CLAIMS

1. An alloy powder to be used for manufacturing an alloy article, the alloy article being a formed article and comprising matrix phase crystal grains and ultrafine particles with an average particle size of 100 nm or less, in which the ultrafine particles are dispersedly precipitated in the matrix phase crystal grains,

the alloy powder having a predetermined chemical composition comprising:

Co, Cr, Fe, Ni and Ti, each within a range of 5 atomic % or more and 35 atomic % or less;

Mo within a range of more than 0 atomic % and less than 8 atomic %;

an element with a larger atomic radius than the atomic radiuses of the Co, Cr, Fe and Ni within a range of more than 0 atomic % and 4 atomic % or less; and

a balance of inevitable impurities,

wherein the element with a larger atomic radius is at least one from among Ta, Nb, Hf, Zr, and Y,

wherein a total content of the element with a larger atomic radius and the Mo is 8 atomic % or less, and

wherein the alloy powder has an average particle size of 5 μm or more and 200 μm or less.

2. The alloy powder according to claim 1, wherein the chemical composition comprises:

the Co within a range of 20 atomic % or more and 35 atomic % or less;

the Cr within a range of 10 atomic % or more and 25 atomic % or less;

the Fe within a range of 10 atomic % or more and 25 atomic % or less;

the Ni within a range of 15 atomic % or more and 30 atomic % or less; and

the Ti within a range of 5 atomic % or more and 15 atomic % or less.

3. The alloy powder according to claim 1 or 2, wherein the ultrafine particles of the alloy article comprise crystalline particles in that the Ni and the Ti are more concentrated than in the matrix phase crystal grains.

4. The alloy powder according to any one of claims 1 to 3, wherein the ultrafine particles of the alloy article further comprise crystalline particles in that the element with a larger atomic radius is more concentrated than in the matrix phase crystal grains.

5. The alloy powder according to any one of claims 1

to 4, wherein a product of a half of the average particle size of the ultrafine particles of the alloy article and a volume ratio of the ultrafine particles to the matrix phase crystal grains is 16 nm or less.

6. The alloy powder according to any one of claims 1 to 5, wherein the matrix phase crystal grains of the alloy article are equiaxed crystals with an average crystal grain size of 150 μm or less and

wherein the equiaxed crystals comprises face-centered cubic crystals or a mixture of face-centered cubic crystals and simple cubic crystals.