1. **How the JPO determines lack of inventive step.**

JPO Examiner determines lack of inventive step based on the following Article of Japanese Patent Law.

Art. 29. (1) Any person who has made an invention which is industrially applicable may obtain a patent therefore, except in the case of the following inventions:

(i) inventions which were publicly known in Japan or elsewhere prior to the filing of the patent application;

(ii) inventions which were publicly worked in Japan or elsewhere prior to the filing of the patent application;

(iii) inventions which were described in a distributed publication or made available to the public through electric telecommunication lines in Japan or elsewhere prior to the filing of the patent application.

(2) Where an invention could easily have been made, prior to the filing of the patent application by a person with ordinary skill in the art to which the invention pertains, on the basis of an invention or inventions referred to in any of the paragraphs of subsection (1), a patent shall not be granted for such an invention notwithstanding subsection (1).

1-1. Who determines lack of inventive step?

The Examiner determines lack of inventive step based on the skill level of a person with ordinary skill in the art to which the invention pertains.

“A person with ordinary skill in the art” means a person who has common technical knowledge in the technical field; can use technical measures for research and development such as experimentation when necessary; and has ordinal creative capability such as selecting materials or modifying the constitution of the prior art utilizing commonly used art.

It means the claimed invention will be determined as lacking inventive step if the differences between the claimed invention and the cited invention are commonly used arts.

1-2. When is the time criteria for determining inventive step?
The Examiner determines inventive step based on the technical standard at the
time prior to the filing of the patent application.

1·3. How does the Examiner determine inventive step?

The Examiner should try to reason how a person skilled in the art can arrive at
the claimed invention on the basis of the cited inventions with the help of the arts
well known or commonly used in the field of the invention at the time prior to the
filing of the patent application.

To be concrete, the Examiner should find a citation most proper for comparing
with the claimed invention after understanding the claimed invention: make
identical features and differences between the claimed invention and the cited
invention clear, and reason why the person skilled in the art can easily arrive at
the claimed invention on the basis of cited invention and common technical
knowledge at the time prior to the filing of the patent application.

1·3·1. Reasoning for denying inventive step

Reasoning for denying inventive step can be done from various viewpoints.
The followings are examples of reasoning for denying inventive step.

(1) Selection of Materials; workshop modification

If the differences between the claimed invention and the cited
invention are those listed below, the claimed invention will be
possibly determined as lacking inventive step.

- Selecting materials other than the material used in the prior
  arts from well known materials;
- limiting a specific range of numerical values without
  prominent effects;
- replace a constitution of a cited invention with an equivalent
  thing, and
- modifying a constitution of a cited invention utilizing
  commonly used art.

(2) Matter of mere aggregation

If the claimed invention is mere aggregation of the cited
inventions without achieving special technical effects,
aggregation of the prior arts will be the reasons for denying
inventive step.

(3) Relationship between the technical field of the claimed invention and
that of the cited invention
If there are similar prior arts in related technical fields, it will possibly be a reason for denying inventive step.
Possibility to be a “related” technical field are judged from the viewpoint of whether the person skilled in the art to which the invention pertains can adopt the art in the alleged related technical field to the claimed invention or not.
Normally, the related technical fields are considered to cover various technical fields.

(4) Commonality of the problems to be solved
If the cited invention has the same problem to be solved as the claimed invention does, it will possibly be a reason for denying inventive step.
If the problem to be solved by the claimed invention is not clearly stated in the cited invention, the Examiner will consider whether the problem is commonly known in the art to which the claimed invention pertains.

(5) Functions in common
If the constitutions of the claimed invention and those of the cited invention have functions in common, it will possibly be a reason for denying inventive step.

(6) Teaching by the cited invention
If the cited invention teaches the construction of the claimed invention, it will possibly be a reason for denying inventive step.

(7) Advantageous effects
If the claimed invention achieves advantageous effects beyond the anticipation of a person skilled in the art, the inventive step of the claimed invention will be affirmed.
The advantageous effects asserted in the Argument will be considered by the Examiner only if it is described in the specification or drawings, or the advantageous effects can be obviously anticipated by the person skilled in the art.
However, assertions of obviousness of the advantageous effects are normally denied because the assertions often result in that the advantageous effects can be anticipated by the person skilled in the art and therefore they are not prominent.

(8) Numerical limitation
If the claimed invention can achieve an advantageous effect,
which is prominent compared to the rest of the numerical values, in the limited range of numerical values as claimed, the inventive step of the claimed invention can be affirmed. However, the prominent effect must be proved by experimental data or theoretical logic.

2. How the description and the claims should be drafted for success.

In order to succeed in prosecution as well as in litigation, the following points should be kept in mind.

2-1. Preparation

2-1-1. The essence of the technical idea of the invention should be described.

The essence of the technical idea means the theory or the mechanism which solves the problem.

To be concrete, the problem to be solved, the way how the invention solves the problem, the theoretical generic concept which is used to solve the problem if any and the effects of the invention should be clearly described.

The description of the essence of the technical idea, that is, the theory or the mechanism which solves the problem, can help you to distinguish the claimed invention from the cited invention in disregard of similarity between the constitution of the claimed invention and that of the cited invention.

Furthermore, it often helps you to emphasize the advantageous effects of the claimed invention on the basis of the technical idea. You can sometimes assert advantageous effects which can be anticipated by the technical idea even if it is not clearly described in the specification.


2-1-2. The purposes of the invention and the effects of the invention

It is recommended to describe the purposes of the invention and the effects of the invention as much as possible because the assertion of the effects of the claimed invention during prosecution should be based on the description while the citations can not be anticipated during preparation.

2-1-3. The terms used in the claims should be accurate.

The terms used in the claims should be supported by the description to
an extent the person skilled in the art can clearly understand the terms. The support for the terms used in the claims should be preferably described with some equivalent terms to avoid indefiniteness. However, it should be noted that the supports or the explanations of the terms used in the claims should not give excessively wide ranges to the terms, which leads the claimed invention to include prior arts or invalidity reasons.

2·1·4. Technical field of the invention

It is necessary to define the technical field of the claimed invention as precisely as possible because the inventive step sometimes can be confirmed by the differences of the technical field. Because the problem to be solved is often closely related to the technical field, the differences of the technical fields can sometimes help you to distinguish the claimed invention from the cited invention. However, describing the technical field or use of the invention in the claims is not recommended because such descriptions in the claims will unnecessarily narrow the scope of the right.

2·1·5. Numerical limitation

When you limit the numerical values in the claims, you should describe the prominent effect achieved by the claimed invention. You should clearly distinguish the claimed range from the rest by the prominent effects. Sufficient experimental data are required to define the limited claimed range, or theoretical logic for defining the limited claimed range is required. If the examiner finds some prior art in the claimed range, the whole invention will be rejected. Therefore, preparation for second or third limited range is recommended. The reason for defining the second or the third limited range, that is the differences between the first range, the second range and the third range, should be described.

2·1·6. New parameters

If you defined a material by using new parameters in the claims, prior arts using the same parameters will not be found. However, the Examiner of JPO will determine main physical properties of the claimed material and try to find similar materials in the prior arts. It seldom succeeds to assert the differences between the physical properties and the new parameters.
You should prepare the description of the prominent effects of the material defined by the new parameters compared to the similar material defined by the conventional physical properties.

2-2. Assertion during Prosecution

The following assertions during prosecution will be useful.

2-2-1. Advantageous effects

When the application is rejected on the ground that it is allegedly a mere matter of selection of materials, workshop modification, aggregation, numerical limitation, etc., it is useful to emphasize the special effects of the invention which are achieved by selecting a special material, modifying design, combining prior arts, limiting numerical values, etc.

The “special effects” should be more advantageous than the aggregated effects of the cited prior arts. Or, the “special effects” should be beyond anticipation of the person skilled in the art.

2-2-2. Recognition of the problem to be solved

Generally, if the problem to be solved is not recognized, then the effects can not be expected. Therefore, it is useful to point out that the cited art does not recognize the problem which the invention intends to solve.

2-2-3. Relationship between the technical field of the claimed invention and that of the cited invention

When the Examiner cites a prior art of a related technical field, you should explain the reason why the person skilled in the art to which the invention pertains would not consider adopting the cited prior art to the invention.

If you described the essential technical idea of the invention in the description and it is different from the means for solving problem commonly known in the related technical field, you can assert the difficulty of adopting the prior art of the related technical field to the invention on the ground of lacking commonality of the problem to be solved.