United States Patent [19]

Foote

[11] **3,835,676**

[45] **Sept. 17, 1974**

[54] **LAMINATED PADLOCK BODY WITH INCORPORATED BAND-FORMING SLAB**

[75] Inventor: **Daniel J. Foote,** Milwaukee, Wis.

[73] Assignee: **Master Lock Company,** Milwaukee, Wis.

[22] Filed: **Apr. 9, 1973**

[21] Appl. No.: **349,398**

[52] **U.S. Cl.** **70/52,** 70/417

[51] **Int. Cl.** **E05b 15/16,** E05b 67/04

[58] **Field of Search** ..... 70/52, 25–26, 70/38 R, 38 A, 38 B, 38 C, 39, 51, 54, 55, 56, 417

[56] **References Cited**

UNITED STATES PATENTS

1,490,987	4/1924	Soret	70/52
2,824,439	2/1958	Soret	70/52 X
2,867,110	1/1959	Foote	70/52 X
3,422,644	1/1969	Foote	70/52 X
3,453,758	7/1969	Soret	70/54 X

Primary Examiner—Robert L. Wolfe

Attorney, Agent, or Firm—Curtis B. Morsell, Sr.

[57] **ABSTRACT**

The major portion of the padlock body is formed of metallic laminations but a section of the padlock body in juxtaposition to a series of laminations is completed by a band-forming slab which projects slightly outwardly of the surfaces of the laminations to provide an annular bumper which may also carry identifying indicia. Portions of the slab are formed with openings cooperating with contiguous openings in the laminated portion of the padlock body to accommodate components of the padlock mechanism.

6 Claims, 7 Drawing Figures

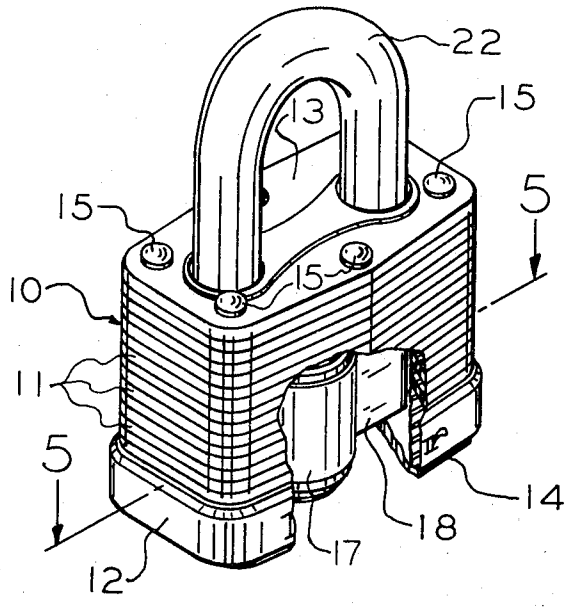


FIG - 1

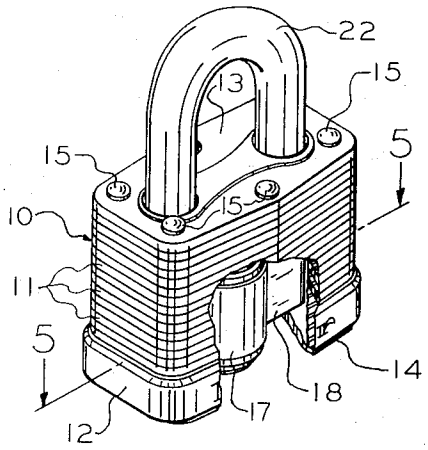


FIG - 7

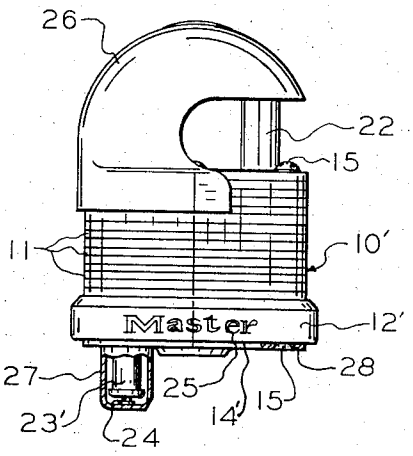


FIG - 2

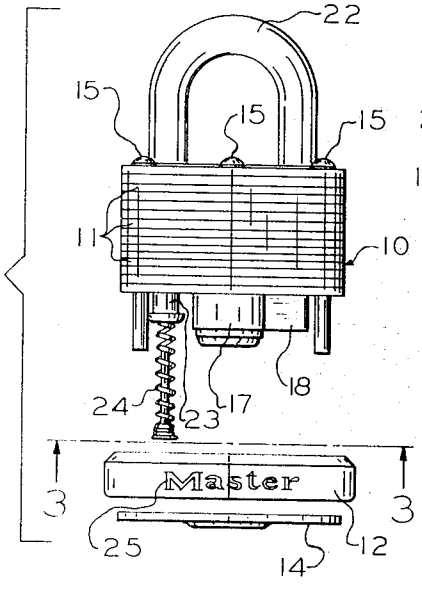


FIG - 3

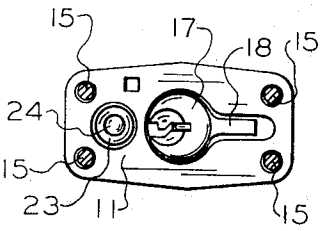


FIG - 4

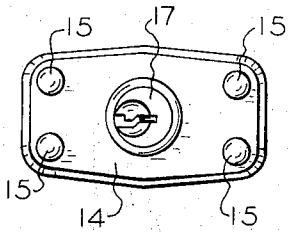


FIG - 5

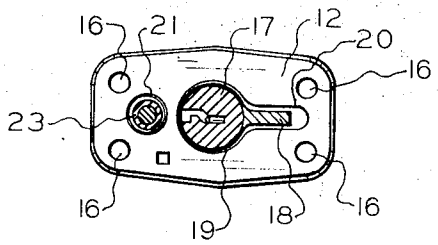
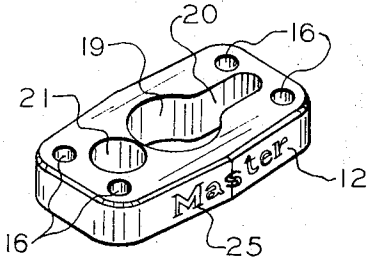


FIG - 6



LAMINATED PADLOCK BODY WITH INCORPORATED BAND-FORMING SLAB

BACKGROUND OF THE INVENTION AND ITS OBJECTIVES

In the Soref and Foote U.S. Pat. No, 3,453,758 of July 8, 1969 there is disclosed a padlock bumper and indicia band wherein the entire extent to the padlock body is formed of secured together laminations but a certain extent of laminations is encircled by an exteriorally applied cushioning bumper and indicia band. Said arrangement requires special structural components for securing the band to the padlock body, necessitating additional assembly steps. These complications are eliminated in the present assemblage wherein the band-forming slab completes the padlock body proper and is held to the body laminations by the same securing means which hold the body laminations in stacked relation and which also secure the top and bottom plates.

The present padlock body incorporated band-forming slab, besides serving as a protective bumper and providing means for canying distinctive indicia such as the manufacturer's trademark or brand name, is functional in that it is formed with openings or cavities cooperating with those in the laminated portion of the padlock body to accommodate components of the internal lock mechanism, such as the key-operated cylinder and its lock pin extension.

While the bumper slab is preferably formed of metal somewhat softer than that of the laminations, it can be made of any suitable material, preferably some-what resilient and in any desired color accomplished by plating or coating (in the case of metal). The indicia carried by an exposed side of the bumper slab may be in a contrasting color.

As a further objective of the invention the present padlock body incorporated band forming slab, besides possessing the utilitarian functions including the prevention of scratching adjacent surfaces and minimizing rattling or bumping noises, adds to the appearance of the padlock and gives it distinctiveness.

Other objects of the invention are the provision of a padlock body incorporated band-forming slab which is simple in design and construction, is inexpensive to manufacture and to permanently incorporate in a laminated padlock body, is efficient in use, and is well adapted for the purposes described.

DESCRIPTION OF THE PRIOR ART

The only issued patent known to applicant directed to a padlock body-applied bumper and indicia band is the previously mentioned Soref and Foote U.S. Pat. No. 3,453,758 which is owned by the assignee of the present application. In said patent the band encircles certain of the body laminations and is not a slab which with adjacent series of laminations actually forms the over-all body. Additionally, there is the Voight U.S. Pat. No. 1,333,355 of Mar. 9, 1920, but this patent merely provides a local protective sheath for guarding internal mechanism. The sheath of Voight is not a bumper and indicia band.

BRIEF DESCRIPTION OF THE DRAWING

In the drawing wherein the same reference characters indicate the same or similar parts in all of the views:

FIG. **1** is a front and side perspective view of a closed padlock having a laminated body portion completed by the inclusion of a band-forming slab, a portion of the padlock body and slab being broken away and in section to show the internal lock cylinder and pin extension;

FIG. **2** is an exploded front view of the closed padlock, the band-forming slab and the bottom plate;

FIG. **3** is a view taken approximately along the line **3—3** in FIG. **2**;

FIG. **4** is a bottom view of the assembled padlock body of FIG. **1**;

FIG. **5** is a horizontal sectional view taken approximately along the line **5—5** in FIG. **1**;

FIG. **6** is a top, front and end perspective view of the padlock body-incorporated hand-forming slab; and

FIG. **7** is a front view of a padlock having a body affixed shackle enveloping guard, said body having incorporated therein a modified form of band-forming slab formed with a depending cup to accommodate an extended shackle leg and its spring.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now more particularly to the drawing, it will appear that a padlock is indicated generally by the numeral **10.** The padlock body incorporated band-forming slab, shown in detail in FIGS. **2** and **6,** finds particular utility in connection with a padlock whose body (the major portion thereof) is built up of a plurality of superimposed rectangular laminations **11** held together by means hereinafter to be described and which are preferably formed of steel.

For the inclusion in the padlock body of a slab **12** which serves as a bumper and indicia band, a series of adjacent laminations **11** are supplanted by a slab **12** which is of a substantial height and which when added to the retained series of laminations, cooperates therewith in forming a padlock body of the desired overall height. Preferably the slab **12** supplants laminations which would otherwise form the bottom section of the padlock body, but, within the contemplation of the invention the slab may form the top section of the body, or an intermediate section thereof. The slab **12** is of a material softer than the steel of the laminations. Zinc has been found to be suitable and it may carry a plating or coating to give the exterior surfaces of the band-forming slab an appearance different from or in contrast to the adjacent body laminations. The slab **12** is of generally rectangular contour and it is slightly larger than a lamination so as to project slightly outwardly of the faces of the laminations **11** to serve as a bumper.

All of the superimposed laminations **11,** the body completing slab **12** and the usual top and bottom plates **13** and **14** are held together tightly to form a unitary padlock body by a series of vertical rivets **15.** The laminations are formed with the usual openings to receive said rivets and similar openings **16** in the slab **12** register with the lamination openings. A typical assemblage is shown in FIG. **1** but, as was mentioned heretofore, the arrangement of the slab relative to the laminations is a matter of choice. As is conventional the body lami-

nations have registering openings therein to accommodate certain elements of the key actuated lock mechanism which may be the lock cylinder **17** and its pin extension **18.** In the form of the invention illustrated said cavities are augmented by a registering aperture **19** and connecting extension opening **20** in said slab **12** to accommodate depending portions of the cylinder **17** and its pin extension **18.** Also, laterally of the aperture **19** the slab is formed with a circular opening **21** to accommodate, in the closed position of the padlock shackle **22,** the lower portion of its long leg **23** and the elongated pressure spring **24.** Of course, the laminations **11** have registering openings for said shackle leg.

As shown in certain of the views of the drawing one or more external faces of the slab **12** may have delineated thereon, as shown at **25,** a trademark or brand name or any other suitable indicia or identification which adds distinctiveness to the overall appearance of the padlock. The indicia **25** may be applied by a suitable means to produce permanency and can be of different or contrasting colors relative to the coating of the slab **12.** The mid portions of the long sides of said slab may also be bowed outwardly slightly, as shown, in conformance with the laminations to form protruding bumper areas.

In FIG. **7** of the drawing there is illustrated a modified form of band-forming slab **12'** adapted to a padlock **10'** which has a body-affixed guard **26** which protects the major exposed portion of the shackle **22.** Said type of padlock body affixed shackle enveloping guard is the subject of the co-pending Daniel J. Foote patent application Ser. No. 297,714 filed Oct. 16, 1972 and now U.S. Pat. No. 3,783,657 and, because the long leg **23'** of the padlock shackle must be of undue length, a cup or thimble **27** is provided at the bottom of the padlock body to accommodate, in the closed position of the shackle **22,** the extended end of the long leg **23'** and its pressure spring **24.** If a band-forming slab **12'** is incorporated in the base of the padlock body **10'** below the superimposed laminations **11** said slab may conveniently incorporate as an integral part thereof the depending cup or thimble **27.** Also, as shown in FIG. **7** the base plate **14'** which underlies the slab **12'** may have recesses **28** therein to accommodate the headed lower ends of the securing rivets **15.**

The improved padlock body incorporated band-forming slab, besides providing a convenient and attractive mode of applying identifying indicia to the padlock, functions to protect both the padlock body and surfaces contacted thereby against damage, scratching or marring due to relative movements. All sides of the padlock body are thus protected as are surfaces of doors or articles adjacent which the padlock is depended. With the band-forming slab actually supplanting a series of laminations in the padlock body assembly is facilitated. Furthermore, the slab, in addition to serving as a bumper and indicia carrier, is functional and by virtue of the openings therein, houses portions of the internal mechanism of the padlock.

The improved padlock body incorporated band-forming slab is relatively inexpensive and is easy to apply to a laminated padlock body and it imparts to the assemblage a unique, distinctive and sturdy appearance.

While certain preferred embodiments of the present invention have been illustrated and described, numerous modifications or variations may occur to those skilled in the art.

What is claimed is:

1. In a lock body, a series of relatively similar, superimposed laminations of generally rectangular outline, a band forming slab of generally rectangular outline in superimposed relation with said lamination but larger than the latter so that the face portions of the slab project outwardly of the exposed faces of the laminations whereby said slab may function as a bumper, the series of laminations having lock mechanism housing cavities therein and the slab having cavities complementary to the lamination cavities, and means for securing together to form a unitary body all of the laminations and said slab.

2. The lock body recited in claim **1** wherein the laminations are formed of a hard metal and the slab is formed of a softer, more resilient material.

3. The lock body recited in claim **1** wherein the slab is formed of a material relatively softer than that of the laminations and an exposed surface of the slab bears identifying indicia and said securing means are elongated members which extend through all of the laminations and the slab and tightly unite them in superimposed relation.

4. A padlock, comprising: a body, the major portion of the body being formed of a plurality of superimposed, secured together laminations; a band-forming slab underlying the laminations and secured thereto and having face portions projecting outwardly of corresponding face portions of the laminations to provide bumper areas, some of the laminations and the slab being formed with registering cavities to house lock mechanism; a shackle vertically reciprocal relative to said body from a retracted position to a projected position, said shackle having a long leg slidably accommmodated by said body and greater in length than the height of the body so that, when the shackle is in its retracted position, the lower end portion of said long leg projects beyond the normal base of the body; and a cup depending from the slab to accommodate said projecting portion of the long leg and its appurtenances.

5. The padlock of claim **4** wherein the shackle is U-shaped and includes a short leg in addition to said long leg, and external portions of the shackle are covered by a guard.

6. The padlock of claim **5** wherein the long leg appurtenances include a pressure spring whose projecting end portion is housed in said cup, and the shackle guard is a shroud-like member carried by the upper end portion of the body.

* * * * *