Title: NIPPER BLADE BODY AND GRAB HANDLE, AND NIPPER FOR THE SAME

Abstract: Embodiments of the invention provide nippers for removing cuticles around fingernails and toenails or cutting wires, the present invention comprises grab handles mutually assembled in crossed position and a separate nipper blade body combined with the shaft of the grab handles. The nipper blade body features a pair of cutting blades that engage with and face each other, first support and second support which extend from them and support the cutting blade, and an elastic part that unites these two supports into one and elastically widens both cutting blades on one side; and on the other side, a shift fitting to fit the top of the elastic part to the shaft.
NIPPER BLADE BODY AND GRAB HANDLE, AND NIPPER FOR THE SAME

[Technical Field]

The present invention relates to a nipper for removing cuticles around fingernails and toenails or cutting wires, more particularly, the nipper which is of the type in which a cutting blade forms a separate nipper blade body divided from a handle, and this nipper blade body is detachable from and attachable to the grab handle, or may be fixed on the grab handle. Regarding this, the present invention includes embodiments of the nipper blade member, grab handle, shaft, reinforcement rib, guide, and a structure for scatter prevention.

[Background Art]

In general, nippers for nail care are used for removing cuticles around fingernails and toenails and nippers for industry are used for cutting a lead wire of electronic parts or wiring.

These nippers are an assembly of two members around a shaft each of which comprises a cutting blade, a shaft hole and a handle in one body. When the two handles are closed together, the cutting blades meet to cut things, and then the handles and cutting blades get widened back to original positions by a separate spring.

The nippers as above in which a handle and a cutting blade may be automatically widened when releasing the handle after cutting action have been disclosed in US Patent Nos. 4,739,552, 5,214,854 and JP Utility Model No. 3098547. This is, a spring between the handles is installed.
The conventional nippers that the handle and the cutting blade are integrally formed are very complex and difficult in their manufacturing process. The general manufacturing process of nipper consists of material cutting, induction heating of the cutting blade part, die forging of the cutting blade and shaft part, trimming cutting, piercing of shaft hole, perimeter grinding, high-frequency heating of handle, die forging of handle, trimming cutting, shaft assembly, perimeter grinding, surface gloss finish, and finally, blade fitting. The manufacturing of one nipper requires many processes accompanied by serious grinding dust, and is finished by a very elaborate work of blade grinding which can be done only by skilled workers.

This complex process and the poor production environment of dust and noise drops productivity, raises product price, and results in uneven quality because it greatly depends on the worker's skill. Moreover, conventional nippers form one body of cutting blade and handle, and if the shaft frame processing and riveting are not accurate, the cutting blades do not match, which seriously affects the product quality.

Meanwhile, a technique that allows disposable cutting blade of a nipper has been disclosed in US Patent No. 5,331,739.

The above-mentioned conventional art is about a nipper for cutting fingernails of which the cutting member is detachable from the handle. However, the installation structure of the cutting member on the handle body is weak and difficult to apply cutting force. Furthermore, the cutting member can move during use, which is unpractical.

Meanwhile, the nipper of the Japanese Patent Pub. No. SO62-266092 allows the simple replacement of cutting blade, but does not have special features or benefits. On the contrary, the problem of unfit blade is expected, and an additional means of spring is needed.
[Disclosure of Invention]

It is therefore an object of the present invention to overcome the foregoing and other problems encountered in connection with the conventional art, and to simplify the manufacturing of the blade body of a nipper used for removing cuticles around fingernails and toenails or cutting steel wires and provide convenience of use by separating the nipper blade body integrated with cutting blade and a grab handle to push this nipper blade body.

The existing nippers are difficult to manufacture because when combining both handles to the shaft, the precision of shaft and shaft hole as well as the precision of riveting have absolute influence on quality, the grab handle of the present invention does not influence quality because it just tightens the separate nipper blade body. Therefore, it is easier to manufacture a precise nipper, and manufacturing cost can be reduced through automated production of nipper blade body, uniform quality and improved productivity.

In particular, the present invention allows replacement of the nipper blade body by a snap ring at the back of the nipper blade body which is elastically widened to allow the blade body to be inserted to or removed from the shaft.

Moreover, a nipper blade body with closed assembly holes at the back of the nipper blade body which is fixed to the shaft of the grab handle provides a nipper for users who are not accustomed to replacing the grab handle.

Furthermore, the reinforcement rib of the first and second supports in the nipper blade body improves the rigidity of the supports so that both cutting blades will behave stably without distortion.

To accomplish the above object, the present invention comprises grab handles mutually assembled in crossed position and a separate nipper blade body combined with
the shaft of the grab handles. The nipper blade body features a pair of cutting blades that engage with and face each other, first support and second support which extend from them and support the cutting blade, and an elastic part that unites these two supports into one and elastically widens both cutting blades on one side; and on the other side, a shift fitting to fit the top of the elastic part to the shaft. The grab handle features first and second grab handles each of which have a handle of adequate size to be held with a hand on one side of the shaft hole, and a pressing part with a short arm on the other side, and these grab handles cross each other around the shaft which is inserted into the shaft hole. The shaft fitting of the nipper blade body is assembled to the top of the shaft between the above-mentioned two pressing parts, and the pressing parts of the first and second grab handles press the outside surface of first and second supports so that the cutting blades engage with each other to cut things.

The elastic part of the nipper has thin thickness and is almost perpendicular to the center of the connection between first and second supports, or features relatively thin sectional thickness for smooth elastic action.

The shaft fitting formed in the nipper blade body is opened to one side and features a snap ring part which is elastically widens through the external diameter of the shaft.

Furthermore, the shaft fitting formed in the nipper blade body features simple assembly holes.

The shaft basically consists of a top flange, a nipper blade body fitting, a grab handle coupling, a bottom flange or a rivet part.

Depending on the material of the shaft and grab handles, the shaft may be formed by a flange of which the bottom part is elastically widened and engaged, or by cold riveting.
The shaft fitting of the nipper blade body features a snap ring part which itself has elasticity.

The first and second supports of the nipper blade body features a reinforcement rib with bent bottom.

The cutting blade of the nipper blade body features bending parts which face each other between the first and second supports connected to this cutting blade and form an angle close to the plane.

The reinforcement rib which is formed at the bent bottom of the first support of the nipper blade body features one or more top guide and bottom guide, and the reinforcement rib formed at the bent bottom of the second support which faces the first support moves between top and bottom guides.

The present invention features a scatter prevention board which is assembled to the bottom of the shaft and located to the top of the internal cutting blade of the nipper blade body to block the cut objects that spring up.

The nipper of the present invention features a nipper blade body integrated with a cutting blade which is detachable from the grab handle, and the grab handle only tightens the separately formed nipper blade body, so it does not affect the quality of cutting blade and provides a precise nipper which can be manufactured more easily.

Furthermore, the elasticity of the elastic part connected to the first and second supports cut objects by closing up the widened nipper blade body and automatically restores elastically when the handle is released. Therefore, the widening spring which is required for conventional nippers is not necessary.
Furthermore, because the nipper blade body and grab handles are manufactured separately, manufacturing cost can be greatly saved due to uniform quality and mass automatic production.

Furthermore, because the shaft fitting of the nipper blade body has an opening and is integrated with a snap ring part which is elastically widened and inserted into the external diameter of the shaft, the nipper blade body can be simply detached from the shaft of the grab handle. This provides convenience and economic benefit because when the cutting blade becomes blunt, the nipper blade body can be replaced with a new one, and we can use always sharp nipper blade.

Furthermore, if the shaft fitting of the nipper blade body consists of assembly holes, it is fixed to the shaft of the grab handle, in which case it is convenient for users who are not used to the exchange of nipper blade body.

Furthermore, the reinforcement ribs in the first and second supports prevent distortion or deviation by reinforcing the hardness of both cutting blades.

[Brief Description of Drawings]

Example embodiments will now be described more fully hereinafter with reference to the accompanying drawings. Example embodiments may, however, be embodied in different forms and should not be construed as limited to the embodiments set forth herein.

Rather, these example embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art.

FIG. 1 is a perspective view of a nipper according to an example embodiment of the present invention;

FIG. 2 is a separated perspective view of the nipper as shown in FIG. 1;
FIG. 3 is a perspective view illustrating a nipper blade body separated from a grab handle at FIG. 1;

FIG. 4A is a plane view illustrating a widened nipper blade body according to the present invention;

FIG. 4B is a plane view illustrating an engaged nipper blade body according to an embodiment of the present invention;

FIG. 5A is a front view of a shaft according to an embodiment of the present invention;

FIG. 5B is a front view illustrating the combination of the shaft and a grab handle according to an embodiment of the present invention;

FIG. 6A is a perspective view of a nipper blade body according to a modified embodiment of the present invention;

FIG. 6B is a sectional view taken along line A-A of FIG. 6A;

FIG. 7A is a perspective view of a scatter prevention board according to an embodiment of the present invention;

FIG. 7B is a sectional view illustrating an assembly of a scatter prevention board and a shaft according to an embodiment of the present invention; and

FIG. 8 is a perspective view of a nipper blade body according to other modified embodiment of the present invention.

[Best Mode For Carrying Out the Invention]

Exemplary embodiments of the present invention will now be described in greater detail with reference to the accompanying drawings.
The accompanying drawings illustrate example embodiments of the present invention. Example embodiments may, however, be embodied in different forms and should not be construed as limited to the embodiments set forth in the drawings. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Therefore, the example in this specification and the construction illustrated on the drawings is only one desirable example of this invention and does not represent all the technical ideas of this invention. There can be various equivalents and variations of this invention at the time of this application.

FIG. 1 is a perspective view of a nipper of according to an exemplary embodiment of the present invention, FIG. 2 is a separated perspective view of FIG. 1, FIG. 3 is a perspective view illustrating a nipper blade body separated from a grab handle at FIG. 1. Reference numeral 10 of the drawing is entire nipper of the present invention.

The nipper 10 is used for removing cuticles around fingernails and toenails, and typically consists of a nipper blade body 20 and grab handles 50. This grab handles consist of the first grab handle 51, the second grab handle 61 and a shaft 70. The first and second grab handles 51, 61 are crossed around the shaft 70, and the nipper blade body 20 is connected to the shaft 70.

Accordingly, when you hold the first grab handle 51 and the second grab handle 61 and press them, it compresses the nipper blade body 20 and the cutting blades 21,22 are engaged to cut objects.

For the material of the above-mentioned nipper blade body 20, metals which are easy for press forming are mainly used; in particular, alloy steel or stainless steel which can maintain the strength and elastic restoring force of the blades by heat treatment after
forming. For the material of the first grab handle 51, the second grab handle 61, and the shaft 70, alloy steel, stainless steel, or high-strength plastics can be used.

The nipper 10 of the present invention is basically composed of four elements: nipper blade body 20, first grab handle 51, second grab handle 61, and shaft 70.

As illustrated in FIG. 1 and FIG. 4b, the nipper blade body 20 is composed of cutting blades 21, 22 which face each other to be able to engage at one side; first support 23 and second support 24 which are almost bent perpendicular to the cutting blades 21, 22 and support the cutting blades 21, 22; an elastic part 25 that connects the first support 23 and the second support 24 and elastically widens the cutting blades 21, 22; and a shaft fitting 26 which is extended from the top surface of the elastic part 25 and assembled to the shaft 70.

The elastic part 25 is formed as a snap ring which has thin thickness and is almost perpendicular to the center of the first support 23 and the second support 24, and of which one side is opened and elastically opened. Hereinafter, the shaft fitting of which one side is opened and which is formed as a snap ring is generally referred to as a snap ring part 26.

The grab handles 50 are composed of first grab handle 51 and the second grab handle 61 which are mutually crossed around the shaft 70 and each of which has a handle with an adequate length for holding with a hand on one side of the shaft frames 54, 64 which are formed around the shaft holes 55, 65, and the shaft 70 is assembled into the shaft holes 55, 65.

As illustrated in FIG. 3, the snap ring 26 of the nipper blade body 20 is pushed into the shaft 70 to produce the completed nipper 10 in FIG. 1.

When the first grab handle 51 and the second grab handle 61 of the nipper 10 assembled as above are pressed together, both pressing parts 53, 63 simultaneously press
the outer surfaces of the first and second supports 23, 24 around the shaft 70, and then the cutting blades 21,22 are mutually engaged to cut objects.

The shaft 70 which is installed in the shaft holes 55, 65 of the first grab handle 51 and the second grab handle 61 has a top flange 71, nipper blade body fitting 72, handle coupling 73, and rivet part 74 sequentially from the top.

FIG. 4A is a top view which shows the nipper blade body 20 assembled into the nipper blade body fitting 72, widened blades, and a snap ring part 26 inserted in the nipper blade body fitting 72.

FIG. 4B is a top view which shows that the both sides of the nipper blade body 20 are closed with the cutting blades 21, 22 mutually engaged and the snap ring part 26 slightly widened from the nipper blade body fitting 72 of the shaft. This snap ring part 26 has its own elasticity so that the nipper blade body 20 can be fitted to or removed from the shaft 70 more easily than when the snap ring part 26 is fitted into the nipper blade body fitting 72.

When both sides of the nipper blade body 20 are closed during the assembly of the nipper blade body 20 to the grab handles 50, the snap ring part widens 26. Then, when you push the nipper blade body 20 into the nipper blade body fitting 72, the snap ring part 26 stops for a moment when it touches the nipper blade body fitting 72, and the snap ring part 26 widens further by the elasticity of the snap ring part 26 and the insertion is completed.

The first grab handle 51 and the second grab handle 61 of the nipper blade body 20 receive tightening force from both pressing parts 53, 63 of the first grab handle 51 and the second grab handle 61 and transmits cutting force to the cutting blades 21, 22. Therefore, they must have hardness and no deformations. For this purpose, the bottoms of the first
support 23 and the second support 24 are bent to form reinforcement ribs 29, 30 to minimize deformations.

As illustrated in FIG. 5A, the nipper blade body fitting 72 of the shaft 70 is assembled with the snap ring part 26 of the nipper blade body 20, the grab handle coupling 73 has a difference of step from the nipper blade body fitting 72, and penetrates the shaft holes 55, 65 of the first grab handle 51 and the second grab handle 61 to be combined with them. Then, the nipper blade body fitting 72 can no longer penetrate the shaft holes 55, 65 of the first grab handle 51 and the second grab handle 61 because the external diameter is too large, and a rivet part 74 is formed at the bottom so that the handle coupling 73 that has penetrated the shaft holes 55, 65 will not come off. FIG. 5B is a sectional view which illustrates the combination of the shaft 70, the first grab handle 51, the second grab handle 61, and the nipper blade body 20.

Depending on the material of the shaft 70 and grab handles 50, the shaft 70 can be formed by a flange of which the bottom part is elastically widened and engaged, or by cold riveting.

FIG. 6A is a schematic diagram of the nipper blade body 20a with the characteristics of industrial nipper which is a modified embodiment of the present invention. It features cutting blades 21, 22 which face each other to be able to mutually engage on one side and bending parts 33, 34 which face each other between the first support 23 and the second support 24 and which are close to the plane.

Because more powerful engaging force is provided by the cutting blades 21, 22 which are extended from the bending parts as shown above, this nipper is useful for high cutting force to cut steel wires or copper wires.
Moreover, because high cutting force is required to cut steel wires or copper wires, the first support 23 and the second support 24 of the nipper blade body 20a must not be deformed even if they receive high force and the cutting blades 21, 22 must maintain their initial agreement without deviating during cutting.

For this purpose, reinforcement ribs 29, 30 are formed by bent bottoms of the first support 23 and the second support 24 so as to prevent deformation during the application of force. In addition, at least one top guide 35 and bottom guide 36 are formed at one reinforcement rib 29 to guide the other reinforcement rib 30 so as to prevent slips or deviation of the cutting blades 21, 22 which face each other. FIG. 6B is a sectional view which shows the top guide 35 and the bottom (guide) formed in one reinforcement rib 29, into which the other reinforcement rib 30 is guided.

FIG. 7A is a schematic diagram of the scatter prevention board of the present invention. FIG. 7B shows the scatter prevention board assembled with the shaft. Before describing this scatter prevention board 80, it must be noted that unlike knife blade, the cutting blades of a nipper generally plays the role of a wedge with a relatively large angle, and the cut objects may scatter when nail cuticles, steel wires or copper wires are cut.

In order to prevent this, a fixing pin 81 is formed at one side of the scatter prevention board 80 with adequate width and length so that this fixing pin 81 can be attached to and detached from the bottom groove 76 of the shaft 70a, and the scatter prevention board 80 is placed inside the nipper blade body 20 and top of the cutting blades 21, 22 so as to block the cut objects and prevent them from scattering away. This is just one embodiment of the present invention, and a different scatter prevention board 80 is also possible which is fitted into the first and second supports 23, 24 or the reinforcement ribs 29, 30.
FIG. 8 is the schematic diagram of another modified embodiment of the nipper blade body 20b according to the present invention. This nipper blade body 20b features closed assembly holes 37 for the shaft fitting 26 assembled with the shaft 70; elastic parts 38, 39 to engage cutting blades 21, 22 to the back of the first and second supports 23, 24; and thin sectional thickness of the elastic parts 38, 39. When this nipper blade body 20b is assembled, it is inserted to the shaft 70 while the shaft holes 55, 65 of the first grab handle 51 and the second grab handle 61 are placed on one line with the assembly holes 37 of the nipper blade body 20b to produce the nipper. This is appropriate for users who are not used to replacing the nipper blade body 20b.

[Industrial Applicability]

The nipper of the present invention which consists of a nipper blade body and grab handles provides simple and convenient attachment and detachment of the nipper body to and from the grab handles, so when the cutting blades get blunt, they can be replaced with new ones and users can always use sharp cutting blades. Therefore, in cosmetics field, nail shops which serve many customers don't have to worry about blunt blades, and they can even prepare a personal nipper blade body for each customer to provide more hygienic service. Industrially, particularly in the electronics industry, when the cutting blades for lead wires get blunt, they can just replace the nipper blade body with a new one. This nipper can be applied widely in various industries because it is very economical.
What is claimed is:

1. A nipper, comprising:
   
   cutting blades that engage with and face each other;
   
   first and second supports which is extend from the cutting blades and support the
   cutting blades;
   
   an elastic part that unites the first and second supports into one and elastically
   widens both cutting blades on one side;
   
   a nipper blade body having a shift fitting to fit the top of the elastic part to the
   shaft; and
   
   first and second grab handles each of which have a handle of adequate size to be
   held with a hand on one side of a shaft hole, and a pressing part with a short arm on the
   other side;
   
   wherein the grab handles cross each other around the shaft which is inserted into
   the shaft hole and the shaft fitting of the nipper blade body is assembled to the top of the
   shaft between the two pressing parts, and the pressing parts of the first and second grab
   handles press the outside surface of first and second supports so that the cutting blades
   engage with each other to cut things.

2. A nipper blade body, comprising:

   cutting blades which face each other to be able to engage at one side;
   
   first support and second support which are almost bent perpendicular to the
   cutting blades and support the cutting blades;
   
   an elastic part that connects the first support and the second support and
   elastically widens the cutting blades; and
a shaft fitting which is extended from the top surface of the elastic part and assembled to the shaft.

3. A grab handle, comprising:

First and second grab handles which are mutually crossed around the shaft and each of which has a handle with an adequate length for holding with a hand on one side of the shaft frames which are formed around the shaft holes, and the shaft is assemble into the shaft holes.

4. The nipper as claimed in claim 1, wherein the elastic part of the nipper blade body has thin thickness and is almost perpendicular to the center of the connection between first and second supports, or forms relatively thin sectional thickness at the rear of the first and second supports.

5. The nipper blade body as claimed in claim 2, wherein the elastic part has thin thickness and is almost perpendicular to the center of the connection between first and second supports, or forms relatively thin sectional thickness at the rear of the first and second supports.

6. The nipper as claimed in claim 1, wherein the shaft fitting is opened to one side and is formed by a snap ring part which is elastically widens through the external diameter of the shaft.
7. The nipper blade body as claimed in claim 2, wherein the shaft fitting is opened to one side and is formed by a snap ring part which is elastically widens through the external diameter of the shaft.

8. The nipper as claimed in claim 1, wherein the shaft fitting is further formed by assembly holes.

9. The nipper blade body as claimed in claim 2, wherein the shaft fitting is further formed by assembly holes.

10. The nipper as claimed in claim 1, wherein the shaft comprises a top flange, a nipper blade body fitting, a grab handle coupling in which the first and second grab handles are assembled and a rivet part.

11. The grab handle as claimed in claim 3, wherein the shaft comprises a top flange, a nipper blade body fitting, a grab handle and a rivet part.

12. The nipper as claimed in claim 1, wherein the first and second supports comprises a reinforcement rib with bent bottom.

13. The nipper blade body as claimed in claim 2, wherein the first and second supports comprises a reinforcement rib with bent bottom.
14. The nipper as claimed in claim 19 wherein the reinforcement rib which is formed at the bent bottom of the first support comprises one or more top guide and bottom guide, and the reinforcement rib formed at the bent bottom of the second support which faces the first support moves between top and bottom guides.

15. The nipper blade body as claimed in claim 2, wherein the reinforcement rib which is formed at the bent bottom of the first support comprises one or more top guide and bottom guide, and the reinforcement rib formed at the bent bottom of the second support which faces the first support moves between top and bottom guides.

16. The nipper as claimed in claim 1, further comprising a scatter prevention board with adequate width and length which is assembled to the bottom of the shaft and located to the top of the internal cutting blade of the nipper blade body to block the cut objects that spring up.
INTERNATIONAL SEARCH REPORT

PCT/ISA/210 (second sheet) (April 2007)

INTERNATIONAL SEARCH REPORT

PCT/ISA/210 (second sheet) (April 2007)

A. CLASSIFICATION OF SUBJECT MATTER

B25B 7/18(2006.01)i, B26B 13/16(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 8 B25B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models since 1975
Japanese utility models and applications for utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKIPASS (KIPRO internal) & keywords nipper, replacement, and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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<td>US 6,606,794 B2 (UDO RIESER) 19 August 2003</td>
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<td>See claim 1, and figure 3</td>
<td>1-2,4-16</td>
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<td>A</td>
<td>CA 2,302,857 A1 (CHEN, JIN-FU) 24 September 2001</td>
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<td>A</td>
<td>See abstract, and figure 1</td>
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<td>A</td>
<td>JP 2005-81494 A (KANAZAWA TADAHIRO) 31 March 2005</td>
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<td>A</td>
<td>See abstract, and figure 1</td>
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* Special categories of cited documents
  "A" document defining the general state of the art which is not considered to be of particular relevance
  "E" earlier application or patent but published on or after the international filing date
  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
  "O" document referring to an oral disclosure, use, exhibition or other means
  "P" document published prior to the international filing date but later than the priority date claimed

T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search
26 NOVEMBER 2007 (26 11 2007)

Date of mailing of the international search report
26 NOVEMBER 2007 (26.11.2007)

Name and mailing address of the ISA/KR
Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea
Facsimile No 82-42-472-7140

Authorized officer
CHOI, II Seung
Telephone No 82-42-481-8565

Form PCT/ISA/210 (second sheet) (April 2007)
This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos [ ]
   because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos [ ]
   because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos [ ]
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6-4(a)

This International Searching Authority found multiple inventions in this international application, as follows:

Group 1 claims 1, 4, 6, 8, 10, 12, 14 and 16 directed to a nippers having a nippers blade body, and claims 2, 5, 7, 9, 11, 13, and 15 directed to a nippers blade body, and

Group 2 claims 3 and 11 directed to a grab handle

Group 1 has a common technical feature of a nippers blade body, but Group 2 does not include a nippers blade body

Accordingly, the inventions listed as Groups 1 and 2 are not so linked as to form a single general inventive concept under PCT Rule 13-1

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims, it is covered by claims Nos

Remark on Protest
- The additional search fees were accompanied by the applicant’s protest and, where applicable, the payment of a protest fee
- The additional search fees were accompanied by the applicant’s protest but the applicable protest fee was not paid within the time limit specified in the invitation
- No protest accompanied the payment of additional search fees
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<td>CA 2,302,857 A1</td>
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