

Utilizing Claims of Granted Patents

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Points

- Inventive steps requirements
- Description requirements

Claim

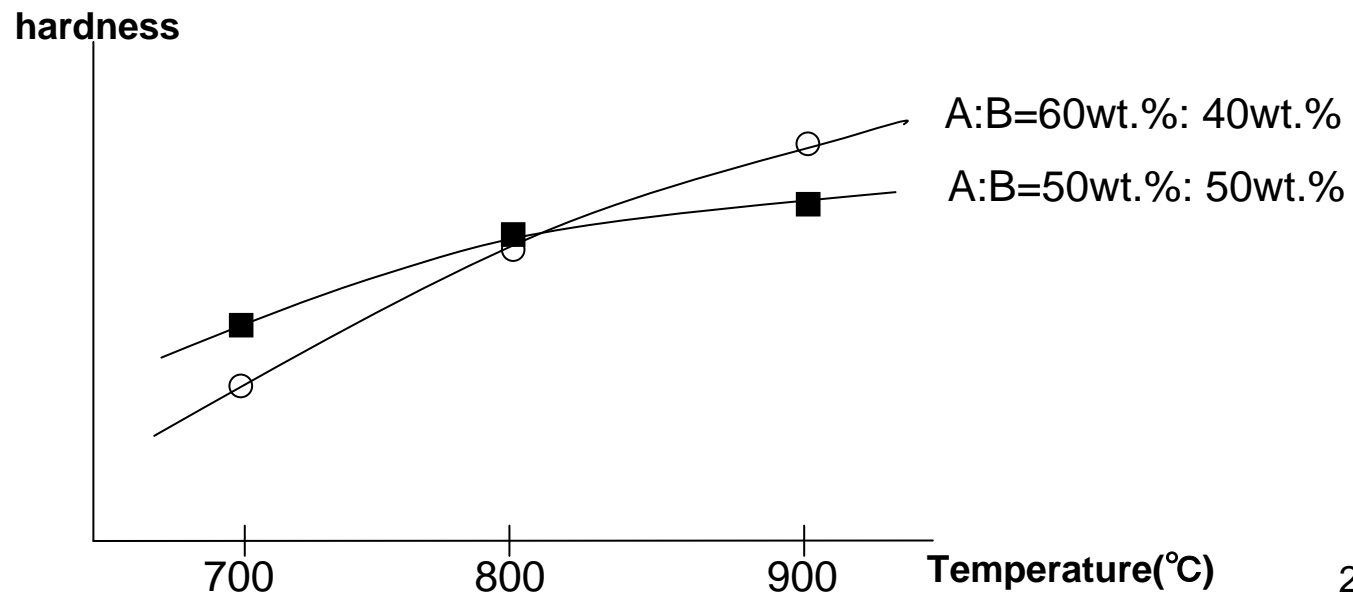
Alloy consisting of **metal A 10-90wt.%** and **metal B 90-10wt.%** hardened through heat treatment at **700 degree or higher**.

Description

- The ratio of **metal A is 10-90 wt.%, preferably 30-90 wt.%, more preferably 50-90 wt.%**. **➡ adequate hardness**

Example

T=700, 800, 900°C
A:B=50wt.%, 50wt.%
60wt.%, 40wt.%



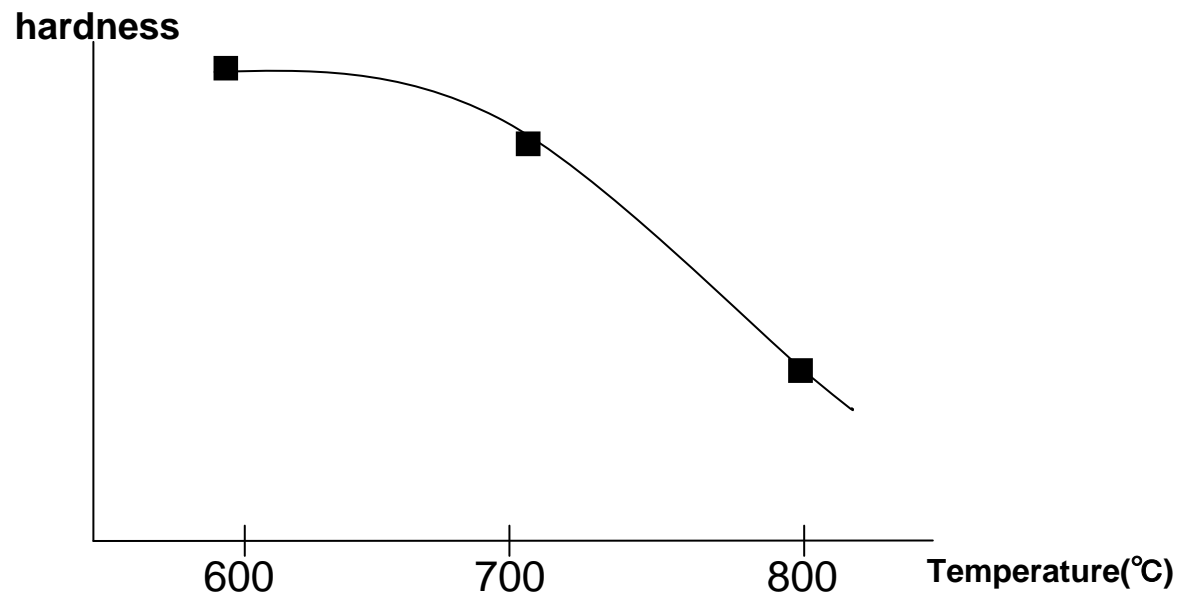
Description

- Alloy consisting of **metal A** and **metal B** hardened through heat treatment at 800 degree or lower.
- The ratio of **metal A** and **metal B** is arbitrary.
- The hardness is favorably increased at **800 degree or lower**.

Example

T=600, 700, 800°C

A:B=10wt.%,90wt.%



Present Application

Alloy consisting of **metal A 10-90wt.%** and **metal B 90-10wt.%** hardened through heat treatment at **700 degree or higher**

Cited Document

Alloy consisting of **metal A** and **metal B** hardened through heat treatment at **800 degree or lower**

Granted Claim of Patent Office A

Alloy consisting of **metal A 30-90wt.%** and **metal B 70-10wt.%** hardened through heat treatment at **800 degree or higher.**

- The ratio of **metal A** is limited from 10-90wt.% to **30-90wt.%**
(The ratio of **metal B** is limited from 90-10wt.% to **70-10wt.%**)
- The temperature is limited from 700 degree or higher.
to **800 degree or higher.**

Granted Claim of Patent Office B

Alloy consisting of **metal A 50-90wt.%** and **metal B 50-10wt.%** hardened through heat treatment at **700 degree or higher.**

- The ratio of **metal A** is limited from 10-90wt.% to **50-90wt.%**
(The ratio of **metal B** is limited from 90-10wt.% to **50-10wt.%**)
- The temperature is not limited.



Difference

- **Range of the ratio of metal A and metal B**
- **Range of the temperature of heat treatment**

✓ Lack of Novelty

Present Application

Alloy consisting of **metal A 10-90wt.%** and **metal B 90-10wt.%**
hardened through heat treatment at **700 degree or higher**

Disclosure of the cited document

Alloy consisting of **metal A 10wt.%** and **metal B 90wt.%** hardened
through heat treatment at **700 or 800 degree**



Claimed invention of the present application is
disclosed in the cited document.

✓ Lack of Inventive Step

Present Application

Alloy consisting of **metal A 10-90wt.%** and **metal B 90-10wt.%** hardened through heat treatment at **700 degree or higher**

Disclosure of the cited document

- The ratio of **metal A** and **metal B** is arbitrary.
- The hardness is favorably increased at **800 degree or lower**.



A person skilled in the art would arbitrarily arrange the ratio of metal A and metal B and arrange the temperature of the heat treatment in the range of 800 degree or lower, in order to make the alloy hard, easily arriving the present invention.

Amendment of the Claim

Alloy consisting of metal A 30-90wt.% and metal B 70-10wt.% hardened through heat treatment at 800 degree or higher.

Argument by the applicant

- The amended claimed invention is not specifically disclosed in the cited document any more.
- The cited document does not encourage a person skilled in the art to increase the temperature of the heat treatment to 800 degree or higher.
- The present invention has found that, in the specific range of the ratio of metal A and metal B, hardness of the alloy is increased when heated at 800 degree or higher.

➡ The amended claimed invention is novel and inventive.

✓ Lack of Novelty

The same reason as that
of Patent Office A

Present Application

Alloy consisting of **metal A 10-90wt.%** and **metal B 90-10wt.%**
hardened through heat treatment at **700 degree or higher**

Disclosure of the cited document

Alloy consisting of **metal A 10wt.%** and **metal B 90wt.%** hardened
through heat treatment at **700 or 800 degree**



Claimed invention of the present application is
disclosed in the cited document.

✓ Lack of Inventive Step

Present Application

Alloy consisting of **metal A 10-90wt.%** and **metal B 90-10wt.%**
hardened through heat treatment at **700 degree or higher**

Disclosure of the cited document

- The ratio of **metal A** and **metal B** is arbitrary.
- The hardness is favorably increased at **800 degree or lower**.



The logic is different from that of Patent Office A.

A person skilled in the art would arbitrarily arrange the ratio of metal A and metal B. A person skilled in the art would also suitably arrange the temperature of the heat treatment **even beyond 800 degree** in the light of the common general technical knowledge that the alloy's hardness changes according to the composition of alloy or the temperature of heat treatment. So, the present claimed invention is easily arrived based on the disclosure of the cited document.

✓ Noncompliant of Support requirement

Common general technical knowledge:

- The adequate temperature of the heat treatment depends on the composition of the alloy.

Not pointed out by
Patent Office A

Fact described in the cited document:

- In case of the alloy of metal A 10wt.% and metal B 90wt.%, hardness of the alloy lowers at higher than 700 degree.

Fact disclosed in the present application:

- The hardness is confirmed only when A: B= 50wt.%, 50wt.% and A: B= 60wt.%, 40wt.% by the experiment in the description.



It is not supported that hardness of the alloy is increased through heat treatment at 700 degree or higher in all the range of metal A: metal B= 10wt.%, 90wt.% ~ 90wt.%, 10wt.%

Amendment of the Claim

Alloy consisting of metal A 50-90wt.% and metal B 50-10wt.% hardened through heat treatment at 700 degree or higher.

Argument by the applicant

- The amended claimed invention is not specifically disclosed in the cited document any more.
- The cited document suggests that hardness of the alloy is decreased through heat treatment at higher than 700 degree.

To the contrary, the present invention has found that, in the specific range of the ratio of metal A and metal B, hardness of the alloy is increased when heated at 700 degree or higher.

 **The amended claimed invention is novel and inventive.**

➤ Inventive steps

What temperature range and what ratio range are considered to involve inventive steps, considering the disclosure and the working examples?

- Suggestion in cited document
- Motivation
- Obstructive factor
- Unexpected results

➤ Description requirements

What temperature range and what ratio range are considered to be supported by the description?

- Disclosure by the description originally filed (especially examples)
- Common general technical knowledge

Thank you for your kind attention!

