UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

MALIKIE INNOVATIONS LTD., KEY PATENT INNOVATIONS LTD., Plaintiffs, v. NINTENDO CO., LTD., NINTENDO OF AMERICA INC., Defendants.	NO. 2:24-cv-01490-JLR

Report by Gavin T. Garner, PhD
in Response to the August 6, 2025 Declaration of Dr. Nathaniel Polish regarding
Claim Construction of U.S. Patent No. 8,115,731

1. I previously submitted a Report in this case on August 6, 2025 regarding, among other things, my opinions as to the constructions of certain terms in the ’731 Patent.

2. I understand that Dr. Nathaniel Polish submitted a declaration on the same subject, concurrently with mine. I have reviewed Dr. Polish’s declaration, and I provide this report in response to his conclusion that “a POSITA would not have any standard for evaluating whether [a] direction is ‘substantially parallel or substantially perpendicular to the orientation.’”

3. As I described in my first report (paragraphs 25–28), “the ‘direction’ of the ‘orientation’” claimed in the ’731 Patent is “the direction in which the handheld device is tilted relative to a neutral position.” For example, “a tilt of the device to the right” means “the device [is] being oriented in the right direction, in which case a graphical element might move to the right of the screen, thus moving in parallel to the new orientation[1] of the device.”

4. The ’731 Patent discloses several examples of mechanisms that can function as a “directional input device.” For example, figures 2 and 3 describe a switch embodiment where there are only two input directions (right and left) in which the device can detect tilt (or inclination or orientation), what the patent calls “1 degree of freedom.”

[1] I have reviewed Dr. Polish’s declaration regarding the meaning of “orientation” (paragraphs 38–46), and it does not change my previous opinions. It would have been clear to a POSITA from the specification that “the orientation” is referring to “the orientation of the handheld device.”

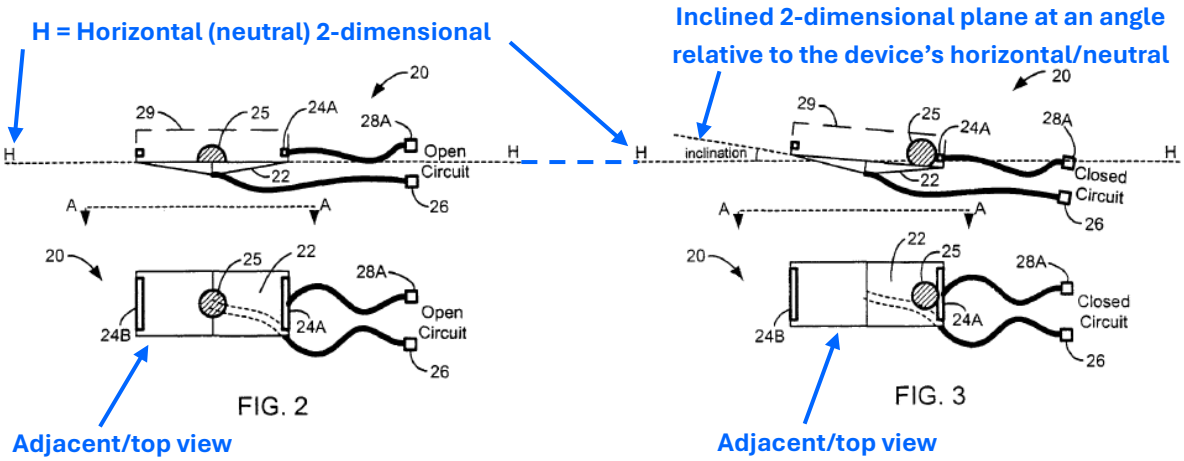


FIG. 2 FIG. 3

The patent describes this embodiment (6:57–67):

> As device 20 of FIGS. 2 and 3 is inclined in one direction or another, the circuit closing means 25 is pulled by gravity towards one of the contacts (contact 24A as illustrated in FIG. 3). The direction interpreter detects the closed circuit when circuit closing means 25 is in an active position and generates a directional input signal. … The embodiment of FIGS. 2 and 3 provides a directional input device with a biased neutral position and two active positions, each active position being associated with the closure of one of the two open circuits.

5. For another example, figures 4 and 5 describe a more complex switch embodiment where there are eight directions, (right and left, forward and back, and all four diagonals) in which the device can detect tilt (or inclination or orientation) relative to the neutral plane, what the patent calls "2 degrees of freedom."

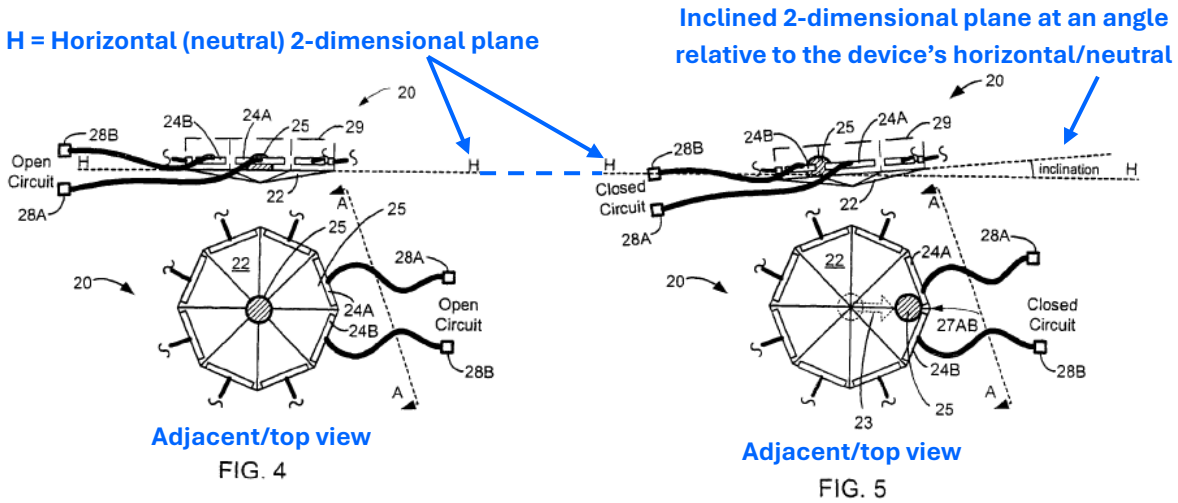


FIG. 4 FIG. 5

The patent describes this "two degree of freedom input device" (7:1–25), of which figures 4 and 5 are illustrative (see 7:25–28):

> [I]n a 2-degree of freedom embodiment, circuit closing means 25 is allowed to move freely in two directions, and is bounded by a plurality of contacts arranged about the base so as to form an approximation of a circle. Each directional contact is connected to the base in the same fashion that contacts 24A and 24B were connected to base 22, via lead 26, to create an open circuit. When the handheld is tilted in any direction the directional input device 20 is inclined. This causes the circuit closing means 25 to create a closed circuit between one of the contacts and the base by gravitationally overcoming the bias to the neutral position. This can be sensed by a direction interpreter which would provide a directional input signal. One of skill in the art will readily appreciate that the circuit closing means will often close more than one circuit simultaneously by touching two adjacent directional contacts. The direction interpreter will recognise the multiple closed circuits as motion in a direction corresponding to a combination of the directions associated with each directional contact in the closed circuits.

6. The patent discloses other examples as well (7:49–67):

> [M]any alternative sensors are compatible with the method, such as a solid state compass or gyroscope which senses orientation with respect to magnetic north, or a pendulum such as a tine pendulum, a micro saucer, or a solid state memory device. The choice of an actual orientation sensor is a matter which depends on the application of the present invention to a particular handheld device and the choice of sensor is obvious to those knowledgeable in the field in light of a particular handheld and the present invention. Although not expressly shown in the drawings, the use of a sensor that detects orientation in terms of degree instead of presence is also envisaged. Many orientation sensors can be used to detect degree using orientation, of varied complexity from as simple a principle as a pendulum, or a solid state compass, to as complex a principle as a gyroscope. The substitution of any orientation sensor is considered obvious to a person skilled in the art in view of this invention.

7. The patent further describes how the previous embodiments allow a tilt or orientation change to signal that the change has occurred (8:1–25):

> [H]aving considered examples of handheld devices, and having considered examples of orientation sensors in reference to FIGS. 1-5, embodiments of the method for operating a handheld device for directional input will be described next by way of example and reference to FIG. 6. The method of FIG. 6 can be used to signal to an element of the user interface in the handheld that a change in orientation has occurred. Typically the element of the user interface is either a cursor or a pointer. In relation of the embodiments of the system as illustrated in FIGS. 1-5, this signalling to the handheld occurs when the circuit closing means moves to an active position. The first step 30 of the method is to sense the handheld orientation or inclination. Once the handheld orientation has been sensed, the second step 40 is to convert the orientation to a direction signal. Then, at the third step 50 the direction signal is

> communicated to the handheld. Finally, at the fourth step 60 the direction signal is further processed in the handheld. In the fourth step, events are generated by the further processing of the signal. Such as by detecting patterns of the signal which correspond to patterns of the physical parameters of the sensors can be as complex or as simple as required.

8. It would have been clear to a POSITA that, as the patent presents in the foregoing examples, tilting the device to the right results in a signal that can cause movement of a graphical element on the display to the right. As the ’731 Patent states in the detailed description (5:52–54): “if it [is] desired to move the cursor to the right, the handheld would be tilted to the right.”

9. The ’731 Patent does not apply a mathematically absolute value to the “directions” it describes and claims. It would have been clear to a POSITA that all real-world systems have tolerance for deviation from any mathematical ideal or purely theoretical construct. In the embodiments described above, this tolerance would be whatever marginal tilt the device could experience before it ceased to indicate (e.g., by closing a circuit) that the device had been tilted in the intended direction. This is what a POSITA would have understood to be the requirement that the direction of tilt (i.e., the orientation) and the resulting direction of movement of a graphical element (e.g., a cursor) should be “substantially” parallel or perpendicular to one another.

10. Dr. Polish’s opinions in paragraphs 20–37 that it is impossible to say with certainty whether one arbitrary direction is “substantially” parallel to another one, without a referent for what “substantially” means in a given context, are rooted in the theoretical. The same is true of his opinions in paragraphs 32–34 that mathematically, in *three* dimensions, there are an unlimited number of ways lines can be parallel or perpendicular to one another.

11. However, the ’731 Patent has clear referents against which substantiality can be measured, depending on the precise sensor system used. A POSITA would have understood a direction “substantially” parallel to an orientation to be a direction within sufficient deviation to parallel such that the directional input signal indicates the orientation (via a change in the angle of inclination) of the device within the abilities of the chosen sensor.

12. The fundamental error in Dr. Polish’s reasoning is that the directions he examines are disconnected from the purposes and structures of the ’731 Patent, and in fact, are disconnected from *any* purpose or structure—they are mathematical abstractions having no bearing on how a POSITA would have understood the claims of the ’731 Patent.

13. In the context of the ’731 Patent and its claims, however, a POSITA would have understood “substantially parallel” or “substantially perpendicular” to mean close enough to the direction relative the desired orientation such that the directional input device will provide a signal that correctly indicates that orientation, which will depend on the specific structure of the particular directional input device being implemented.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge and belief.

Executed: September 5, 2025



Gavin T. Garner, PhD