A securing device for at least one hand tool includes a receiving body, multiple elastomers and multiple picks. The receiving body has multiple inserting holes and multiple compartments. The multiple inserting holes are defined through the receiving body. The multiple compartments are defined in the receiving body and correspond to the inserting holes. Each compartment communicates with a corresponding inserting hole. The multiple elastomers are correspondingly mounted in the compartments. The multiple picks are correspondingly received in the compartments and are correspondingly connected with the elastomers. Each pick has a pick hole defined through the pick. The pick hole in each pick is selectively co-axially aligned with a corresponding inserting hole.
SECURING DEVICE FOR AT LEAST ONE HAND TOOL

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention
[0002] The present invention relates to a hand tool hanger, and more particularly to a securing device for at least one hand tool.
[0003] 2. Description of Related Art
[0004] With reference to FIG. 7, a conventional securing device for Allen keys includes a body 90. The body 90 has a first receiving portion 91 and a second receiving portion 92. The first receiving portion 91 has a volume being greater than that of the second receiving portion 92. The first receiving portion 91 has multiple parallel inserting holes 93 defined through the first receiving portion 91. The second receiving portion 92 is pivotally connected with the first receiving portion 91 and has multiple parallel inserting holes 93 defined through the second receiving portion 92. The inserting holes 93 in the first receiving portion 91 and the second receiving portion 92 are provided for receiving Allen keys in different sizes. Each Allen key has a working end 94 and a driving end 95. The driving end 95 is shorter than and is perpendicular to the working end 94. The working end 94 of each Allen key is received in a corresponding inserting hole 93 and the driving end 95 protrudes out from the corresponding inserting hole 93. The Allen keys are sequentially arranged by the sizes and are received in the inserting holes 93.

[0005] An inner diameter of each inserting hole 93 is performed based on an outer diameter of the working end 94 of the corresponding Allen key. Therefore, the working end 94 is tightly inserted into the corresponding inserting hole 93. However, the inner diameter of the inserting hole 93 is worn after a period of use and becomes larger than the outer diameter of the corresponding Allen key, such that the Allen key will easily slide in the corresponding inserting hole 93 and be detached from the body 90.

[0006] To overcome the shortcomings, the present invention tends to provide a securing device for at least one hand tool to mitigate or obviate the aforementioned problems.

SUMMARY OF THE INVENTION

[0007] The main objective of the invention is to provide a securing device for at least one hand tool that includes a first receiving body, at least one elastomer and at least one pick. The first receiving body has at least one inserting hole in at least one compartment. The at least one inserting hole is defined through a top and a bottom of the first receiving body. The at least one compartment is defined in a first side surface of the first receiving body and respectively corresponds to the at least one inserting hole. Each one of at least one compartment communicates with a corresponding inserting hole and the corresponding inserting hole is defined through an inner top surface and an inner bottom surface of the compartment. The at least one elastomer is correspondingly and respectively mounted in the at least one compartment. The at least one pick is correspondingly and respectively received in at least one compartment and is correspondingly and respectively connected with the at least one elastomer. Each one of the at least one pick has a pick hole defined through the pick. The pick hole in each one of the at least one pick is selectively co-axially aligned with a corresponding inserting hole, which is defined in the inner top surface and the inner bottom surface of the corresponding compartment.

[0008] Other objects, advantages and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is an exploded perspective view in partial section of a securing device for at least one hand tool in accordance with the present invention;
[0010] FIG. 2 is an assembled perspective view of the securing device for at least one hand tool in FIG. 1;
[0011] FIGS. 3 and 4 are operational side views in partial section of the securing device for at least one hand tool in accordance with the present invention;
[0012] FIG. 5 is an assembled perspective view of the securing device for at least one hand tool in accordance with the present invention to cooperate with Allen keys;
[0013] FIG. 6 is an assembled perspective view of the securing device for at least one hand tool in accordance with the present invention to cooperate with Torx Wrenches; and
[0014] FIG. 7 is a perspective view of a conventional securing device for Allen keys.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0015] With reference to FIGS. 1 to 3, a securing device for at least one hand tool in accordance with the present invention comprises a first receiving body 10 and a second receiving body 10A.

[0016] The first receiving body 10 is substantially the same as the second receiving body 10A except a size of the second receiving body 10A is smaller than that of the first receiving body 10. The first receiving body 10 is pivotally connected with the second receiving body 10A. The following description takes the first receiving body 10 as an example. The first receiving body 10 has at least one inserting hole 11, at least one compartment 20 and at least one inserting slot 22. Preferably, the first receiving body 10 has multiple inserting holes 11, multiple compartments 20 and multiple inserting slots 22. The multiple inserting holes 11 are defined through a top and a bottom of the first receiving body 10. The multiple compartments 20 correspond respectively to the multiple inserting holes 11 and are defined through a first side surface and a second side surface of the first receiving body 10. The second side surface is opposite to the first side surface. Each compartment 20 communicates with a corresponding inserting hole 11 and the corresponding inserting hole 11 is defined through an inner top surface and an inner bottom surface of the compartment 20. Each compartment 20 has two pivotal slots 21 respectively defined in two inner side surfaces of the compartment 20, located at the second side surface of the first receiving body 10 and communicating with the compartment 20. The multiple inserting slots 22 are defined in the second side surface of the first receiving body 10 and correspond respectively to the multiple compartments 20. Each inserting slot 22 communicates with a corresponding compartment 20 and is parallel to the corresponding compartment 20. Each compartment 20 has an elastomer 30 and a pick 40 mounted in the compartment 20.

[0017] Each elastomer 30 is received and fixed in a corresponding compartment 20. Each elastomer 30 is a bended
sheet including a first plate 31 and a second plate 32. The first plate 31 extends into the corresponding compartment 20 and elastically abuts against the corresponding pick 40. The first plate 31 is connected with the second plate 32 at an acute angle and is elastically pivotable relative to the second plate 32. The second plate 32 is received in a corresponding inserting slot 22, which communicates with the corresponding compartment 20. The second plate 32 has a protrusion 33 disposed on a bottom surface of the second plate 32 for abutting against an inner surface of the corresponding inserting slot 22 and fixing the elastomer 30 in the corresponding compartment 20. Preferably, each elastomer 30 can be replaced with a spring to abut against the pick 40.

[0018] Each pick 40 is mounted from the second side surface of the first receiving body 10 through a corresponding compartment 20. Each pick 40 has two wings 42 respectively extending from two opposite sides of the pick 40 and respectively mounted in the two pivotal slots 21 of the corresponding compartment 20. Each pick 40 is elastically abutted by a corresponding elastomer 30 and is pivotable at the two wings 42 as a pivot. Each pick 40 has a pick hole 41 defined through a top surface and a bottom surface of the pick 40. Each pick hole 41 has an inner diameter being equal to or larger than that of a corresponding inserting hole 11. During a pivot movement of each pick 40, the pick hole 41 in the pick 40 is selectively co-axially aligned with the corresponding inserting hole 11, which is defined through the inner top surface and the inner bottom surface of the corresponding compartment 20.

[0019] Preferably, the first receiving body 10 has a cover 12 mounted on the second side surface of the first receiving body 10 for closing the ends of the multiple compartments 20 that are located at the second side surface of the first receiving body 10. The cover 12 has a hanging hole 13 defined in the cover 12 and provided for a hanging purpose. With reference to FIG. 3, the second receiving body 10A has a cover 12A mounted on a second side surface of the second receiving body 10A for closing the ends of the multiple compartments 20 that are located at the second side surface of the second receiving body 10A.

[0020] With reference to FIG. 3, a hand tool 50 is inserted into one of the inserting holes 11 and is mounted through the pick hole 41 of a corresponding pick 40. Preferably, the hand tool 50 is an Allen key. When the pick 40 is abutted by the corresponding elastomer 30 and is pivoted upward, the pick hole 41 of the pick 40 is not co-axially aligned with the corresponding inserting hole 11 and is biased to the corresponding inserting hole 11. The hand tool 50 is clamped between an inner flange of the pick hole 41 and an inner surface of the corresponding inserting hole 11. The corresponding elastomer 30 continuously and elastically abuts against the pick 40 to keep the hand tool 50 clamped between the inner flange of the pick hole 41 and the inner surface of the corresponding inserting hole 11.

[0021] With reference to FIG. 4, when the pick 40 is pressed down, the wings 42 of the pick 40 are restricted in the two inserting slots 22 of the corresponding compartment 20 and the pick 40 pivotally compresses the corresponding elastomer 30. The pick hole 41 of the pick 40 is co-axially aligned with the corresponding inserting hole 11 and a clamping force applied on the hand tool 50 is dismissed, such that the hand tool 50 can be detached from the corresponding inserting hole 11.

[0022] With reference to FIGS. 5 and 6, each elastomer 30 provides a resilient force to the corresponding pick 40. The inner flange of the pick hole 41 in the corresponding pick 40 and the inner surface of the corresponding inserting hole 11 cooperatively clamp the hand tool 50. The corresponding pick hole 41 is aligned with the corresponding inserting hole 11 to form a channel to communicate between the corresponding pick hole 41 and the corresponding inserting hole 11. If an inner diameter of the channel is larger than or equal to a diameter of the hand tool 50, while the corresponding pick hole 41 is co-axially aligned with the corresponding inserting hole 11 and the inner diameter of the channel is smaller than the diameter of the hand tool 50 while the corresponding pick hole 41 is biased to the corresponding inserting hole 11, the hand tool 50 can be securely positioned. In the conventional securing device, the hand tools are detached from the inserting holes when the inserting holes are worn. Even if the inserting holes 11 in accordance with the present invention are worn and loosened, the hand tool 50 can be clamped by the inner surface of the pick hole 41 and the inner surface of the corresponding inserting hole 11. Therefore, the present invention is suitable for any rod-type hand tool 50, such as the Allen key shown in FIG. 5 or the Torx wrench shown in FIG. 6.

[0023] Even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

What is claimed is:
1. A securing device for at least one hand tool comprising: a first receiving body having at least one inserting hole defined through a top and a bottom of the first receiving body; at least one compartment defined in a first side surface of the first receiving body and corresponding respectively to the at least one inserting hole, each one of the at least one compartment communicating with a corresponding inserting hole and the corresponding inserting hole defined through an inner top surface and an inner bottom surface of the compartment; at least one elastomer correspondingly and respectively mounted in the at least one compartment; at least one pick correspondingly and respectively received in the at least one compartment and correspondingly and respectively connected with the at least one elastomer, each one of the at least one pick having a pick hole defined through the pick, the pick hole in each one of the at least one pick selectively co-axially aligned with a corresponding inserting hole, which is defined in the inner top surface and the inner bottom surface of the corresponding compartment.
2. The securing device as claimed in claim 1, wherein each one of the at least one elastomer is a bended sheet including a first plate and a second plate connected with the first plate at an acute angle, and the first plate of each one of the at least one elastomer is connected with a corresponding pick.
3. The securing device as claimed in claim 2, wherein the first receiving body has at least one inserting slot defined in the side surface of the first receiving body and correspond-
ingly and respectively communicating with the at least one compartment, and the second plate of each one of the at least one elastomer is received in a corresponding inserting slot and has a protrusion disposed on a bottom surface of the second plate for abutting against an inner surface of the corresponding inserting slot.

4. The securing device as claimed in claim 3, wherein the at least one compartment is defined through the first side surface and a second side surface of the first receiving body, the second side surface is opposite to the first side surface, each one of the at least one compartment has two pivotal slots respectively defined in the two inner side surfaces of the compartment, and each one of the at least one pick has one end having two wings respectively extending from the pick for being respectively mounted in the two pivotal slots in a corresponding compartment.

5. The securing device as claimed in claim 4, wherein the first receiving body has a cover mounted on the second side surface of the first receiving body for closing the at least one compartment.

6. The securing device as claimed in claim 4 further comprising a second receiving body pivotally connected with the first receiving body.

7. The securing device as claimed in claim 1, wherein the at least one compartment is defined through the first side surface and a second side surface of the first receiving body, the second side surface is opposite to the first side surface, each one of the at least one compartment has two pivotal slots respectively defined in the two inner side surfaces of the compartment, and each one of the at least one pick has one end having two wings respectively extending from the pick for being respectively mounted in the two pivotal slots in a corresponding compartment.

8. The securing device as claimed in claim 2, wherein the at least one compartment is defined through the first side surface and a second side surface of the first receiving body, the second side surface is opposite to the first side surface, each one of the at least one compartment has two pivotal slots respectively defined in the two inner side surfaces of the compartment, and each one of the at least one pick has one end having two wings respectively extending from the pick for being respectively mounted in the two pivotal slots in a corresponding compartment.

9. The securing device as claimed in claim 1, wherein the first receiving body has a cover mounted on a second side surface of the first receiving body, which is opposite to the first side surface of the first receiving body.

10. The securing device as claimed in claim 2, wherein the first receiving body has a cover mounted on a second side surface of the first receiving body, which is opposite to the first side surface of the first receiving body.

11. The securing device as claimed in claim 7 further comprising a second receiving body pivotally connected with the first receiving body.

12. The securing device as claimed in claim 8 further comprising a second receiving body pivotally connected with the first receiving body.

13. The securing device as claimed in claim 9 further comprising a second receiving body pivotally connected with the first receiving body.

14. The securing device as claimed in claim 10 further comprising a second receiving body pivotally connected with the first receiving body.

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