

[54] **DRAFT KEY RETAINER LOCK FOR RAILWAY CARS**

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[51] Int. Cl.F16b 21/10

[58] Field of Search85/5 N, 5 R; 213/50.5

[56] **References Cited**

UNITED STATES PATENTS

2,029,868	2/1936	Harbert.....	85/5 R
3,489,053	1/1970	Songer.....	85/5 R
1,561,218	11/1925	Cooke.....	85/5 N

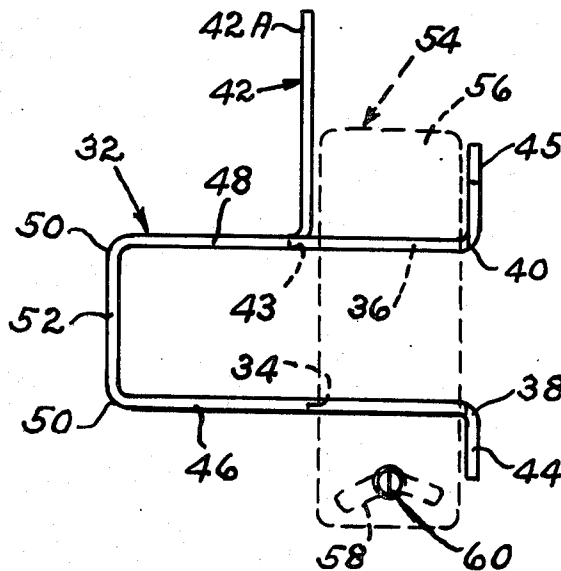
1,752,544 4/1930 Sparrow.....85/5 N

Primary Examiner—Edward C. Allen
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[57] **ABSTRACT**

A retainer lock formed from a metallic one piece flat rectangular blank and adapted to fit over the end of a draft key of a railway car. The one piece rectangular blank is folded into a yoke-like member and has two punched aligned openings, one opening being circular and the other being elongate with an elongate tab formed from the elongate opening and adapted to be folded downwardly over an elongate head of a retainer pin in the aligned openings. A vertically extending projection adjacent each opening faces an adjacent center sill and the elongate tab forming the upper elongate opening which extends into the upper adjacent vertically extending projection thereby to permit a tab of sufficient length to cover a substantial portion of the width of the elongate head of the retainer pin.

1 Claim, 7 Drawing Figures



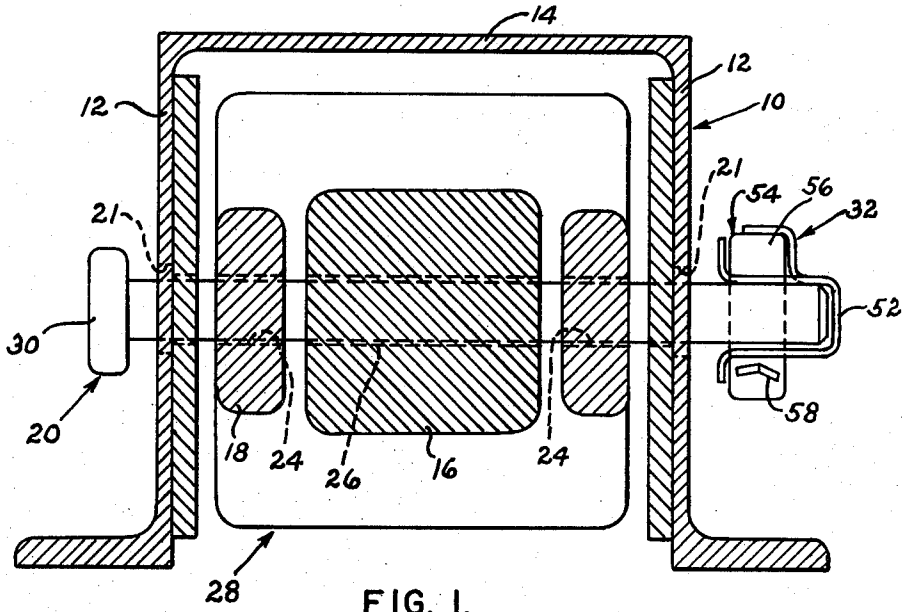


FIG. 1.

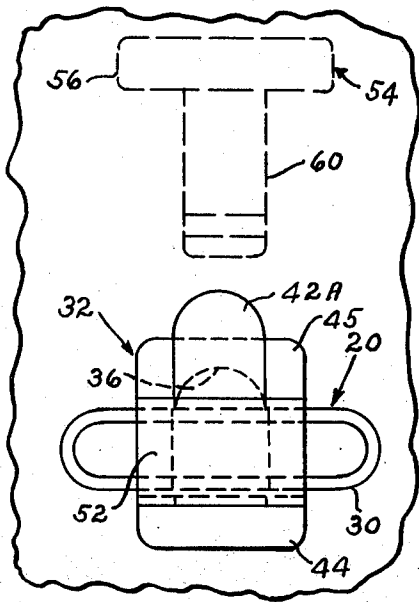


FIG. 2.

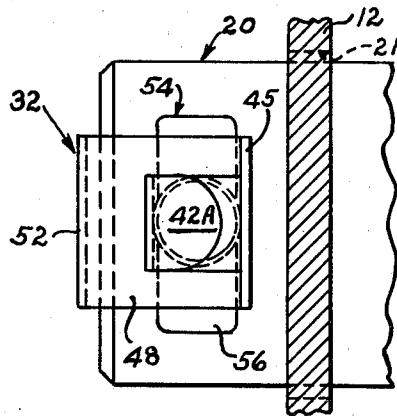
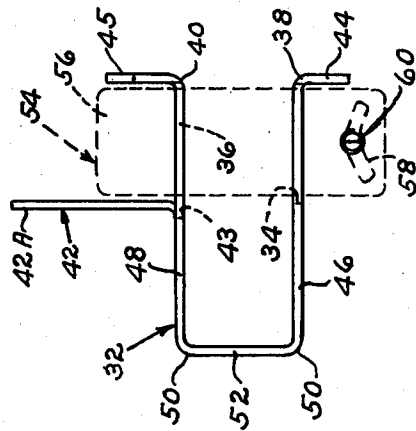
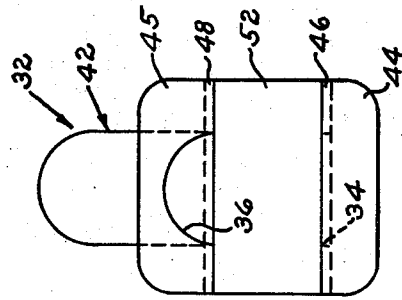
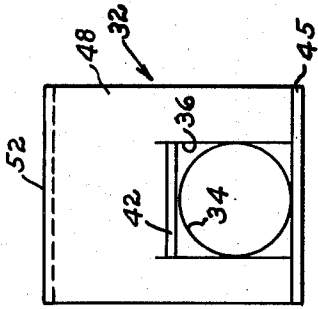
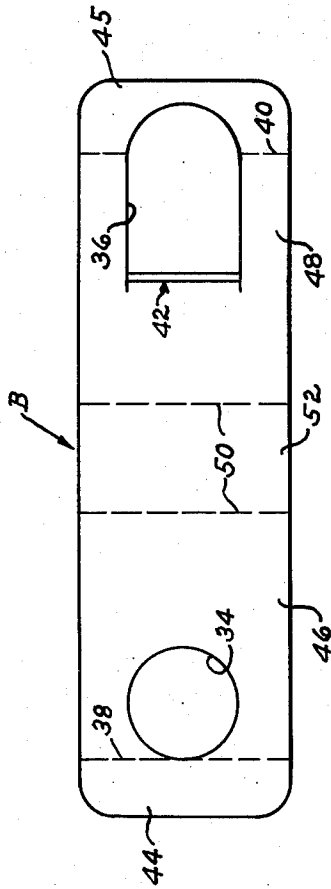


FIG. 3.

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DRAFT KEY RETAINER LOCK FOR RAILWAY CARS

BACKGROUND OF THE INVENTION

Retainer locks for draft keys have been used previously. For example U.S. Pat. No. 3,489,053 shows a draft key retainer lock which was formed from a one piece flat blank. However, the retainer lock shown in U.S. Pat. No. 3,489,053 was folded in such a manner as to fit over the side of the draft key and required a blank of non-uniform proportions. Further, as shown in U.S. Pat. No. 2,627,198 retainer locks for fitting over the end of the draft key have been formed from more than one piece and have commonly employed a projecting tab welding to the retainer lock for folding over a retainer pin.

DESCRIPTION OF THE INVENTION

The present invention comprises a draft key retainer lock which is formed from a one piece flat rectangular blank and is adapted to fit over the end of the draft key. The retainer lock comprises a yoke-like member fitting about an end of the draft key and having a pair of aligned openings with a vertically extending projection adjacent each opening in the yoke-like member extending generally parallel to and in facing contact with the adjacent side of the center sill. A retainer tab on the yoke-like member adjacent the upper opening forms a generally elongate upper opening in the yoke-like member and the retainer tab is of a length to bend over the head of an elongate pin to secure the pin within the openings and to cover a substantial portion of the width of the elongate head. The elongate opening formed by the retainer tab is of a sufficient length to extend upwardly into the vertically extending projection adjacent the elongate opening thereby to permit the tab to be of a sufficient length to cover a major portion of the width of the elongate head in the retainer pin.

The invention accordingly comprises the construction hereinafter described, the scope of the invention being indicated in the following claims.

In the accompanying drawings, in which one of various possible embodiments of the invention is illustrated,

FIG. 1 is a cross section of a center sill for a railway car illustrating a draft key extending through the center sill and being secured outwardly of the center sill by the retainer lock comprising the present invention;

FIG. 2 is an enlarged end elevation of the draft key and retainer lock shown in FIG. 1 with the retainer pin shown removed from the retainer lock and the retainer lock in position for receiving the retainer pin;

FIG. 3 is an enlarged top plan of the extending draft key with the retainer lock mounted over an end of the key;

FIG. 4 is a plan of the one piece rectangular metallic blank from which the retainer lock is formed;

FIG. 5 is a side elevation after blank has been folded into the retainer lock prior to the placing of the key retainer lock over the end of the draft key;

FIG. 6 is an end elevation of the retainer lock shown in FIG. 5; and

FIG. 7 is a plan of the retainer lock shown in FIGS. 5 and 6.

Referring now to the drawings for a better understanding of this invention, the center sill of a railway car is generally indicated 10. Center sill 10 is generally hat-shaped and has sides 12 connected by upper plate 14. A coupler having a shank 16 extends within the open outer end of center sill 10 and is connected to a yoke 18 by a horizontally extending draft key generally indicated 20. Elongate slots 21 in sides 12 of center sill 10 and elongate slots 24 in yoke 18 receive key 20. Key 20 extends through opening 26 in coupler shank 16. A conventional draft gear generally indicated 28 is positioned rearwardly of draft key 20 and comprises a plurality of rubber pads separated by metal plates.

Draft key 20 thus forms a connector between coupler shank 16 and yoke 18 for transmitting coupler forces therebetween. A head 30 on one end of draft key 20 prevents removal of key 20 from one side of center sill 10. A retainer lock generally indicated 32 and comprising the present invention prevents removal of key 20 from the other side of center sill 10.

Retainer lock 32 is formed from an elongate one piece flat rectangular metal blank B. Blank B includes a circular opening 34 and an elongate opening 36 adjacent opposed end portions of blank B. A fold line 38 is provided adjacent opening 34 and a fold line 40 is provided adjacent opening 36. Elongate opening 36 is formed by pushing or punching a tab 42 upwardly about a fold line 43.

To form retainer lock 32 for insertion about the end of draft key 20, vertical projections 44, 45 are folded in opposed directions about fold lines 38 and 40 and extend in opposite directions in a vertically aligned relation as shown particularly in FIG. 5. Upon a movement of key 20 toward center sill 10, vertical projections 44 and 45 will abut the adjacent surface of center sill 10 and prevent retainer lock 32 from interfering with the adjacent slot 21. Sides 46 and 48 are folded about fold lines 50 to form end 52 which is adapted to fit adjacent the end of draft key 20.

When blank B is folded about fold lines 38, 40, 43, and 50 as indicated above, a generally U-shaped or yoke-like member is provided in which openings 34 and 36 are vertically aligned. In this position retainer lock 32 is inserted over an end of draft key 20 as shown in FIG. 3 and a retainer pin 54 having an elongate head 56 is inserted within openings 34 and 36. After retainer pin 54 is inserted with head 56 resting against vertical projection 45, tab 42 is folded over head 56, such as by hammering, to form an upper tab portion 42A over the top of head 56. A suitable cotter pin 58 is inserted within a lower opening 60 in pin 54.

Thus, retainer lock 32 is easily formed from a one piece flat rectangular metallic blank and easily fits over an end of draft key 20. Vertical projections 44 and 45 are adapted to abut the surface of center sill 12. Since tab 42A extends over a substantial portion of the width of head 56, opening 36 has a length extending upwardly into vertical projection 45. A minimum amount of waste material is provided when retainer lock 32 is formed according to the present invention since a one piece rectangular flat blank is employed and a retainer tab having a substantial length adequate to fit over a major portion of the width of the elongate head 56 is provided with a portion of material from vertical projection 45 being utilized for tab 42.

What is claimed is:

1. A retainer lock structure adapted to fit about the end of a draft key extending outwardly from a side of a center sill of a railway car and comprising, a one-piece integral yoke-like member having generally parallel upper and lower sides with aligned upper and lower openings therein adapted to be in vertical alignment with an opening in the draft key, a vertical outwardly extending projection on each of said sides extending in a direction at right angles to the sides and adapted to be in facing contact with the adjacent side of the center sill, a retainer pin within the aligned openings having an elongate rectangular head above the upper opening, and a retainer tab on the yoke-like member adjacent the upper opening bent over the head of the retainer pin to secure the pin within the openings for preventing removal thereof; said yoke-like member being of a substantially uniform width throughout its entire length, the lower opening being a circular opening adjacent one vertical projection, the upper opening being an elongate opening having dimensions generally identical with the dimensions of the retainer tab and extending in a generally horizontal direction from the retainer tab to the associated outwardly extending projection and thence upwardly into the associated outwardly extending projection.

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