

April 10, 1951

G. W. HAIGH

2,548,722

FLARE

Filed March 21, 1949

3 Sheets-Sheet 1

Fig. 1.

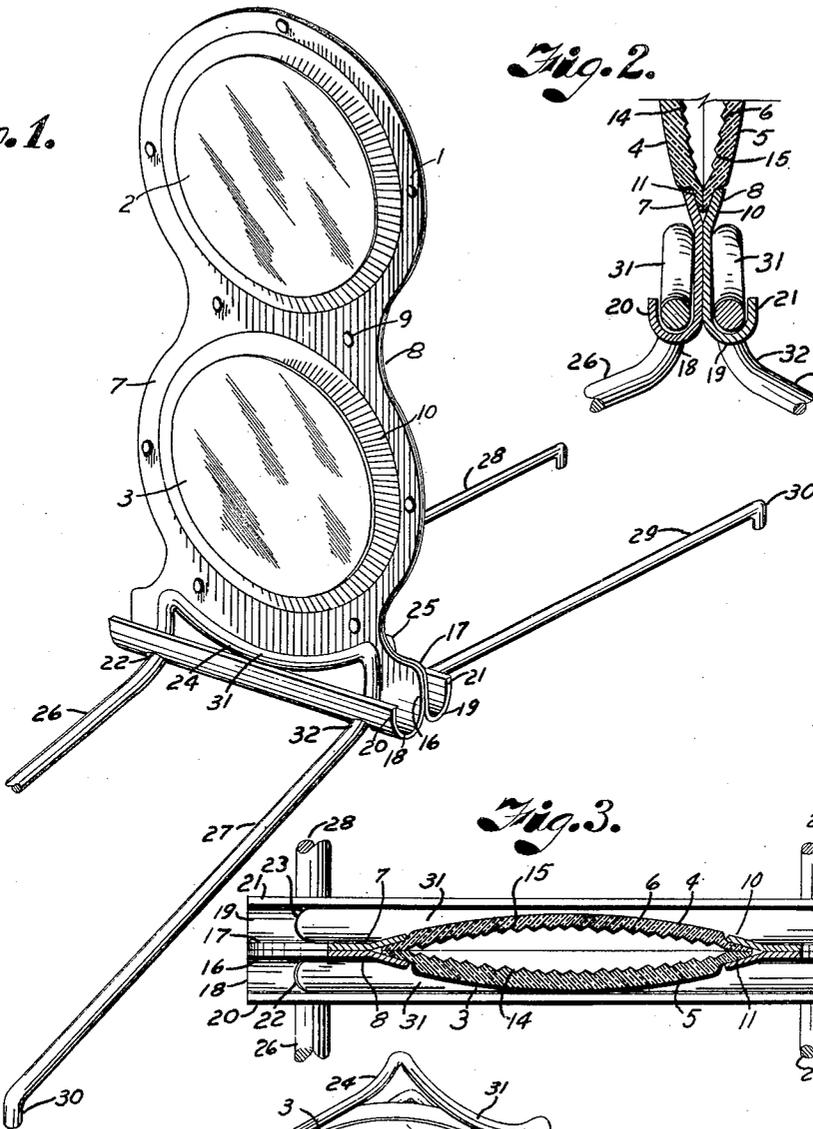


Fig. 2.

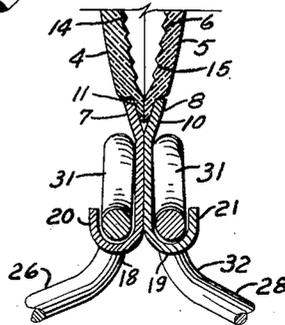


Fig. 3.

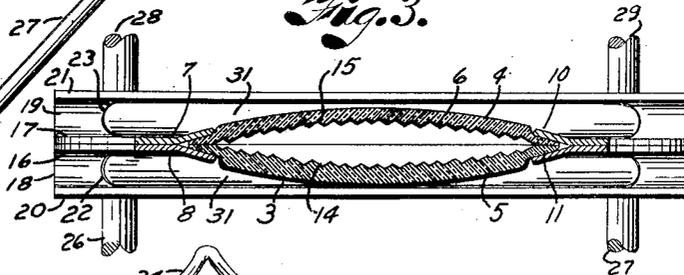
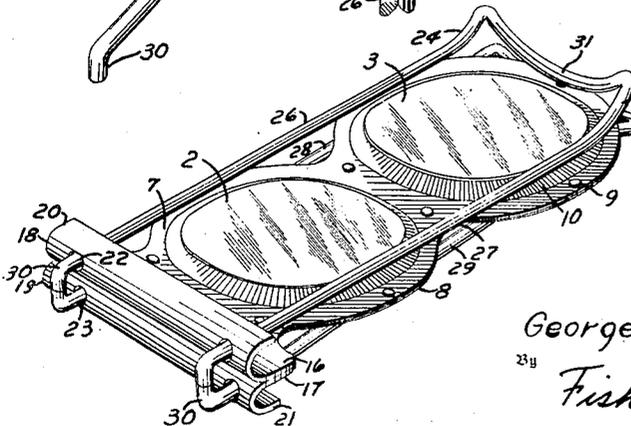


Fig. 4.



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Fig. 5.

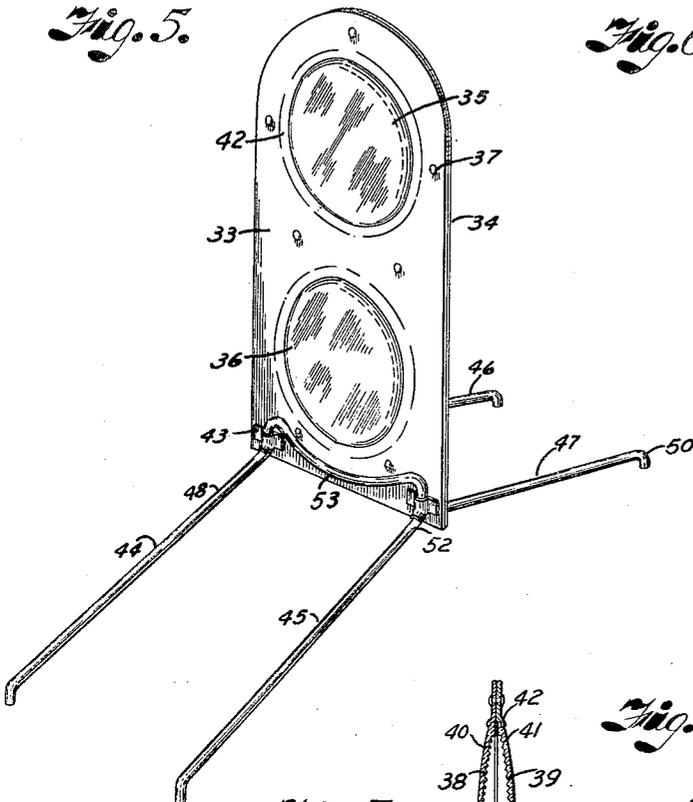


Fig. 6.

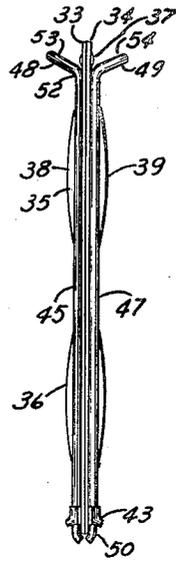


Fig. 7.

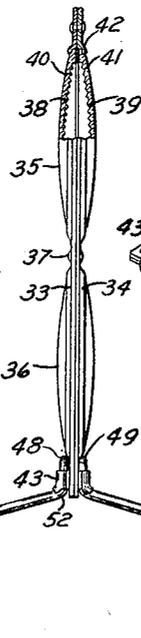


Fig. 8.

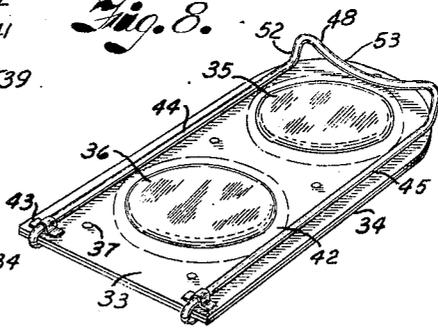
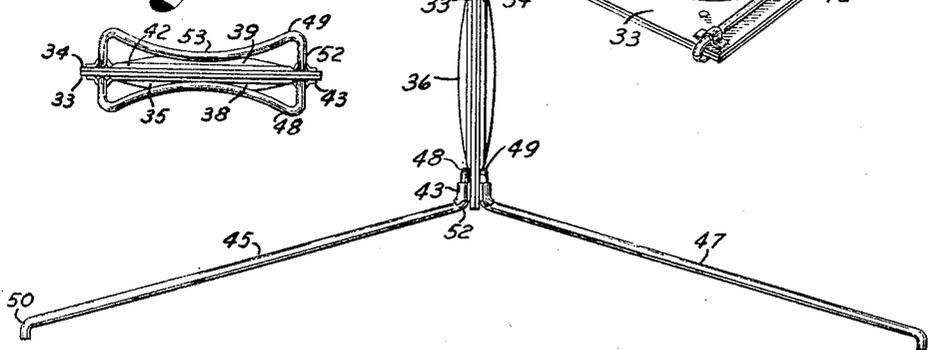


Fig. 9.



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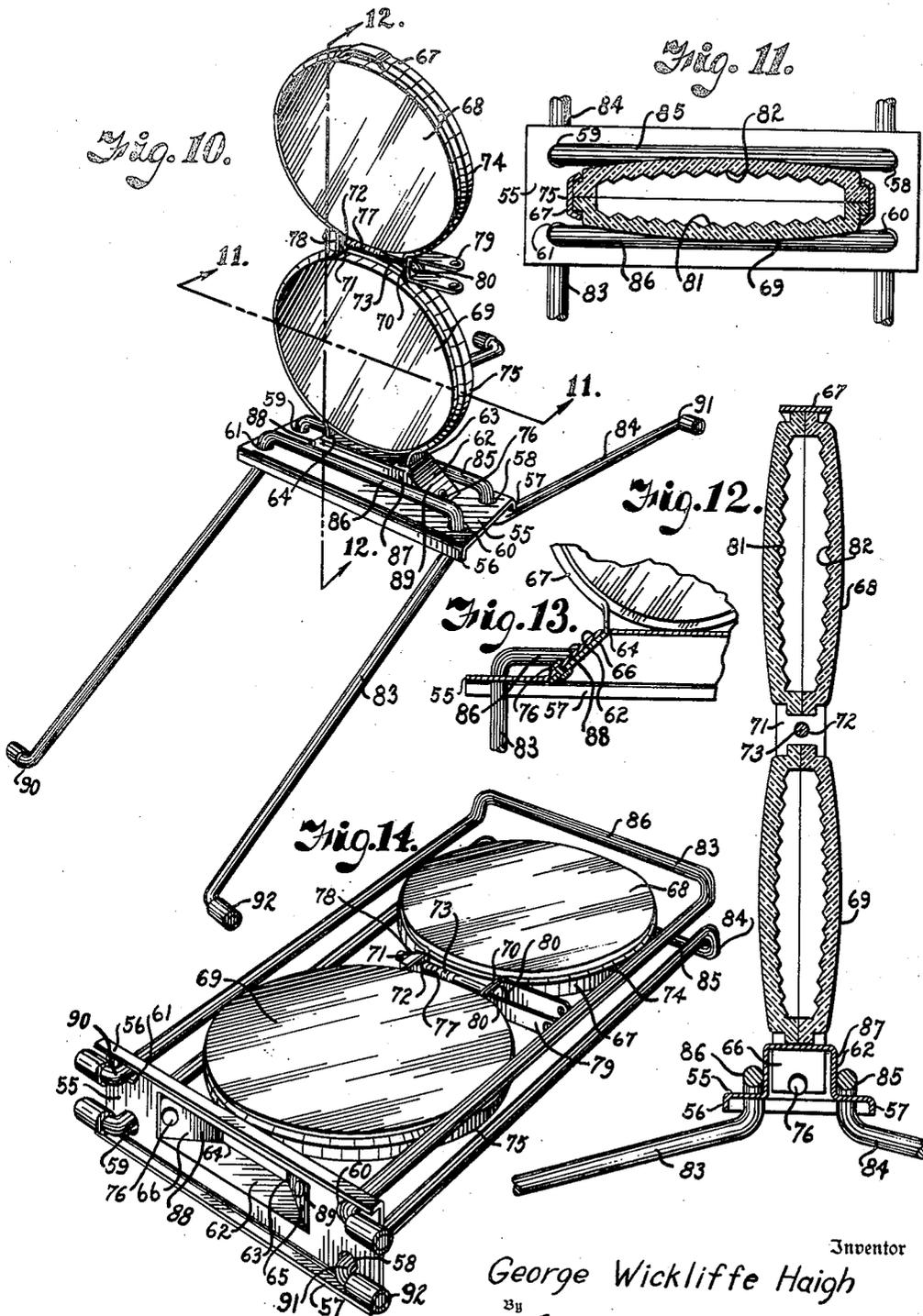
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UNITED STATES PATENT OFFICE

2,548,722

FLARE

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Application March 21, 1949, Serial No. 82,660

6 Claims. (Cl. 248—33)

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This invention relates to signaling devices and more particularly to a portable signal adapted to be conveniently placed on roads for warning motorists of obstructions on the road.

The principal objects of the present invention are to provide a signal of the character commonly known as "road flare" which is capable of reflecting and/or refracting light rays generated by the lights of approaching vehicles back to approximately their source to warn the occupants of those vehicles of the presence of obstructions on the road; to provide a simple, easily constructed and inexpensive flare of this character capable of accomplishing the results desired; to provide a collapsible signal capable of folding into compact position; to so design the signal that it is difficult to tip over accidentally; to provide for effectively exposing the signal upon the base frame; to provide a frame for the signal elements and an adjustable means for retaining said elements in said frame; to provide a base for said frame having a boss with openings adapted to receive arms or extensions of said frames and retain the same therein; and to provide a device of this character simple, economical to manufacture, and efficient in operation.

In accomplishing these and other objects of the present invention, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings wherein:

Fig. 1 is a perspective view of the signaling device in open operative condition with parts broken away.

Fig. 2 is a vertical sectional view through part of the device particularly illustrating the base for holding the supporting arms.

Fig. 3 is a transverse cross-sectional view through the device.

Fig. 4 is a perspective view of the device shown in collapsible condition.

Fig. 5 is a perspective view of the modified form of the invention.

Fig. 6 is a side view of the device in collapsed condition.

Fig. 7 is a side view of the device shown in operative condition with parts broken away to illustrate the invention.

Fig. 8 is a perspective view of the device shown in collapsed condition.

Fig. 9 is a top-plan view of the invention shown in collapsed condition.

Fig. 10 is a perspective view of a further modified form of the invention.

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Fig. 11 is a transverse cross-sectional view taken on the line 11—11, Fig. 10.

Fig. 12 is a vertical cross-sectional view through the device.

Fig. 13 is a fragmentary sectional view particularly illustrating a part of the supporting base and extensions on the frame secured thereto.

Fig. 14 is a perspective view of the signal device shown in collapsed position.

Referring more in detail to the drawings:

1 designates a signaling device embodying the features of my invention comprising signal elements 2 and 3 consisting of plates 4 and 5 preferably formed of colored glass or similar semi-transparent material having lustered backing 6 thereon. The edges of the plates are mounted within mating frame members 7 and 8, the main body of which are preferably of substantially Fig. 8 construction. The plates 7 and 8 are secured together by rivets or the like 9 and are provided with openings there to receive the reflectors 2 and 3. The openings formed by the sides 7 and 8 are spread outwardly slightly as indicated at 10, Fig. 3, to form a seat for the peripheral edges of the signal plates 3 and 4 as indicated at 11, Fig. 3.

The signal elements 2 and 3 are each preferably formed of substantially transparent material having suitable outer faces and preferably prismatic inner faces 14 and 15 for reflecting and/or refracting light rays impinging against the outer faces back approximately to their source of incident.

Formed integrally with the body of the plates 7 and 8 are extension arms 16 and 17, the free ends being turned laterally and then upwardly forming U-shaped members 18 and 19 on the lower end of the plate, the U-shaped members having upwardly extending legs 20 and 21. The legs are provided with spaced openings 22 and 23 through which extends substantially U-shaped base supporting members 24 and 25 each having legs 26—27 and 28—29, respectively. The outer ends of the legs are turned laterally forming hook members 30; the inner ends of the base members having a cross bar 31 which is curved slightly downwardly as best illustrated in Fig. 1. The ends of the U-shaped members 24 and 25 are turned laterally in the opposite section from the hooks 29 and the openings 22 and 23 in the legs of the plate members are slightly off center the U-shaped members 18 and 19.

In using the signal device the U-shaped base members 24 and 25 are pushed outwardly

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through the openings 22 and 23 until they reach the curvature of the legs of the base members as indicated at 32 and the cross bar 31 will engage in the U-shaped members 18 and 19, the hooks 29 and 30 of the respective base members engaging the highway or other support on which the device is placed. When the device is not in use the base members are pulled upwardly through the openings in the U-shaped members 18 and 19 and the hooks on the respective base members will substantially contact each other and the base legs will lie flat against the main body of the signal as best illustrated in Fig. 4.

In the modified form of the invention as shown in Figs. 5 to 9, inclusive, 33 and 34 designate side plates comprising a frame, the side plates 33 and 34 being preferably made of sheet material such as metal, plastic or otherwise provided with the usual openings adapted to receive signal elements 35 and 36, the side plates being held together by rivets or the like 37. The signal element preferably consists of disposed plates 38 and 39 formed of colored glass or similar substantially transparent material having suitable outer faces and preferably prismatic inner faces 40 and 41 as in the preferred form of invention for reflecting and/or refracting light rays impinging against the outer faces back approximately to their source of incident. The openings of the frame members are provided with flanges as indicated at 42, Fig. 7, for receiving the peripheral edges of the signal elements also as shown in the preferred form of invention.

Secured to the lower ends of the frame of the sides 33 and 34 of the frame by welding or other suitable means are ears 43 spaced to receive the legs 44-45 and 46-47 of U-shaped base members 48 and 49, also as illustrated in the preferred form of invention, the outer ends of the legs having hooks 50 to retain the base members in the ears 43. The inner ends of the base members 48 and 49 are turned laterally as indicated at 52 and are provided with slightly inwardly curved cross members 53 and 54, also as illustrated in the preferred form of the invention.

When the device is intended for use, the spaced members 48 and 49 may slide outwardly through the ears 43 until the outwardly turned portion of the base member contacts the ears and the outer ends formed by the hooks 50 contacts the roadway or other support for the device.

In the form of the invention shown in Figs. 10 to 14 inclusive, 55 designates a base member substantially rectangular in shape having its sides turned downwardly forming flanges 56 and 57 and provided with spaced openings 58-59 and 60-61 on the respective side edges as best illustrated in Fig. 10. The base member is also provided with a boss 62 at substantially the center of the base member provided with openings 63 and 64, the respective ends of the upper portion thereof adapted to receive the extensions or arms 65 and 66 of a frame 67 for retaining signal elements 68 and 69 one above the other.

While I have here shown the signal elements to be substantially circular, any desired shape may be used, and the frame 67 is shaped in substantially a figure 8 having plane surfaces 70 and 71 provided with openings 72 adapted to receive a bolt 73. The edges of the frame are rounded and provided with side flanges 74 and 75 so as to engage and retain therein the signal elements 68 and 69 as is the usual prac-

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tice. The arms or extensions 65 and 66 are secured to the boss of the base member by rivets or the like as indicated at 76. The bolt 73 is provided with threads 77 for receiving a threaded nut 78 for tightening the frame 67 onto the signal elements 68 and 69 to provide easy assembly of the structure. A U-shaped bracket 79 is provided for engaging it over the head 80 of the bolt to facilitate entry of the bolt into the openings of the frame member.

The signal elements 68 and 69 preferably are each formed of substantially transparent material having suitable outer faces and preferably prismatic inner faces 81 and 82 for reflecting and/or refracting light rays impinging against the outer faces as in the forms of the invention shown in Figs. 1 to 9 inclusive.

A pair of supporting legs 83 and 84 are provided and are formed in substantially U-shape for engaging in the openings 58-59 and 60-61 of the base member and adapted to slidably engage therein. The arms 85 and 86 of the U-shaped leg members are turned laterally of the legs so that when the legs are in supporting position the arms will lie substantially flat along the upper face 87 of the base member 55 and engage against the respective sides of the elongated boss 62.

In assembling the device constructed as described, the arms 65 and 66 of the frame 67 are inserted through the openings 63 and 64 in the boss of the base 55 and riveted to the sloping sides 88 and 89 thereof. The signal elements 68 and 69 are inserted in the flanged portions of the frame and tightening of the bolt 73 between the signal elements will rigidly retain the elements in the frame and the frame on the base 55. The pairs of legs 83 and 84 are inserted through the openings in the base 55 and the outer ends thereof turned as indicated at 90 and 91 to retain the legs in the base member and also provide a supporting base for the legs. The turned portions may be provided with rubber washers or the like if desired as indicated at 92.

The pairs of legs are slidable in the openings in the base so that the device may be folded as indicated in Fig. 14 for transporting in the car or other vehicle. When it is desired to use the signal, the leg members are merely extended downwardly through the openings in the base member until they assume the position shown in Fig. 10.

While I here have illustrated the framework for the signal elements to be made from sheet metal it will be obvious that any suitable material may be used.

It will be obvious from the foregoing that I have provided an improved signaling device which is compact, inexpensive to manufacture and efficient in operation.

What I claim and desire to secure by Letters Patent is:

1. A road signal including a frame adapted to carry signal elements, said frame having extensions forming U-shaped base members and having spaced openings therein, and frames forming a support for said signal, said frames having legs slidable in said openings in said U-shaped base members so that the frames will collapse alongside the signal frame when not in use.

2. A road signal including a frame consisting of two substantially rigid sheets of material secured together adapted to carry signal elements, said sheets having their lower ends turned lateral-

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ly forming U-shaped members having upwardly extending legs, said legs having spaced openings therein, and base members having legs extending through said openings for supporting said signal, said base members being slidable in said openings to collapsed condition.

3. A rod signal including a frame adapted to carry signal elements, base members for supporting said signal in upright position, and spaced ears on the respective sides of said frame near the lower edge thereof, said base members slidably engaging in said ears so as to be moved to collapsed position through said ears when not in use and extended through said ears for supporting the signal in operative position.

4. A road signal including a frame adapted to carry a signal element, said frame having extensions provided with spaced openings, and U-shaped leg members slidably engageable in the openings in said extension for supporting said signal element in upright position, the legs of the leg members being curved slightly laterally and connected by a cross bar engaging against said extensions when in operative position and across the top of the frame when not in use.

5. A road signal including a frame adapted to

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carry a signal element, said frame having extensions provided with spaced openings, and supporting members having legs slidably engageable in said openings for supporting said signal element in upright position, said leg members being slidable in said openings out of position adjacent the signal element when not in use.

6. A road signal including a frame adapted to carry a signal element, said frame having extensions, said extensions having pairs of spaced openings therein, and leg members slidably engageable in said openings for collapsing alongside said frame when not in use and slidable in said openings to operative position for supporting said signal element in upright position.

GEORGE WICKLIFFE HAIGH.

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