

Dec. 13, 1955

N. J. VILE

2,726,531

LAMINATED PADLOCK

Filed May 8, 1952

Fig. 1.

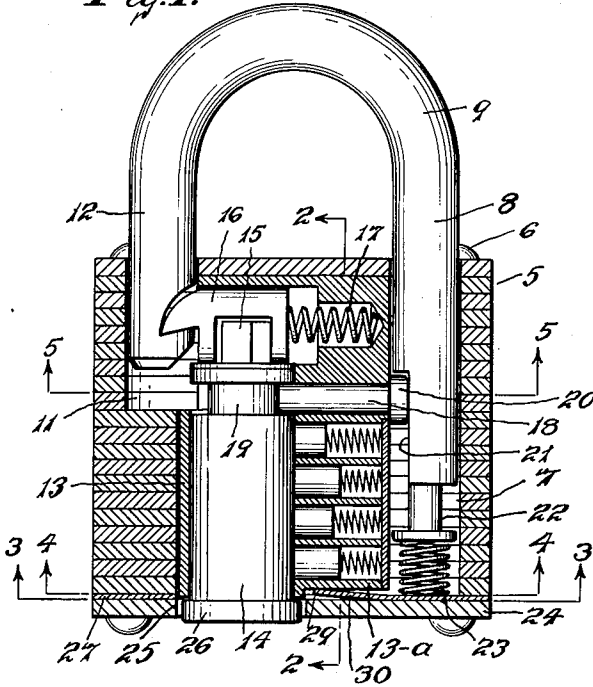


Fig. 2.

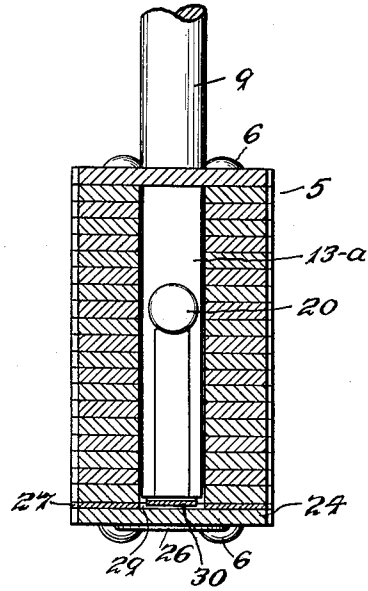


Fig. 3.

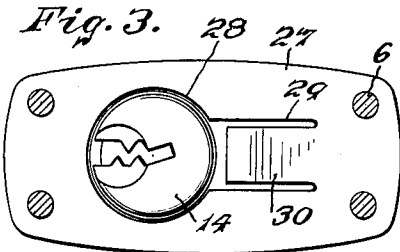


Fig. 4.

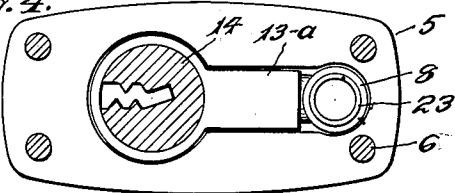


Fig. 5.

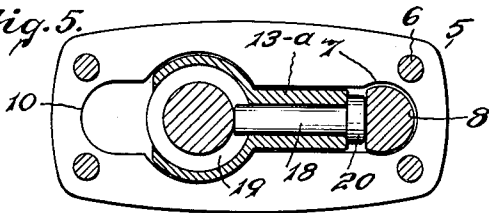


Fig. 6.

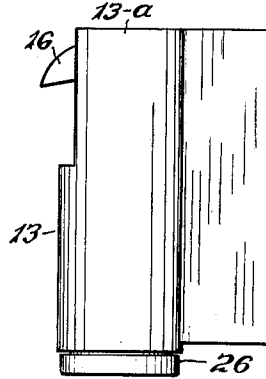
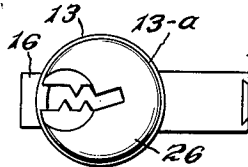


Fig. 7.



INVENTOR.
NORMAN J. VILE.

BY

Louis V. Lucia
ATTORNEY.

1

2,726,531

LAMINATED PADLOCK

Norman J. Vile, New Britain, Conn., assignor to The Eagle Lock Company, Terryville, Conn., a corporation of Connecticut

Application May 8, 1952, Serial No. 286,730

5 Claims. (Cl. 70—38)

This invention relates to a laminated padlock and more particularly to padlocks in which a locking unit is contained within a lock body that is formed of a series of laminations.

An object of this invention is to provide a novel construction for a padlock which may be economically produced and is highly efficient in its operation.

A further object of the invention is the provision of such a padlock having novel means for retaining the locking unit in position and compensating for any variations that may occur due to the laminated construction.

A still further object of this invention is to provide, for such a lock, novel means for retaining the key plug of the locking unit and the shackle bolt of the lock in assembled position.

Further objects and advantages of this invention will be more clearly understood from the following description in which:

Fig. 1 is a side view, partially in central vertical section, showing a lock embodying my invention.

Fig. 2 is a sectional edge view on line 2—2 of Fig. 1 with the locking unit being shown in elevation.

Fig. 3 is a bottom view of said lock partly in section on line 3—3 of Fig. 1.

Fig. 4 is a sectional bottom view on line 4—4 of Fig. 1.

Fig. 5 is a similar view on line 5—5 of Fig. 1.

Fig. 6 is a side view of the locking unit.

Fig. 7 is a bottom view thereof.

In the embodiment of my invention which is illustrated in the drawings, the numeral 5 denotes the body of my improved padlock which is constructed of a plurality of laminations having openings in the central portions thereof to receive the mechanism of the padlock. The laminations are secured together into an integral unit by suitable means, such as rivets 6, which extend longitudinally through the body adjacent the corners thereof.

The openings in the said laminations conform to the shape of the mechanism which is to be contained within the portions of the lock body and the said openings provide an elongated hole 7 which receives the long leg 8 of a shackle 9. The openings in the laminations which form the upper portion of the lock body have extensions 10 which provide a hole 11 to receive the short leg 12 of said shackle.

A locking unit 13 is contained within the body 5 and generally comprises a casing 13-a in which there is rotatably mounted a key plug 14 having a lug 15 projecting therefrom which operates a bolt 16 against the tension of a spring 17; the said bolt and spring being contained within the casing 13-a as a part of a locking unit.

In order to rotatably retain the key plug 14 within the casing 13-a and also slidably retain the shackle 9 assembled to the body 5, I provide a retaining pin 18 which is contained within an opening in the casing 13-a and projects into an annular groove 19 adjacent the upper end of the key plug 14. The said retaining pin has a head 20 which projects into a notch 21 in the side of the long leg 8 of the shackle and said notch communicates with an

2

annular groove 22 adjacent the end of said long leg. A spring 23 is provided for urging the shackle into open position and, when in said position, the head 20 of the retaining pin 18 will be in register with the groove 22 and thereby permit rotation of the shackle in the body of the lock while still retaining it therein.

It will be noted that the bottom lamination, in the form of a plate 24, closes the cavity in the lock body which receives the casing 13-a and the said plate has therein a circular opening 25 through which the head 26 of the key plug extends.

In order to compensate for any variations in the length of the lock body which may occur due to slight differences in the thickness of the various laminations, I provide, next to the bottom plate 24, a spring plate 27 that conforms in its outside contour with the other plates of the lock body and has an opening 28 therein which receives a portion of the lock casing. The said opening has an extension 29 into which extends a spring tongue 30 that is integral with the said plate 27.

The spring tongue 30 is bent upwardly and engages the bottom of the lock casing so as to resiliently urge the lock unit against the top of the lock cavity to thereby securely retain it in its proper position and prevent movement of the lock unit relatively to the body of the padlock.

It will be seen that the extension 29 of the opening in the spring plate provides a pocket or cavity to contain the spring tongue 30 within the lock body.

In assembling my improved padlock, after the lock unit and the shackle are in cooperative position within the partly assembled body, the spring plate is placed in position with the tongue 30 resting against the end of the lock unit. The end plate 24 is then pushed against the spring plate, so that the said tongue will force the lock unit into position against the top of the cavity in the body, and the rivets 6 are then headed over so that the entire padlock will be secured into a completed unit.

It will be understood from the above description that my invention provides novel and improved means for securing the shackle and bolt in position and also for retaining the locking unit in proper position, irrespective of any variations that may occur in the dimensions of the assembled lock body, and thereby allow for any commercial tolerances that may be required in the thickness of the sheet material for the body plates.

I claim:

1. In a laminated lock construction comprising a body formed of a plurality of laminations secured together and having a cavity therein containing a locking unit; a spring member contained between two of the said laminations and urging said unit into position against the top of the cavity.

2. In a lock comprising a body constructed of a plurality of laminations and having a cavity therein and a locking unit contained within said cavity; a spring plate included as one of the laminations in said body, and a resilient portion in said spring plate engaging said locking unit and retaining it in position within said cavity.

3. In a laminated lock construction comprising a plurality of laminations forming the body of said lock, the said body including a top and a bottom lamination and having a cavity therebetween and a locking unit contained within said cavity; a spring member between the said bottom lamination and the lock unit supporting the said lock unit in contact with the inner surface of the top lamination.

4. In a laminated padlock comprising a body formed of a plurality of laminations and having a cavity therein and a lock unit contained within said cavity; a spring plate conforming with the exterior contour of said laminations and included therewith in said body, the said spring plate having an opening therein forming a portion of the cavity

3

in the body, a resilient tongue extending into said opening and retaining the lock unit in operative position against the top of the cavity, a bottom plate positioned against said spring plate and covering said cavity, and means securing all of said laminations, spring plate, and bottom plate together to form said body. 5

5. In a laminated lock construction comprising a body formed of a series of laminations secured together, the said body having a cavity therein, a locking unit contained within said cavity and a shackle slidable in said body; a 10
spring member between the locking unit and the bottom lamination of said body for retaining the unit in position

4

within said cavity and for compensating for variations in the length of said body, and a projection on said locking unit for retaining the shackle in the body.

References Cited in the file of this patent

UNITED STATES PATENTS

2,094,604	Keil -----	Oct. 5, 1937
2,282,983	Lach -----	May 12, 1942
2,409,424	Falk -----	Oct. 15, 1946

FOREIGN PATENTS

929,293	France -----	Dec. 22, 1947
---------	--------------	---------------