March 7, 1933. T. A. KANE 1,900,240

DIRECTION SIGNAL

Original Filed Oct. 14, 1930

Fig. 1.

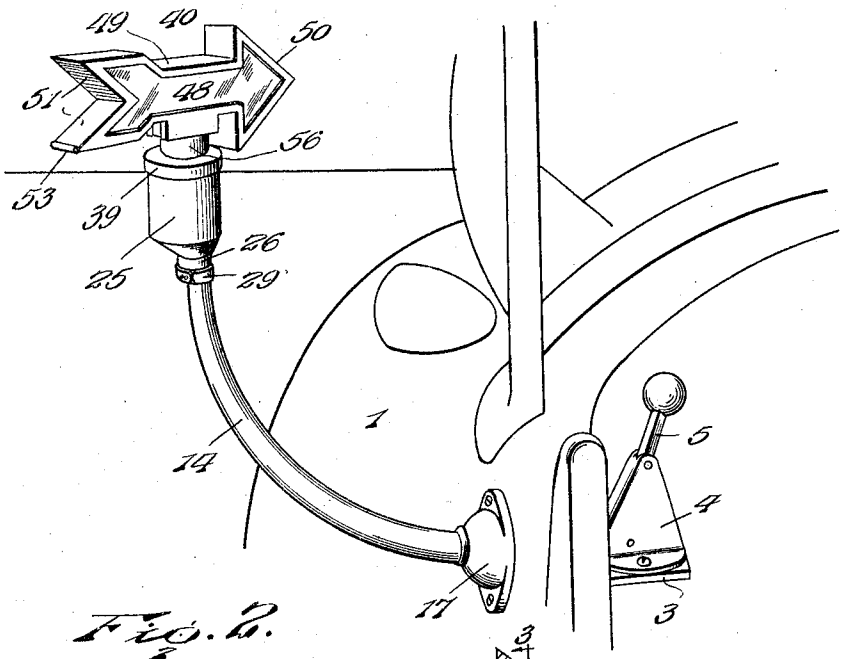


Fig. 2.

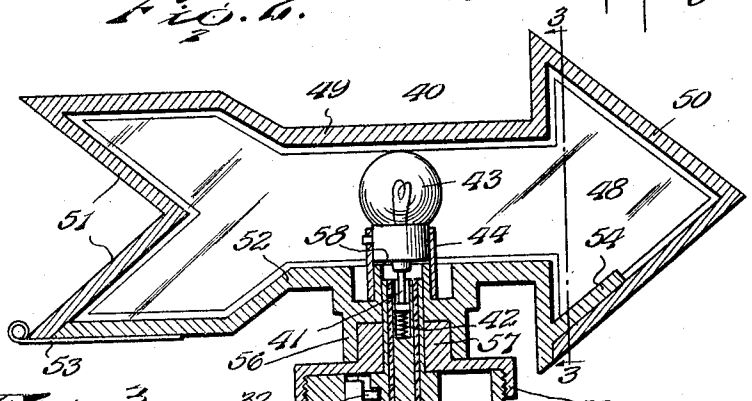
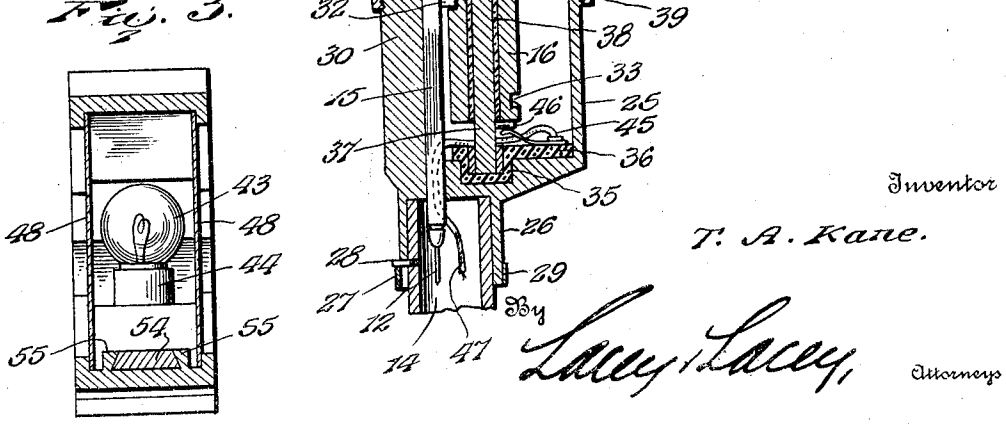


Fig. 3.



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UNITED STATES PATENT OFFICE

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DIRECTION SIGNAL

Original application filed October 14, 1930, Serial No. 488,622, Patent No. 1,860,034. Divided and this application filed February 29, 1932. Serial No. 595,929.

This invention relates to direction signals for automobiles and has special reference to the construction and mounting of the indicator element, the present application being a division of an application filed by me October 14, 1930, and which matured into U. S. Letters Patent No. 1,860,034, dated May 24, 1932.

In the drawing:

Figure 1 is a perspective view of my improved signal showing the manner in which it is mounted upon a vehicle,

Fig. 2 is a vertical section taken through the signal and the operating mechanism.

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 2.

A portion of a motor vehicle is shown at 1. In installing a signal apparatus according to my invention, an opening is formed through a side frame bar of the vehicle and a bracket 3 is secured to said bar immediately below said opening on the inner side of the bar, as will be understood upon reference to Fig. 1. Mounted upon the bracket 3 is a casing 4 which is preferably triangular in form and at the apex of which an operating lever or handle 5 is fulcrumed. The lower end of the lever 5, within the casing, is pivoted to the end of a Bowden wire 12. Said wire 12 extends through and is housed within a tubular bracket 14 which is mounted upon the outer side of the frame bar in alinement with the opening therein and extends upwardly and outwardly from the vehicle. The outer end of the wire 12 is secured to a slide 15 which is adapted to rock the vertically disposed shaft 16. The tubular bracket 14 is mounted upon the vehicle in such a manner that it may be easily adjusted so as to obtain the most advantageous results, and, to this end, the end of the tube which is disposed immediately adjacent the vehicle is enlarged to form a hemispherical head 17 which is disposed within a socket secured to the side of the vehicle frame.

An end casing 25 is mounted on the outer upper end of the bracket 14 and may be held thereon in any desired manner. The drawing shows the casing provided with a neck or collar 26 which fits closely around the end of the tubular bracket and is provided with a notch 27 at one point in its edge adapted to receive a stud or pin 28 projecting radially from the tubular bracket. A resilient retaining band 29 is secured at one end upon said neck or collar with its free end spanning the notch 27 and formed with a seat in its upper edge to engage the said projection 28 whereby the casing will be held in proper position upon the tubular bracket. The wall of the casing 25 is thickened at one side, as shown at 30, and in said thickened portion is a vertically extending groove which receives and guides the slide 15 which is secured on the end of the wire 12. At its upper extremity the slide 15 carries an inwardly projecting pin or stud 32 which is adapted to engage a spiral groove 33 formed in the circumference of the shaft 16, the pin or stud 32 being preferably equipped with a roller to reduce frictional wear. The shaft 16 has a central core 37 which extends below the lower end of the shaft and is rotatably fitted in a bearing or recess 35 and is insulated from the main body of the shaft, as shown at 38, the bearing being formed in the bottom of the casing and lined with insulation 36. The shaft extends through and is rotatably engaged in a cap 39 which is fitted on the upper end of the casing 25 and projects into the lower side or bottom of the indicator element 40 which is shown as simulating an arrow. The upper end of the core 37 is hollow and a contact pin 41 is mounted therein and is yieldably projected upwardly by a spring 42 which is housed within the recess. The contact pin 41 engages the center contact of an incandescent lamp 43 which is fitted in a holder 44 within the indicator element. The holder 44 makes electrical connection with the rim of the lamp 43 and the tubular bracket 14 may be grounded through the metal parts of the vehicle to the usual battery. Upon the bottom of the casing 25 within the same are electrical contacts 45 in the form of spring fingers diverging to pass at opposite sides of the shaft 16, and upon the shaft is a radial contact stud 46 which normally is disposed between the fingers 45 but which will ride onto one of the fingers when

the shaft is turned to either side. An electric cable 47 is secured at its upper end to the junction of the contact fingers 45 and passes therefrom through the tubular bracket 14 to be connected with the usual battery of the vehicle so that whenever the indicator 40 is turned to announce a change in direction of the vehicle, the lamp 43 will be energized and the signal illuminated.

The upper portion of the frame of the indicator 40 is preferably cast in one piece of metal, the sides of the same being normally open and equipped with panes 48 of colored glass or other transparent or translucent material so that the light may pass therethrough to attract the attention of pedestrians and motorists. The panes 48 will preferably be colored red inasmuch as this color is generally accepted as indicating danger and is known to easily attract attention. As clearly shown, the upper frame member defines a central shank or body 49 with a triangular head 50 at one end and inwardly converging webs 51 at the opposite end. The bottom of the frame is open and is filled by a plate 52 having an outline the counterpart of the upper portion of the frame and adapted to fit between the lower web 51 and the triangular head 50, being equipped at one end with a spring catch 53 to engage the end of the web 51 and being provided at its opposite end with a tongue 54 adapted to pass within the triangular head 50 and rest upon the bottom web of the same between guide ribs 55 formed on the inner upper surface of the same. Upon reference to Fig. 3, it will be noted that the edges of the tongue 54 and of the guide lugs 55 are disposed obliquely so that the parts have a dove-tail engagement and will be thereby firmly held together. The bottom plate 52 is provided intermediate its ends with a depending socket 56 rotatably fitting upon a boss 57 formed centrally on the top of the cap 39 so that the indicator may rotate about said boss, as will be understood, and the upper end of the shaft 16 fits closely within a ring 58 formed on the bottom plate 52 and about which the lamp supporting ring or socket 44 is closely engaged. These parts fit snugly together and may have contacting flat faces so that any rotation of the shaft will be imparted directly to the indicator and the latter will be turned in the proper direction. Rotation of the shaft is effected by swinging the hand lever 5 to one or the other side. When the upper free end of the lever is swung to the right, as indicated in the drawing, the wire 12 will be pushed through the tube 14 so that the slide 15 will be moved upwardly and the projection 32 will be caused to ride along the slot 33 and impart rotation to the shaft 16 so that the indicator will be turned to indicate an intention of steering to the right. If the lever 5 be rocked in the opposite direction, a movement of the other parts correspondingly will ensue and the indicator will be swung to indicate an intention of turning to the left.

From the foregoing description, taken in connection with the accompanying drawing, it will be seen that I have provided a very compact device which will operate efficiently and will provide a visible signal which will reliably inform persons in the immediate vicinity of the vehicle as to the operator's intentions. Normally, the arrow-shaped frame or indicator is disposed parallel with the side of the vehicle so that it indicates an intention to proceed straight ahead but it will respond instantly to movements of the controlling lever 5 and make known an intention to steer to either side.

Having thus described the invention, I claim:

1. In a direction signal for motor vehicles, an indicator element comprising an open frame and a bottom plate having an outline corresponding to the outline of the frame whereby to complete a direction indicator partly formed by the frame and having a socket on its under side, longitudinal ribs on the inner surface of the frame, a tongue carried by the bottom plate to engage between and interlock with the ribs on the frame, and means for locking said bottom plate in the open frame.

2. In a direction signal for vehicles, an indicator element comprising an open frame tapered at one end, longitudinal ribs on the inner surface of the lower wall of the frame at the tapered end thereof, a bottom plate having a form corresponding to the outline of the frame, said plate having a longitudinally projecting tongue at one end to engage between and interlock with the ribs on the frame, and a latch at the opposite end of the plate to engage the corresponding end of the frame.

In testimony whereof I affix my signature.

THOMAS ASA KANE.