saved you a bit of time.

There are many people that "call" the elevator by pressing any key, not knowing that  $\Uparrow$  is only for up and  $\Downarrow$  is only for down. Some times they realize their error or maybe they are with someone who does (Maybe a parent changes their kid's error). By canceling the mistake you can save time for someone else.

Another reason we would want to "cancel" from the ground floor. Many commercial buildings with more than thirty floors have elevators going from 1-15 on one side of the R.C. and 15 - 30 on the other. It often happens that we call the elevator then realize a moment later that we are on the wrong side. Again, we can cancel our error and save a trip. Remember, saving a trip reduces wear and tear of the elevator and saves energy.

Let's summarize with the thought of a very busy building at rush hour and the combined mistakenly pressed buttons in the elevator and outside it. Especially on the R.C. and neighboring floors.

## OTHER APPLICATIONS

### Sub-invention

Abstract:           **“Smart System”**

The idea here is to employ a detection of a person in the elevator car by way of infra-red, infrared/ultra-sonic, microwave detection or any combination of the aforementioned, as an example, to carry out a car call.

The controller must receive the button push and at the same time it receives a signal from the detection device that a person is in the elevator. These two criteria have to be met simultaneously in order to avoid a false call. In other words, if there is no one present in the car, any activated keys should be cancelled.



The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A control system that will be implemented to deal with a plurality of "false calls". It will primarily provide the user with a choice to cancel the assignment from within the elevator car or in the hall by "pushing the button again" to cancel the call.
2. The control system as described in claim 1. may be an electronic logic circuit which will operate at a suitable clock pulse in order to count the number of times a button from a car or hallway is pushed by the user. An even count shall cancel the assignment whereas, an odd count shall allow for the assignment.
3. The control system as described in claim 1. and 2. may be a microprocessor based control system.
4. The control system as described in claim 2. and 3. shall take into account or will allow for the clock pulse to be adjusted according to type of push button/elevator call button used. A longer frequency (example: 1 second) shall be required for mechanical type buttons where there is an inherent mechanical delay. A shorter frequency shall be used for sensor type buttons (example: several hundred milliseconds). The control system herein described may also allow for the clock pulse to be adjusted according to peak elevator use. Longer frequencies may be implemented either by a timer or manually or "learned" by a logic circuit during low peak elevator use to allow for a user to have more time in making any changes. During high peak use, pulse frequencies can be adjusted back up in order to keep elevator service running at optimum rates.
5. The control system as described in claim 1., in efforts to virtually eliminate false calls may employ a detection system within the car such as a light beam transmitter and receiver or infrared sensor, strategically placed within the elevator car. The control system will need to have two criteria met simultaneously (initially) and thereafter, continuously: 1- The push button is activated and 2- the detection of a person is occurring. Otherwise, the assignment is not allowed. Such a feature will allow for "automatic clearing" of the car call assignments, should any car call assignments be active as the last person leaves the elevator car.
6. The control system as described in claim 1., 2., 3., & 4. may be retrofit onto existing elevator control systems externally.
7. The control system as described in claim 1., 2., & 4. may also be integrated internally within existing elevator logic control circuits.
8. The control system as described in claim 6. & 7. however implemented, will be recognised as to constitute a new process; "the cancelling of a call".



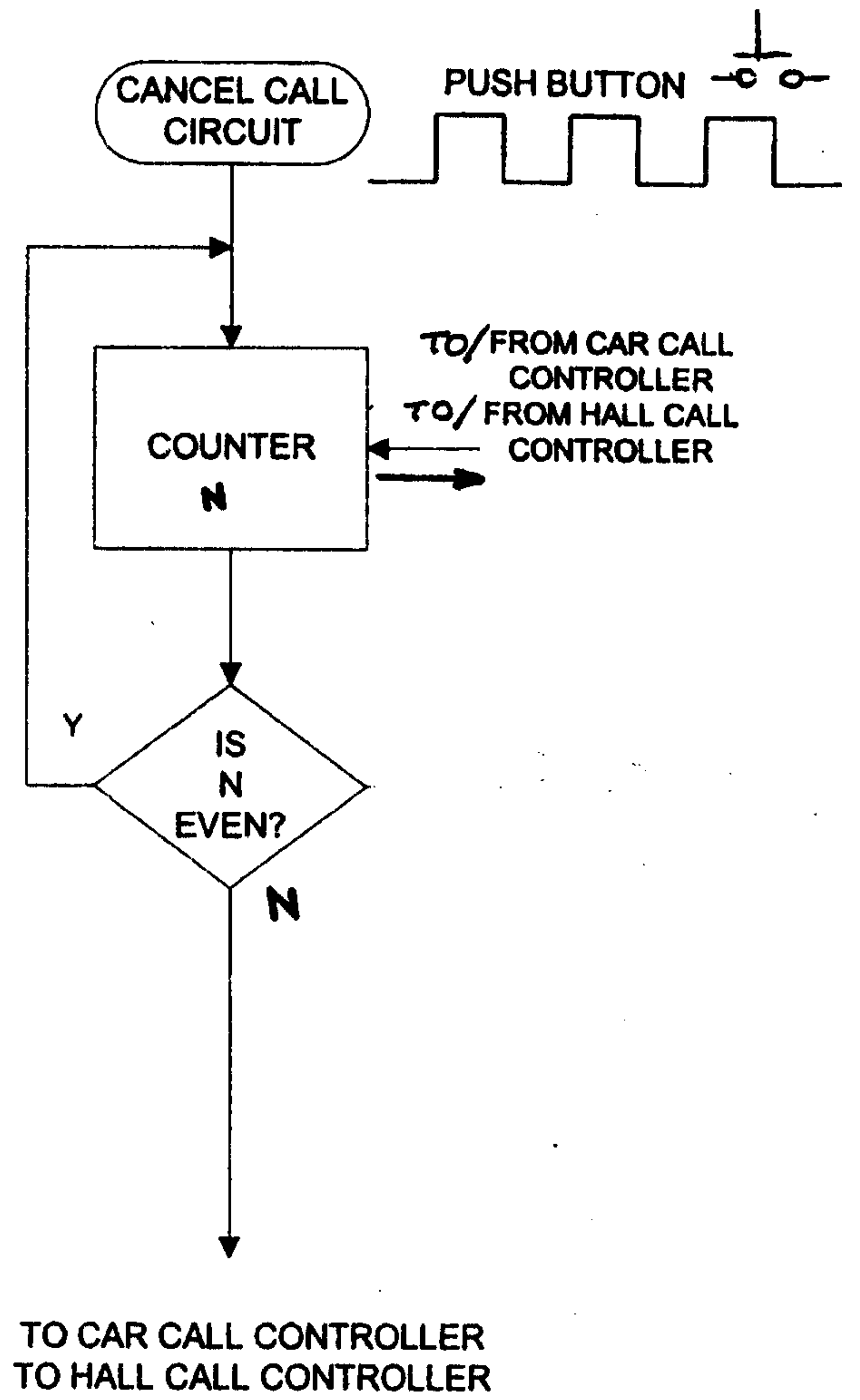
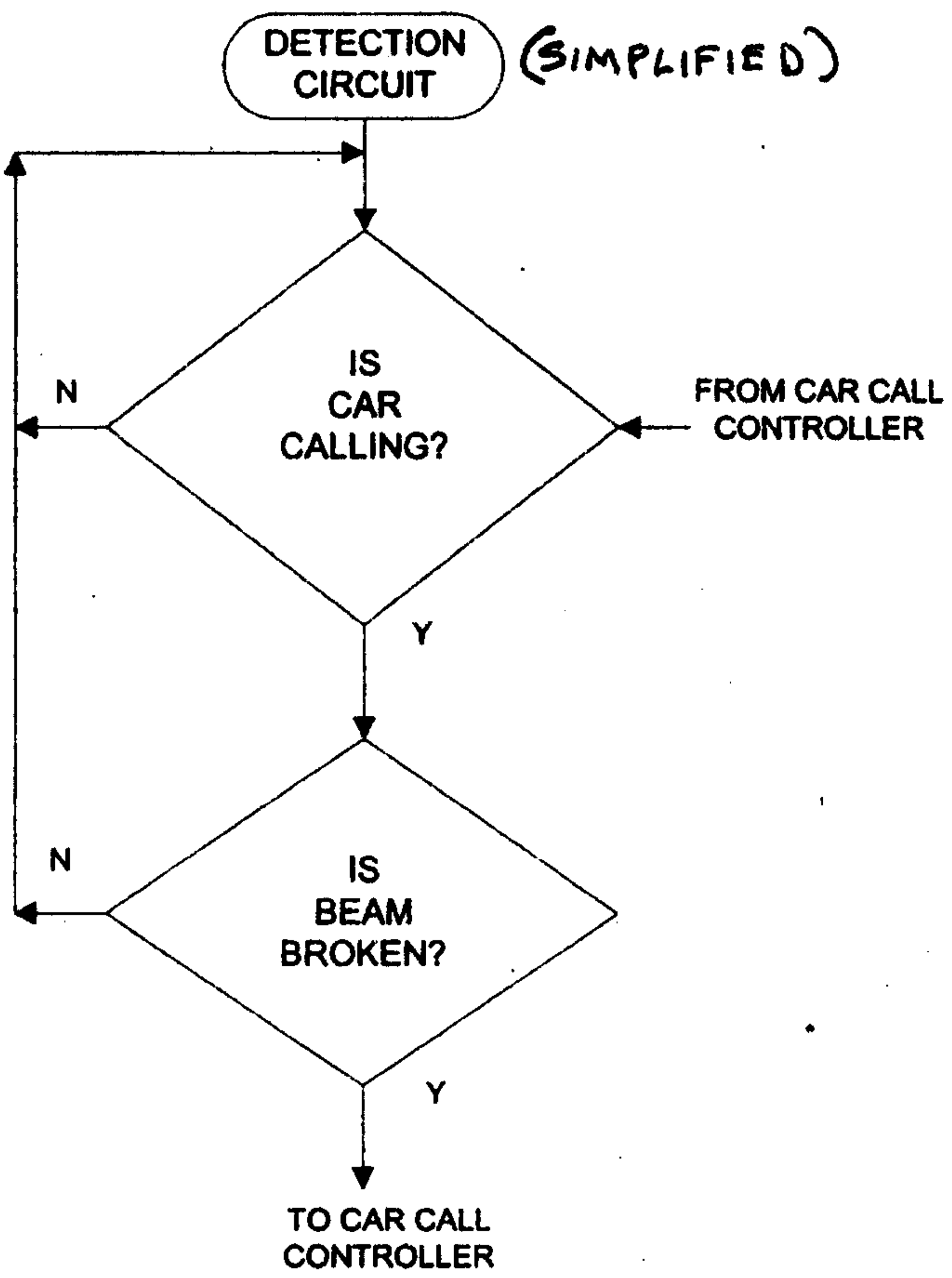


FIGURE 1

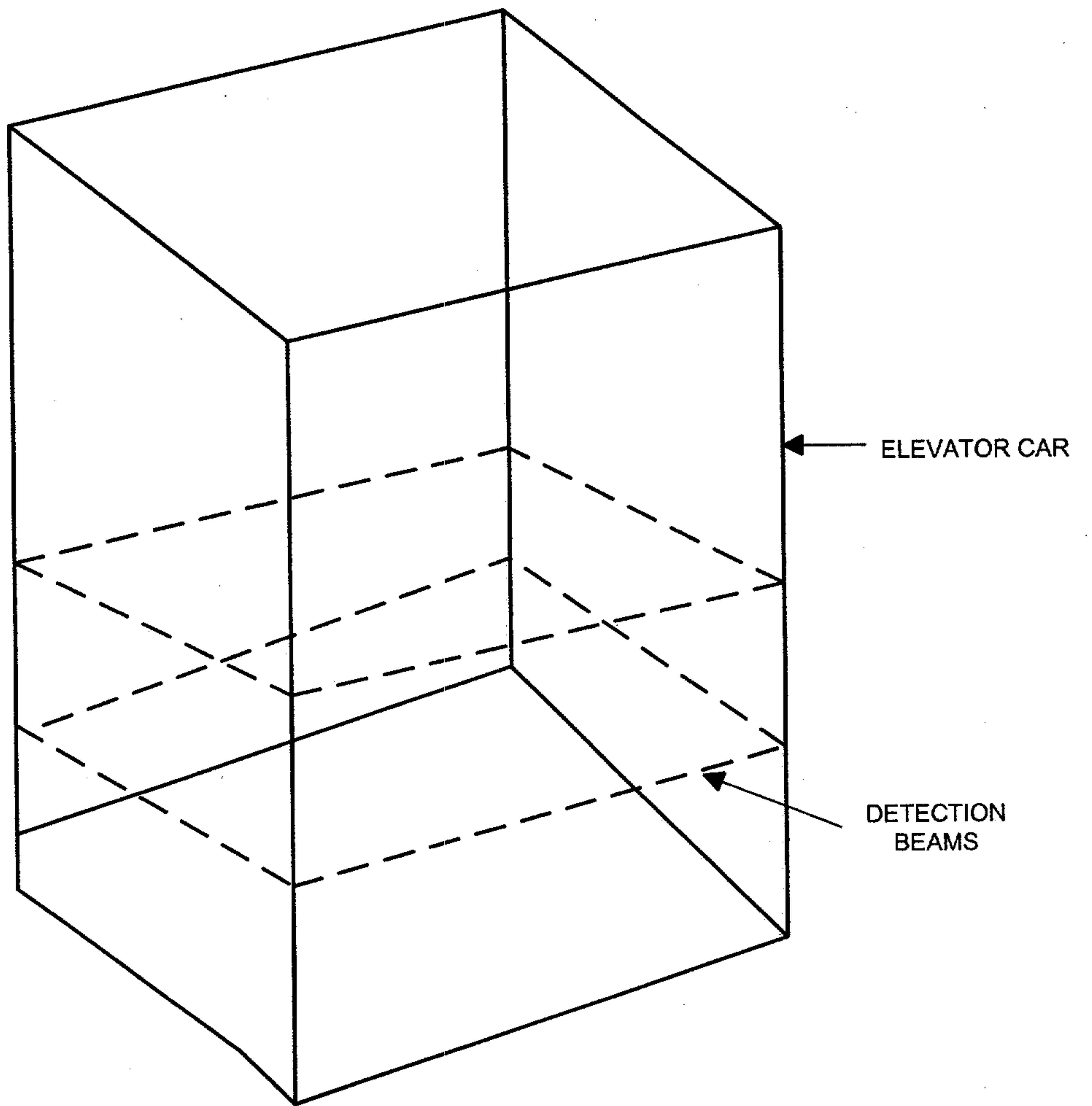


FIGURE 2

HEAT / MOVEMENT DETECTION

