Aug. 26, 1958 T. L. McMINN 2,849,176

MAIL BOX

Filed Aug. 19, 1957

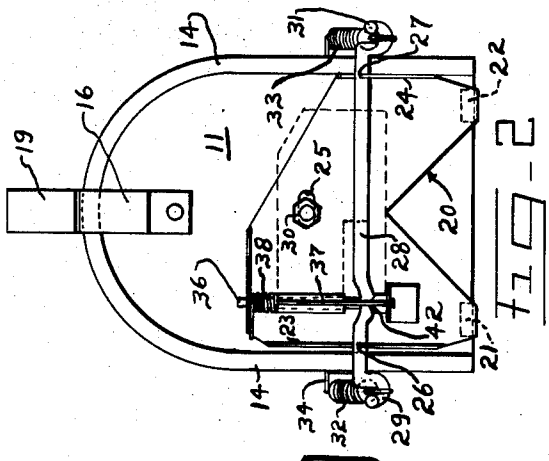


FIG. 2

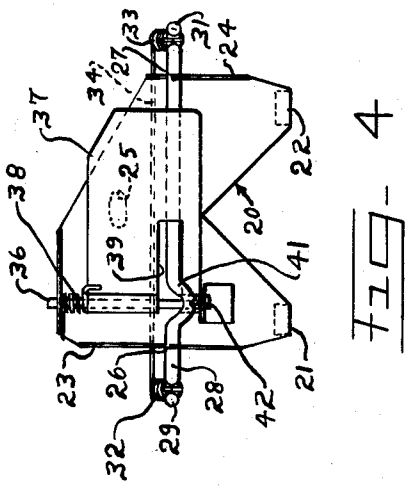


FIG. 4

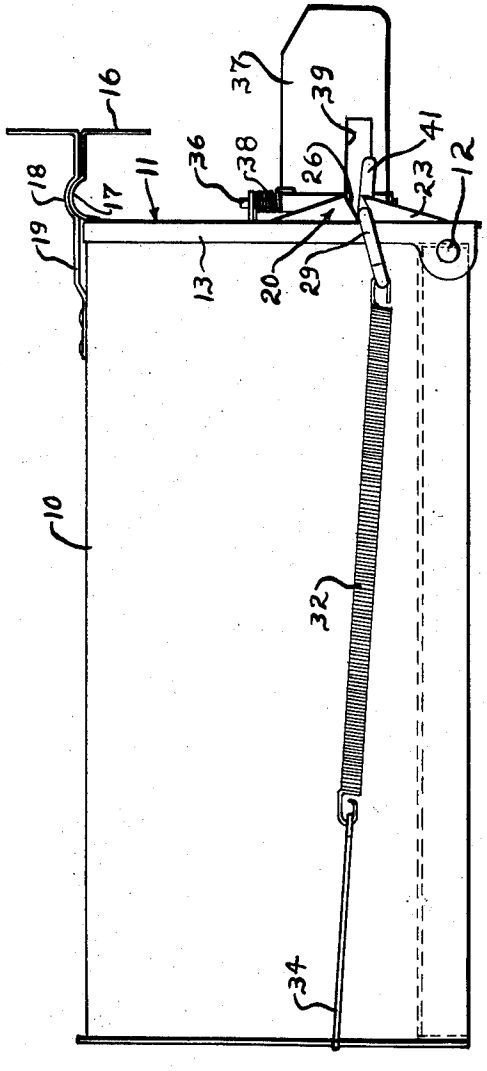


FIG. 1

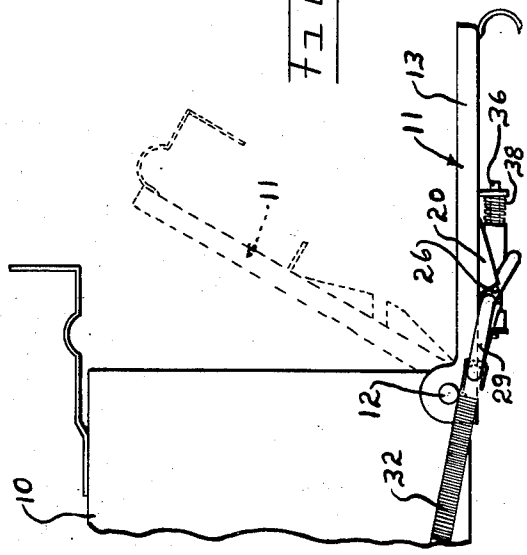


FIG. 3

INVENTOR.
Thomas L. McMinn

BY

Jennings, Carter & Thompson
Attorneys

United States Patent Office 2,849,176
Patented Aug. 26, 1958

2,849,176

MAIL BOX

Thomas L. McMinn, Anniston, Ala.

Application August 19, 1957, Serial No. 678,868

7 Claims. (Cl. 232—35)

This invention relates to rural mail boxes and particularly to means to insure proper opening and closing of a mail box door and to operate the flag or indicator on the box which serves to notify a postman that mail is to be picked up.

A further object of my invention is to provide a door and flag operating means which shall be readily attachable to an existing mail box.

A more specific object of my invention is to provide spring means for holding the mail box door selectively in open and in closed positions and which shall include means for holding an indicating member or flag in outturned position when the door is closed and for causing it to move inwardly when the door is opened.

As is well known to persons served by rural mail delivery, mail boxes are of two uniform sizes, a larger, and a smaller box. Both are of similar shape and both have doors pivotally mounted on the front across the bottom whereby to swing downwardly to an open position. Also, there is a flag or indicator which is pivoted on the side of the box and is raised to indicate to the postman that there is mail in the box to be picked up by him. It often happens that the door of the box is not completely closed by the postman and in his hurry to deposit the mail and be on his way, the box is left partly open admitting rain into the box and causing damage to the mail deposited there. It takes an extra long reach and physical effort to lower the flag and the postman sometimes neglects to lower it on the box when he picks up mail so that the next time he comes by he is liable to have to make an unnecessary stop on account of the flag's still being up.

In accordance with my invention these and other difficulties are overcome. My invention embodies a bracket which may be readily attached to the door of the mail box by a single fastening means, or alternatively the bracket may be formed as a part of the mail box door when the door is manufactured. The bracket is provided with outturned flanges along the side in which flanges there are formed upwardly inclined notches having rounded bottoms. A trip shaft is mounted in the upwardly inclined notches and is provided with crank arms which extend rearwardly alongside the box and are connected to coil springs anchored to a stirrup extending around the rear of the box so that the door is pulled toward closed position by the springs. Mounted on the bracket on a rod or shaft extending vertically of the door and transversally of the trip shaft, is a flag or indicator which is provided with an elongated horizontal slot through which the trip shaft passes. A spring around the vertical shaft engages the flag to urge it towards a position flat against the bracket or door of the mail box. The trip shaft is provided with an outwardly extending U bend having a notch on the lower side thereof which, when the mail box is closed and the flag is in outturned position, engages the lower edge of the slot to hold the flag in outturned position. When the postman stops to pick up mail in the box and opens the door, the flag moves in a downwardly arcuate path to disengage it from the trip shaft whereupon the spring causes it to move inwardly and lie flat against the bracket. Also, the trip shaft is so located that when the mail box door is opened, the crank arms

on the trip shaft and the spring pass below the pivot point for the mail box door thereby causing the door to stay in open position while the postman is servicing the box. As soon as he raises the door sufficiently for the spring to pass the pivot point, the spring snaps the door closed.

A device embodying features of my invention is illustrated in the accompanying drawing, forming a part of this application; in which;

Fig. 1 is a side elevational view of a mail box having my improved operating means;

Fig. 2 is an end elevational view of the same showing the mail box door in closed position;

Fig. 3 is a partial side elevation showing the mail box door in open position; and,

Fig. 4 is a view showing the bracket and operating means separated from the mail box.

Referring to the drawing for a better understanding of my invention, I show a conventional mail box **10** having a door **11** at the front which is pivoted on a rod **12** extending across the front of the box near the bottom. Door **11** is provided with a rearwardly turned flange **13** which telescopes over the end of the box when the door is closed. Also, the door **11** is provided with a bead **14** which extends upwardly along both sides and arcuately across the top. A handle **16** is provided with which to pull the door open and is provided with a bend **17** which engages in a similar bend **18** in a spring strap **19** attached to the box to hold the door in closed position.

In accordance with my invention I provide a bracket **20** which has a single elongated bolt hole **25** therein through which a bolt **30** passes through the door to secure the bracket to the door. The bracket is provided with rearwardly turned lugs **21** and **22** which engage the lower edge of the door and restrain any angular displacement of it. At the sides of the bracket are outturned flanges **23** and **24**, the distance between the flanges **23** and **24** being slightly less than the distance between the lateral beads **14** on the door so that there can be a slight lateral adjustment of the bracket.

Flanges **23** and **24** are provided with upwardly inclined notches or slots **26** and **27**, which as shown, are located intermediate the longitudinal axis and the bottom of the box. Extending across the mail box and mounted in the notches **26** and **27** is a trip shaft **28** having crank arms **29** and **31** on its outer ends. The notches **26** and **27** are preferably rounded at the bottom whereby to provide bearings for the trip shaft. Coil springs **32** and **33** are connected at their forward ends to the crank arms **29** and **31** and at their rear ends to a stirrup **34** which extends around the rear of the mail box so that the springs **32** and **33** serve to urge the door **11** toward closed position and hold it there.

Mounted on the bracket **20** on a vertical rod or shaft **36**, which extends across and behind the trip shaft **28**, is an indicating flag **37** which may be turned outwardly of the door **11** to the position shown in Fig. 1, or may lie flat against the bracket **20** or door **11** as shown in Fig. 4. A torsion spring **38** surrounds the rod **36** and engages the flag **37** to urge it toward the position shown in Fig. 4 of the drawing. The flag **37** is provided with an elongated slot **39** through which the trip shaft **28** passes.

The trip shaft **28** is provided with an outwardly extending U bend **41** where it passes through the slot **39**, which U bend is turned slightly downward at an angle to the crank arms **31** and **29** so that the springs **32** and **33** acting on the crank arms cause the U bend to engage the lower side of the slot **39**. Also, the U bend is provided with a notch **42** on its under side which engages the lower side of slot **39** when the flag **37** is in the position shown in Fig. 1 and thus holds the flag in its out-

turned position. The difference in width of the bracket **20** and the distance between the beads **14** on the mail box door together with the slotted bolt hole **25** permits a slight lateral adjustment of the bracket to engage the notch **42** with the side of the slot **39** and cause the flag to stand at a right angle where it is most visible. When the door **16** is swung downwardly to open position, it takes with it the flag **37**, which causes the slot **39** to move downwardly in an arcuate path to disengage from the U bend **41**, whereupon the spring **38** snaps the flag back to lie flat against the door.

From the foregoing description, the operation of my improved mail box will be readily understood. When mail is put in the box to be picked up by the postman, the door **11** is in closed position with the flange **13** telescoped over the sides and top. The flag **37** is outturned to the position shown in Fig. 1, in which position the notch **42** in the U bend **41** engages the lower edge of the slot **39** to hold the flag in outturned position. The springs **32** and **33** cause the U bend **41** to bear downwardly against the lower edge of the slot **39**. When the postman grasps the handle **16** to open the mailbox and remove the mail, and perhaps put mail in the box, the downward swing of the door **11** carries with it the flag **37** which also moves downwardly in an arcuate path to free the flag **37** from the U-bend **41** on the trip shaft. When this occurs, the spring **38** causes the flag to turn inwardly against the door or bracket **20**. It will be noted from a consideration of Figs. 2 and 4 that the flag **37** is pivoted toward one side of the box whereby when it is in the position shown in Figs. 2 and 4, it does not extend beyond the side of the mail box. When the door **11** is turned to the position shown in Fig. 3 of the drawing, the springs **32** and **33** and the crank arms **29** and **31** pass below the pivot **12** for the door so as to hold it in its wide open position. Also, as may be noted from Fig. 3 of the drawing, the upward inclination of the slots **26** and **27** causes the trip shaft **28** to stay in its proper position in the notches and not jump out when the mail box door is opened. When the postman has serviced the box, and raises the lid **11** until the springs **32** and **33** and crank arms **29** and **31** pass above the pivot point **12**, the springs **32** and **33** snap the door **11** closed.

From the foregoing it will be apparent that I have devised an improved mail box door and flag operating means which is simple of design, readily applied to an existing mail box, or which may be furnished with new mail boxes being installed.

While I have shown my invention in but one form it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claims.

What I claim is:

1. In combination, a mail box having a downwardly opening door pivotally mounted across the lower edge of the front thereof, a trip shaft extending across the front of the door and having rearwardly extending crank arms at the ends thereof alongside the box, a spring connected to each crank arm arranged to urge the door toward closed position and secured to the box, an indicator flag hingedly mounted on a pivot extending in parallel relation to the door and transversely of the trip shaft, said flag having an elongated slot through which the shaft extends and disposed to engage the shaft and hold the flag in outward position when the door is closed and to release the shaft as the door is opened, and a spring connected to the flag to swing it inwardly toward the door when the shaft is released.

2. In combination, a mail box having a downwardly opening door pivotally mounted across the lower edge of the front thereof, a trip shaft extending across the front of the door and having rearwardly extending crank arms at the ends thereof alongside the box, a spring connected to each crank arm arranged to urge the door toward closed position and secured to the box, an indicator flag hingedly mounted on a pivot extending in parallel relation to the door and transversely of the trip shaft to swing outwardly of the front of the box, a torsion spring on the pivot connected to the flag to urge it inwardly toward the front of the box, said flag having a slot therein through which the trip shaft passes, an outwardly extending U bend on the trip shaft having a notch therein on the underside thereof disposed to engage the lower side of the slot and hold the flag when the mail box door is closed and the flag is turned outwardly, said U bend being so positioned that as the mail box door is opened, the side of the notch is disengaged from the slot and the torsion spring acts to swing the flag inwardly.

3. A device as defined in claim 2 in which the trip shaft is located near the lower edge of the door, and the springs connected to the crank arms extend rearwardly alongside the box and are so positioned that they pass below the pivotal mounting of the door when the door is opened, whereby to hold the door in open position.

4. A device as defined in claim 2 in which the trip shaft and the flag are mounted in a bracket secured to the door.

5. In combination with a mail box having vertical sides and a flat bottom with beads along the sides and a door pivotally mounted at the front across the bottom to swing downwardly and outwardly to open, the door having rearwardly turned flanges engaging over the sides of the box, a bracket mounted on the front of the door, inturned lugs on the lower edge of the bracket engaging the lower edge of the door, an indicating flag pivotally mounted on a rod on the bracket extending in substantially parallel relation to the door and adapted in one position to be turned to extend outwardly of the door and in another position to lie flat against the door, said flag having an elongated slot therein adjacent the door, spring means associated with the flag to urge it toward the last named position, outturned vertical flanges on the sides of the bracket having upwardly inclined notches therein, a trip shaft mounted in the notches and extending across the front of the box through the slot in the flag, crank arms on the trip shaft extending rearwardly alongside the box, springs connected to the crank arms and extending rearwardly alongside the box, a forwardly extending U bend on the trip shaft where it passes through the slot and having a notch on the underside thereof to engage the lower side of the slot and hold the flag in outturned position when the door is in closed position, the notch being disengaged from the slot in the open position of the door with the flag being substantially flat against the door, and a stirrup extending around the rear of the box and connected to the rear ends of the springs for securing the springs and the trip shaft.

6. A device as defined in claim 5 in which the bracket is slightly narrower than the distance between the beads on the box whereby to provide for lateral adjustment of the bracket.

7. A device as defined in claim 6 in which the bracket is provided with an elongated bolt hole through which a bolt passes to secure it to the door.

References Cited in the file of this patent

UNITED STATES PATENTS

833,879	Homire	Oct. 23, 1906
2,068,275	Luss	Jan. 14, 1937
2,478,727	Swanson	Aug. 9, 1949
2,567,459	Yoder	Sept. 11, 1951
2,811,306	Kalmoe	Oct. 29, 1957