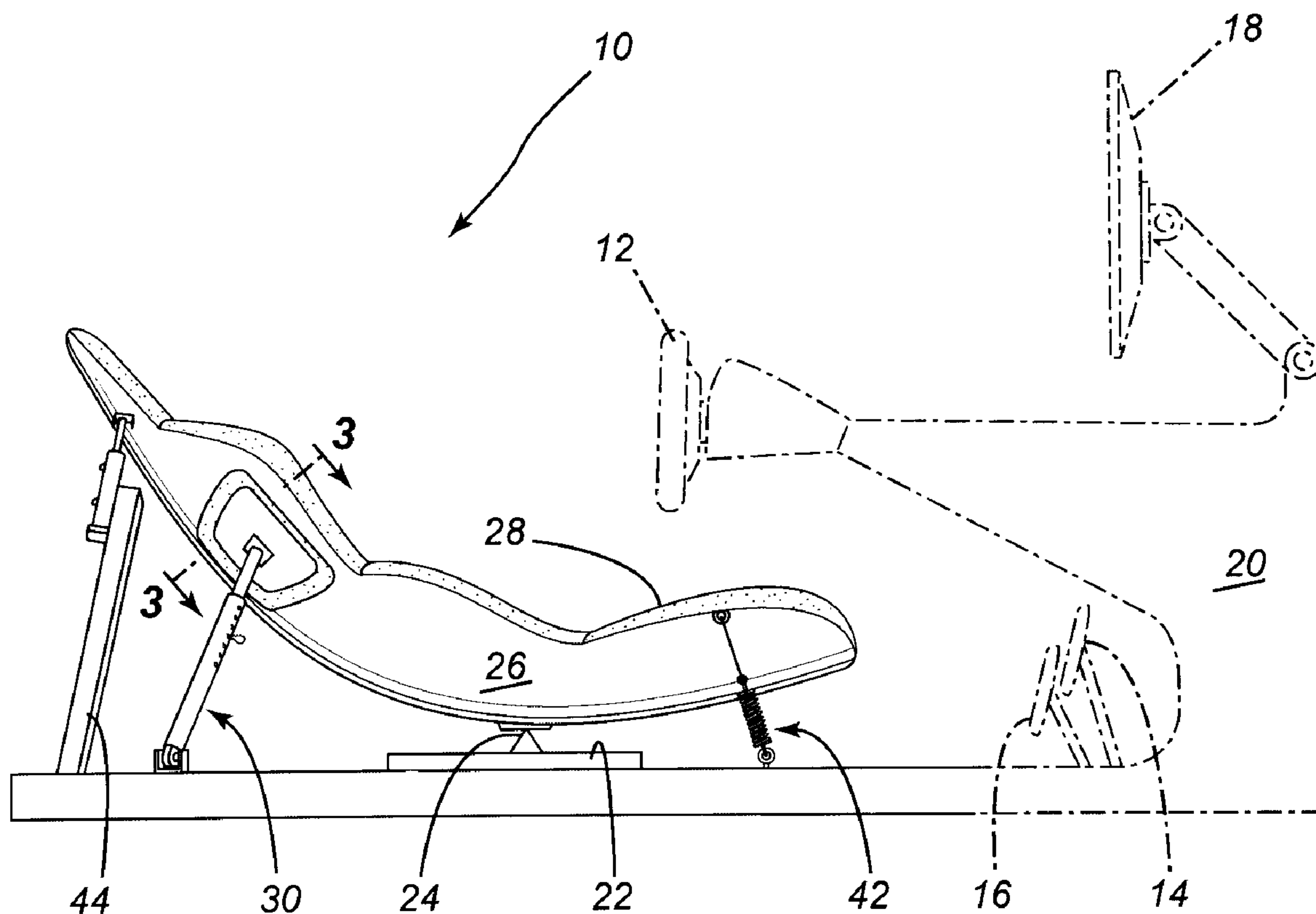




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(71) Demandeur/Applicant:  
PERIGNY, SYLVAIN, CA  
(72) Inventeur/Inventor:  
PERIGNY, SYLVAIN, CA  
(74) Agent: FINCHAM, ERIC

(54) Titre : FAUTEUIL POUR JEU VIDEO  
(54) Title: CHAIR FOR VIDEO GAME



(57) Abrégé/Abstract:

A chair suitable for use with a video game, the chair having a seat portion and a back portion, the back portion having a pair of deformation devices, said deformation devices being designed to cause increased pressure on a portion of an occupant's back. Preferably, the deformation devices are linked to the accelerator and steering wheel to simulate turning and acceleration.

A B S T R A C T

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## CHAIR FOR VIDEO GAME

## FIELD OF THE INVENTION

The present invention relates to video games and more particularly, relates to a chair for use with video games.

## BACKGROUND OF THE INVENTION

The use of motion in conjunction with various game apparatus and particularly with video games is well known in the art. Originally, video games were played by standing or sitting at a stationary video game machine that generally included a video display and controls. The controls would include joysticks, buttons, levers and/or pedals. Some of the video games included driving games where a player sits in a driver's seat, steers a steering wheel, shifts gears, and manipulates driving pedals to simulate driving a vehicle appearing on a video display. The video display was stationary with respect to the seated player.

More recently, commercial video game seats have been introduced in an attempt to simulate movements of the vehicle appearing on the video display thus adding a degree of realism to the video game experience. Such moveable seats have been typically moved by hydraulics and are relatively expensive.

An example of movement is shown in United States Patent 4,066,256 which discloses a ride for an amusement park wherein hydraulic ramps are utilized to move passengers who are seated in a vehicle. The hydraulic ramps may be employed to tilt the vehicle in different directions.

The video game/simulator system is shown in United States Patent 5,551,701 wherein the system is used in conjunction with a personal computer. The unit includes a joystick as well as keyboard and foot controls. The unit is designed to be used with the game board of a

personal computer.

While the above patents (and many others) show the use of movement in video game systems, there still remains the need for a chair wherein the operator of the video game will experience different sensations.

#### SUMMARY OF THE INVENTION

It is an object of the present invention to provide a chair for use with video games and which chair will provide sensations directly linked to actions taken by the occupant.

According to one aspect of the present invention, there is provided a chair suitable for use with a video game, the chair comprising a seat portion, a back portion, and the back portion having deformation means located therein, the deformation means causing increased pressure on a portion of an occupant's back.

The deformation means are placed in the back of the chair although they can also be utilized on portions of the seat. The deformation means are linked to at least one of the controls of the video game system. Typically, for video games simulating driving, the controls will include a steering wheel, an accelerator and a brake. Other controls may also be provided.

The deformation means are designed to apply increased pressure to one or more areas of the back. Thus, the deformation means will receive information from the controls and take a predetermined action. Generally, the deformation means are designed to apply an increased pressure to a selected area of the back or side of the occupant.

In a preferred embodiment, there are provided two separate deformation means, one on each side of the back of the chair. As used herein, the term "back" as applied to the anatomy of the seat occupant will include the side portion of the occupant. In other words,

the force may not necessarily strictly be on the back but a combination and/or one of the side or back. The deformation means may be operated separately or together depending upon the input. For example, to simulate a turning motion, when the deformation means receive the information from the steering wheel, one side will be activated to apply an increased pressure to the back of the chair occupant. To simulate acceleration, both deformation means may be operated simultaneously to apply an overall increased pressure.

The deformation means can take several different forms. In one embodiment, as will be described hereinbelow, a fixed adjustable member on each side of the seat back may be employed. The fixed member is rigid and is used in association with a motion imparting member on either side of the chair. The motion imparting member can be a cylinder (either pneumatic, hydraulic or electro-mechanical) which will apply pressure on the other side.

In this embodiment, the chair is pivotably mounted to permit the desired rotation.

Alternatively, an expandable mechanism in the seat back could be employed to directly provide a deformation force. Thus, one could envisage expandable hydraulic members or mechanical plates which are moveable.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Having thus generally described the invention, reference will be made to the accompanying drawings illustrating an embodiment thereof, in which:

Figure 1 is a side elevational view of a chair and video game according to the present invention;

Figure 2 is a rear elevational view of the chair; and

Figure 3 is a cross sectional view taken along the lines 3-3 of Figure 1.

## DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings in greater detail and by reference characters thereto, there is illustrated in Figure 1 a chair generally designated by reference numeral 10 and which is designed to be used with a video game apparatus. The video game apparatus will generally include a steering wheel 12, and a pair of pedals, one being an accelerator pedal 14 and the second being a brake pedal 16. A screen 18 is mounted in a frame 20 in a conventional type of arrangement.

Chair 10 is also mounted on a frame 20 and to this end, there is provided a platform 22 with a pivotal mount 24 thereon interconnecting chair 10 and platform 22. Many different types of pivotal mounts are known in the art and may be utilized.

Chair 10 includes an outer shell 26 conventionally formed of a rigid plastics material. On shell 26, there is provided cushion 28.

At the rear of the back portion of chair 10, there is provided a pair of arm assemblies 30 and 130. Since the arm assemblies are substantially identical, only one will be described herein.

Arm assembly 30 includes a mounting bracket 32 located on frame 20 and which mounting bracket 32 is utilized to mount an outer arm 34 which has apertures 36 formed therein. An inner arm 38 is telescopically arranged with respect to outer arm 34 and can be retained in a desired position by means of a retainer clip 40.

The front or leg portion of chair 10 is secured to frame 12 by means of springs 42 and 142.

The motion imparting means comprise a pair of posts 44, 144 to which there is attached a respective hydraulic cylinder 46, 146. Pistons 48, 148 are secured to opposite

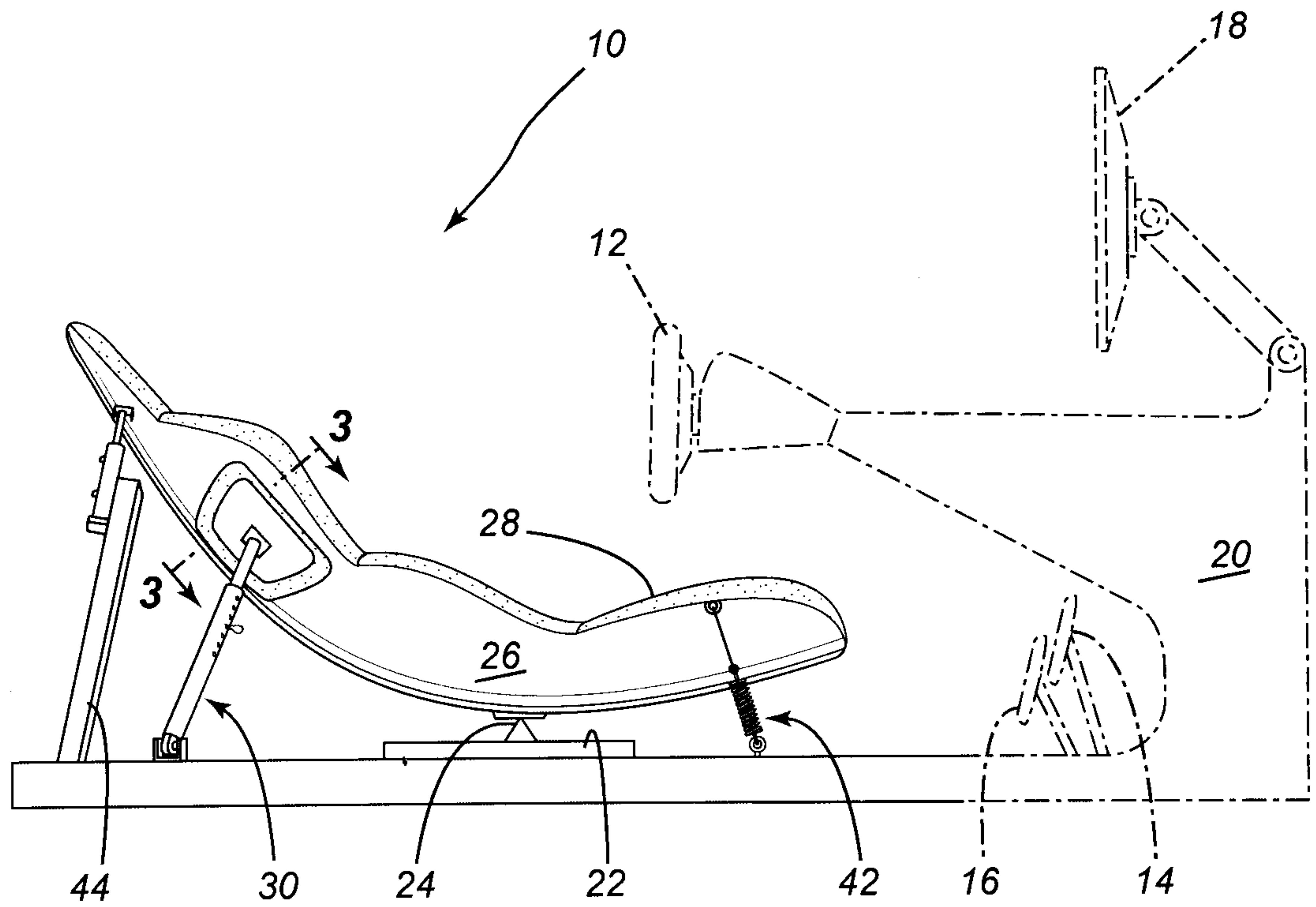
sides of chair 10.

In operation, input from the video game is fed by means of a suitable control circuit (not shown) to hydraulic cylinders 46, 146 which will then cause movement of the same. The movement can comprise only one cylinder operating to thereby provide a left or right movement to the chair to simulate a turning action. Pressure can be applied to both hydraulic cylinders 46, 146 to indicate and simulate thrust from the accelerator. Hydraulic cylinders 46, 146 can also be used to impart a very rapid shaking motion to the chair.

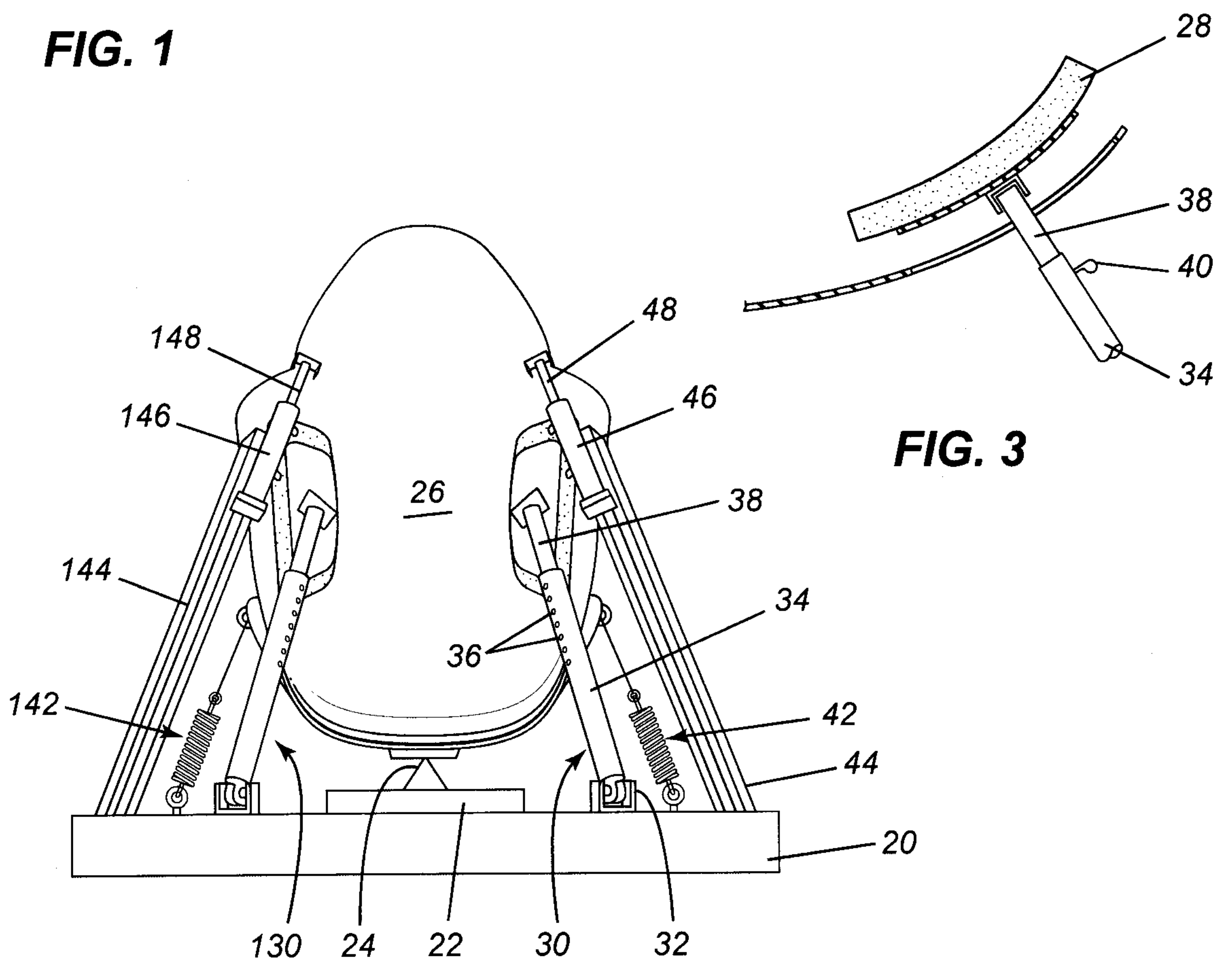
It will be understood that the above described embodiment is for purposes of illustration only and that changes and modifications may be made thereto without departing from the spirit and scope of the invention.

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

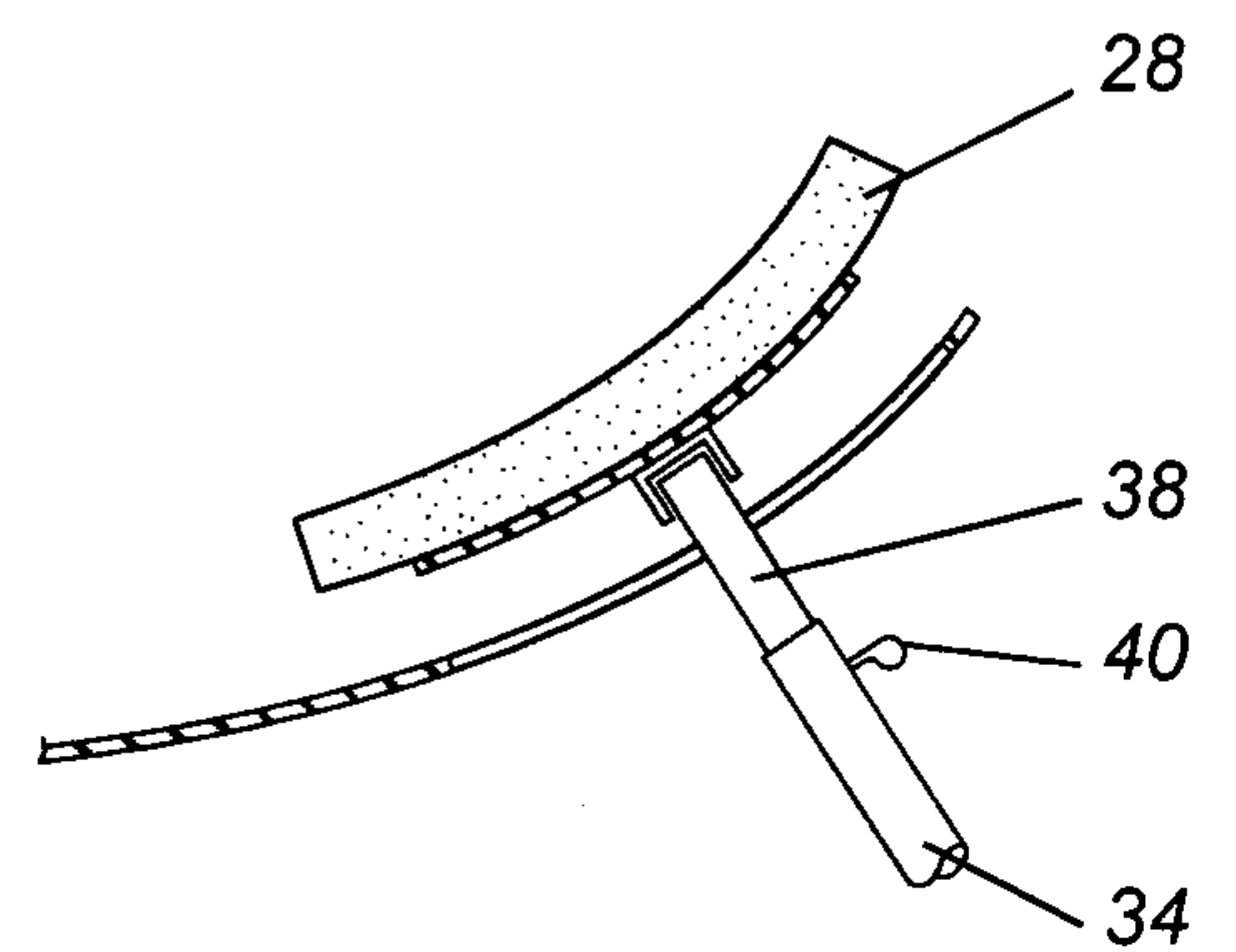
1. A chair suitable for use with a video game, said chair comprising:  
  
a seat portion;  
  
a back portion;  
  
said back portion having deformation means located therein, said deformation means causing increased pressure on a portion of an occupant's back.
2. The chair of Claim 1 wherein said chair is pivotably mounted on a platform.
3. The chair of Claim 1 wherein said deformation means comprise a deformation device associated with each side of said back portion, each of said deformation devices comprising a rigid member extending from a base to one side of said back portion, said rigid member being adjustable in length, and means for selectively moving one side of said back portion.
4. The chair of Claim 1 wherein said deformation means are linked to an accelerator in a video game apparatus.
5. The chair of Claim 1 wherein said deformation means are linked to a steering wheel of a video game apparatus.



**FIG. 1**



**FIG. 2**



**FIG. 3**

