May 20, 1930. J. KINQUIST 1,759,314

BRACKET FOR HIGHWAY USE AND THE LIKE

Filed Dec. 23, 1927

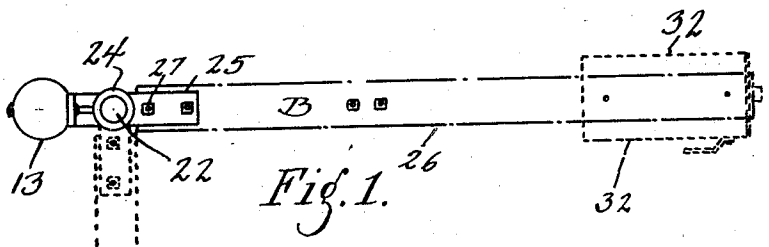

Fig. 1.

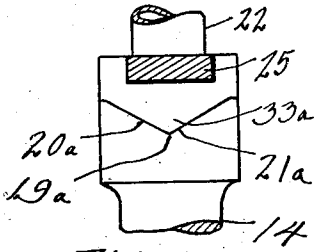

Fig. 4.

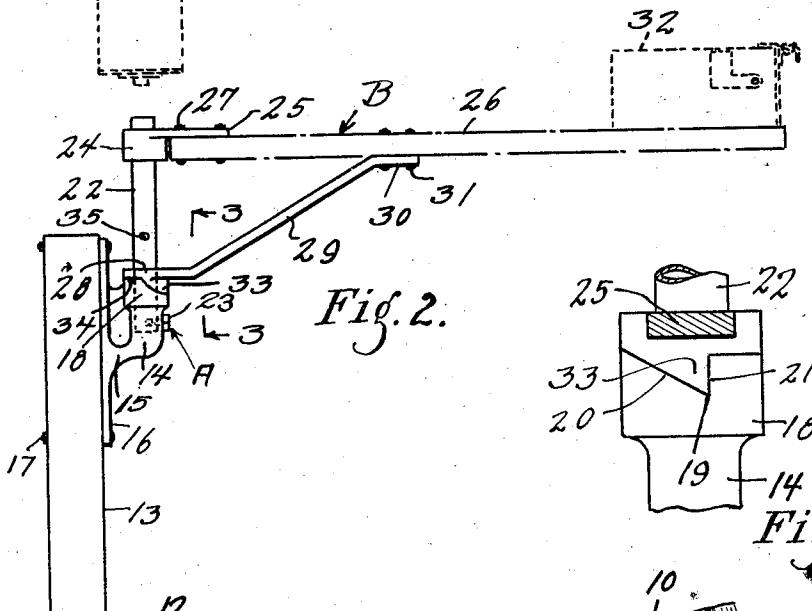

Fig. 2.

Fig. 3.

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Patented May 20, 1930 1,759,314

UNITED STATES PATENT OFFICE

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BRACKET FOR HIGHWAY USE AND THE LIKE

Application filed December 23, 1927. Serial No. 242,107.

My invention relates to brackets and has for its general object to provide a bracket of the type suitable for supporting mail boxes, road signs and the like and particularly useful in connection with highways where it is desirable to place a sign or a mail box as close as possible to the road without subjecting the supporting member to injury from collision.

More specifically, it is my purpose to provide a bracket attachable to a post or the like, said bracket including a stationary portion and a swinging arm rotatably mounted on a vertical shaft in such a manner that should the arm be struck by a passing vehicle, it may swing to the side to allow the vehicle to pass without injuring the bracket structure. In this connection, it may be stated that it is my purpose to provide the necessary parts for mounting such an arm in the manner hereinafter specified but that the arm itself may be supplied by the user of the device, a wooden plank or the like, being well adapted to serve the purpose.

A further object of my invention is to provide means to automatically bring the arm around to its normal position projecting over the roadway after it has been pushed aside.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more full set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Fig. 1 is a plan view of a mail box support embodying my invention, shown positioned above a roadway in its normal relation thereto, a dotted line position being shown to indicate the extreme position of movement to which the device may swing and from which it may automatically return to its normal position.

Fig. 2 is a transverse, sectional view through the roadway shown in Fig. 1, the device embodying my invention being shown in elevation.

Fig. 3 is a detail, sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 illustrates a modified form of my invention.

I have used the reference character 10 to indicate generally the crown of a roadway having the drainage ditch 11, bounded by the usual parking or embankment 12, which is left between the drainage ditch and the extremity of the highway right of way.

It has been found necessary to place mail boxes and the like over the parking 12 or at best at the edge of the drainage ditch 11 of the ordinary highway. To place them any closer would be to obstruct the highway. In many cases, mail boxes are placed over the highway by means of projecting arms, the supports being positioned beyond the ditch, but even here, there is a tendency to obstruct the highway and should a collision occur with the mail box or its extended arms, it is very probable that the arm will be torn completely from its support.

Road signs are ordinarily placed at the side of the road where it is difficult for them to be seen at night. Even with road signs placed at the side of the road and not obstructing the highway, they are frequently demolished by passing vehicles.

The use of my invention makes it possible for ditchers and graders to work without hindrance from road signs and the like. The upright support 13 may be placed as far from the road as is necessary to assure against collision. It comprises a stationary bracket A and a swinging arm B. The bracket A is preferably made in the form of a casting having a socket 14, connected by a lateral arm 15 to a mounting 16, adapted to be attached by means of bolts or the like 17 to the post 13. Formed integrally with the upper extremity of the socket 14 is an annular support bearing 18, which is provided with a notch 19, shaped so as to form at its left side a helical cam face 20 and at its right side a vertical shoulder 21.

Supported in the socket 14 and extending up through the annular support bearing 18 is a shaft 22, which may be tubular or solid and which is secured in the socket as by means of a pin or bolt 23.

The swinging arm B comprises an upper

bearing 24 including an extending finger 25, to which the arm proper 26 may be secured as by means of bolts 27 and a lower bearing 28, including an upwardly inclined arm 29 terminating in a horizontal portion 30, adapted to be secured as by means of bolts 31 to the under side of the arm proper 26. It may be noted at this point that the arm 26 has been shown in broken lines. This has been done to indicate that the arm proper 26 may be supplied by the user of the device and may be of any dimensions suitable to the particular purpose at hand. The thickness of the arm 26 need not be limited to any particular dimension for the reason that the bearing 24 has a free sliding connection on the shaft 22 and the latter may be made sufficiently long to receive the bearing 24 at various heights. A mail box 32 has been shown in dotted lines supported upon the end of the arm 26.

The lower bearing 28 of the swinging arm is provided with a downwardly projecting tooth 33, which is shaped to register with the notch 19 when the remainder of the bearing 28 is seated against the upper horizontal edge of the support bearing 18. The remainder of the bearing 28 is shaped as a flat ring.

The support bearing 18 is provided with a shallow notch 34 positioned closely adjacent the upper extremity of the cam face 20.

A pin 35 is secured to the shaft 22 at a distance above the support bearing 18 sufficient to allow the tooth 33 to ride over the hump between the notches 19 and 34, respectively. The position of the pin 35 may be determined in advance and yet made close enough to the bearing 28 so as to prevent jumping of the arm from the shaft 22. This would not be true if the pin were placed above the bearing 24 since the position of the latter bearing may vary.

It may now be seen that, assuming the arm B to be in the normal position shown, should a blow be struck against the arm 26 by a vehicle traveling in the usual direction on the side of the road occupied by the bracket, the arm may swing laterally toward the position shown in Fig. 1 in dotted lines, the tooth 33 riding against the cam face 20 to lift the entire swinging arm upwardly. The weight of the arm will then cause it to gradually swing back to its position, since in so swinging, it is traveling downwardly.

Should it be desirable to move the bracket arm out of the way for a considerable length of time, as, for instance, when the road is being graded, it may be swung to a position where the tooth 33 rides over the hump between the notches 20 and 34 and enters the notch 34. Obviously the point of the tooth will be retained and the arm supported in a position somewhat back of that shown in dotted lines in Fig. 1, where the grading machine may enter the ditch 11 without interference from the bracket.

The advantage to the mail carrier of having the mail box supported out over the highway is no greater than the advantage to the county or State for the reason that during muddy weather, the constant driving past the side extremity of the crown of the road by the mail carrier has tendency to cut a deep gash in the side of the road at that point and rains will widen this gash so as to make frequent repair necessary.

The advantage in being able to display a road sign at the very edge of the road is equally apparent. Motorists traveling along the road will be confronted with the signs where they will receive the full light from the headlights of the car.

I have found that it is highly important that the upper bearing 24 be simply a bearing and not co-active with a support bearing with a cam face similar to the bearing 18. I have discovered that the latter construction is not successful in operation.

In Fig. 4, I have illustrated a somewhat modified form of the invention, in which the inclined cam face 20 and shoulder 21 are replaced by oppositely inclined faces 20^a and 21^a, forming a notch 19^a of the shape shown. The point 33 is replaced by a point 33^a to fit the notch 19^a. In this form of the invention, the arm B may swing in either direction, returning to its normal position from either direction, and the inclined face opposite that upon which the point 33^a is riding, serves as a stop instead of the shoulder 21.

Some changes may be made in the construction and arrangement of the parts of my invention without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. A swinging bracket including a support bearing having an annular upper edge inclined upwardly in one direction, a shaft projecting upwardly from the center of said bearing, and a swinging arm including an integral lower bearing provided with a downwardly projecting tooth shaped to register with said inclined edge when in a normal position, an upwardly inclined brace on said lower bearing terminating in a horizontal portion, and an upper bearing freely receiving the shaft, said upper bearing including an integral, horizontal arm, the said horizontal arm being adapted to be secured to a horizontally projecting, supporting arm.

2. A swinging bracket including a support bearing having an annular upper edge inclined upwardly in one direction, a shaft supported by and projecting upwardly from the center of said bearing, and a swinging arm

including an integral lower bearing freely receiving the shaft and provided with a downwardly projecting element adapted to coact with said inclined edge when in a normal position, an upwardly inclined brace on said lower bearing, and an upper bearing freely receiving the shaft, said upper bearing and brace being adapted for attachment to a horizontally projecting support arm, the support bearing being provided with a comparatively shallow notch positioned adjacent the upper extremity of said inclined edge adapted to receive and retain the point of said element.

Signed this 10th day of November, 1927, in the county of Woodbury and State of Iowa.

JOHN KINQUIST.