US 20160015146A1

(19) **United States**

(12) **Patent Application Publication**

(10) **Pub. No.: US 2016/0015146 A1**

(43) **Pub. Date: Jan. 21, 2016**

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(54) **DEVICE FOR HAIRSTYLE COMPRISING COMB AND MAGNETIC MEDIA**

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(21) Appl. No.: **14/359,767**

(22) PCT Filed: **Nov. 22, 2012**

(86) PCT No.: **PCT/IB2012/056619**

§ 371 (c)(1),
(2) Date: **May 21, 2014**

(30) **Foreign Application Priority Data**

Nov. 22, 2011 (IT) FG2011A000010

Publication Classification

(51) **Int. Cl.**

A45D 24/38	(2006.01)
A45D 44/06	(2006.01)
A45D 24/02	(2006.01)

(52) **U.S. Cl.**

CPC ***A45D 24/38*** (2013.01); ***A45D 24/02*** (2013.01); ***A45D 44/06*** (2013.01)

(57) **ABSTRACT**

The present invention relates to a comb, used in the professional field of hairdressers and hair stylists, inside which there is ferromagnetic material, to be used together with a bracelet with magnet-holder sliding modules; the magnetic bracelet, preferably in nonallergic material, worn on the wrist, is used as support so that the magnetic comb can be put away temporarily during the steps in which it is not used. The invention can comprise another magnetic support to be provided at the rear of the back of a styling chair.

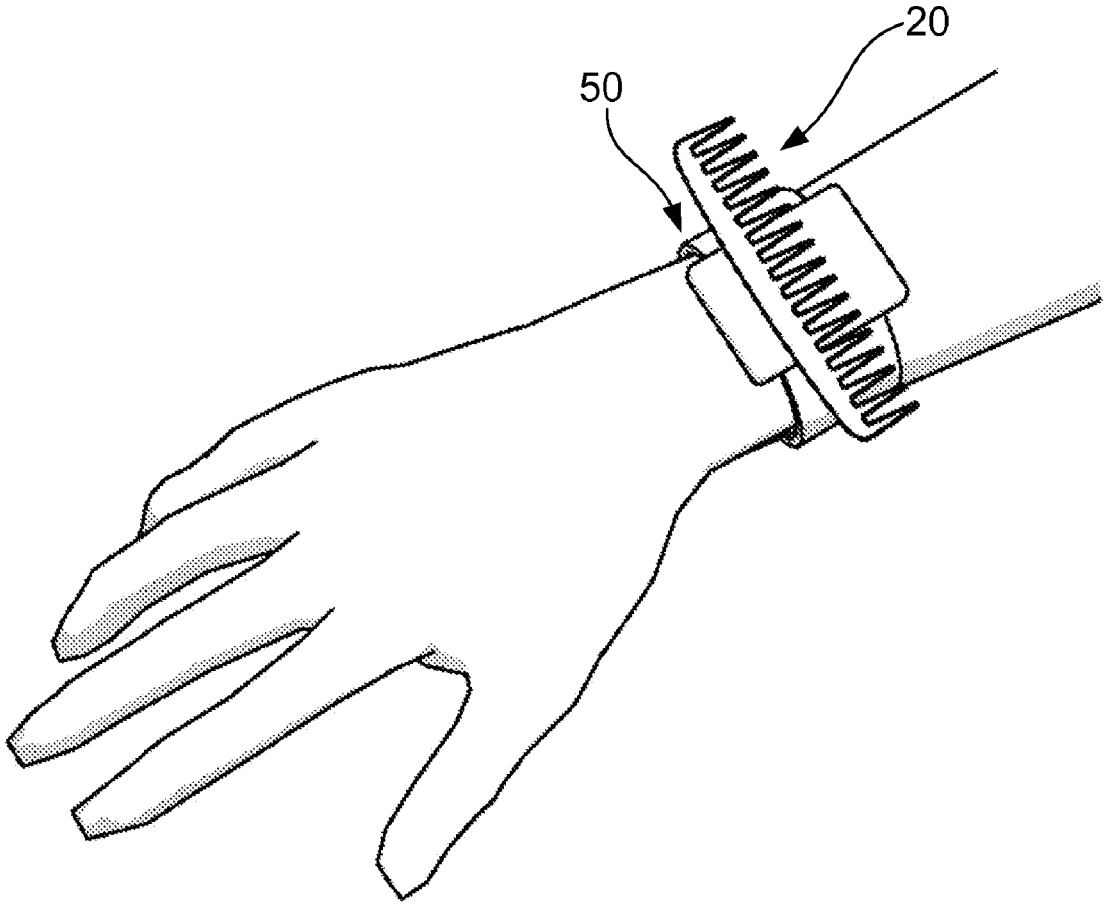


Fig. 1a

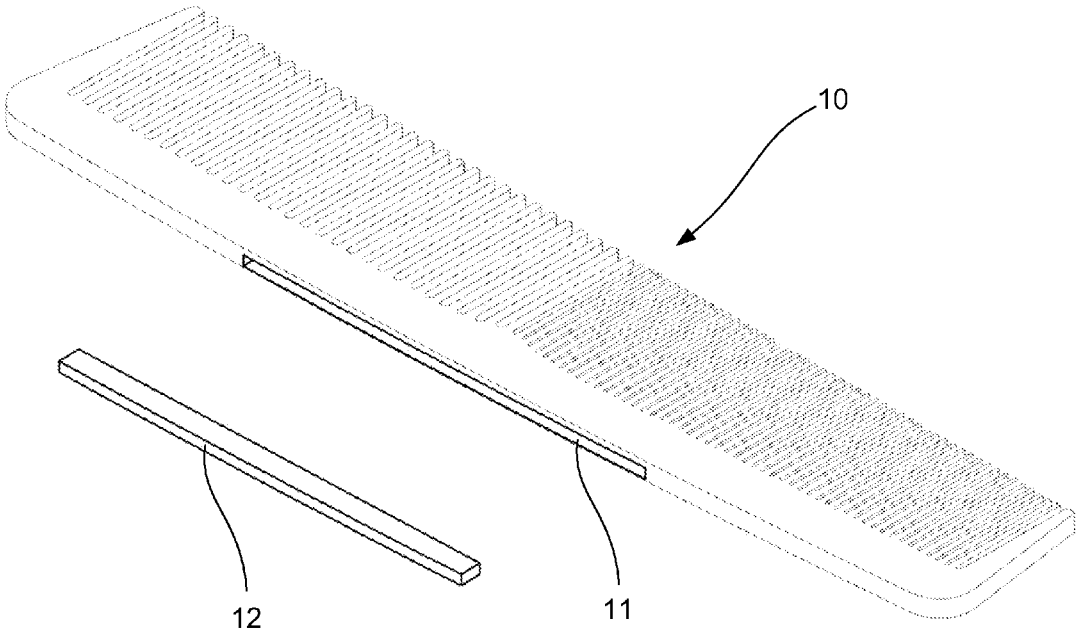


Fig. 1b

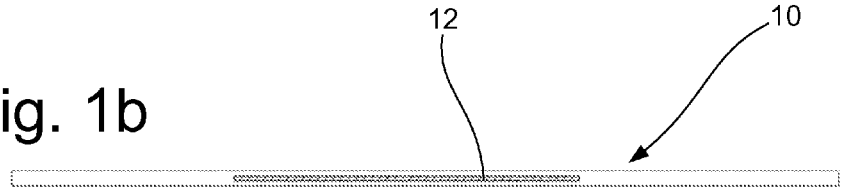


Fig. 1c

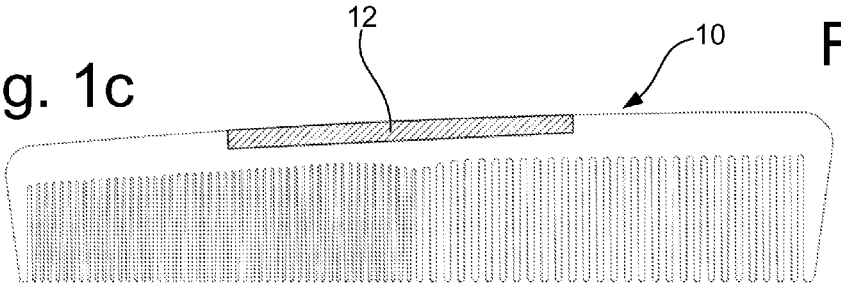


Fig. 1d

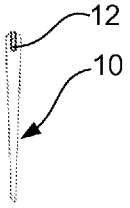


Fig. 2a

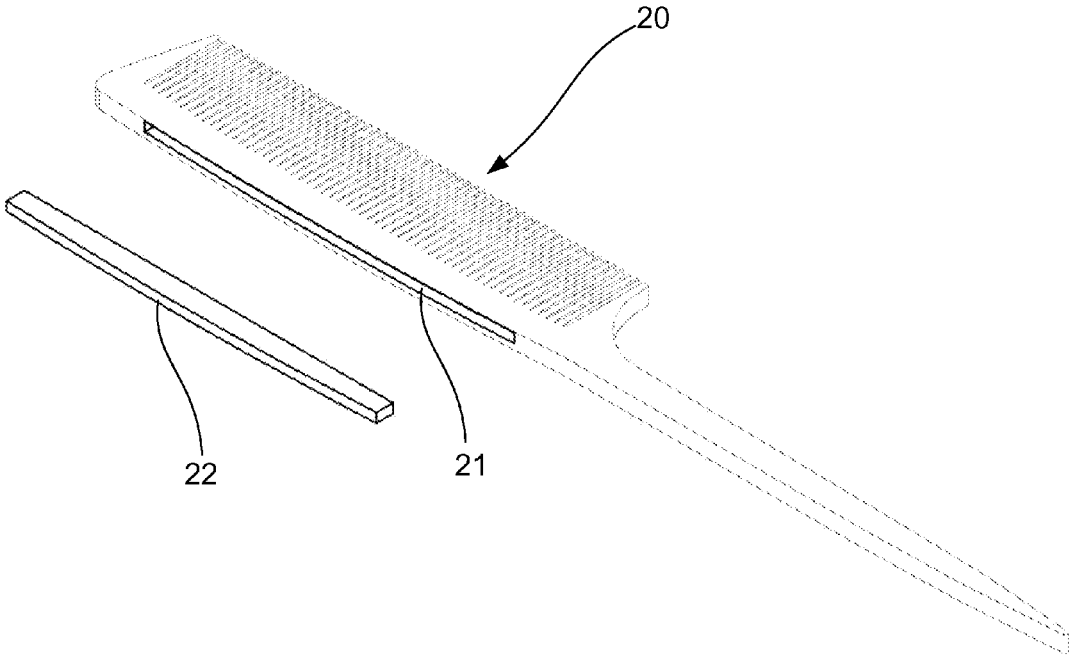


Fig. 2b

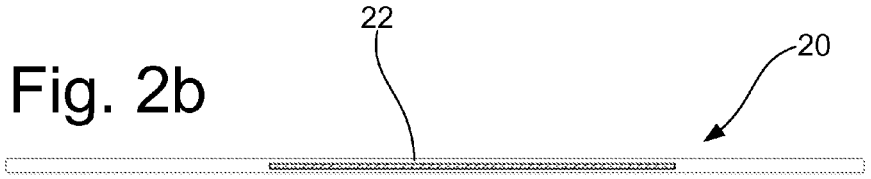


Fig. 2c

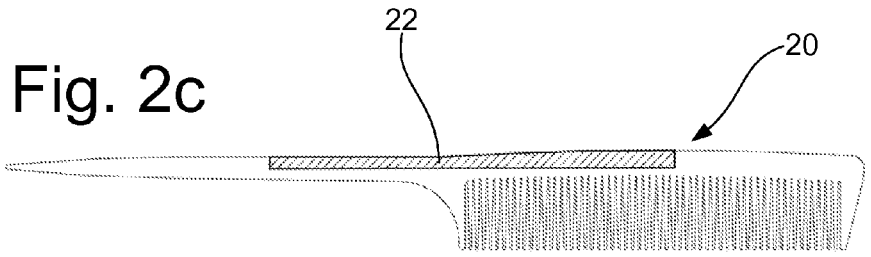


Fig. 2d

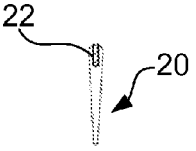


Fig. 3

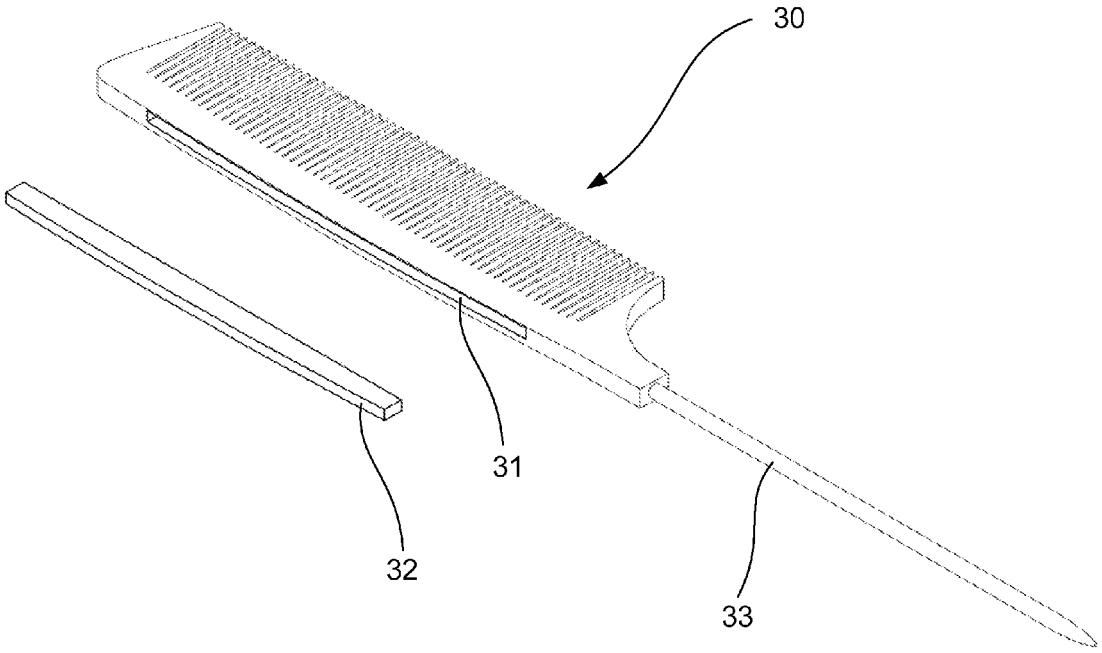


Fig. 4

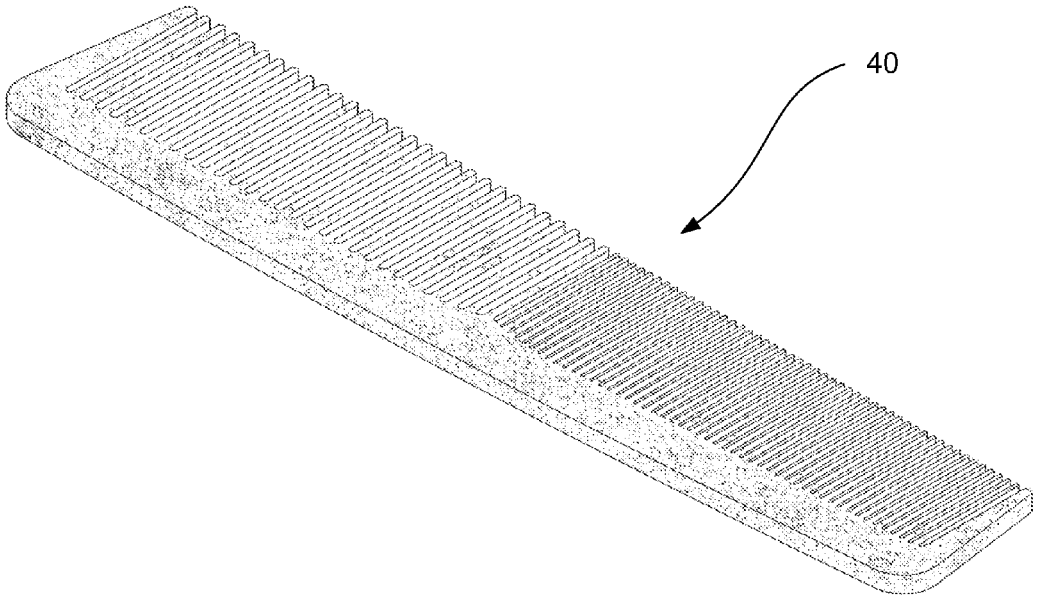


Fig. 5

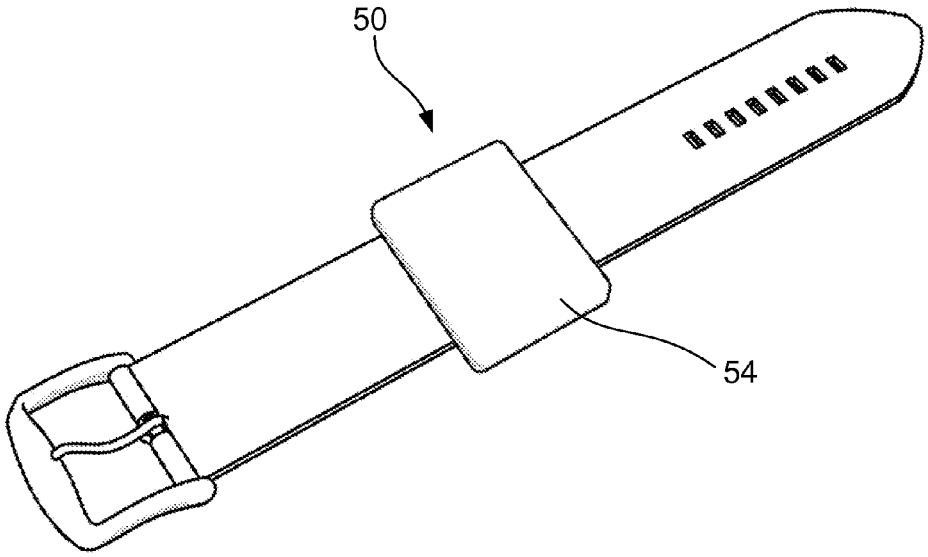


Fig. 6

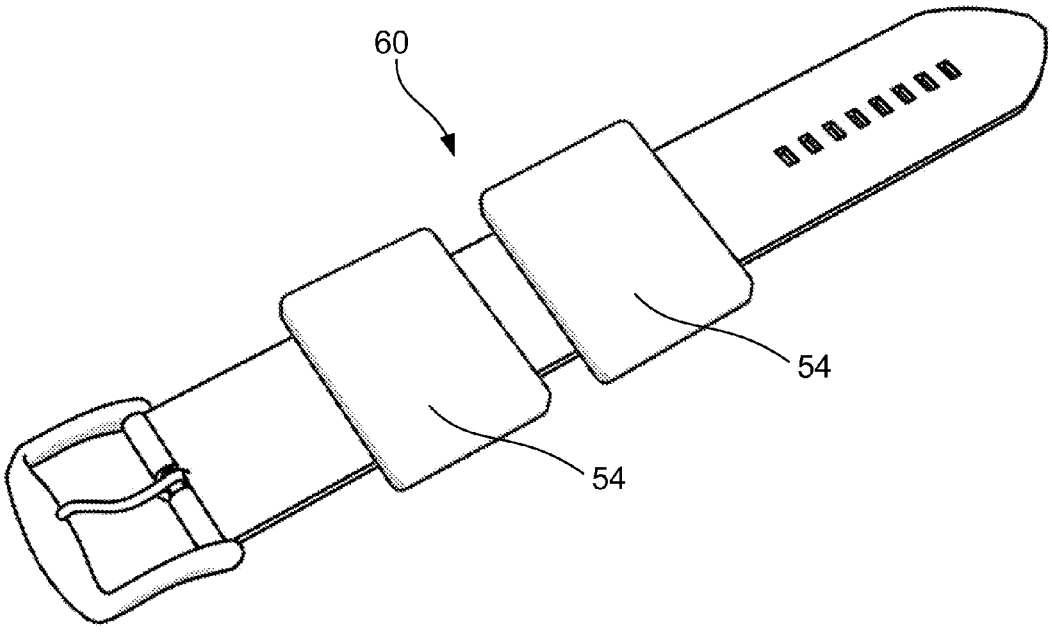


Fig. 7a

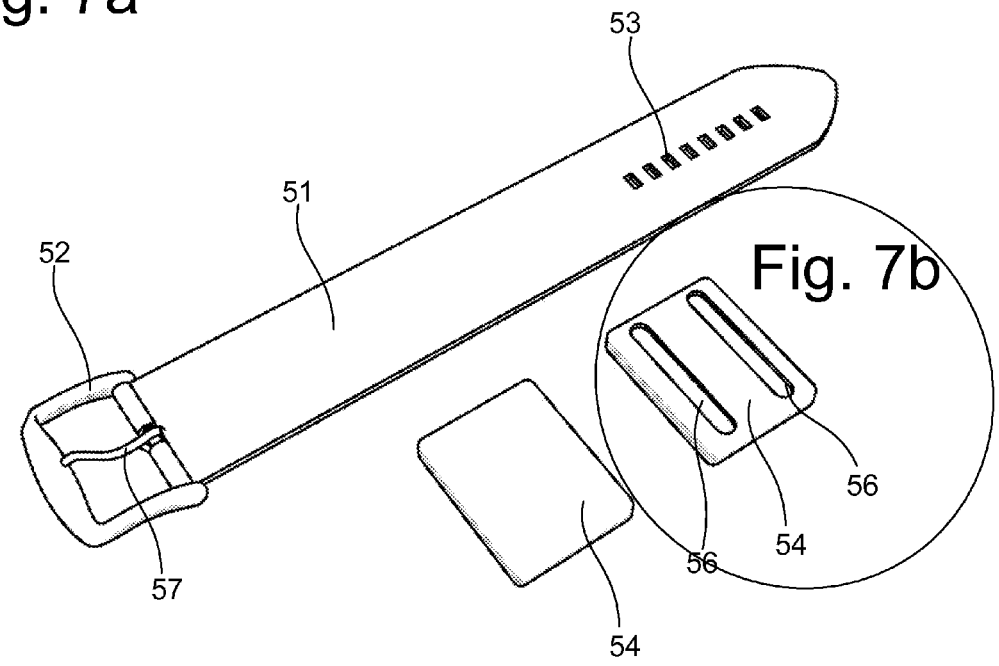


Fig. 7b

Fig. 7c

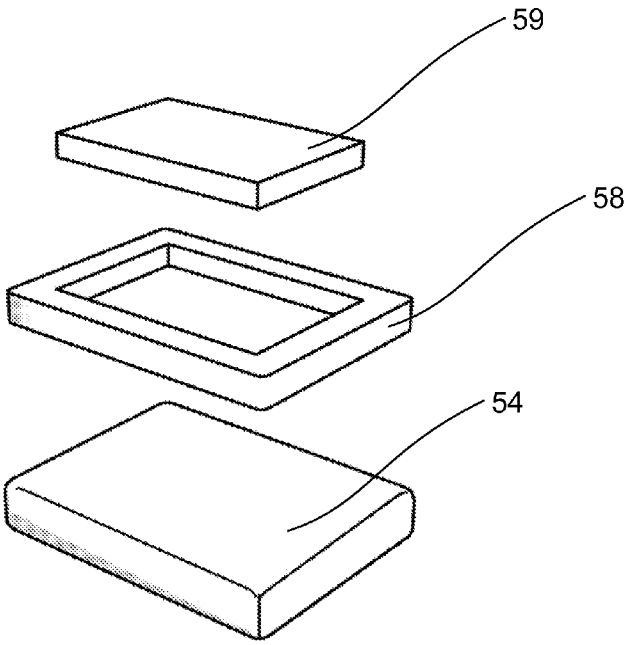


Fig. 8a

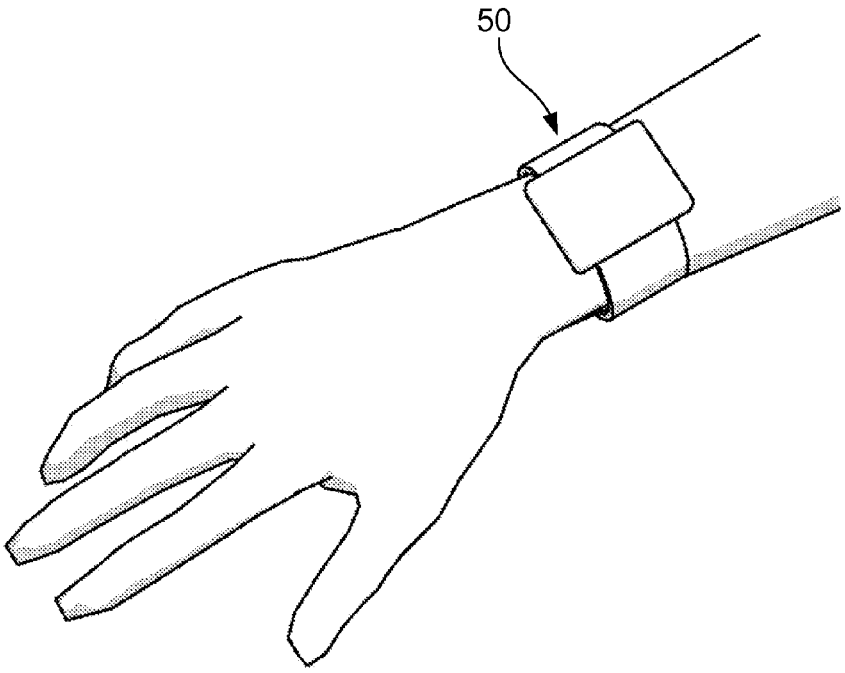


Fig. 8b

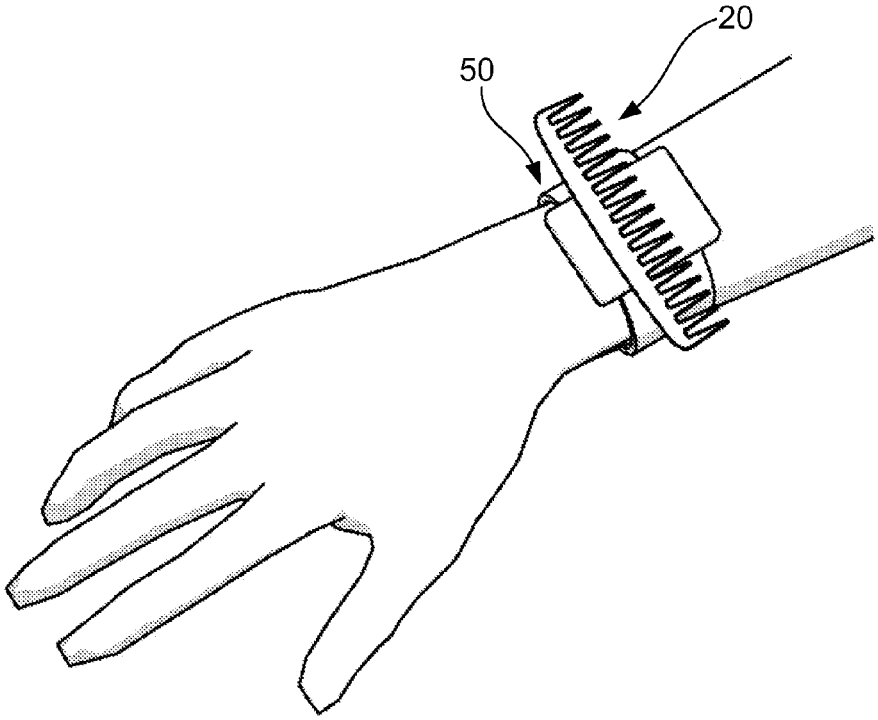


Fig. 9a

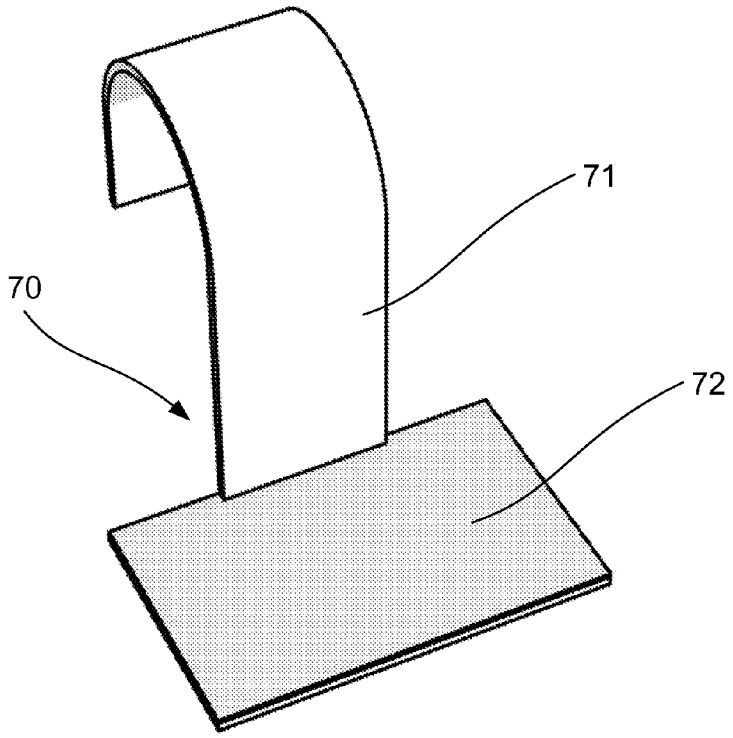


Fig. 9b

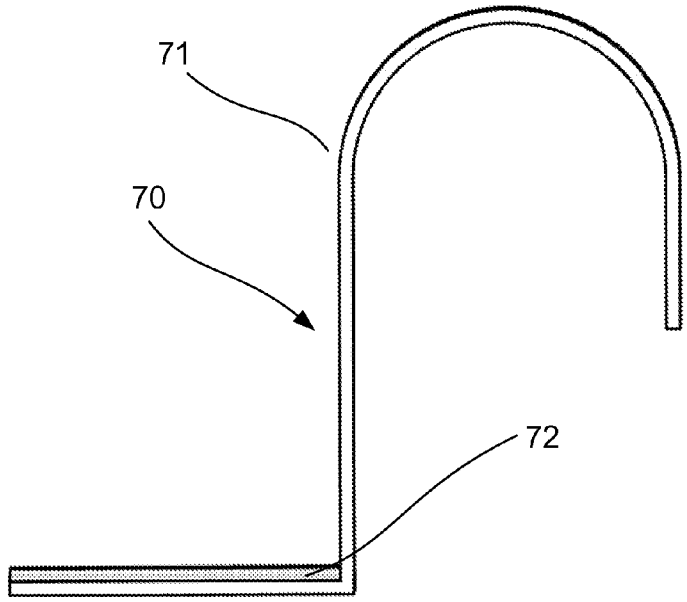


Fig. 9c

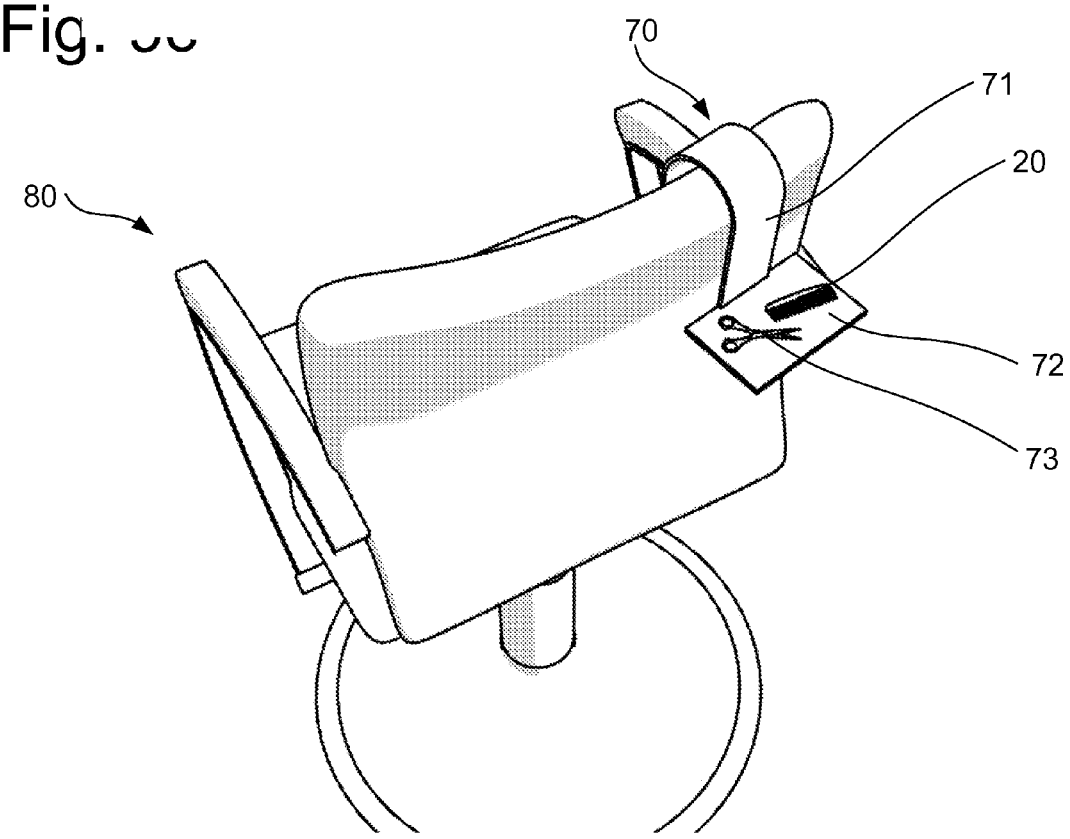
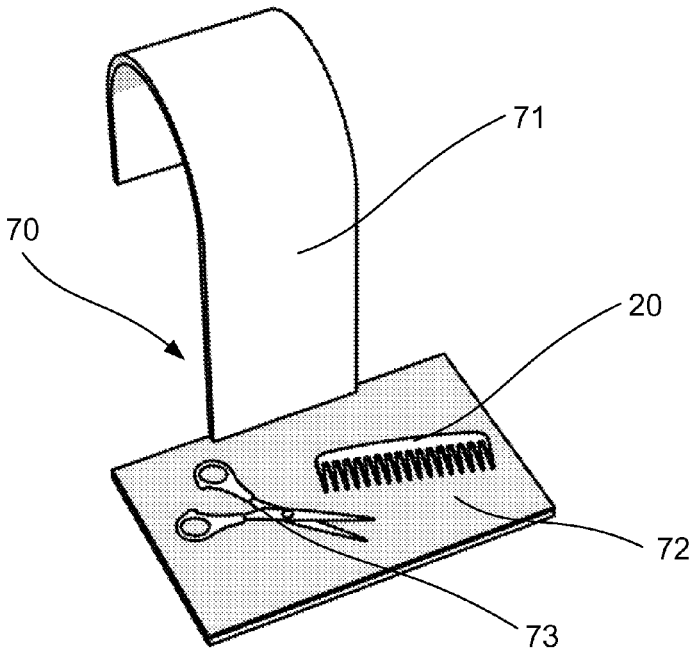


Fig. 9d



DEVICE FOR HAIRSTYLE COMPRISING COMB AND MAGNETIC MEDIA

RELATED APPLICATIONS

[0001] This application is the U.S. National Stage under 35 USC 371 of PCT Application PCT/IB2012/0560019, claiming foreign priority based on Italian patent application FG201A000010.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a device for improving the working conditions of hair stylists, hairdressers and the like, in particular to reduce at minimum the movements needed to put down temporarily and then take again a comb or other tools during working hours.

[0004] 2. Brief Description of the Prior Art

SUMMARY OF THE INVENTION

[0005] As it will be described in detail in the following, the device object of the present invention comprises a bracelet provided with at least a magnet, which can be used together with a comb or other tools for hairdressers (as for example scissors) containing metal parts inside. The device can further comprise a support provided with a magnetic surface, configured to be constrained to the back of the styling chairs commonly used in the hairdressing and hair styling salons.

[0006] Currently, the hairdressers and those who work in the technical-stylistic services (cut, hairdressing) have to perform repeated actions with the hand and the fingers in order to put down the comb, when this one is not necessary, to have the hands free according to the operation to be done. This implies that the comb has to be held with the thumb closed towards the hand palm, so that it can <:> be put away until its next usage. Or, the comb slides between ring finger and little finger so that one has the first three fingers, thumb, ring finger and middle finger free to perform the hairdressing operations. All these movements complicated, time consuming and requiring ability, are little practical and require manual skill, which, even if is learned thanks to experience, remain however little practical and require additional time. At the same time, they can cause physical damage or pain to the user as for example the carpal tunnel syndrome, due to hand and wrist tendons and muscles overstressing.

[0007] Differently, the not so expert hair stylists can put down the comb on a plane or in a pocket, but this lengthens the performing times remarkably since each time the comb has to be put down and took again, which thing is avoided exactly by developing the manual skill which allows to have as many as possible fingers free and to hold the comb ready to be taken by making it slide towards the first fingers of a hand. The same goes for other tools used by hair stylists and hairdressers, as for example the scissors. Also the scissors in fact have to be used now and then during a cut or hairdressing service.

[0008] As yet said, the ability which allows the hairdressers to use the ring finger and the little finger to hold comb or scissors has the drawbacks yet enlisted which the present invention aims to solve by substituting the use of a supporting plane or the need to learn complex actions by using a device comprising a bracelet provided with magnetic supports, whose features are better described in the following, on which it is possible to put down the comb simply and so that it is at hand between a working step and the other one when the same is not used.

[0009] The aim is solved by using a bracelet comprising magnetic elements, able to attract and hold combs comprising materials having the property to be attracted by magnets.

[0010] A bracelet provided with magnetic elements requires, as stated, that the combs have magnetic properties, so that they result usable in combination with said bracelet provided with magnetic elements, and that at the same time they are realized so that they are very similar to traditional combs, as for the shape, material and function.

[0011] The comb to be used together with the bracelet according to the present invention is characterized in that it comprises a quantity of material which can be attracted by a magnet such that the comb is apt to be attracted by a magnet and to be held. The bracelet and the comb have to be configured so that the attraction force between the same when the comb is put down on the permanent magnet associated to the bracelet is greater than the comb weight, so that this is constrained to the bracelet, but at the same time in a way that it does not cause problems to the user who wants to detach it to be used. Without departing from the scope of the present invention, the ferromagnetic material can be contained in the comb according to various shapes and embodiments, which are described in detail in the following.

[0012] As yet said, the comb thus characterized can be used in combination with a bracelet containing magnets. Once this is worn on a hand wrist, it is possible to be used to receive the comb when it is not necessary and the hand is needed to be free thereof, simply by nearing the comb to one of the magnets contained in the bracelet. Thanks to its magnetic force this holds the comb, leaving the hand or fingers free. When the comb is needed again, it is enough to detach it from the bracelet by means of a little pressure, by simply nearing the hand wearing the magnetic bracelet to the other one or vice versa. In this way, it is provided a support where the comb can be put down when the same is not necessary, the advantage being that the support is always next to the hands and the comb is ready to be used like no other tool. Moreover, the magnetic effect of the bracelet, which holds the comb, allows to continue to move the hand wearing the bracelet, without risking that the comb falls down, since this is advantageously held by the magnet mounted on the bracelet.

[0013] Therefore by using a comb according to the present invention in combination with a magnetic bracelet worn on the right or left wrist of the user, it is as if the user has a third hand which holds the comb temporarily; this is possible thanks to the magnets with suitable magnetic power contained in the bracelet which attract and hold the comb integrally to the bracelet, avoiding that it falls down. In this way, the user has the fingers free and can perform any operation in a simpler, freer way and above all without risking a possible tendinitis or carpal tunnel syndrome, which is very frequent among the hairdressers and the hair stylists.

[0014] Another advantage of using the present invention is that in this way the cut and hairdressing operation and the other ones as well, for example hair set, selective hair coloring (mesh) and the other operations in which it is needed the comb, are very fastened, thus leading to a new and more precise way of working, relying on freer fingers and reduced actions.

[0015] Conveniently the device according to the present invention can comprise another support made up of a mag-

netic surface mounted on a holder apt to be mounted on the back of the styling chairs used in the hairdressers and hair stylists salons.

[0016] In this way, according to what is more practical for the hairdresser, it is possible to put down the comb or also the scissors (which yet in the traditional embodiments known at the state of the art contain many metal parts) on this support as well, whenever it is more practical or more comfortable for the user in comparison to the usage of the magnets comprised in the bracelet, with the combs containing ferromagnetic material according to the present invention being more efficient and useful.

[0017] At the state of the art, there are known combs with a metal core, but they are the so called "tail" combs, with metal tail, useful to favor the hair strands to be chosen, which therefore have a different function with respect to the aims of the present invention. This metal tail is often made of metals different from iron, which cannot be attracted magnetically. Also in cases in which it is made up of ferrous material, the shape of the metal tail provides that by putting down the comb on the bracelet, the same is not perfectly held by the magnets of the bracelet, since for the stability to be maximized it is preferable that the comb is put down on the back, and so also a ferrous metal tail comb known at the state of the art does not provide the aims of the present invention.

[0018] At the state of the art, there are also known, for example in U.S. Pat. No. 4,013,084, combs containing permanent magnets, which can be applied on supports of ferrous material. In U.S. Pat. No. 4,013,084 it is stated that these combs are realized in order to be rapidly put down on any metal surface.

[0019] However such combs are not useful to provide the aims of the present invention because they can cause problems while using them with other hair stylists tools, as for example scissors, containing materials with ferromagnetic properties. In fact, the usage of a comb containing magnets together with common metal scissors can disturb the hairdresser working with hardly controllable forces since the comb tends to attract the scissors.

[0020] Moreover, at the state of the art there are known bracelets having magnets inside, which are fabric bands with one or more magnet sewn therein, which are used in tailoring (for the pins) or in the field of woodwork to have screws and nails at hand. As it is known at the state of the art, a bracelet is made up of a series of magnets of cylindrical shape, which thanks to the magnetic attraction are connected forming a bracelet. An example of a bracelet containing magnets is described in FR2275115, which describes a bracelet containing a magnet module glued or fixed by clamping, and therefore not adjustable according to the user comfortableness.

[0021] Such systems, even if usable as magnetic bracelets to be used together with combs for the yet enlisted aims, are not apt to the aims of the present invention, since the user cannot use them comfortably.

[0022] Therefore in the following it is shown a particular type of magnetic bracelet apt to be worn by hairdressers and hair stylists together with combs having magnetic properties.

[0023] Therefore, the solution shown in the following is the best solution to free the hand from the comb when it is not used in a simple, fast, safe and elegant way, with more freedom and manual skill during the various hairdressing steps in which the comb has to be used discontinuously and now and then.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] FIGS. **1***a*, **1***b*, **1***c* and **1***d* show a preferred embodiment of a fine-toothed comb in various perspective views, while

[0025] FIGS. **2***a*, **2***b*, **2***c* **2***d* show a preferred embodiment of a tail comb of the invention.

[0026] FIG. **3** shows instead a metal tail comb, while

[0027] FIG. **4** shows a fine-toothed comb according to another embodiment.

[0028] FIG. **5** shows a magnetic bracelet according to a preferred embodiment, while

[0029] FIG. **6** shows a second embodiment of the bracelet comprising two magnet-holder modules.

[0030] FIG. **7***a* shows the bracelet with the various elements, while FIG. **7***b* shows a detail of the rear portion of the magnet-holder. FIG. **7***c* shows the magnet-holder in an exploded view.

[0031] FIG. **8***a* shows a hand wearing the bracelet, and FIG. **8***b* shows the same bracelet with the comb to show the effect of the present invention.

[0032] FIG. **9***a* shows instead a magnetic support for styling chairs completing the present invention, in side perspective in FIG. **9***b*. FIG. **9***c* shows a styling chair and the magnetic support mounted thereon, with a detail in FIG. **9***d* of the support with comb and scissors held magnetically.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0033] According to a preferred embodiment, the present invention comprises three distinct elements which form a system apt to make the hairdressers work easier as for the operations of cut and hair set, which are enlisted in the following:

[0034] a comb, realized according to one of the embodiments described in the following and comprising ferromagnetic material;

[0035] a bracelet containing one or more magnets;

[0036] a support to be applied to a styling chair comprising a magnetic surface.

[0037] The comb to be used with the present invention has magnetic properties, i.e. it comprises materials as for example iron, steel or any other element in alloy or pure which can have ferromagnetic properties, i.e. can be attracted by a magnet. Said comb with magnetic properties can be realized using different technical solutions and embodiments, of which these enlisted in the following are only some preferred ones.

[0038] A first embodiment, not shown in figure, provides that inside the comb, realized in material based on plastic, possibly carbon-fiber reinforced, or in any material apt to be worked by means of hot injection technique, a thin little bar of ferromagnetic material, as for example stainless steel, is introduced directly in the mold. Such bar can be preferably arranged in the central portion of the comb axis, in barycentric position with respect to the two ends. so that the comb has greater stability once positioned on the bracelet. The metal core inside the comb allows to provide a comb, which outside seems wholly similar to a traditional comb, and at the same time the comb is given the ability to be attracted by a magnet.

[0039] A second embodiment is shown in FIGS. **1***a*, **1***b*, **1***c* and **1***d* as for a fine-toothed comb and FIGS. **2***a*, **2***b*, **2***c* and **2***d* show a tail comb with tail in plastic or in the same material as the comb. FIG. **3** shows another tail comb, but with metal tail. Said second embodiment provides the usage of a foil (**12**, **22**,

32) in corrosion-proof ferrous metal (preferably stainless steel or iron with a layer of nickel) which has to be arranged in central position in the back of the comb, and introduced inside one suitable slot (**11**, **21**, **31**) obtained by milling the back of the comb (**10**, **20**, **30**) or directly in the molding step of the comb (**10**, **20**, **30**) using a suitable mold.

[0040] The metal foil is then introduced in this slot, which is as deep as the foil. Therefore, in the top view (FIG. **1***b*, **2***b*), from the back side, the comb seems to have a metal bar introduced inside. Said foil (**12**, **22**, **32**), preferably positioned in barycentric way along the axis of the comb, allows the comb to be anchored on the magnetic module (**54**) of the magnetic bracelet (**50**), shown in FIGS. **5**, **6** and **7***a* or on any other surface made of magnets, according to the aim of the present invention.

[0041] A third embodiment is provided using paintings or sprays having micro-particles based on antioxidant iron, which are sprayed on the combs so that the same are given magnetic properties so that the same can be used according to the aim of the present invention.

[0042] A fourth embodiment to obtain the comb with magnetic properties is the one realized by adding in the plastic material used (ABS, PP, Nylon etc . . .) micro-particles of anti-oxidant ferrous material, as for example stainless steel, which suitably mixed together allow to obtain, by a process of injection molding, a comb useful for the aims of the present invention.

[0043] FIG. **4** shows a fine-toothed comb, in which the points effect represents the metal particles along the whole surface.

[0044] The production methods described are apt to the realization of combs having various shape and toothing which contain ferromagnetic material apt to be used in combination with a magnetic bracelet and a support for styling chairs, having a magnetic or magnetized surface. As a way of example, in the following there is provided a list of comb types used by hairdressers and hair stylists, to which the present invention can be applied, without this list being limiting:

[0045] handle comb (not shown)

[0046] tail comb (**20**, **30**);

[0047] fine-toothed comb (**10**) with different size, tooth thickness and interspace.

[0048] The bracelet (**50**) according to the present invention is a bracelet which is provided with one or more magnet-holders (**54**) constrained to the same so that they can slide along the band (**51**) to be positioned in the preferred point by the user.

[0049] While it is possible to produce the bracelet using a plurality of materials, as for example leather, fabrics, metal material without departing from the aims of the present invention, in the following it will be described the preferred embodiment of the invention, which is the cheapest solution to be produced, nonallergic, high ergonomic and nicer, and which uses silicone rubber.

[0050] The magnetic bracelet (**50**) according to the present invention is provided with magnets (**59**) shown in FIG. **7***c*, such for example magnets of permanent type as neodymium or other materials known in the field. While it is possible to use bracelets having magnets along their whole length, the bracelet shown here is advantageously provided with magnet-holder modules (**54**) which can be preferably a variable number from one to three and apt to slide along the bracelet to be positioned in determined points, so that it is provided the maximum easiness, flexibility of adaption to the working style of the user and comfortableness when the comb is put down on the magnet to be held from this one thanks to its magnetic capacity.

[0051] A preferred embodiment of the magnetic bracelet is described in the following. The bracelet can be preferably in rubber or plastic or any other suitable material.

[0052] The ideal solution provided by the art is to use silicone rubber or siliconed rubber of nonallergic type, which is a material with the right elasticity also for the bracelet to be implemented.

[0053] The bracelet (**50**) comprises a band (**51**) and a magnet-holder module (**54**), both realized in nonallergic silicone. At an end of the band, there is a coupling system which can be a buckle system (**52**) in metal or plastic, while on the other end there are holes (**53**) or slots where the buckle pin (**57**) is introduced. In the band there is introduced at least a magnet-holder module (**54**), realized by means of a siliconed rubber shell of rectangular, circular or oval shape, in the lower part of which there are provided two cuts (**56**) in order to obtain slots of sufficient length for the band to pass therethrough. The magnet-holder (**54**) contains a cup_(**58**), preferably realized in plastic, inside of which one or more magnets (**59**) are fixed by means of adhesives or by pressure, the magnets being shaped according to the cup. Said preferably rectangular shaped cup (**58**) containing the magnet (**5**) is introduced through a slot (**56**) of the shell inside the same, the magnets (**59**) being in contact with the upper side of the shell (**54**). In order to introduce the cup it is sufficient to widen the slot (**56**) of the shell, exploiting its elasticity. Once the magnet-holder module (**54**) is thus assembled, it can be introduced on the band (**51**), by making it go through the slots (**56**) of the magnet-holder module (**54**).

[0054] A second magnet-holder module thus realized, as it is shown in FIG. **6**, can be introduced in the band, as well as a third one, to be positioned around the wrist in points preferred by the user to provide more magnetic surfaces where to place the comb (**10**, **20**, **30**) realized according to any one of the above described embodiments or possibly other tools, whose use is needed by the user, as for example scissors. Conveniently, the first module can be positioned along the upper side of the wrist, a second module on the right or left side of the wrist. In this way by rotating the wrist during the cut and hairdressing operations, by having more magnetic surfaces the comb (**10**, **20**, **30**) can be put away on one of these magnet-holder modules (**54**) according to the wrist orientation when the comb (**10**, **20**, **30**) needs to be put away.

[0055] In comparison with the state of the art, the device according to the present invention provides more support surfaces, of wide and flat shape, separated with respect to each other, which allow to anchor a comb (**10**, **20**, **30**) having magnetic properties and/or a pair of scissors so that the comb or the scissors are held by it and do not slide, which effect results instead if it is used a bracelet with many magnets arranged in circular way along the wrist circumference.

[0056] FIG. **8** shows a hand with the system made up of a magnetic bracelet (**50**) and a comb (**20**) having magnetic properties, which allows to provide the aim of the present invention to make easy the cut and hairdressing operations with the advantages of a better manual skill during the various steps, of reducing the performance times increasing the productivity per user and of reducing uneasiness and stress. Another advantage is the elimination of the disadvantages of the traditional methods thus attaining a more precise perfor-

mance of the various operations with greater advantage for the client. Moreover, since the production of a bracelet according to the present invention (**50**, **60**) and of a comb (**10**, **20**, **30**) having magnetic properties is cheap, the professional hair stylists could easily adopt them.

[0057] Advantageously the use of a magnetic comb (**10**, **20**, **30**) instead of a normal comb allows to exploit other magnetic surfaces for the cut and hairdressing operations. FIG. **9***a* shows a support_(**70**) realized in plastic having an inverted U shape

[0058] (**71**) in the upper part as it is shown in FIG. **9***b*, represented in side view. Said shape is apt to be introduced from outside in the back FIG. **9** so that the support (**72**) realized in magnetic materials (as for example magnetic rubber or flexible magnets or magnetic paintings) is held in position so that the magnetic comb and a pair of scissors can be put down, which, according to traditional embodiments known at the state of the art, have yet materials attractable by a magnet (typically the blades). In this way, in addition to the broad function of the bracelet, as support surface for the comb, there is also this support which makes working easy and always provides the tools, scissors (**73**) and comb_(**20**) at hand.

1. A comb (**10**, **20**, **30**) made of plastic or metal material, comprising ferromagnetic material.

2. The comb (**10**, **20**, **30**) according to claim **1**, further comprising an insert (**12**,_**22**, **32**) made of ferromagnetic material inserted in a slot (**11**, **21**, **31**) arranged along the back of said comb (**10**, **20**, **30**) in barycentric position along the longitudinal axis of the comb.

3. The comb (**10**, **20**, **30**) according to claim **1**, produced by injection molding, wherein said comb is made of plastic resins containing ferrous micro-particles added during the molding step.

4. A bracelet (**50**, **60**) comprising a wrist band (**51**), to which it is slidingly constrained at least one permanent magnet (**59**) provided with a substantially flat surface, said magnet (**59**) being able to slide along the length of said band (**51**) to be positioned in a determined point or side of the wrist when the band is worn.

5. The bracelet (**50**, **60**) according to claim **4**, wherein said magnet is contained inside a magnet-holder module (**54**) provided with slots (**56**) inside which said band (**51**) can slide.

6. The bracelet (**50**, **60**) according to claim **5**, wherein said module (**54**) comprises a shell containing a plastic cup (**58**), which is apt to contain a magnet (**59**) integrally constrained to the same, possibly glued.

7. The bracelet (**50**, **60**) according to claim **5**, wherein said bracelet and said at least one magnet-holder module are made of silicone rubber.

8. The bracelet (**50**, **60**) according to claim **5** further comprising two magnet-holder modules (**54**).

9. A device to facilitate the hairdressing work, comprising the comb (**10**, **20**, **30**) of claim **1** and the bracelet (**50**, **60**) according to claim **4**.

10. The device according to claim **9**, further comprising a support (**70**) configured to be constrained to the rear part of the back of a styling chair, said support (**70**) being provided with a flat surface (**72**) apt to receive said comb (**10**, **20**, **30**) and/or scissors and/or other like elements containing ferromagnetic material, comprising a layer of magnetic material, as for example magnetic rubber or a surface painted by means of magnetic sprays.

11. The comb (**10**, **20**, **30**) according to claim **1** made by means of injection molding, wherein said comb is made of plastic resins, and that inside the mold, during the injection molding step, it is introduced a bar made of ferromagnetic material, arranged in barycentric position on the back of the comb.

12. The comb (**10**, **20**, **30**) according to claim **1**, made of plastic material and covered by a spray painting containing micro-particles of ferromagnetic material.

13. The bracelet (**50**,**60**) according to claim **5**, further comprising three magnet-holder modules (**54**).

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