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Burgess et al.

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(54) **CONTROLLER FOR VIDEO GAME CONSOLE**

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See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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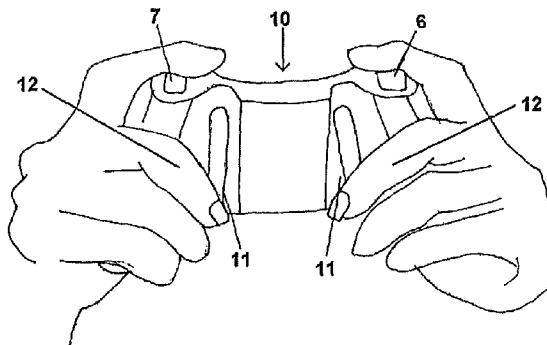
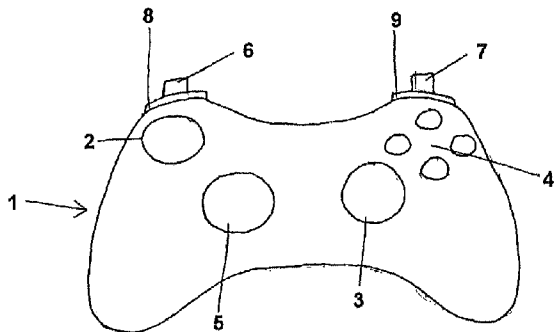
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(57) **ABSTRACT**

An improved controller for a game console that is intended to be held by a user in both hands in the same manner as a conventional controller, which has controls on the front operable by the thumbs, and has two additional controls located on the back in positions to be operated by the middle fingers of a user.

20 Claims, 2 Drawing Sheets



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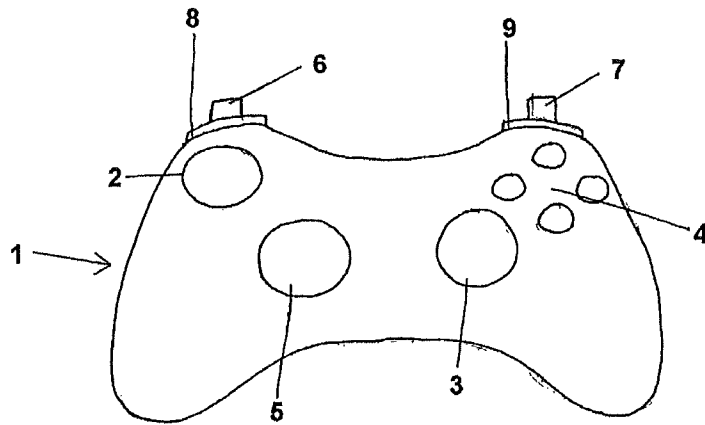


Figure 1

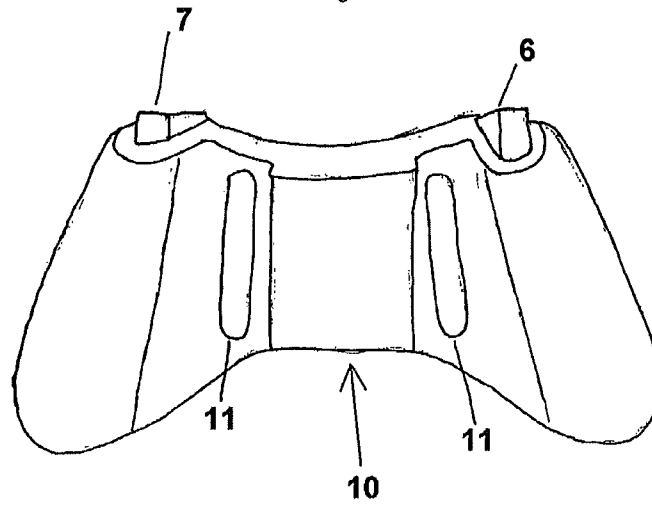


Figure 2

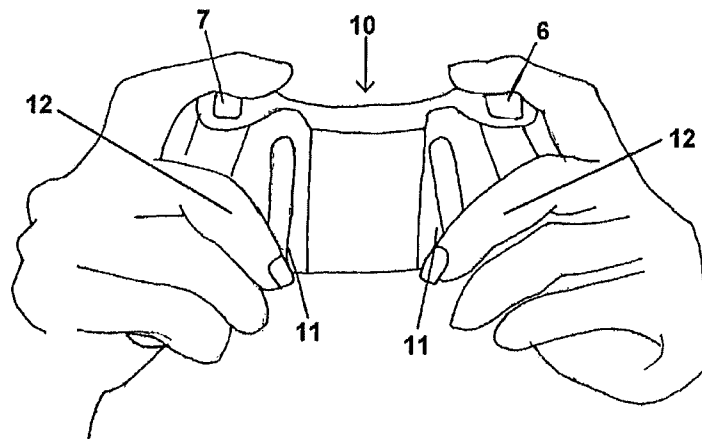


Figure 3

1
**CONTROLLER FOR VIDEO GAME
CONSOLE**

BACKGROUND OF THE INVENTION

The present invention relates to video game consoles, in particular to hand held controllers for video game consoles.

Conventional controllers for most game consoles are intended to be held and operated by the user using both hands. A conventional controller will generally comprise a hard outer case with a plurality of controls mounted about the controller. Typically the controls include buttons, analogue control sticks, bumpers, and triggers. An example of a conventional controller is shown in FIG. 1.

As can be seen in FIG. 1, all of the controls are mounted on the front and top edge of the controller 1. Specifically, there are left and right analogue thumb sticks 2, 3 which normally control movement and are intended to be operated by the user's left and right thumb respectively. There are four buttons 4, located on a front right portion of the controller 1 which normally control additional actions and are intended to be operated by the user's right thumb. There is a direction pad 5 located on the lower portion of the front left of the controller 1. The direction pad 5 is intended to be operated by the user's left thumb, typically either as an alternative to the left thumb stick 2 or to provide additional actions. There is a left trigger 6, a right trigger 7, a left bumper 8, and a right bumper 9 located on the top edge of the controller 1. The left and right triggers 6, 7 are typically operated by the user's index fingers. The left and right bumpers 8, 9 may also be operated by the user's index fingers.

The only way to operate the four buttons 4 is for the user to remove his or her right thumb from the right thumb stick 3. This takes time and, in some games, can cause a loss of control. This is a particular problem in games where the right thumb stick 3 is used for aiming. A similar problem may arise in games where the direction pad 5 provides additional actions and the user has to remove his or her thumb from the left thumb stick 2 in order to operate the direction pad 5.

In light of the above, there is a need for an improved controller which removes the need for a user to remove his or her thumb from the left or right thumb stick 2, 3 in order to operate additional actions controlled by the four buttons 4 and/or the direction pad 5.

SUMMARY OF THE INVENTION

The present invention provides a hand held controller for a video game console having a hard outer case and a plurality of controls located on the front and top edge of the controller. The controller is shaped to be held in both hands of the user such that the user's thumbs are positioned to operate controls located on the front of the controller and the user's index fingers are positioned to operate controls located on the top edge of the controller. The controller further includes one or more additional controls located on the back of the controller in a position to be operated by the user's other fingers.

In one embodiment, each additional control is an elongate member which is inherently resilient and flexible such that it can be displaced by a user to activate control function.

Preferably, each elongate member is mounted within a respective recess located in the case of the controller.

Preferably, each elongate member comprises an outermost surface which is disposed in close proximity to the outermost

2

Preferably, each elongate member has a thickness less than 10 mm thick, more preferably less than 5 mm thick, and most desirably between 1 mm and 3 mm.

Preferably, there are two additional controls which are elongate members that are parallel to each another. In another embodiment, the elongate members converge towards the front end of the controller with respect to one another.

Optionally, a portion of each of the elongate members is in registry with a switch mechanism disposed within the controller, such that displacement of the elongate member activates the switch mechanism.

Optionally, a switch mechanism is disposed between the elongate members and an outer surface of the controller.

The controller of the present invention may be very similar to controllers according to the prior art. In particular, the outer case of the controller and the type, number and positioning of the controls located on the front and top edge of the controller may be the same as a controller according to the prior art, as described above and as illustrated in the figures.

The controller of the present invention is particularly advantageous over controllers according to the prior art as it comprises one or more additional controls located on the back of the controller in a position to be operated by middle fingers of a user. The additional controls may either replicate the functions of one or more of the controls located on the front or top edge of the controller or provide additional functionality.

In a preferred embodiment of the invention the additional controls replicate the function of a control located on the front of the controller. This means that a user does not need to remove his or her thumb from one of the thumb sticks in order to operate the buttons and/or direction pad located on the front of the controller and can instead perform the function by manipulating an additional control located on the back of the controller with a finger.

Alternatively, the additional controls may provide additional functionality in that they do not replicate the function of controls located on the front or top of the controller but may perform different functions. In this manner a controller according to the present invention may provide more functions than prior art controllers.

Preferably, the controls located on the back of the controller are paddle levers. Suitable paddle levers may be formed integrally with the outer case of the controller or may be substantially separate from the outer case. This may be done in any manner apparent to the person skilled in the art. However, it is to be appreciated that the additional controls may comprise any other control suitable for use by a hand held controller.

Advantageously, if the additional controls are paddle levers, they will be formed such that they are substantially vertically aligned with respect to the controller. This may allow the most ergonomically efficient activation of the paddle levers by the middle fingers of the user.

Further features and advantages of the present invention will be apparent from the specific embodiment illustrated in the drawings and discussed below.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic illustration of the front of a conventional game controller according to the prior art.

FIG. 2 is a schematic illustration of the back of a game controller according to the present invention.

FIG. 3 is a schematic illustration of the back of a game

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