April 16, 1963 R. PELLETIER 3,085,546

TRAFFIC SIGN

Filed Jan. 22, 1962

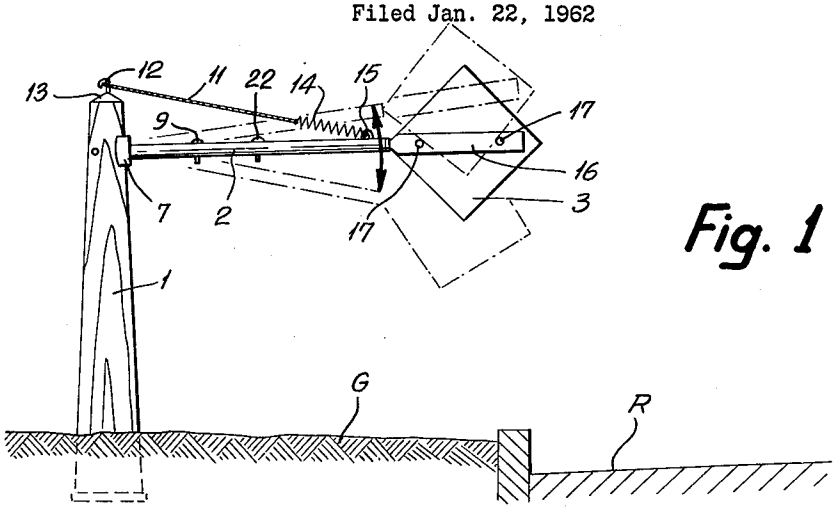


Fig. 1

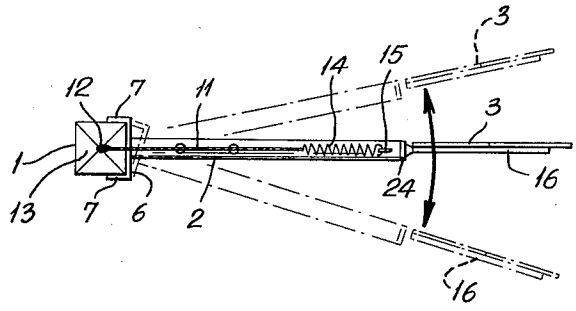


Fig. 2

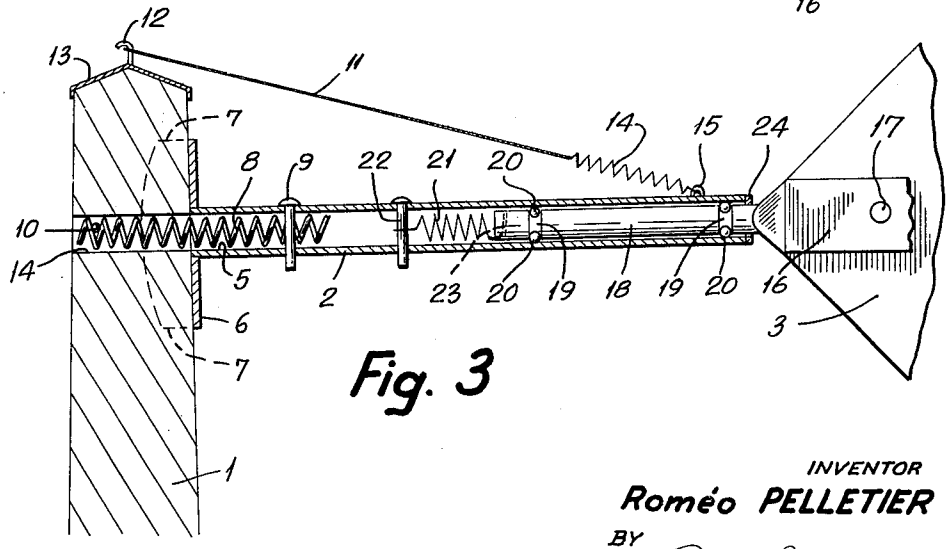


Fig. 3

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3,085,546
Patented Apr. 16, 1963

3,085,546

TRAFFIC SIGN

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Filed Jan. 22, 1962, Ser. No. 167,633
Claims priority, application Canada Jan. 26, 1961
8 Claims. (Cl. 116—63)

The present invention relates to means for roadway signalling, and more particularly to a traffic sign adapted to be positioned on the side of a roadway but as close as possible to said roadway.

The general object of the present invention resides in the provision of a traffic sign of the character described which is provided with means for preventing breakage of the same by a motor vehicle as often happens when conventional traffic signs, which are of rigid construction, are struck by a motor vehicle or other moving objects, more particularly at street corners during a right turn of the vehicle, and also when the traffic signs are buried in snow and are struck by snow plows, snow blowers, and the like on highways.

A more specific object of the present invention resides in the provision of a traffic sign of the character described which provides a post and a horizontal arm carrying the sign itself and connected to the supporting post in such a way that the arm can pivot in all directions with respect to the post, and thereafter return to its horizontal position whereby, when struck by a vehicle or the like, the arm will simply obey and take an inclined position in order to clear the vehicle and thereafter return to its original position.

Another object of the present invention resides in the provision of a traffic sign of the character described in which the sign panel supported by the horizontal arm can swing in a vertical plane at right angles to the long axis of the arm, so as to clear an object hitting said sign above or below its pivotal connection to the arm, said sign always returning to its original vertical position after clearing the striking object.

Another object of the present invention resides in the provision of a traffic sign of the character described which is relatively simple and inexpensive to manufacture but is of sturdy construction.

The foregoing and other objects of the present invention will become more apparent during the following disclosure and by referring to the drawings, in which:

FIGURE 1 is an elevational view of the traffic sign in accordance with the invention shown in operative position on the side of a roadway which is shown in cross-section;

FIGURE 2 is a top plan view of the traffic sign; and

FIGURE 3 is an enlarged partial longitudinal section of the traffic sign.

Referring now more particularly to the drawings in which like reference characters indicate like elements throughout, the device of the invention consists essentially of a post 1 adapted to be anchored vertically in the ground and carrying at its upper end a horizontal arm 2 in turn carrying a traffic sign panel 3 on which is inscribed a message for the control of the roadway traffic.

In accordance with the invention, means are provided to allow swinging or pivotal movement of the arm 2 in all directions with respect to post 1 and yet to return the arm into its original substantially horizontal position.

Post 1 is preferably made of wood and is of generally rectangular or square cross-section providing flat side faces.

Post 1 may have a constant cross-section throughout its length but is preferably tapered from its bottom to its top end in order to have better resistance to breakage. The upper end of post 1 is provided with a transverse through bore 14 opening at two opposed side faces of the post. Arm 2 is preferably made of a metal tube which is provided with at the inner opened end 5 thereof with an abutment plate 6 secured at right angles to the tubular arm 2 and adapted to abut against the lateral face of the post 1 facing roadway R with the inside bore of the arm 2 in register with bore 4. Abutment plate 6 is provided with two inwardly directed flanges 7 along the opposite vertical edges of the same, said flanges 7 adapted to embrace the post 1, that is, extend over and contact the two lateral faces of said post at right angles to the lateral face in contact with plate 6.

A coil spring 8 is located within bore 4 of post 1 and within tubular arm 2 and is maintained under tension by being attached to arm 2 by means of a cross pin 9 and to post 1 by means of cross pin 10, said cross pins engaging the convolutions of the spring and passing through the arm and post respectively.

Thus, when arm 2 is struck for example by a motor vehicle, it can pivot in all directions, that is, in a vertical as well as in a horizontal plane about the universal joint constituted by the spring 8. Spring 8 always returns arm 2 in its original position when the vehicle has cleared the arm 2. The joint of arm 2 to post 1 constitutes a universal joint with elastic return into original position. Arm 2 obeys and therefore the possibility of its breakage is considerably diminished with respect to the type of traffic sign wherein the arm is rigidly secured to the post.

In order to assist the action of the spring 8 in maintaining the arm 2 in horizontal position, a flexible cable 11 is secured at one end to a hook 12 upstanding from a metal cap 13 secured to and covering the upper end of post 1 while the other end of cable 11 is attached to a tension spring 14 itself engaging at its other end an ear 15 protruding from the outer end of arm 2. Cap 13 also serves to protect the wooden post 1 against weather.

The message bearing panel or sign 3, in accordance with a second characteristic of the present invention, is pivotally mounted on arm 2 for rotation in a vertical plane at right angles to the long axis of arm 2. Panel or sign 3 is rigidly secured to an elongated platelike bracket 16 by means of rivets 17 or screws, or the like, and said bracket 16 is extended by an integral rod 18 which telescopically engages the outer end portion of tubular arm 2. The rod extension 18 is provided with two spaced peripheral grooves 19, each receiving a plurality of balls 20 in rolling contact with the inside surface of tubular arm 2 to provide for free rotation of rod 18 within arm 2 and consequently of sign 3 in a vertical plane with respect to the long axis of arm 2. The sign 3 is elastically maintained in a vertical plane by means of a coil spring 21 inserted within arm 2 and which has one end anchored to the arm 2 by means of a cross pin 22 passing through arm 2 while the other end of spring 21 is engaged within a cross groove 23 made at the inner end of rodlike extension 18, and is secured within said groove by means of a cross pin or the like.

The outer end of tubular arm 2 is sealed against rain, snow, and the like, by means of an annular washer 24 secured to arm 2 and freely surrounding the rod extension 18. Washer 24 may be made of rubber and may also tightly fit within the outer end of arm 2 but so as to freely surround rod 18 for free rotation thereof.

Coil spring 21 is so adjusted that it is in neutral or unstressed condition when the sign 3 is in vertical position, whereby it elastically returns the sign into said original vertical position when the sign is rotated in either direction with respect to arm 2. Thus, if the sign 3 is struck by a moving vehicle, or the like, above or below its central zone of attachment to the bracket 16, the sign will swing or rotate with respect to the arm to clear the moving object and will return back into its original vertical position thereafter.

If desired, the sign 3 can be weighted at its lower edge to assist the action of the spring 21 for returning the sign into its vertical position or the weight can be sufficient to eliminate entirely the necessity of coil spring 21.

Thus, depending on the area and the force of impact on the sign of a movable object, such as a motor vehicle, snow plow, or the like, only the panel 3 will rotate with respect to arm 2 or arm 2 will pivot with respect to post 1 there will be a combination of panel rotation and arm pivoting movement.

When arm 2 pivots with respect to post 1 it always returns into its original position due to the fact that flanges 7 of abutment plate 6 reengage the lateral faces of post 1 parallel to bore 4 such that arm 2 is prevented from rotating about its long axis.

The sign of the invention may be positioned along the sides of highways, roadways or of city streets.

Post 1 will be anchored into the ground G, as shown in FIGURE 1, at a distance from the edge of the roadway R calculated such that the sign panel 3 will be as close as possible to the edge of roadway R in order to be fully visible to the drivers of motor vehicles.

If sign panel 3 or arm 2 is struck by a moving vehicle, sign 3 will swing and/or arm 2 will also pivot as described hereinabove in order to clear the vehicle and will then return in its original position.

The sign of the invention is particularly useful in winter time when it frequently happens that road signs are partly or completely buried in snow banks and are very liable to be hit by a slow plow or the like; conventional road signs were frequently broken by snow plows, whereas the sign of the present invention will not break but will simply obey when struck by a snow plow or the like. The tube 2, bracket assembly 16, 18 and panel 3 are preferably made of aluminum or the like for lightness and corrosion resistance. Panel 3 may have any shape desired and several such panels may be mounted on a common bracket 16.

While a preferred embodiment in accordance with the present invention has been illustrated and described, it is understood that various modifications may be resorted to without departing from the spirit and scope of the appended claims.

What I claim is:

1. A traffic sign comprising a rigid post adapted to be anchored into the ground in substantially upright position on the side of a roadway, having a flat lateral face portion at its upper end facing said roadway, and a transverse bore made therein opening at said face portion, an arm having an inner flat abutment face in contact with said lateral face portion of said post and having a bore made longitudinally thereof and opening at said inner abutment face of said arm in register with said transverse bore of said post, a tension spring disposed within said bores and secured to said post and arm respectively, said spring maintained under tension to form a universal elastic joint for said arm and yieldably urge said arm into a position with said lateral face portion and said abutment face in mutual contact, and a sign panel carried by the outer end of said arm.

2. A traffic sign as claimed in claim 1, wherein said arm consists of a tubular member and said abutment face consists of a flat abutment plate secured to the inner opened end of said tubular member at right angles to the long axis thereof.

3. A traffic sign as claimed in claim 1, wherein said abutment face is provided by a right angular abutment plate secured to said inner end of said arm and provided along two opposite edges thereof with inturned flanges adapted to engage opposite faces of said post contiguous to said face portion.

4. A traffic sign as claimed in claim 1, wherein said sign panel is rotatably mounted at the outer end of said arm for pivotal movement in a vertical plane perpendicular to the long axis of said arm, and means for yieldably maintaining said sign panel in a vertical plane.

5. A traffic sign comprising a rigid post adapted to be anchored into the ground in substantially upright position on the side of a roadway, having a flat lateral face portion at its upper end facing said roadway, and a transverse bore made therein opening at said face portion, an arm having an inner flat abutment face in contact with said lateral face portion of said post and having a bore made longitudinally thereof and opening at said inner abutment face of said arm in register with said transverse bore of said post, a tension spring disposed within said bores and secured to said post and arm respectively, said spring maintained under tension to form a universal elastic joint for said arm and yieldably urge said arm into a position with said lateral face portion and said abutment face in mutual contact, and a sign panel carried by the outer end of said arm, said arm consisting of a tubular member opened at both ends, a bracket member to which said sign panel is secured, and having a rodlike extension telescopically engaging and rotatably mounted within the outer end of said tubular arm for rotational movement of said sign panel and bracket in a vertical plane at right angles to said arm, and means for yieldably maintaining said sign panel and bracket in a vertical plane.

6. A traffic sign comprising a rigid post adapted to be anchored into the ground in substantially upright position on the side of a roadway, having a flat lateral face portion at its upper end facing said roadway, and a transverse bore made therein opening at said face portion, an arm having an inner flat abutment face in contact with said lateral face portion of said post and having a bore made longitudinally thereof and opening at said inner abutment face of said arm in register with said transverse bore of said post, a tension spring disposed within said bores and secured to said post and arm respectively, said spring maintained under tension to form a universal elastic joint for said arm and yieldably urge said arm into a position with said lateral face portion and said abutment face in mutual contact, and a sign panel carried by the outer end of said arm, said arm being a tubular member opened at both ends, and further including a bracket to which said sign panel is secured and having an integral rodlike extension rotatably mounted within the outer tubular portion of said arm, and a coil spring inserted within said arm having one end anchored to one end of said rodlike extension, and the other end anchored to said arm whereby rotation of said bracket and sign panel with respect to said arm will stress said last named coil spring, which will yieldably return the sign into its original vertical position.

7. A traffic sign comprising a post having a first flat lateral face and contiguous additional flat lateral faces at an angle to said first lateral face, a transverse bore made in said post and opening at said first flat lateral face, a tubular arm opened at its two ends having its inner open end in register with said transverse bore of said post, an abutment plate secured at right angles to

the inner end of said arm and adapted to contact said first flat face of said post, said abutment plate having depending inwardly turned flanges adapted to contact said second named lateral faces of said post, a tension coil spring located within said tubular arm and said transverse bore and respectively secured under tension at its ends to said arm and post, a bracket having a rodlike extension telescopically engaging and rotatably mounted within the outer end portion of said tubular arm, a second coil spring disposed within said arm having one end anchored thereto and the other end anchored to the inner end of said rodlike extension, and a traffic sign panel secured to said bracket.

8. A traffic sign as claimed in claim 7, further including elastic flexible means attached to the outer end of said arm and to the upper end of said post.

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