IN-LINE SKATER

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ABSTRACT

An in-line skater includes a first shell 10 for receiving a substantial portion of a user's foot and a second shell for receiving a front portion of the user's foot. The first shell includes at least one block defining a hole. The second shell includes at least one block defining a plurality of holes. A bolt is inserted into one of the holes of the at least one block of the second shell and into the hole of the at least one block of the first shell. The first or second shell is secured to a chassis on which several wheels are mounted.
IN-LINE SKATER

BACKGROUND OF INVENTION

[0001] 1. Field of Invention

The present invention relates to an in-line skater.

[0002] 2. Related Prior Art

Taiwanese Patent Publication No. 435255 discloses an in-line skater of an adjustable length. This in-line skater includes a first element 10 on which four wheels are mounted in an in-line manner and a second element 20 movably mounted on the first element 10. A front portion of the first element 10 cooperates with a rear portion of the second element 20 in order to clamp a user's foot. A screw 12 is mounted on two bearings 11 projecting from the first element 10. A semi-screw 21 is formed on the second element 20. The screw 12 is engaged with the semi-screw 21. When rotated, the screw 12 moves the semi-screw 21, thus moving the second element 20 relative to the first element 10. Therefore, the length of the in-line skater is adjustable. A knob 13 is secured to the screw 12. Many recesses 14 are defined in the knob 13. An elastic latch 30 includes a first end secured to the first element 10 and a second end formed with a boss 31. The boss 31 can be inserted in one of the recesses 14 so as to retain the screw 12 in position. This in-line skater is however complicated in structure and therefore high in cost. Furthermore, the insertion of the boss 31 into one of the recesses 14 is somewhat troublesome.

[0005] The present invention is therefore intended to obviate or at least alleviate the problems encountered in prior art.

SUMMARY OF INVENTION

[0006] It is an objective of the present invention to provide an in-line skater that is simple in structure.

[0007] It is another objective of the present invention to provide an in-line skater that is low in cost.

[0008] It is another objective of the present invention to provide an in-line skater that is easily adjustable in length.

[0009] According to the present invention, a skater includes a first shell 10 and a second shell 20 for receiving a substantial portion of a user's foot and a second shell for receiving a front portion of the user's foot. The first shell includes at least one block defining a hole. The second shell includes at least one block defining a plurality of holes. A bolt is inserted in one of the holes of the at least one block of the second shell and in the hole of the at least one block of the first shell. The first or second shell is secured to a chassis on which several wheels are mounted.

[0010] Other objects, advantages, and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the attached drawings.

BRIEF DESCRIPTION OF DRAWINGS

[0011] The present invention will be described through detailed illustration of the preferred embodiment referring to the attached drawings wherein:

[0012] FIG. 1 is a perspective view of an in-line skater according to the preferred embodiment of the present invention.

[0013] FIG. 2 is an exploded view of the in-line skater shown in FIG. 1.

[0014] FIGS. 3 and 4 are cross-sectional views of the in-line skater shown in FIG. 1.

[0015] FIGS. 5 and 6 are enlarged views of a length-adjusting device used in the in-line skater shown in FIG. 1.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0016] Referring to FIGS. 1 and 2, according to the preferred embodiment of the present invention, an in-line skater includes a first shell 10 for receiving a substantial portion of a user's foot, a second shell 20 for receiving a front portion of the user's foot, a third shell 30 for receiving the user's ankle, an adjusting element 50 secured to the second shell 20 and a chassis 60 on which the first shell 10, the second shell 20 and the adjusting device 50 are mounted.

[0017] The first shell 10 includes a sole 14 and a heel wrapper 15 extending from an upper face of the sole 14 and a block 12 extending from a lower face of the sole 14. The heel wrapper 15 includes two flanks (not numbered) in each of which a hole 13 is defined. A hole 12 is defined in the block 11.

[0018] The second shell 20 includes a vamp 23 and two straps 24 extending from the vamp. Several holes 21 are defined in a lower portion of the vamp 23. A slot 22 is defined in each of the straps 24.

[0019] The third shell 30 is shaped as an anklet including two flanks (not numbered) in each of which a hole 31 is defined.

[0020] A fastening device 40 is used to connect each of the flanks of the foot wrapper 15, one of the straps 24 and one of the flanks of the third shell 30 with one another. The fastening device 40 includes a pin 41 with an enlarged head and a ferrule 42 with an enlarged head. The pin 41 and the ferrule 42 are both inserted in each of the holes 13, one of the slots 22 and one of the holes 31. The pin 41 is fit in the ferrule 42, thus connecting the first shell 10, the second shell 20 and the third shell 30 with one another while allowing pivotal of the third shell 30 relative to the first shell 10 and the second shell 20.

[0021] The adjusting device 50 includes a horseshoe (not numbered) with two lateral extensions separated from each other via a slot 55, several holes 51 defined in the horseshoe and two blocks 53 formed on a lower face of the horseshoe. Further referring to FIGS. 3-6, each of the blocks 53 defines a slot 54 and several holes 56 communicate with one another through the slot 54.

[0022] A rivet 52 is fit in each of the holes 51 and one of the holes 21, thus connecting the horseshoe with the second shell 20.

[0023] The chassis 60 includes two separate skirts 64 in each of which a hole 61 is defined.

[0024] The blocks 53 are located between the skirts 64. A bolt 62 is inserted in the holes 61, the slots 54 and the hole
12, thus mounting the horseshoe and the first shell 10 on the chassis 60. The bolt 62 is engaged with a nut 63 so as to ensure the connection of the horseshoe, the first shell 10 and the chassis 60 with one another. The bolt 62 is formed with a tab (not numbered) in order to facilitate rotation of the bolt 62.

[0025] As best shown in FIGS. 5 and 6, the bolt 62 includes two separate flat faces 65 and two separate arched faces 66. When both of the arched faces 66 are in one of the holes 56, the bolt 62 is retained in position relative to the blocks 53. That is, the first shell 10 is retained in position relative to the second shell 20. When both of the arched faces 66 are not in one of the holes 56, the bolt 62 is movable relative to the blocks 53. That is, the first shell 10 is movable relative to the second shell 20. Thus, the length of the in-line skater is adjustable.

[0026] The present invention has been described through detailed illustration of the preferred embodiment. Those skilled in the art can derive variations from the preferred embodiment without departing from the scope of the present invention. Therefore, the preferred embodiment shall not limit the scope of the present invention defined in the claims.

What is claimed is:

1. An in-line skater including:
   a first shell for receiving a substantial portion of a user's foot, the first shell including at least one block defining a hole;
   a second shell for receiving a front portion of the user's foot, the second shell including at least one block defining a plurality of holes and a slot via which the holes are communicated with one another,
   a bolt including two flat faces and two arched faces, wherein the bolt is inserted in the hole of the at least one block of the first shell and one of the holes of the at least one block of the second shell, locked to the at least one block of the second shell as both of the arched faces are in one of the holes of the at least one block of the second shell, and movable relative to the at least one block of the second shell as both of the arched faces are not in one of the holes of the at least one block of the second shell;
   a chassis to which one of the shells is secured.

2. The in-line skater according to claim 1 wherein the bolt is formed with a tab in order to facilitate rotation of the bolt.

3. The in-line skater according to claim 1 including a nut engaged with the bolt so as to ensure the connection of the first shell with the second shell.

4. The in-line skater according to claim 1 wherein the first shell is formed with two blocks.

5. The in-line skater according to claim 1 wherein the second shell is formed with two blocks.

6. The in-line skater according to claim 1 including a third shell pivotally connected with the first shell for receiving the user's ankle.

7. An in-line skater including:
   a first shell for receiving a substantial portion of a user's foot, the first shell including at least one block defining a hole;
   a second shell for receiving a front portion of the user's foot;
   an adjusting device secured to the second shell and formed with at least one block defining a plurality of holes and a slot via which the holes are communicated with one another;
   a bolt including two flat faces and two arched faces, wherein the bolt is inserted in the hole of the at least one block of the first shell and one of the holes of the at least one block of the adjusting device, locked to the at least one block of the adjusting device as both of the arched faces are in one of the holes of the at least one block of the adjusting device, and movable relative to the at least one block of the adjusting device as both of the arched faces are not in one of the holes of the at least one block of the adjusting device; and
   a chassis to which one of the first shell and the adjusting device is secured.

8. The in-line skater according to claim 7 wherein the bolt is formed with a tab in order to facilitate rotation of the bolt.

9. The in-line skater according to claim 7 including a nut engaged with the bolt so as to ensure the connection of the first shell with the second shell.

10. The in-line skater according to claim 7 wherein the first shell is formed with two blocks.

11. The in-line skater according to claim 7 wherein the second shell is formed with two blocks.

12. The in-line skater according to claim 7 including a third shell pivotally connected with the first shell for receiving the user's ankle.

13. An in-line skater including:
   a first shell for receiving a substantial portion of a user's foot, the first shell including at least one block defining a plurality of holes and a slot via which the holes are communicated with one another;
   a second shell for receiving a front portion of the user's foot, the second shell including at least one block defining a hole;
   a bolt including two flat faces and two arched faces, wherein the bolt is inserted in the hole of the at least one block of the second shell and one of the holes of the at least one block of the first shell, locked to the at least one block of the first shell as both of the arched faces are in one of the holes of the at least one block of the first shell, and movable relative to the at least one block of the first shell as both of the arched faces are not in one of the holes of the at least one block of the first shell;
   a chassis to which one of the shells is secured.

14. The in-line skater according to claim 13 wherein the bolt is formed with a tab in order to facilitate rotation of the bolt.

15. The in-line skater according to claim 13 including a nut engaged with the bolt so as to ensure the connection of the first shell with the second shell.

16. The in-line skater according to claim 13 wherein the first shell is formed with two blocks.

17. The in-line skater according to claim 13 wherein the second shell is formed with two blocks.

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