March 12, 1968 E. F. GERVAIS 3,373,402

ILLUMINATED VEHICLE TRAFFIC CONTROL SIGNAL

Filed Jan. 27, 1964 5 Sheets-Sheet 1

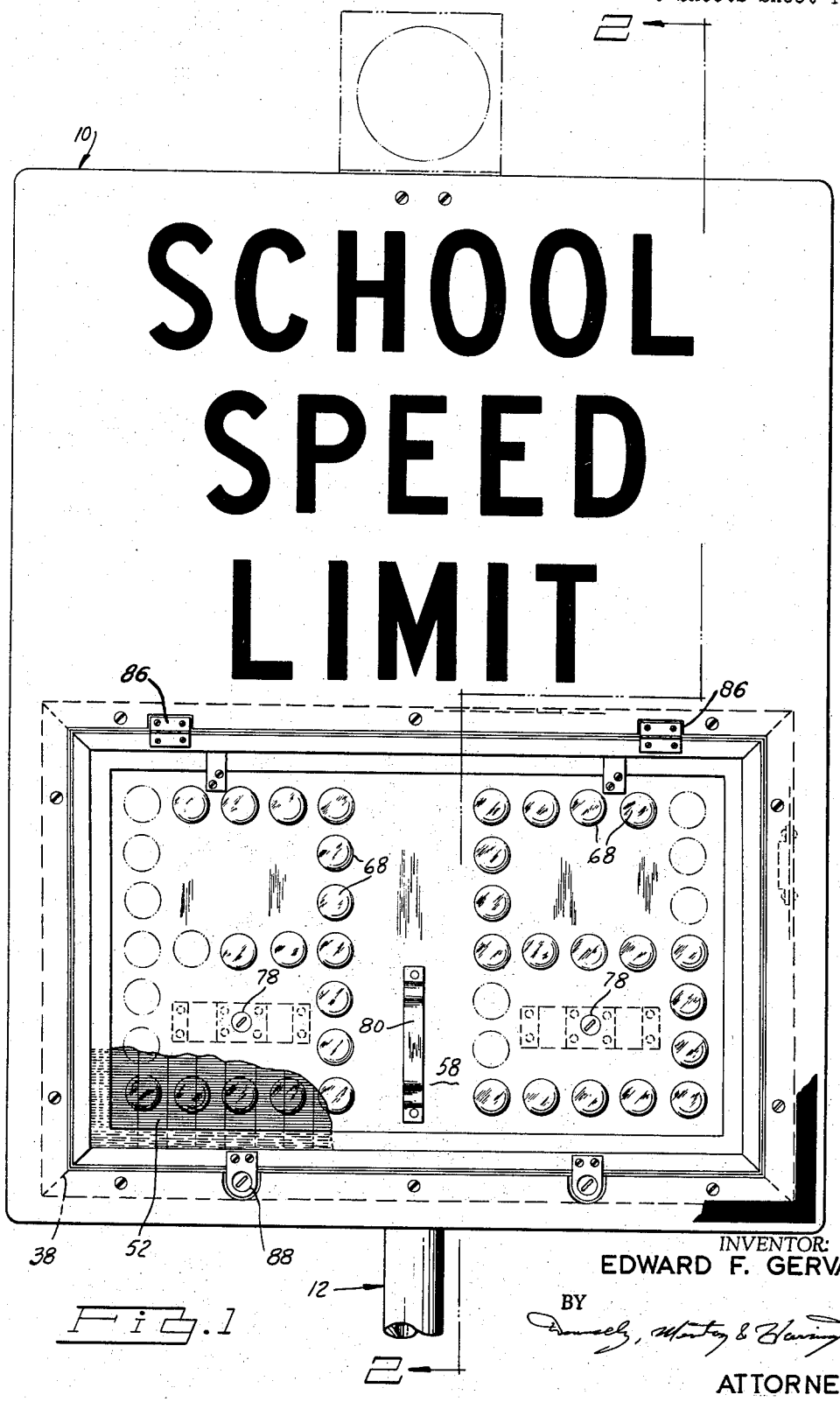


Fig. 1

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Filed Jan. 27, 1964 5 Sheets-Sheet 2

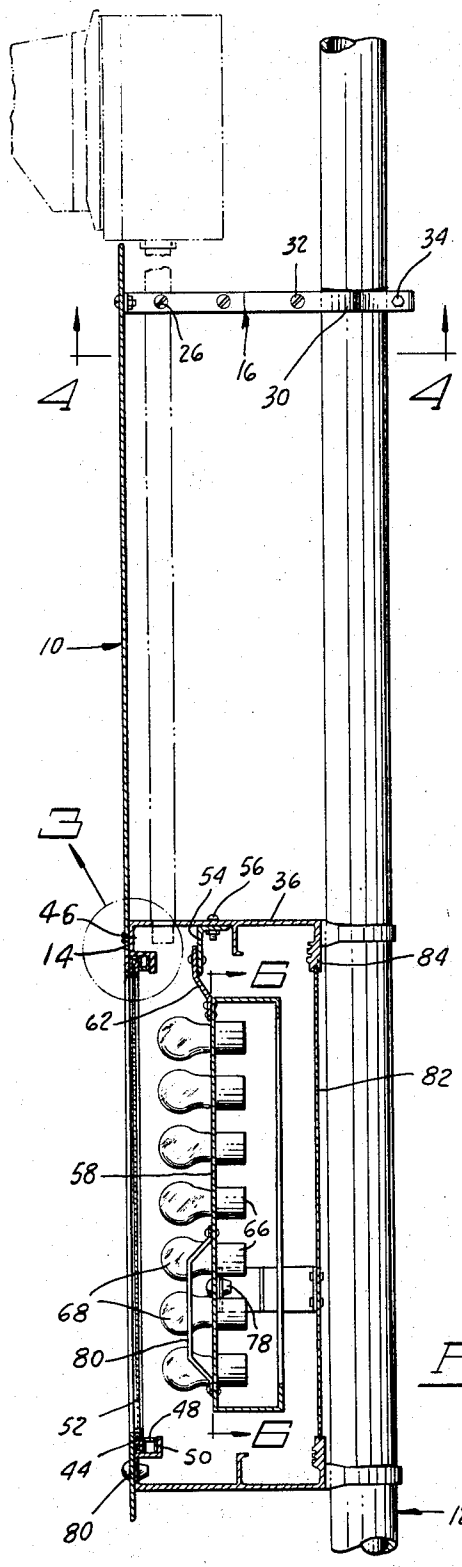


Fig. 2

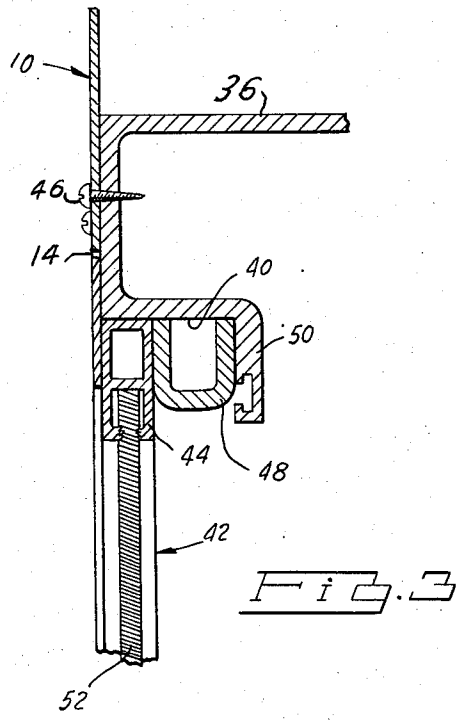


Fig. 3

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ILLUMINATED VEHICLE TRAFFIC CONTROL SIGNAL

Filed Jan. 27, 1964 5 Sheets-Sheet 3

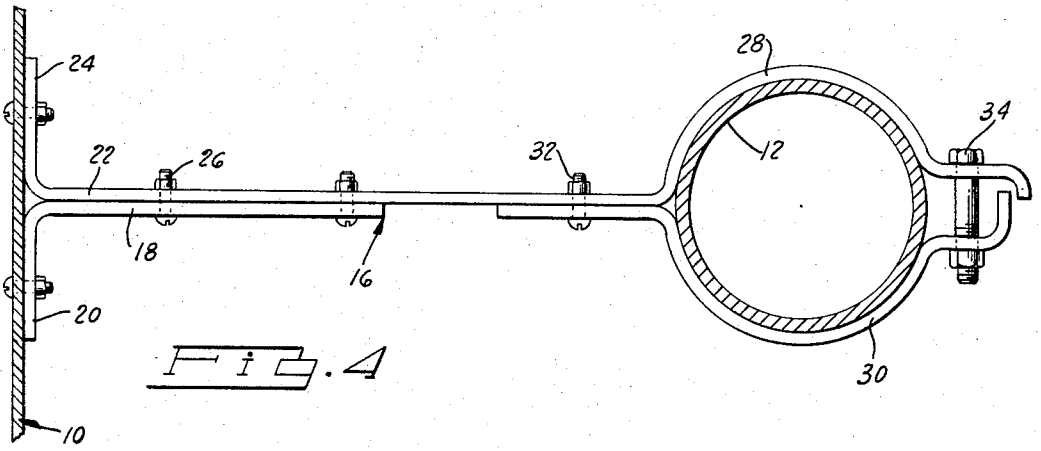


Fig. 4

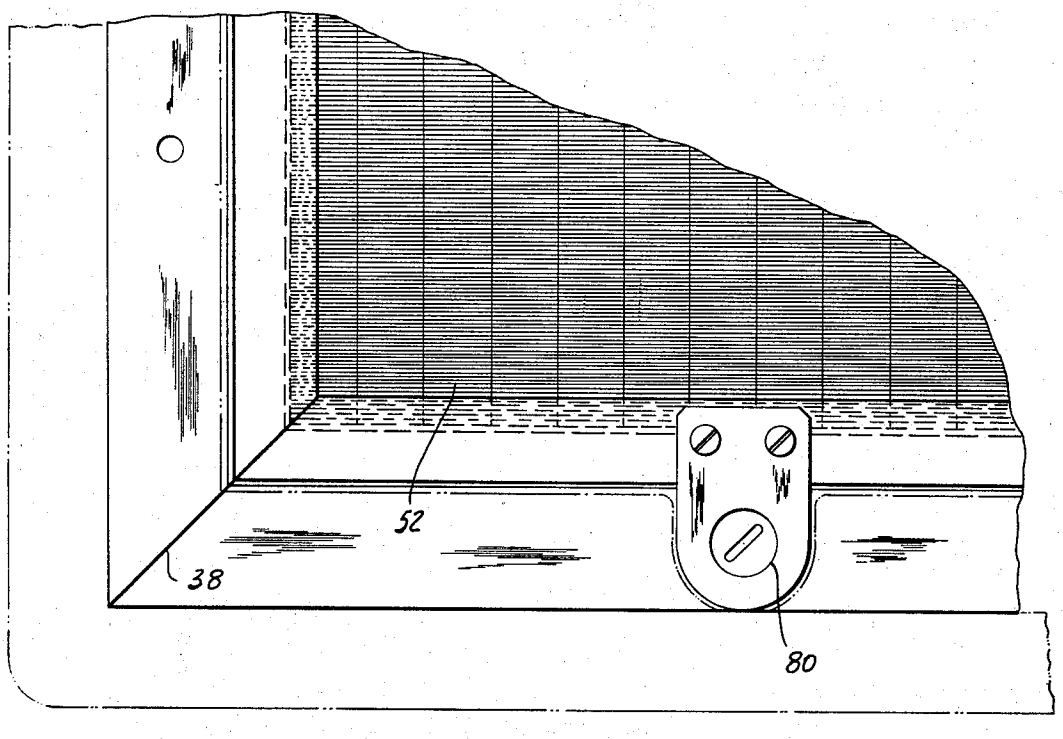


Fig. 5

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ILLUMINATED VEHICLE TRAFFIC CONTROL SIGNAL

Filed Jan. 27, 1964 5 Sheets-Sheet 4

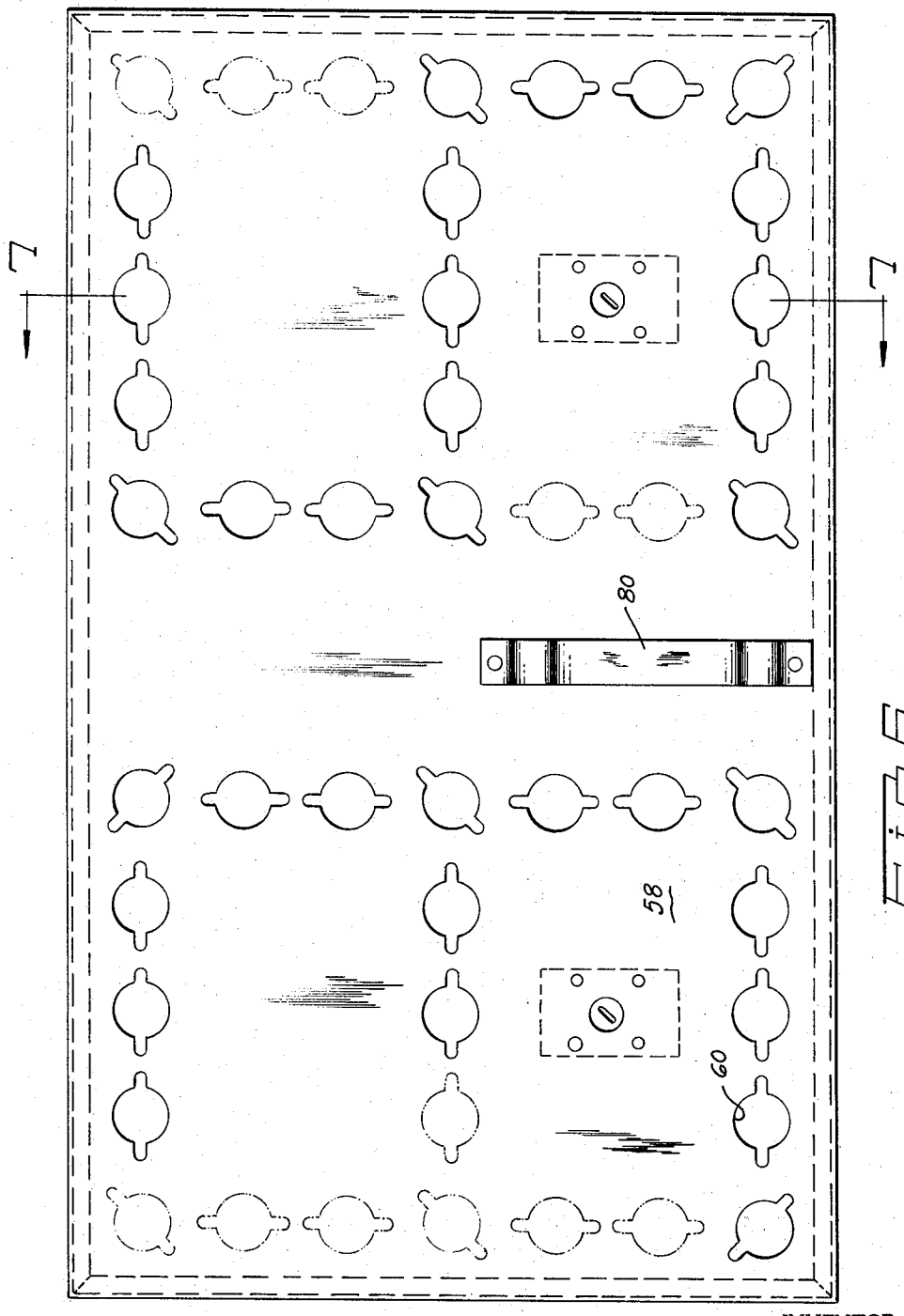


Fig. 6

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ILLUMINATED VEHICLE TRAFFIC CONTROL SIGNAL

Filed Jan. 27, 1964 5 Sheets-Sheet 5

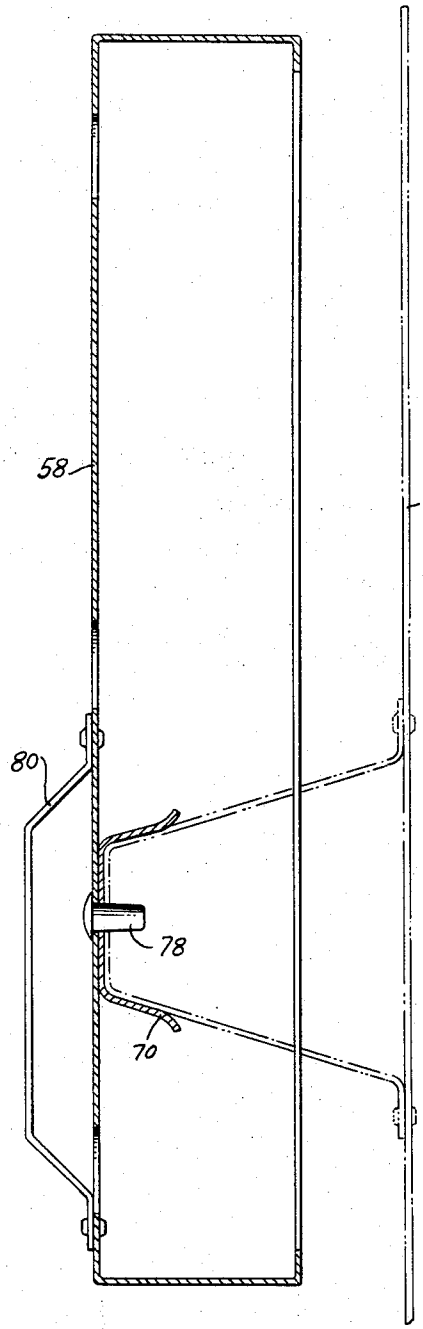


Fig. 7

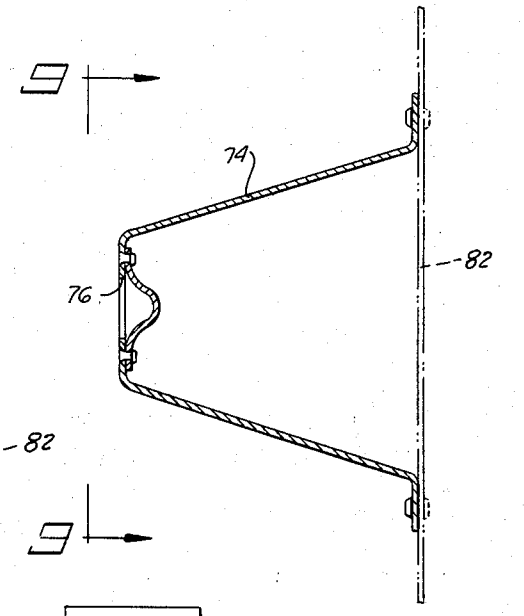


Fig. 8

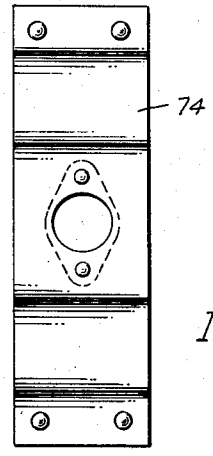


Fig. 9

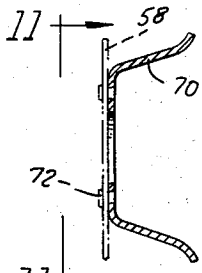


Fig. 10

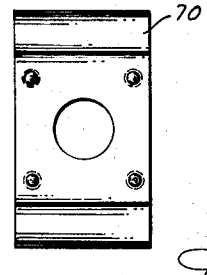


Fig. 11

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United States Patent Office 3,373,402 Patented Mar. 12, 1968

3,373,402

ILLUMINATED VEHICLE TRAFFIC CONTROL SIGNAL

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Filed Jan. 27, 1964, Ser. No. 340,216
5 Claims. (Cl. 340—107)

ABSTRACT OF THE DISCLOSURE

This specification describes a traffic control sign having an illuminated legend and a painted legend. The illuminated legend is formed by a light matrix panel carrying incandescent lamps which may be removed readily for servicing. The illuminated legend is rendered inactive by a louvered screen construction that forms a cover for the matrix panel.

Brief summary of the invention

My invention relates generally to motor vehicle traffic control mechanisms, and more particularly to an illuminated school speed limit sign.

The mechanism of my invention is adapted especially to be used for controlling traffic in the vicinity of school zones where the density of pedestrian traffic is high only during certain hours of the day and certain months of the year. At all other times the acceptable vehicle speed limit is higher than that which is required during school hours when pedestrian traffic is heavy.

It is usual practice to establish a satisfactory school speed control zone by legislative act, but in practice it has been found that the average motorist, while willing to conform to the posted speed limit during school crossing hours, is not willing to drive at that speed when he believes that the school crossing is not being used. It is an object of my invention, therefore, to provide a school speed limit sign that may be made effective only during certain hours of the day when the need for the low speed limit is present. I contemplate that the speed control sign will be readily apparent to the motorist from a distance and that the speed message itself will be readily observed by the motorist after his attention is drawn to the sign to provide him with sufficient opportunity to reduce his speed in conformity with the message.

It is another object of my invention to provide a controlled illuminated school speed limit sign of the type set forth in the preceding object wherein the speed control message is rendered obscure to the motorist during those hours of the day when the speed control zone is not required.

It is a further object of my invention to provide an illuminated school speed limit sign wherein flashing lamps and lens units are provided adjacent a speed limit control panel so that they may be energized in alternating sequence with a flashing operation. The speed message itself is obtained by strategically positioned lamps arranged in a matrix panel located within a housing. The lamps within the housing are accessible through a panel door that covers the front of the housing. The lamps that form the speed message are received within sockets formed in the control panel and they may be replaced readily during servicing operations without disassembling the unit.

The panel door is formed in part by a louvered screen

that renders the matrix panel and the lamps obscure when the lamps are not illuminated.

The provision of a control sign assembly of the type above set forth being a further object of my invention, it is a further object of my invention to provide a control sign assembly in which the panel door can be opened and servicing operations carried out without the need for special tooling or special equipment.

Suitable timing mechanisms can be provided in the electrical circuitry for the flashing lamps and the lamps on the control panel so that whenever the control panel is illuminated the lamps will assume their operating sequence. Thus the flashing lamps would first attract the attention of the motorist as he approaches the school speed limit control zone from a distance. He then can read the message as he comes nearer.

When the school speed limit sign is inoperative, the lenses are darkened and the speed message is rendered invisible to the motorist. The motorist then realizes that it is not necesary to obey the lower speed limit.

The operation of the sign itself can be controlled from a central station within the school, although I contemplate that a fully automatic timer also may be employed if desired.

Brief description of the views of the drawings

FIGURE 1 shows a front elevation of a school speed limit sign assembly;

FIGURE 2 is a cross-sectional view taken along the plane of section line 2—2 of FIGURE 1;

FIGURE 3 is an enlarged view of a portion of the cross-sectional view of FIGURE 2;

FIGURE 4 is a cross-sectional view taken along the plane of section line 4—4 of FIGURE 2;

FIGURE 5 shows an enlarged portion of the assembly of FIGURE 1;

FIGURE 6 shows a matrix panel for receiving the speed limit delineating lamps as viewed along section line 6—6 of FIGURE 2;

FIGURE 7 is an enlarged portion of the construction of FIGURE 2, and

FIGURES 8, 9, 10, and 11 show details of the supporting bracket structure for the matrix panel of FIGURE 6.

Particular description of the invention

Referring first to FIGURE 1, a sign panel is designated generally by reference character **10**. It is supported upon a vertical post **12** that may be mounted along the highway in advance of the speed control zone. The panel **10**, which may be formed with a substantially rectangular shape, has an upper portion that provides a face upon which are painted the words "School Speed Limit." The lower portion of the panel **10** is formed with a rectangular opening **14**. On the rear of the panel there is provided a mounting bracket **16** which is comprised of a first angle portion **18**, one leg of which is bolted to the back of the panel **10** as shown at **20**. A second angle portion **22** is provided with a leg **24** which also is secured to the back of the panel **10**. The angle portions **18** and **22** are secured together in juxtaposed relationship by means of bolts **26**.

The mounting post **12** is encircled by a semicircular portion **28** of the angle portion **22**. A cooperating semicircular bracket portion **30**, which also encircles the post **12**, cooperates with the portion **28** to define a circular strap. The portion **30** is bolted by means of bolts **32** to

the angle portion 22. The free ends of the portions 28 and 30 may be joined together by a clamping bolt 34. This establishes a clamping action for securing the bracket 16 in place. A sign frame formed of extruded aluminum is indicated in FIGURES 2 and 3 by reference character 36. It consists of four sides that cooperate as shown in FIGURE 1 to form a rectangular margin for the opening 14, the ends of each frame side being mitered as shown at 38. The adjacent mitered ends are welded to form a rectangular frame assembly.

The inner periphery of the frame 36 is recessed as shown at 40 to receive a louvered screen indicated generally by reference character 42. Screen 42 includes a peripheral frame portion 44. Frame 36 is secured in place to panel 10 by means of screws 46. A spacer 48 is situated between frame portion 44 and the inner marginal portion 50 of the recess 40. A louvered screen 52 is disposed within the frame portion 44. Screen 52 may comprise louvers that are situated with a spacing of about eight louvers per inch. The individual louvers can be formed with an angle that is approximately 17° with respect to a horizontal reference line.

Located within the frame 36 is a supporting bracket 54. It is secured by means of bolts 56 to the inner periphery of the frame 36. The inner margin of the bracket 54 has secured thereto a matrix panel 58 which is best illustrated in FIGURE 6. This panel includes lamp socket openings 60 which are arranged as indicated so that they may define speed limit numerals when viewed from a distance. The outer periphery of the matrix panel 58 has secured thereto a marginal flange 62. This flange may be bolted or otherwise secured to the bracket 54.

Lamp sockets 66 are retained within the socket openings 60 in a conventional fashion. They receive lamps 68 which may be energized by a suitable electric circuit (not shown).

Panel 58 has secured thereto a mounting bracket 70, suitable screws 72 being provided for this purpose. Bracket 70 is received over the end of a bracket 74 having a pilot opening 76 which is adapted to receive a pilot pin 78. Pin 78 is received within a suitable opening formed in the panel 58.

The outer face of the panel 58 has secured thereto a handle 80. It is situated substantially on the geometric center line of the panel 58 as indicated best in FIGURE 1. It thus is possible to remove the panel 58 merely by disconnecting it from the supporting bracket 54.

The bracket 70 is flanged to cooperate with diverging sides of the bracket 74 to provide support for the panel 58 and the associated lamps 68. As the panel 58 is put in place, the pilot pin 78 is received within the opening 76.

A back plate 82 is received within a recess formed about the inner periphery of a flange 84 for the frame 36. The bracket 74 is secured to the inner surface of the plate 82.

The frame 44 for the louvered screen 42 is hinged by means of hinges 86 to the forward face of the frame 36. A quick disconnect lock 88 can be provided at the lower margin of the frame 44 for securing the same to the frame 36.

To remove the panel 58 it merely is necessary to disconnect the lock 88 and open the louvered screen to permit access to the interior of the frame 36. Burned out lamps can be replaced just as readily without the necessity for dismantling the assembly.

When the lamps 68 are illuminated, they are visible through the louvered screen and delineate a speed limit numeral. When the lamps are not energized, however, the louvered screen renders the interior of the frame 36 relatively opaque. Unlike certain prior art constructions that have a glare producing glass frontal area, the louvered screen which covers the front of the frame 36 does not produce a glare that obscures the speed message when the sign is operating in sunlight. It is unnecessary, in my improved construction, to provide visors of the type sometimes found in prior art constructions. Such visors normally shade the light emitting area.

Although only one flashing lamp has been illustrated in FIGURE 1, it will be appreciated that another lamp, such as the one shown on the top of the sign panel 10 in FIGURE 1, also may be mounted on the post 12 below the panel 10. These lamps may be flashed in alternating sequence in the manner described when the lamps 68 are illuminated.

Having thus described a preferred embodiment of my invention, what I claim and desire to secure by U.S. Letters Patent is:

1. In a traffic control sign, a vertical sign panel having an opening formed in a portion thereof, a traffic control legend lettered on another portion of said panel, a frame secured to the rearward side of said sign panel and surrounding the periphery of said opening, a bracket located within said frame and connected to one inner wall of said frame and a light matrix panel removably secured to said bracket and including a plurality of lamps, sockets in said panel within which said lamps are secured, said panel, said sockets and said lamps forming a unitary subassembly that is removable as a unit from said frame, a louvered screen hinged on one margin of said opening and adapted to cover said opening to render said light matrix panel relatively opaque when said lamps are not energized but which will permit said lamps to be viewed when they are illuminated, said lamps delineating speed limit numerals when illuminated.

2. A traffic control signal assembly comprising a sign panel, an opening formed in one portion of said panel, a frame secured to said panel on one side thereof and extending around the periphery of said opening, a housing defined in part by said frame, a post, said housing being secured to said post with said panel in a vertical plane, a louvered screen disposed across said opening, means for hinging said screen for pivotal movement about one side of said opening, a light matrix panel secured within said frame and defining a plurality of lamp sockets, numeral delineating lamps located in said sockets a mounting bracket in said housing, said light matrix panel, being secured by said bracket within said housing to permit assembly into and withdrawal of said panel through said opening, said lamps being disposed between said light matrix panel and said louvered screen so that they are readily accessible through said panel opening when said louvered screen is opened.

3. The combination set forth in claim 2, wherein said signal assembly includes a pair of flashing lamps located on the upper and lower sides of the panel, said pair of lamps being adapted to be energized in alternating sequence when said light matrix panel is energized.

4. In a traffic control sign, a vertical sign panel having an opening formed in a portion thereof, a traffic control legend lettered on another portion of said panel, a frame secured to the rearward side of said sign panel and surrounding the periphery of said opening, a housing defined in part by said frame, a bracket located within said housing a light matrix panel removably secured to said bracket and including a plurality of lamps, a louvered screen hinged on one margin of said opening and adapted to cover said opening to render said light matrix panel relatively apaque when said lamps are not energized but which will permit said lamps to be viewed when they are illuminated, said screen having flat louvered surfaces arranged on an angle of about 17° with respect to a horizontal reference line, said screen having a density of aproximately eight louvers per inch, said lamps delineating speed limit numerals when illuminated, said light matrix panel comprising a plurality of sockets, a lamp secured in each socket, said lamps being disposed between said light matrix panel and said louvered screen whereby they are readily accessible through said panel opening when said louvered screen is opened.

5. The combination set forth in claim 4, wherein said signal assembly includes a pair of flashing lamps located on the upper and lower sides of the panel, said pair of lamps being adapted to be energized in alternating sequence when said light matrix panel is energized.

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