

**JP2001032027A MAGNETIZABLE SILVER ALLOY, AND MAGNETIC PERSONAL ORNAMENT
MADE OF THE ALLOY**

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[0001] BACKGROUND OF THE INVENTION 1. Field of the Invention The present invention relates to a magnetizable silver alloy, and more particularly to a magnetizable silver alloy used as a material for manufacturing accessories such as necklaces and bracelets, and a process for producing the silver alloy. And a magnetized silver alloy magnetic accessory.

[0002] 2. Description of the Related Art Magnetism has a body health promoting effect, particularly a blood circulation promoting effect, and many magnetic health appliances have been developed and commercialized.

[0003] [0003] As one of the fields, there is a so-called "magnetic accessory", which has various shapes, but mainly processes a magnetizable metal into a shape such as a bracelet or a necklace, and then has a magnetic flux density of 60-80. It is magnetized so as to be about millitesla (600-800 gauss).

[0004] From the viewpoint of jewelry, among the above-mentioned magnetic accessories, those manufactured using a platinum-cobalt alloy containing, for example, 77% by weight of platinum are known, and when magnetized, an extremely strong magnetic flux is generated. Indicates the density. However, in order to be certified as "made of platinum alloy" by the Ministry of Finance of the Ministry of Finance, it is necessary to contain platinum in an amount of 85% by weight or more, and it cannot be called "a magnetic accessory made of platinum alloy".

[0005] [0005] Under these circumstances, an alloy has been developed which is not only used as a health appliance but also as a precious metal. For example, 50% of gold, 6-40% of platinum, and There is an alloy containing 3 to 15%, and when magnetized, this alloy is said to show a magnetic flux density of 50 millistella (500 gauss) or more (Japanese Patent Publication No. Sho 63-52102). Incidentally, in the case of gold, if it is contained in 50% by weight or more, it can be referred to as "gold alloy".

[0006] [0006] The above-mentioned gold-platinum-cobalt alloy has a high content of gold and platinum. Therefore, if a magnetic accessory is manufactured using the alloy, the selling price must be set high and the purchaser is limited. Will be done.

[0007] On the other hand, magnets have also been used for metal fittings for the back, etc., but most of the magnets currently used are black ferrite magnets, and the metal fittings are simply plated. There is a problem in that the plating peels off during repeated use due to the large number of materials, and the appearance of the bag itself deteriorates.

[0008] SUMMARY OF THE INVENTION The present invention has been made in view of the above-mentioned problems, and a first object of the present invention is to provide a lower cost than the above-mentioned gold-platinum-cobalt alloy, and An object of the present invention is to provide an alloy which can be magnetized and can be made into a noble metal magnetic decorative article.

[0009] A second object of the present invention is to provide a magnetic accessory made of the above alloy.

[0010] Means for Solving the Problems and Achieving the Object The present inventors have made intensive studies to solve the problems of the conventional magnetic accessories, and as a result, developed a silver-manganese-aluminum alloy. Thereby, the first object was achieved, and the second object was achieved by processing a jewelry using the alloy and performing a magnetizing treatment.

[0011] That is, the magnetizable silver alloy according to the present invention is characterized by containing 80 to 90% of silver, 13 to 7% of manganese, and 7 to 3% of aluminum on a weight basis.

[0012] Since the alloy according to the present invention contains 80% by weight or more of silver (Ag), it is certified as a "silver alloy" by the Ministry of Finance of the Ministry of Finance, and is manufactured by

processing using the alloy and then magnetizing. The ornament can be referred to as a "silver alloy magnetic ornament". The magnetization can be performed using a commercially available magnetizer.

[0013] In the alloy according to the present invention, manganese and aluminum are employed as alloy components other than silver because the color of the metal is similar to silver, and the amount of manganese is reduced to 7-10% by weight. The reason for the setting is that if it is less than 7%, it may not be possible to achieve the required magnetic flux density of 50 millitesla (500 gauss) or more even when magnetized on the processed ornament. The purpose of blending aluminum is that silver and manganese are metals having specific gravities of 10.5 and 7.2, respectively, and it is assumed that depending on the type of decorative article, it is preferable that the weight is not too high.

[0014] In the present invention, the term "accessory" refers to accessories such as decorative combs, hairpins, earrings, cufflinks, tie pins, finger rings, necklaces and bracelets, as well as so-called accessories worn for decoration. Metal fittings, belt fittings, etc. are also meant.

[0015] [Production Examples] Among the above-mentioned components, silver and aluminum are first collected, put into a carbon crucible, melted using a high-frequency melting furnace, and then heated to 1300 ° C. Next, manganese was put into a crucible and held while stirring to dissolve the manganese to form a silver-manganese-aluminum molten alloy. By allowing this molten alloy to cool, three types of magnetizable silver alloys were obtained.

[0016] Production Example 2 (Production of a magnetic necklace made of silver alloy) Using the silver alloy of the third formulation (90% by weight of silver, 7% by weight of manganese, 3% by weight of aluminum) obtained in the above-mentioned Production Example 1 as a raw material, The necklace was manufactured in the same way.

[0017] That is, the silver alloy of the third formulation in Production Example 1 was placed in a carbon crucible and melted at 1200 ° C. using a high-frequency melting furnace, and then the molten alloy was drawn into a cylindrical shape having a diameter of 0.1 mm. Then, the obtained wire rod was attached to a chain knitting machine to knit a chain.

[0018] Next, the chain was cut at a length of about 50 cm, and a heat treatment (solution treatment) was performed in a muffle furnace at 700 ° C. for 20 minutes. After allowing to cool once, a heat treatment (aging treatment) was further performed in a muffle furnace at 300 ° C. for 1 hour.

[0019] The chain after the aging treatment was subjected to a magnetizing treatment using a commercially available magnetizing machine (manufactured by Korea Magnet System Co., Ltd., product name "L.S.MAGNETS YOKE").

[0020] Finally, clasps were attached to both ends of the magnetized chain to obtain a desired silver alloy magnetic necklace. This necklace exhibited a magnetic flux density of about 60 millitesla (600 gauss).

[0021] Production Example 3 (Production of Magnetic Hardware Made of Silver Alloy) Using the silver alloy of the first formulation (80% by weight of silver, 13% by weight of manganese, 7% by weight of aluminum) obtained in the above-mentioned Production Example 1 as a raw material, Metal fittings for bags were manufactured in the same way.

[0022] That is, the silver alloy of the first formulation in Production Example 1 was placed in a carbon crucible and melted at 1200 ° C. using a high-frequency melting furnace, and then the molten alloy was formed into a backing mold. The mixture was poured into a mold and allowed to cool.

[0023] The metal fitting solidified by cooling was removed from the mold, buffed to give a gloss to the surface, and then subjected to a solution treatment and an aging treatment under the same conditions as in Production Example 2.

[0024] Next, the aging-treated metal fitting was subjected to a magnetizing treatment in the same manner as in Production Example 2 to obtain a desired silver alloy bag magnetic fitting. This bag fitting exhibited a magnetic flux density of about 120 millitesla (1200 gauss).

[0025] The magnetizable silver alloy according to the present invention contains 80% by weight or more of silver, and thus is approved as a "silver alloy" by the Ministry of Finance of the Ministry of Finance, and is therefore processed using the alloy. The decorative article manufactured by magnetizing can then be referred to as "silver alloy magnetic decorative article".

[0026] In addition, the magnetic accessory made of a magnetizable silver alloy according to the present invention can be manufactured at a lower cost as compared with a magnetic accessory made of a gold-platinum-cobalt alloy. Can be.

[0027] Furthermore, due to its value as a precious metal jewelry and its high magnetic properties, it can be applied to metal fittings for bags and the like, and unlike metal plated metal, exfoliation of plating occurs due to long-term use. There is no fear.