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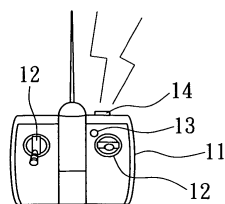
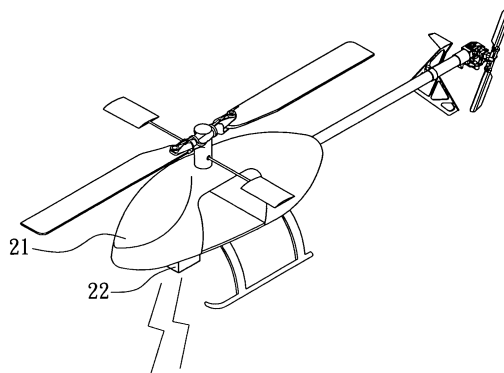
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HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT
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Designated Extension States:

AL BA MK RS(71) Applicant: **Thunder Tiger Corporation****Taichung City (TW)**(72) Inventor: **Taya, Shigetada****Yokohama City****Kanagawa Prefecture (JP)**(74) Representative: **Strehl Schübel-Hopf & Partner****Maximilianstrasse 54****80538 München (DE)**(54) **Feedback control system**

(57) A feedback control system has a remote control 11 and a model machine 21 controlled by the remote control 11. The remote control 11 has a power switch 13 electrically connected with a first transceiver 14. The first transceiver 14 can control the power state of the remote control 11. When the power switch 13 is turned on, the first transceiver 14 sends a sensing signal. The model

machine 21 has a second transceiver 22 for receiving the sensing signal transmitted from the first transceiver 14. After the second transceiver 22 receives the sensing signal, it determines whether the model machine 21 is power off. Afterwards, a power signal is sent back to the first transceiver 14 to determine the power state of the remote control 11.

**FIG. 1**

Description

BACKGROUND OF THE INVENTION

Field of Invention

[0001] The invention relates to a safety control system for the remote-control model and, in particular, to a feed-back control system that shuts down the power of a remote control after making sure that the model machine is powered off.

Related Art

[0002] A normal remote-control model uses a remote control to control a model machine. The model machine can be a plane, car, or boat. Each of the remote control and the model machine has an independent power and its associated switch so as to provide the power required for the remote control and the model machine.

[0003] The power switch of the normal remote control is directly disposed on its surface for the user to conveniently turn on and off the remote control. However, in practice, the remote control is held by both hands of the user to perform relevant controls. Suppose the user carelessly presses the power switch while pressing other buttons, controlling the stick, or turning a knob. Take a model plane as an example. In this case, the model airplane still flies in the sky. But the user cannot continue controlling the model plane because the power of the remote control is suddenly off. As a result, the model plane may be out of control and crash in the end.

SUMMARY OF THE INVENTION

[0004] An objective of the invention is to provide a feedback control system that turns off the remote control power after making sure that the model machine is powered off.

[0005] To achieve the above objective, the disclosed feedback control system includes a remote control and a model machine controlled by the remote control. The invention is **characterized in that:**

[0006] (1) The remote control has a power switch connected with a first transceiver, which controls the on and off of the remote control power. When the power switch is turned on, the first transceiver sends a sensing signal.

[0007] (2) The model machine has a second transceiver, which receives the sensing signal sent from the first transceiver. After receiving the sensing signal, the second transceiver determines whether the model machine is powered off. It further returns a power signal to the first transceiver to determine whether the power of the remote control should be on or off.

[0008] (3) Signals are transmitted between the first transceiver and the second transceiver in a wireless way. The second transceiver has an independent power to provide the power required during the operations of the

second transceiver.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The invention will become more fully understood from the detailed description given herein below illustration only, and thus is not limitative of the present invention, and wherein:

[0010] FIG. 1 is a schematic view of the structure of the invention; and

[0011] FIG. 2 is a flowchart of the invention in use.

DETAILED DESCRIPTION OF THE INVENTION

[0012] The present invention will be apparent from the following detailed description, which proceeds with reference to the accompanying drawings, wherein the same references relate to the same elements.

[0013] Please refer to FIG. 1. A feedback control system of the invention is used in a remote-control model. The remote-control model consists of a remote control 11 and a model machine 21 controlled by the remote control 11. Each of the remote control 11 and the model machine 21 has an independent power supply (not shown).

[0014] The remote control 11 has a plurality of control units 12 and a power switch 13. An operator can control the model machine 21 using the control units 12 on the remote control 11. The power switch 13 is electrically connected with a first transceiver 14. The first transceiver 14 controls the on the off of the remote control 11. It transmits signals in a wireless way. When the operator turns on the power switch, the first transceiver 14 sends a sensing signal.

[0015] The model machine 21 has a second transceiver 22. It communicates signals with the first transceiver 14 in a wireless way. The second transceiver 22 can detect and determine the on and off state of the power of the model machine 21. It receives the sensing signal transmitted from the first transceiver 14. Once the second transceiver 22 receives the sensing signal, it determines the power state of the second transceiver 22. The second transceiver 22 then determines the power state of the model host 21. Afterwards, the second transceiver 22 returns a power signal to the first transceiver 14, determining the power state of the remote control 11.

[0016] In practice, as shown in FIG. 2, when the operator wants to shut down the power of the remote control 11 by pressing the power switch 13, the first transceiver 14 first transmits a sensing signal to the second transceiver 22. After the second transceiver 22 receives the sensing signal from the first transceiver 14, it starts to detect the power state of the model machine 21. If the second transceiver 22 determines that the power of the model machine 21 is off, it sends a power-off signal to the first transceiver 14. The first transceiver 14 then turns off the power of the remote control 11.

[0017] If the second transceiver 22 determines that the

power of the model machine 21 is still on, it transmits a no-power-off signal to the first transceiver 14. The first transceiver 14 then does not shut down the remote control.

[0018] It should be mentioned that the second transceiver 22 has an independent power supply to provide the electrical power required for the operations thereof. Therefore, when the power of the model machine 21 is off, the second transceiver 22 can still detect power and transmit signals.

[0019] Using the disclosed feedback control system, the remote control 11 first makes sure that the power of the model machine 21 is turned off before it turns itself off. This can effectively prevent the operator from carelessly turning off the power of the remote control 11 while still running the model machine 21. The model machine 21 is then prevented from crashes or damages. The invention thus largely increases the safety in operating remote-control models.

[0020] Although the invention has been described with reference to specific embodiments, this description is not meant to be construed in a limiting sense. Various modifications of the disclosed embodiments, as well as alternative embodiments, will be apparent to persons skilled in the art. It is, therefore, contemplated that the appended claims will cover all modifications that fall within the true scope of the invention.

Claims

1. A feedback control system comprising a remote control (11) and a model machine (21) controlled by the remote control (11), **characterized in that:**

the remote control (11) has a power switch (13) electrically connected with a first transceiver (14), the first transceiver (14) controls the power state of the remote control (11) so that it sends a sensing signal when the power switch (13) is turned on;

the model machine (21) has a second transceiver (22) for receiving the sensing signal transmitted from the first transceiver (14) and, after receiving the sensing signal, determining whether the model machine (21) is power off, and returning a power signal to the first transceiver (14) to determine the power state of the remote control (11).

2. The feedback control system of claim 1, wherein the first transceiver (14) and the second transceiver (22) transmit signals in a wireless way.

3. The feedback control system of claim 1, wherein the second transceiver (22) has an independent power supply to provide the electrical power required for the operations thereof.

4. The feedback control system of claim 1, wherein when the second transceiver (22) receives the sensing signal and determines that the model machine (21) is power off, its returning power signal is a power-off signal and when the first transceiver (14) receives the power-off signal, the first transceiver (14) shuts down the remote control (11).

5. The feedback control system of claim 1, wherein when the second transceiver (22) receives the sensing signal and determines that the model machine (21) is power on, its returning power signal is a no-power-off signal and when the first transceiver (14) receives the no-power-off signal, the first transceiver (14) does not shut down the remote control (11).

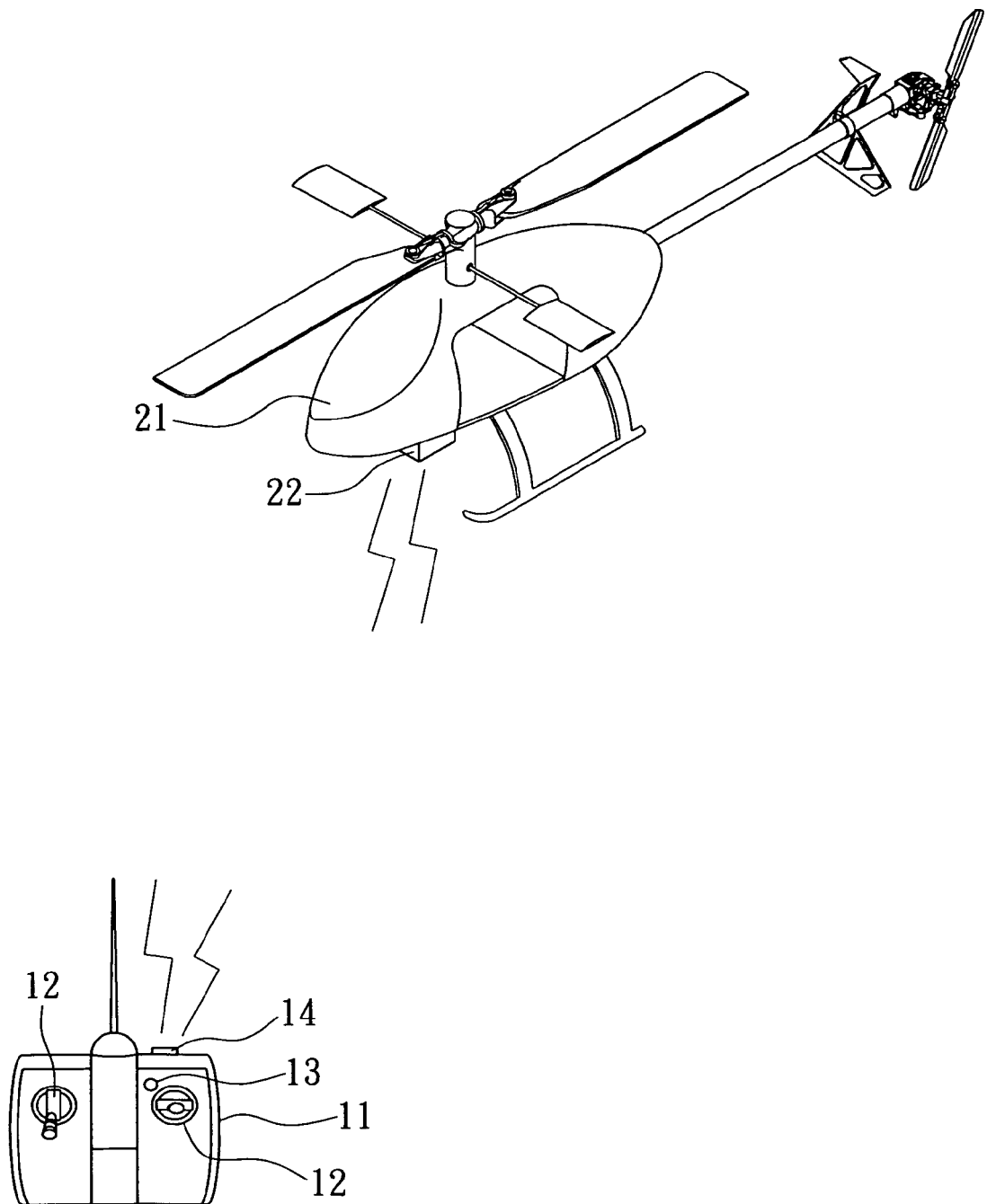


FIG. 1

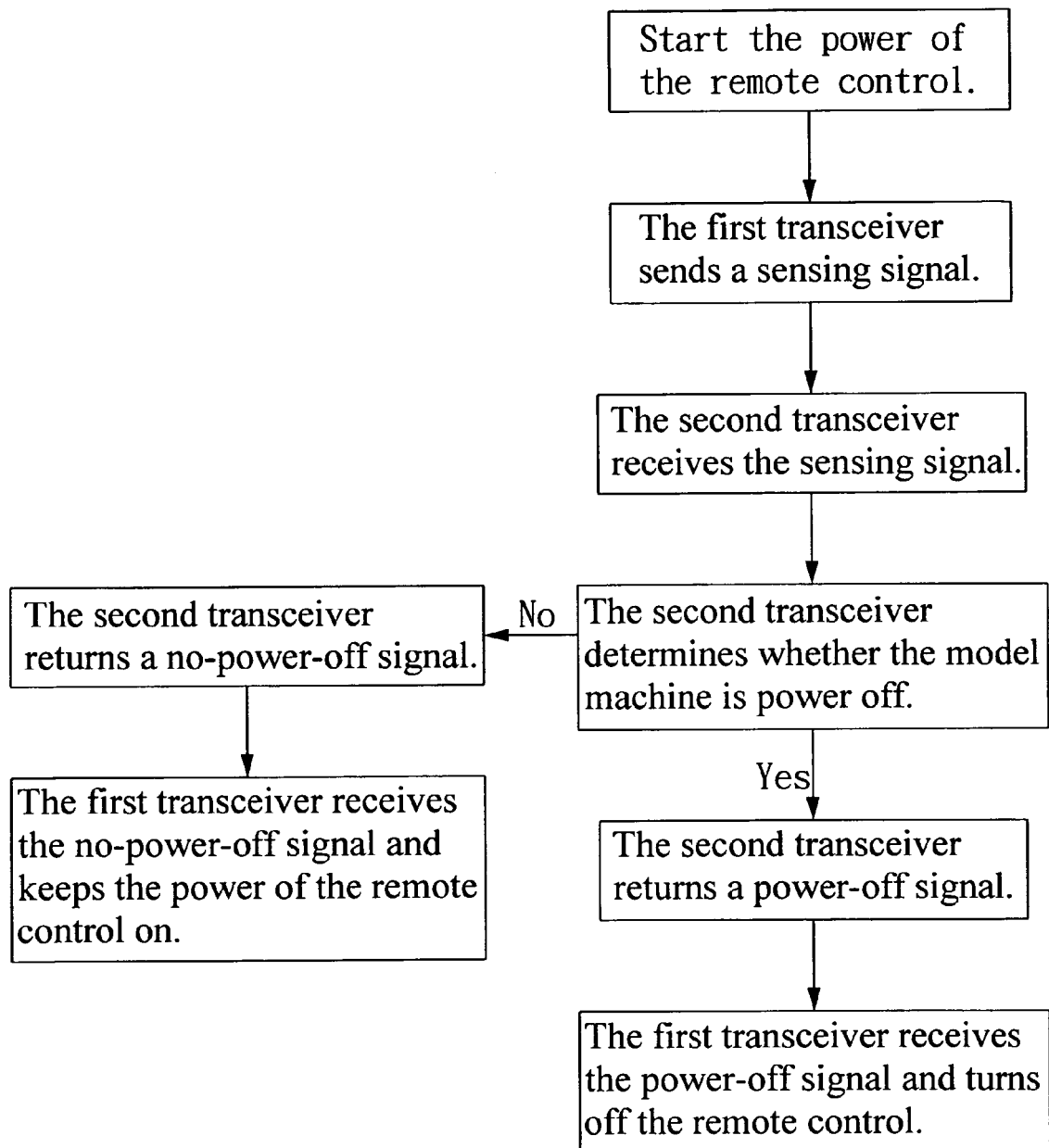


FIG. 2



EUROPEAN SEARCH REPORT

Application Number
EP 08 01 6652

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 961 471 A (THUNDER TIGER CORP [TW]) 27 August 2008 (2008-08-27) * paragraphs [0016], [0018], [0024]; figures 1-3 *	1-5	INV. A63H30/04
X	US 2006/266884 A1 (PERLMAN STEPHEN G [US]) 30 November 2006 (2006-11-30) * paragraphs [0027] - [0038]; figures 1-3,10 *	1-5	
			TECHNICAL FIELDS SEARCHED (IPC)
			A63H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 4 March 2009	Examiner Shmonin, Vladimir
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 01 6652

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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04-03-2009

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