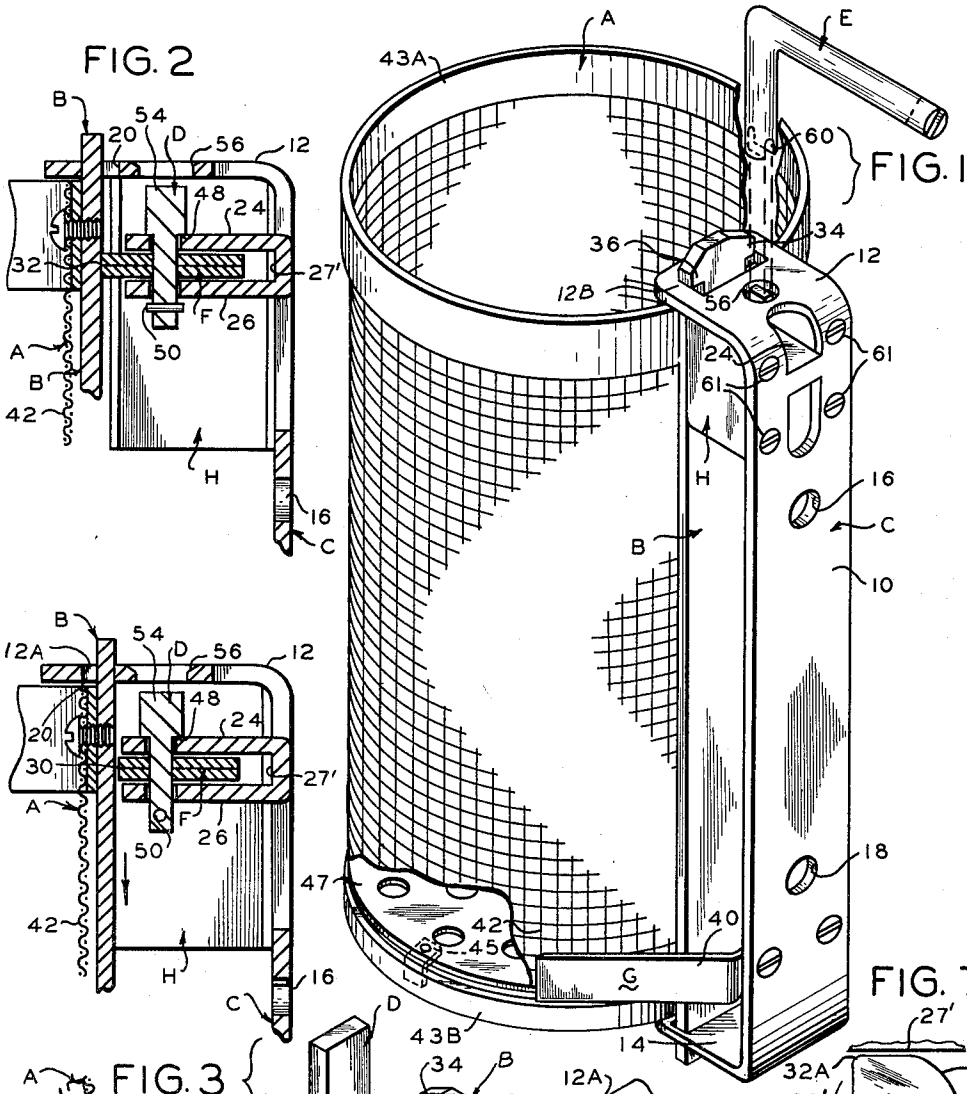
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LOCKING DEVICE FOR WASTE RECEPTACLE

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LOCKING DEVICE FOR WASTE RECEPTACLE

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My invention relates to a holder for waste receptacles and relates particularly to a locking device for waste receptacles which cannot be readily removed from its station.

The primary object of my invention is to provide an easy way of locking an outdoor waste receptacle in position on its fixed retainer which receptacle is used for holding and retaining waste material, whereby others in a frivolous or mischievous manner cannot and will not be able to remove the receptacle from its holder.

It is further an object of my invention to provide a holder for a waste receptacle whereby unauthorized persons are unable to remove the unit without the use of a special key unlocking device.

Other objects of my invention are to provide an improved device of the character described, that is easily and economically produced and which is sturdy in construction.

With the above and related objects in view, my invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing, in which:

FIG. 1 is a perspective view of the outdoor waste receptacle and its holder together with its key having a portion of the lower side thereof cut away to reveal the bottom plate and a supporting flange therefor;

FIG. 2 is a fragmentary cross-sectional view showing the waste receptacle in locked position;

FIG. 3 is a fragmentary cross-sectional view showing the waste receptacle in an unlocked position just prior to being removed and also showing in phantom the lower portion of the bar B slightly tilted when the upper portion of the bar B is in the position of FIG. 2;

FIG. 4 is a perspective view showing a cam locking device for locking the receptacle in position;

FIG. 5 is a fragmentary perspective view showing the bar for supporting the waste receptacle;

FIG. 6 is a fragmentary perspective view showing the aligned top and bottom openings for receiving the bar supporting unit; and

FIG. 7 is a perspective view showing an alternative cam locking device for locking the receptacle in position.

Referring now in greater detail to the drawing, I show a waste metal receptacle, generally designated as A, adapted to be suspended outdoors. The waste receptacle may be mounted upon a pole of any type or a wall of any type and it is for the purpose of receiving waste material, papers, rags, and various other things, and may be used by a municipality, or utility companies.

Since such units are not of too great a size or weight, there is a temptation to remove them from the post or the wall on which they are mounted.

The receptacle A has fixed or welded thereto, a supporting bar, generally designated as B. The basket A and the bar B form an integral unit, even though they may be held together by screws or welded.

A wall bracket, generally designated as C, having an elongated central body portion **10** from which the ends are bent to form a pair of short legs **12**, **14**, is adapted to be securely mounted upon a wall and the elongated central body portion has a pair of bolt-receiving mounting screw holes therein **16** and **18**. On the upper leg **12** is a T-shaped opening **12A** (FIG. 6) having a long slot **20** and a short slot **21**. On the lower leg **14** is a rectangular opening **22** (FIG. 6) in alignment with the T-shaped opening for the purpose of receiving a receptacle mounting rod B which extends downwardly through the T-shaped opening.

Near the top of the body portion **10** of wall bracket C are a pair of parallel fingers **24**, **26** which have been stamped out from bracket C (FIGS. 1 and 2). Fingers **24**, **26** support and align a cam F. Cam F as shown in FIG. 4 consists of a pair of discs **28**, **28** having eccentrically located, complementary apertures which form opening **46** in cam F. As shown in FIGS. 2, 3 and 4, a key shaft D projects into and through vertically aligned openings in fingers **24**, **26** and opening **46** in cam F. Shoulder **48** of key shaft D limits downward movement thereof and pin **50** limits upper movement thereof. Since the lower end **44** of key shaft D has a cross-section of substantially the same configuration and size as opening **46** in cam F, lower end **44** fits snugly into opening **46**. Thus any rotation of key shaft D causes rotation of cam F.

The locking and unlocking action is initiated by a key E having a slotted portion to interfit with top portion **54** of key shaft D and the outer portion **60** thereof passes through key hole **56** extending through leg **12** of bracket C. It should be noted that top portion **54** of key shaft terminates below leg **12** so that key shaft **54** cannot be turned by a hand wrench. Hence, unauthorized entry is avoided.

Thus, key E may turn key shaft D which in turn rotates cam F to present either short lobe **30** or long lobe **32** towards bar B as shown in FIGS. 2 and 3.

When cam F is turned to present long lobe **32** towards the upper end of bar B, lobe **32** abuts against the upper end bar B and moves it from its unlocked position of FIG. 3, rearwardly to its locked position of FIG. 2. When cam F is turned to present short lobe **30** towards the upper end of bar B, it is free to move or be moved forwardly to abut or to be located closely adjacent to short lobe **30** and thereby move to the unlocked position of FIG. 3.

It is to be noted that lobe **32** is of a convex shape and has a "hight point" **33** at the center thereof. Thus when cam F is rotated to the locked position of FIG. 2, "high point" **33** abuts against bar B in its most rearward position and so cam F can rotate no further in the same direction but can rotate only in the opposite direction to return to the unlocked position of FIG. 3 if so desired. Thus, it is easy to determine with a high degree of certainty when cam F is in the locked position of FIG. 2 because the key E (and the shaft D) can no longer be turned in the "locking" direction.

The cam member may also be shaped generally as a trapezoid as shown in the unlocked position in FIG. 7. In this embodiment the abutment of cam F' against surface **27'** restricts further rotation of the cam F' in a given direction. Surface **27'** is the portion of the rear surface of the bracket C which is confined within the extension of fingers **24**, **26**. (See FIGS. 2 and 3.)

As shown in FIG. 7, further clockwise rotation of cam F' is prevented by the abutment of shoulder **32A** against surface **27'**. Should cam F' be rotated counterclockwise from the position of FIG. 7 ninety degrees to the locked position (wherein edge **32'** will move bar B rearwardly), further counterclockwise rotation will be prevented by the abutment of shoulder **30A** against surface **27'**. Hence, at one limit of rotation cam F' is in the unlocked position, and at the other limit of rotation it is in the locked position.

Regardless of its particular shape, when cam F is turned to present long lobe **32** towards the upper end of bar B (FIG. 2), lobe **32** abuts against the bar B and

moves it from its unlocked position of FIG. 3 (bearing against the front edge of aperture 12A) rearwardly to the locked position of FIG. 2 (bearing against the rear edge of aperture 12A). It should be again noted that aperture 12A is T-shaped and consists of a long slot 20 and a short slot 21 (FIG. 6). Since bar B is of a width slightly narrower than long slot 20, bar B may project through and slide in slot 20.

Bar B includes slots 34A, 36A (FIG. 5) which create a neck portion 37 of a width slightly narrower than short slot 21 to enable bar B to also be received in short slot 21 when so desired. Hence when lobe 32 of cam F moves bar B rearwardly to the locked position, bar B is in reality moved from the long slot 20 into the short slot 21.

Thus, bar B (and receptacle A to which it is secured) cannot, in the locked position, be moved in a vertical direction since the shoulders 12B on either side of short slot 21 are firmly held in slots 34A, 36A of bar B (FIG. 5). Moreover, bar B (and receptacle A to which it is secured) cannot, in the locked position, be moved in a horizontal direction as cam F firmly abuts thereagainst.

It is thus seen that when cam F is rotated ninety degrees to the unlocked position, bar B may move or be moved from short slot 21 into long slot 20 of T-shaped aperture 12A. At this point bar B (and receptacle A to which it is secured) may be lowered and easily separated from fixed bracket C in a manner to be hereinafter explained.

Wall receptacle A is essentially a hollow cylindrical body, open at both ends, with a major portion thereof made of wire netting 42 secured to upper and lower rings 43A and 43B. Fingers 45 are stamped out on the three sides thereof from ring 43B and extend inwardly therefrom either above or under bottom 47 which is riveted thereto to support the same above the lower edge of ring 43B which extends below bottom 47 and may rest on the floor if so desired.

Bracket C has at the lower portion thereof a short leg 14 which is somewhat spaced above the lower edge of ring 43B so that the lower end of bar B which extends through slot 22 in short leg 14 terminates somewhat below the lower edge of ring 43B.

A wing support, generally designated as G, has its central portion secured to wall bracket C (FIG. 1) and its wings 40 engage the sides of receptacle A at the lower portion thereof to permit rapid alignment of bar B into aligned openings 12A and 22 when receptacle A is mounted or dismounted as will be hereinafter discussed.

A substantially U-shaped cover, generally designated as H (FIG. 1) is adapted to protect the sides of key shaft D and cam F from unauthorized opening. The back of cover H is secured to bracket C by mounting screws 61 which are not accessible when bracket C is mounted flush against a wall.

In operation bracket C is mounted flush against a wall by securing bolts into a wall through openings 16, 18 on the bracket C. The lower end of bar B (which is secured to receptacle A) is inserted in slot 22 of short leg 14 until the lower edge of ring 43B of receptacle A rests on short leg 14. Wing support G enhances the rapid alignment of bar B. Receptacle A is then brought to a position parallel to bracket C and is raised several inches until the upper end of bar B projects through long slot 20 of T-shaped slot 12A. Bar B may then be guided into short slot 21 of T-shaped slot 12A by positioning shoulders 12B adjacent short slot 21 into slots 34A, 36A of bar B (FIG. 5).

When key E turns key shaft D so that long cam lobe 32 of cam F (FIG. 2) abuts against bar B, the assembly is locked and receptacle cannot be removed from bracket C.

To remove receptacle A from bracket C, key E is employed to turn key shaft D so that short cam lobe 30 of cam F is presented towards bar B (FIG. 3).

Bar B may then move or be moved from short slot 21 into long slot 20 of T-shaped aperture 12A. Bar B (and receptacle A) may then be lowered so that the lower edge of ring 43B of receptacle A rests on short leg 14 of the bracket C. At this point the upper edge of bar B has been lowered sufficiently to be located completely below short leg 12 of bracket C. Hence receptacle A may be rearwardly tilted at an acute angle about slot 22 in short leg 14 as the pivot point. Finally, the receptacle A may be raised from the bracket C as the lower portion of bar B is disengaged from slot 22.

It is thus seen that a simple but effective locking device and bracket is provided for a waste receptacle.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically disclosed.

What is claimed as the invention is:

1. A locking device for a waste receptacle including a bar secured thereto comprising in combination a wall bracket having legs projecting therefrom, an opening formed in each of said legs, one of said openings including a relatively wide area and a relatively narrow area, said openings being adapted to removably receive said bar, and locking means for said bar secured to said wall bracket, said locking means being adapted to be actuated to move said bar from the relatively wide area of the one of said openings into the relatively narrow area to lock said waste receptacle to said wall bracket.

2. A locking device for a waste receptacle including a bar secured thereto comprising in combination a wall bracket having lower and upper legs projecting therefrom, a rectangular shaped opening formed in said lower leg and a complementary T-shaped opening formed in said upper leg, said T-shaped opening including a relatively wide slot and a relatively narrow slot, said openings being adapted to removably receive said bar, and locking means for said bar secured to said wall bracket, said locking means including cam means rotatable eccentrically by a key shaft, said key shaft being adapted to be actuated to present a first lobe of said cam means against said bar to move said bar from the relatively wide slot of said T-shaped opening into the relatively narrow slot thereof to lock said waste receptacle to said wall bracket, and said key shaft being further adapted to be actuated to present a second lobe of said cam means towards said bar to permit said bar to be located in the relatively wide slot of said T-shaped opening to unlock said waste receptacle from said wall bracket thereby enabling said waste receptacle to be separated from said wall bracket.

3. A locking device for a waste receptacle including a bar secured thereto comprising in combination a wall bracket having at least one leg projecting therefrom, an opening formed in said leg, said opening including a relatively wide area and a relatively narrow area and being adapted to removably receive said bar, and locking means for said bar secured to said wall bracket, said locking means being adapted to be actuated to move said bar from the relatively wide area of said opening into the relatively narrow area to lock said waste receptacle to said wall bracket.

4. The locking device of claim 3 wherein said opening is T-shaped.

5. The locking device of claim 3 wherein said locking means include cam means.

6. The locking device of claim 5 wherein said cam means are rotatable eccentrically by a key shaft adapted to present sequentially a first lobe of said cam means against said bar to move it into said relatively narrow area thereby placing it in locking position, and upon further rotation said cam means adapted to present a second lobe against said bar to permit moving it into said relatively wide area thereby placing it in unlocked position

to enable said waste receptacle to be separated from said wall bracket.

7. The locking device of claim 6 wherein said first lobe is relatively long and said second lobe is relatively short.

8. The locking device of claim 6 wherein said first lobe is convex in shape to provide stop means to limit the rotation of said cam means in a given direction.

9. The locking device of claim 6 wherein said cam means is generally of a trapezoidal shape whereby a pair of corners thereof are adapted to successively abut against

said wall bracket to limit the rotation of said cam means to substantially ninety degrees in a given direction.

10. The locking device of claim 6 wherein the movement of said bar into said relatively narrow area is facilitated by complementary slots formed in said bar.

References Cited in the file of this patent

UNITED STATES PATENTS

1,454,662	Wilbur	May 8, 1923
1,580,207	Kibbe	Apr. 13, 1926