March 17, 1942. H. J. FEIST ET AL 2,276,475

SPECIALLY REFLECTIVE CHARACTER POSITIONING

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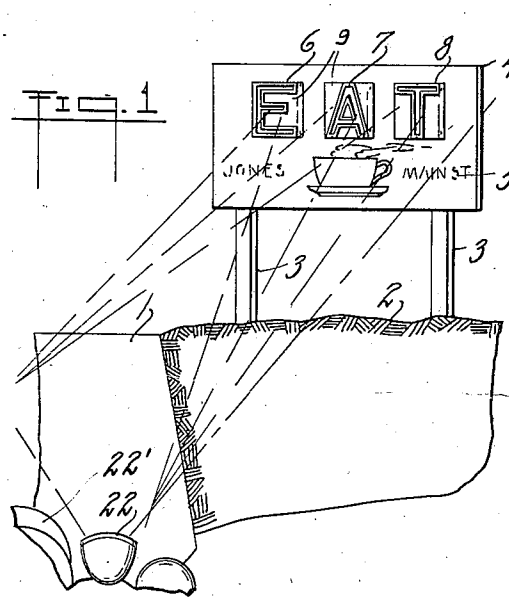


Fig. 1

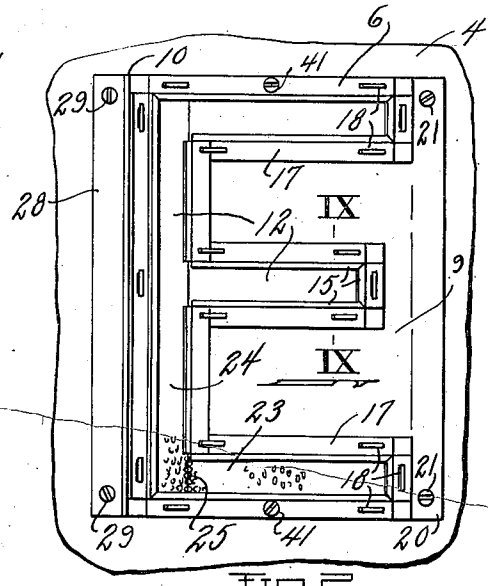


Fig. 2

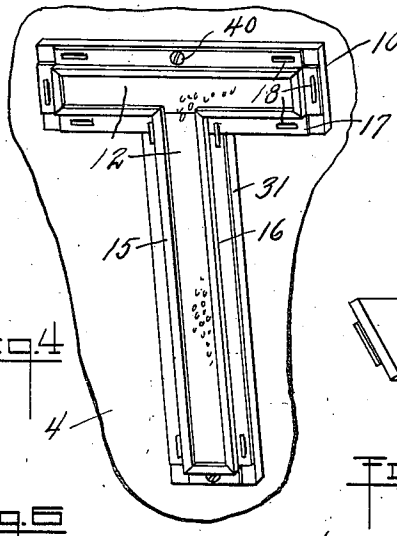


Fig. 4

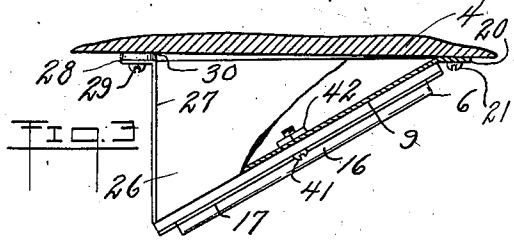


Fig. 3

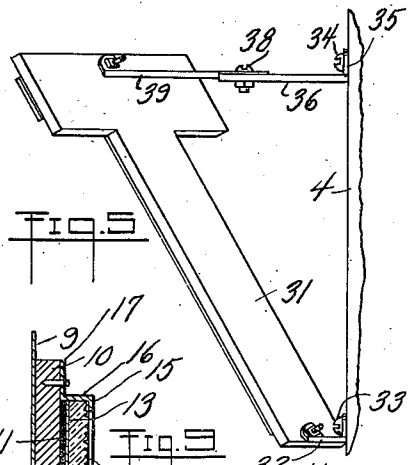


Fig. 5

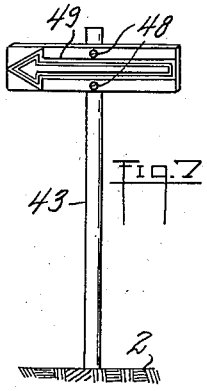


Fig. 7

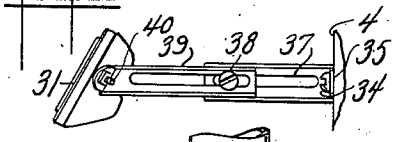


Fig. 6

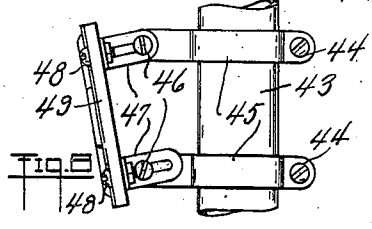


Fig. 8

Fig. 9

Inventors
Harry J. Feist and
Raymond J. Feist
By
Attorney

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FIG. 10

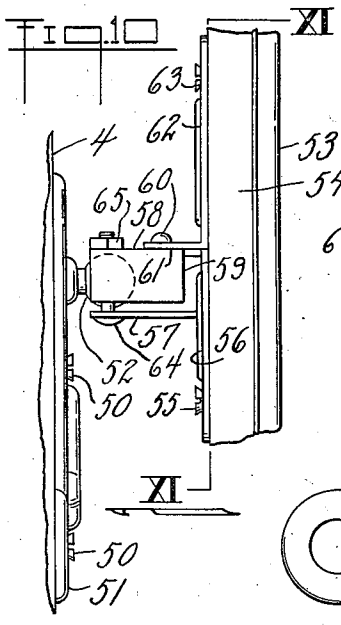


FIG. 11

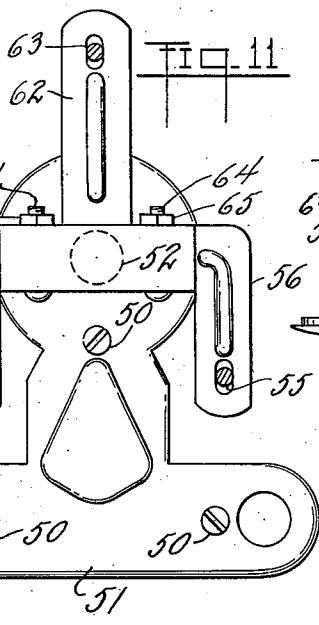


FIG. 12

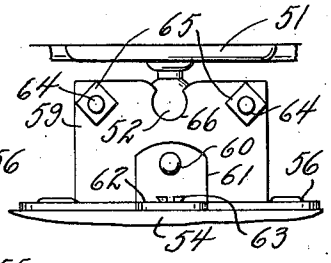


FIG. 13

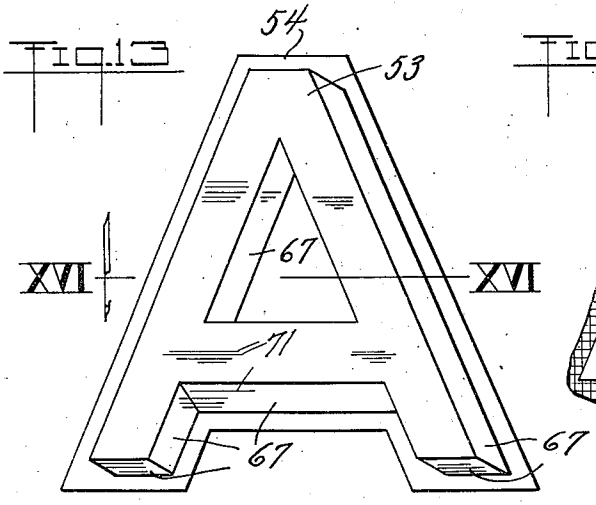


FIG. 14

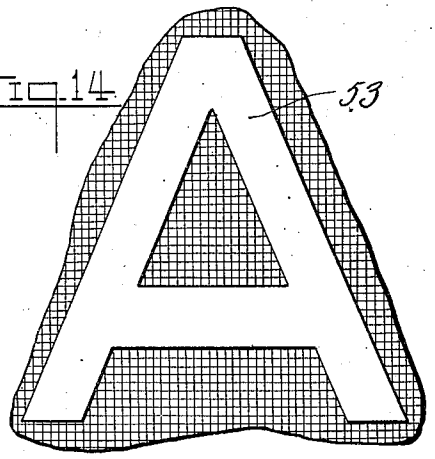


FIG. 15

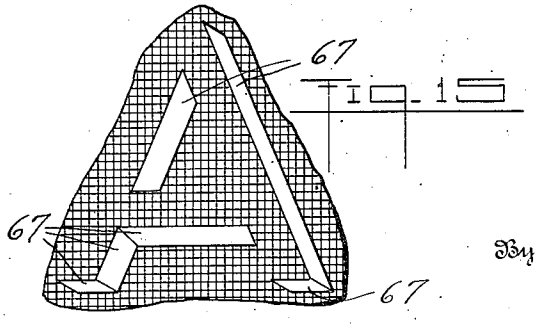
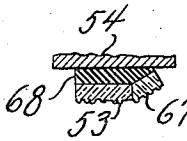


FIG. 16



Inventor
Harry J. Feist and
Raymond J. Feist

By

Attorney

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SPECIALLY REFLECTIVE CHARACTER POSITIONING

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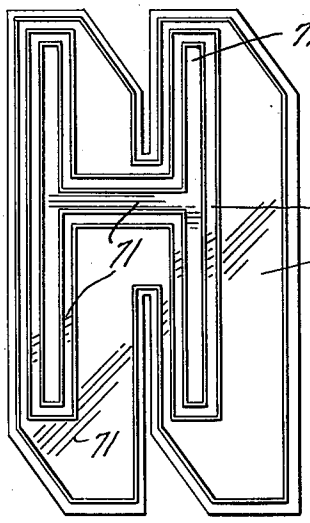


Fig. 17

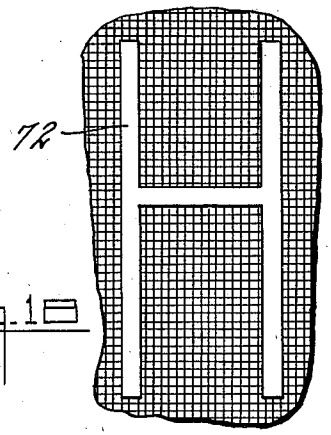


Fig. 18

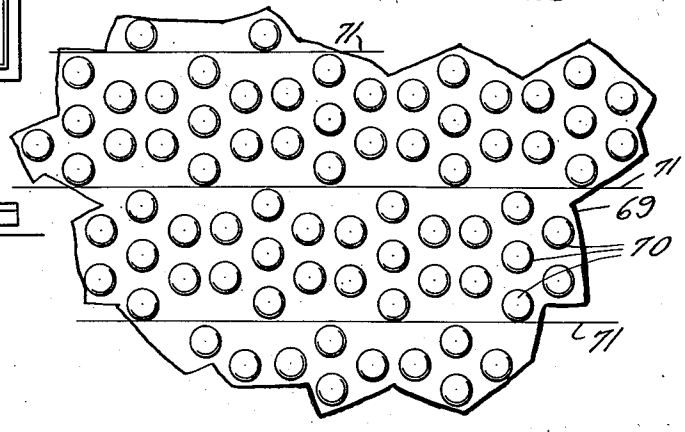
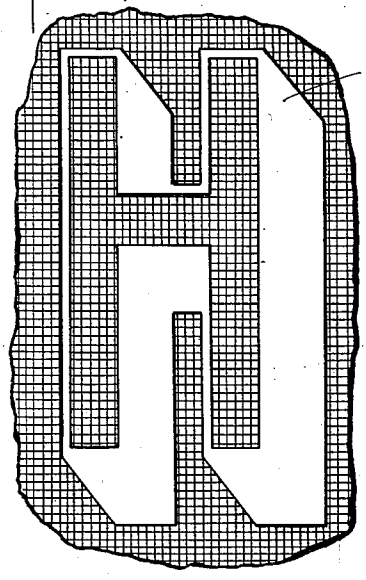


Fig. 13

Fig. 20



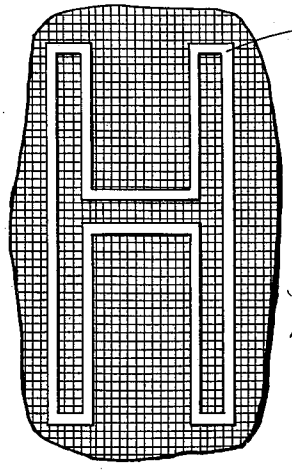


Fig. 21

Harry J. Feist and
Raymond J. Feist
Inventor

By

Attorney

Patented Mar. 17, 1942

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UNITED STATES PATENT OFFICE

2,276,475

SPECIALLY REFLECTIVE CHARACTER POSITIONING

Harry J. Feist and Raymond J. Feist, Fremont, Ohio, assignors to Consolidated Outdoor Display Company, Fremont, Ohio, a corporation of Ohio

Application November 21, 1939, Serial No. 305,448

2 Claims. (Cl. 40—141)

This invention relates to locating characters for reflector values.

This invention has utility when incorporated in signals and display signs, especially in providing efficient reflector value even to the extent of third dimensional appearance.

Referring to the drawings:

Fig. 1 is a perspective view, with parts broken away, of an embodiment of the invention as a roadside or highway sign;

Fig. 2 is a detail view on an enlarged scale of a character of the sign of Fig. 1;

Fig. 3 is a plan view, with parts broken away, of this character of Fig. 2;

Fig. 4 is a perspective view of another character showing an altered position as to the base;

Fig. 5 is a perspective view from the rear of the character of Fig. 4 showing its two-direction adjustment as to the support or sign background;

Fig. 6 is a detail view in plan of an adjusting feature of a mounting as used in Fig. 5;

Fig. 7 is a view of a support having adjustable mounting thereon of a signal;

Fig. 8 is a side view of this adjustable mounting of Fig. 7;

Fig. 9 is a section on the line IX—IX, Fig. 2, showing the build-up of the unit for the character;

Fig. 10 is a side elevation of a universal mounting unit for a character adapted for ready adjustment to the desired reflective angle or plane as to the main sign or the approach thereto or therepast of a line of traffic;

Fig. 11 is a view on the line XI—XI, Fig. 10, of the bracket for the character of Fig. 10;

Fig. 12 is a plan view looking down on the mounting of Fig. 10;

Fig. 13 is a front view of the character of Fig. 10 showing a perspective or third dimension feature in the character itself instead of in the character as to the mounting or board, which accordingly supplements the mounting as to the board in the thickness or massive suggestion therefor;

Fig. 14 is a plan view of the reflective body of the letter shown in Fig. 13;

Fig. 15 is a plan view of that part of the same character which forms the margin of it when seen by reflection;

Fig. 16 is a section on the line XVI—XVI, Fig. 13, showing that the reflective face of the depth portion is at a different angle or out of the plane of the primary character outline;

Fig. 17 is a plan view of a modified form of the letter;

Fig. 18 is a plan view of the inner character stroke only;

Fig. 19 is a plan view of a glass body provided with a pebbled surface as used in the construction of our sign letter;

Fig. 20 is a view of that part of the letter shown in Fig. 17 which forms the shading of the letter when seen by reflection; and

Fig. 21 is a view of a part of the same letter forming the body when seen by reflection.

As shown in Fig. 1, sign 4 is mounted along the roadside 2 at the ascent of a hill by means of posts 3. Reflection letters 6, 7 and 8 are exposed to light from the headlights 22 of vehicles. The signboard bears further display matter 5. As shown in Figs. 2 and 9, the character 6 is mounted as a unit on sheet metal backing 9 carrying ply wood 10. The latter has on its face a coating 11 of pitch or other bituminous matter to form a cushion for glass 12. The latter has a mirrored back 13 and convex, spheric portions or pebbles 14 on its front. This glass forms the outline of the letter and is secured to the ply-wood by means of sheet of metal 16 Z-shaped in cross-section. Flange 15 of this overhangs the front margin of the mirrored glass, as shown in Fig. 9. Base 17 thereof is secured to the ply-wood 10 by means of staples 18. This Z-frame and the bituminous coating 11 form a weather-proof seal for the glass. The metal backing 9 has an extension 20 which is secured to the signboard 4 by means of screws.

To position this sign properly for reflective value along this highway, the characters are disposed out of parallelism to the main display sign 4, and this position of adjustment for efficiency is determined according to the traffic direction and illumination, say by headlights 22 (Fig. 1) of vehicle 22' approaching the sign along such highway. This means that at dusk or at night, when vehicle illumination is effective, these headlights have response from this roadside sign due to the reflection of the mirror 13, with added range due to the extent of dispersion effected by the convex portions 14 (Fig. 9).

Mirrored glass 12 is in strips 23 and 24 forming jointly the outline of the character. The strips are connected at the juncture 25. As shown in Fig. 3, the metal backing for the character is mounted at an angle to the signboard 4. One end 20 is secured directly to the signboard. The other end is spaced therefrom by extension 26 which in turn has an offset 28. The latter is fastened to the signboard 4 by means of screws 29 and washers 30.

According to the magnitude of the background 4 and the distribution of the characters 6, 7, 8, thereon, it may be important to locate slightly different positions therefor, and in the event the way be as to a hill or require an upward or downward look to the sign proper, it is important to bring in appropriate angles for inclination as shown by the doubly tilted position of the character T 31 (Fig. 5). The anchorage at the base of this stem portion may be from angle 32 by screw 33 into the base 4. Stiffness for the location of the upper or cross-bar of the T is effected from the anchoring screw 34 at angle 35 of arm 36, leaving slot 37 (Fig. 6) to receive screw 38 of supplemental arm 39 having bolt anchorage 40 with the character 31.

The characters as anchored by the staples 18 may be supplementally anchored to supports for angular positioning say by bolt 41 (Fig. 3) having nuts 42. The finding of an appropriate angle for reflective effectiveness in the instances wherein a support is pre-set may be adopted for signs or displays in their mountings as on roadside post 43 (Figs. 7, 8). For this service a bracket may be provided. This bracket may have screws 44 to adjustably position clamps 45 on the post 43. Ears from the clamps 45 may have screws 46 therethrough to engage relatively adjustable arms 47. These arms 47 extend to connections 48 having character 49 thereon. It is thus seen that these clamps 44, 45, may place the character 49 at a desired angle as to the direction of the highway from the roadside position 2 and that the screws 46 may permit adjustment of the arms 47 for this character 49 to be placed out of parallelism with the line of this post 42. This compound tilting position is an efficient way of insuring definite control for maintaining of reflective values, notwithstanding prior location of the mounting or supports regardless of what may be the extent or the location as to the roadside.

The display sign 4 may have anchored thereon by screws 50, plate 51 (Figs. 10, 11, 12) and mounting spherical knuckle 52. Character 53 on base 54 has anchored thereto by screws 55 plate 56 having tongue 57 from between the screws 55, thrown up into parallelism with tongue 58. Lateral portions 59 from this tongue 58 are bent toward the tongue 57. Bolt 60 from minor tongue 61 carries plate extension 62 anchored by screw 63 with the base 54. With this complementary bracket structure from the plates, bolts 64 with nuts 65 may be effective between the tongues 57, 58, for clamping action at recesses 66 in said respective tongues in nesting said spherical knuckle 52. Slots for the screws 55, 63, permit adjustable mounting. There is thus provided a universal joint assembly between the character 53 and the support or main display 4. This universal joint permits the erector to effect the mounting of the character at the desired position on the support. Check-up may then be made from the transit region or place for traffic to have reflective maximum advantage. When such position is determined for the character 53, the clamping bolt 64 as to the nut 65 may be locked for efficiently holding the character as thus placed.

In the form of the invention shown in Figs. 13–16 glass element 53 forms the major outline of the character and glass elements 67 the margin of it. Both have reflecting value being provided with a pebbled surface. The major portion 53 is parallel to the supporting surface 54 while the marginal portion is at an angle thereto and adapted to reflect light at a different angle. Both portions are secured to the supporting surface by sealing or mounting means 68 which is similar to sealing means 11 shown in Fig. 9. As is apparent from Fig. 13, the major portion 53 and the inclined marginal portion combined give a perspective view of a third dimensional character.

In lieu of the different planes for the character regions or portions provided by the sections 53 and 67, and having the purpose for mass disclosure, there is appreciated that mounting as to the support is effective to such end as outstanding from the support. However, in the instance the support is not of a continuity of sign character, or mesh (Figs. 14, 15, 18, 21), depth effectiveness is obtained by this out-of-plane showing in Fig. 13. Additional depth suggestiveness at daylight and distinctive showings for different reflective ranges have been worked out for reflective material as glass 69 (Fig. 19) having spheric zone portions 70 thereon in general hexagon form, with sparse or less close portions 71 which seem to give the efficiency of reflective value limitations. Accordingly, in one piece or piecing out of a character, there may be adopted for these control lines 71 a common direction therefor in section 72 (Fig. 17) and an additional common direction for character outline 73 for the reflective values, and still a third direction for region or portion 74. In practice, this means that the character (Fig. 17) is effective for third dimension showing in daytime. Upon night reflection at one region of reflective display (Fig. 18) there may be more efficient illumination of the portion 72 for the character. At another range or angle of view or position for transit, reflective surface 74 (Fig. 20) may be more luminous and in this instance show up effectively for third dimension due to non-reflective region of the portion 73, 72, as well as general background thereabout. At a still further direction of transit along the highway or viewpoint as impinged by light rays, reflective region 73 (Fig. 21) gives the character outline. There is thus disclosed in this general set-up a depth dimension character mounting with range of adaptability and effective disclosure for night efficiency as well as extra daytime value.

What is claimed and it is desired to secure by United States Letters Patent is:

1. A raised sign letter presenting two reflecting surfaces, one surface forming the top surface and parallel to the support of the letter and having the outline of the body of the letter, the other surface being at an angle to the first-named surface and forming the margin thereof, both surfaces combined having the appearance of a perspective view of the raised letter.

2. A raised sign character presenting two reflecting surfaces, one surface forming an outline and the other surface being at an angle to the first named surface and contrasting therefrom, both surfaces combined having the appearance of a perspective view of the character.

HARRY J. FEIST.
RAYMOND J. FEIST.