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(54) **Method to optimize the recorded times in a regularity motor race and system for implementing the method**

(57) A chronometer (1), constructed with two inputs, one for a button (5) of the driver (2) and the other for a button (6) of the copilot (3), and with two outputs for each headphone (7a, 7b) worn by the pilot and co-pilot, so that each headphone gets its own signal, allows the crew, after a simple initial setup, to define which of the two

buttons is the "primary" and which is the "secondary" so that at any moment it is possible, by means of one, two or more buttons of a suitable keyboard (9), to select the signal that is deemed the more accurate to control the speed of a car C in the last minutes of a race route (Fi. 4).

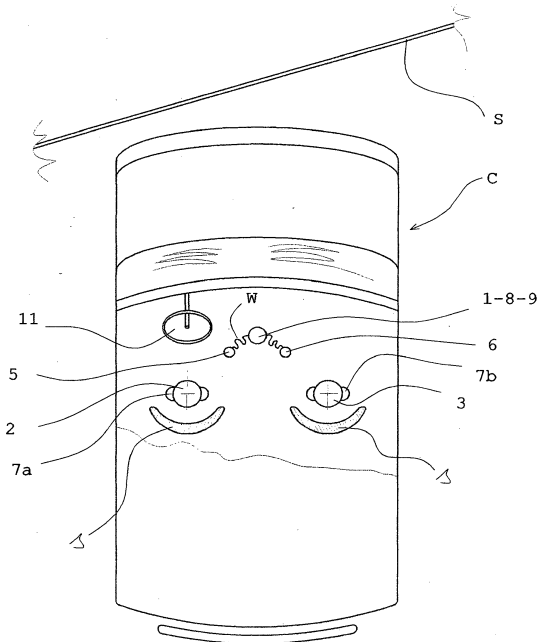


Fig. 4

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Description

Field of invention.

[0001] The method and system according to the patent application are in the field of assisting the competitors in a regularity motor race in improving their own temporal accuracy along a predetermined route.

[0002] Pilot and co-pilot in a racing car will be also referred to as "competitors".

State of the art.

[0003] In conducting a regularity motor race, the accuracy requested from the competitors is of the order of hundredths of a second and the competitors use a device that, substantially, is a very accurate race chronometer that acoustically indicates (in the technical field is also used to say - beat the times-) the last few seconds before the end of the imposed time (usually, but not necessarily, the last fifteen seconds). The counting of seconds is started and stopped by the actuation of a button by one of the competitors, taking as a reference, at each step, as shown in Fig. 1, the point P in which the front wheels of the car cross the sensor S (see Figures. 2 and 3) in the form of a linear element sensitive to pressure or in the form of photocell (in the following, simply -sensor- will be referred to) placed orthogonally to the direction of the route. Obviously, if the situation is the top view, as shown in Fig. 2, the pilot or co-pilot, indifferently, are able to start and stop the stopwatch, each by viewing the sensor S at about the same position (to simplify, omit the possible different sitting positions and different heights between the pilot and co-pilot).

[0004] However, it often so happens that the car is not able to arrive on the sensor S perpendicularly to the same, as shown in Fig. 3. It would therefore create a situation where the point where the sensor S is seen is quite different between the pilot and co-pilot.

[0005] Though apparently said situation might be irrelevant in the case, absolutely

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[0008] In conducting a regularity motor race, the accuracy requested from the competitors is of the order of hundredths of a second and the competitors use a device that, substantially, is a very accurate race chronometer that acoustically indicates (in the technical field is also

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[0009] However, it often so happens that the car is not able to arrive on the sensor S perpendicularly to the same, as shown in Fig. 3. It would therefore create a situation where the point where the sensor S is seen is quite different between the pilot and co-pilot.

[0010] Though apparently said situation might be irrelevant in the case, absolutely delated, at the expense of accuracy.

Purpose of the invention.

[0011] The purpose of the invented method and system is to allow the reception of signals to the pilot and co-pilot by connecting the respective activation buttons with a same chronometer, making the same chronometer able to use only one of the two signals, the one that, conventionally only, is considered primary or secondary, and better controls the compliance with the times imposed in the race.

Background of the invention.

[0012] According to the invented method and system a chronometer constructed with two inputs, one for the button of the pilot and the other for the button of the co-pilot, and two outputs for each headset worn by the pilot and co-pilot, so that each headset is capable of receiving its own signal (the one relevant to the signal generated by its corresponding button), allows the crew, after a simple initial setting, to identify the two buttons (for example, calling them "primary" and "secondary") so that, in any moment between a passage and the other, it is possible, by means of one, two or more buttons of a suitable keyboard associated with the chronometer, or through the combined use of them, to choose the one of the two signals that is believed correct, being helped in the decision, in addition to their own experience, also by the acoustic indication dedicated to each of them. It is clarified that, once set one of the two buttons to confer, for example, the role of primary button, the pilot and co-pilot operate independently, each on its own button, on the passage of the car on a sensor S. A screen associated with the

chronometer allows competitors to check the times kept during the journey.

Advantages of the invention.

[0013] This invention overcomes the problem of frequent mistakes made when the car does not arrive perpendicular to the linear sensor, allowing competitors to choose from time to time the signal deemed more appropriate to proceed with the best in the regularity race.

Example of embodiment.

[0014] The invention is illustrated in more detail below with the aid of the drawing in which Fig. 4 is a diagrammatic top view showing the basic components of the system installed in a car in the race driven by a pilot 1 and by a co-pilot 2.

[0015] The figure shows that the system comprises in a car C:

- a) a race chronometer 1-8-9 constructed with two inputs, each adapted to receive signals transmitted from the driver 2 and the copilot 3, placed on their seats s, and comprising a screen 8 in which are shown the times kept by the car on the way and a keyboard 9 which enables to choose the signal that it is considered the more accurate;
- b) two buttons 5, 6, one for the pilot and one for the co-pilot, to transmit to the chronometer 1-8-9, along the connection wires W, the signals at each passage on a sensor S;
- c) two headphones 7a, 7b, one for the pilot and one for the co-pilot, each with two outputs, suitable to voice the signals transmitted by the buttons 5, 6;
- d) a steering wheel 11 of the car C.

[0016] The system uses the primary signal to start the counts in correspondence with each passage on a sensor S and displays the times relevant to both signals on the screen 8 of the chromometer (1-8-9 in the figure) and possibly on an auxiliary chronometer, not shown in the figure, for a time period adjustable in the initial settings. The crew is enabled, as long as the next survey presents, to choose whether to use the signal "primary" (in which case they will have nothing to do on the chronometer equipment), or whether to use the signal "secondary", in wick case they will operate on said equipment that will "update" the counts by using the secondary signal, the choice, obviously, being reversible at the discretion of the crew. As soon as the car presents on the subsequent detection sensor, the system will use again the primary signal and repropose the routine described above. In other words, the crew has the option to select one of the two possible signals as long as they are within the timed race portion.

[0017] Alternatively, the chronometer does not bear a keyboard 9.

Claims

1. Method for optimizing the recorded times in a regularity motor race in which a race chronometer (1) receives a signal generated by an activation button (5, 6) activated by one of the competitors at the moment of passage of a front wheel on a sensor (S) to indicate on a screen (8) travel times during the last seconds of a regularity motor race, **characterized in that** a chronometer (1-8-9), constructed with two inputs, one for the button (5) of the driver (2) and the other for the button (6) of the co-pilot (3), with two outputs for each of the headphones (7a, 7b) respectively worn by the pilot and co-pilot and also equipped with a screen (8), allows that each headset is capable of receiving the signal generated by its corresponding button and the crew (2, 3) is able, after an initial setting of the chronometer (1), to identify conventionally the two buttons (5, 6) so that at any moment between a passage and the other, it is possible, by means of one, two or more buttons of a suitable keyboard (9) associated with the chronometer (1), or by the combined use of them, to select the signal that is considered the more accurate.
2. System for implementing the method claimed in claim 1, **characterized in that** in a racing car C are comprised::
 - a) a raace chronometer (1-8-9) constructed with two inputs, each adapted to receive signals transmitted from the driver (2) and the co-pilot (3), with a screen (8) in which the times kept along the way are shown and with a keyboard (9) that allows the competitors to choose the signal that is considered the more accurate;
 - b) two buttons (5, 6) one for the pilot (2) and one for the co-pilot (3), suitable for transmitting to the chronometer (1-8-9), the long connection wires (W), the signals caused by the car (C) on each passage on a sensor S;
 - c) two headphones (7a, 7b), one for a pilot (2) and one for the co-pilot (3), each with two outputs, suitable to voice signals transmitted by the two buttons (5; 6).
3. System according to claim 2 **characterized in that** the screen (8) and the keyboard (9) are external to the chronometer (1).
4. System according to claims 2, 3 **characterized in that** a separate twin screen (8).is comprised where the times kept along the route are shown.

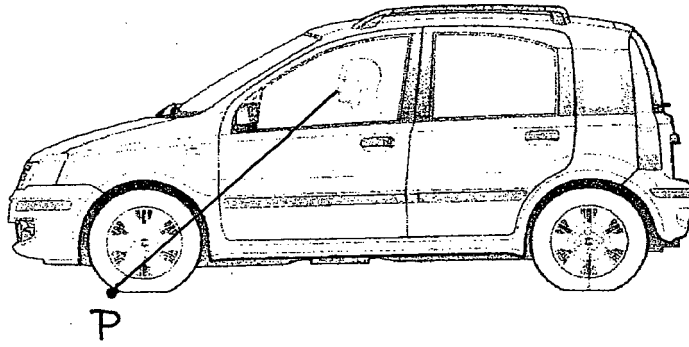


FIG. 1

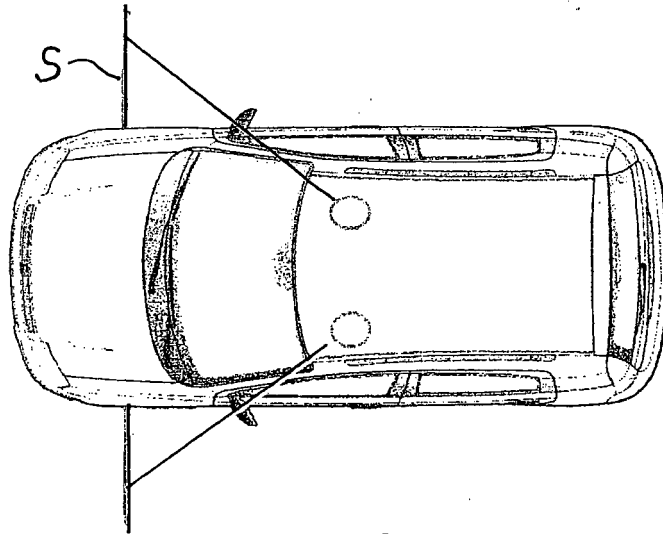


FIG. 2

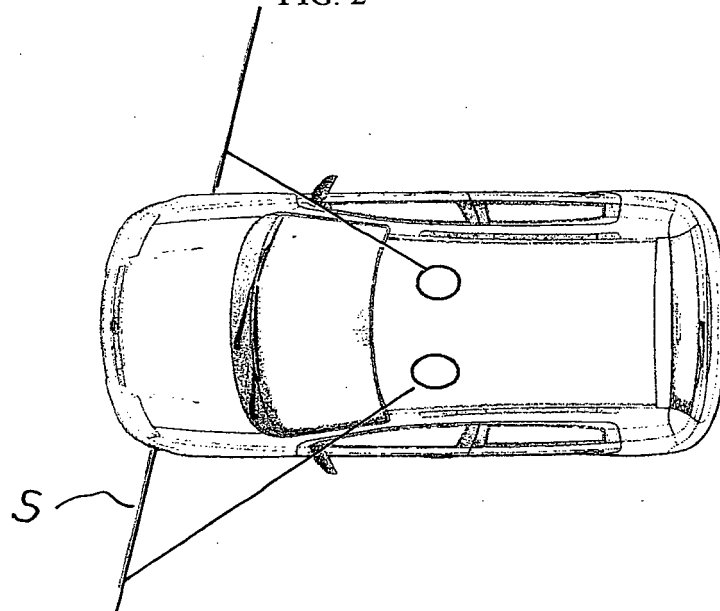


FIG. 3

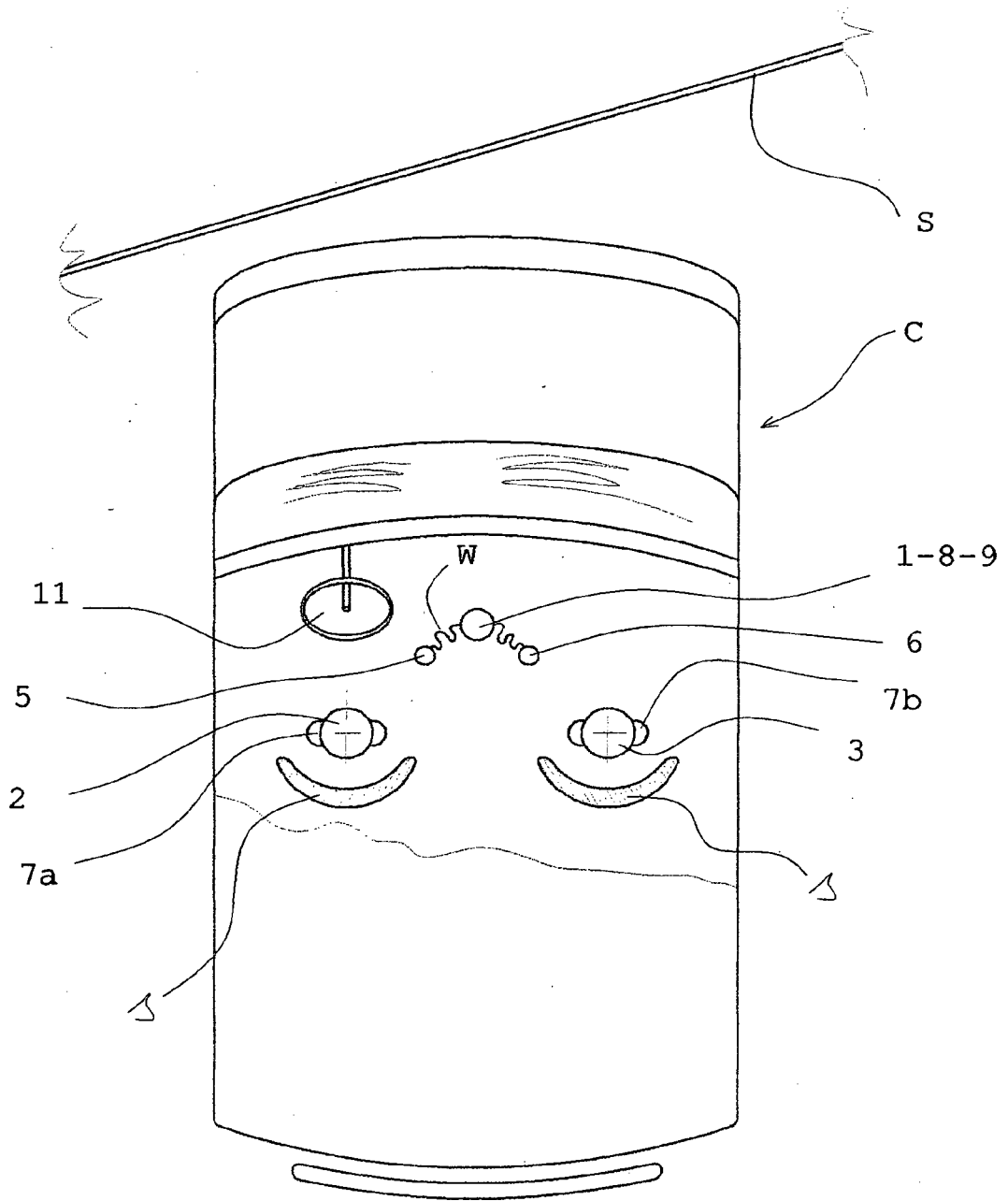


Fig. 4



EUROPEAN SEARCH REPORT

Application Number
EP 15 00 1867

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	Digitech: "BORINO: Cronometro per Gare di Regolarità by DIGITECH > 1v15 italiano", 1 June 2012 (2012-06-01), XP055177309, Retrieved from the Internet: URL:http://support.digitechtiming.eu/manuali/Borino/Borino_MAN_1v1-ITA.pdf [retrieved on 2015-03-17] * the whole document *	1-4	INV. G04F3/08 G04F10/00 G07C1/24 TECHNICAL FIELDS SEARCHED (IPC) G04F G07C
A	"Blizz Timing - Cronometro C-200 - user's manual versione 2.03", 14 September 2012 (2012-09-14), XP055174611, Retrieved from the Internet: URL:https://web.archive.org/web/20120914061458/http://www.blizz-timing.com/immagini/manuale_c200.pdf [retrieved on 2015-03-06] * paragraph 7 *	1-4	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 3 September 2015	Examiner Pirozzi, Giuseppe
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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