

[54] PADLOCK SHIELD

[76] Inventors: Joseph E. Carley, 51 Carman Rd., Harrington Park, N.J. 07640; Emil A. Steup, 59 Mountainside Rd., Mendham, N.J. 07945

[22] Filed: July 12, 1973

[21] Appl. No.: 378,798

[52] U.S. Cl. 70/54; 70/39

[51] Int. Cl. E05b 67/38

[58] Field of Search 70/54, 55, 56, 51, 38 R, 70/38 A, 38 B, 38 C, 39

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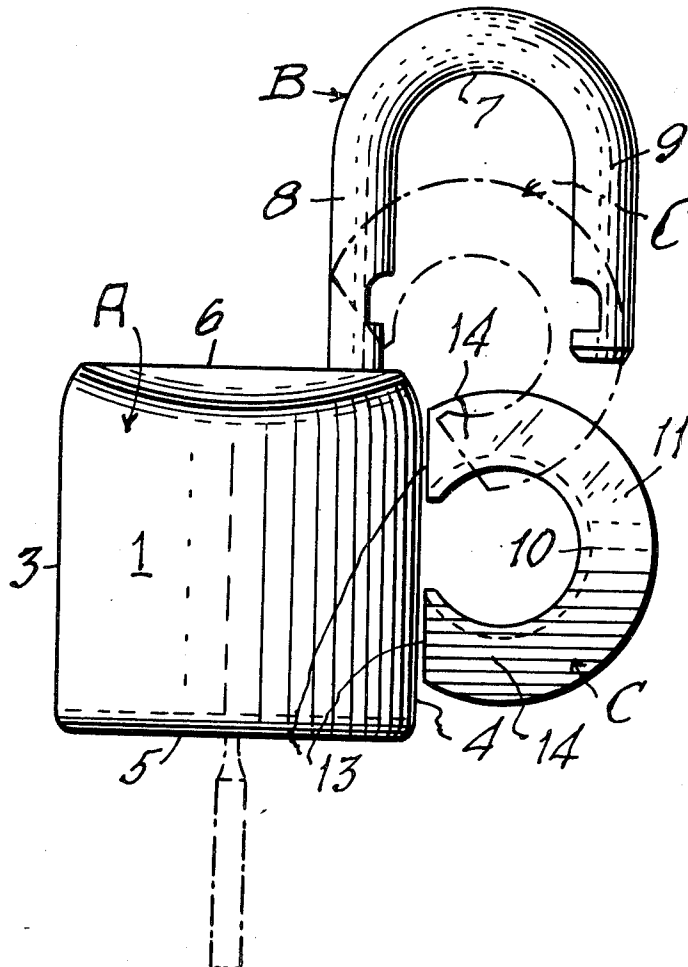
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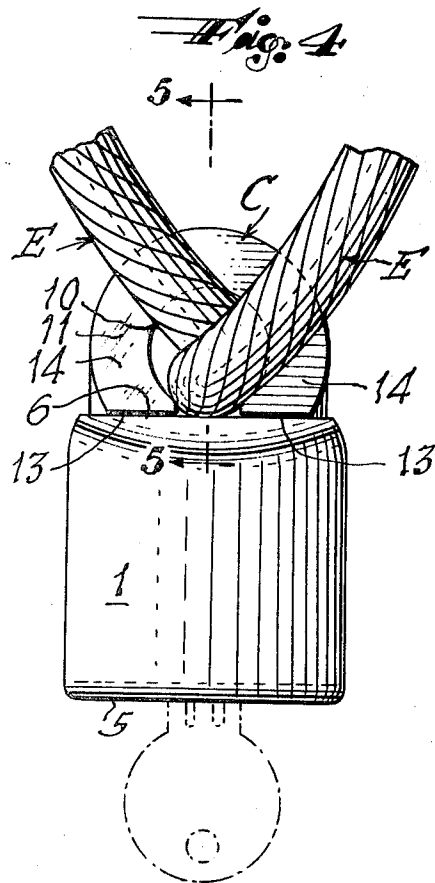
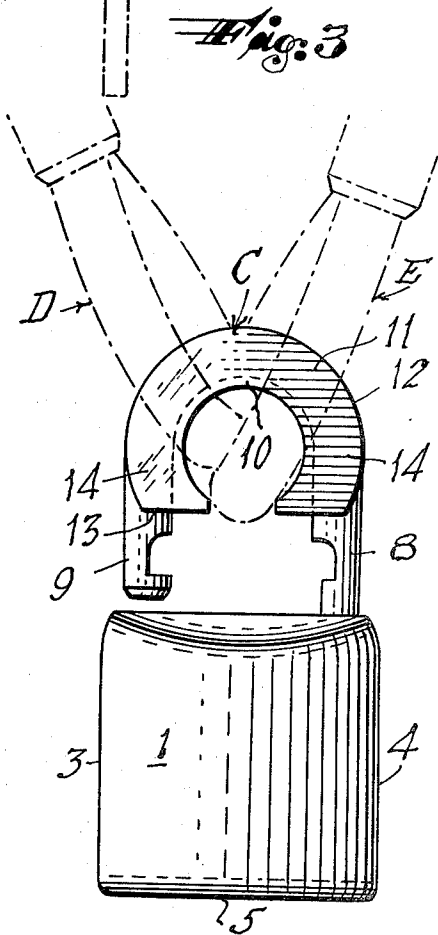
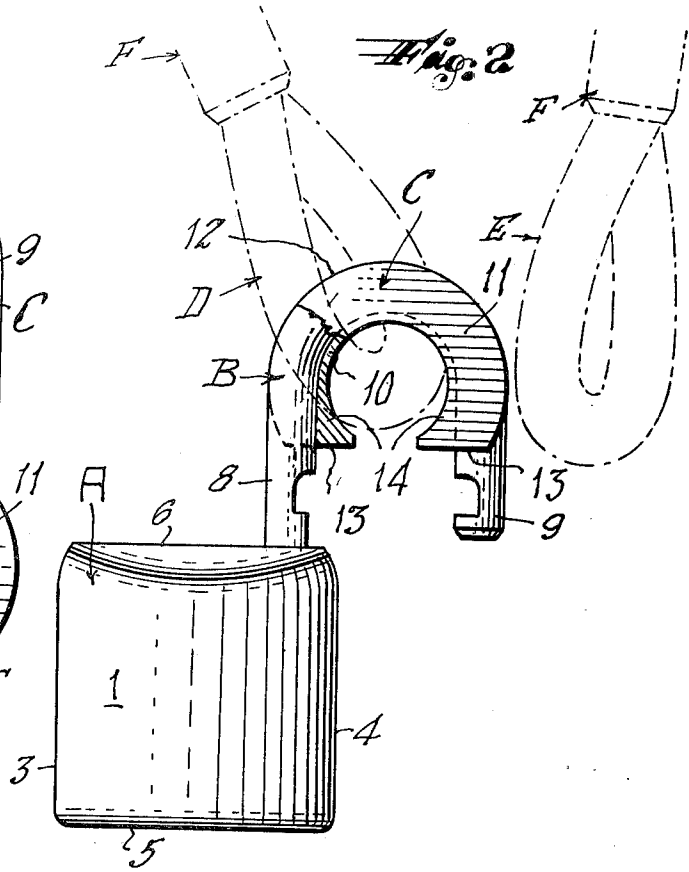
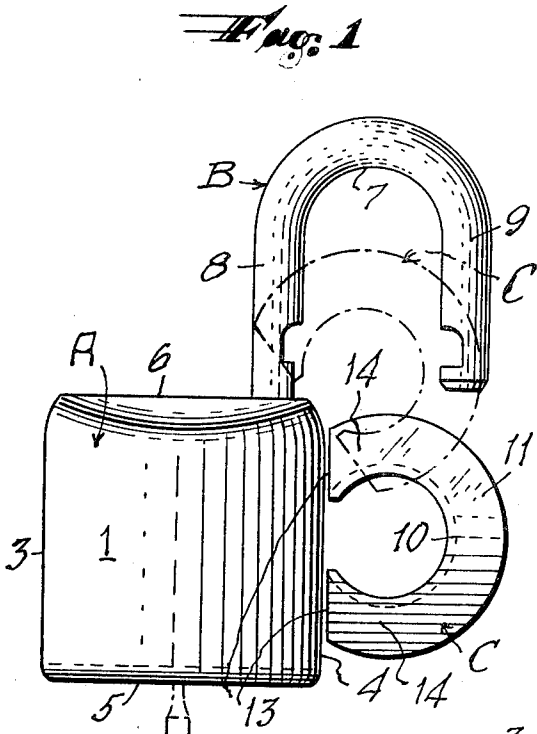
Primary Examiner—Robert L. Wolfe
Attorney, Agent, or Firm—Harry B. Rook

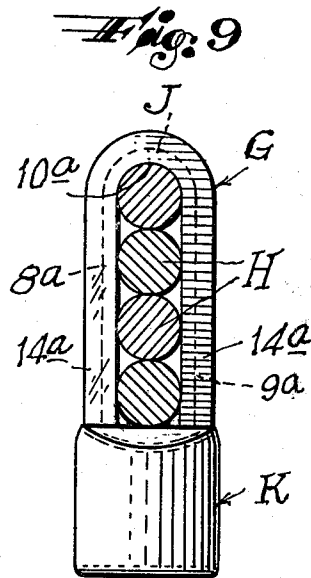
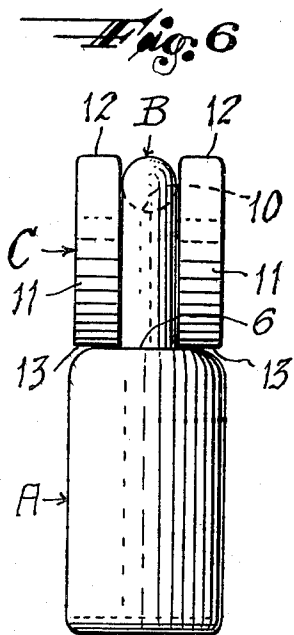
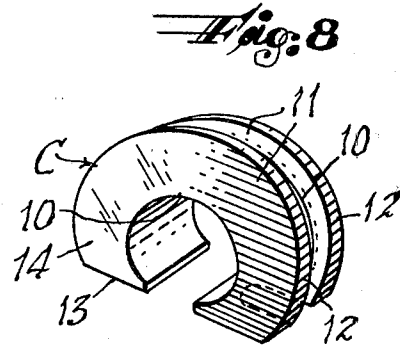
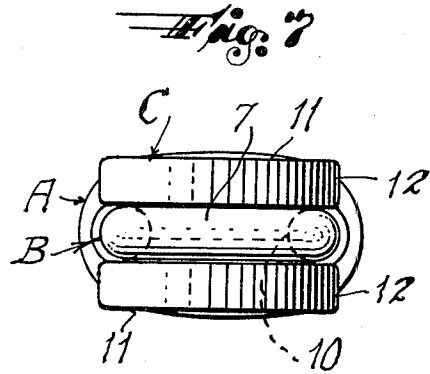
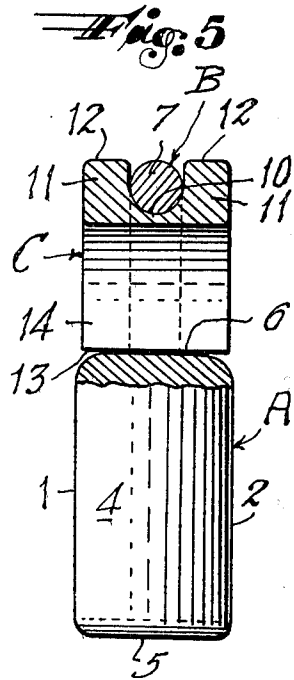
[57] ABSTRACT

A padlock shackle shield has an arcuate main portion concentric with the bight of a U-shaped shackle and having end extensions with flat extremities in a common plane, said main portion and said extensions having side flanges and embracing respectively the bight and the arms of said shackle with the outer surfaces of said flanges substantially flush with the outermost surfaces of said bight and said arms, and when the shackle is closed, said flat extremities being in contact with the top wall of the lock body, thereby to resist tampering with the shackle and to practically prevent contact of a blade of a cutting implement with the shackle. Said shield is easily and quickly applicable to and removable from the shackle when the shackle is in open position.

1 Claim, 9 Drawing Figures







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PADLOCK SHIELD

BACKGROUND OF THE INVENTION

The Field of the Invention

This invention relates in particular to that type of padlock which includes a body containing locking mechanism which coacts with a U-shaped shackle to lock together the loops at the ends of a cable which is wrapped around an automobile storage battery spare tire, hood, etc., and fixed parts of the vehicle chassis or body to prevent the theft or unauthorized removal of the battery, spare tire, engine components, etc., from the automobile; although the invention may be embodied in shackle-type padlocks of various constructions designed for other purposes than to lock storage batteries in automobiles.

It has been found that thieves frequently attempt to force the padlock shackle by inserting a prying tool between the shackle legs, or attempts are made to cut or sever the arms of the shackle or to insert devices into the body around the shackle arms to manipulate the locking mechanism and release the shackle.

It is important therefore that the padlock shall be temper-proof, shall be strongly resistant to sawing or cutting of the shackle arms and shall prevent the insertion of a prying implement into the space between the shackle arms and the body.

While the prior art shows various attempts to achieve these results, the prior devices leave much to be desired either in that they are too complicated or expensive or they require specially made and combined lock bodies and shackles, or they fail to adequately shield the shackles against unauthorized release.

SUMMARY OF THE INVENTION

A primary object of the invention is to provide a padlock shield which overcomes the objections to and disadvantages of the prior devices, and which is simple and inexpensive and can be adapted to and used with known padlocks and which will restrict or prevent the insertion of a prying implement in the space between the shackle and the lock body, and which will positively shield the shackle against tampering and release by unauthorized force.

Another object is to provide such a combination of padlock shackle, body and shield as will resist the application of a cutting tool to the shackle arms when the shackle is in closed or locked position in the body.

Further objects are to provide a shield which can be easily applied to or removed from a shackle. Another object is to provide a construction that can be adapted for use with shackles having arms of different length, for example, in a long shackle lock.

BRIEF DESCRIPTION OF THE DRAWINGS

For a complete understanding of the invention, reference should be had to the following description in conjunction with the accompanying drawings in which:

FIG. 1 is a side elevational view of a known type of padlock and a shield therefor embodying the invention, illustrating the manner of applying the shield to the padlock shackle;

FIG. 2 is a similar view showing the shield applied to the shackle and the manner of connecting articles to be locked to the shackle;

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FIG. 3 is a side elevational view of the construction in the positions just prior to closing the shackle;

FIG. 4 is a side elevational view showing the lock and shield in locked condition with cable loops locked together;

FIG. 5 is a vertical sectional view on the plane of the line 5-5 of FIG. 4, with the cable loops omitted;

FIG. 6 is a side elevational view of the lock and shield in locking position;

FIG. 7 is a top plan view of the construction shown in FIG. 6;

FIG. 8 is an enlarged detached perspective view of the shield embodying the invention, and

FIG. 9 is a view similar to FIG. 4 showing a modification of the invention.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENTS

For the purpose of illustrating the principles of the invention, we have shown a known type of padlock which includes a body A which has front and rear walls 1 and 2, side walls 3 and 4 and bottom and top walls 5 and 6 respectively. Projecting from the body at the top wall is a U-shaped shackle B formed with a bight or bend 7 at opposite ends of which are a long arm 8 and a short arm 9. The long arm extends into a chamber in the body adjacent and parallel to the side wall 4 and is rotatable and reciprocable so that selectively the short arm may be disposed above the top wall and swung outwardly beyond the side wall 4 with the bight facing downwardly and thus place the shackle in its open position as shown in FIGS. 1 and 2, or the short arm may be swung inwardly (FIG. 3) and pushed through a hole in the top wall into said chamber and thereby place the shackle in its closed position as shown in FIG. 4.

Within said chamber in the body is the known mechanism such as a spring-biased key controlled lock, or a permutation lock coacting with the shackle arms selectively to lock the shackle in closed position or to release the shackle into open position.

The invention especially contemplates a shield C for the shackle, which selectively can be constructed to be applied to or removed from the shackle when the shackle is in its open position and to be adapted to and used with known padlocks and without any special form or modification of padlock structure, and which will positively shield the shackle against tampering and resist damaging of the shackle by cutting or prying implements.

The shield preferably is made of hardened steel to resist cutting and includes an arcuate main portion 10 whose outer periphery is concentric with and of the same radius as the inner periphery of the bight 7 of the shackle and has side flanges 11 with whose outer peripheries 12 are concentric with said main portion with radii substantially equal to the radius of the outer periphery of the shackle bight, said main portion with its said flanges having end extensions 14 of equal length with flat extremities 13 in a common plane providing when the shackle is open for the sliding of said shield between the arms of the shackle with said shackle bight embraced by and seated in said main portion of the shield and its flanges and with each arm of the shackle embraced by said extensions and its flanges, and further providing when the shackle is closed for abutment of said flat extremities 13 of the extensions with the top wall 1 of said lock body and with the outer peripheral

surfaces of said flanges 11 of the main portion and its extensions substantially flush with the outermost surfaces of the shackle bight and the shackle arms as shown in FIGS. 4-7, thereby to resist contact of the blade of a cutting implement with the shackle.

One special use for the invention is the locking together of the loops D and E at the end of a cable F which is wrapped around a storage battery and certain fixed parts of an automobile chassis to prevent theft of the battery. A known padlock of the proper type and having the usual shackle of the proper size to receive the two loops; as shown in FIG. 4, is chosen and the shield is made of the appropriate size and shape. The shield is held with the flat extremities 13 of the shield extensions abutting the side wall of the lock body with the shackle swung into open position as shown in FIG. 1, whereupon the shield is slid between the shackle arms and tilted as indicated by broken lines until the main portion abuts and embraces the shackle bight (FIG. 2). Then the cable loops are slipped between the extensions 14 of the shield and the shackle is swung inwardly over the body top wall 1 (FIGS. 2 and 3) after which the arms of the shackle are pushed into engagement with the locking mechanism in the usual way (FIG. 4); and at the same time the extremities 13 of the shield extensions approximate contact the top wall of the lock body, so that the insertion of a prying implement between the lock body and the shackle is practically prevented, and more importantly it is practically impossible to tamper with the shackle or to apply a cutting tool to any portion of the shackle. The shield is simple and inexpensive and can be easily and quickly applied to and removed from the shackle at the will of the owner.

FIG. 9 illustrates a modification where the shield G is formed for use with a long shackle, for example, to hold together several cables H, here the extensions 14a of the main portion 10a being longer in proportion to the main portion than in the shield hereinbefore explained, to embrace the longer arms 8a and 9a of the shackle J of the lock K. This type of shield would have

to be installed in the original assembly of the lock body, shackle and shield.

I claim:

- 1. In combination with a padlock which includes a body having a top surface and a side surface and a U-shaped shackle projecting from said top surface and including a long arm and a short arm releasably coactive with locking means in said body to hold the shackle in closed position and release it into open position, said long arm being reciprocable and rotatable upon release of the shackle to permit said short arm to be disposed above said surface of the body and swung outwardly beyond said side surface with the bight of the shackle facing downwardly, a shackle shield which has an arcuate main portion concentric with the bight of the shackle and formed with end extensions provided with flat extremities in a common plane, said main portion and said extensions having side flanges providing that when the shackle is in open position said shield is slidable between the short arm of the shackle and said side surface and between the arms of the shackle with said shackle bight embraced by and seated in said main portion of the shield between its flanges and with each arm of the shackle embraced by one of said extensions and its flanges, and further providing when the shackle is closed for abutment of said flat extremities of the extensions with the top surface of said lock body and for disposition of the outer peripheral surfaces of said flanges of the main portion and its extensions substantially flush with the outermost surfaces of the shackle bight and the shackle arms, whereby when the shackle is in closed position the shield practically prevents contact of a blade of a cutting implement with the shackle and when the shackle is open there is permitted easy and quick insertion and removal of the shield into and from the shackle, respectively, said extensions of the shackle shield being spaced apart providing clearance for insertion into the arcuate portion of an object to be connected to the padlock.

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