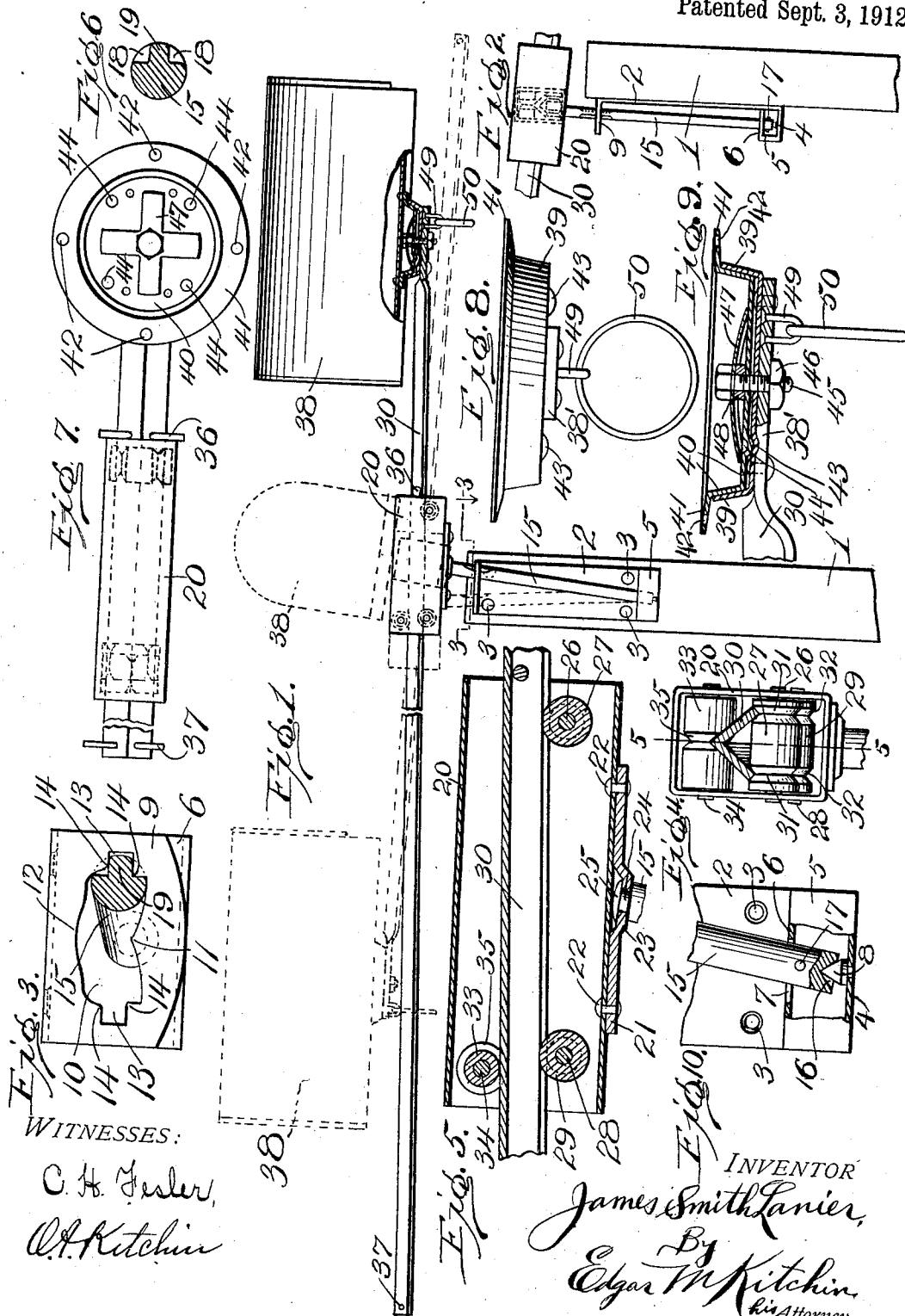


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MAIL RECEIVING AND DELIVERING APPARATUS.
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Patented Sept. 3, 1912.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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MAIL RECEIVING AND DELIVERING APPARATUS.

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To all whom it may concern:

Be it known that I, JAMES SMITH LANIER, a citizen of the United States, residing at West Point, in the county of Troup and State of Georgia, have invented certain new and useful Improvements in Mail Receiving and Delivering Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in mail receiving and delivering apparatus, and more particularly to the type designed to facilitate the collection and delivery of mail by a mounted carrier without requiring him to leave his seat.

Among the objects in view is the provision of means for facilitating the movement of a container into a carriage, or otherwise away from its normal support and the returning of the same to its normal position without injury to the container or its support.

Another object in view is the provision of sustaining means for a container, a support therefor, and means between the sustaining means and support for causing the container to move by gravity to its normal position, after having been moved away from the same.

With these and further objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts as will become obvious from the detail description hereinafter given of the specific embodiment of the invention disclosed in the accompanying drawing.

In the accompanying drawing—Figure 1 is a view in side elevation of one embodiment of the present invention, the parts being shown in full lines in one of the normal at rest positions, and in dotted lines in the intermediate position and also in dotted lines in the other of the normal at rest positions. Fig. 2 is a similar view of the same taken on planes of observation at right angles to those of Fig. 1, the parts being seen in full lines in the intermediate position, portions of the sliding bar being broken away and the container omitted, and the normal at rest position being indicated in dotted lines. Fig. 3 is a horizontal section taken on the plane indicated by line 3—3 of Fig. 1, and looking downwardly, the post being omitted, and the parts being seen on

an enlarged scale. Fig. 4 is a vertical section taken just in front of and looking toward the sleeve or casing, the parts being seen on an enlarged scale. Fig. 5 is a vertical, central section taken on the plane indicated by line 5, 5 of Fig. 4. Fig. 6 is a detail, transverse sectional view through the supporting shaft, detached. Fig. 7 is a plan view of the support for the mail box, a fragment of the sliding bar being omitted. Fig. 8 is an end view of the box support seen in Fig. 7, the parts being seen on an enlarged scale. Fig. 9 is a vertical, central section therethrough, taken longitudinally of the flattened portion of the sliding bar, a part of the bar being seen in elevation. Fig. 10 is an enlarged detail, fragmentary view of the lower end of the supporting bracket, parts being broken away and parts shown in section for disclosing interior structure.

In the collection and delivery of mail in suburban districts, it has been found desirable to provide mail boxes or containers so arranged that the postman may collect from the boxes and deliver to the boxes while remaining in his carriage, and, in order to prevent the projection of the mail boxes or containers into the road-way, various devices have been designed to enable the boxes to be shifted temporarily on their supports, and then shifted back to their normal position by the operator while remaining in his carriage. Such prior devices, however, have been arranged even when in their normal position to extend into the roadway, and in instances where the operator failed to properly push the mail boxes to their normal position, the same would remain out in the path of vehicles. This invention is designed to overcome this difficulty, and to provide a box, which, regardless of carelessness on the part of the operator, will not remain in the roadway, and, at the same time in its automatic return to a position out of the roadway, will not injure itself or its support.

A further advantage is gained by the present improved structure in the provision of an adjustable box which may be adjusted to various positions constituting signals to the postman.

In the accompanying drawing, in which I have illustrated an embodiment of the present invention, 1 is a post or other suitable support, which may be one of the posts

of a fence along a roadway. To the post 1 is fixed a bracket plate 2 by screws or other suitable securing means 3, 3. The plate 2 may be of any length desired, and at its lower end is bent into an outwardly extending bracket flange 4, the latter being bent into an upstanding plate 5, which is again bent into an inwardly extending horizontal portion 6. The horizontal portion or plate 6 is apertured, as at 7, and a cone bearing 8 is fixed to and extends upwardly from the bracket plate 4, with its longitudinal axis in vertical alinement with the center of the opening 7. At the upper end of the plate 2, the same is formed with an outwardly extending flange or bracket plate 9 which is slotted as at 10. The slot 10 is formed with an angle intermediate its length produced by an inwardly extending portion 11 of the material of plate 9, and a recess 12 formed in the plate 9 immediately opposite the portion 11. The slot 10 is formed at each end with a recess 13 produced by oppositely disposed shoulders 14, 14 formed of the material of plate 9. A hinge or pivot supporting shaft 15 extends downwardly through the slot 10 and has its lower end projecting through the aperture 7, the said lower end being formed with a conical recess 16 designed to receive the upper end of the cone 8, so that a stepped bearing is formed for the shaft 15, the recess 7 being of sufficiently greater diameter than the diameter of shaft 15 as to not only permit free rotation of the shaft, but also to permit lateral swinging thereof from end to end of slot 10. To avoid possibility of any vertical jumping of the shaft 15 off of its bearing, any suitable pin 17 is passed through an aperture in the shaft 15 immediately below plate 6. The shaft 15 may have any preferred transverse contour, but, as illustrated, is preferably made of a cylindrical rod, and, extending above and below the plate 9, the said rod is formed with longitudinal stamped out or cut away portions 18, 18, forming a longitudinal tongue or bead 19. The bead 19 is adapted, when the parts are in the at rest position, to lie in either one or the other of the recesses 13, and thus to retain the shaft 15 against vibratory oscillation, or other undesirable twisting or rotary movement. Obviously, the shaft 15 might be formed with a lug or other projection, detachably or otherwise connected, as a substitute for bead 19.

To the upper end of the shaft 15 is fixed a guiding casing or sleeve 20, the connection between the sleeve 20 and shaft 15 assuming any mechanical form preferred, one desirable form consisting of the provision of a plate 21 riveted or otherwise suitably secured to the bottom of the casing 20, as indicated at 22, the plate 21 being formed

with a central depression 23, the depressed portion being apertured and a reduced portion 24 formed at the upper end of the shaft 15 extending through the aperture and being formed with a head 25, by swaging or otherwise as preferred, the head 25 lying within the recess of portion 23, and the said portion 23 being set at a slight angle to the longitudinal axis of the casing 20, so that the shaft 15 extends at an angle to the vertical axis of the casing. This angle is such that the shaft 15 lies at an angle greater than a right angle with respect to the front portion of casing 20 and less than a right angle with respect to the rear portion of said casing. Obviously the shoulder produced by the reduced portion 24 forms a seat on which the recessed portion 23 rests. The angular relation of the casing 20 with respect to the shaft 15 insures the casing assuming a horizontal position in spite of the fact that the shaft 15 is inclined when lying at either terminus of the slot 10. This angular relation of the parts also insures an upward movement of the front end of the casing when shaft 15 is moved to a vertical position. Thus casing 20 is inclined from front to rear when rod or shaft 15 is vertical, as indicated in full lines in Fig. 2, and the casing 20 is horizontal when it has its longitudinal axis parallel to the longitudinal axis of slot 10 and when shaft 15 is inclined, as indicated in full lines in Fig. 1. The casing 20 will thus be laterally inclined or tilted side-wise when it has its longitudinal axis transverse the longitudinal axis of slot 10 and shaft 15 is inclined, as indicated by the intermediate dotted position in Fig. 1.

Journalled in the front end of casing 20 on shaft 26, which shaft is fixed transversely in the casing, is an anti-friction and guiding roller 27, and journalled on a similar shaft 28, fixed in the rear end of the casing 20, is a similar roller 29, the roller 29 being disposed in horizontal planes below the planes of the upper portion of roller 27, so that a sliding bar 30, which rests on the rollers 27 and 29, is disposed in inclined planes, and extends upwardly toward the front end of the casing 20. The bar 30 is preferably formed, as clearly seen in Fig. 4, of angle-iron form, that is being formed of two webs set at an angle to each other and formed integral or suitably connected along their meeting edges, and the bar is arranged with its apex or longitudinal corner extending upwardly, the free edges of the bar resting in annular grooves 31, 31, in roller 27, and similar grooves 32, 32, in roller 29. To prevent upward tilting of the rear end of the bar 30, a roller 33 is journalled on shaft 34 fixed in the rear end of casing 20 above bar 30, the roller 33 being formed with an annular groove 35 into which the apex of the

bar 30 extends. Thus bar 30 is adapted to slide freely through the casing 20, and is at the same time guided and retained against twisting or rotary movement. A pin 36 is passed through the bar 30 near its front end for limiting rearward sliding of the bar, and a similar pin 37 is similarly passed through the bar substantially at the rear end thereof for limiting the forward sliding of the bar.

To the front end of the bar 30 is secured a mail box or container 38, of any preferred type, which is preferably attached to the bar in the manner indicated in detail in Figs. 7, 8 and 9, in which 38' indicates the flattened terminal of the front end of the bar 30. The front end portion of bar 30 may therefore, for convenience of identification, be referred to as the container supporting portion of the bar. To the flattened portion 38' is secured, as by riveting or otherwise suitably fixing, a circular casing or pan 39. Within the casing 39 is revolvably fitted a similar casing 40 having an annular flange 41 radiating from its upper edge and overhanging the upper edge of casing 39. The box 38 has its bottom riveted or otherwise suitably attached to the flange 41, said flange being formed with suitable apertures 42, 42, for the reception of such securing means. The bottom or horizontal portion of casing 39 is formed with any preferred number of rounded recesses 43, 43, preferably formed by stamping the material of the casing downwardly, but obviously readily capable of being formed otherwise if desired. The bottom of casing 40 is formed with corresponding lugs, 44, 44, of rounded form, and preferably stamped from the material of the casing, the said lugs, in practice, being designed to rest normally in the recesses 43, for locking the box 38 in a given position, the box being capable of being readily rotated by the exertion of sufficient force on the box to cause the lugs 44 to lift up out of the recesses 43, the box then moving freely, except for the frictional contact of the lugs with the upper surface of the bottom of casing 39, until the lugs again enter the recesses, into which they will spring as soon as registering therewith, and the box is thus again locked in position until sufficient force is again exerted to again spring the lugs out of the recesses. There are at least a sufficient number of recesses to allow the box 38 to be locked in two different positions, as for instance at one time in a position parallel to the bar 30, and at another time at right angles to the bar. These two positions of the box may then be used as signals for indicating that the box is empty or that it contains mail. The casing 40 is pivotally held in position by a bolt 45, or other suitable pivot, passing through the casings 39 and 40 and through

the flattened portion 38' of the bar 30, the bolt being retained in position by any ordinary nut 46 threaded onto the lower end thereof. The upper or headed end of the bolt 45 is engaged by a spring 47 which presses upwardly against the head of the bolt, and downwardly against the casing 40 for firmly retaining the casing 40 in position, the said spring 47 preferably assuming the form of a relatively large spring washer, and being firmly retained in position by a spacing washer or sleeve 48, surrounding the bolt 45 and interposed between the upper face of the bottom of casing 40 and the central portion of the spring washer, the radial arms of said spring washer engaging the bottom of casing 40 at their outer ends. For facilitating manipulation of the parts, a staple 49 is preferably fixed to the flattened portion 38', and a ring or link 50 is loosely interlooped therein.

It is to be observed that the bracket plates 4 and 9, which constitute supporting means for the moving elements, are adapted to be arranged parallel to the road-way, and, therefore, when the bar 30 is parallel to the road-way, it is parallel to its supports; although it is obvious of course that the alinement of the supports with respect to the road-way might be altered, without altering the assumption of the parallelism of bar 30 with the road-way, simply by a change in the relative position of slot 10 in plate 9.

In operation, when the parts are in the position indicated in full lines in Fig. 1 (the reversed or diametrically opposite dotted position being exactly the same as the full line position, except that the box is on the other side of the post), and when a letter is deposited in the box 38, the person placing the letter in the box, if he wishes to give a signal to the postman of mail to be collected, will revolve the box to a position transversely of the bar 30, or otherwise as agreed upon for signaling purposes. The postman, upon driving up, grasps the ring 50, and draws the box 38 over into his carriage. If the carriage is directly opposite to the post 1, this operation will usually cause shaft 15 to move to an upright position in the center of slot 10, that is to a position in the line of gravitation, from which line the shaft 15 has a constant tendency to fall, all likelihood of exact balance of the parts (which would cause the shaft to remain in a vertical position when released) being obviated by the projection 11. After the postman has drawn the box 38 to the outer extreme of its movement and has removed the contents, and placed therein the mail matter to be delivered, he gives the box a push back toward the post. This thrust will cause the shaft 30 to travel longitudinally through the casing 20 until pin

36 strikes the casing, and, in the meantime, the shaft 15 will have fallen to one end of slot 10, and the box assumed the laterally tilted, intermediate dotted position of Fig. 1; whereupon, the overbalancing weight of the box 38 and connected parts causes shaft 15 to revolve until the box assumes a position with shaft 30 parallel to the road-way, in which position the box 38 is substantially upright and its floor horizontal owing to the relative angularity of the parts. Bar 30, however, when in this position parallel to the roadway is still inclined downwardly from box 38 toward casing 20. This exerts a certain amount of pressure on casing 20 and shaft 15 and insures the retention of the shaft 15 in its inclined and locked position, and also insures a returning of the shaft to such position after being accidentally moved. As soon as box 38 has thus returned to its normal at-rest position, the bead 19 will project into the recess 13 at the respective end of slot 10, and thus the parts will be locked in position and retained against lateral oscillations. The postman of course shifts the box with respect to the bar 30 for giving any required signal before releasing the box. Should the postman, through neglect or otherwise, fail to give the box 38 the necessary thrust for returning the bar 30, the inclined position of the parts will insure the return of the box to an out of the way position parallel to the roadside, such inclined position of the parts being an over-balanced condition tending always to return the parts to the out-of-the-way position. Thus the only effect of failing to push the box back toward the casing 20 would be that the box would be spaced from said casing when arriving at the out-of-the-way position.

Obviously, the box 38 may be drawn outwardly by the postman without the shaft 15 moving to the upright position, but this would have no effect on the tendency of the box to return to its normal at rest position. The remaining of the shaft 15 in its inclined position, when the box 38 is swung out into the road-way, would result in the box 38 being tilted laterally, as indicated in the intermediate dotted position in Fig. 1; that is having its vertical axis temporarily shifted to an inclined axis, and the weight of the box would constantly tend to return such axis to its vertical position, which would cause the shaft 15 and connected parts, when released, to rotate until the box assumes a position at the side of the roadway, whereat the minor axis of the box will be vertical, and the casing 20 will be horizontal. In other words, the parts cannot assume a position with the balance of weight at or below the center of gravity, so long as the box is otherwise than at the side of the roadway, and the pivotal mount-

ing of the movable parts thus effects the return of the box to its proper out-of-the-way position regardless of disposition when released.

What I claim is:—

1. In a mail receiving and delivering apparatus, the combination of a pivotally mounted casing disposed at an incline to the horizontal, a bar slidably engaging said casing and retained by its engagement in a correspondingly inclined position, and a container carried by the bar.

2. In a mechanism of the class described, the combination with a support, of a slotted bracket carried thereby, a shaft revolvably extending through the slot of said bracket, a second bracket spaced beneath the first bracket, a cone bearing extending upwardly from the second bracket, the said shaft being formed with a recess in its lower end enclosing the upper end of said cone bearing, the shaft resting upon said bearing, and a container support sustained by said shaft.

3. In mail receiving and delivering apparatus, the combination of a pivotally mounted, swinging shaft, a casing secured thereto at an angle other than a right angle, and a container support slidably engaging said casing.

4. In mail receiving and delivering apparatus, the combination of a substantially vertical, pivotally mounted shaft, a casing carried by the shaft and extending in inclined planes transversely of the shaft at an angle to the shaft other than a right angle, and a container supporting bar slidably extending through the casing.

5. In mail receiving and delivering apparatus, the combination of an upstanding bearing, a shaft stepped thereon and free to swing laterally, means for limiting the lateral swing of the shaft, and container supporting means carried by the shaft.

6. In mail receiving and delivering apparatus, the combination of a pivotally mounted guiding means shiftable to an inclined position, and a container supporting bar having a container supporting portion, said bar being carried by the guiding means at all times on an incline such that the container supporting portion of the bar is maintained higher than the remaining portion of the bar.

7. In mail receiving and delivering apparatus, the combination of a pivotally mounted guiding means shiftable to an inclined position, and a container supporting bar having a container supporting portion, said bar being carried by the guiding means at all times on an incline such that the container supporting portion of the bar is maintained higher than the remaining portion of the bar.

8. In mail receiving and delivering apparatus, the combination of a rotatably

mounted shaft, a guiding sleeve carried thereby transversely thereof and disposed at a different angle to the shaft than a right angle, a bar slidably carried by the sleeve, and a container carried by the bar, said shaft being mounted to have movement other than rotary for causing said bar to assume various degrees of inclination in different positions during movement of the bar incident to rotary movement of the shaft. 10

In testimony whereof I have hereto affixed my signature in presence of two witnesses.

JAMES SMITH LANIER.

Witnesses:

THOMAS DURANT,
DURANT CHURCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."