

Chapter 3

Novelty

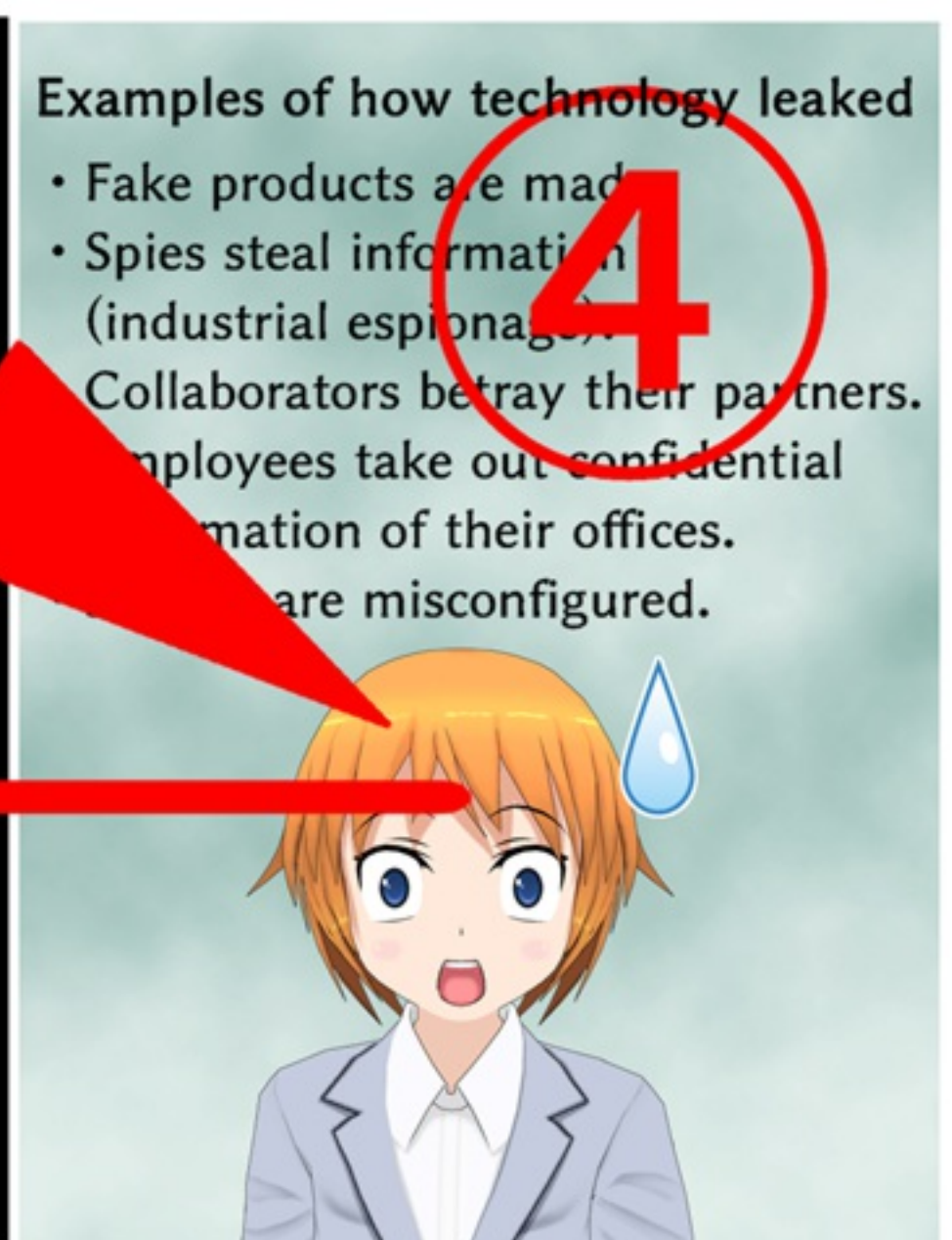
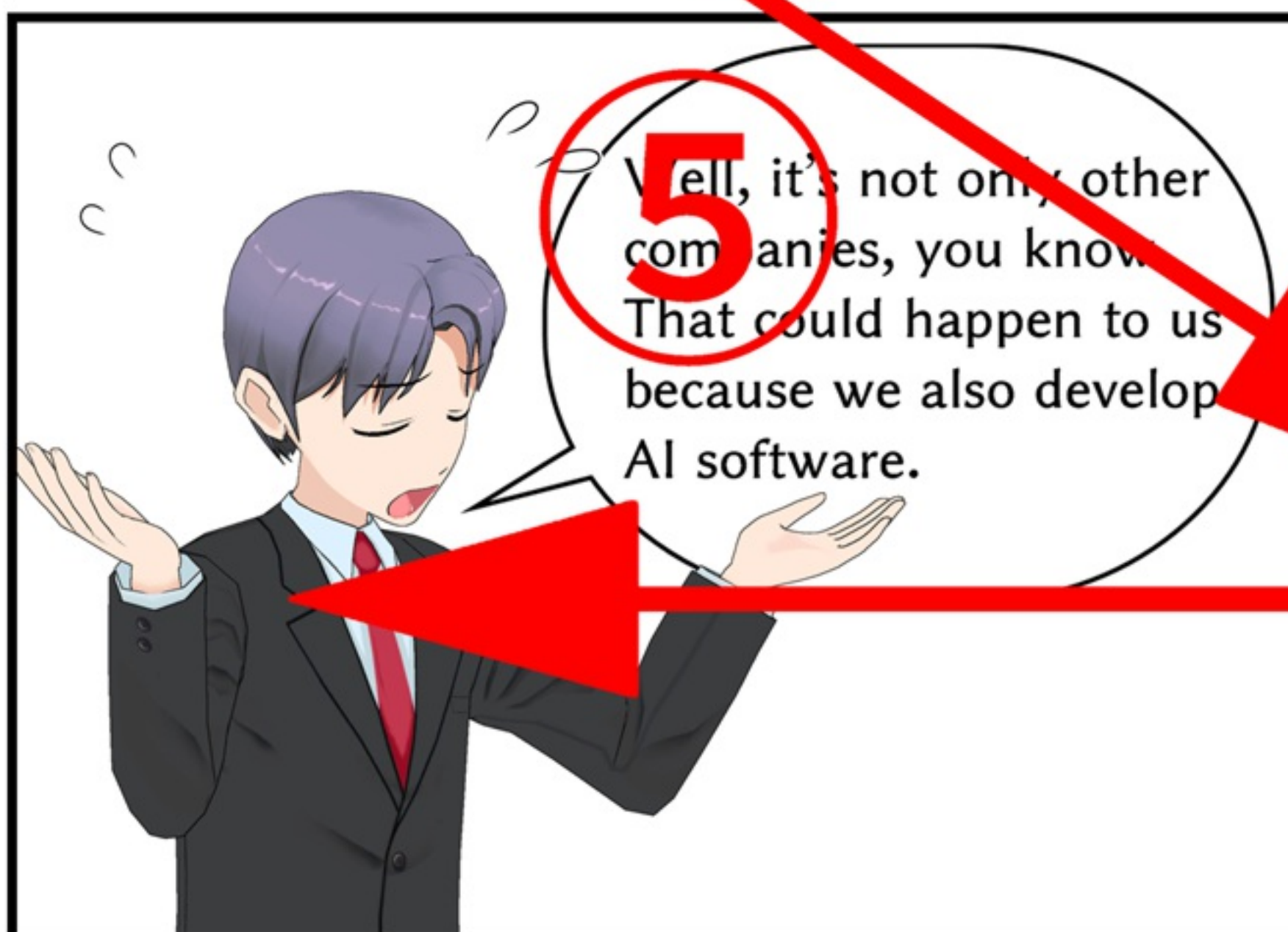
Novelty and Inventive Step are the key requirements for patent examination.
Let's start with novelty.
In particular, master the concept of sub-combination!



If you find it difficult, focus on the speech bubbles, because it's more important to understand the overall flow than the details.

* The speech bubbles are designed with beginners in mind, emphasizing ease of understanding over accuracy.

How to read this Manga



Not right away



Ota, have you finished reading the IoT Case Examples yet?



Examination Guidelines pertinent to IoT Related Technologies

~Application of Examination Guidelines and Examination Handbook to IoT, AI, 3D printing technologies, etc.~

Examination Standards Office,
Administrative Affairs Division,
Japan Patent Office
March, 2017



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https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/iot_shinsa.html

I'd love to, but I'm puzzled with the concept of sub-combination...



Novelty?
Isn't that just a comparison to prior art?
Read it quickly!

If a patent is given to an invention that is not novel, the technology won't progress and develop, right?

As Ai said, novelty is a requirement that an invention must be novel compared to prior art.



I understand that, but when I read the IoT Case Examples, I see that there are sub-combination inventions, and I don't quite understand what the "sub-combination" means.

Novelty is determined based on the claims, so if we write a broad claim, the claimed invention is likely to lack novelty, isn't it?



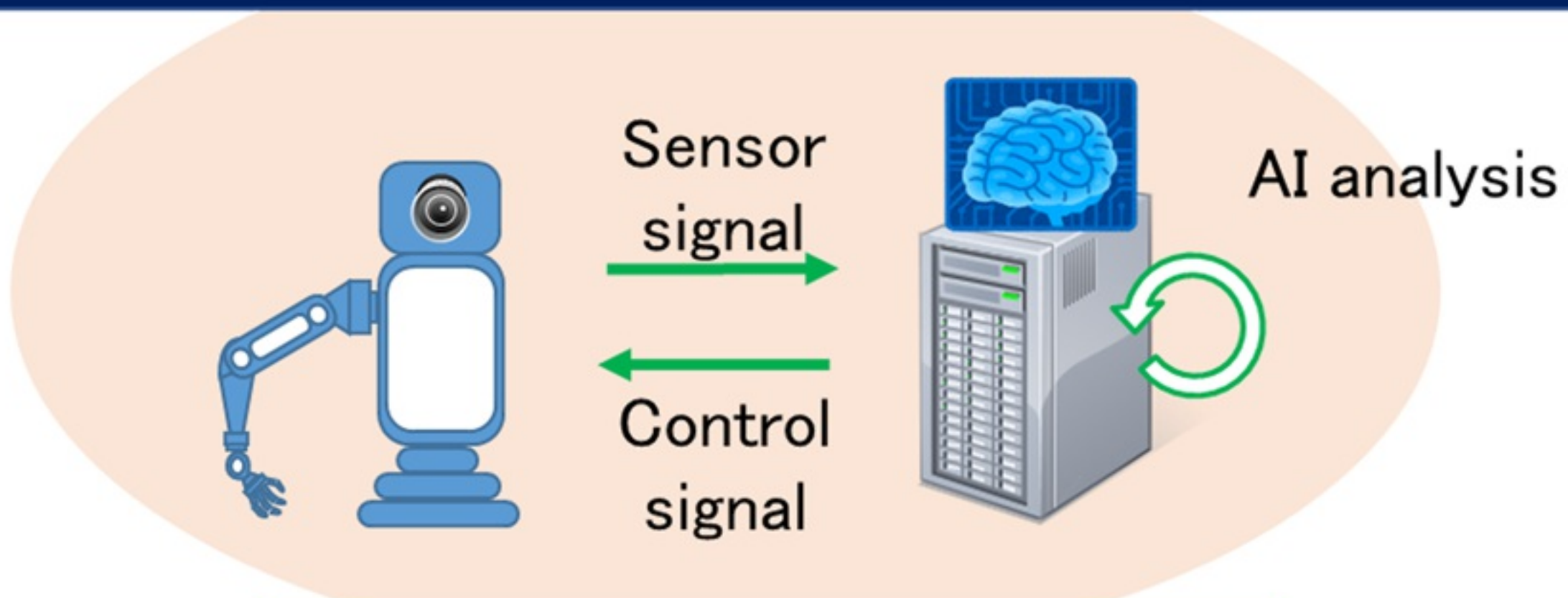
In IoT and AI-related inventions, multiple apparatuses may work in combination. In such cases, the concept of sub-combination becomes very important! Let's take a look at some examples and understand it well.

Sub-con...what?

Is that a subcontractor of a general contractor? What does my company have to do with a construction company?



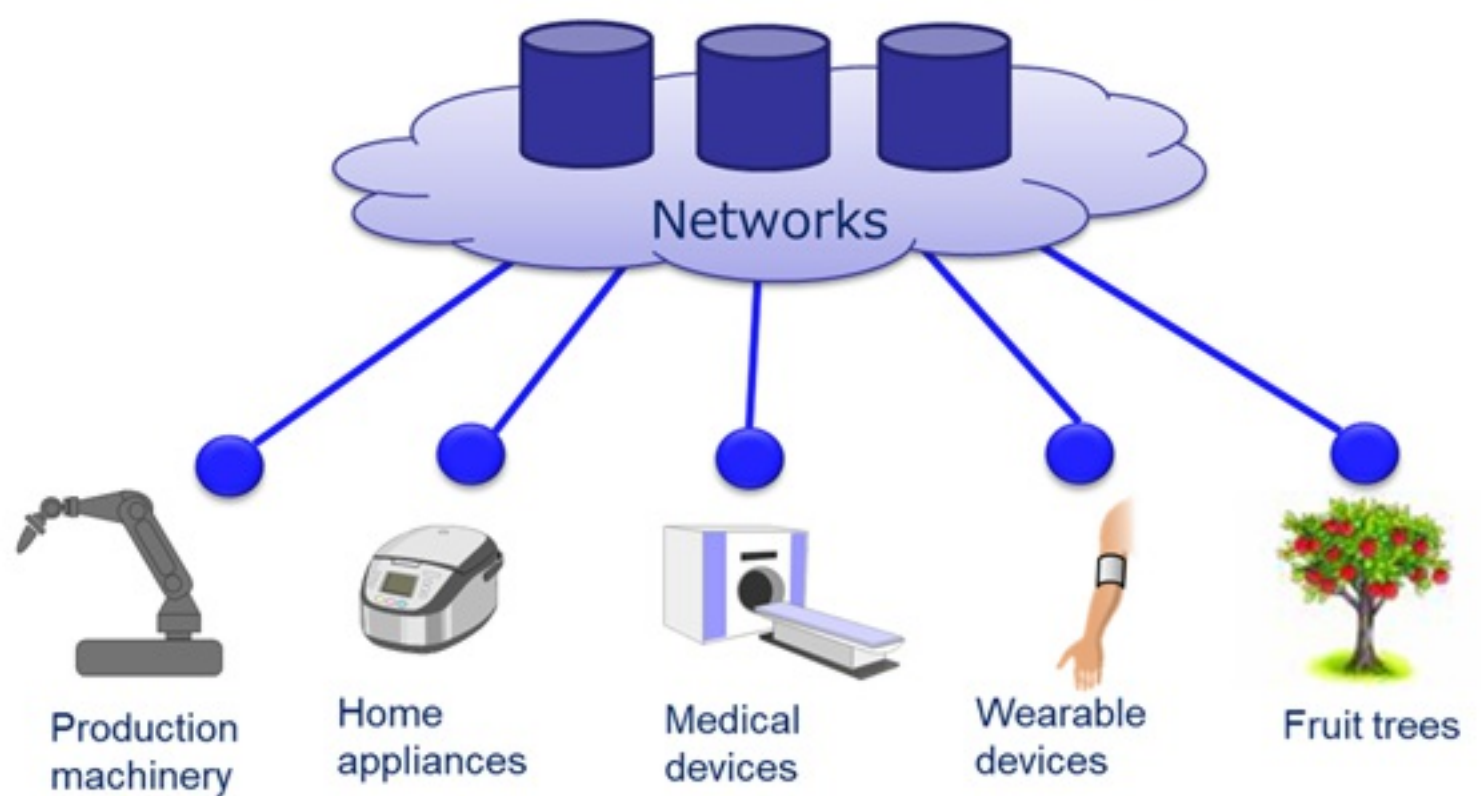
Combination invention



System that works in
combination

Typical combination invention

- ✓ IoT (right-hand figure)
- ✓ Client-server system
- ✓ Remote control system
- ✓ Printer and cartridge
- ✓ Storage media and media reader
- ✓ Transmitter and receiver
- ✓ Encoder and decoder



It often happens that only a part of an apparatus is claimed, not its whole system. In such a case, we need to consider a few things.

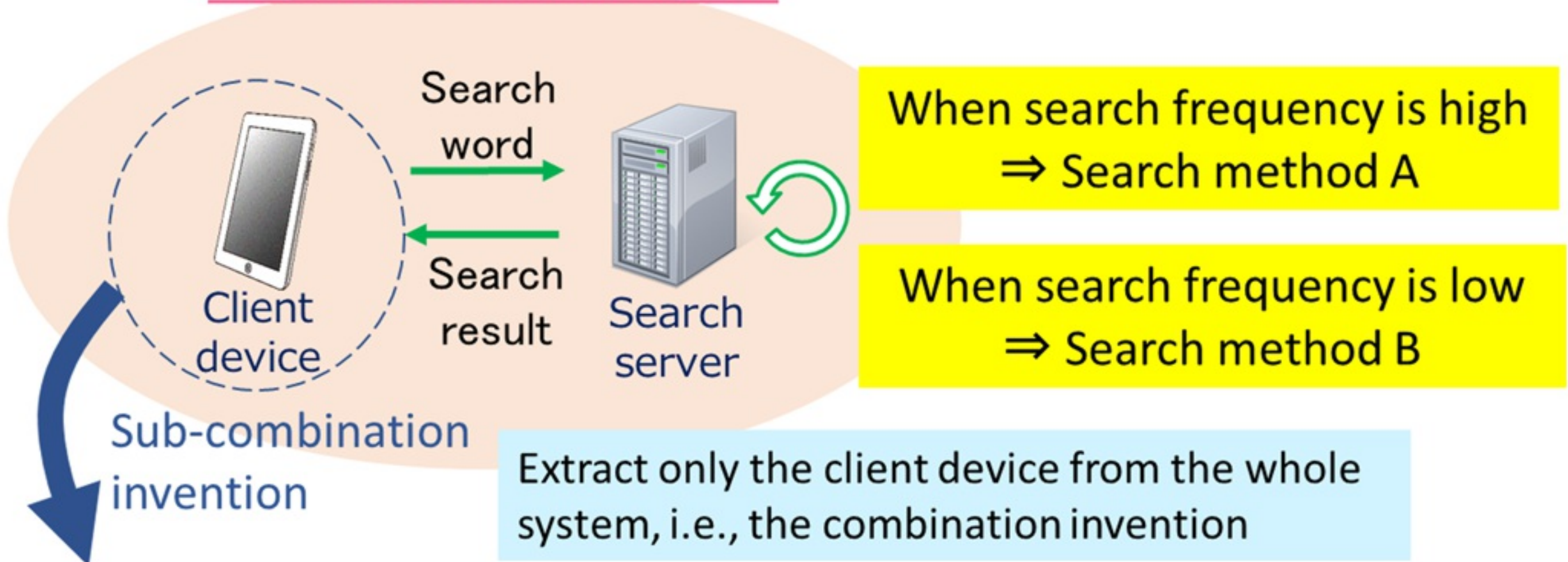
What's the problem with combination invention? Can't we just think whether or not a whole system is novel?



Sub-combination invention

Sub-combination invention is defined as
“an invention of each apparatus or each process of
the combination invention.”

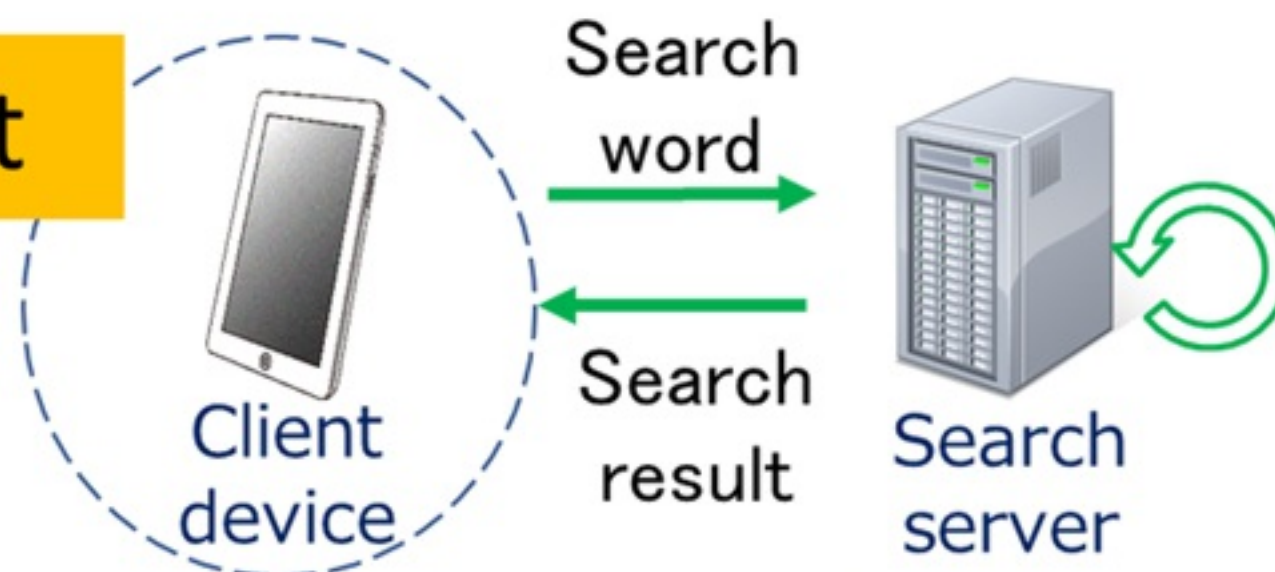
Combination invention



[Claim 1]

A client device capable of transmitting a search word to a search server, receiving return information, and displaying a search result on display means.

Prior art



It is not known to change search methods A and B according to search frequency.

Excuse me?

I have no idea what you are talking about!

Let's take a look at this specific example on the next page.

Exactly!

This client device would not be novel.
So what do you think would happen if we added a statement on search server process to the sub-combination of the client device?

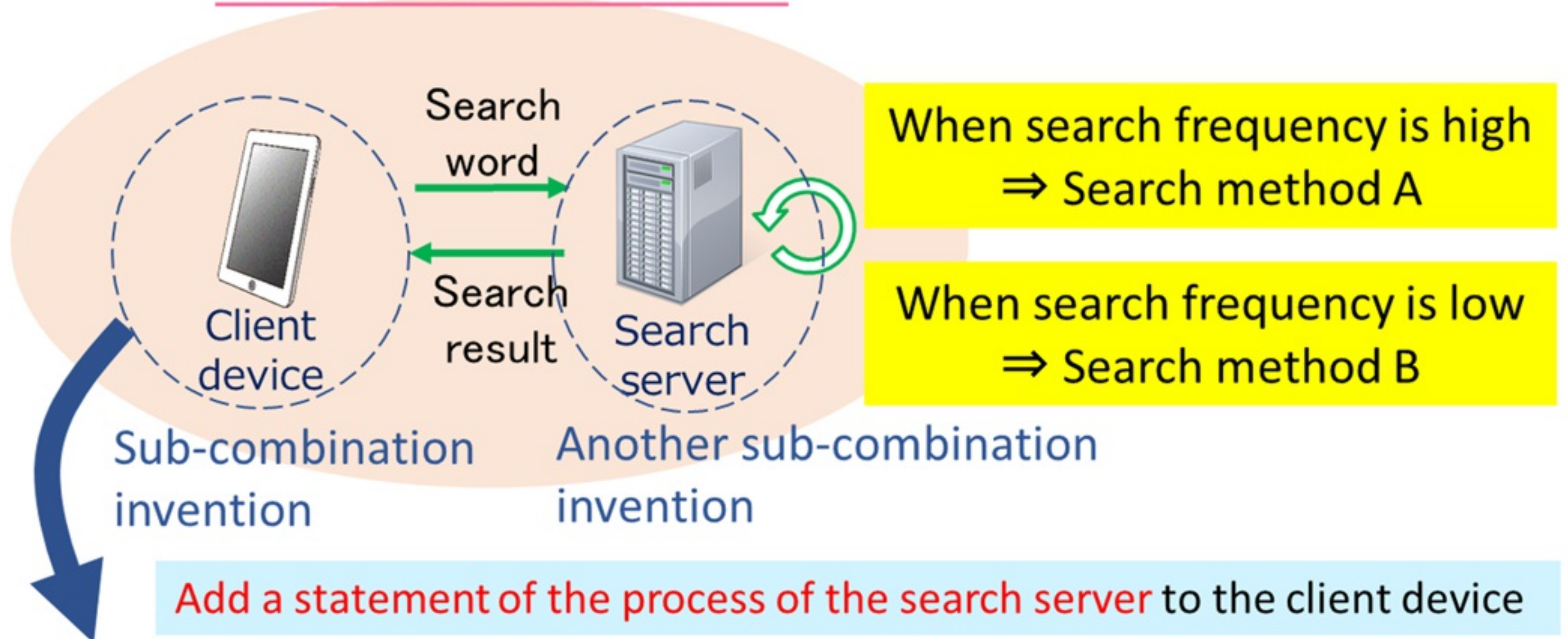


Huh?

Excuse me for a moment.
The process of the "search server" to change the search method according to the search frequency is different from prior art, right?
So if you extract only the "client device" from the whole system, it's no different from prior art, isn't it???

Example of adding a search server process to the sub-combination of a client device

Combination invention



[Claim 1] (Examination Guidelines, Part III, Chapter 2, Section 4, 4.2.2, Example 1)
A client device capable of transmitting a search word to a search server, receiving return information, and displaying a search result on display means, wherein **the search server changes a search method on the basis of a frequency in search of the search word.**

Novelty is determined based on the claims, right?
So, as long as a claim includes something that is novel from prior art, is the claimed invention novel?



After all, if you only look at the client device, it's the same technology as prior art, right?
So if that could be considered novel, that doesn't make sense to me.



The claim is a sub-combination of the "client device".
Therefore, adding the statement of the search server (another sub-combination) to the claim doesn't make the claimed invention as the "client device" any different from prior art in terms of a structure, function, etc.
In other words, the claim is still not novel!



Think about how the "statement of another sub-combination" specifies "a structure, function, etc. of the claimed sub-combination" !
If it doesn't specify anything, it's not different from prior art!

Why is the sub-combination claim preferred?

All Elements Rule

A patent cannot be infringed unless all elements of the claim are worked.

[Claim 1]

A search system comprising;
A search server doing ... and
A client device doing ...

Combination claim



Search server

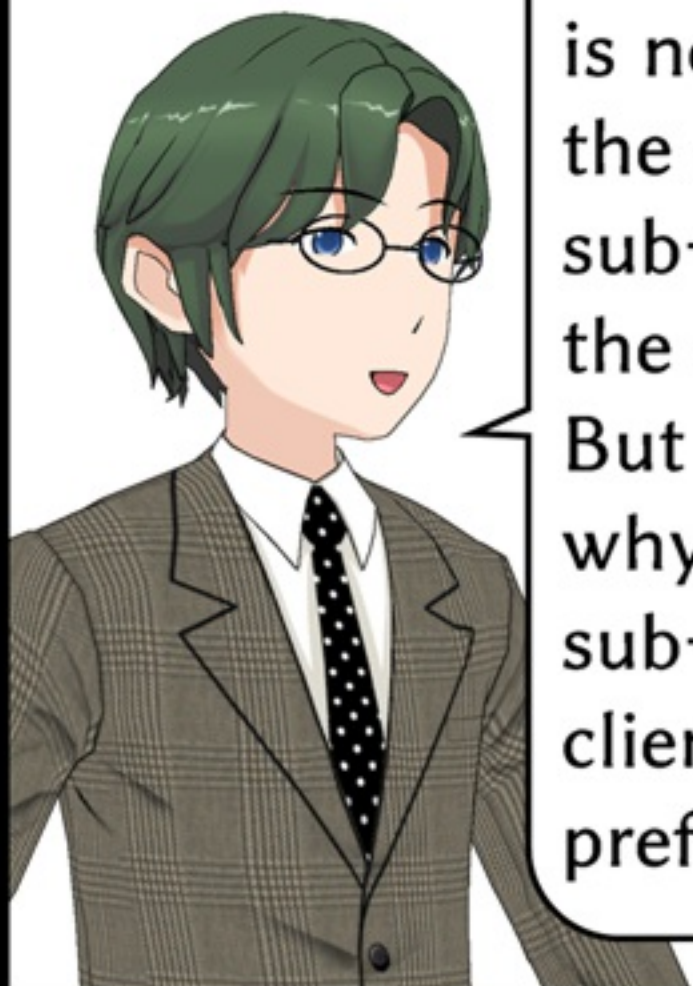
Patent infringement **may not be established** against those who provide only the search server and not the client device part.



I see, extracting the part of the claim as a sub-combination makes a patent right more advantageous to use!
I'll be careful when filing a patent.



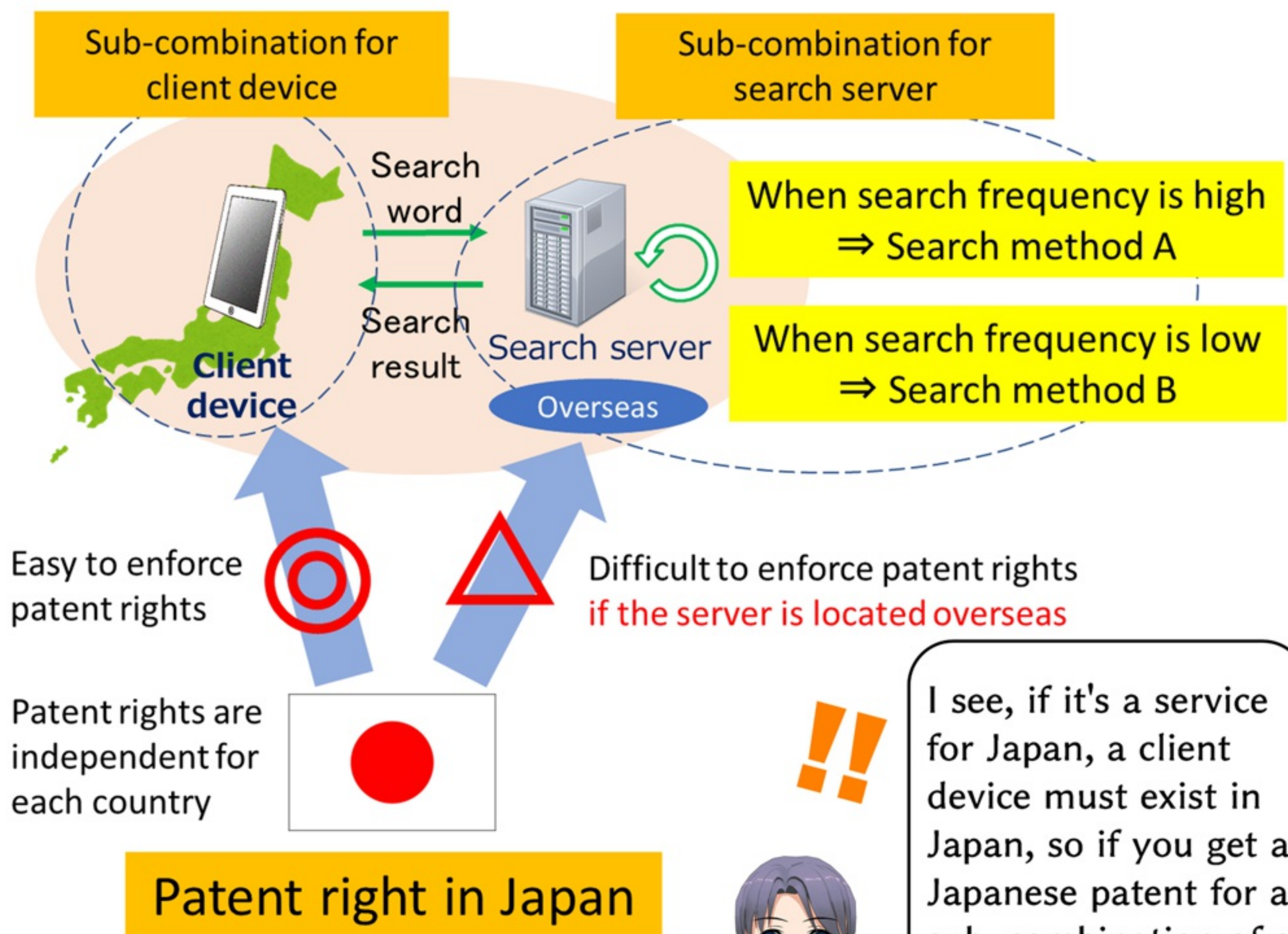
It's true that the example I gave earlier is not novel unless the claim is a sub-combination of the search server. But there's a reason why patenting a sub-combination of a client device is preferred!



But hey, if the search server's process is different from prior art, why not just claim a sub-combination of the search server?



Why is the sub-combination claim for the client device preferred?

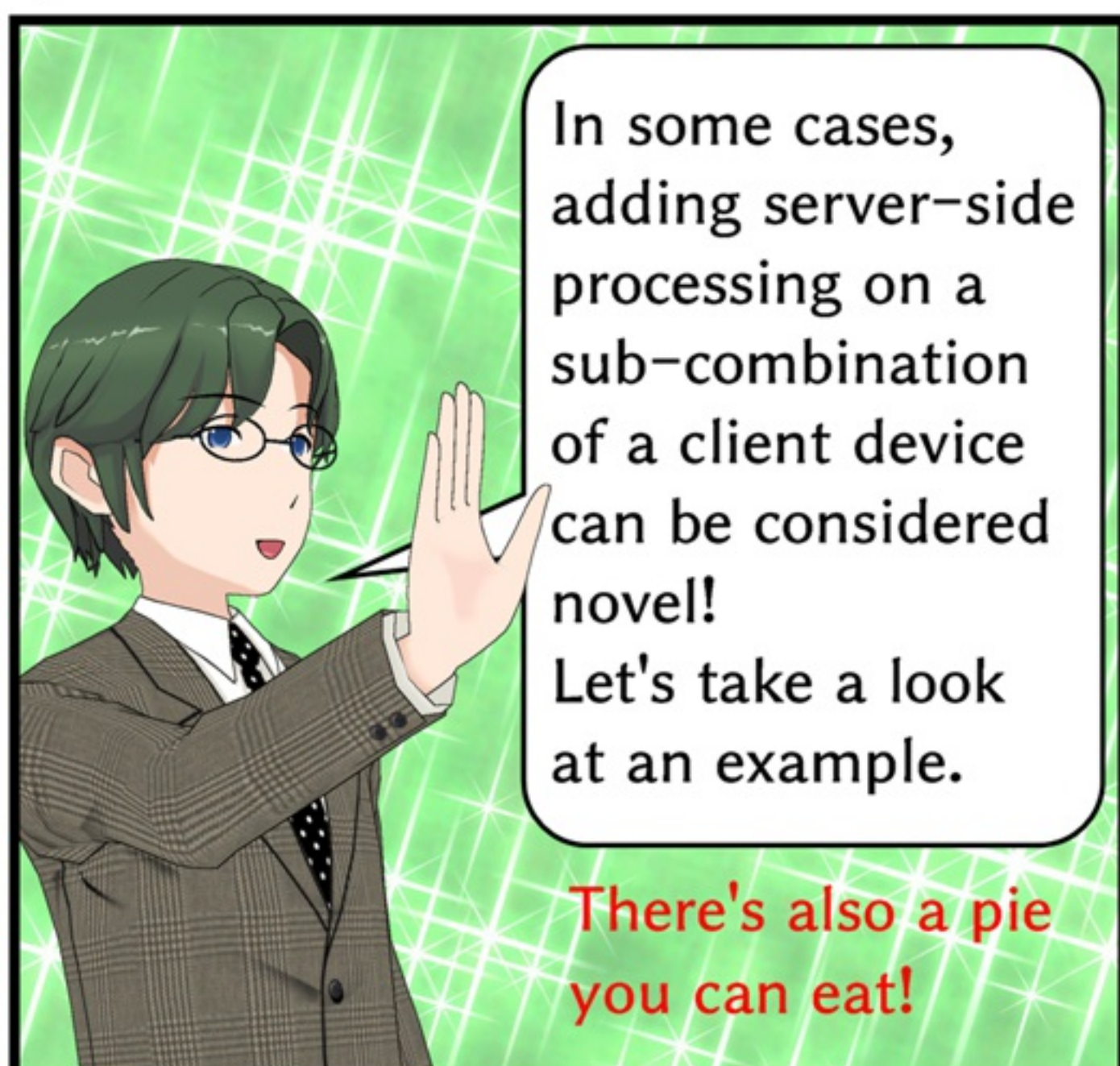


For example, if you have a business model of a printer that makes money from cartridges, it would be easy to enforce a patent on a sub-combination of cartridges.



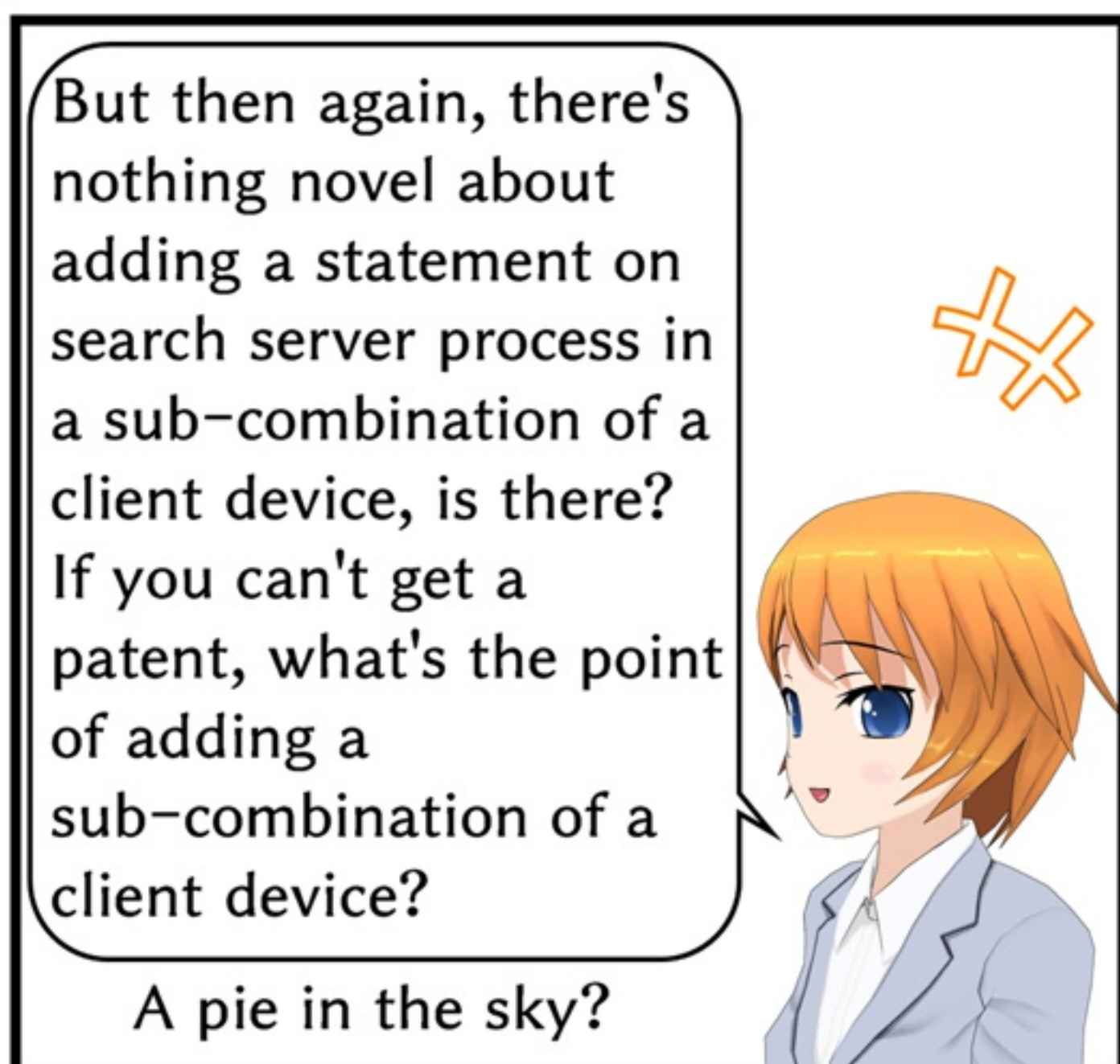
!!

I see, if it's a service for Japan, a client device must exist in Japan, so if you get a Japanese patent for a sub-combination of a client device, it becomes an easily enforceable right!



In some cases, adding server-side processing on a sub-combination of a client device can be considered novel! Let's take a look at an example.

There's also a pie you can eat!

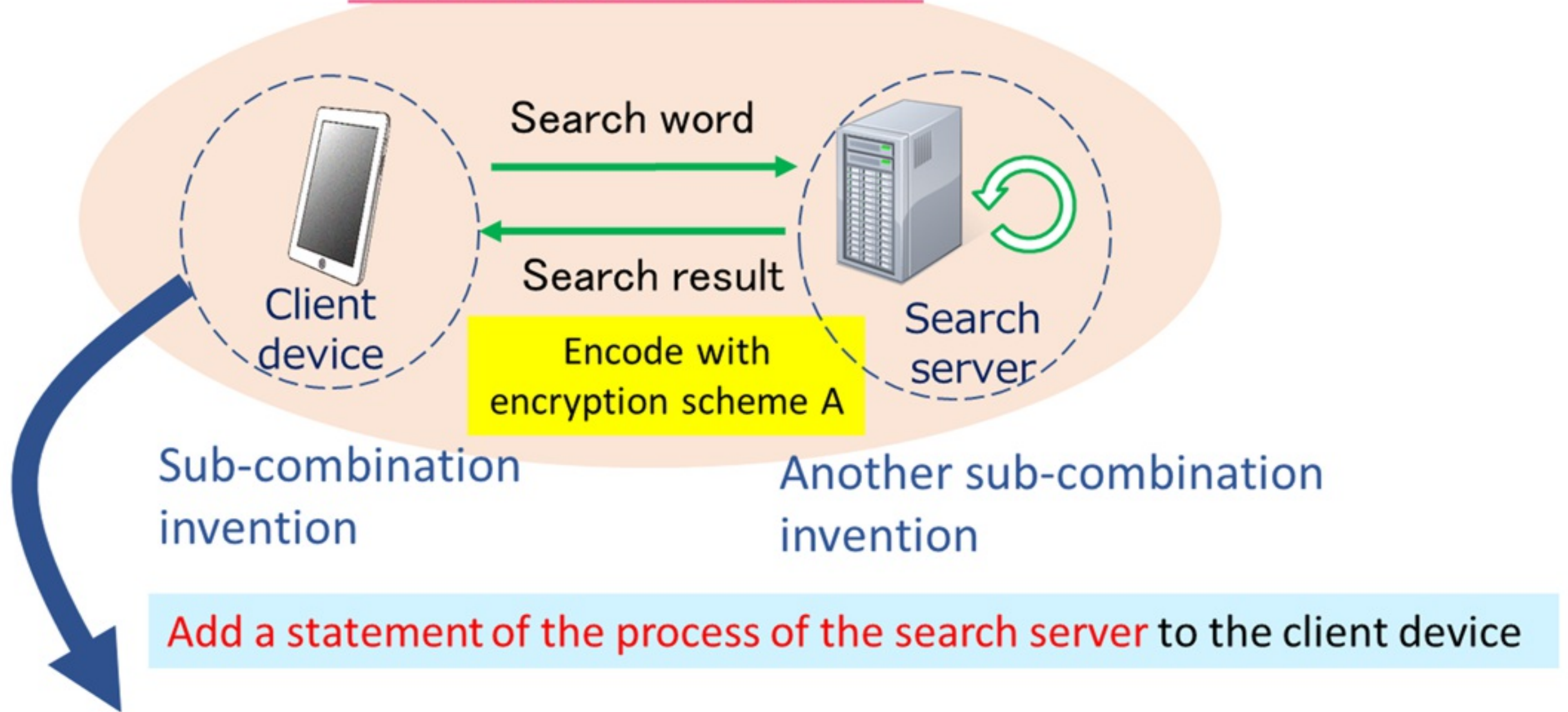


But then again, there's nothing novel about adding a statement on search server process in a sub-combination of a client device, is there? If you can't get a patent, what's the point of adding a sub-combination of a client device?

A pie in the sky?

Sub-combination claim involving novelty

Combination invention



[Claim 1] (Examination Guidelines, Part III, Chapter 2, Section 4, 4.2.1, Example 1)

A client device which transmits a search word to a search server, receives return information from the search server, decodes the return information by a decoding means, and displays a search result on display means, wherein **the search server transmits the return information after encoding it by means of an encryption scheme A.**



Again, the claim is a sub-combination of a "client device". Notice the red text part of another sub-combination, search server, in the claim. The fact that the search server encodes the data according to the encryption method A and sends it to the client device means that the client device naturally has the capability to perform the decryption process corresponding to the encryption method A.

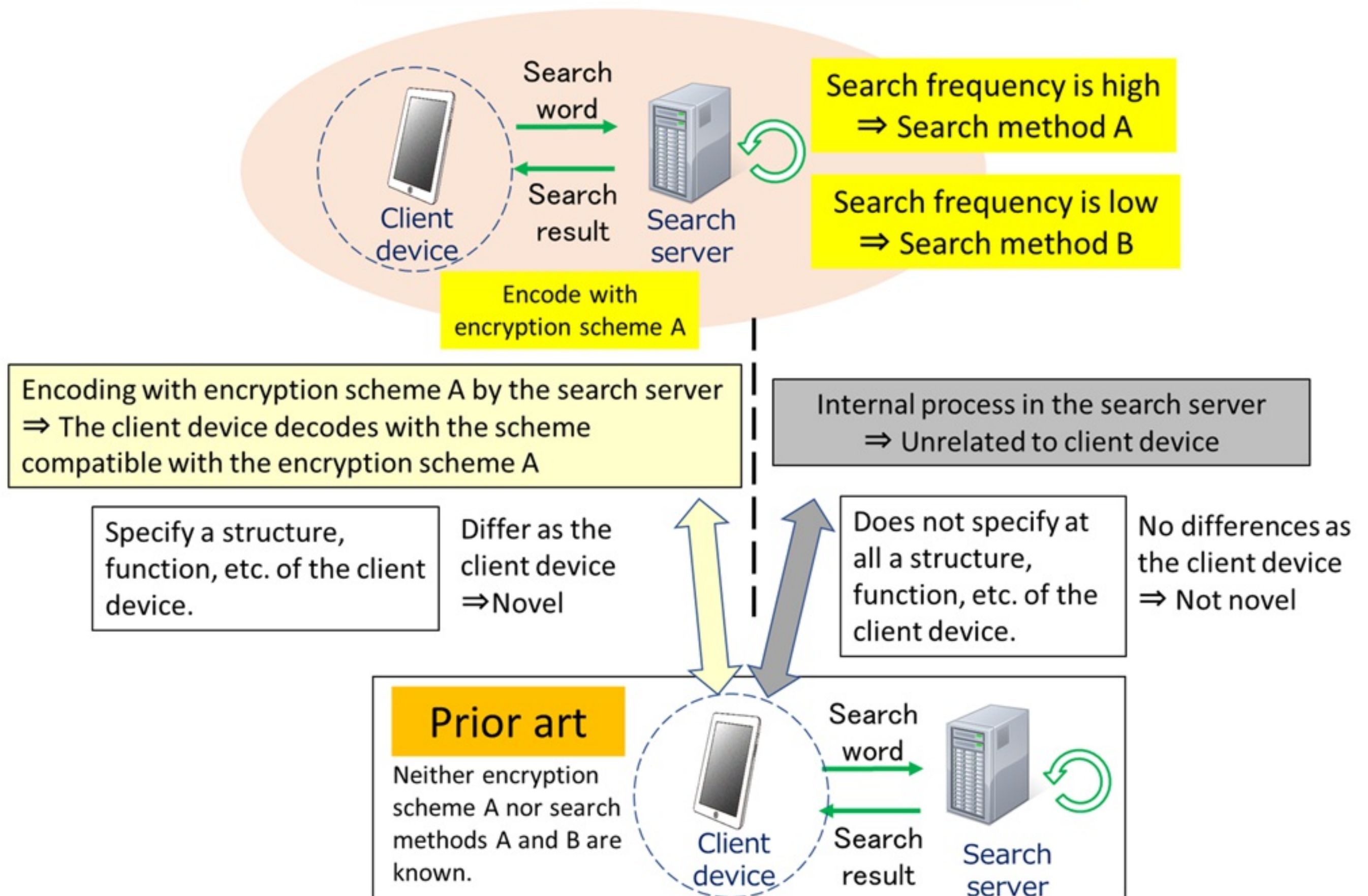
In other words, if conventional client devices don't perform the decryption process corresponding to the encryption method A, in addition to sending search words and receiving and displaying search results, then the claimed invention is novel!

After all, what's the difference between cases where adding a process on a search server side is considered novel for a client device and cases where it's not?



Summary of sub-combination claim

Add a statement of the process of the search server, i.e., another sub-combination invention to the client device i.e., sub-combination invention.



When a sub-combination claim includes a statement of another sub-combination, it's important to consider as follows:

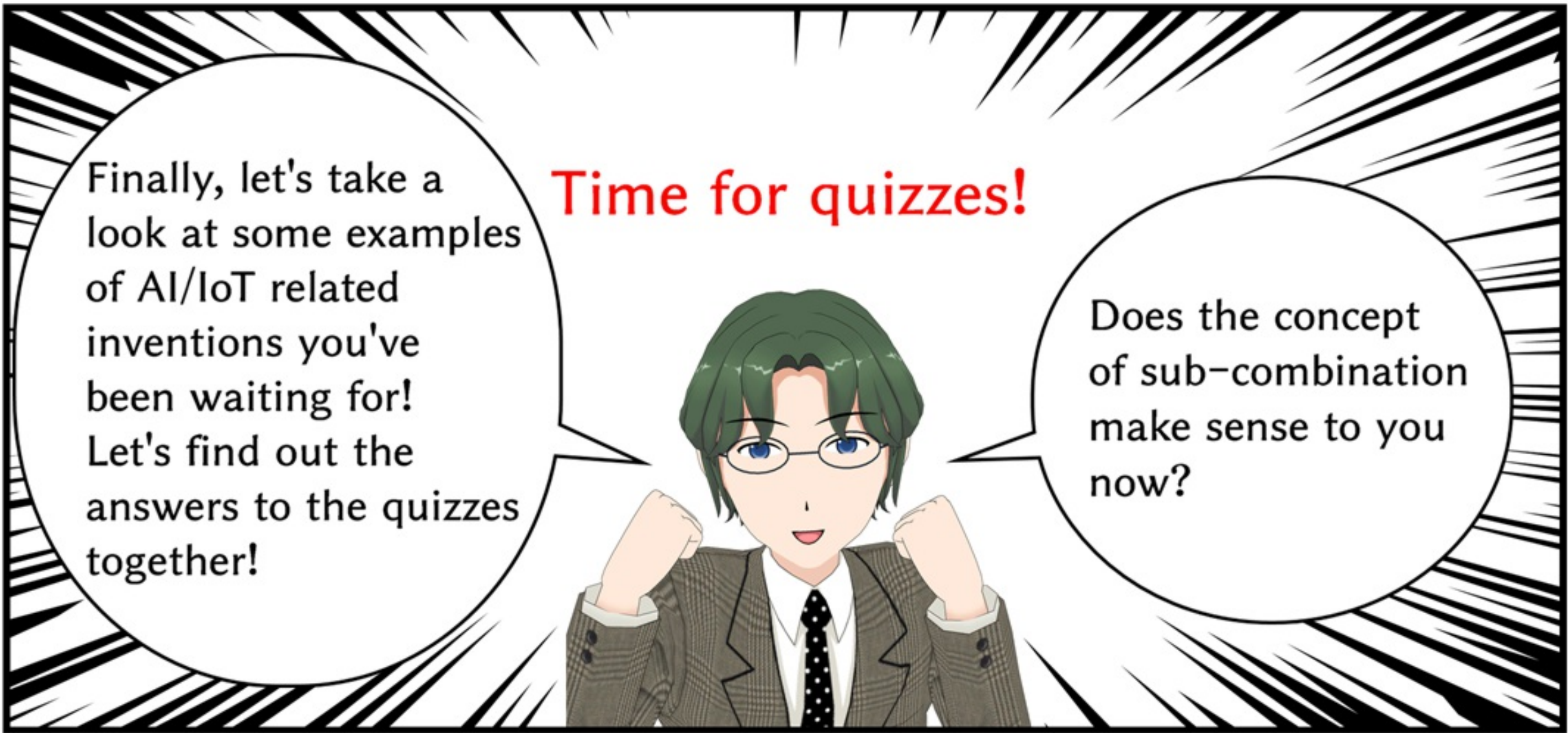


Whether **an element relevant to "another sub-combination"** has a role in **specifying a structure, function, etc. of the claimed sub-combination invention**

I see, in other words, if the statement of another sub-combination does specify a structure or function of the claimed sub-combination, the claim will be compared to prior art as having such a structure or function.



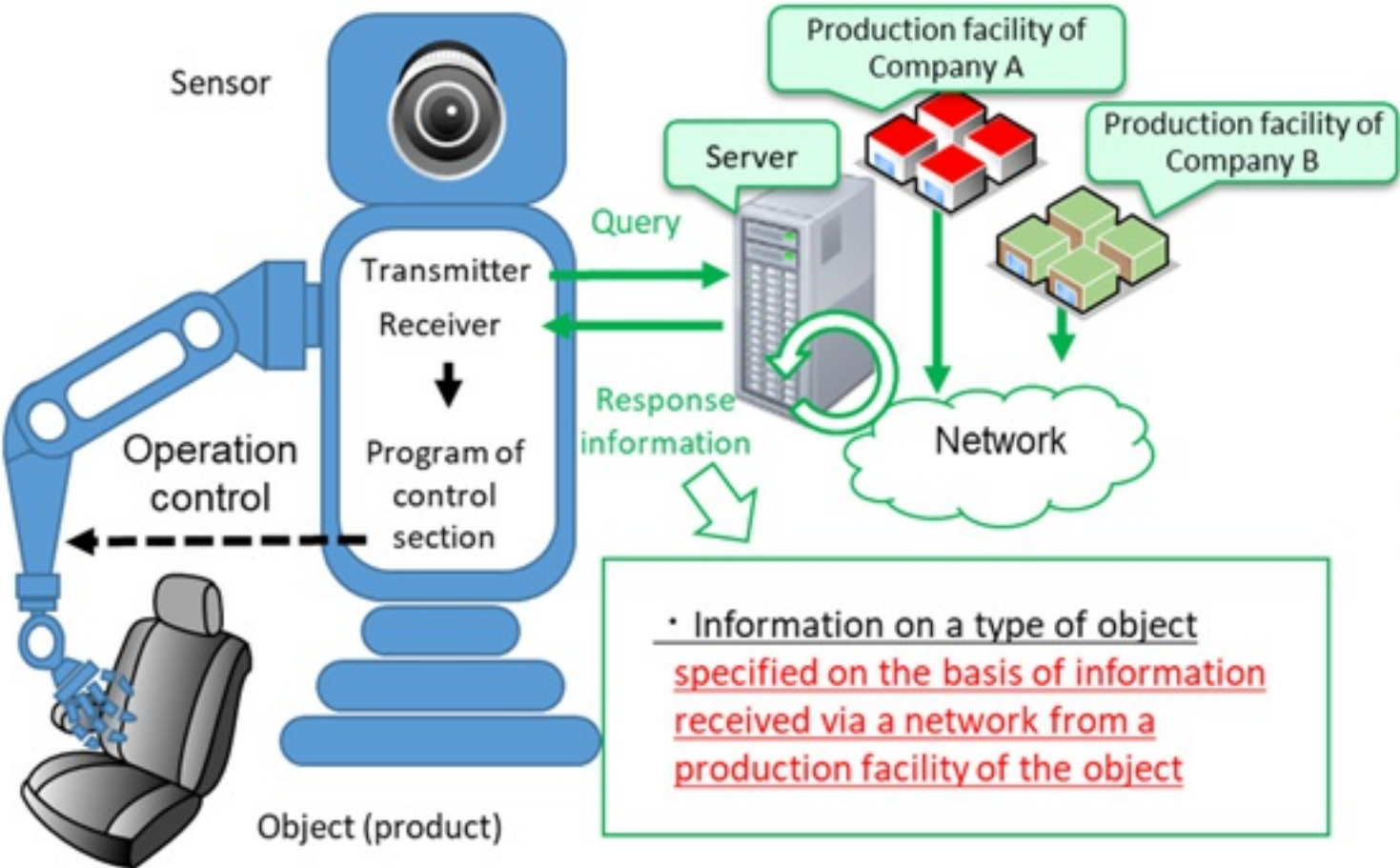
So, if the statement of another sub-combination doesn't specify a structure or function of the claimed sub-combination, then it would be a meaningless statement!



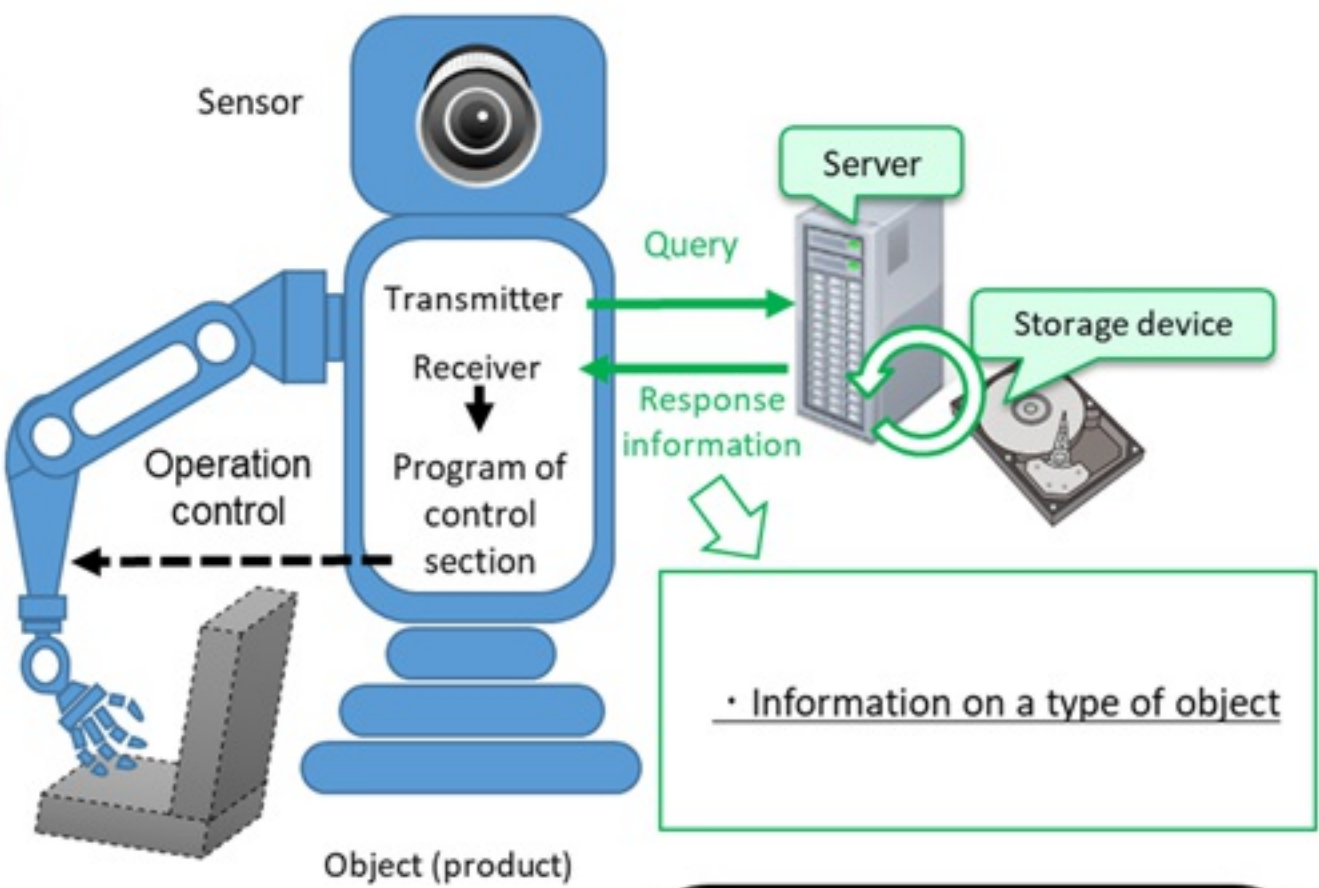
Q1 : Robot apparatus

[Claim 1] (Examination Handbook Annex A, 4. Novelty, Case 35)
A robot apparatus which acts on an object comprising:
at least one kind of sensor for detecting the object; a transmission section for transmitting a query to a server in order to acquire information on the object based on an output of the sensor; a reception section for receiving response information answering the query from the server; and a control section storing a program which controls the operation of the robot apparatus on the basis of the received response information;
wherein the response information is the information on a type of the said object specified by the said server on the basis of information received via a network from a production facility of the said object.

Claimed invention



Prior art



What makes the claimed invention different from prior art is that the server uses the information received from the production facilities to specify the information on type of object.



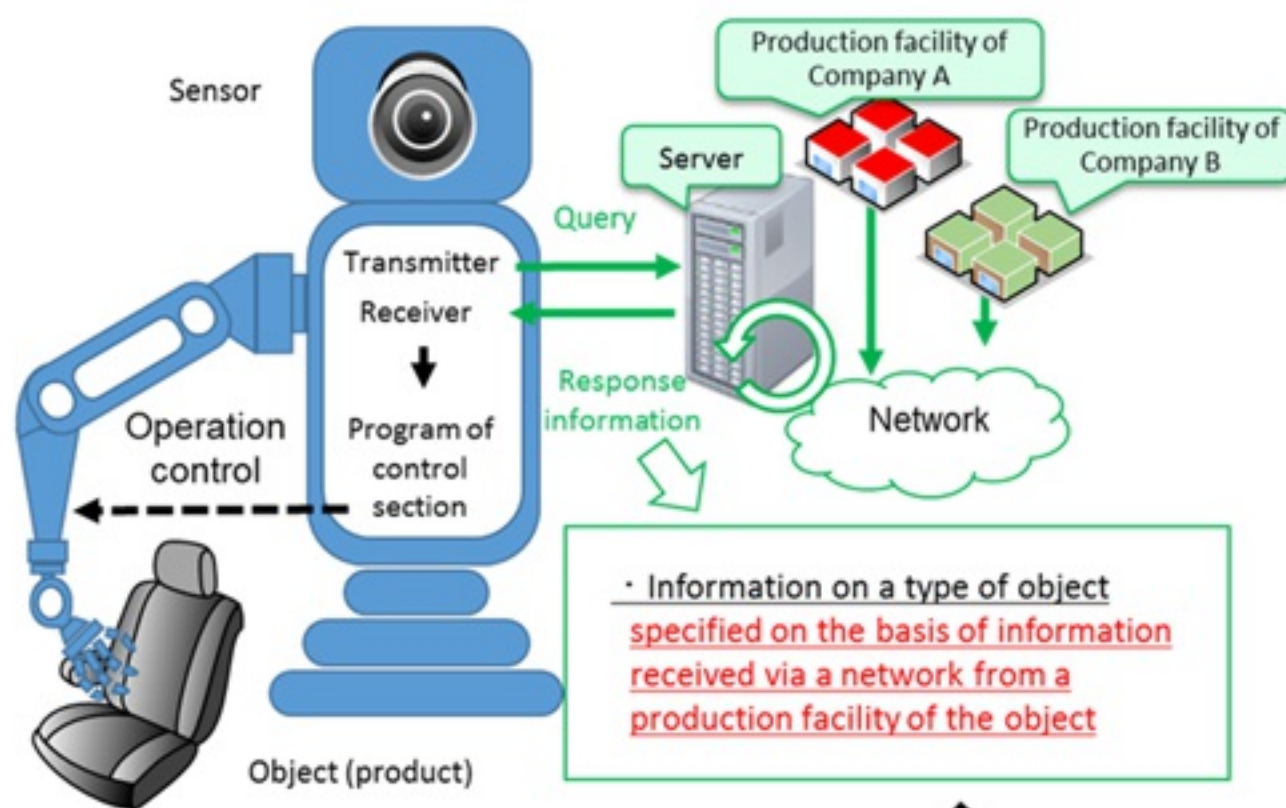
Is the claimed robot apparatus novel?



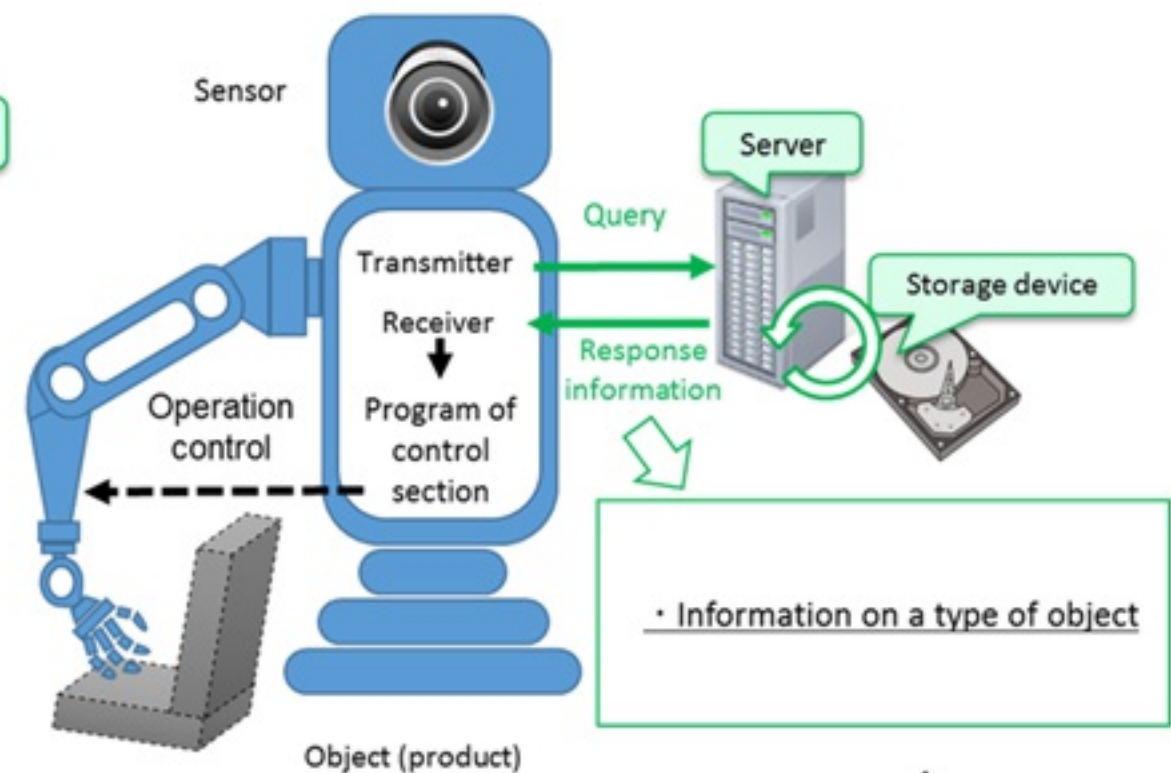
So, it's the same in that the robot apparatus receives the information on type of object from the server and controls it to handle the object.

A1 : Robot apparatus

Claimed invention



Prior art



There is no difference in the fact that the information received by the robot apparatus is "information on a type of object".

Answer : Not novel

So what happens if the response information received from the server itself is different from prior art?



From the point of view of the robot apparatus, it's still receiving the information on type of object, and no matter how the information is generated on the server side, a structure and function of the robot apparatus is the same as prior art.



The claimed sub-combination is "robot apparatus". Does the statement of the server (another sub-combination) affect a structure, function, etc. of the robot apparatus?

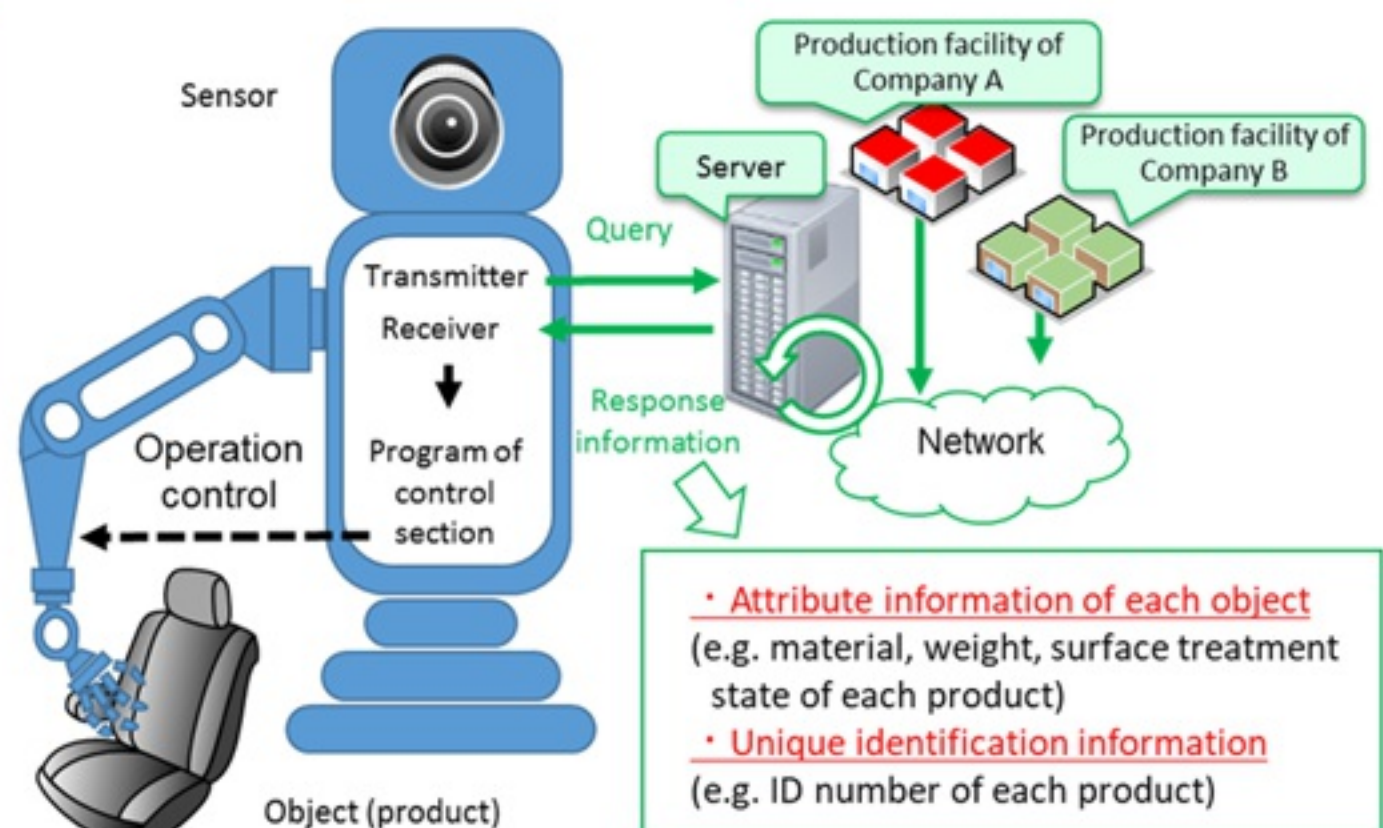


Let's see the example of amendment below.

Example of amendment (involving novelty)

[Claim 1 (amended)] (Examination Handbook Annex A, 4. Novelty, Case 35)

A robot apparatus which acts on an object comprising: at least one kind of sensor for detecting the object; a transmission section for transmitting a query to a server in order to acquire information on the object based on an output of the sensor; a reception section for receiving response information answering the query from the server; and a control section storing a program which controls the operation of the robot apparatus on the basis of the received response information; wherein the response information contains the attribute information and the unique identification information of each of the said object specified by the said server.



Response information is different

Q2 : Water treatment apparatus

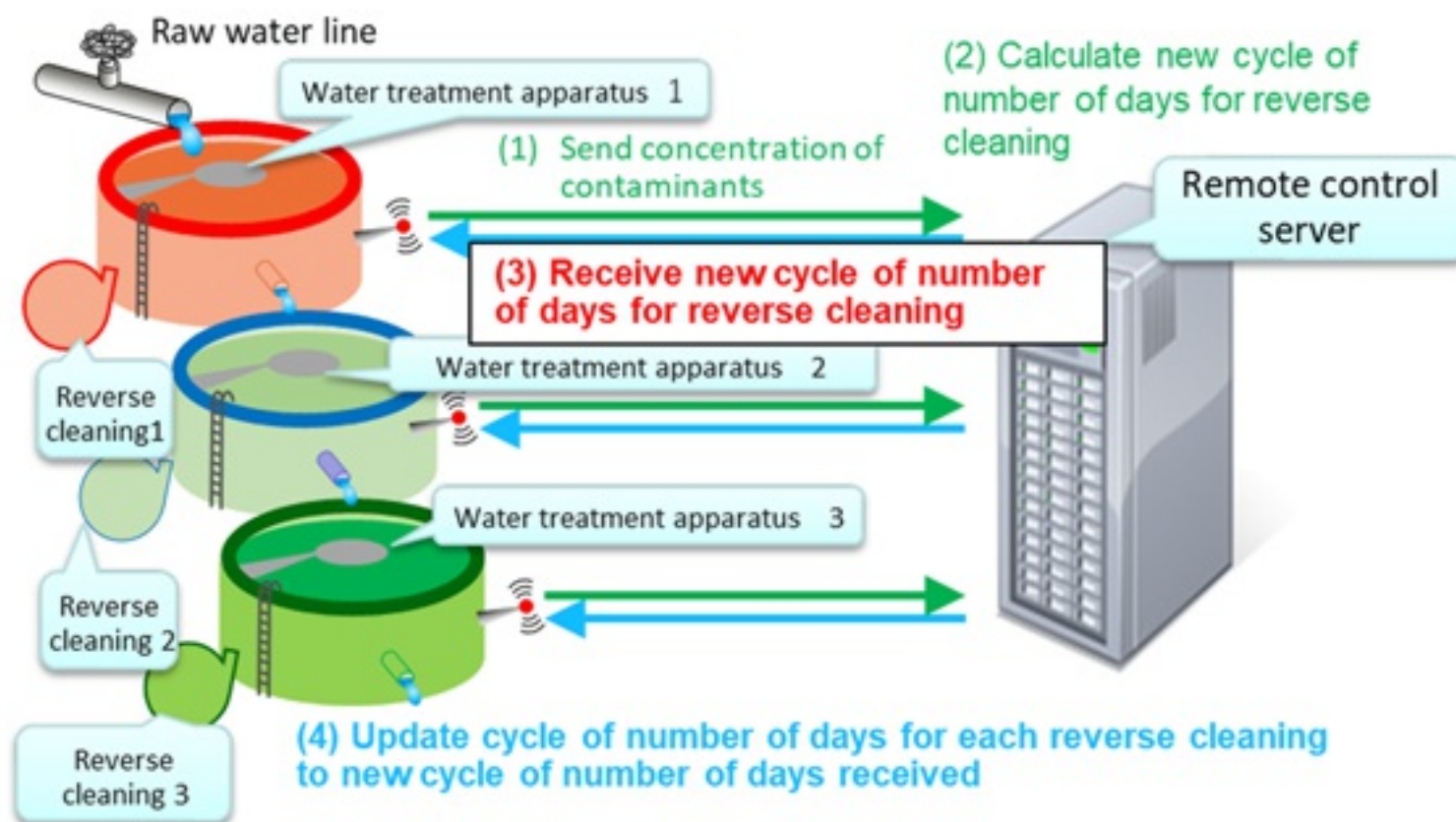
[Claim 1] (Examination Handbook Annex A, 4. Novelty, Case 36)

Water treatment apparatus for producing treated water by removing contaminants contained in raw water, the apparatus comprising:

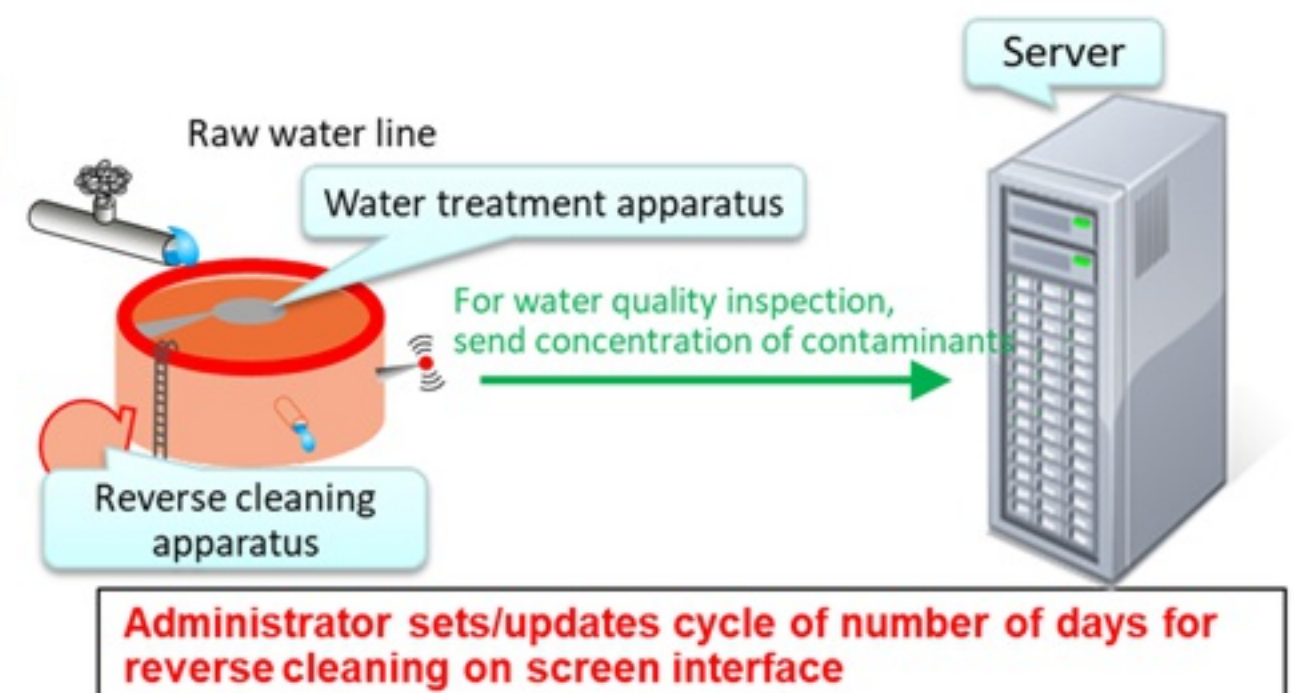
means for executing reverse cleaning process at a cycle of the variable number of days; a concentration detector for detecting concentration of the contaminants of raw water to be introduced into the water treatment apparatus; and means for sending the detected concentration of contaminants to a remote control server that is communicatively connected;

wherein the remote control server calculates a new cycle of the number of days for updating on the basis of a plurality of concentrations of contaminants received from a plurality of water treatment apparatuses on the same raw water line, and sends a result thereof to the water treatment apparatus.

Claimed invention



Prior art



What?

Reverse cleaning?

Does it have to be so complicated to clean water?

I got a water purifier for my tap water years ago, but I've done nothing since then.

Ai, it's better to clean or replace your water purifier filter properly.

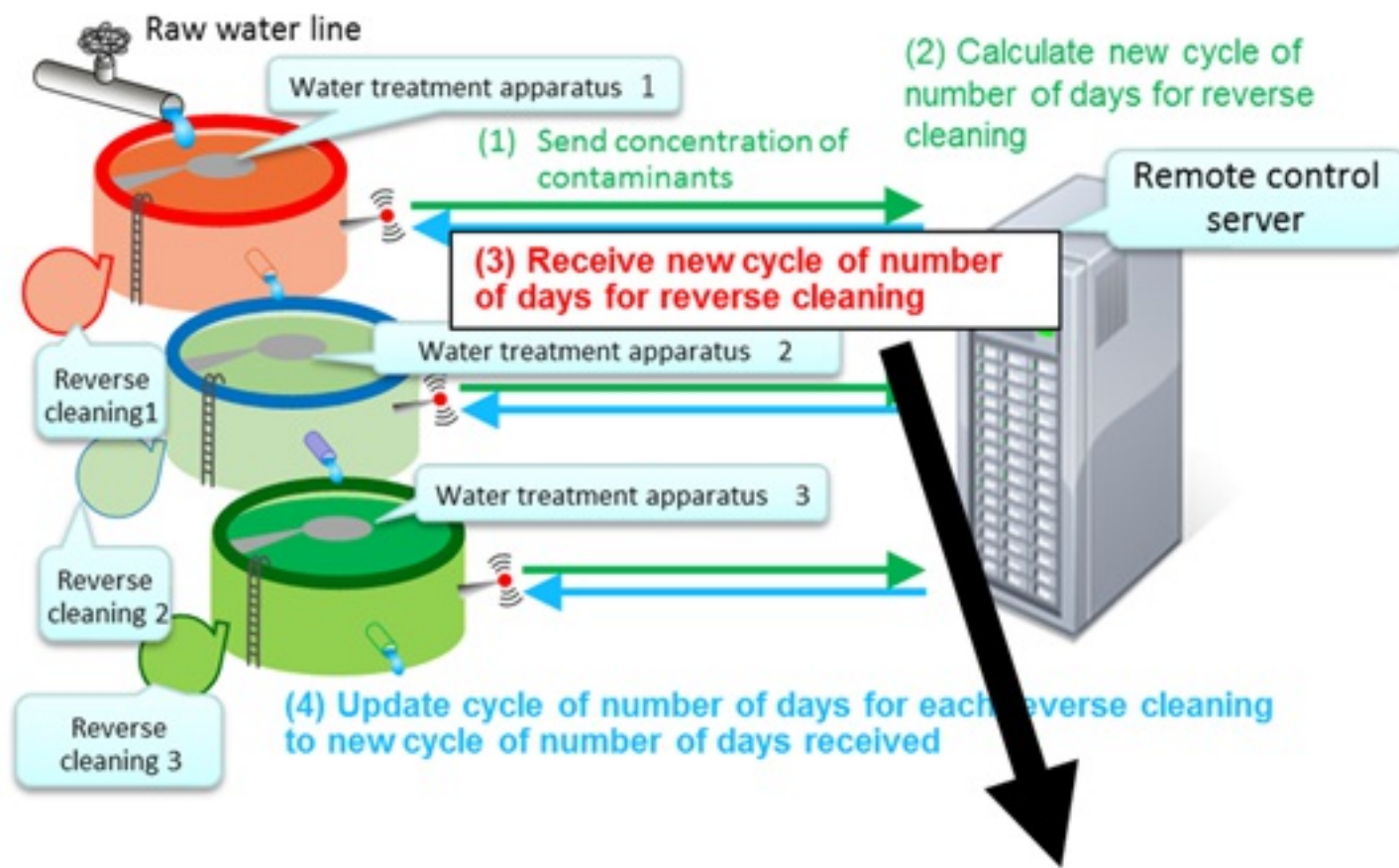
The claimed invention relates to reverse cleaning to maintain the cleaning capacity of water treatment apparatus that cleans raw water.

What makes the claimed invention different from prior art is that the remote control server calculates the appropriate cycle of number of days and sends it to the water treatment system.

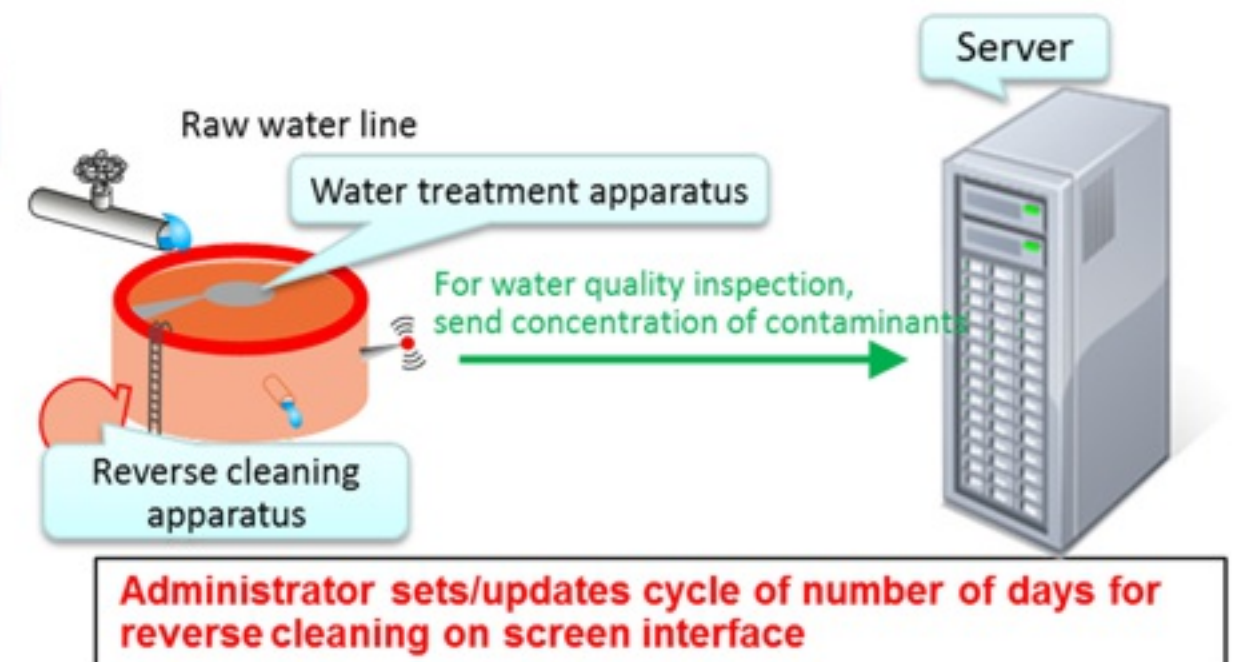
Is the claimed water treatment apparatus novel?

A2: Water treatment apparatus

Claimed invention



Prior art



The claimed water treatment apparatus has means for receiving the cycle of the number of days from the remote control server.

Difference

Answer : Novel

I think that the statement specifies the water treatment apparatus in that it has a means of receiving the cycle of number of days from the remote control server.

The claimed sub-combination is "water treatment apparatus". Do you think the statement of the remote control server (another sub-combination) affects a structure, function, etc. of the water treatment apparatus?

Prior art seems to set and update the cycle of number of days on the screen interface of the water treatment apparatus, so it seems there is no way to receive the cycle of number of days from a server, right?
Would this claim be patentable?

In addition to novelty, inventive step is also required to obtain a patent. The method of determining inventive step will be discussed in the next chapter, and in this case, the question is whether it's easy to install a means to receive the cycle of number of days from a server to the conventional water treatment apparatuses.

Q3 : Healthcare system and terminal

[Claim 1] (Examination Handbook Annex A, 4. Novelty, Case 37)

A **healthcare system** comprising a wearable sensor, a healthcare server, and a terminal device, wherein the wearable sensor is a stick type sensor which is pasted on the skin of human body and comprises means for measuring biological data containing a body temperature and heart rate of a wearer, and means for sending the biological data to the terminal device;

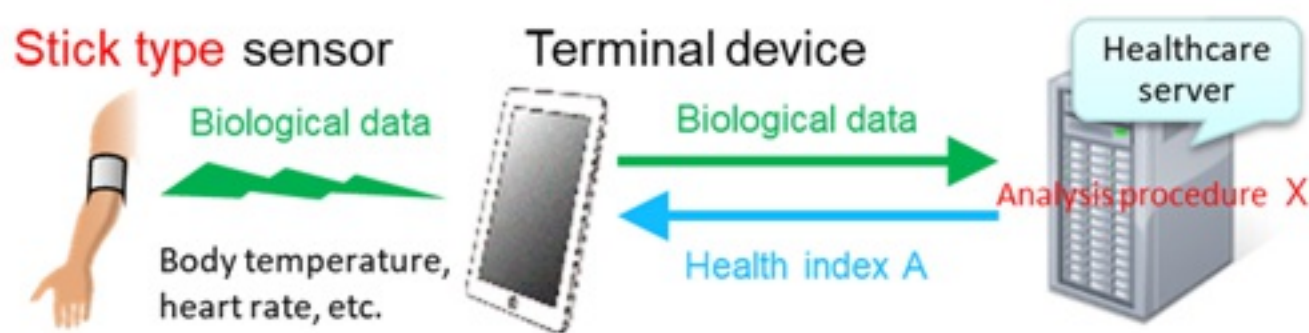
wherein the terminal device comprises means for receiving the biological data from the wearable sensor, means for periodically summarizing the received biological data to send a result thereof to the healthcare server, means for receiving a health index value A received from the healthcare server, and means for displaying the health index value A on a screen; and

wherein the healthcare server comprises means for calculating a health index value A of the wearer by analyzing the biological data received from the terminal device by means of analysis procedure X, and means for sending the calculated health index value A to the terminal device.

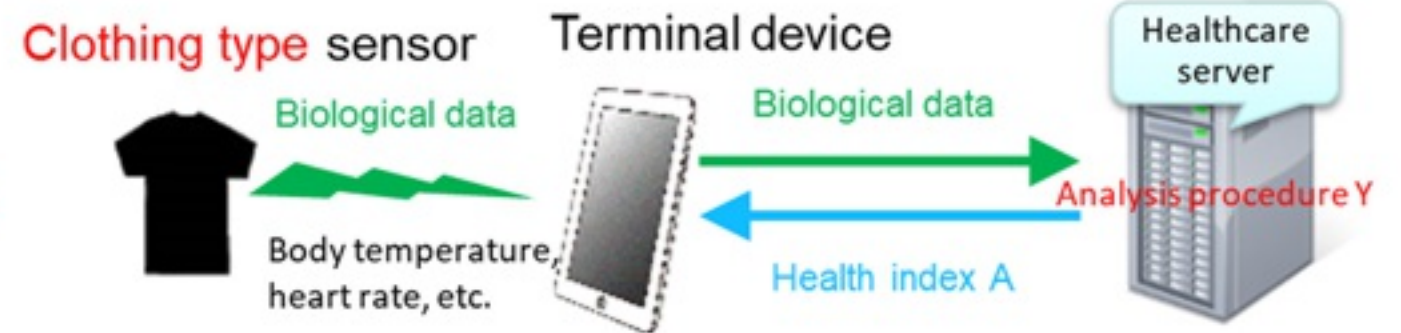
[Claim 2]

A **terminal device** to be used for the healthcare system of Claim 1.

Claimed invention



Prior art



Are the claimed inventions novel?

I've never used a stick type sensor and I prefer a clothing type sensor. So it must be difficult to grant a patent to the stick type sensor.

Sorry, but the decision of granting a patent has nothing to do with your preferences, Ai.

Comparing the claimed invention and prior art, the type of sensor and analysis procedure of server side are different, right?

In general, if an independent claim is novel, its dependent claims are often also novel. So in Q2, if the independent claim1 is novel, can we conclude that the claim2, which is dependent on claim1, is also novel?

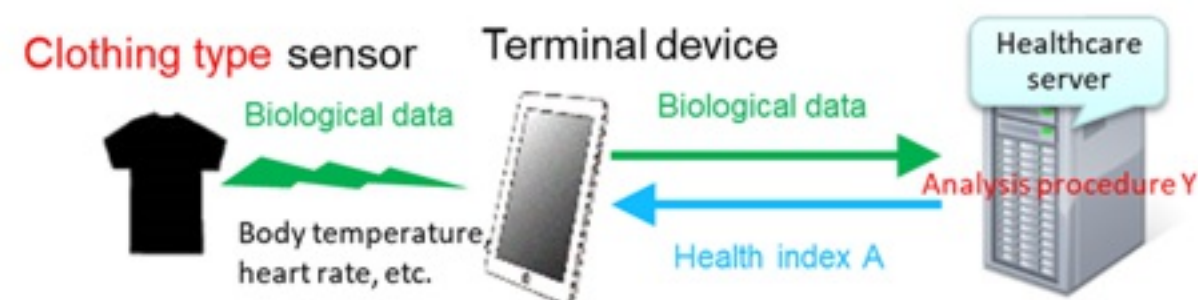
Pay attention to the fact that claim1 isn't a sub-combination claim, but a claim for a "Healthcare system" for the entire combination.

A3: Healthcare system and terminal

Claimed invention

Prior art

Claim 1 for entire system



Claim 2 for sub-combination claim of the terminal device

Does an element relevant to “another sub-combination” have a role in specifying a structure, function, etc. of the claimed sub-combination invention ?

- ✓ **Stick type sensor** : The **terminal device** receives **biological data** such as body temperature and heart rate, even if the type of sensor changes.
- ✓ **Analysis procedure X** : The **terminal device** receives **health index A**, even if the analysis procedure changes.

Answer : Claim 1 is novel and claim 2 is not novel

After all, both the stick type sensor and the analysis procedure don't specify a structure, function, etc. of the "terminal device", right ?



I see.

Claim 2 is a sub-combination claim that extracts only the terminal device from claim 1. So, we just need to think about how the stick type sensor and the differences in analysis procedure of the server specify a structure, function, etc. of the "terminal device".



Claim 1 is obviously novel since it's a claim for a whole system. It's different from prior art in that the sensor type is a stick type and the analysis procedure of the server is X.



However, as shown in Q3, where the dependent claim 2 extracts some elements from claim 1 instead of adding new ones, the novelty of claim 2 may be destroyed even if claim 1 is novel. Be careful.



When claim 1 is novel, the dependent claim 2 which adds new elements to it is usually novel.

Q4 : Drone

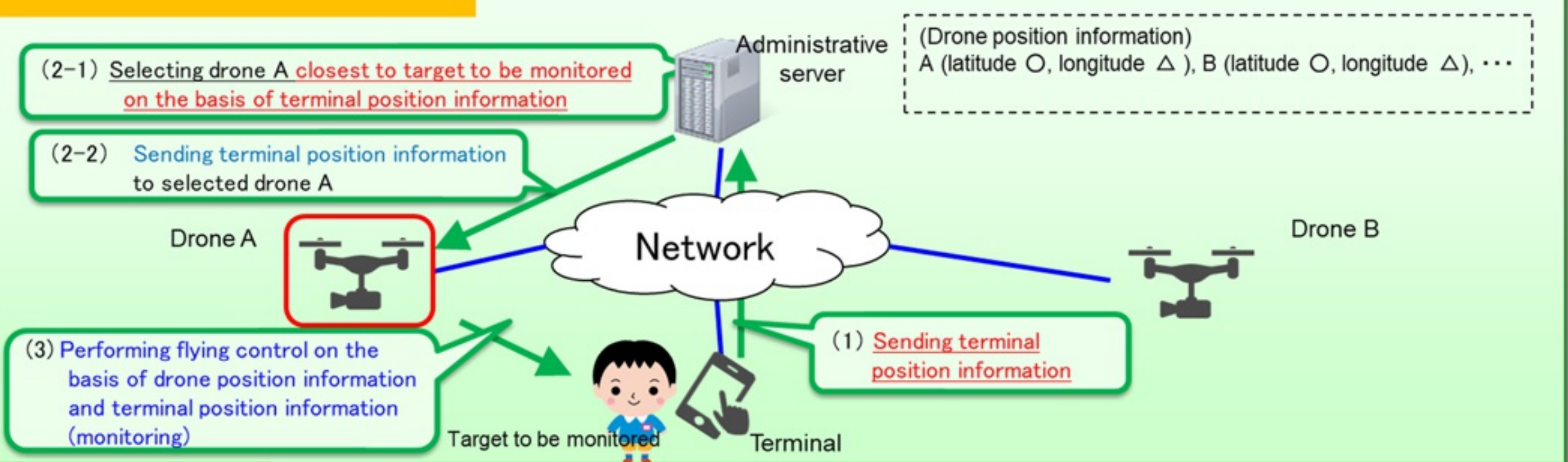
[Claim 1] (Examination Handbook Annex A, 4. Novelty, Case 38)

A three-dimensionally movable drone connected to an administrative server via a communication network, comprising:

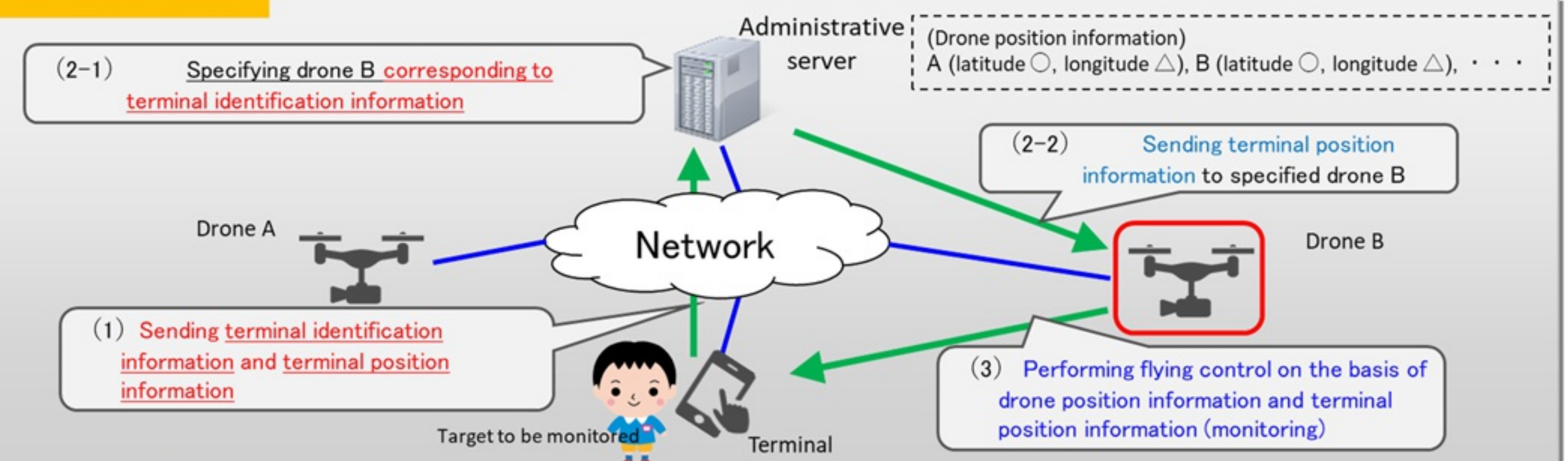
means for acquiring a current position of the drone itself as drone position information; means for receiving terminal position information from the administrative server; and means for performing flying control of the drone itself on the basis of the drone position information and the terminal position information;

wherein the administrative server comprises means for selecting a drone closest to the target to be monitored on the basis of terminal position information received from the terminal of the target to be monitored, and means for sending the terminal position information to the selected drone.

Claimed invention



Prior art



By the way, I bought a **drone** with a credit card **loan**♪

Cheesy pun joke

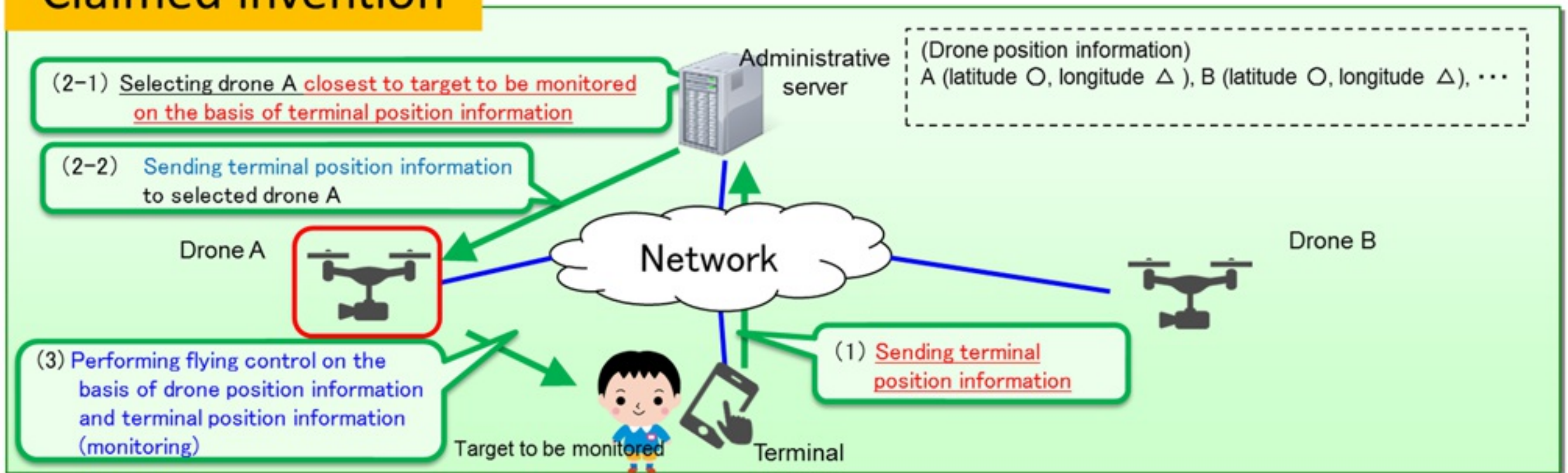
The criteria for the administrative server to select a drone is different between the claimed invention and prior art. In prior art, the drone corresponding to the ID of the terminal device held by the monitoring target is selected, while in the claimed invention, the drone near the monitoring target is selected.

Is the claimed drone novel?

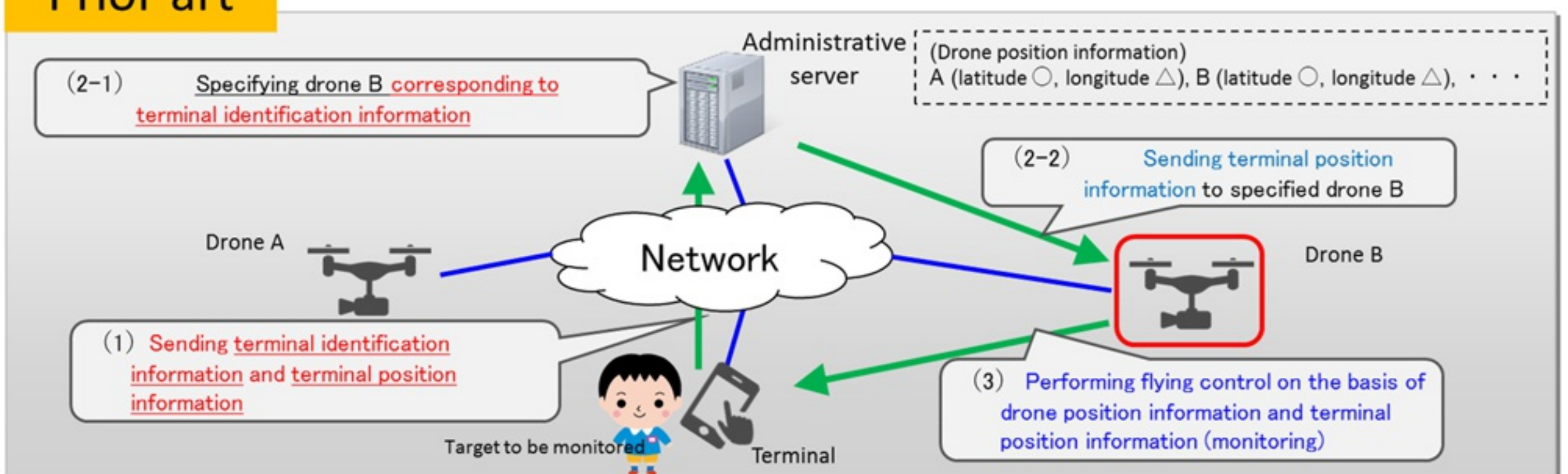
That's a sub-combination claim for "drone" in a system that uses drones to monitor children and other objects.

A4 : Drone

Claimed invention



Prior art



Answer : Not novel



Since this claim is a sub-combination of "drone", let's consider how the statement of the administrative server (another sub-combination) specifies a structure, function, etc. of the "drone".

The selected "drone" is just getting the terminal position information from the administrative server, right?



So in the end, the drone selection criteria on the administrative server side has no effect on a structure, function, etc. of the "drone".

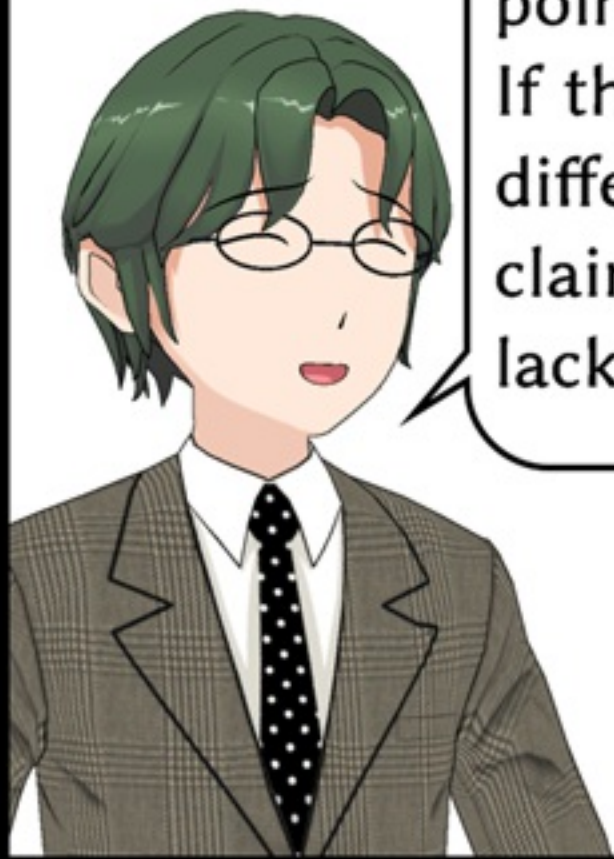
If there are differences in claimed sub-combinations itself, then of course the claim is novel.



By the way, all the examples so far were cases where the issue was how to determine novelty depending on the statement of another sub-combination. But what happens when there are differences in the claimed sub-combination itself?



In such a case, a structure, function, etc., would not be the point of difference. If there are no other differences, then the claimed invention lacks novelty.



Also, even if a structure, function, etc. of the claim is specified in the statement of another sub-combination, I wonder how it will be determined if such a structure, function, etc. were already known in prior art.

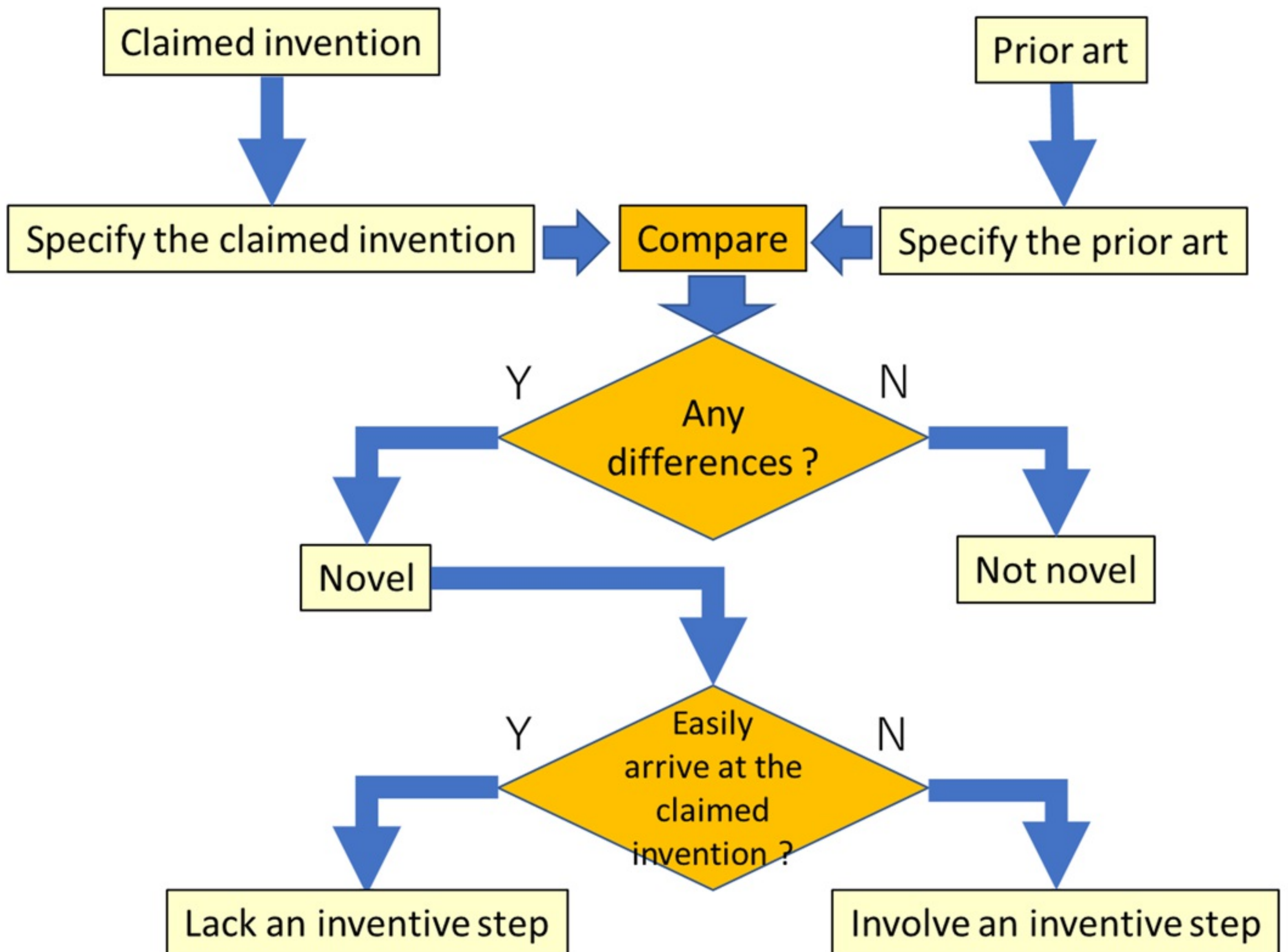


If I try to generalize the explanation of how to treat the statement of another sub-combination, it comes down to the issue of how to specify claimed inventions.



In order to answer these questions, you need to understand the flowchart for determining novelty and inventive step. We'll see it in the next page.

Flowchart for determining novelty and inventive step



However, there are several types of claims to be aware of when specifying the claimed invention, such as when the claim includes another sub-combination explained in this chapter.

In most cases, claimed inventions are specified as described in the claims.



Claim types to be aware of when specifying the claimed invention

Expression Specifying the Product by Operation, Function, Characteristics or Feature

Expression Specifying the Product by its Use Application (Limitation of Use)

Expression Specifying the Invention of Sub-combination by Elements of “Another Sub-combination”

Whether **an element relevant to “another sub-combination”** has a role in **specifying a structure, function, etc. of the claimed sub-combination invention**

Expression Specifying a Product by a Manufacturing Process

Do we need to learn about the other types of claims?

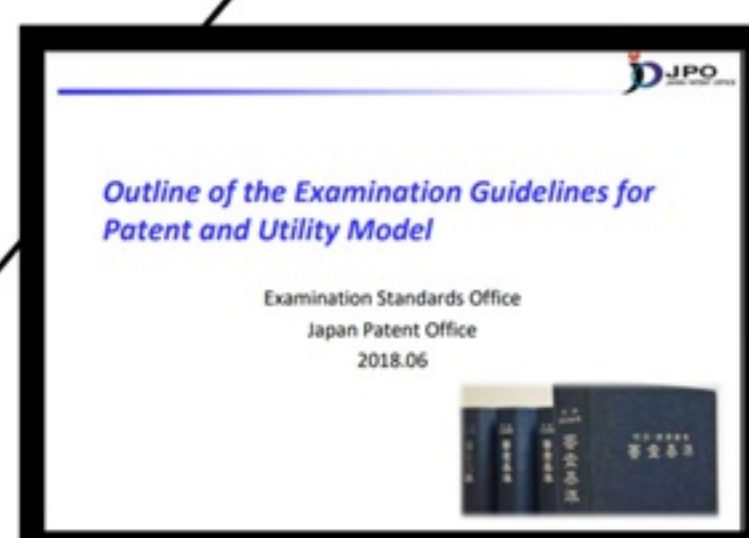


In IoT-related inventions, there are many cases to use sub-combination claims because multiple apparatuses work together, right?



If you've mastered sub-combination claims and are interested in the other types of claims, please take a look at "Outline of the Examination Guidelines for Patent and Utility Model".

In the next chapter, we'll learn about inventive step!



https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/tokkyo_shinsakijyun_point.html