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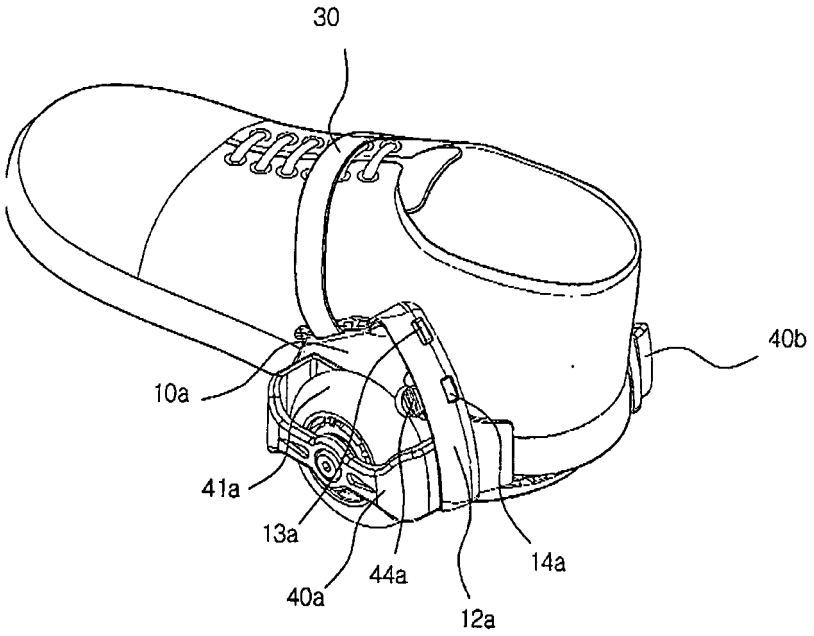
(54) Roller skate

(57) A roller skate is disclosed, in which two wheels are provided, and width can be freely adjusted, and the wheels can be detachably attached to a rear side of a shoe with a band. The wheels are moved down when used, and the wheels are moved up when not used by allowing the wheels to move up and down. So, when not used, the user can walk as if conventional shoes are worn. The movement and wearing are easy, and the size can be freely adjusted, and it is very easy to start, run and stop.

FIGURE 8



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Description

[0001] The present invention relates to a roller stake. In some embodiments, the roller skate is detachably engaged with a shoe. In some embodiments the roller skate has two wheels, and the width of the roller skate can be freely adjusted. In some embodiments, shoes can be attached or detached when needed irrespective of the sizes of the shoe. In particular, the wheels of some embodiments are fixed at a lower position when used, and the wheels are fixed at an upper position when not used by allowing the wheels to move up and down.

[0002] A known roller skate has four rollers which slide on a floor and are fixed at a lower surface of a roller skate shoe. In another example of the known art, a plurality of rollers is installed in an inline type at a lower surface of a roller shake shoe for enhancing a speed and balance.

[0003] According to the above known roller skate, a user wears roller skate shoes with straps being tied and runs at high speed with a balanced posture for thereby enjoying the exercise.

[0004] In the known roller skate, since a plurality of rollers are fixed at a roller skate, when the foot size of a user does not correctly fit the roller skate shoes, it is impossible to wear them. So, a roller skate which fits the foot size well is needed.

[0005] When the foot size does not fit well with the roller skate shoe, it is impossible to wear. When the user wears larger roller sake shoes, the user may receive a blister in his foot or may feel pain which may cause an accident. In the case of children, whose feet grow very quickly, it is impossible to use the roller skate over an extended period of time since their feet quickly out grow the fixed size of roller skate.

[0006] A known roller skate has many rollers and a structure for fixing the rollers. The total volume is quite large, thereby causing many inconveniences. Further, when the rollers are worn and need repairs, there may be a significant maintenance cost.

[0007] In addition, when the use of the roller skate is finished, the user must change into their shoes. The unworn roller skates must then be stored. In this case, the volume of the roller skates is too big to be easily moved or stored.

[0008] Accordingly, embodiments of the present invention seek to address aspects of the above-mentioned problems.

[0009] According to an embodiment, there is a roller skate in which two wheels are provided. The width of the roller skate can be freely adjusted. The wheels can be detachably attached to a rear side of a shoe with a band. The wheels are moved down when used, and the wheels are moved up when not used by allowing the wheels to rotate up and down about an axis different to the axis of rotation of the wheel. So, when not used, the user can walk like the shoes are usually worn. The movement and wearing are easy, and the size can be freely adjusted, and it is very easy to start, run and stop.

[0010] Accordingly, there is provided a roller skate characterized in that a first side plate 10a having a female engaging part 11 a and a second side plate 10b having a male engaging part 11b engaged with the female engaging part 11a are provided, and the male engaging part 11 b is fixedly inserted into the female engaging part 11a, and the first and second side plates 10a and 10b are engaged, and a footrest 20 is engaged at each female and male engaging part 11a, 11 b for a braking operation, and circular guide plates 12a and 12b are formed at one side of each of the first and second side plates 10a and 10b, and the first fixing holes 13a and 13b and the second fixing holes 14a and 14b are formed at the upper sides of the guide pieces 12a and 12b, and the band engaging holes 15a and 15b engaged with the band 30 are formed at the upper sides of the first and second side plates 10a and 10b, and the guide parts 42 corresponding to the guide pieces 12a and 12b are formed one side of each of the first and second wheel frames 40a and 40b, and the receipt grooves 43 are formed at the upper sides of the guide parts 42, and the fixing pins 44a and 44b are elastically supported by the spring 45, and the guide parts 42 are inserted into the guide pieces 12a and 12b, and the first and second wheel frames 40a and 40b are rotatably engaged at the first and second side plates 10a and 10b with the help of the rivet 50a and washer 50b, and the fixing pins 44a and 44b are selectively inserted into the first and second fixing holes 13a, 13b and 14a, 14b depending on the positions of the first and second wheel frames 40a and 40b.

[0011] The roller skate will now become better understood with reference to the accompanying drawings which are given only by way of illustration and without limitation, wherein;

Figure 1 is a perspective view illustrating an embodiment;

Figure 2 is a backside perspective view illustrating an embodiment;

Figure 3 is a disassembled perspective view illustrating an embodiment;

Figure 4 is a plane view illustrating a construction that a footrest is removed according to an embodiment;

Figure 5 is a side view illustrating a construction when a first side plate is viewed from an inner side according to an embodiment;

Figure 6 is a side cross sectional view illustrating a construction when wheels are moved down according to an embodiment;

Figure 7 is a side cross sectional view illustrating a construction when wheels are moved up according to an embodiment; and

Figure 8 is a view illustrating a use state when it is worn according to an embodiment.

[0012] Embodiments will be described with reference to the accompanying drawings.

[0013] As shown in Figures 1 through 7, there is a first side plate 10a having a female engaging part 11 a, and a second side plate 10b having a male engaging part 11 b engaged with the female engaging part 11 a.

[0014] As the male engaging part 11 b is fixedly engaged with the female engaging part 11 a, the first side plate 10a and the second side plate 10b are engaged, and a footrest 20 is inserted into the female and male engaging parts 11a and 11 b. When a user uses the roller skate, it is needed to rotate down the rear side of the roller skate, the footrest 20 contacts with the ground for thereby obtaining a braking function.

[0015] A guide hole 16 is formed at both sides of the female engaging part 11a, and an adjusting nut 17 is provided between the guide holes 16.

[0016] A guide rod 18 inserted into the guide holes 16, respectively, is formed at both sides of the male engaging part 11b, and an adjusting bolt 19 is rotatably provided between the guide rods 18 and is engaged with the adjusting nut 17.

[0017] The guide rod 18 of the male engaging part 11 b is movably engaged in the guide hole 16 of the female engaging part 11a. The adjusting bolt 19 of the male engaging part 11 b is thread-engaged with the adjusting nut 17 of the female engaging part 11 a, so that it is possible to adjust the intervals between the first and second side plates 10a and 10b based on the rotation of the adjusting bolt 19.

[0018] Circular guide pieces 12a and 12b are formed at each side of the first and second side plates 10a and 10b, and first fixing holes 13a and 13b and second fixing holes 14a and 14b are formed at the upper sides of the guide pieces 12a and 12b.

[0019] Here, the guide pieces 12a and 12b are formed in circular shapes so that the guide parts 42 of the first and second wheels 40a and 40b are prevented from escaping to the outside.

[0020] Band engaging holes 15a and 15b are formed on the upper sides of the first and second side plates 10a and 10b for engaging with the band 30, so that the band 30 is engaged to the band engaging holes 15a and 15b for thereby tightening the skate to a user's feet or shoes.

[0021] According to some embodiments, the first and second wheels frames 40a and 40b are formed and engaged with the wheels 41 a and 41 b. Guide part 42 corresponding to the guide pieces 12a and 12b are formed at each side of the first and second wheels frames 40a and 40b.

[0022] A receipt groove 43 is formed at an upper side of the guide part 42, so that the fixing pins 44a and 44b are elastically inserted along with the spring 45.

[0023] The guide parts 42 are inserted into the guide pieces 12a and 12b, and the first and second wheel frames 40a and 40b are rotatably engaged at the first and second side plates 10a and 10b with the rivet 50a and washer 50b. The fixing pins 44a and 44b are selectively inserted into the first and second fixing holes 13a, 13b, 14a and 14b depending on the positions of the first and second wheel frames 40a and 40b.

[0024] The operation and effects of the roller skate will now be described.

[0025] When a user wears and uses the roller skate, it is needed to adjust the width of the roller skate to the width of the user's shoe. As the adjusting bolt 19 of the male engaging part 11 b is rotated, the adjusting nut 17 of the female engaging part 11 a thread-engaged with the adjusting bolt 19 is pulled or pushed, so that the female engaging part 11 a fixed with the adjusting nut 17 is pulled or pushed. So, the first side plate 10a is pulled or pushed, so that the interval between the first and second side plates 10a and 10b is adjusted for the width of the shoe.

[0026] After the interval between the first and second side plates 10a and 10b is adjusted for the width of the shoe, when it is needed to use the roller skate according to the present invention, the fixing pins 44a and 44b are pushed toward the receipt groove 43 of the first and second wheel frames 40a and 40b, and the first and second wheel frames 40a and 40b are rotated downward, and the guide parts 42a of the first and second wheel frames 40a and 40b are rotated along the guide plates 12a and 12b of the first and second side plates 10a and 10b. When they come to the second fixing holes 14a and 14b of the guide pieces 12a and 12b, the fixing pins 44a and 44b lose the recovery force of the spring 45, and are fixedly inserted into the second fixing holes 14a and 14b, and the wheels 41 a and 41 b of the first and second wheel frames 40a and 40b are protruded to the lower side of the footrest 20 for thereby enjoying the roller skate.

[0027] When the user wishes to stow away the wheels of the roller skate, the fixing pins 44a and 44b inserted into the second fixing holes 14a and 14b are pushed toward the receipt groove 43 of the first and second wheel frames 40a and 40b, and the first and second wheel frames 40a and 40b are rotated up, and the guide parts 42 of the first and second wheel frames 40a and 40b are rotated along the guide pieces 12a and 12b of the first and second side plates 10a and 10b. When they come to the positions of the first fixing holes 13a and 13b of the guide pieces 12a and 12b, the fixing pins 44a and 44b are fixedly inserted into the first fixing holes 13a and 13b with the help of the recovery force of the spring 45, and the wheels 41 a and 41 b of the first and second wheel frames 40a and 40b rise to the upper side of the footrest 20. So, the user can walk as if he or she is wearing conventional shoes.

[0028] Accordingly, the user can enjoy the roller skate in a rolling state or a wheels stowed state and walk as if wearing conventional shoes based on the up and down movements of the first and second wheel frames 40a and 40b. When the rear side of the roller skate is rotated down into the rolling state, the foot rest 20 contacts with the ground for thereby obtaining a braking operation for quick stop. So, it is possible to prevent an accident.

[0029] As described above, since it is possible to freely adjust the width, and it is detachably attached to the rear

side of the shoe, and the wheels are designed to rotate. When the roller skate is used in a rolling state, the wheels are moved down, and when it is used in a walking state, the wheels are moved up, so that it is possible to obtain a walking procedure like wearing conventional shoes, both while enjoying the roller skate. The storing and wearing are easy, and it is possible to adjust the sizes depending on the shoes. It is easy to practice start, running and stop. Since the wheels are provided at only the rear side of the shoe, anyone can enjoy the present invention irrespective of sex and age. It is possible to prevent an accident with the roller skate.

[0030] The roller skate may be embodied in several forms without departing from the scope described herein. It should also be understood that the above-described examples and embodiments are not limited by any of the details of the foregoing description, unless otherwise specified, but rather should be construed broadly within the scope as defined in the appended claims, and therefore all changes and modifications that fall within the meets and bounds of the claims, or equivalences of such meets and bounds are therefore intended to be embraced by the appended claims.

Claims

1. A roller skate **characterized in that** a first side plate 10a having a female engaging part 11a and a second side plate 10b having a male engaging part 11 b engaged with the female engaging part 11a are provided, and the male engaging part 11 b is fixedly inserted into the female engaging part 11 a, and the first and second side plates 10a and 10b are engaged, and a footrest 20 is engaged at each female and male engaging part 11a, 11 b for a braking operation, and circular guide plates 12a and 12b are formed at one side of each of the first and second side plates 10a and 10b, and the first fixing holes 13a and 13b and the second fixing holes 14a and 14b are formed at the upper sides of the guide pieces 12a and 12b, ands the band engaging holes 15a and 15b engaged with the band 30 are formed at the upper sides of the first and second side plates 10a and 10b, and the guide parts 42 corresponding to the guide pieces 12a and 12b are formed one side of each of the first and second wheel frames 40a and 40b, and the receipt grooves 43 are formed at the upper sides of the guide parts 42, and the fixing pins 44a and 44b are elastically supported by the spring 45, and the guide parts 42 are inserted into the guide pieces 12a and 12b, and the first and second wheel frames 40a and 40b are rotatably engaged at the first and second side plates 10a and 10b with the help of the rivet 50a and washer 50b, and the fixing pins 44a and 44b are selectively inserted into the first and second fixing holes 13a, 13b and 14a, 14b depending on the positions of the first and second wheel frames 40a and 40b.

2. The skate of claim 1, wherein said female engaging part 11 a has a guide hole 16 at both sides, and an adjusting nut 17 is provided between the guide holes 16, and a guide rod 18 inserted into the guide hole 16 is formed at both sides of the male engaging part 11b, and an adjusting bolt 19 engaged with the adjusting nut 17 is rotatably formed between the guide rods 18, and the guide rod 18 of the male engaging part 11 b is movably inserted into the guide hole 16 of the female engaging part 11a, and the adjusting bolt 19 of the male engaging part 11 b is engaged with the adjusting nut 17 of the female engaging part 11 b, and the interval between the first and second side plates 10a and 10b is adjusted depending on the rotation of the adjusting bolt 19.

3. A roller skate comprising wheels, at least one wheel carrier, and a frame, the frame having an adjustable width, the wheels being rotatably attached to the wheel carriers, and the wheel carriers being movable with respect to the frame.

4. A roller skate as claimed in claim 3, wherein the wheel carriers move with respect to the frame so as to move the wheels between a stowed state and a rolling state.

5. A roller skate as claimed in claim 4, wherein in the stowed state the user of the roller skate can walk as if wearing normal shoes.

6. A roller skate as claimed in claim 4 or 5, wherein in the rolling state the user of the roller skate can roll on the wheels of the roller skate.

FIGURE 1

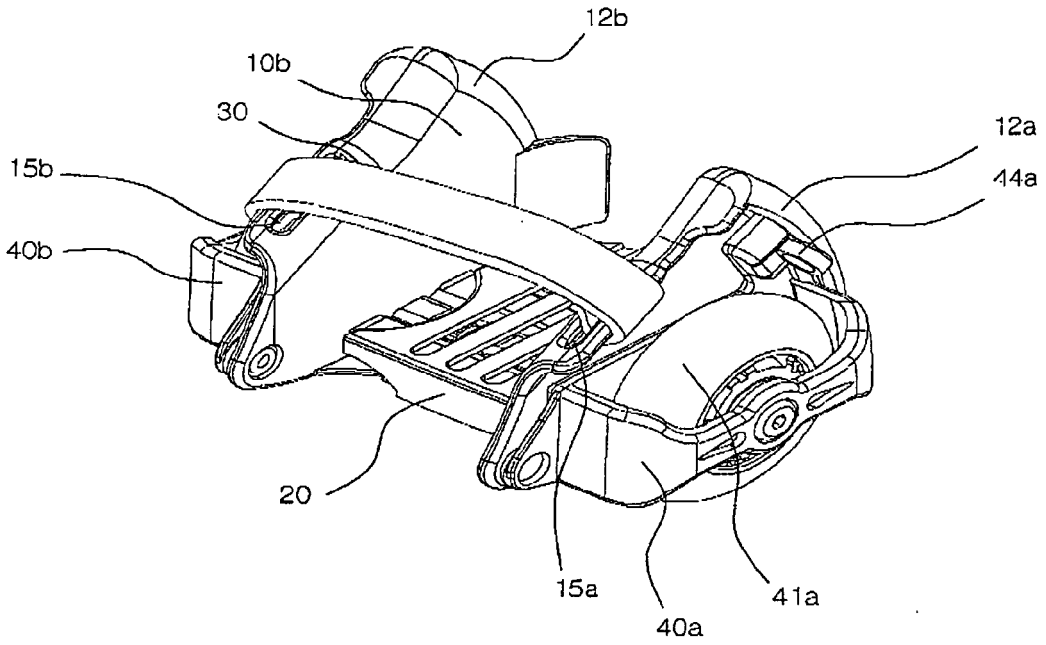


FIGURE 2

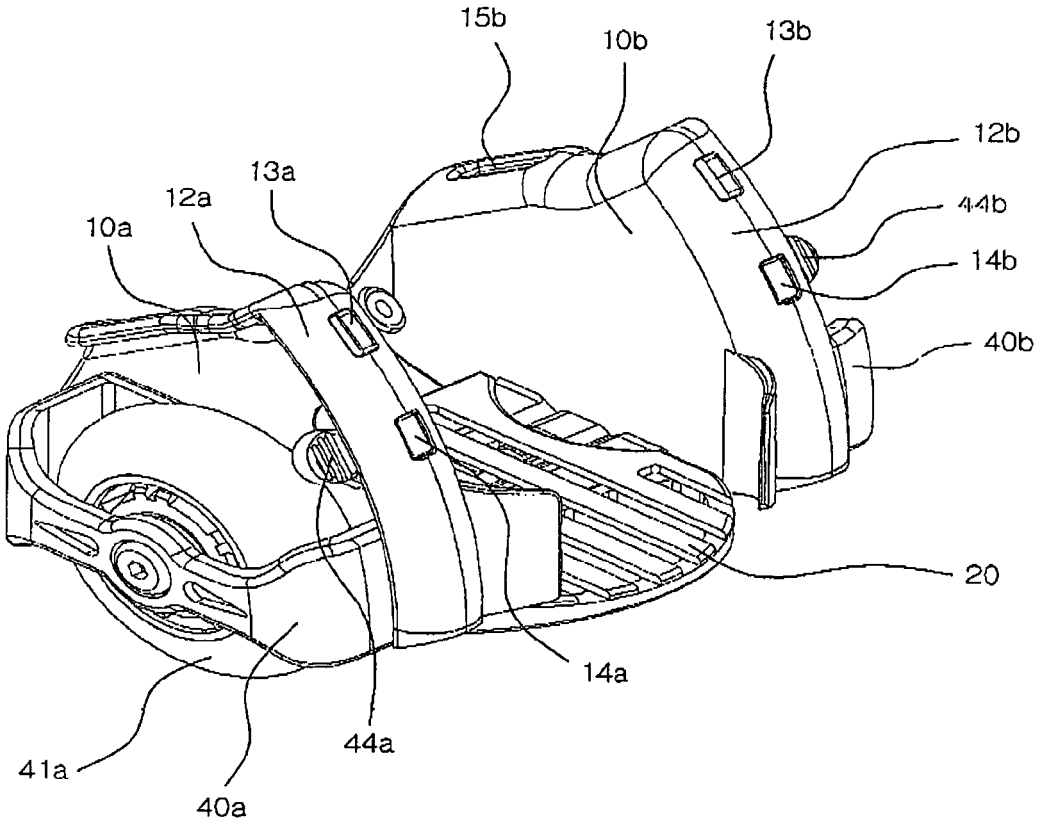


FIGURE 3

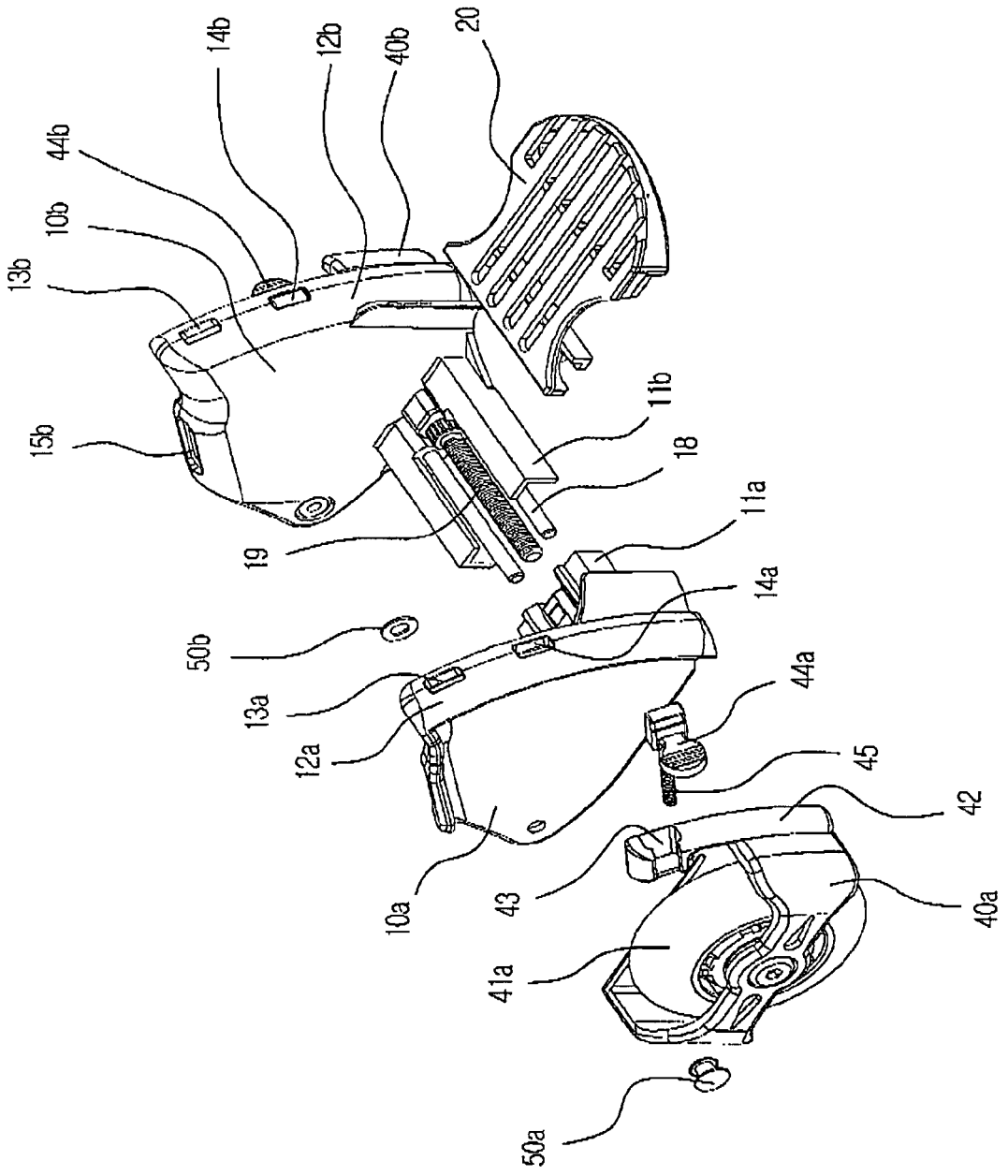

14b
12b
40b
20
44b
10b
13b
15b
11b
18
19
11a
14a
50b
13a
12a
44a
45
42
10a
43
40a
41a
50a

FIGURE 4

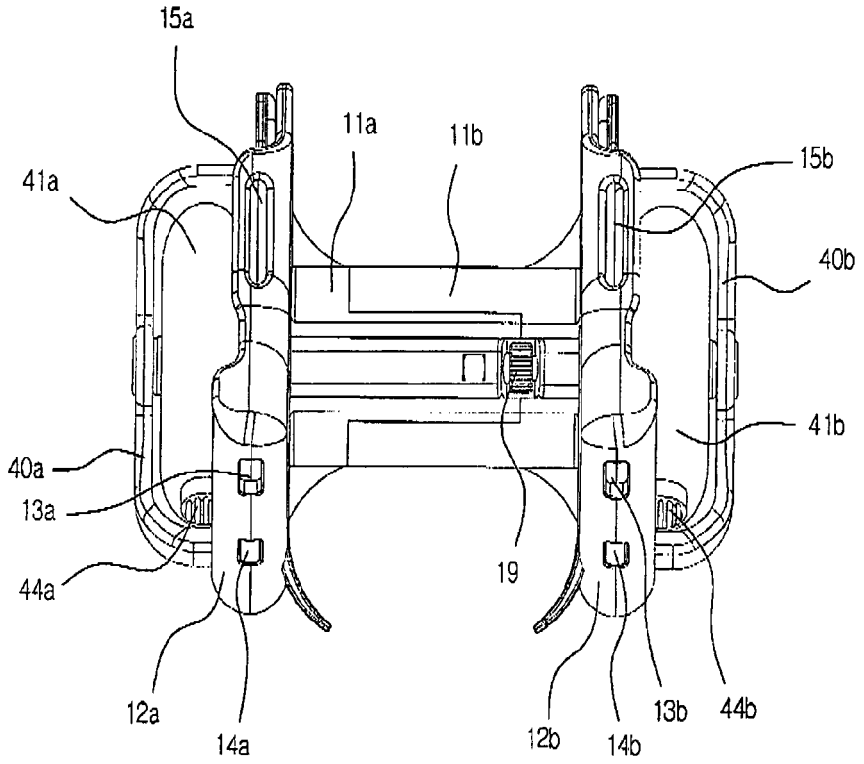


FIGURE 5

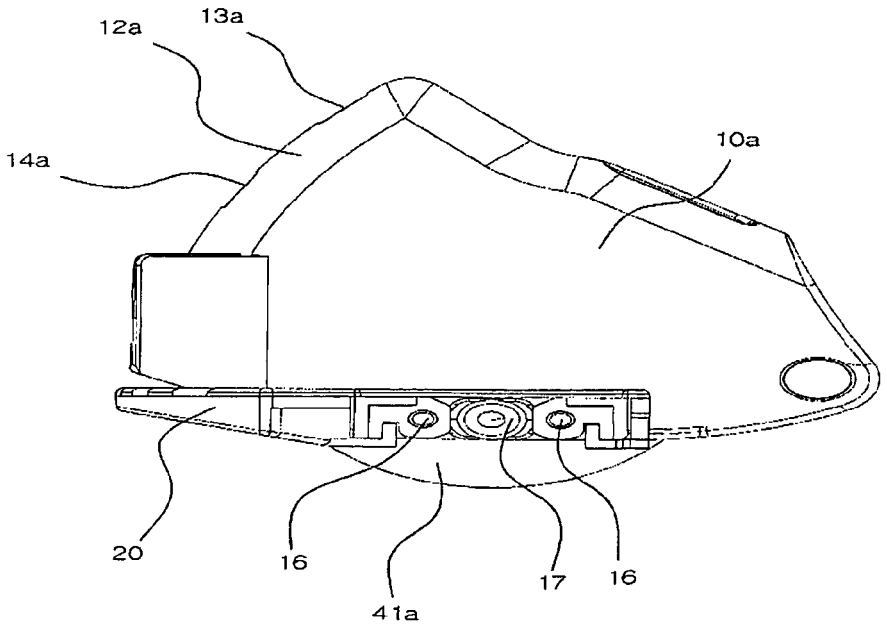


FIGURE 6

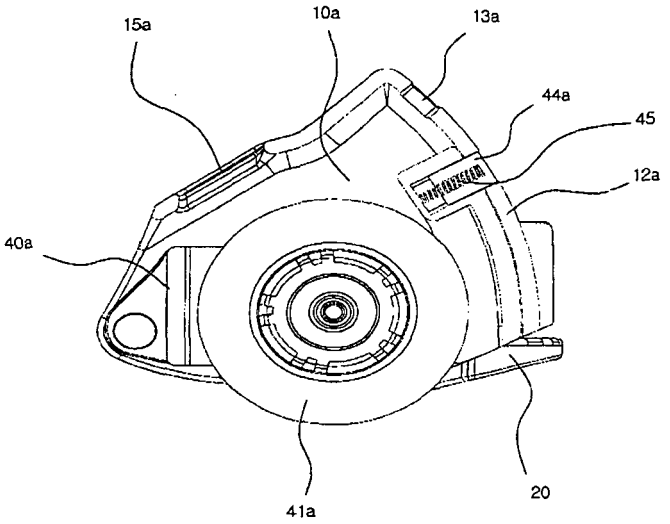


FIGURE 7

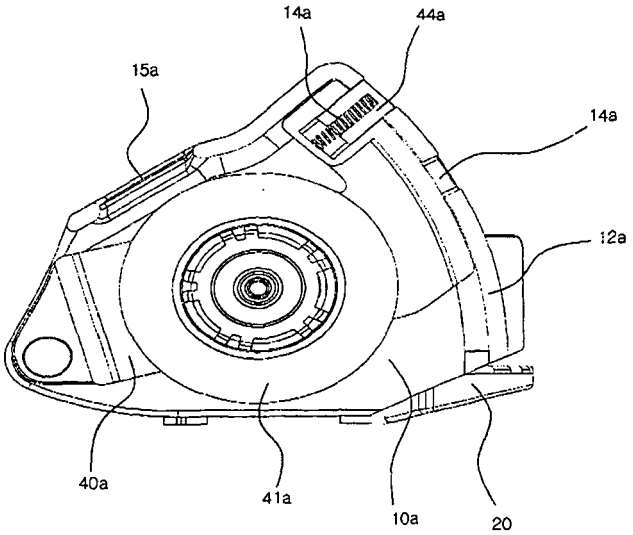
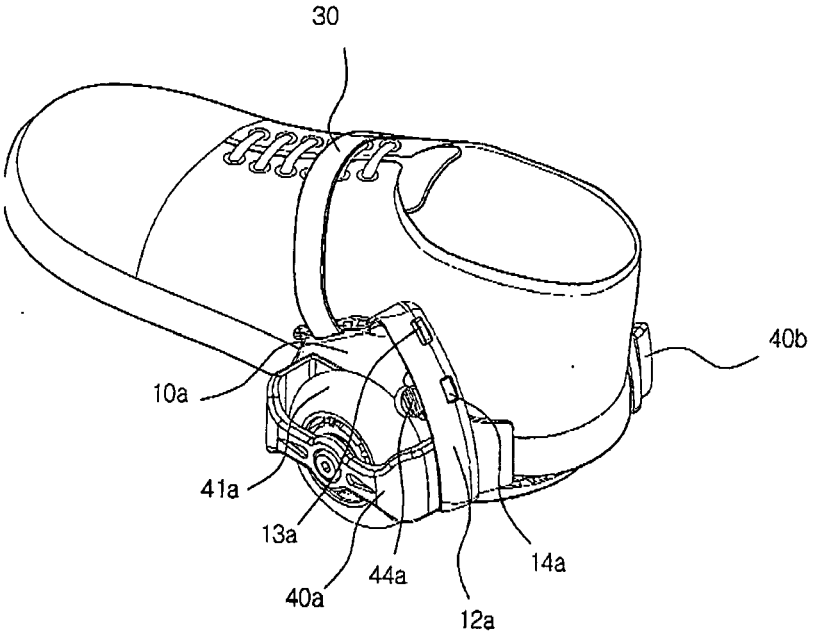


FIGURE 8



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EUROPEAN SEARCH REPORT

Application Number
EP 07 25 3252

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Y	* figure 8 *	3-6	

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TECHNICAL FIELDS SEARCHED (IPC)

A63C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	11 July 2008	Brunie, Franck

CATEGORY OF CITED DOCUMENTS

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