Advisory Opinion

made by Yelena Yuryevna Fedoruk, being a Patent Agent of the Republic of Belarus (reg. No. 82) and a Eurasian Patent Agent (reg. No. 268), based on a submission of of the LLC "TECHNOTON" (BY), being a manufacturer of "CAN Crocodile Safe Data Receiving Device from CAN Bus," in which submission the following issue has been raised to be examined:

Does the technical solution used by JV Technoton JSC in its product *"CAN Crocodile Safe Data Receiving Device from CAN Bus"* fall within the scope of patent EP 1941656 "Device for reading information on a digital bus without a wire connection to the network"?

Therefore, presence/absence of any infridgment of European patent EP 1941656 "Device for reading information on a digital bus without a wire connection to the network" by JV "Technoton" JSC during the production and sale in the European countries of the product "CAN Crocodile Safe Data Receiving Device from CAN Bus" is required to be evaluated.

The following documents have been submitted for the expert examination:

1. A copy of the official publication of European patent EP ***1941656*** "Device for reading data, intended to recover signals exchanged on a digital communication bus," 2006.
2. Opinion of E. Sviderskiy, Patent Agent, dated 09/03/2015
3. Crocodile Contactless Reader. User Manual. Version 3.0. Technoton, 2017.
4. Product specification of CANCrocodile Contactless Reader
5. Patent RU 2188434 "Electromagnetic sensor," 2002.
6. DIY electromagnetic sensor for Arduino

http://digitrode.ru/computing-devices/mcu_cpu/641-detektor-elektromagnitnogo-izlucheniya-na-arduino-svoimi-rukami.html

7. Patent RU 2054686 "Device for electromagnetic emission monitoring"

http://ru-patent.info/20/50-54/2054686.html

Preparing her Opinion, the Patent Agent was guided in her conclusions by the laws effective as at the date of expert examination in the field of Eurasian patents and national patents of both the Republic of Belarus and Russian Federation, namely:

- Eurasian Patent Convention ratified by the Russian Federation with Federal Law No. 85-ФЗ dated 01.06.1995 and effective for the Russian Federation since 27.09.1995 (hereinafter "the Convention")

- Patent Instruction to the Eurasian Patent Convention approved by the

Administrative Council of the Eurasian Patent Organization at the second (first ordinary) meeting dated December 1, 1995, as amended and added to at the sixth (fourth ordinary) meeting of the Administrative Council of the EAPO on November 25-26, 1997, the eleventh (eighth ordinary) meeting of the Administrative Council of the EAPO on October 15-19, 2001, the fourteenth (tenth ordinary) meeting of the Administrative Council of the EAPO on November 17-21, 2003, the seventeenth (twelfth ordinary) meeting of the Administrative Council of the EAPO on November 14-18, 2005, the nineteenth (fourteenth ordinary) meeting of the Administrative Council of the EAPO on November 13-15, 2007, the twenty-first (sixth extra-ordinary) meeting of the Administrative Council of the EAPO on March 30-31, 2009, the twenty-third (seventeenth ordinary) meeting of the Administrative Council of the EAPO on November 8-10, 2010, the twenty-sixth (nineteenth ordinary) meeting of the Administrative Council of the EAPO on November 20-22, 2012 (hereinafter "the Instruction").

- Civil Code of the Russian Federation–Part 4 (hereinafter "the CC of RF") adopted by the State Duma on November 24, 2002, under No. 231-ФЗ

- Law of the Republic of Belarus No. 160-З dated December 16, 2002 "On patents for inventions, useful models, and industrial designs"

In accordance with the general approaches for the above territories, the Patent Holder has the exclusive right to use and permit or prohibit the use by others of the patented invention.

An infringement of the Patent Holder's exclusive right includes any unauthorized production, use, importation, marketing, sale, and any other commercialization or storage for this purpose of the product covered by the patent.

The extent of legal protection provided by a patent is determined by the formula of invention.

When determining the extent of legal protection provided by a patent, every feature of the invention included into a separate claim and, in cases permitted by the national legislation of countries, features equivalent thereto are taken into account. (In Russia and Belarus, equivalent features are also taken into account.)

Pursuant to Art. 1358 Cl. 3 of the CC of RF, an invention is recognized as used in a product if the product contains each feature of the invention given in a separate claim contained in the patent for the formula of invention or a feature equivalent thereto, which had become known as such in the given technical field before it was used in the product.

According to Chapter 6 of the Law of the Republic of Belarus "On patents for inventions," … a product is recognized as made using the patented invention if each feature of the invention included in a separate claim of the formula or a feature equivalent thereto is used therein.

Therefore, an invention is recognized as used in a product if the product contains each feature set forth in a separate claim of the formula of invention or a feature equivalent thereto.

If each significant feature in the formula of invention (hereinafter "the Feature") is present in a manufactured product, such product is considered to have been made using the patented invention and, therefore, falling within the scope of the patent. If at least one feature in the formula of invention under the patent is absent in a product or a process, no infringement is present. Any additional distinctive features in the product falling out of the scope of the patent issued do not drop the charges related with the infringement thereof.

According to the doctrine of equivalents, a patent covers not only items incorporating the entire set of features listed in a separate claim of the formula, but also equivalent features, which have been reflected in a product manufactured or a manufacturing process carried out. As per the above doctrine, a patent is considered as violated where a certain feature is not present in a product, but replaced with a feature that performs the same function by the same way and resulting in the same. It should be noted that the Equivalents Doctrine is applied in respect of an individual feature and not of the invention as a whole.

In Germany and other countries, the doctrine of equivalents is applied in resolving disputes related to the determination of the extent of rights provided by the patent of invention. Those features that, with regard to the state of the art existing as at the date of claim, are known to an average specialist in this field as performing the same function with the same result are considered to be equivalent features.

In order to determine whether any infringement of the right to the invention by JV "Technoton" JSC during the production and sale in the European countries of the product "CAN Crocodile Safe Data Receiving Device from CAN Bus" is present under EP 1941656 "Device for reading information on a digital bus without a wire connection to the network," it is required that a comparative analysis of features in a separate claim in the formula of invention under EP 1941656 be performed and the presence/absence of such features in the product of JV "Technoton" JSC be detected.

The European Patent EP 1941656 applies in the following countries: GB, DE, FR, CH, IE, DK, NL, BE, PT, SE, IT, CS, PL, RO, ES.

The European Patent is applied in the aforesaid countries with the following formula containing one independent claim:

«1. Device for reading information, said device being intended to recover the signals which are exchanged on a digital communication bus (4) comprising two wires (4a, 4b), and to process these signals, said device including means of connection to said digital communication bus, said means being intended to recover said signals which are exchanged on the bus, said device being characterized in that the connection means consist of a connecting clamp of capacitive type, and in that said connecting clamp includes at least one clamp (5a, 5b) which is suitable to be put in place on one of the wires (4a, 4b).

2. Device for reading information according to Claim 1, characterized in that the connecting clamp includes two clamps (5a, 5b) which are suitable to be put in place on the two wires (4a, 4b), that is on the liner of the up-going signal (4a) and on the line of the down-going signal (4b), to implement differential measurement between the signals of the two wires (4a, 4b).

3. Device for reading information according to Claim 1 or 2, characterized in that the clamp(s) (5a, 5b) consist(s) of a first metallic peripheral envelope (9), around which is arranged an insulating layer (10), e.g. implemented in elastomer or otherwise, around which is arranged a wire connector (11), which ensures the physical connection thanks to tightening means (12) such as a screw or any other means.

4. Device according to any one of the preceding claims, characterized in that the clamp(s) (5a, 5b) is/are connected to an electronic circuit (2), which analyses and processes the received signals.

5. Device according to the preceding claim, characterized in that the electronic processing circuit (2) comprises at least an amplifier (51), which is intended to amplify the up-going and down-going signals, a detector (52, 53) and a comparator, a circuit to reshape the processed signals (54), a line interface (55).

6. Device according to any one of the preceding claims, characterized in that it is fitted to read the information of a CAN network.

Перевод формулы на русский язык:

1. Устройство для считывания информации; указанное устройство предназначено для восстановления сигналов, обмен которыми производится по цифровой коммуникационной шине (4), состоящей из двух проводов (4a, 4b), а также для обработки этих сигналов; указанное устройство включает приспособление для подключения к указанной цифровой коммуникационной шине; указанное приспособление предназначено для восстановления указанных сигналов, обмен которыми производится по шине; указанное устройство характеризуется тем, что приспособление для подключения состоит из соединителя емкостного типа, и тем, что указанный соединитель включает, по крайней мере, один зажим (5a, 5b), пригодный для установки на одном из проводов (4a, 4b).

2. Устройство для считывания информации в пункте 1 характеризуется тем, что соединитель включает два зажима (5a, 5b) годный для установки на двух проводах (4a, 4b), то есть, на линии восходящего сигнала (4a) и на линии нисходящего сигнала (4b) для вычисления дифференциала между сигналами на двух проводах (4a, 4b).

3. Устройство для считывания информации в пункте 1 или 2, характеризуется тем, что зажим(ы) (5a, 5b) состоит (-ят) из первого металлического периферийного конверта (9), вокруг которого создан изоляционный слой (10), например, из эластомера или иного материала, вокруг которого расположен соединитель проводов (11), обеспечивающий физическое соединение посредством приспособления для сжатия (12), такого как винт или иное приспособление.

4. Устройство во всех предыдущих пунктах характеризуется тем, что зажим(ы) (5a, 5b) подсоединен(ы) к электронной схеме (2), которая анализирует и обрабатывает полученные сигналы.

5. Устройство в предыдущем пункте характеризуется тем, что обрабатывающая электросхема (2) состоит, как минимум, из:

усилителя (51), предназначенного для усиления восходящего и нисходящего сигналов;
детектора (52, 534) и компаратора;
схемы для переформирования обработанных сигналов (54);
линейного интерфейса (55).

6. Устройство во всех предыдущих пунктах характеризуется тем, что оно пригодно для считывания информации из сети CAN.

We would like to emphasize that the rights of the Patent Owner apply on the territory of the patent. Territories of the countries in which the patent in relation to the considered invention applies are given on page 3.

The technical solution is also protected in the US, but the scope of rights granted in the US is expressed otherwise, more narrowly, in the formula.

The provided research of patent attorney E. Sviderski has been conducted in specifically in relation to the rights granted to the owner in the territory of the US.

In the territories of all countries where the patent applies, the protection is carried out in accordance with the national laws on patents for inventions as well as in accordance with the approaches adopted in each of the countries.

Please pay attention that for final conclusions on violations under the patent in a specific country it is recommended to address specialists (patent attorneys) from these countries.

The conclusions within this research were based on commonly adopted approaches and the fact that legislation of different countries in the field of intellectual property protection is harmonized to a greater extent.

Thus, the scope of rights granted under the patent is determined in the independent claim:
"1. Device for reading information, said device being intended to recover the signals which are exchanged on a digital communication bus (4) comprising two wires (4a, 4b), and to process these signals, said device including means of connection to said digital communication bus, said means being intended to recover said signals which are exchanged on the bus, said device being characterized in that the connection means consist of a connecting clamp of capacitive type, and in that said connecting clamp includes at least one clamp (5a, 5b) which is suitable to be put in place on one of the wires (4a, 4b)".

The result of comparative analysis of essential features of the independent claim under the patent EP **1941656** for the presence/absence thereof in the implementation of the product "Device for contactless pickup of CAN tire signal (Crocodile) manufactured by CJSC "Technoton" are given in the table (attachment contains drawings and diagrams for the patent with references specified in the formula):

	Essential features f the	The product by CJSC	Conclusion on

	independent claim under the patent EP **1941656** (with indication of items on drawings under the patent)	“Technoton”	the use of essential features of the claim in the product by CJSC “Technoton
1	Device for reading information;	Device for reading information;	contains
2	the said device is intended to recover signals and process these signals,	the said device is intended to detect signals and process these signals,	Purpose of the device
3	the signals are exchanged on a digital communication bus (4),	the signals are exchanged on a digital communication bus	contains
4	the bus comprises two wires (4a, 4b),	the bus comprises two wires	contains
5	The said device including means of connection to said digital communication bus;	The said device including means of connection to said digital communication bus;	contains
6	The said means are intended to recover said signals which are exchanged on the bus;	The said means are intended to detect and recover said signals which are exchanged on the bus;	contains
7	connection means consist of a connecting clamp of capacitive type	connection means consist of a connector designed as an electromagnetic field detector with electromagnetic radiation indicator [3], [5], [6].	Does not contain, is not an equivalent
8	The said connecting clamp includes at least one clamp (5a, 5b) which is suitable to be put in place on one of the wires (4a, 4b).	The bus wires are placed along the marks and fixed by the body; therefore, the clamp for any of the wires [3], [4] is not necessary.	Does not contain

As stated previously, each feature shall be contained in the device in order for the device to be considered violating the patent.

As far as it clear from the description of the European patent as well as from the more detailed claim under the American patent, the device for reading information in the invention is implemented by a clamp. Thus, the claim is a part of a

capacitive connector intended for connection to the bus. As can be seen from the description, the clamp comprises a peripheral metal layer, which is placed around the insulating jacket of the digital data bus without destroying the shell and insulating layer around the peripheral metal layer.

The structure for reading information in the product according to the data by CJSC "Technoton" is implemented by using the electromagnet radiation sensor for measuring intensity of the electromagnet radiation. The wires from the read bus are laid and fixed by the specially designed housing cover over the board antennas. Due to the applied design, no elements equivalent to a clamp are required for reading, as reading is performed by means of antennas. The read antennas have specific form, size and mutual placement. Due to the special housing, the antennas cannot be affected by other wires laid nearby. Signals from the antennas are transferred to high-speed comparators. The comparators amplify the signals from antennas and form rectangular impulses, from which the readable bit is formed by the bit length generator. After that the resulted unipolar signal is converted into a differential signal corresponding to the physical bus layers.

As can be seen from the given analysis of essential features of the independent claim under the patent EP **1941656** for the presence/absence thereof in the implementation of the product **"Device for contactless pickup of CAN tire signal (Crocodile)"** manufactured by CJSC "Technoton", not all features of the invention claim are contained in the device.

The connecting device consists of the connector designed as electromagnetic field detector with electromagnetic radiation indicator, due to which the clamp for data pickup is not needed.

The claimed technical result is achieved by other means, and, subsequently, the invention features under the European Patent EP 1941656 are not used in the product "Device for contactless pickup of CAN tire signal (Crocodile)".

Conclusion: The considered technical solution used in production and implementation of the product "Device for contactless pickup of CAN tire signal (Crocodile)" is not subject of the European Patent EP 1941656, and, therefore, production and implementation of the product does not violate exclusive rights of the patent owner under the patent EP 1941656.

Patent Attorney

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FIG 1

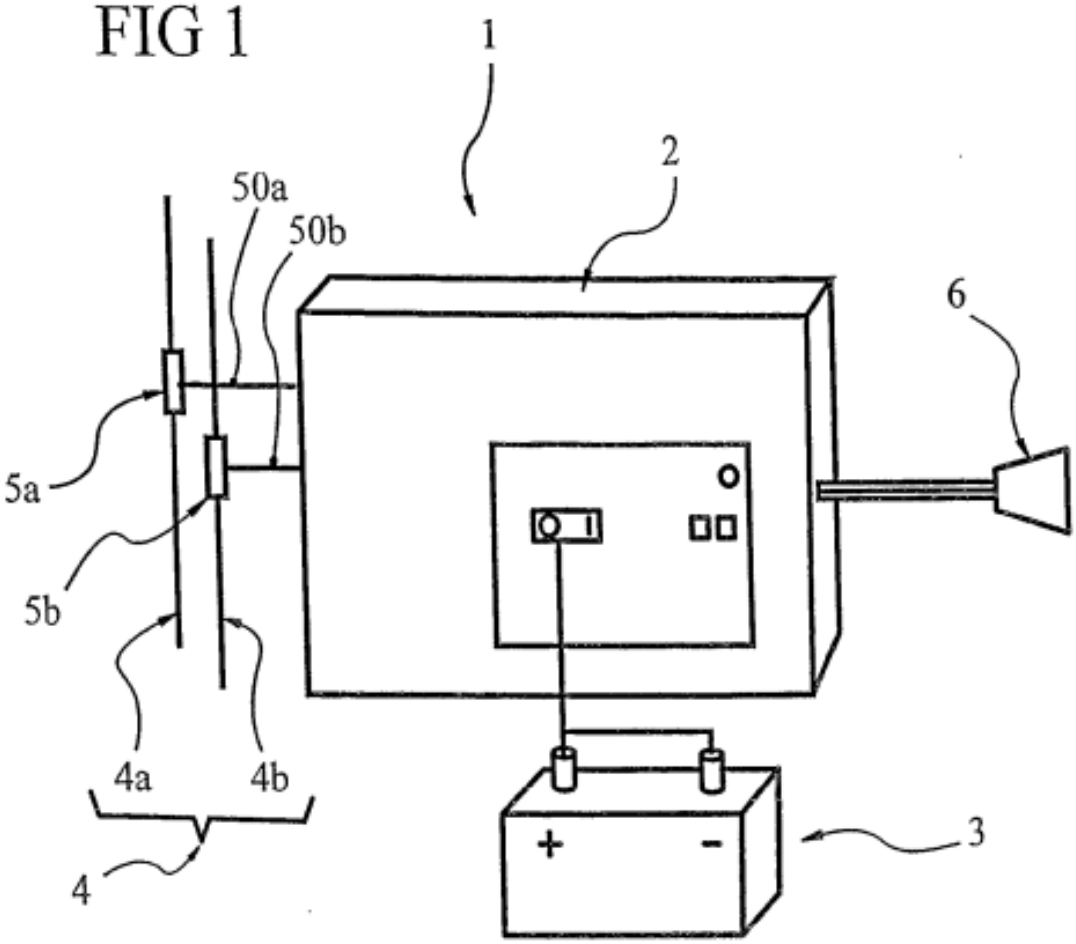

FIG 2

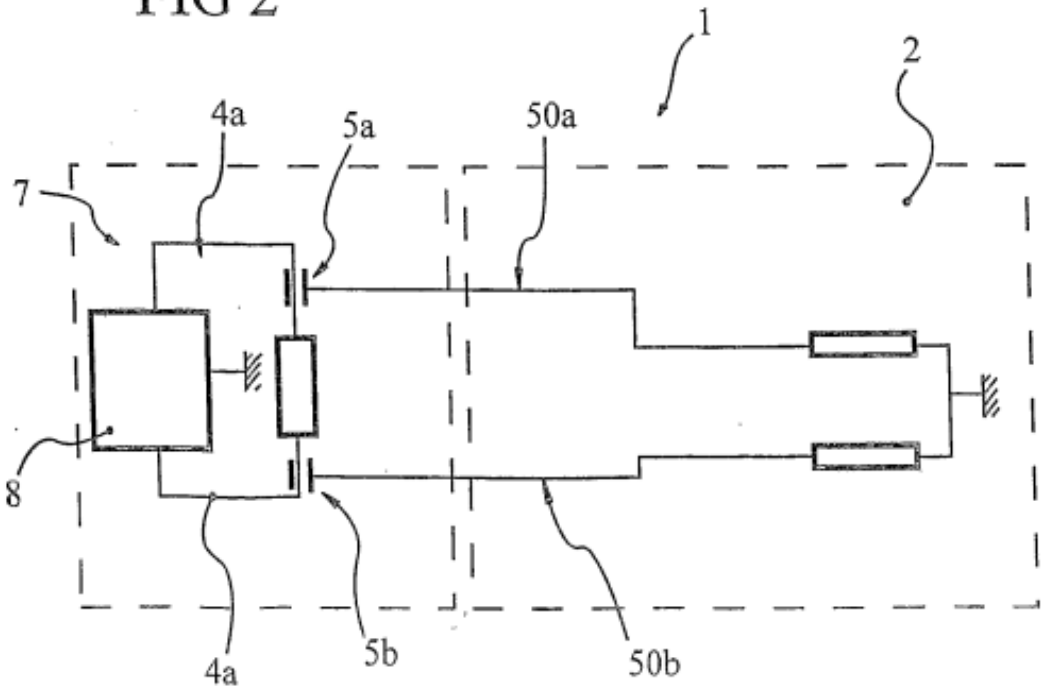

FIG 3