

Padlock protector**Technical field**

The invention relates to a padlock protector.

Prior art

It is known that a padlock and also its shackle can be protected with a separate case and shackle protector. WO 8707669 discloses a known padlock protector. US 4226100 discloses another known padlock protector. The purpose of these protectors is to protect the padlock from water. Additionally, the protectors dampen the noise, which can be created if the padlock rattles against the object to be locked, such as a door. In both publications, the shackle can be protected with a rubber hose, which is threaded around the shackle.

Therefore, known solutions efficiently protect the padlock from water and other outside factors, such as dust. Padlock protectors are, however, difficult to place onto the padlock.

Brief description of the invention

The object of the invention is to obviate the disadvantages of known art. The object is achieved in the manner described in the dependant claim. The independent claims describe various embodiments of the invention.

The invention is based on the idea that the padlock itself withstands outside conditions quite well, wherein a padlock protector does not need to be, for example, waterproof. The protector can be formed for the purpose of a partial protection. A padlock protector according to the invention protects the shackle of the padlock such that it is not free to come into direct contact with its corresponding parts to be locked. In this way, corrosion of the shackle is very effectively prevented.

A padlock protector according to the invention comprises a shackle, protector which is composed from two parts. The parts are to be placed to the opposite sides of the shackle, and they are formed into the shape of the loop and surface of the shackle. The side edges of the parts are formed like the edges of a jigsaw puzzle. The jigsaw puzzle edges of the parts are arranged to fit against each other.

List of figures

In the following, the invention is described in more detail by means of the accompanying figures, in which

- Fig. 1 shows an example of a padlock protector according to the invention,
- Fig. 2 shows the example of Fig. 1 as installed on the padlock,
- Fig. 3 shows another example of a padlock protector according to the invention, and
- Fig. 4 shows the example of Fig. 3 as installed on the padlock.

Description of the invention

Fig. 1 shows an example of a padlock protector according to the invention. The padlock protector comprises a shackle protector composed from two parts 1A, 1B. The parts are to be placed to the opposite sides of the shackle 2. The parts are formed into the shape of the loop and surface of the shackle 2A. The shackle is a U-shaped loop in shape, which together with the body 3 of the padlock 8 forms a closed loop. As can be seen from the figure, the side edges 4A, 4B, 4C, 4D of the parts are jigsaw puzzle edges in their shape.

The jigsaw puzzle edges of the parts 1A, 1B fit against each other. Additionally, the parts are manufactured from a suitably flexible material, such as from a plastic suitable for the purpose. When the parts are placed from the opposite sides of the shackle 2 against each other, the jigsaw puzzle edges 4A, 4B, 4C, 4D flex such that the parts settle against the surface 2A of the shackle and the edges go against each other. The outer surfaces 40 of the parts are therefore curved, and they curve according to the

surface 2A of the shackle. The parts cover the surface of the shackle of the padlock 8 in the locking position, wherein the shackle 2 is not free to come into direct contact with its corresponding part(s) to be locked. Arrows A1 and A2 show, how the parts of the shackle protector are placed onto the shackle. Fig. 2 shows, how the parts 1A, 1B of the shackle protector cover the shackle. The jigsaw puzzle edges 4A, 4B, 4C, 4D fit against each other, wherein the parts 1A, 1B on the opposite sides of the shackle 2 are connected to each other via the jigsaw puzzle edges.

The doors of many storages and properties are provided with metal loops or metal plates having holes for the shackle of a padlock, so that they can be locked with a padlock. The metal plates and metal loops are often made from stainless steel, wherein the shackle of the padlock begins to rust due to electrochemical corrosion. The shackle of the padlock is generally of hardened steel, which can also be chrome-plated. If the chrome is worn or has been broken, then the shackle is readily susceptible to corrosion.

Fig. 3 shows an example of a padlock protector according to the invention, comprising, in addition to the shackle protector 1A, 1B described above, a protective case 6 having solid sides 6A and an open base 6C. The case has a top side 6B with a hole 7. The case is easy to place onto the padlock 8 by threading it from the side of the shackle 2 onto the lock body 3. The arrow A3 shows the placing of the case onto the body of the padlock. The hole 7 of the top side 6B is fitted such that the shackle fits through the hole. The solid area of the top side 6B settles against the upper surface 3A of the body of the padlock. The protective case 6 protects the surface of the body of the padlock from wear and also largely prevents direct contact of external parts with the body 3. Fig. 4 shows, how the padlock is protected with a case 6 and a shackle protector 1A, 1B.

Both the shackle protector 1A, 1B and the protective case 6 are manufactured from a plastic suitable for the purpose, one which flexes suitably. Thus, the shackle protector and protective case flex somewhat, and the jigsaw puzzle edges 4A, 4B, 4C, 4D of the shackle protector can be placed against the surface 2A of the shackle. A suitable plastic also insulates the shackle from above said metal plates or metal loops, preventing corrosion conditions from forming. A shackle protector also protects

the surface of the shackle from wear. Because the shackle 2 itself withstands water quite well, thus it does not need to be waterproof. A shackle protector is fast and easy to install around a shackle. It can also be refitted to existing padlocks. A shackle protector can be symmetrical, i.e. the parts 1A, 1B are similar, as is shown in the figures. In this case, the same component fits both sides of the shackle. The parts can also be manufactured as different, i.e. asymmetrical. In asymmetrical parts, the jigsaw puzzle edges also settle against each other.

As can be observed from the figures, the end edges 5A, 5B, 5C, 5D of the parts are even in the present embodiment. Depending on the shape of the padlock, the end edges can also be formed to follow the shape of the body of the padlock. The end edges 5A, 5B, 5C, 5D can therefore be, for example, curved. The jigsaw puzzle edges 4A, 4B, 4C, 4D can be formed in a different manner, nor do they therefore necessarily need to be in the shape shown in the figures. Both parts of the shackle protector are formed into a U-shape. Because the shackle 2 (the loop of the shackle) can be formed in many various manners, by U-shape is meant, in this connection, any shape of the bent shackle, which forms with the padlock a closed loop. The most common cross-section of the loop of the shackle is a circle, as it is advantageous in relation to manufacture and use. However, it is possible that the cross-section has some other shape, wherein the shape of the surface of the loop deviates from being a circular surface, and the shackle protector is formed into the corresponding shape of the surface. The outer surfaces of the parts of the shackle protector are therefore curved. The parts curve onto the shackle.

In light of the examples presented above, it is obvious that an embodiment according to the invention can be provided by many various solutions, not merely by the examples presented in this connection. The invention can therefore be implemented by various embodiments within the scope of the presented claims.

Claims

1. A padlock protector comprising a shackle protector, **characterized** in that the shackle protector is composed from two parts (1A, 1B), which are to be placed to the opposite sides of the shackle (2), and which parts are formed into the shape of the loop and surface (2A) of the shackle, and which side edges (4A, 4B, 4C, 4D) of the parts are jigsaw puzzle edges in their shape.

2. A padlock protector according to claim 1, **characterized** in that the end edges (5A, 5B, 5C, 5D) of the parts are even.

3. A padlock protector according to claim 2, **characterized** in that the outer surfaces (40) of the parts (1A, 1B) are curved.

4. A padlock protector according to claim 3, **characterized** in that the parts (1A, 1B) are of a flexible material.

5. A padlock protector according to claim 4, **characterized** in that it comprises a protective case (6) having solid sides (6A) and an open bottom (6C), and which case has a top side (6B) with a hole (7).

6. A padlock protector according to claim 5, **characterized** in that hole (7) of the top side is fitted such that the shackle (2) fits through the hole.